

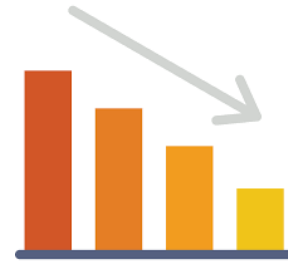


CONSTRUCTION INDUSTRY COUNCIL
建造業議會

Construction Innovation and Technology Fund (CITF)

5 May 2022

Challenges of Hong Kong Construction Industry



Productivity
Decrease



Cost
Increase



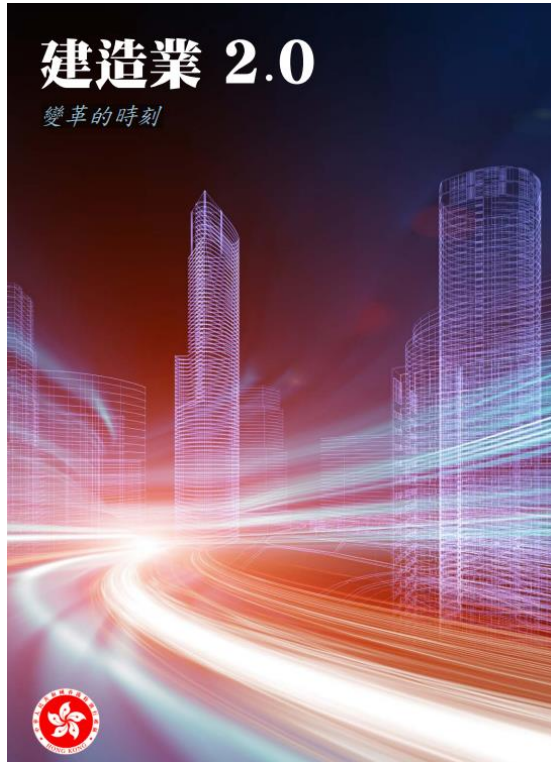
Labour
In High Demand



Green Building
& Construction



Construction 2.0



Innovation



Professionalisation



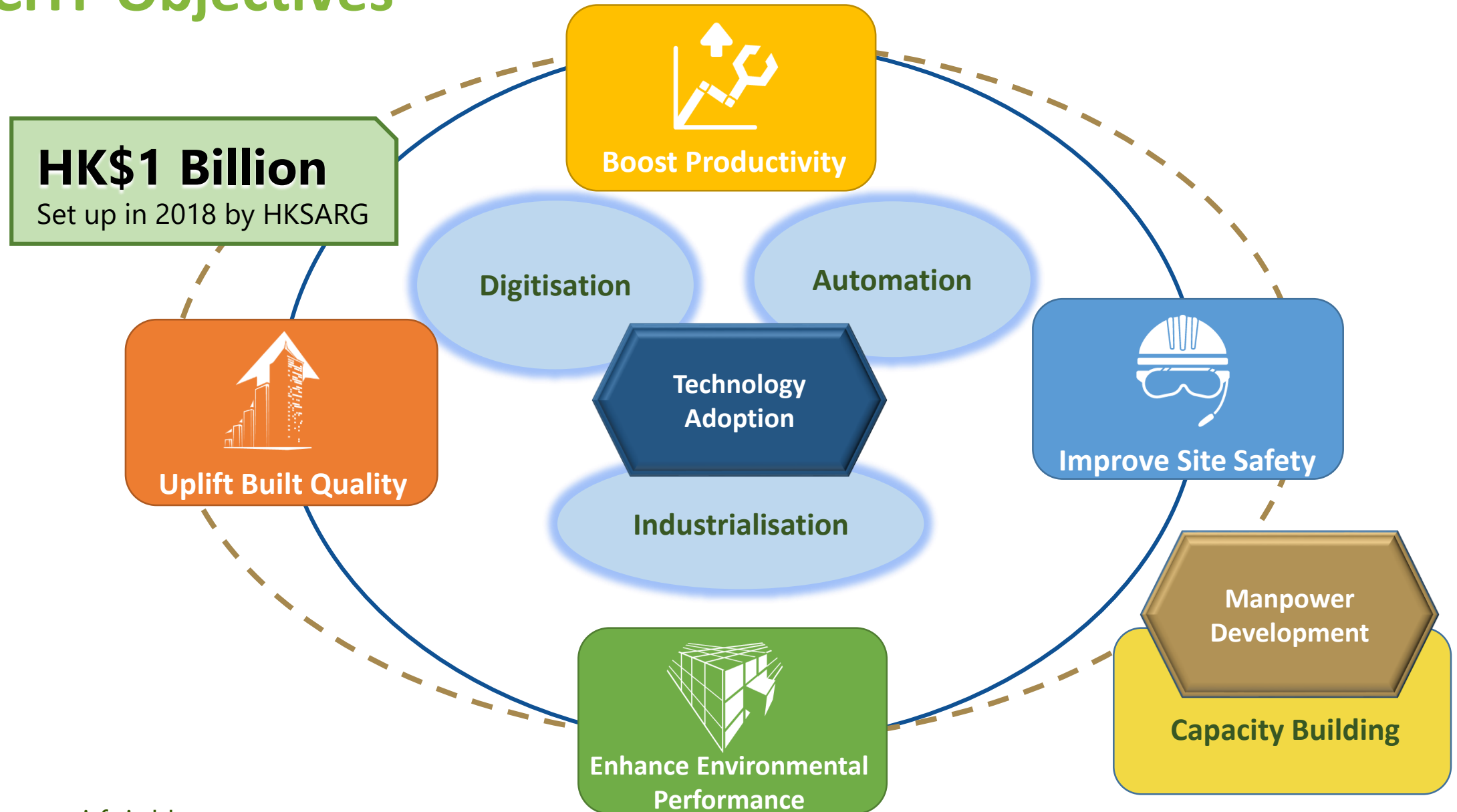
Revitalisation

Development Bureau & CIC are actively encouraging the construction industry to adopt new technologies, such as

- Building Information Modelling (BIM)
- Modular Integrated Construction (MiC)



CITF Objectives



CITF Support to Construction Life Cycle



Pre-approved Lists

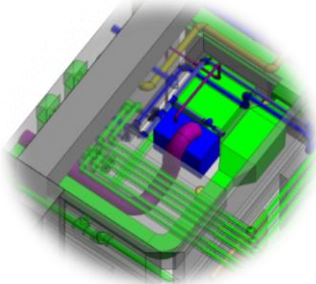
Manpower Development Programmes

Planning and
Design stage

Construction
Stage

Facility
Management
Stage

Demolition
Stage



BIM



Robotics



Environmental
Materials



Smart Hand
Tools



Advanced Working
Platform



Smart Lifting
Tools



IoT Analytic Tools



Digital Surveying
Tools



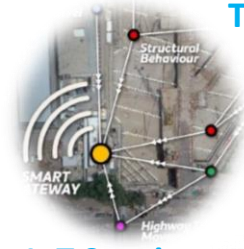
Common Data
Environment (CDE)



IoT/ AI Safety
Monitoring



Digital Work Supervision
System (DWSS)



IoT Sensing

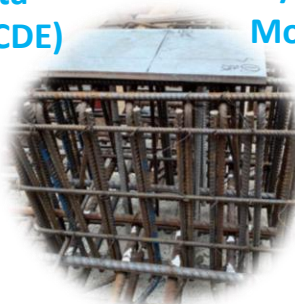


3D Visualisation Tools

www.citf.cic.hk



MiC



Prefabricated Steel Rebar



Smart Equipment with
Quality Sensors



Exoskeleton



Demolition Robot



CITF Pre-approved List



Pre-approved Lists

Pre-approved Items as of April 2022

BIM Training Courses: **213** nos.

BIM Software: **86** nos.

Advanced Technologies: **267** nos.

Total 566 nos.

Advanced Construction Material - **9** Nos.

Advanced Tools and Equipment - **80** Nos.

Automation and Robotics - **62** Nos.

Digitalisation - **76** Nos.

Sensors and Internet of Things (IoT) - **38** Nos.

Others - **2** Nos.



Locally developed back-filling material



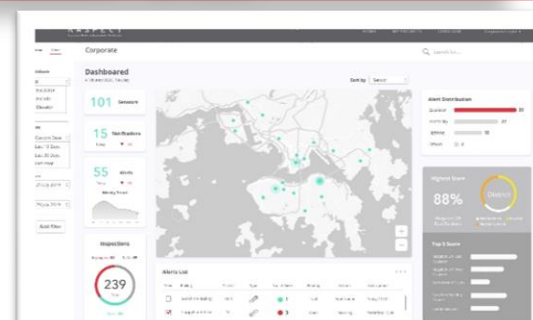
Back-pack Laser Scanner



Industrialised processing – robotic welding



AI detection system for plant operator behaviour



Locally developed AI inspection analytic system

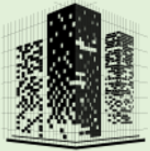


Remote-controlled chiselling robot



CITF Funding Scope

Technology Adoption



Building Information
Modelling (BIM)



Advanced Construction
Technologies (ACT)



Modular Integrated
Construction (MiC)



Prefabricated
Steel Rebar



Contractors



Sub-contractors



Consultants

Manpower Development



Non-local Training /
Visits for Practitioners



Technology
Enrichment Courses
for Students



Local Collaborative
Courses



International
Conferences in HK



Local Higher
Education
Institutions



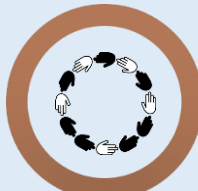
Professional
Institutions



Quasi-Governmental/
Statutory Body



Trade
Associations



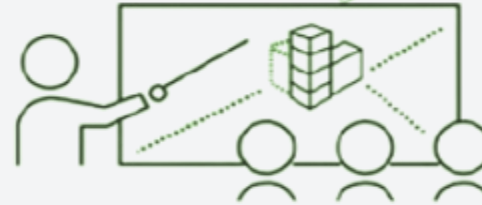
Labour
Unions



Enhancement at a Glance – BIM

BIM Project-Based Coaching

- Co-fund **70%**
- Max. **HK\$200K** / applicant



↑ Capacity building

BIM Viewer Collaborative Training

- Co-fund **70%**
- Max. **HK\$8K** for **trainer** and **admin. cost**
- Max. **HK\$5K** for external **venue** rental cost



↑ Capacity building

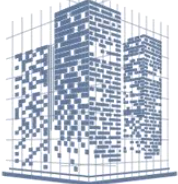
BIM Funding Ceiling

- **HK\$1.5M** per applicant (HK\$1.2M for adoption)
- Co-fund **70%** or HK\$3,000 per course (whichever the higher), max. **HK\$15K**/ person

↑ Adoption and training

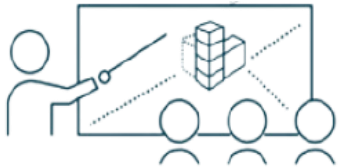


BIM

	Training (Classroom-type)	Experiential Use and Project Adoption
Funding Mode	Cash rebate, 70% matching fund	Co-fund with 70% grant from CITF
Funding Ceiling	<ul style="list-style-type: none"> Overall HK\$1,500,000 per applicant 	
	<ul style="list-style-type: none"> No Sub-ceiling 	<ul style="list-style-type: none"> HK\$1,200,000 per applicant (sub-ceiling)
	<ul style="list-style-type: none"> Each person enrolling training is entitled 70% of course fee or HK\$3,000 per course whichever is the higher HK\$15,000 per person (accumulative) 	<ul style="list-style-type: none"> Experiential use is capped at maximum HK\$200,000 Each computer at maximum HK\$21,000 Computers subsidised by CITF are required to install CITF-funded BIM software and be used for this purpose




BIM Project-based Coaching

	BIM Project-based Coaching
Funding Mode	Co-fund with 70% grant from CITF
Funding Ceiling	<ul style="list-style-type: none"> • HK\$200,000 per applicant (accumulative) (within the overall HK\$1,500,000 per applicant for BIM)
Requirements	<ul style="list-style-type: none"> • Hire BIM professionals/ consultants to provide doorstep project-based coaching • Class-type BIM training is not supported • Project(s) shall be with genuine need for BIM adoption • Training shall be delivered throughout the project cycle • Applicant shall submit an undertaking with BIM trainer's signature confirming that his/her service would only be confined to providing BIM training for the project team but not carrying out the BIM work of the project direct

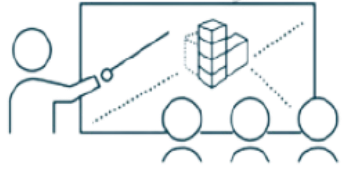


BIM Viewer Collaborative Training Scheme

	BIM Viewer Collaborative Training
Funding Mode	Co-fund with 70% grant from CITF
Funding Ceiling	<p>Per session per class:</p> <ul style="list-style-type: none">- HK\$8,000 for trainer and administration- HK\$5,000 for rental of external venue <p>(within the overall HK\$1,500,000 per applicant for BIM)</p>
Requirements	<ul style="list-style-type: none">• Engage in-house BIM trainers to provide BIM Viewer training for employees• Trainers shall be either of the followings:<ul style="list-style-type: none">• completed CIC-accredited BIM Manager / CIC-accredited BIM Co-ordinator courses; or• CIC-certified BIM Manager / CIC-certified BIM Co-ordinator



BIM Viewer Collaborative Training Scheme



BIM Viewer Collaborative Training

Requirements

- **HK\$4,000** fixed lump-sum subsidy shall apply for a **4-hour** training by in-house instructors adopting **CIC's BIM Viewer Teaching and Learning Kit** for not less than **12 nos.** of **trainees** (up to 20 nos.) including administration fee
- **No venue subsidy** if **in-house venue** is available / feasible



Enhancement at a Glance – ACT

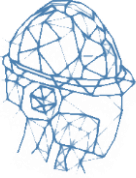
ACT Funding Ceiling

- **HK\$1.5M** per technology (**HK\$2M** for safety-related technology)
- **HK\$300K** per technology (rental), cumulative ceiling at **HK\$600K**
- Co-fund **80%** (locally developed innovations)

↑ Adoption



Advanced Construction Technologies (ACT)

	Project Adoption
Funding Mode	<ul style="list-style-type: none"> • Co-fund with 70% grant from CITF • Rental of equipment for experiential adoption, co-fund with 50% grant from CITF
Funding Ceiling	<ul style="list-style-type: none"> • HK\$1,500,000 per technology (HK\$2,000,000 for safety-related technology) • Funding ceiling for rental: HK\$300,000 per technology for a maximum rental period of 6 months • Cumulative maximum funding ceiling for rental: HK\$600,000 per applicant

Remarks:

- **The combined funding ceiling for BIM and ACT is HK\$6,000,000 per applicant**
- CITF will bear a higher maximum ratio of **80%** of the total costs of the Approved Project which involves the adoption of locally developed innovations or products
- In general, CITF will not fund the maintenance cost, office overheads, materials cost, consumables, spare parts, solutions, services and other administrative expenses incurred in the project



Enhancement at a Glance – Others (Technology Adoption)

Pioneering Application in HK

- Co-fund **70%**
- Capped at **HK\$10M**/ project

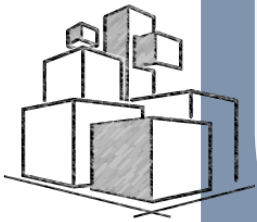


Introducing new technology for industry

Support Multi-trade Integrated Mechanical, Electrical and Plumbing (MiMEP) (details to be announced soon)

Specialist MiC Consultant, MiC Plant and MiC Modules

- **Retrospective approval** for early engagement of MiC lifting plant and modules vendors is **allowed**



↑ Modular construction

↑ Flexibility in adoption

Early reimbursement (subject to further approval)

- Up to 80% of grant amount **reimbursable even before delivery** upon proof of actual payment

Relieving financial burden



Pioneering Application



Pioneering Application in Hong Kong

Target Applicants

- Contractors, Sub-contractors, Consultants or Trade Associations

Partners

- Local tertiary institutions
- Local research institutes

Objectives

- Subsidising the cost of **bringing in**, for **adoption in Hong Kong**, **emerging technologies** which **have good potential** for **wider benefits** of the local construction industry



Pioneering Application



Pioneering Application in Hong Kong

Technology Requirements

- **Proven technology outside Hong Kong** which is **newly** adopted for on-site application in Hong Kong (e.g. 3D printing); or
- **Modification, combination or enhancement** of technologies already exist in Hong Kong but put to a **new functional use** (e.g. to modify/enhance existing plant/equipment for on-site use in conjunction with AI/sensor technology to enhance site safety)

Project Requirements

- **Multiple projects allowed** to enable more thorough trial under different scenarios



Pioneering Application



Pioneering Application in Hong Kong

Cost Supported

- **Costs** incidental to **introducing/modifying the technolog(ies)** for experiential use in Hong Kong, including the costs involved in:
 - **machine** procurement and delivery
 - **hardware** and **software** modification and adaptation for a new functional use in Hong Kong
 - related **material**
 - **manpower** development
 - **training** costs, etc..

Funding Mode

- Co-fund with **70%** grant from CITF (a matching ratio lower than 70% on a case-by-case basis)



Pioneering Application



Pioneering Application in Hong Kong

Funding Ceiling

- **HK\$10,000,000** per project

(a **higher cap**, i.e. exceeding HK\$10M could be recommended and approved on a **case-by-case basis** if the merits of an individual application so justify (e.g. substantial benefits to the industry at large, etc.)



Pioneering Application

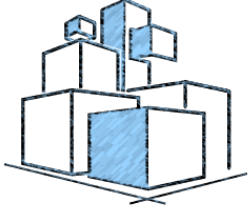


Pioneering Application in Hong Kong

Other Requirements

- Applicant shall **share the benefits/ experience** with other industry stakeholders through one or more of the following means:
 - The intellectual property **(IP) rights**, if any, would be **shared** with or **transferred** to industry stakeholders e.g. **solutions providers, training institutes, universities, research and development (R&D) centres**;
 - **Open, transparent and non-exhaustive rights of use** of the technology;
 - **Licensing fees**, if any, should be made on an **equitable** basis and at **reasonable** level;
 - **Other IP/ benefit sharing arrangement** as required by the vetting committee



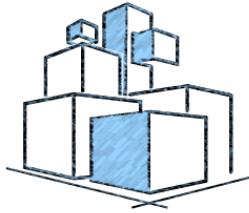


MiC and Others

Category	Funding Mode	Fund Ceiling (HKD)
MiC (for project consultant)	Specialist MiC Consultant – 70% of cost	\$2.5M/ project
	Project adoption – 15% consultancy fee or \$4M (whichever is the lesser)	\$4M/ project
	Entry to BD's Pre-accepted MiC List - \$0.4M to \$1M depending on the height and complexity	\$1M/application
MiC (for contractor)	MiC Plant rental/ purchase – 70% of cost	\$2.5M/ project
	MiC module purchase/ offsite production – 70% of cost	\$5M/ project
MiMEP	Details to be announced soon	Details to be announced soon
Pre-fabricated Steel Rebars	Cash rebate \$300/ tonne	\$5M/ project
Industrialised Processing – Robotic Welding	15% on processing fee	\$0.8M/ applicant



MiC



Project Adoption

(Specialist MiC Consultant/ MiC Specific Construction Plant/ MiC Modules)

Funding Mode

Co-fund with 70% grant from CITF at maximum

Funding Ceiling

1. Project Consultant

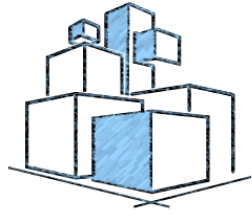
- Support the Project Consultant to employ **specialist MiC consultant** – **HK\$2,500,000**

2. Contractor (including Registered Specialist Trade Contractors/ Sub-contractors)

- Purchase / rental to **MiC specific construction plant** – **HK\$2,500,000**
- Purchase / offsite production of **MiC modules** – **HK\$5,000,000**



MiC



Project Adoption

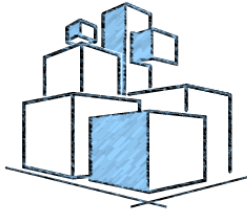
(Specialist MiC Consultant/ MiC Specific Construction Plant/ MiC Modules)

Other Requirements

- **For Specialist MiC Consultant / MiC Specific Construction Plant/ MiC Modules:**
 - MiC projects with tender invitation date on or after 1 July 2021 shall be a building project with buildings of at least **6 storeys** of **permanent** nature
 - **Retrospective approval** for hire of specialist MiC **consultant**, **MiC specific construction plant** / **modules** is **allowed**. Applicants can engage specialist MiC consultants or the suppliers of MiC specific construction plant or modules before submitting the application which shall be submitted **within 12 months from the engagement**



MiC



Project Adoption

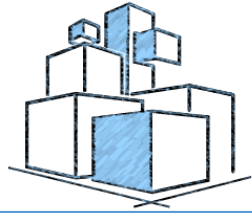
(Specialist MiC Consultant/ MiC Specific Construction Plant/ MiC Modules)

Other Requirements

- **For Specialist MiC Consultant/ MiC Specific Construction Plant/ MiC Modules:**
 - For engagement before 1 January 2022, the applicants shall submit the application on or before 31 December 2022



MiC



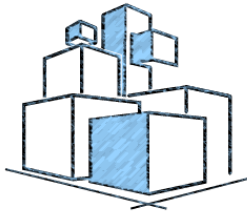
Project Adoption (Specialist MiC Consultant)

Other Requirements

- **For Specialist MiC Consultant:**
 - Applicant shall provide proof of **approval** for commencement of MiC module **production / installation** for reimbursement purpose
 - **80%** of approved funding upon provision of the proof of **approval for commencement** of MiC module **production / installation** for reimbursement purpose
 - 20% of approved funding upon 12 months after the first instalment
 - The additional subsidy to Project Consultant and the subsidy on engaging Specialist MiC consultant are **not mutually exclusive**



MiC



Project Adoption

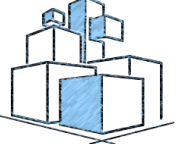
(MiC Specific Construction Plant/ MiC Modules)

Other Requirements

- **For MiC Specific Construction Plant / MiC Modules:**
 - Applicant shall submit document proof of approval for commencement of MiC module production / installation
 - Applicant shall submit a **safety audit report on logistics and lifting operation** in the MiC project for final reimbursement purpose. Details on the scope of the safety audit are available at the CITF Portal
 - 80% of approved funding upon provision of the proof for commencement of MiC modules installation on site
 - 20% of approved funding upon provision of the proof for completion of MiC modules assembly on site

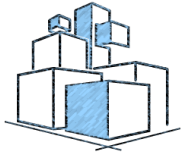


MiC

	Project Adoption (MiC Project Implementation by Project Lead Consultant)
Funding Mode	Financial subsidy for costs involved
Funding Ceiling	<ul style="list-style-type: none"> • Project Consultant • HK\$4,000,000 or 15% of consultancy fee specified in the contract, whichever is the lower
Other Requirements	<ul style="list-style-type: none"> • Eligible MiC projects shall : <ul style="list-style-type: none"> • involve a building with 6 storeys or more; • occupy at least 60% of Gross Floor Area of EACH typical floor for MiC adoption; • occupy at least 5,000m² of Gross Floor Area for MiC adoption; and • have MiC module installation commenced on site after 1 July 2020



MiC



Project Adoption

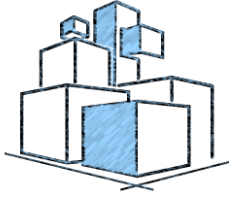
(MiC Project Implementation by Project Lead Consultant)

Other Requirements

- Applicant shall provide **BD's approval of the General Building Plan and Superstructure Plan** of the MiC project together with the funding application
- Applicant shall provide **proof** such as BD's **consent to commence superstructure works** of the MiC building and commencement of MiC **module installation on site for reimbursement** purpose
- 80% of approved funding upon provision of the proof for commencement of MiC modules installation on site
- 20% of approved funding upon provision of the proof for completion of MiC modules assembly on site
- The additional subsidy to Project Consultant and the subsidy on engaging Specialist MiC consultant are not mutually exclusive



MiC



Entry of MiC systems to the Buildings Department (BD)'s Lists of Pre-accepted MiC Systems

Funding Mode

Financial subsidy (subject to successful admission of the MiC system into the BD's List of Pre-accepted MiC Systems)

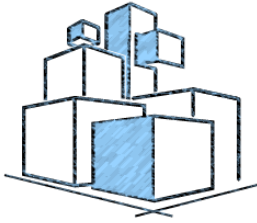
Funding Ceiling

1. Consultant

- Support the firm of Authorised Person (**AP**) and Registered Structural Engineer (**RSE**) and **architectural** or **engineering consultant firms** (**Not individuals**) for costs incurred in its application for in-principle acceptance of MiC systems to the BD's Lists of Pre-accepted MiC Systems – the funding ceiling is **HK\$1,000,000** per application, depending on MiC **scale and complexity**



MiC



Entry of MiC systems to the Buildings Department (BD)'s Lists of Pre-accepted MiC Systems

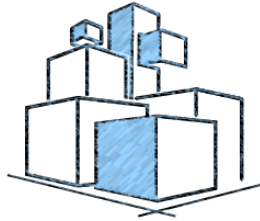
Funding Ceiling

Remarks:

- The MiC systems shall be **manufactured by suppliers / manufacturers NOT yet on the BD's List of Pre-accepted MiC Systems** and are designed for application for buildings of 6 storeys and above in Hong Kong
- A genuine MiC modules manufacturer with appropriate production capability to be substantiated by the applicant
- Three tiers of funding subsidy for different MiC scale and complexity are as follows:
 - 1st tier: 6-10 storeys entitling to HK\$400,000;
 - 2nd tier: 11-29 storeys entitling to HK\$600,000;
 - 3rd tier: 30 storeys or above entitling to HK\$800,000; and
 - An extra subsidy of HK\$200,000 to each tier for more complex MiC design



MiC



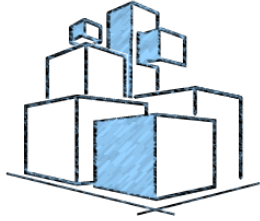
Entry of MiC systems to the Buildings Department (BD)'s Lists of Pre-accepted MiC Systems

Other Requirements

- 100% of approved funding upon provision of the proof for successful admission of the MiC system into the BD's Lists of Pre-accepted MiC Systems and the proof of the applicant being the firm of AP or RSE or architectural or engineering consultant firm getting the BD's approval



MiC



Multi-trade Integrated Mechanical, Electrical and Plumbing (MiMEP)

Funding Mode

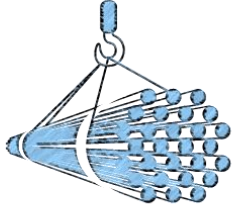
(details to be announced soon)

Funding Ceiling

(details to be announced soon)



Prefabricated Steel Rebar



Project Adoption

Funding Mode

Cash rebate **HK\$300/tonne**

Funding Ceiling

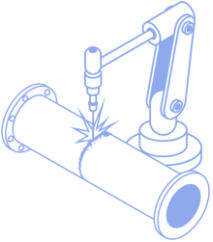
HK\$5,000,000 per project

Remarks:

1. Prefabricated steel rebars shall be produced by yards on the Civil Engineering Development Department (CEDD)'s List of Approved Steel Reinforcing Bar Prefabrication Yards
2. The percentage by weight of straight rebars without processing (cutting and/or bending) in each delivery shall be less than 25%



Industrialised Process – Robotic Welding

	Industrialised Process – Robotic Welding
Funding Mode	Co-fund with 15% grant from CITF for the processing fee involved
Funding Ceiling	HK\$800,000 per applicant

Remarks:

- Only prefabricated components manufactured by off-site robotic welding in Hong Kong will be subsidised and the subsidy shall apply to processing fee only;
- The price of processing fee for each type and size of welding products submitted by the supplier to the CITF Secretariat would form the basis of the CITF Funding Price Ceiling; and
- The funding ceiling is independent of the HK\$6,000,000 funding ceiling for BIM and ACT.



Manpower Development Funding Scope

Manpower Development



Non-local Training /
Visits for Practitioners



Technology
Enrichment Courses
for Students



Local Collaborative
Courses



International
Conferences in HK



Quasi-Governmental/
Statutory Body



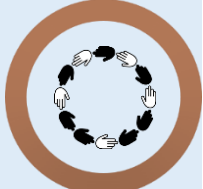
Local Higher
Education
Institutions



Professional
Institutions




Trade
Associations



Labour
Unions



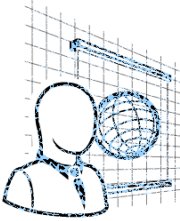
Non-local Enrichment Courses for Students

	<p>Target beneficiaries</p> <ul style="list-style-type: none"> Full time sub-degree / undergraduates / postgraduates in construction related disciplines
Eligible Applicants	Local higher education institutions
Funding Mode	Reimbursement to applicants
Funding Scope	<ul style="list-style-type: none"> Course fees In-town transport and miscellaneous expenses Cross-border transportation and accommodation of reasonable standard Administration and Audit fees
Funding Ceiling	HK\$100,000 per student (cumulative i.e. multiple participations allowed)

Remarks: Only HK permanent residents are eligible for funding supporting for courses or training outside HK




Non-local Training / Visits for Practitioners

	Target beneficiaries <ul style="list-style-type: none">• Professionals• Technicians• Registered Skilled Workers
Eligible Applicants	<ul style="list-style-type: none">• Local higher education institutions• Professional institutions• Trade associations• Unions
Funding Mode	Reimbursement to applicants
Funding Scope	<ul style="list-style-type: none">• Training fees• In-town transport and miscellaneous expenses• Cross-border transportation and accommodation of reasonable standard (50% matching basis)• Administration and Audit fees
Funding Ceiling	HK\$20,000 per person per course



Remarks: Only HK permanent residents are eligible for funding supporting for courses or training outside HK

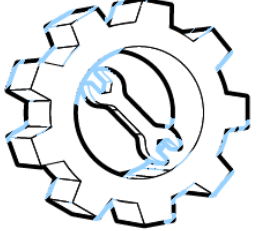
International Conferences in Hong Kong

	Target beneficiaries <ul style="list-style-type: none"> • Professionals • Technicians • Tertiary students • Academic staff 	
Eligible Applicants	<ul style="list-style-type: none"> • Local higher education institutions • Professional institutions • Trade associations • Unions 	
Funding Mode	Reimbursement to applicants	
Funding Scope	<ul style="list-style-type: none"> • Event venue and set up • Additional manpower • Conference collaterals • IT infrastructure 	<ul style="list-style-type: none"> • Reasonable Catering • Cross-border transportation and accommodation for speakers • Administration and Audit fees • Agency/Service fees charged by event planner and production houses
Funding Ceiling	<ul style="list-style-type: none"> • HK\$1,000,000 per conference 	



Remarks: International Conference delivered / conducted online are supported under the CITF

Local Collaborative Courses

	Target beneficiaries <ul style="list-style-type: none"> • Professionals • Technicians • Registered Skilled Workers 	<ul style="list-style-type: none"> • Tertiary students • Academic staff
Eligible Applicants	<ul style="list-style-type: none"> • Local higher education institutions • Professional institutions • Trade associations • Unions • Quasi-governmental & Statutory Organisations 	
Funding Mode	Reimbursement to applicants	
Funding Scope	<ul style="list-style-type: none"> • Event venue and set up • Additional manpower • Course material • Procurement and/or rental of hardware and equipment • IT infrastructure 	<ul style="list-style-type: none"> • Reasonable Catering • Cross-border transportation and accommodation for speakers • Administration and Audit fees • Agency / Service fees charged by event planner and production houses
Funding Ceiling	<ul style="list-style-type: none"> • HK\$300,000 per course 	



Remarks: Local Collaborative Course delivered / conducted online are supported under the CITF

Application Procedures



Create an account at CITF Application Portal via CITF website
www.citf.cic.hk



Read the User Guide and prepare all required documents



Complete and Submit Online Application Form in CITF Application Portal



Vet Application by the CIC



Notify application result
(**within 60 calendar days; 30 calendar days for Pre-approved Items**)



Report submission and fund disbursement according to CITF requirements





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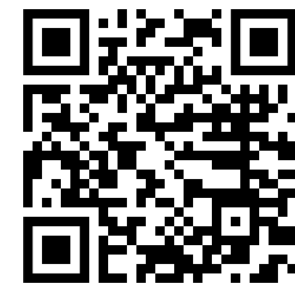
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Thank You

