

The Hong Kong Institute of Architects **BIM Accreditation Programme**



香港建築師學會
The Hong Kong Institute of Architects

Member Briefing
8 Aug 2019

- 1. Introduction of HKIA BIM Accreditation Programme**
- 2. Streamline Procedures for assessment and renewal of BIM Pro (HKIA) / BIM Pro as CIC-Certified BIM Managers**
- 3. Application Form**



1. Introduction of HKIA BIM Accreditation Programme



Global Perspective on BIM

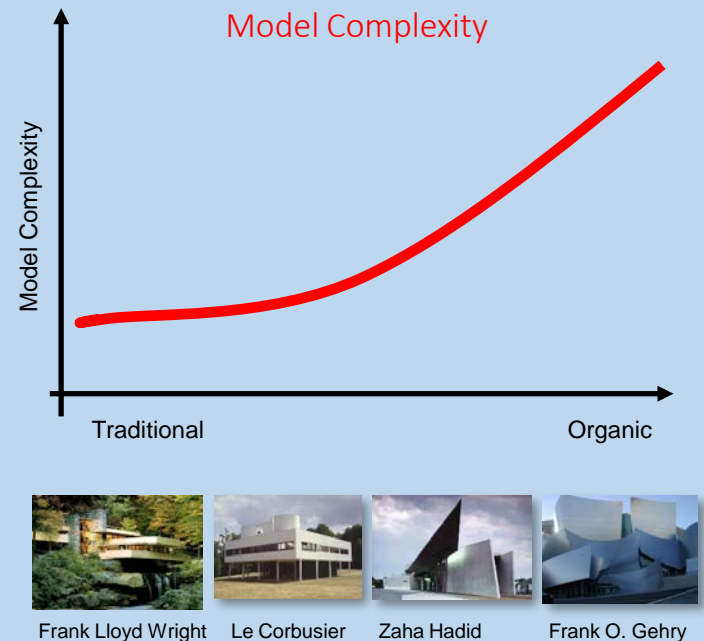
Market Demand : BIM Mandates & Trends

- The global construction industry is undergoing a **paradigm shift**
- Adoption of BIM is becoming a **national strategy** in many countries
- **Long term commitment** and **investment on BIM** by many governments and regional agencies
- Hong Kong has been adopting BIM since 2007 and is progressing well with CIC as the driving arm to encourage the AEC industry for using the technology.



Motivation for Using BIM

- Quality **design & documentation**
- Effective **coordination & communication**
- New Approach for handling **complex & site specific design**
- Increasing usage of **prefabricated elements & components**
- Exploration of different **design options**
- Validation of **performance of the building**
- Green design & support **sustainability requirements**
- Reporting **clashes & design conflicts** and hence reduce abortive work & less waste
- Lowering construction costs
- Avoidance of contractual **claims** & reduce cost
- **Risk prevention & site safety** measurement
- Life operation of the model for **Facility Management**

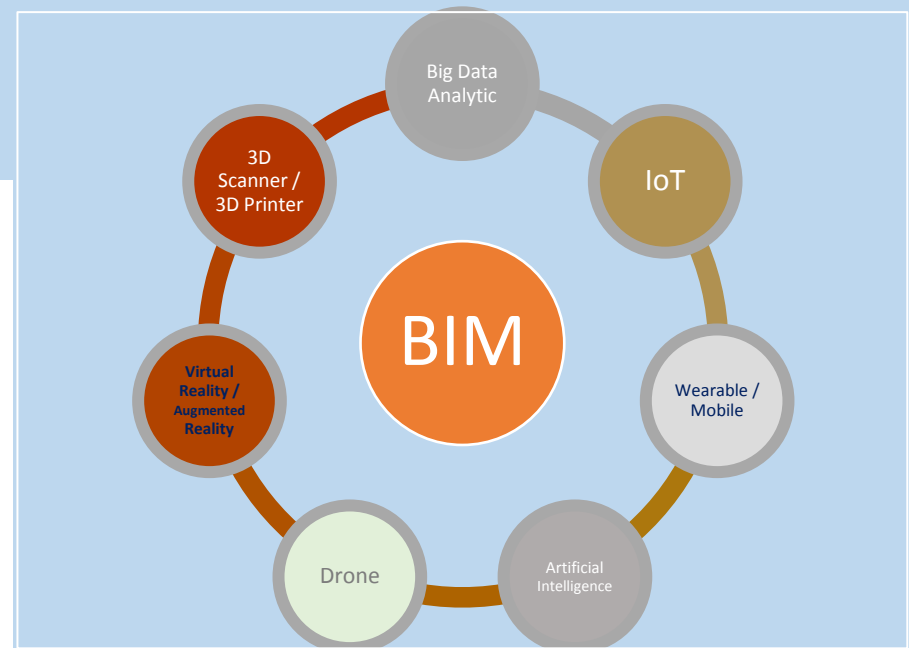


Overall save time, control cost, achieve green and enhance quality of work



A Gallery of Disruptive Technologies

Application of **Building Information Modelling (BIM)**, Geographic Information System (GIS) and associated digital technologies are **disruptive technologies**.



Integration of BIM with Disruptive Technologies



Hong Kong Construction 2.0

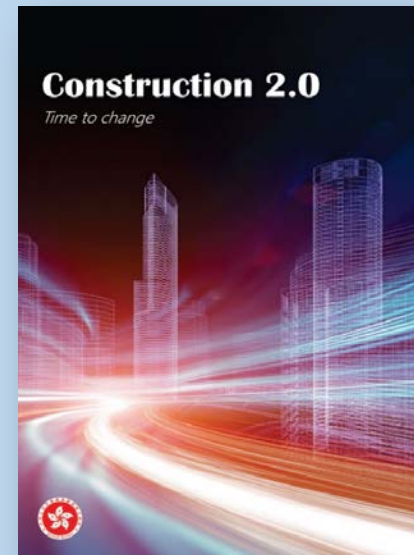
The challenges of HK Construction Industry in recent years:

- Labour Shortage
- High Construction Costs
- Declining Productivity
- Green Building & Construction

DEVB & CIC are actively encouraging the construction industry to adopt new technologies and innovative construction methods, such as

- Building Information Modelling (BIM)
- Modular Integrated Construction (MiC)
- Offsite Steel Yard

Both MiC & prefabrication require **BIM** as 'vehicle' or 'container'



BIM in Hong Kong

Government takes the lead in driving the use of BIM

1.The Chief Executive has mentioned about BIM in her 2017 Policy Address

2.Development Bureau issued Technical Circular (Works) NO.7/2017 & NO. 18/2018 – Adoption of BIM for Capital Works Projects in Hong Kong. Capital works projects with project estimates more than \$30M shall use BIM technology

3.Buildings Department issued Practice Note ADV-34 on BIM which accepts the submission of BIM as reference materials.

4.CIC sets up the Committee on BIM to promote & support the use of BIM, formulate technical standards, training strategy & programme and identify research & programme with academia.

5.Finance Secretary Sets up Construction Innovation & Technology Fund (CITF)



BIM Uses in various stages of a project

Source: Development Bureau Technical Circular (Works) No. 18/2018

Annex 1

BIM Uses

1. Works Departments shall adopt the stipulated mandatory BIM uses in respective stages of a project. Works Departments may adopt the optional BIM uses when necessary.

	BIM Use	Investigation, Feasibility and Planning	Design	Construction
1	Design Authoring	O	M	M
2	Design Reviews	O	M	M
3	Existing Conditions Modelling	O	<u>M</u>	M
4	Site Analysis	O	M	
5	3D Coordination		M	M
6	Cost Estimation	O	<u>M^a</u>	<u>M^b</u>
7	Engineering Analysis		O	O
8	Facility Energy Analysis		O	O
9	Sustainability Evaluation	O	O	O
10	Space Programming	O	<u>M^c</u>	
11	Phase Planning (4D Modelling)		<u>M^d</u>	M
12	Digital Fabrication		O	<u>M^e</u>
13	Site Utilization Planning			<u>M^f</u>
14	3D Control and Planning			O
15	As-Built Modelling			M
16	Project Systems Analysis			O
17	Maintenance Scheduling			<u>M^g</u>
18	Space Management and Tracking			O
19	Asset Management			O
20	Drawing Generation (Drawing Production)		M	M

Legend:

M – Mandatory BIM Use for the mentioned stage, including that carried forward from previous stage.

O – Optional BIM Use



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Buildings Department (BD) of HKSAR

Practice Note on Building Information Modelling

Buildings Department	Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers	ADV-34
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Building Information Modelling

The use of Building Information Modelling (BIM) is a relatively new and innovative approach to building design and construction. The Buildings Department (BD) encourages authorized persons (AP), registered structural engineers (RSE) and registered geotechnical engineers (RGE) to consider adopting BIM in their building projects under the Buildings Ordinance. This practice note provides general guidelines on BIM submissions for building proposals as supplementary information to facilitate plan processing by the BD.

BIM Submissions

2. There is a wide range of applications of BIM on new building development and alteration and addition works which are considered useful to facilitate the BD in processing plan submissions. Some examples of BIM applications are given in Appendix A and the project AP/RSE/RGE are encouraged to provide the BD with a soft copy of the computer modelling information under the specified format for consideration.

Format and Software Version

3. In addition to the statutory requirement of plan submission in paper format, AP/RSE/RGE are encouraged to present their building and/or building works proposals by the computer aid of BIM information in digital format compatible with BIM viewing software or real-time simulation to enhance illustration of the proposals and/or the construction sequence of the proposed works in the following manner and format:-

- (a) The data files should be stored in non-rewritable CD-ROM in ISO 9660 format (i.e. CD format) or non-rewritable DVD-ROM in ISO/IEC 13346:1995 format (i.e. DVD format);
- (b) BIM viewing software (but not web based BIM viewer) shall be available for free download from the Internet for viewing the BIM submission. The link to download the viewing software should also be provided by the AP/RSE/RGE. Each individual file for viewing on BIM viewing software should also be limited to the size of 30 MB; and
- (c) The real-time simulation should be in Windows Media Video (wmv) or Audio Video Interleave (avi) format and supported by Windows Media Player 11 or above.

Appendix A (PNAP ADV-34)

Examples of application of BIM to supplement Plan Submissions

Types of Plan Submission	Examples of Building Information to be illustrated by BIM	
	Building Information Model	Real-time Simulation
General Building Plans	<ul style="list-style-type: none"> innovative building design, irregular/twisted building form; projecting features on external wall; relationship between site profiles/street levels and proposed building; arrangement of means of escape and compartmentation; spatial arrangement of building; relationship between existing building and proposed alteration and addition (A&A) works. 	<ul style="list-style-type: none"> sequence and phasing of various stages^{Notes} of new building development; sequence and phasing of A&A works.
Drainage Plans	<ul style="list-style-type: none"> complex drainage systems and/or connections relationship between proposed underground drainage works and foundation works/site formation works etc. 	<ul style="list-style-type: none"> sequence and phasing of various stages^{Notes} of new building development; sequence and phasing of A&A works.
Superstructure Plans	<ul style="list-style-type: none"> complex steel structures and/or connections; arrangement of transfer structures and illustration of load path; basement structures supporting adjoining ground and/or existing geotechnical features; assembly sequence, structural arrangement and/or connection of façade/glass wall/curtain wall/cladding works, etc.; relationship between existing structures and proposed A&A works; working space, temporary supports and strengthening in A&A works. 	<ul style="list-style-type: none"> sequence and phasing of various stages^{Notes} of new building development; sequence and phasing of A&A works.
Foundation Plans	<ul style="list-style-type: none"> relationship between proposed foundations, sub-structures, E&LS works and geological ground profiles, adjoining existing foundations, geotechnical features, sensitive structures, etc. 	<ul style="list-style-type: none"> sequence and phasing of various stages^{Notes} of new building development; top-down construction.
Excavation and Lateral Support (E&LS) Plans		
Site Formation Plans	<ul style="list-style-type: none"> relationship between site profiles, geological ground profiles and proposed works. 	<ul style="list-style-type: none"> sequence and phasing of various stages^{Notes} of new building development.
Demolition Plans	<ul style="list-style-type: none"> final stage of partial demolished structures. 	<ul style="list-style-type: none"> sequence and phasing of works, method statements and temporary precautionary measures.

Notes : Relevant stages of new building development may include demolition, foundation, E&LS, site formation, sub-structure and superstructure construction, as the case may be.



Background

- HKIA prepared to launch an accreditation programme since 2018 to build up capacity and capability of HKIA members for adopting BIM in building projects, and to suit the increasing demand of BIM personnel as project BIM Team Leader and BIM Coordinator per BIM Team Structure requirement in the Technical Circular TC(W) No.18/2018 issued by the Development Bureau
- HKIA BIM Pro Accreditation – BIM Team Leader
- HKIA BIM Co Accreditation – BIM Coordinator
- Launched on 31 Jul 2019



Core Competencies of a HKIA BIM Pro

1. With knowledge and ability as BIM Team Leader in Architectural Practice to implement BIM in various project stages.
2. BIM Initiation – ability to describe BIM concept definitions and scope, BIM standards and guidelines in the Hong Kong and global contexts.
3. BIM Software and Technologies – ability to explain BIM software and the modelling process, and current and upcoming technologies.
4. BIM Uses and Processes – Ability to understand BIM uses and BIM software applications, and to design and manage the overall process of a BIM project.
5. Digital Information Management, Collaboration and Integration – ability to plan and execute the setting-up of a common data environment and data quality control system for effective use and sharing of digital information in a BIM project.
6. Commercial and Contractual Aspects – Ability to describe commercial and financial issues of BIM as well as BIM-related contractual issues.
7. Communication Skills – ability to apply effective interpersonal and communication skills in a variety of public and interpersonal settings, such as presentations, meetings, report / training material writing, etc.



Entry criteria of BIM Pro (HKIA) / BIM Pro

Qualifications	<p>BIM Pro (HKIA): Fellow Member or Full Member of HKIA;</p> <p>BIM Pro: Graduate Member of HKIA with more than <u>FIVE YEARS</u> of relevant post-degree experience in architecture</p>
Recognised Practical BIM Experience	<p>Candidates should have no less than <u>TWO YEARS</u> BIM working experience in the past five years (including at least six months in Hong Kong) in the execution and management of BIM projects, such as in development of BIM standards, planning, design, contract administration etc. plus execution of BIM projects, counting up to the application form submission date.</p>
BIM Training	<p>Successful completion of BIM Pro Course organised by HKIA and BIM Manager Course accredited by the Construction Industry Council (CIC). A grace period up to 31 Jul 2020 is allowed before new applicants are required to submit completion certificates in support of their applications.</p>



Entry criteria of BIM Pro (HKIA) / BIM Pro

Submission of Supporting Document	<ol style="list-style-type: none">1. Completed Application Form;2. Reasonable proof of successful completion of BIM training course(s);3. Portfolio of BIM working experience with statement of between 1,500 and 2,500 words on all core competencies, and including key project information, the applicant's role and BIM tasks accomplished. Each BIM project experience to be certified by<ol style="list-style-type: none">(i) Authorized Signature of Employer which is a HKIA Registered Practice; OR(ii) Authorized Signature of Employer which is not a HKIA Registered Practice AND HKIA Fellow / Full Member who is a project participant4. Curriculum Vitae.
Acceptance Requirements	<ol style="list-style-type: none">1. Submitted document accepted by the Vetting Panel; and2. Passing a Panel Interview arranged by HKIA to assess whether the applicant possesses the core competencies as stated and required practical experience.
Application Fee	\$500



Grandfathering Policy of BIM Pro (HKIA) / BIM Pro

A Grandfathering consideration is applied for applicants of BIM Pro (HKIA) / BIM Pro who can meet the following entry criteria on or before 31 Jul 2020:

Qualifications	BIM Pro (HKIA): Fellow Member or Full Member of HKIA; BIM Pro: Graduate Member of HKIA with more than <u>FIVE YEARS</u> of relevant post-degree experience in architecture
Recognized Practical BIM Experience	Candidates should have no less than <u>THREE YEARS</u> BIM working experience (including at least two years in Hong Kong) on or before 31 Jul 2019 in the execution and management of BIM projects, such as in development of BIM standards, planning, design, contract administration etc. plus execution of BIM projects
Submission of Supporting Document	<ol style="list-style-type: none">1. Completed Application Form; and2. Portfolio of BIM working experience, including key project information, the applicant's role and BIM tasks accomplished. Each BIM project experience to be certified by (i) Authorized Signature of Employer which is a HKIA Registered Practice; OR (ii) Authorized Signature of Employer which is not a HKIA Registered Practice AND HKIA Fellow / Full Member who is a project participant3. Curriculum Vitae
Application Fee	\$500

An applicant of grandfathering BIM Pro (HKIA) / BIM Pro may be invited to attend an interview if documentary evidence of practical experience is found to be unclear.



Core Competencies of a HKIA BIM Co

1. With Architectural Discipline professional knowledge and ability as BIM Coordinator in Architectural Practice in various project stages
2. BIM Uses, Processes and Operational knowledges
3. Cross discipline knowledge for project collaboration
4. BIM Data Exchange knowledge



Entry criteria of BIM Co (HKIA) / BIM Co

Qualifications	<p>BIM Co (HKIA): Fellow Member or Full Member of HKIA;</p> <p>BIM Co: Graduate Member or Affiliate Member of HKIA</p>
Recognised Practical BIM Experience	<p>Candidates should have no less than <u>ONE YEARS</u> BIM working experience in the past five years (including at least six months in Hong Kong) in master planning, building design, project co- ordination & administration etc. plus operation of BIM system, counting up to the application form submission date.</p>
BIM Training	<p>Successful completion of BIM training course, including in-house training, short-term course, degree course, and course organised or taught by BIM Pro, which is accepted by HKIA.</p> <p><i>Note:</i></p> <p><i>1. HKIA Members who can demonstrate extensive BIM working experience/knowledge during interview with reference to core competencies would be granted exemption for document proof of BIM Training attendance</i></p>



Entry criteria of BIM Co (HKIA) / BIM Co

Submission of Supporting Document	<ol style="list-style-type: none">1. Completed Application Form;2. Reasonable proof of successful completion of BIM training course(s);3. Portfolio of BIM working experience with statement of between 500 – 1,000 words on all core competencies, and including key project information, the applicant's role and BIM tasks accomplished. Each BIM project experience to be certified by<ol style="list-style-type: none">(i) Authorized Signature of Employer which is a HKIA Registered Practice; OR(ii) Authorized Signature of Employer which is not a HKIA Registered Practice AND HKIA Fellow / Full Member who is a project participant4. Curriculum Vitae.
Acceptance Requirements	<ol style="list-style-type: none">1. Submitted document accepted by the Vetting Panel; and2. Passing a Panel Interview arranged by HKIA to assess whether the applicant possesses the core competencies as stated and required practical experience. <p><i>Note: (2) is required if reasonable proof for successful completion of BIM training course(s) accepted by HKIA could not be provided.</i></p>
Application Fee	\$300



Renewal of BIM Pro & BIM Co

The HKIA member will continue maintain in the list of BIM Pro or BIM Co after annual renewal of HKIA membership with payment of subscription fee, and with **12 hours of Continuing Professional Development (CPD) related to BIM.**



2. Streamline Procedures for assessment and renewal of BIM Pro (HKIA) / BIM Pro as CIC-Certified BIM Managers



CIC BIM Certification & Accreditation Schemes

- To facilitate the healthy development of BIM in Hong Kong, CIC has introduced the BIM Certification and Accreditation Schemes to ascertain the competency of BIM practitioners and the quality of local BIM training programmes.



CIC Certified BIM Manager

Grandfathering Route

(valid till 31 December 2019)

- Waived completion of CIC-Accredited BIM Manager Course
- Waived submission of Competency Statement
- Interview (conditional)

Grace Period for Normal Route

(valid till 31 December 2019)

- Waived completion of CIC-Accredited BIM Manager Course



Limited Time Offer 限時優惠

Offer is valid until 31 December 2020.
優惠有效期至2020年12月31日。

Application Fee 申請費用

~~HK\$2,000~~

HK\$500

Renewal Fee 續期費用

~~HK\$1,000~~

HK\$300

Streamline procedure for application / renewal:

- A copy of application form and portfolio of the list of BIM Pro (HKIA) / BIM Pro will be submitted by HKIA Secretariat to CIC Secretariat.
- The submission of application fee of BIM Pro (HKIA) / BIM Pro as CIC-Certified BIM Managers (CCBM) will be waived up to 31 Jul 2020 *

* Note: Application fee of CCBM as BIM Pro (HKIA) / BIM Pro will be waived by HKIA up to 31 Jul 2020

- BIM Pro (HKIA) / BIM Pro will be notified by CIC directly upon approval by Building Information Modelling Certification and Accreditation Board (BIMCAB) to be CIC - Certified BIM Manager.



Streamline procedure for application / renewal:

- During renewal of HKIA membership at the end of every year, BIM Pro (HKIA) / BIM Pro who fulfill 12 hours of CPD related to BIM will be eligible to renew CIC – Certified BIM Manager. Separate renewal application to CIC will not be required. Renewal fee of BIM Pro (HKIA) / BIM Pro as CIC-Certified BIM Managers will be HK\$300 until 31 December 2020 and HK\$1000 thereafter.
- An applicant of BIM Pro (HKIA) / BIM Pro for CIC-Certified BIM Managers, including renewal/reinstatement of registration, who is dissatisfied with a decision of BIMCAB shall follow CIC procedure for appeal.
- Streamline procedure for assessment of BIM Pro (HKIA) / BIM Pro as CIC – Certified BIM Manager after 31 Jul 2020 will be announced in due course.



3. Application Form



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The Hong Kong Institute of Architects

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Tel: 2511 8323 Fax: 2519 6011/2519 3084
香港註冊建築師會 18 樓 19 樓



Application for Listing under HKIA BIM Accreditation Programme

Please read the Notes to Applicant in Part H before completing this form.

A. APPLICATION TYPE

Please tick as appropriate:

- ☐ BIM Pro (HKIA) / BIM Pro under Grandfathering Policy
- ☐ BIM Pro (HKIA) / BIM Pro
- ☐ BIM Co (HKIA) / BIM Co

B. APPLICANT PARTICULARS

Name : (English) _____
Surname Given Name

(Chinese) (if any) _____

HKIA Membership No.: _____ Gender: _____

HKIA Membership Category : ☐ Fellow
(Please tick as appropriate.) ☐ Member
☐ Graduate Member
☐ Affiliate

Office Name : _____

Office Address : _____

Office Tel. : _____ Mobile : _____ Fax : _____

Email Address : _____

C. BIM WORKING EXPERIENCE

Please present your working experience in chronological order starting from the latest practical experience. Separate sheet may be attached to the application form if space is insufficient.

1. BIM	
Project Name : _____	
Your Position : _____	
Project Duration involved : _____ to _____ (mths days)	
Duration involved in Hong Kong : _____ to _____ (mths days)	
Certifier Name (Employer) : _____	
HKIA Registered Practice <input type="checkbox"/> Y <input type="checkbox"/> N (Please tick as appropriate.)	
Certifier Signature : _____ Date : _____	
Certifier Name (HKIA Member) : _____	
<input type="checkbox"/> Fellow <input type="checkbox"/> Member (Please tick as appropriate.)	
HKIA Membership No. : _____	
Certifier Signature : _____ Date : _____	
2. BIM	
Project Name : _____	
Your Position : _____	
Project Duration involved : _____ to _____ (mths days)	
Duration involved in Hong Kong : _____ to _____ (mths days)	
Certifier Name (Employer) : _____	
HKIA Registered Practice <input type="checkbox"/> Y <input type="checkbox"/> N (Please tick as appropriate.)	
Certifier Signature : _____ Date : _____	
Certifier Name (HKIA Member) : _____	
<input type="checkbox"/> Fellow <input type="checkbox"/> Member (Please tick as appropriate.)	
HKIA Membership No. : _____	
Certifier Signature : _____ Date : _____	



Total BIM Project Duration involved:	mths	days
Total BIM Project Duration involved in Hong Kong :	mths	days

D. BIM TRAINING

Please state your BIM training in chronological order starting from the latest training.

No.	Name of University / Professional Body / Registration Body / Course Provider	Programme Period (dd.mm.yyyy – dd.mm.yyyy) and contact hours	Mode of Study (Part-time, Full-time, Distance Learning)	Programme Title (in full) / Professional Qualification
1.				
2.				
3.				
4.				
5.				
6.				

E. SUPPORTING DOCUMENTS

Please check your documents to be submitted to support your application.

- ☐ Completed Application Form
- ☐ Portfolio of BIM working experience including key project information, applicant's role and BIM tasks accomplished
- ☐ Curriculum vitae
- ☐ Reasonable proof of successful completion of BIM training course(s)
(not applicable to applicants under Grandfathering Policy)
- ☐ Statement on core competencies
(not applicable to applicants under Grandfathering Policy)
- ☐ Cheque for application fee OR *Proof of CIC-Certified BIM Manager
(*applicable to applicants of BIM Pro(HKIA) / BIM Pro only)

F. DECLARATIONS BY APPLICANT

- I (name in full) _____ being an applicant for listing under HKIA BIM Accreditation Programme by The Hong Kong Institute of Architects do hereby DECLARE that the above is a TRUE STATEMENT OF ALL MY PARTICULARS. I also hereby authorize The Hong Kong Institute of Architects to make any reasonable enquiries into the information given above.
- I declare that the portfolio I submit is a true record of my own experience.
- My personal particulars can be released to third parties for confirmation of my qualification and experience.
- I have read the listing requirements and procedures detailed in the HKIA BIM Accreditation Programme Application Handbook and relevant circulars. I shall abide by the rules therein.
- I hereby authorize The Hong Kong Institute of Architects to submit a copy of this application form and portfolio to Construction Industry Council for streamline processing of application for CIC - Certified BIM Manager upon accepted as BIM Pro (HKIA) / BIM Pro. (not applicable to BIM Co (HKIA) / BIM Co applicants)

Signature of Applicant _____

Date _____



Q & A

