Roadmap for the BIM Implementation in Hong Kong’s Construction Industry and
CICHK’s Upcoming Initiatives

Ms. Ada FUNG
Chairperson, Working Group on Roadmap for BIM Implementation
Construction Industry Council, Hong Kong
Construction Industry Council
Vision and Mission

Hong Kong Construction Industry Council (CIC) is a statutory body to coordinate Hong Kong’s construction Industry.

Vision: To drive for unity and excellence of the construction industry of Hong Kong

Mission: To strengthen the sustainability of the construction industry in Hong Kong by providing a communications platform, striving for continuous improvement, increasing awareness of health and safety, as well as improving skills development.
BIM from Hong Kong’s Perspective?

Building Information Modelling (BIM) is not just a three dimensional drawing tool but a new way of holistically managing information related to construction projects, from planning to design, construction and operations.

It offers a new method of working that uses modern technology to facilitate project management and execution. BIM enables better control of the construction process and enhance cross-disciplinary collaboration, internal coordination, external communication, problem solving, decision-making support, productivity management and risk management.
Typical Practice vs Advanced Practice in Hong Kong
BIM Experience of Housing Authority
Assemble of Standard Modular Flats
To form Domestic Block
Developing BIM user guides, component library for use of various works disciplines.

Establishing SAM (standard modelling approach) for improving model quality and for automatic QTO (quantity take-off)
Integration of Revit & Dialux for Lighting Simulation

-- optimize design for energy saving

Integration of Civil 3D, GIS and BIM for Early Design Stage Visualization

Design workflow with the integration of Civil 3D, GIS and BIM
5D BIM Studies
Shui Chuen O Ph.1, Hin Tin HOS, Anderson Road Sites A&B

- Reveals actual and predicted cash flow of the project.
- Better understanding of project cash flow.

Integration of BIM and RFID
Logistic Management for Precast Elements of Shopping Centre from Factory Fabrication to Site Installation.
Collaborative Moving Through CIC

Hong Kong BIM stakeholders are being collaborated through CIC to work together towards strategic implementation of BIM in Hong Kong’s construction industry.

The BIM implementation in Hong Kong’s construction industry by CIC is taking both:

1) Push Strategy (that is: advocate project clients and asset owners to adopt BIM)
2) Pull Strategy (that is: facilitate industry-wide buy-in and industry-wide ready)

CIC has collaborated the stakeholders from public clients, private clients, architectural, engineering, surveying, BIM professional institutes, trade unions, academia, etc, in Hong Kong to form:

a) Working Group on Roadmap for BIM Strategic Implementation
   - to define industrial wide strategies for achieving market transformation and application of BIM.

b) Task Group on Establishment of Industry Standards for BIM Implementation
   - to devise BIM standards that are suitable for Hong Kong local practice and bridge regional practice.
Working Group on Roadmap for BIM Implementation of CIC

Membership

Chairperson
Ms. Ada FUNG

Hong Kong Housing Authority

Professionals / Specialists
Hong Kong Institute of Surveyors
Hong Kong Institution of Engineers
Hong Kong Institute of Architects
Hong Kong Institute of Building Information Modelling
The Association of Consulting Engineers of Hong Kong
The Association of Architectural Practices
British Chamber of Commerce
Hong Kong Institute of Utility Specialist
buildingSMART Hong Kong
The Hong Kong Green Building Council

Clients
The Real Estate Developers Association of Hong Kong
Housing Authority
MTR Corporation
Development Bureau
Architectural Services Department
Buildings Department
Highways Department

Academics
University of Hong Kong
The Chinese University of Hong Kong
The Hong Kong Polytechnic University
Institute of Vocational Education

Contractors
Hong Kong Construction Association
Hong Kong General Building Contractors Association
Hong Kong Federation of Electrical & Mechanical Contractors
Pursuing Industry-wide Implementation of BIM: The Key Driving Force

The Working Group on BIM Implementation of the CIC, has come up with the Roadmap for BIM Strategic Implementation in Hong Kong’s Construction Industry.

The Roadmap has been approved by the CIC council to serve as a industry-wide reference material and officially published on 10 September, 2014 at CIC’s website.
Pursuing Industry-wide Implementation of BIM: The Initiatives

The 17 recommended initiatives in 9 areas:

1. Collaboration
   - To set up an industry-recognised coordinating body to foster collaboration locally and internationally.
   - To promote project-wide collaboration along the project supply chain.
   - To appoint a BIM Manager in every construction project team.
Pursuing Industry-wide Implementation of BIM: The Initiatives

2. Incentive and Proven Benefit

- To encourage public and private clients to take the lead.
- To develop a collection of client initiatives that demonstrate clear and proven benefits.
- To develop a collection of case studies for other stakeholders that demonstrate the benefits of BIM.
- To provide support to small-scale companies.
Pursuing Industry-wide Implementation of BIM: The Initiatives

3. Standard and Common Practice
   • To establish delivery standards and common practices.

4. Legal and Insurance
   • To review procurement practices and contract provisions.
   • To review IP rights and data ownership.
Pursuing Industry-wide Implementation of BIM: The Initiatives

5. Information Sharing and Handover
   • To establish a management framework that facilitates the collaborative production of architectural, engineering and construction information.

6. Promotion and Education
   • To offer institutional support and execute promotional activities.
   • To expedite the development of BIM capacity and capabilities.
   • To expedite the industry’s capacity and capability to integrate infrastructure project management and infrastructure asset management.
Pursuing Industry-wide Implementation of BIM: The Initiatives

7. Compliant BIM Tool
   • To enable and ensure sufficient digital capability and vendor support.

8. Audit and Risk Management
   • To adopt a strategic risk management process for BIM implementation.

9. Global Competitiveness
   • To maintain the competitiveness of the Hong Kong Architecture, Engineering and Construction (AEC) industry in the face of worldwide players, who are equipped with greater productivity and new technology
Pursuing Industry-wide Implementation of BIM: Imminent Actions

**ESTABLISHMENT OF STANDARD** – to devise a set of standards or specifications to facilitate the wider use of BIM in construction projects. Standards should include, but are not limited to: (i) Project Execution Plan; (ii) Modelling Methodology; (iii) Level of Detail; and (iv) Component Presentation Style and Data Organisation. The scope should include, but not be limited to architectural, structural, civil engineering, and MEP BIM models in stages of conceptual, preliminary design, detailed design, construction and as-built;

**PROMOTION** – to carry out promotions targeting industry stakeholders who are not familiar with the use and benefits of BIM, or who are observers or new to the idea of adopting BIM, especially the top management of major project clients. As the key drivers of BIM adoption, it is important that these stakeholders appreciate the benefits of BIM and prepare their organisation to adopt BIM. Promotion should not be limited to local practitioners but also include regional and international practices;

**TRAINING** – to develop the industry’s BIM capacity by driving curricular change in construction-related and computer science academic programmes, and provide BIM training in three areas: BIM model development; management of BIM; and use of BIM models.
Consultancy for Preparation of BIM Standards (Phase One)

a. **Purpose:** Common BIM Standards for Hong Kong’s local practices (by referencing to existing BIM standards of Housing Authority, MTRC, HKIBIM) and trying to bridge regional BIM practices to facilitate wider adoption of BIM in Hong Kong.

b. **4 Types of Standards:** (i) Project Execution Plan, (ii) Modelling Methodology, (iii) Level of Development, (iv) Component Presentation Style and Data Organisation

c. **Scope:** Architectural and Structural BIM model in stages of conceptual, preliminary design, detailed design, construction and as-built. MEP BIM model in the stages of conceptual and preliminary design

d. **Timeline:** Commence in March 2014 for 12 months
Pursuing Industry-wide Implementation of BIM: 
Imminent Actions – Promotion – BIM Year 2014

CIC is collaborating and co-ordinating with stakeholders a series of promotional activities throughout the whole year of 2014 by joining BIM stakeholders’ hands to drive the BIM movement in Hong Kong’s construction industry. The activities include:

• Conference, Seminar, Exhibition, Regional Official Meetings
• Client Summit on BIM
• Stakeholders’ BIM Implementation Update and Knowledge Sharing
• Trainings for Professionals
• Demonstration and Fast Track Training on BIM for Novice
• BIM Show Cases for Tertiary Students
• Publications and Media Exposure
• Introduction of Draft Hong Kong’s BIM Standards
• Award for BIM Excellence
BIM Excellence Awards 2014

a. **Purpose**: Recognise construction practitioners who have spearheaded an effort in the harnessing of Building Information Modelling (BIM) technology and processes to further design, construction and project excellence.

b. **Awards Categories**:

   (i) BIMer of the Year;

   (ii) Young BIMer of the Year;

   (iii) Construction Innovator by BIM
Pursuing Industry-wide Implementation of BIM: Imminent Actions - Training

CIC’s BIM Training Centre and Laboratory:

- At CIC’s Kowloon Bay Training Centre (10 mins walk from MTR)
- Will be equipped with almost the most advanced BIM workstation, 3D printer, 3D scanner, etc.
- Target to launch in 2015

Proposed Training Context:

- Corporate Strategy of the Transformation for BIM Adoption
- Management Decision Making Support by BIM
- BIM in Project Management
- BIM Manager and BIM Coordinator
- Train-the-Trainer Programme
- Use of BIM Data in Built Model
- 3D Printing and 3D Scanning Technology
Upcoming Initiatives

(1) BIM Training Center and Laboratory
- Located at CIC’s Kowloon Bay Training Centre
- Equipped with Approx. 50 BIM Workstations with the Latest 3D Printing & Scanning Technologies
- Proposed Services: BIM Training and R&D Uses for Both CIC Organised Courses and Outsider Booking
- Target to Launch in 2015

(2) BIM Training Programme Accreditation
- Provide Quality Assurance and Confidence Level of Training Programme
- Standardise Training Courses Requirements
- Target to Launch in 2015

(3) Registration for BIM Professionals
- Build Up Capacity of BIM Professionals
- Facilitate the Quality and Continuous Development of BIM Practitioners
- Standardise BIM Qualification and Recognition of Professionals
- Target to Launch in 2015
CIC is collaborating with stakeholders in Mainland China and Taiwan to form a synergy force for BIM implementation in the region. The alliance also aims to provide a platform to share initiatives and experiences in relation to BIM.

It is planned that Hong Kong will hold the Inaugural Conference in 2015. The following conferences will be held in a nominated city in Greater China.
It works, Because I work

Year 2050
THANK YOU

BIM Model of CIC’s ZCB
Source: Ronald Lu & Partners
Backup Slide
Civil 3D Model for Ground Condition
SCHEME A  
(at platform +41mPD)

SCHEME B  
(at platform +51mPD)

3D view and elevation of the 2 schemes
Versatility of BIM in Design Projects

- 2D Drawings
- Rendering
- Optimization of Foundation Design
- Lighting Design
- BIM Design Models
- Visual Impact
- Sub-soil Condition
- Performance Analysis
- Collision Check
Versatility of BIM on Site

BIM Construction Models

Quantity Take-off

Site Planning

4D Simulation of Construction Works

ELS Works

Demolition Works

Safety and Logistics
Hong Kong Practice VS Leading Practice Countries

<table>
<thead>
<tr>
<th>bimSCORE</th>
<th>Conventional Practice</th>
<th>Typical Practice</th>
<th>Advanced Practice</th>
<th>Best Practice</th>
<th>Innovative Practice</th>
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<tbody>
<tr>
<td>Planning</td>
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<td>Adoption</td>
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<td>Technology</td>
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<td>Performance</td>
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BIM Practice by Leading Practice Countries

Planning: Leading practice countries have established domestic standards and guidelines for BIM implementation, and governmental agencies or jurisdictions within these leading nations may have individual BIM requirements for both public and private projects.

Adoption: Leading practice countries have high rates of BIM adoption, due to both governmental or owner requirements, as well as pressure to maintain competitive advantage in an increasingly BIM-enabled marketplace.

Technology: Technology employed in leading practice countries is both broad and mature. BIM are commonly used for visualization, documentation, performance analyses, and increased automation of design and construction tasks.

Performance: Few countries have objectively demonstrated improved performance with BIM adoption. Most assessments of BIM’s contribution to increased performance rely on subjective representations and few quantitative metrics, without benchmarks or performance targets based on historical data.
Pursuing Industry-wide Implementation of BIM:
The Key Driving Force – Public Clients’ Perspectives

- Realising the benefits of BIM is not dependent on the nature of the construction project but on:
  - The project planning approach;
  - The risk management approach;
  - The project coordination approach;
  - The communication approach across disciplines and along the construction supply chain.
## Pursuing Industry-wide Implementation of BIM: Initiative Area - Collaboration

<table>
<thead>
<tr>
<th>Initiative No:</th>
<th>A.1</th>
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<tbody>
<tr>
<td>Initiative:</td>
<td>To set up an industry-recognised coordinating body to foster collaboration locally and internationally</td>
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</tbody>
</table>
| Key Activity: | - Act as the central body to lead change and facilitate implementation work alongside a communication strategy.  
- Promote the adoption of BIM throughout the construction supply chain in .  
- Foster local collaboration across industry bodies and institutions in order to develop and promote the necessary standards, protocols, practices, legal frameworks and educational programmes according to an industry-accepted implementation plan, timeline and scale.  
- Foster international collaboration to develop a global view of standards such as best practice and shared practice. |
| Suggested Action Party: | CIC |
## Pursuing Industry-wide Implementation of BIM: Initiative Area - Collaboration

<table>
<thead>
<tr>
<th>Initiative No:</th>
<th>A.2</th>
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<tbody>
<tr>
<td>Initiative:</td>
<td>To promote project-wide collaboration along the project supply chain</td>
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</tbody>
</table>
| Key Activity: | - Redefine the work process and role of each participant to prepare for the full integration of BIM across the relevant processes. Jobs, roles and responsibilities should also be redefined accordingly.  
- Integrated BIM will affect contractual and process issues. Collaborative effort is needed to study this impact and suggest solutions to tackle these challenges. |
| Suggested Action Party: | Leading: HKIBIM and buildingSMART  
Participants: Public and private clients, professional organisations (HKIA, HKIS, HKIE, AAP, ACEHK, ACQS, HKCA, HKFEMC, etc.) |
## Pursuing Industry-wide Implementation of BIM: Initiative Area - Collaboration

<table>
<thead>
<tr>
<th>Initiative No:</th>
<th>A.3</th>
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<tbody>
<tr>
<td>Initiative:</td>
<td>To appoint a BIM Manager in construction project team</td>
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</table>
| Key Activity: | - The BIM Manager would be responsible for communicating and developing an integration mindset and whole life cycle systems mindset among project participants.  
- Develop the BIM Manager's professional standards. |
| Suggested Action Party: | Leading: CIC  
Support: HKIBIM, buildingSMART and training institutes |
## Pursuing Industry-wide Implementation of BIM:
### Initiative Area – Incentive and Proven Benefit

<table>
<thead>
<tr>
<th>Initiative No:</th>
<th>B.1</th>
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<tr>
<td>Initiative:</td>
<td>To encourage public and private clients to take the lead</td>
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<tr>
<td>Key Activity:</td>
<td>- Enable top management to understand the benefits of BIM and prepare their organisation to adopt BIM.</td>
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<td>- Launch pilot projects (including, but not limited to, civil engineering, building, and design and build works) with BIM utilised by all participants across the whole project life cycle.</td>
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<td>- Explore ways to incentivise the use of BIM in public and private sector projects.</td>
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<tr>
<td>Suggested Action Party:</td>
<td>Leading: CIC</td>
</tr>
<tr>
<td></td>
<td>Participants: Public and private clients</td>
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</tbody>
</table>
# Pursuing Industry-wide Implementation of BIM:

## Initiative Area – Incentive and Proven Benefit

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<tr>
<th>Initiative No:</th>
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<tbody>
<tr>
<td>Initiative:</td>
<td>To develop a collection of client initiatives that demonstrate clear and proven benefits</td>
</tr>
</tbody>
</table>
| Key Activity:  | - To collect experiences and feedback from project clients who have used BIM to manage projects, assets and the various participants in the construction supply chain.  
                 - To illustrate how BIM can support a project in terms of standards, procurement, collaboration, work processes, benefits and issues, etc.  
                 - To advance a client’s ability to outline specific BIM requirements and work with a BIM enabling team. |
| Suggested Action Party: | buildingSMART and others |
## Pursuing Industry-wide Implementation of BIM:
### Initiative Area – Incentive and Proven Benefit

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<tr>
<th>Initiative No:</th>
<th>B.3</th>
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<tr>
<td>Initiative:</td>
<td>To develop a collection of case studies for other stakeholders that demonstrate the benefits of BIM</td>
</tr>
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</table>
| Key Activity:  | - To share the most updated real operations methods and innovative ideas to improve the operations model in a strategic approach with practitioners.  
                 - To illustrate how BIM can work in the life cycle of an infrastructure project. |
| Suggested Action Party: | buildingSMART and others |
### Pursuing Industry-wide Implementation of BIM:
Initiative Area – Incentive and Proven Benefit

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<th>Initiative No:</th>
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<tr>
<td>Initiative:</td>
<td>To provide support to small scale companies</td>
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</table>
| Key Activity: | - Encourage the use of BIM among small and medium enterprises (SME). SMEs may wish to apply for government funding to enable this transformation.  
- Coordinate with the relevant authorities to provide subsidised training programmes to teach BIM technical skills. |
| Suggested Action Party: | CIC |
## Pursuing Industry-wide Implementation of BIM:
### Initiative Area – Standards and Common Practices

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<tr>
<th>Initiative No:</th>
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<tbody>
<tr>
<td>Initiative:</td>
<td>To establish delivery standards and common practices</td>
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</table>
| Key Activity:  | - Build a reference document that provides a unified BIM standard, methodology, convention and the required level of detail so that it can be easily applied to different projects with reasonable modifications.  
- Build a reference document that provides guidance on how to implement BIM at a project level throughout the project life cycle. |
| Suggested Action Party: | CIC’s Task Group for Preparation of Hong Kong BIM Standards |
**Initiative No:** D.1

**Initiative:** To review procurement practices and contract provisions

**Key Activity:**
- Review each discipline’s current contract agreements, procurement system and scope of work to enable the cooperative use of BIM among the different parties of a construction project.
- Review the Standard Method of Measurements (M) and link them with BIM.
- Formulate and establish standards or guidelines for procuring BIM services, including the scope of service, outlined deliverables at each stage, terms and conditions, fee structure and payment schedule, etc.

**Suggested Action Party:** HKIS and ACQS to coordinate with public and private clients
### Initiative No:

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<th>Initiative No:</th>
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### Initiative:

To review intellectual property rights and data ownership

### Key Activity:

- Review the legal principles governing Intellectual Property (IP) rights and how they apply to information held in a BIM environment.
- Review data and information ownership and sharing.
- Review accountability for using or updating data and information.
- Review ownership and usage as well as liability, which may affect insurance policies.

### Suggested Action Party:

CIC
<table>
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<tr>
<th>Initiative No:</th>
<th>E.1</th>
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<tbody>
<tr>
<td>Initiative:</td>
<td>To establish a management framework that facilitates the collaborative production of architectural, engineering and construction information</td>
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<tr>
<td>Key Activity:</td>
<td>- Suggest a mechanism to control and manage an inter-disciplinary common data environment.</td>
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<td>- Develop a data exchange methodology for all participants along the construction supply chain to: (a) Improve the information retrieval and exchange process; (b) Enhance the quality and scope of information delivered by the supply chain; and (c) Increase data integrity.</td>
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<tr>
<td>Suggested Action Party:</td>
<td>Leading: HKIBIM and buildingSMART</td>
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<tr>
<td></td>
<td>Participants: Public and private clients, professional organisations (HKIA, HKIS, HKIE, ACEHK, AAP, HKCA, HKFEMC, etc.)</td>
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### Pursuing Industry-wide Implementation of BIM:

#### Initiative Area – Promotion and Education

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<tr>
<th>Initiative No:</th>
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<tbody>
<tr>
<td>Initiative:</td>
<td>To offer institutional support and execute promotional activities</td>
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<td>Key Activity:</td>
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</table>
  - Professional organisations can help to further the implementation of BIM by promoting the technology and its advantages to clients.  
  - Professional organisations can help to expand the implementation of BIM by promoting the technology and its advantages to its members and marshalling members’ responses to the challenges of adopting BIM.  
  - Engage the top management of clients with the concept of BIM, as they are in the best position to drive adoption. Clearly explain the benefits of BIM to their organisation. |
| Suggested Action Party: | Leading: CIC  
Participants: Professional organisations |
Pursuing Industry-wide Implementation of BIM:
Initiative Area – Promotion and Education

<table>
<thead>
<tr>
<th>Initiative No:</th>
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<tbody>
<tr>
<td>Initiative:</td>
<td>To expedite the development of BIM capacity and capabilities</td>
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<tr>
<td>Key Activity:</td>
<td>- Extend BIM training from construction-related programmes to other engineering and computer science programmes.</td>
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<td>- Offer comprehensive and systematic training courses for new BIM positions, particularly BIM Managers and BIM Modellers.</td>
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<td>- Initiate a train-the-trainer programme to cascade training efforts to individual companies.</td>
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<tr>
<td>Suggested Action Party:</td>
<td>Leading: CIC</td>
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<td></td>
<td>Support: HKIBIM and training institutes, professional organisations, public and private clients</td>
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</tbody>
</table>
## Pursuing Industry-wide Implementation of BIM:

### Initiative Area – Promotion and Education

<table>
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<tr>
<th>Initiative No:</th>
<th><strong>F.3</strong></th>
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<tbody>
<tr>
<td>Initiative:</td>
<td>To expedite of the industry’s capacity and capability to integrate infrastructure project management and infrastructure asset management</td>
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</table>
| Key Activity:  | - In the long-term, universities and training institutes should consider adding infrastructure project management and infrastructure asset management courses to their degree and diploma curriculums.  
- Implement a fast-track training programme for in-service professionals and management staff to understand integration from a management perspective. |
| Suggested Action Party: | Universities, training institutes, professional organisations, public and private clients |
### Pursuing Industry-wide Implementation of BIM: Initiative Area – Sufficient Digital Capability and Vendor Support

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<th>Initiative No:</th>
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<tbody>
<tr>
<td>Initiative:</td>
<td>To enable and ensure sufficient digital capability and vendor support</td>
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</table>
| Key Activity:  | - Software providers should ensure that design standards are localised to suit practices.  
- Software providers should ensure that within the BIM system, there is a modelling function that enables users to produce the final construction documents.  
- Software providers should facilitate the integration between BIM and downstream system applications to fulfil the needs of facilities management and frontline maintenance staff.  
- Relevant authority’s practice notes concerning the submission of building plans in AutoCAD / Microstation format for GFA checking may need to be revised to accept the submission of building plans in BIM format. |
| Suggested Action Party: | Leading: HKIBIM  
Participants: Public and private clients, professional organisations (HKIA, HKIS, HKIE, ACEHK, AAP, HKCA, HKFEMC, etc.) |
### Initiative No:

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<th>Initiative No:</th>
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### Initiative:

To adopt a strategic risk management process for BIM implementation

### Key Activity:

- Commission a risk assessment for BIM implementation at a project and corporate level. The purpose of the risk assessment is to identify possible risk areas and determine how they can be mitigated individually and collectively to reduce and marginalise potential problems following the adoption of BIM-enabled technologies and collaboration.

- Commission a legal service to draft BIM-specific contractual provisions (avoiding the aggressive use of disclaimers, indemnification and non-reliance clauses) that aim to eliminate, limit or manage the risks associated with BIM.

### Suggested Action Party:

CIC
Pursuing Industry-wide Implementation of BIM:
Initiative Area – Global Competitiveness

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<tr>
<th>Initiative No:</th>
<th>I.1</th>
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<tr>
<td>Initiative:</td>
<td>To maintain the competitiveness of the Hong Kong Architecture, Engineering and Construction (AEC) industry in the face of worldwide players, who are equipped with greater productivity and new technology.</td>
</tr>
</tbody>
</table>
| Key Activity:  | - Review and monitor global trends and the latest construction technology and keep the construction industry updated.  
                 - Facilitate skills, knowledge and experience sharing between the international market and market. |
| Suggested Action Party: | CIC |
Pursuing Industry-wide Implementation of BIM:
Imminent Actions – Local Standards - Project Execution Plan

The standard for Project Execution Plan should comprise, including but not limited to, the following elements:

- Project goals/ BIM uses/ analysis plan
- Definition and abbreviation
- Project template (e.g. folder and file structure, color scheme and style, project parameters, etc)
- Organisational roles and responsibilities / staffing/ team
- BIM process design
- Documentation
- BIM modeling plan and model structure (e.g. model manager, planned model, model component, etc)
- BIM information exchanges
- BIM and facility data requirements
- Collaboration procedures and cross-disciplinary model coordination
- Quality control
- Technological infrastructure needs
- Project deliverables
- Publishing formats
The standard for Modelling Methodology should comprise, including but not limited to, the following elements:

- Define “how” BIM model is to be created/developed and be shared to another discipline aiming to enable efficient use and re-use of BIM data with modeling data consistency
- Model division and model structure (e.g. structure, zones, levels, systems, etc)
- Properties of BIM elements
- Drawing compilation and preparation for publication
- Application of components
The standard for Modelling Methodology should comprise, including but not limited to, the following elements:

• Definition of general of and elements in architectural BIM model in stages of conceptual, preliminary design, detailed design, construction and as-built
• Definition of general of and elements in structural BIM model in stages of conceptual, preliminary design, detailed design, submission to approving authority, construction and as-built
• Definition of general of and elements in MEP BIM model during the conceptual and preliminary design stages.
Pursuing Industry-wide Implementation of BIM:
Imminent Actions – Local Standards – Component Presentation Style & Data Org

The standard for Component Presentation Style and Data Organisation should comprise, including but not limited to, the following elements:

- Filename convention for project (presenting: project, project phase, building type, structure type, discipline, file type, revision, modification, etc)
- Filename convention for components (presenting: component name, type name, revision, systems, etc.)
- Folder structure and folder content requirement
- Model hierarchy and model link
- Material, color, line style
- Spatial location and co-ordination
- Units and Measurement
- Categories/Systems