



**Asia-Pacific
Economic Cooperation**

2021/CTI/CONF1/004

Digital Project Delivery for Infrastructure in Hong Kong, China

Submitted by: Hong Kong, China



**Conference on Promoting Smart Cities
Through Quality Infrastructure Investment
in Rapidly Urbanizing APEC Region
15 September 2021**

**“Promoting Smart Cities through Quality Infrastructure
Investment in Rapidly Urbanizing APEC Region”**

15 September 2021

Digital Project Delivery for Infrastructure in Hong Kong, China

Dennis WAN

**Principal Assistant Secretary (Project Capability and Strategy)
Hong Kong SAR Government**



Infrastructure is the Backbone of a City





Investing in infrastructure

- improve people's living environment
- support social and economic development
- enhance long-term competitiveness

Government investment in infrastructure

- Projects under Construction: ~HK\$600Bn
- Projects in pipeline: ~HK\$1000Bn
- Annual Expenditure: ~HK\$80Bn
- This year we invest HK\$200Bn

2020 Policy Address

Continue to invest in capital works

- Infrastructure investment is conducive to economy and can create a significant number of job opportunities
- Scaling back infrastructure during an economic downturn would have an adverse impact on economy and people's livelihood.





World Economic Forum The Global Competitiveness Report



***Infrastructure
Ranking top 3
for more than
10 years***

Achieving High Quality Infrastructure to support Smart City Development

Infrastructure Works Project Cycle

Planning & Design



- Comprehensive Planning and Design

Construction



- Quality of Works
- Budget and Time Control
- Safety and Sustainability

Operation & Maintenance

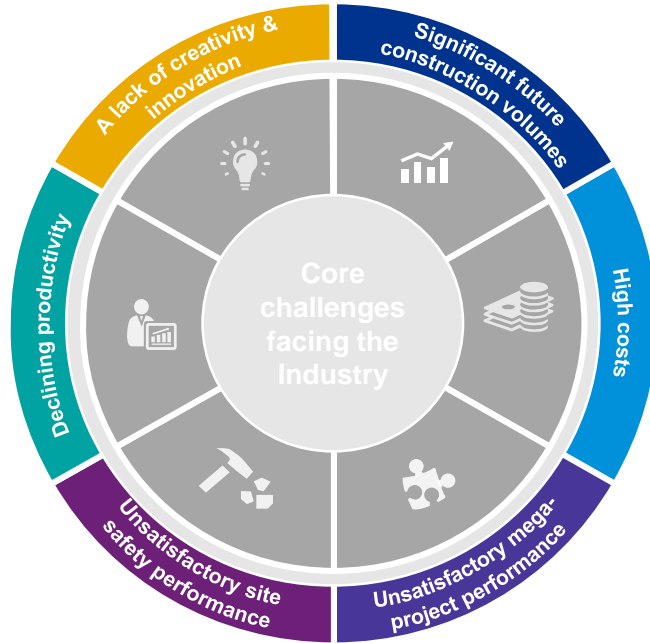


- Good Asset Management
- High standard of Operation and Maintenance



Smart City

Major Challenges for the Construction Industry



- Significant future construction volumes



- High costs



- Unsatisfactory mega-project performance



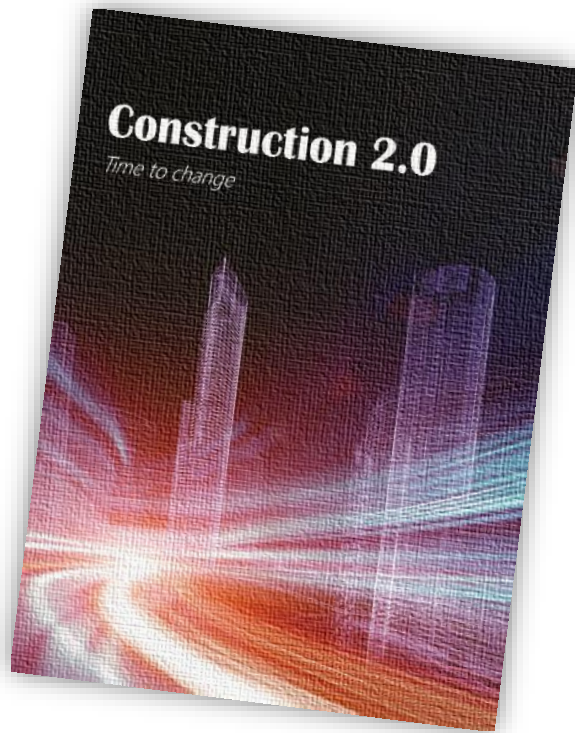
- Unsatisfactory site safety performance



- Declining productivity



- Lack of creativity and innovation



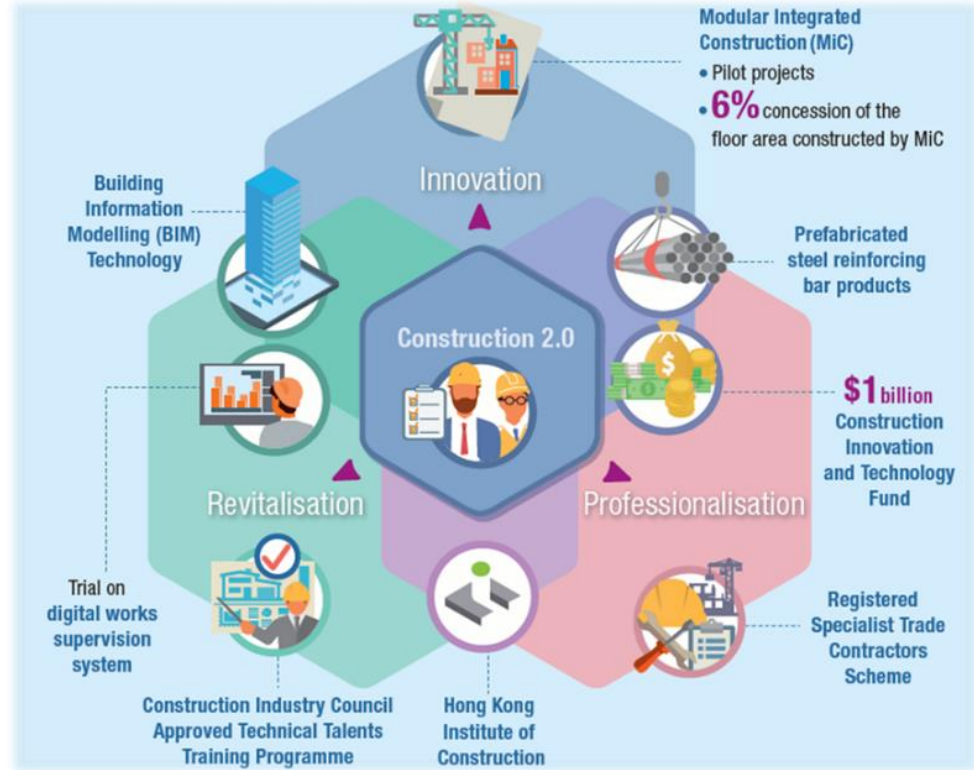
Professionalisation



Innovation



Revitalisation



Digitalization is the Key to Achieve High Quality Infrastructure

Digitalization Journey for Public Works

CAD Standard

Set out CAD Standard for Works Projects for coherent graphical representation of works information

BIM for Capital Works

Require consultants and contractors to use BIM in major capital works projects

Integrated Capital Works Platform (iCWP)

Digitalization of the project cycle of infrastructure

1996

2002

2005

2017

2020

Digital Geographic Data

Set out policies in administration and documentation of GIS data

Public Works Programme Information System

A central digital system to manage works data and monitor progress of public works projects

Digital Works Supervision System (DWSS)

Standardize and manage inspection workflow and site record to enhance efficiency and performance

Digitalization of Project Delivery for Infrastructure

Planning & Design



- Digital Planning and Design Management System (**DPDMS**)

Construction



- Digital Works Supervision System (**DWSS**)
- Project Surveillance System (**PSS**)

Operation & Maintenance



- Asset Management System



Smart City

Building Information Modelling (BIM)

Integrated Capital Works Platform (iCWP)

Digitalization of Project Delivery for Infrastructure

Planning & Design



- Digital Planning and Design Management System (**DPDMS**)

Construction



- Digital Works Supervision System (**DWSS**)
- Project Surveillance System (**PSS**)

Digital Works Supervision System (DWSS)

Enhancing Performance in 4 Major Areas



Building Information Modelling (BIM)

Integrated Capital Works Platform (iCWP)

Digitalization of Project Delivery for Infrastructure

Planning & Design



- Digital Planning and Design Management System (**DPDMS**)

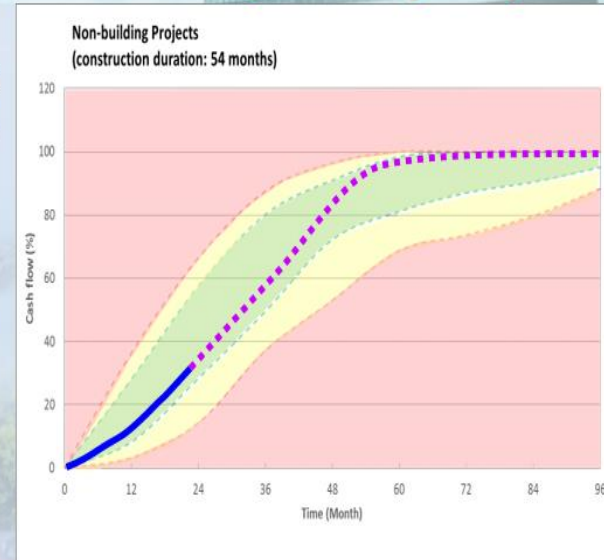
Construction



- Digital Works Supervision System (**DWSS**)
- **Project Surveillance System (PSS)**

Project Surveillance System (PSS)

- aim to reduce cost overruns and delays of projects
- a tool to alert project manager to foresee challenges, smell problems and formulate early actions



Building Information Modelling (BIM)

Integrated Capital Works Platform (iCWP)

Digitalization of Project Delivery for Infrastructure

Planning & Design



- Digital Planning and Design Management System (**DPDMS**)

Construction



- Digital Works Supervision System (**DWSS**)
- Project Surveillance System (**PSS**)

Operation & Maintenance



- Asset Management System



Smart City

Building Information Modelling (BIM)

Integrated Capital Works Platform (iCWP)

Digitalization of Project Delivery for Infrastructure

Planning & Design



- Digital Planning and Design Management System (**DPDMS**)

Construction



- Digital Works Supervision System (**DWSS**)
- Project Surveillance System (**PSS**)

Operation & Maintenance



- Asset Management System



Smart City

Building Information Modelling (BIM)

Integrated Capital Works Platform (iCWP)

An aerial night view of a city skyline, likely Hong Kong, with numerous skyscrapers and a harbor. A digital network overlay of glowing blue nodes and connecting lines is superimposed on the cityscape. The text "Digitalization of Project Delivery achieve High Quality Infrastructure" is written in a bold, yellow, sans-serif font across the upper portion of the image.

Digitalization of Project Delivery achieve High Quality Infrastructure