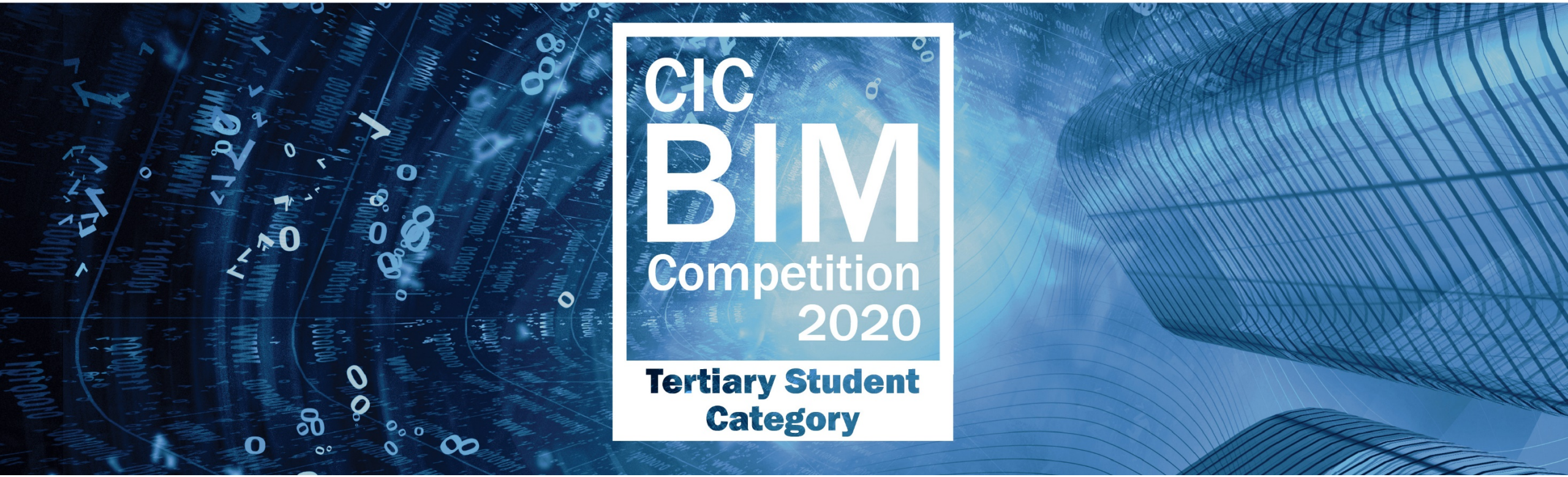


CIC BIM Competition 2020 Briefing

Mr. Ron NG, Manager – BIM, Construction Industry Council
Mr. David MAK, Consultant – BIM, Construction Industry Council

Agenda

1. Introduction
2. Registration and Details
3. Submission and Deliverable Requirements
4. Schedule
5. Assessment Scoring Criteria
6. Awards and Prizes
7. Competition Details and Requirements
8. A.O.B

Introduction

- **Background of the Competition**
  - The Competition aims to continue to draw attention from the industry and academia, and encourage collaboration on Building Information Modelling (BIM) adoption.
  - Participants will be given project design requirements to develop a **Student Hostel**.

- **Objective**
  - To promote the practical uses of BIM through **collaborative and competitive learning approach** among tertiary students in construction related disciplines.

- **Tertiary Students Category (post-secondary)**
  - Only **full-time students** can participate, each institution can have more than 1 team.

- **Team Size**
  - 3 to 5 people from **minimum 2 construction disciplines** (e.g. Architecture and Engineering)

Registration and Details

CIC BIM Competition 2020

https://www.bim.cic.hk/en/events/page/bim_competition_2020

BIM Competition 2020 Registration Form

Eligibility: Only full-time students can participate, each institution can have more than 1 team.

Team Size: 3 to 5 people from minimum 2 disciplines (e.g. including, but not limited to, Architecture, Civil Engineering, Building Services Engineering, Environmental Engineering, Surveying, Construction, Building and Real Estate, and other construction related disciplines)

Application Deadline: 1 March 2020

PART 1: PERSONAL PARTICULARS
Please fill in all fields:

Name of Team:		
Team Leader: (Contact Person)	Title	Please choose title
	Surname	
	Given Name	
	Institution	Please Select
	Programme Title	
	Discipline:	Please Select
	Year of Study	
	Email	
	Mobile	
	Project Role and Responsibility:	Please Select

Request for Student Software License:

Classification of User	BIM software
BIM Authoring	☐Autodesk REVIT (Architecture, Structure, MEP)
	☐Graphisoft ArchiCAD
	☐Tekla Structures
	☐BricsCAD
Clash Analysis/ BIM Coordination	☐Autodesk Navisworks Manage
	☐Autodesk BIM 360 Glue (Cloud-based)
4D Simulation	☐Autodesk Navisworks Manage
	☐Fuzor
BIM Common Data Environment	☐Autodesk BIM 360 Docs (Cloud-based)
	☐Trimble Connect (Cloud-based)
	☐Javis
Building Energy/ Performance Simulation	☐Integrated Environmental Solutions Virtual Environment (IESVE)
Visual Scripting	☐Dynamo

(You may choose more than one option)
Remarks: Same email address (as provided above) is required to be used for downloading trial version of the software.

PART 2: LOOK FOR TEAMMATE(S)

The CIC BIM Competition highly encourages students to team up with others from different universities/ disciplines in order to learn the practical use of BIM through collaborative approach.

If you are still looking for new talents with different disciplines to join your team, please let us know and we will help you to get in contact with them.

Looking for teammate(s):	☐Yes ☐No
	Please Select If yes, please indicate the no. of teammate(s)
Look for teammate(s) in the area of: (You may choose more than one option) *	☐Architect ☐Structural/ Civil Engineer ☐Building Services Engineer ☐Quantity Surveyor ☐Environmental Engineer ☐Construction Engineer ☐Others

PART 3: MENTORING SUPPORT

Mentoring support:	☐Yes ☐No
Look for expert advice in the area of: (You may choose more than one option) *	☐Architect ☐Structural/ Civil Engineer ☐Building Services Engineer ☐Quantity Surveyor ☐Environmental Engineer ☐Construction Engineer ☐Others

* **Please tick as appropriate**

Declaration:

☐ I/We declare that I/we have read all the competition rules and regulations and hereby agree to abide by all the rules and regulations as set out for this competition.

☐ I/We agree that the information collected will be disclosed to software providers for the purpose of BIM software providers for the purpose of BIM software license registration and it will be used solely for purposes related to this competition.

Submission and Deliverable Requirements

- **Read details of Competition Brief**
- **Submission and Deliverable Requirements:**
  1. A max. 20 pages PowerPoint slides in .ppt or .pptx format (CIC BIM Competition 2020 Submission Slide Template.pptx)
  2. 4 nos of A1 Posters with at least 200dpi in .jpg or .png, (CIC BIM Competition 2020 Submission Poster Template.pptx)
  3. A max. 2.5 mins video in .avi or .mpeg format
  4. Native BIM Data
  5. Scripting (optional)

- **Download at:**
  https://www.bim.cic.hk/en/events/page/bim_competition_2020

Presentation Template & Content Guide

CIC BIM Competition 2020 - Content Guide

Executive Summary - 1 slide to cover following sections

1. Brief introduction and objective of participation
2. Roles and responsibilities of each member
3. Overview of the complete package of submission

Use of Information - 6 slides to cover following sections

1. Demonstration on understanding of the objective of competition
2. Identification of key issues
3. Design concept, approach to site/building design and background research
4. Passive building design being adopted and relevant justification
5. Overall approach of the production and delivery of the project
6. Compliance of spatial requirement with justification by the use of automatic area calculation in BIM software

BIM Uses in Design, Collaboration, Engineering, Analysis and Optimisation - 8 slides to cover following sections

1. Design strategy and elements illustration and how is it developed with using BIM (Architectural)
2. Engineering elements illustration and how is it developed with using BIM (Structural)
3. Engineering elements illustration and how is it developed with using BIM (Building Services)
4. Design analysis illustration and optimisation approach (Architectural)
5. Engineering analysis illustration and optimisation approach (Structural)
6. Engineering analysis illustration and optimisation approach (Building Services)
7. Construction analysis in 4D and optimisation approach
8. List of BIM Software being used (with version) & platform for collaboration
9. Illustration on use of BIM platform and methodology of multidisciplinary design coordination
10. Diagrammatic information to illustrate the data transfer (with file formats) among various BIM software

Creativity, Innovation & Technology - 4 slides to cover following sections

1. Design creativity, innovation & technologies applied
2. Engineering creativity, innovation & technologies applied
3. Construction creativity, innovation & technologies applied

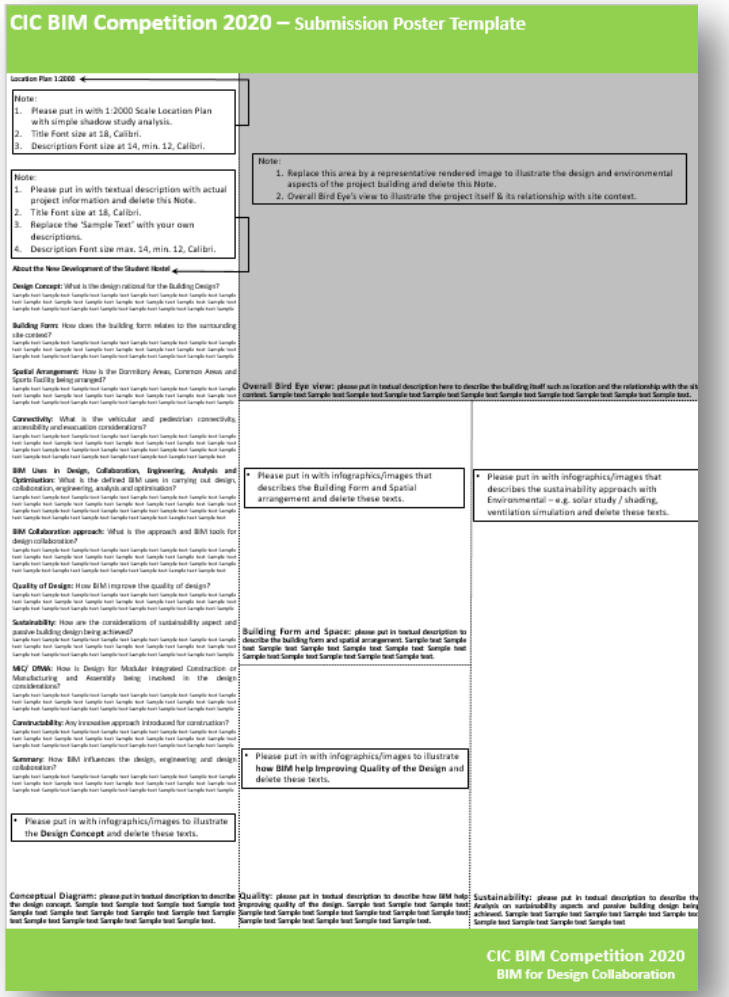
Closing - 1 slide

1. Learning outcome and acknowledgements

Note:

a) Project documentations such as representative 3D & 2D views and drawing sheets from BIM models shall be included for design illustration.

Presentation Template & Content Guide



1st Poster: mainly to illustrate the architectural design, aesthetical design and environmental aspects of the project building and delete this Note. Overall Bird Eye's view to illustrate the project itself & its relationship with site context.

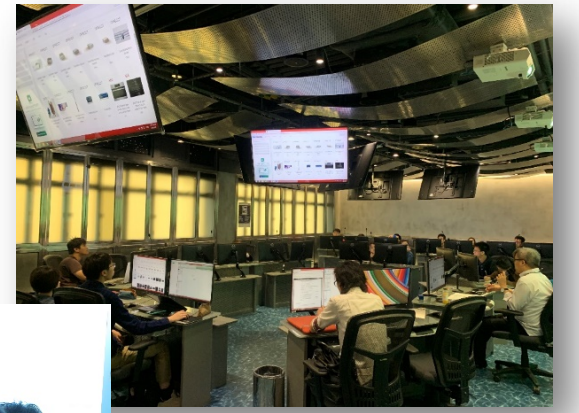
2nd Poster: mainly to illustrate the Design (Architectural) and its Computational Design analysis and optimisation approach.

3rd Poster: mainly to illustrate the Design of Engineering elements (Structural) and its computational engineering analysis and optimisation approach (Structural). And the approach and construction details of DfMA.

4th Poster: mainly to illustrate the design of Engineering elements (MEP) and its computational engineering analysis and optimisation approach (MEP)**.** Also, the use of BIM platform and methodology of multidisciplinary (Architectural, Structural and MEP) design coordination and the BIM platform and methodology for project team collaboration.

Schedule

Date	Activities
Oct 2019	Open for Registration
Oct 2019 – Nov 2019	CIC BIM Competition 2019 Exhibition at Campus
26 Oct 2019 (Sat)	Competition Briefing and Seminar
Oct 2019 – Apr 2020	Online BIM Software Trainings
Oct 2019 – May 2020	BIM Mentoring Support
16 Nov 2019 (Sat)	CIC BIM Competition 2019 Awardees Sharing Session
18 Jan 2020 (Sat)	Competition Briefing and Seminar (content is identical to the session on 26 Oct 2019)
1 Mar 2020	**Deadline for Registration**
Feb 2020 – Apr 2020	Hands-on BIM Software Trainings
1 Jun 2020 (12:00nn)	**Submission Deadline for 1st Round Competition**
8 Jun 2020 (Mon)	Judging Panel selects teams for 2nd Round Competition
12 Jun 2020 (Fri)	**2nd round onsite competition (9:00am-9:00pm)** **(Finalists being selected to compete onsite within 12 hours)**
13 Jun 2020 (Sat)	**2nd Round Onsite Competition** **am: Team presentation to judge** **pm: Award Presentation Ceremony**



Assessment Scoring Criteria

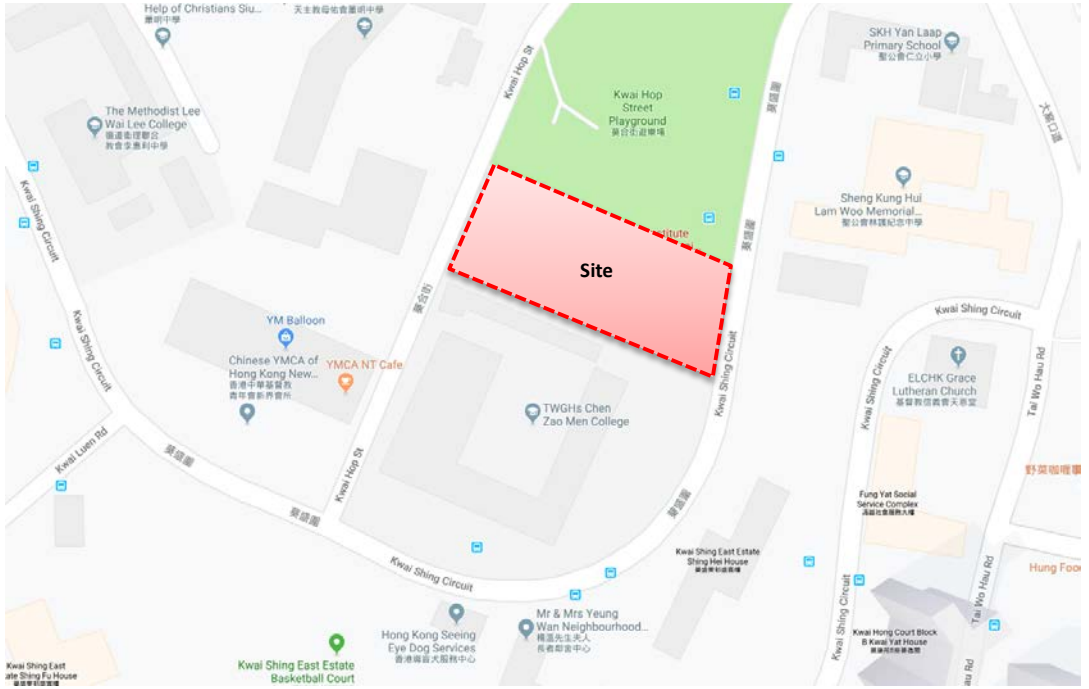
Scoring Criteria	%
1st Round	
Compliance to Design Information	25
BIM Uses in Design, Collaboration, Engineering, Analysis and Optimisation	25
Creativity, Innovation & Technologies	25
Communications Skill	25
TOTAL	100
2nd Round (On-site competition)	
1st round score	20
Compliance to Design Information, Flexibility & Responsiveness	30
Collaboration & Teamwork	20
Communications Skill	20
Creativity, Innovation & Technologies	10
TOTAL	100

Awards and Prizes

Prizes	
First Prize	Plaque + Certificate **A Chance to Participate in an Overseas BIM Event** Participate in Award Sharing Session(s)
Second Prize	Plaque + Certificate
Third Prize	Plaque + Certificate
Max. 6 Merits	Plaque + Certificate
All	E-Certificate of Participation E-Certificate of Attended Training & Seminar

Competition Details and Requirements

- Develop a **Student Hostel**
- Located in Kwai Chung
- A base drawing file of the boundary area of the proposed site will be given
- Site area is approximately 3,460m^2



Schedule of Accommodation

Space / Facilities	Area (m2)	Quantity	Features / Provisions
Single Student Room with toilet to add	6.5 3.0	200	One unit as 'Show Flat' to design with fully finished and furnished, e.g. bed, bedside table, desk with drawers, wardrobe, chairs, bookshelves, etc. Toilet includes WC, basin, shower and shelf
Guest Room with toilet to add	12 5.0	20	As above with double bed
Pantry Facilities	50	-	Provisions on each floor with necessary light cooking facilities, e.g. oven, microwave, cooker, refrigerator, sink, etc. and space to furnish with cupboard, table and chairs.
Canteen	400	1	Dining and kitchen facilities (provisions include food preparation, wash up, servery, display, point of sale, staff changing room and store, etc.)
Common Area	50	-	Provisions on each floor with facilities include TV, sofas, vending machines for snack & drink, photocopying machine and computers
Laundry	40	3	Washing machines and dryers, seating
Cleaner Room	6	-	One on each floor for storing cleaning material
Refuse Collection	6	1	Refuse containers and recycle storage bins
Reception	200	1	Reception, foyer gathering & lounge seating area and a small exhibition area

Schedule of Accommodation

Space / Facilities	Area (m2)	Quantity	Features / Provisions
Management Office	80	1	Office facilities,
Medical Room	10	1	For emergency treatment with first aid facility
Sports Hall	-	1	Sports Hall (Four badminton court hall) for indoor volley ball, basketball, badminton, etc., gymnasium with fitness facilities and store rooms for storage sporting equipment, foyer, spectator area, change rooms / showers and toilets.
Plant Room	-	-	To house major plants, equipment, mains, etc. of various building services systems
Core, Lobby and Circulation Spaces	-	-	Staircases, lifts, lobby, etc.
Parking Space, Loading & unloading dock	-	20	Parking provisions for staff and visitors including facilities for disabled residents
Landscape Area	-	-	Planting areas, roof garden, vertical planting, osutdoor seating areas

Note: 1. The proposed design needs to consider structural requirements and building services provisions
2. Allow ±10% variation of spatial area requirement

Design Challenge

Innovative design through collaboration

Participants are required to demonstrate how they collaborate to design with the adoption of BIM tools and process

- Roles and responsibilities (Team formation)
- Usage of BIM (BIM Uses)
- Design approach (method & process)
- Communication and coordination (both the team and data)

Design Challenge

Creative BIM uses

- Explore design options and optimize design solutions
- Possible use of generative design in BIM
- Space planning and programming
- BIM-based study on environmental impacts to the site and building design
- Engineering analysis and performance validation
- Digital fabrication – MiC / DfMA

Design Challenge

Modular integrated Construction (MiC)

- An innovative construction method
- Modular design, factory assembly and on-site installation
- Modules to complete with finishes, fixtures and fittings
- Ensure quality control and consistent standard
- Improve productivity, safety and sustainability
- BIM as tool for design and manufacturing
- BIM allows 4D simulation and check buildability
- Transportation logistics planning

Design Challenge

Passive building design

- It is the key to environmental design to achieve sustainable building
- The approach responds to site conditions & local climate to minimise energy use while maintaining users' comfort and health
- Key elements of design include building mass, orientation & layout, window design, shading devices, wind catchers & natural ventilation, building materials, etc.
- Aim is to achieve comfortable temperatures, good indoor air quality and energy savings

CONSTRUCTION INDUSTRY COUNCIL
建造業議會

BIM

Supporting Organisations:

Members of VTC Group VTC 機構成員

AUTODESK. BricsCAD® BIM 珠海學院 CHU HAI COLLEGE OF HIGHER EDUCATION chArch chu hai architecture CityU 香港城市大學 City University of Hong Kong CivilConnect Limited 譽鋒顧問有限公司 Software Powers the Engineer Fuzor 20 GRAPHISOFT A NEMETSCHEK COMPANY Thei IVE

IES isBIM 香港中文大學 The Chinese University of Hong Kong School of Architecture THE CHINESE UNIVERSITY OF HONG KONG 香港建築師學會 The Hong Kong Institute of Architects The Hong Kong Institute of Building Information Modelling 香港建築信息模擬學會 HKIE THE HONG KONG INSTITUTION OF ENGINEERS 香港工程師學會 THE HONG KONG INSTITUTE OF SURVEYORS 香港測量師學會

THE HONG KONG POLYTECHNIC UNIVERSITY 香港理工大學 FACULTY OF CONSTRUCTION AND ENVIRONMENT 建設及環境學院 香港科技大學 THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY 香港大學 THE UNIVERSITY OF HONG KONG THE UNIVERSITY OF HONG KONG faculty of architecture 香港大學 建築學院 HKURBAN lab Trimble. Tekla® 雲建 VIRCON White Frog