

PICIG EVENING SEMINAR – BUILDING INFORMATION MODELLING

1

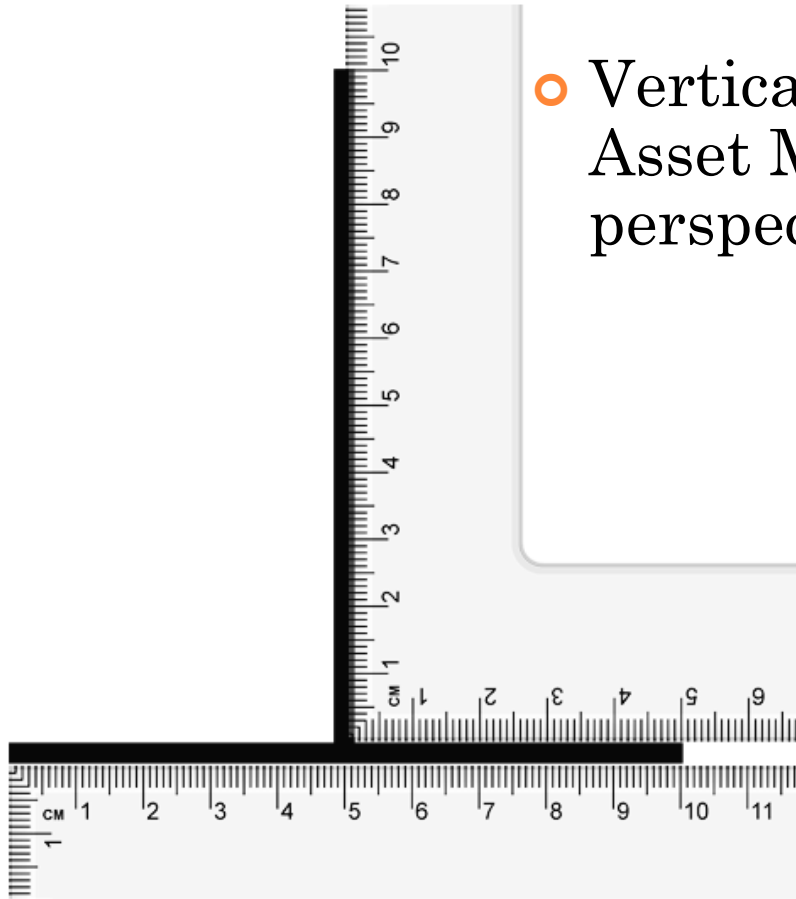
By: Mr. EC Vy, CAS(W)4

15 May 2017, Monday



發展局
Development Bureau

BIM: FROM VERTICAL TO HORIZONTAL APPLICATIONS



- Vertical integration of BIM for Asset Management – MEP perspective

- Horizontal integration of BIM for infrastructure and smart city planning.

HKSARG POLICY ADDRESS 2017

CIC – HKU PRODUCTIVITY APPRAISAL



二零一七年施政報告
2017 Policy Address



CONSTRUCTION
INDUSTRY COUNCIL
建造業議會

Productivity Appraisal of
the Hong Kong
Construction Industry



3



發展局
Development Bureau

BIM IS BECOMING CONTRACTUAL

BIM requirements:

-
-
- ...
-
-
-
-
- ..
- .
-

BIM ISN'T

Just a 3D Drawing Tool?

Fancy P.I.C. representations ?

No!

HIDDEN VALUES - SSOT

Physical property

Material characteristic

Cost information

Maintenance history



Single Source of Truth

owners



architects



engineers



surveyors



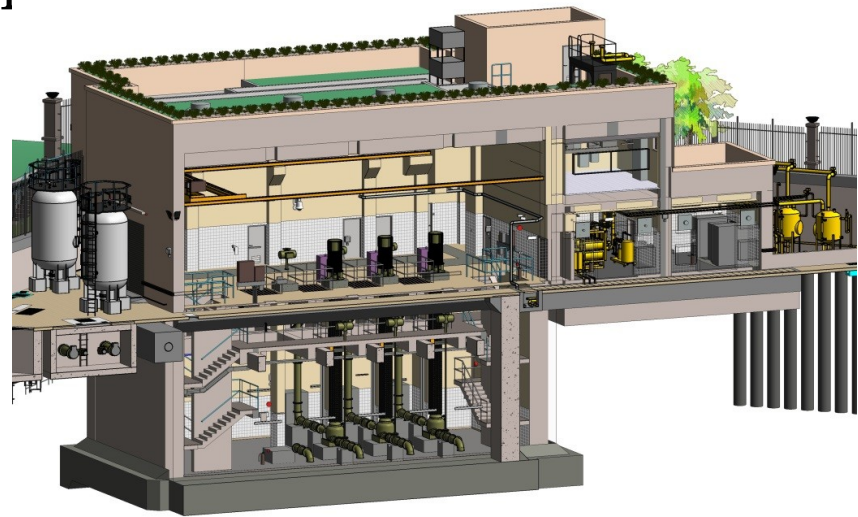
Construction workers



VERTICAL APPLICATION OF BIM – IN ASSET MANAGEMENT

- Fault report
- Fault finding and isolation
- Safety enhancement⁺

Fault reporting



VIDEO #1 – BIM-AM FOR FAULT REPORTING

http://www.emsd.gov.hk/filemanager/en/content_1148/HVAC_Fault_Reporting_EN.mp4

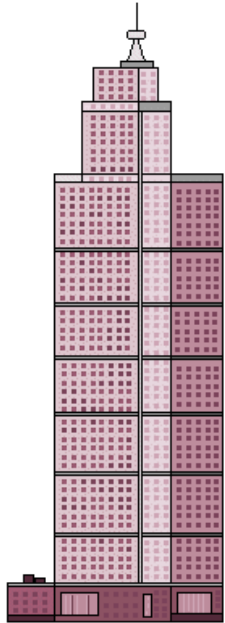
VIDEO #2 – BIM-AM FOR FAULT FINDING AND ISOLATION

http://www.emsd.gov.hk/filemanager/en/content_1148/FSI_EN.mp4

VIDEO #3 - BIM TO ENHANCE WORK SAFETY



BIM: FROM VERTICAL TO HORIZONTAL



Smart City / town planning:
Geo-spatial and geographical information

CONVERGENCE OF BIM AND GEOSPATIAL INFORMATION



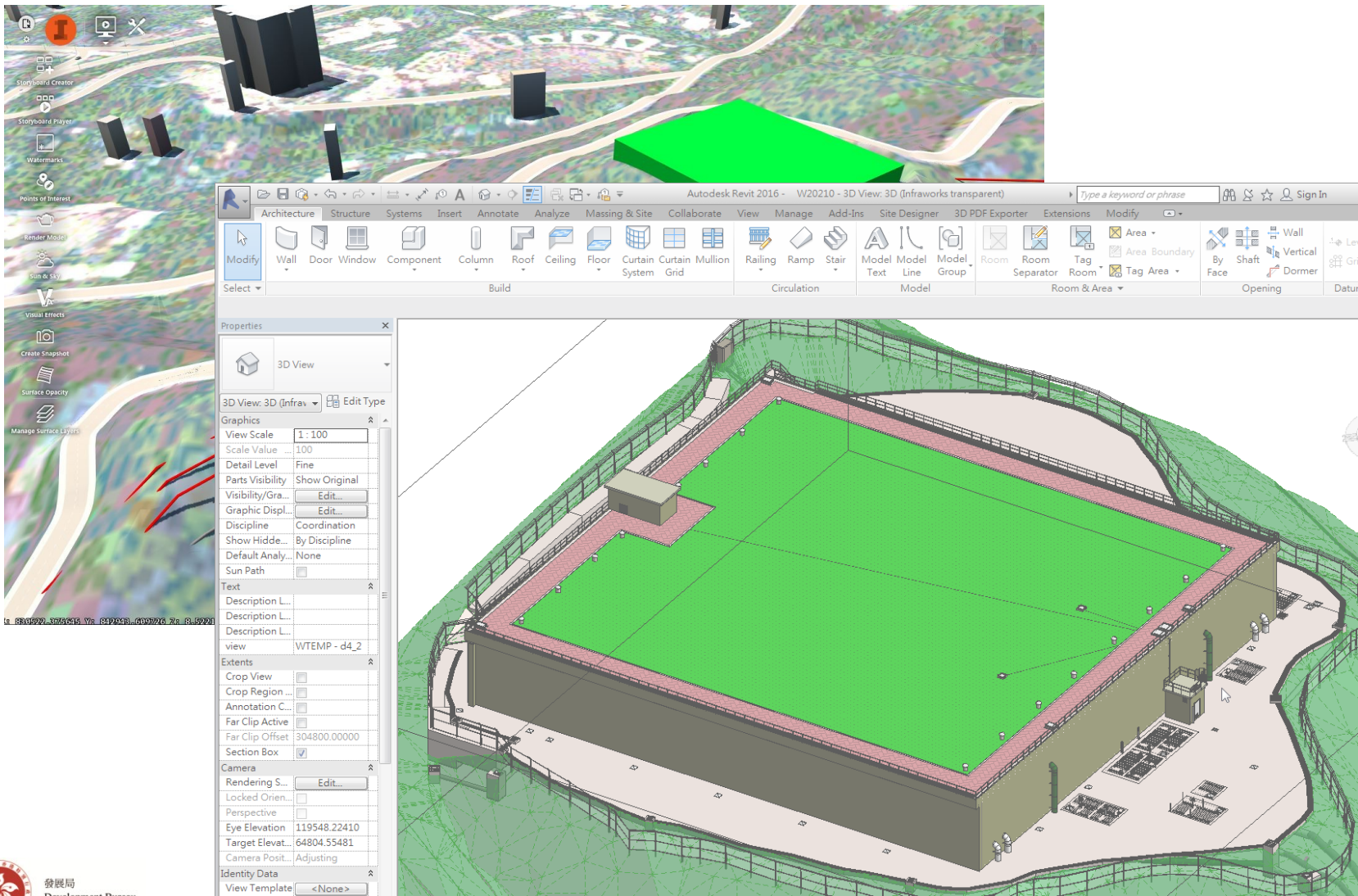
BIM
system



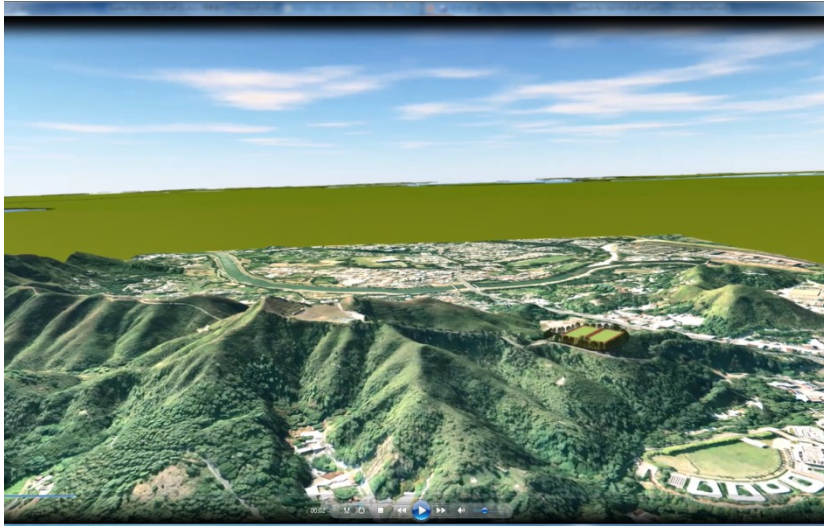
Geospatial
system



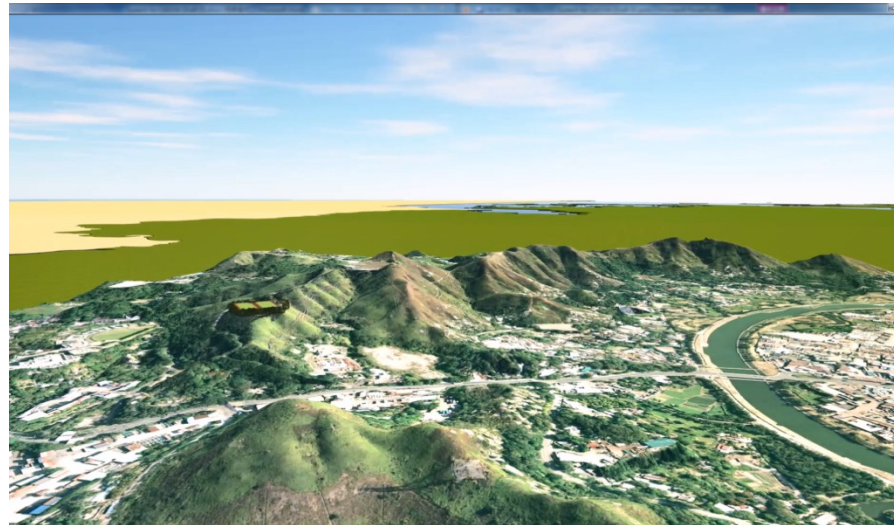
BIM WITH 3D GEOSPATIAL INFORMATION



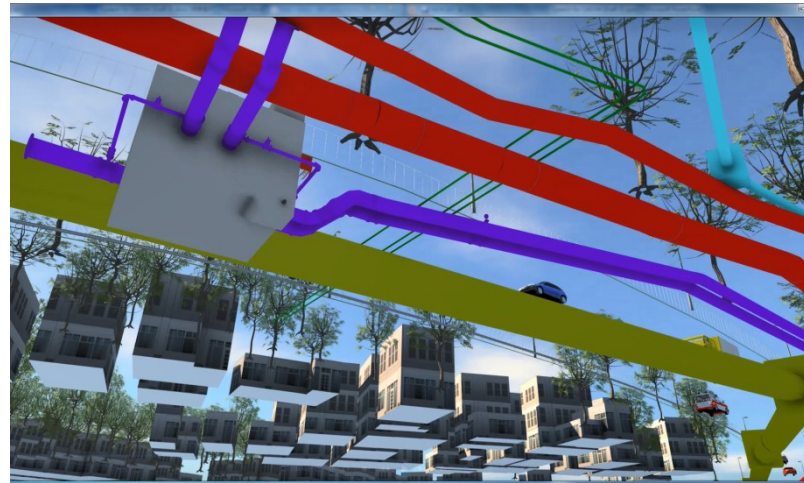
VIDEO #1 – BIM WITH 3D SPATIAL DATA



Fresh water service
reservoir for Sheung Shui
and Fanling areas



VIDEO #2 – BIM WITH 3D SPATIAL DATA SHOWING UNDERGROUND UTILITIES

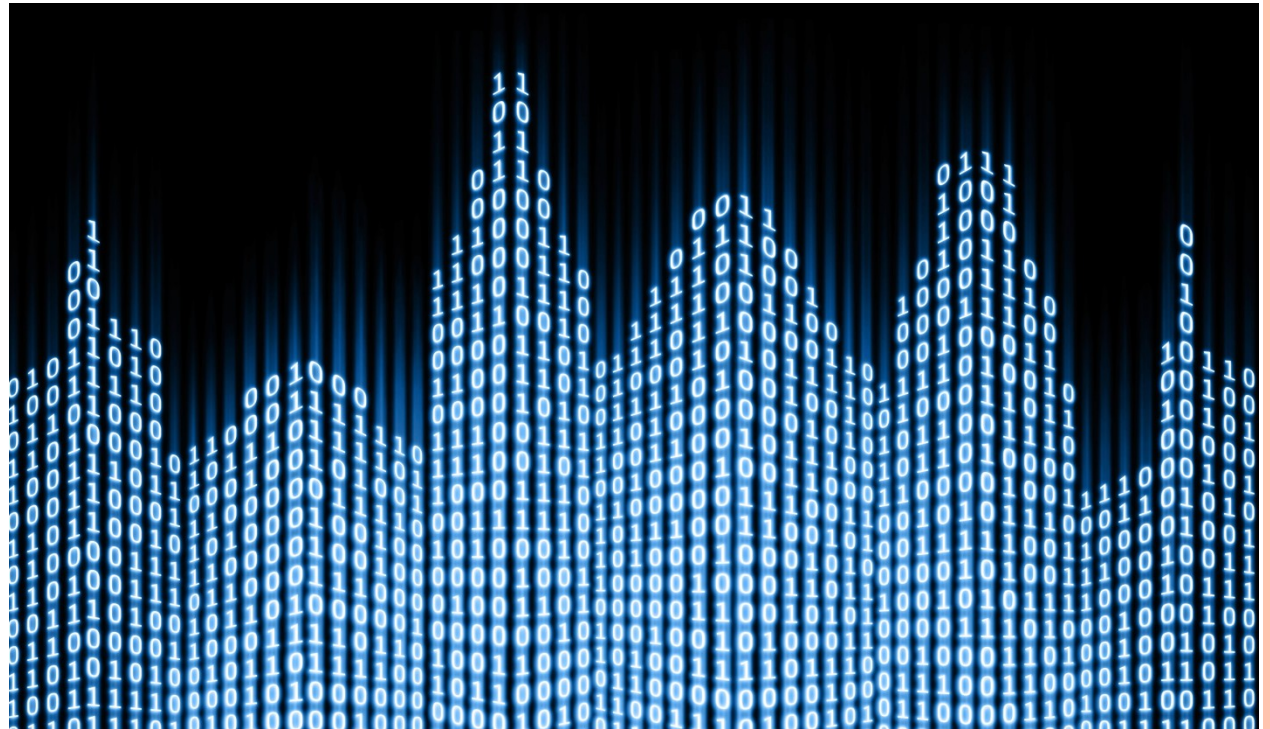


UNDERGROUND CLASH DETECTED



SMART CITY AND BIM

- BIM (augmented by geospatial data) is transforming our construction industry into a digital build environment.
- BIM is a fundamental building block of Smart City.



SMART CITY WITH BIM

Incorporate network infrastructure requirements

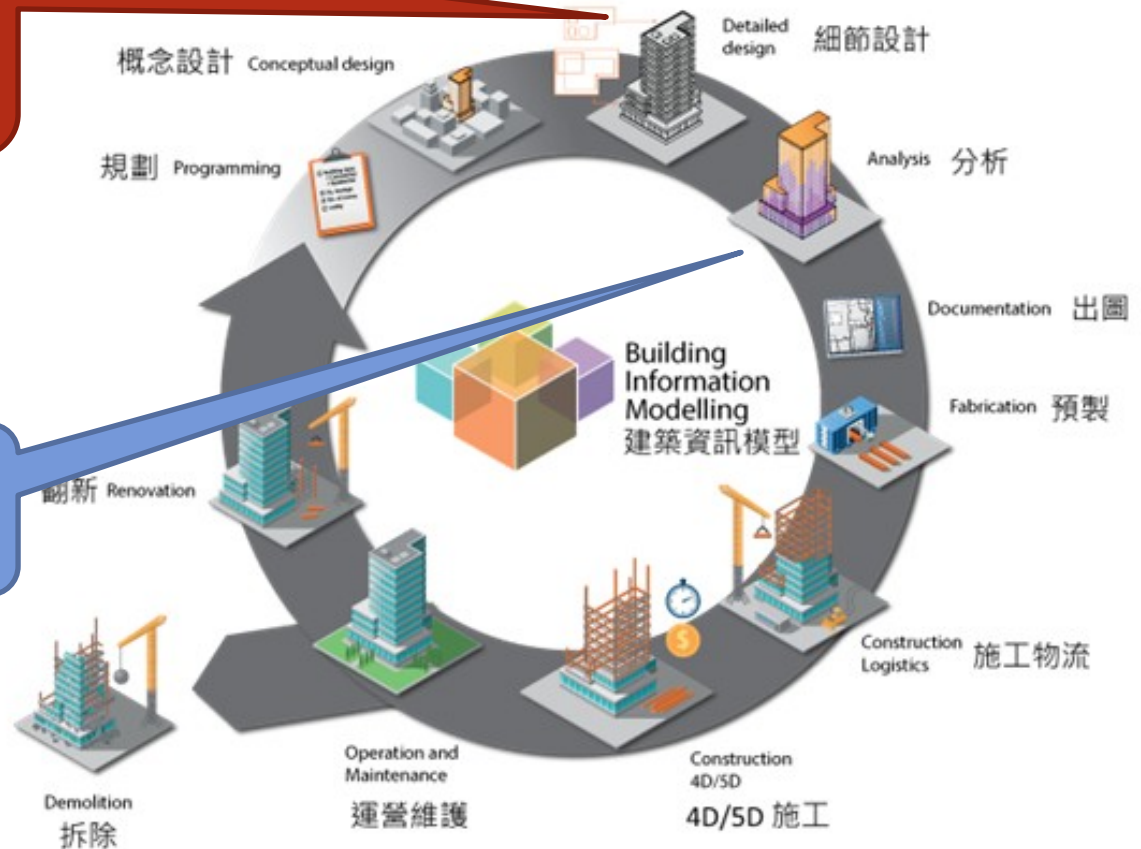
Modelling with reference to current City Data



SMART CITY WITH BIM

Pass detail design to smart city designers for early information

Energy analysis
BEAM Plus, etc.

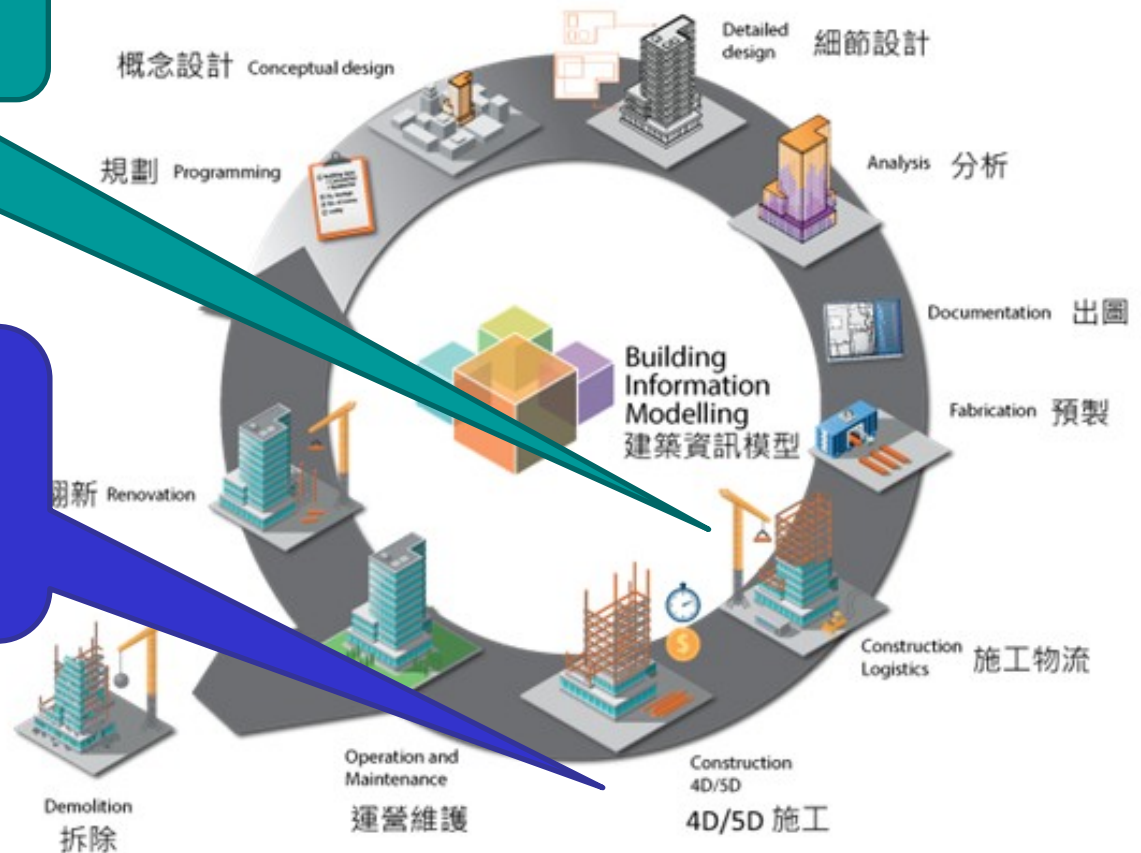


HKGBC
BEAM Plus
綠建環評

SMART CITY WITH BIM

Plan logistic arrangement
with traffic information

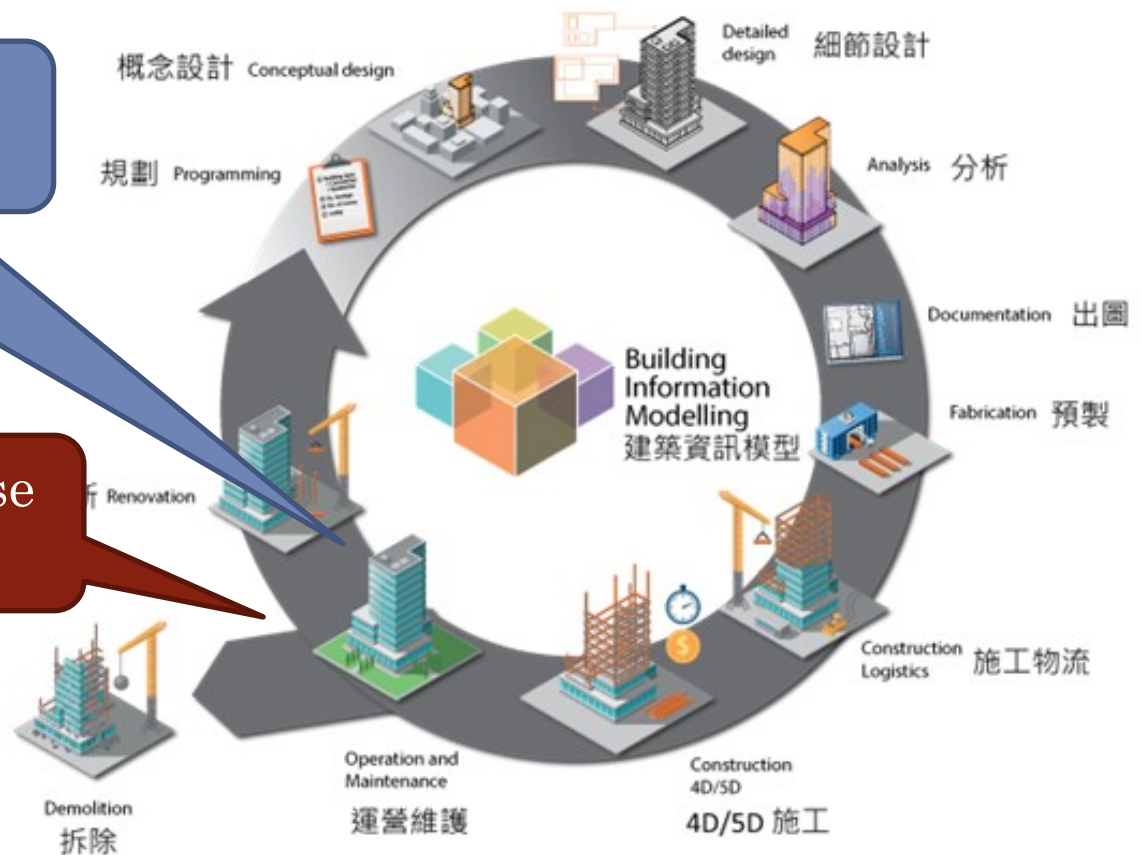
Use city information in
construction
programming and
sequencing



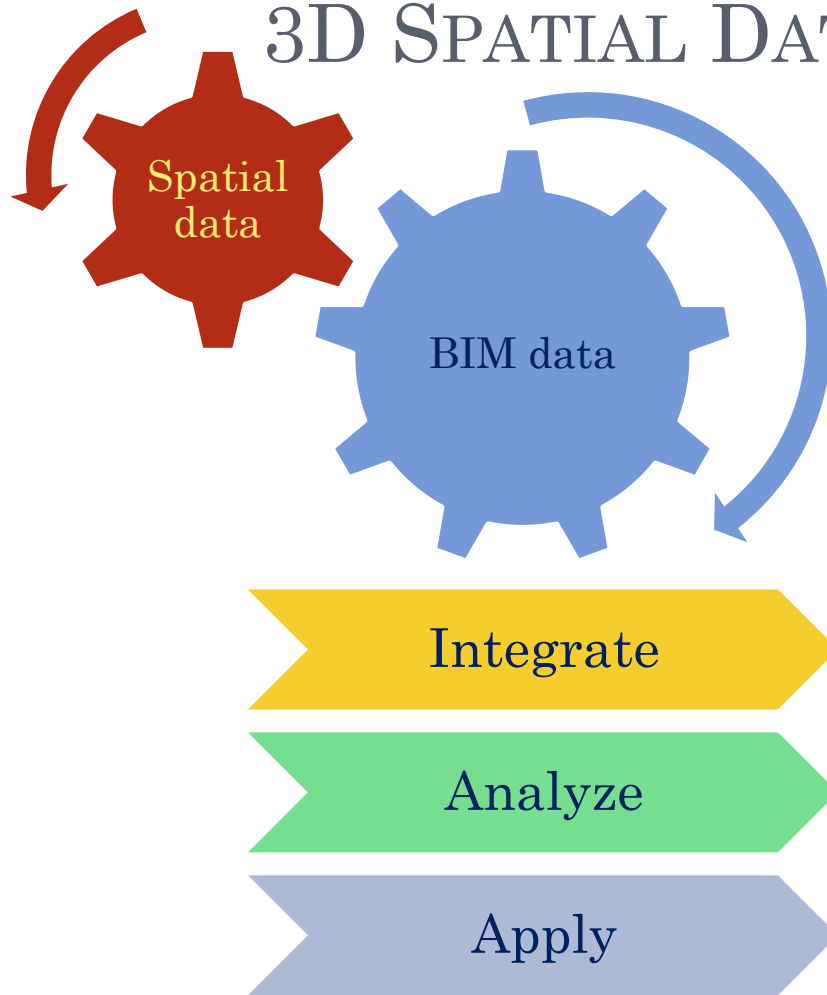
SMART CITY WITH BIM

Contribute as-built BIM
to Smart City Database

Interact with city database
for Smart Operation



HORIZONTAL INTEGRATION: 3D SPATIAL DATA AND BIM



Sustained
planning,
development
and
management of
a **Smart City**





HONG KONG
TOURISM BOARD
香港旅遊發展局

- MTR Tsim Sha Tsui Station, Exit A1. Walk along Haiphong Road for approximately five minutes
- Star Ferry from Central or Wan Chai to Tsim Sha Tsui

九龍倉

始創於一八八六年

2,000 car parking spaces
650shops



Zone: C(8)
Plan No.: S/K1/28



Number of Restaurant: 50
Western restaurant: 18
Chinese restaurant: 9
Others restaurant: 23



HARBOUR CITY 海港城
9 CANTON ROAD 廣東道9號
Building Height: 120 m
Lot Area: 2547 sq m



HARBOUR CITY, THE GATEWAY 海港城, 港威
9 CANTON RD 廣東道9號
Highest Floor: 88th Floor
Flat Area: 500 sq m



Ticketing Information
Show Time: 2D
Captain America:
Civil War D-BOX
(Dolby Atmos Version)



7 jobs containing in
Harbour City
-Customer Service
Ambassador
-Building services
engineer



Domestic GFA: 60900 sq m
Number of Floor: 80
Non-domestic GFA: 144000 sq m

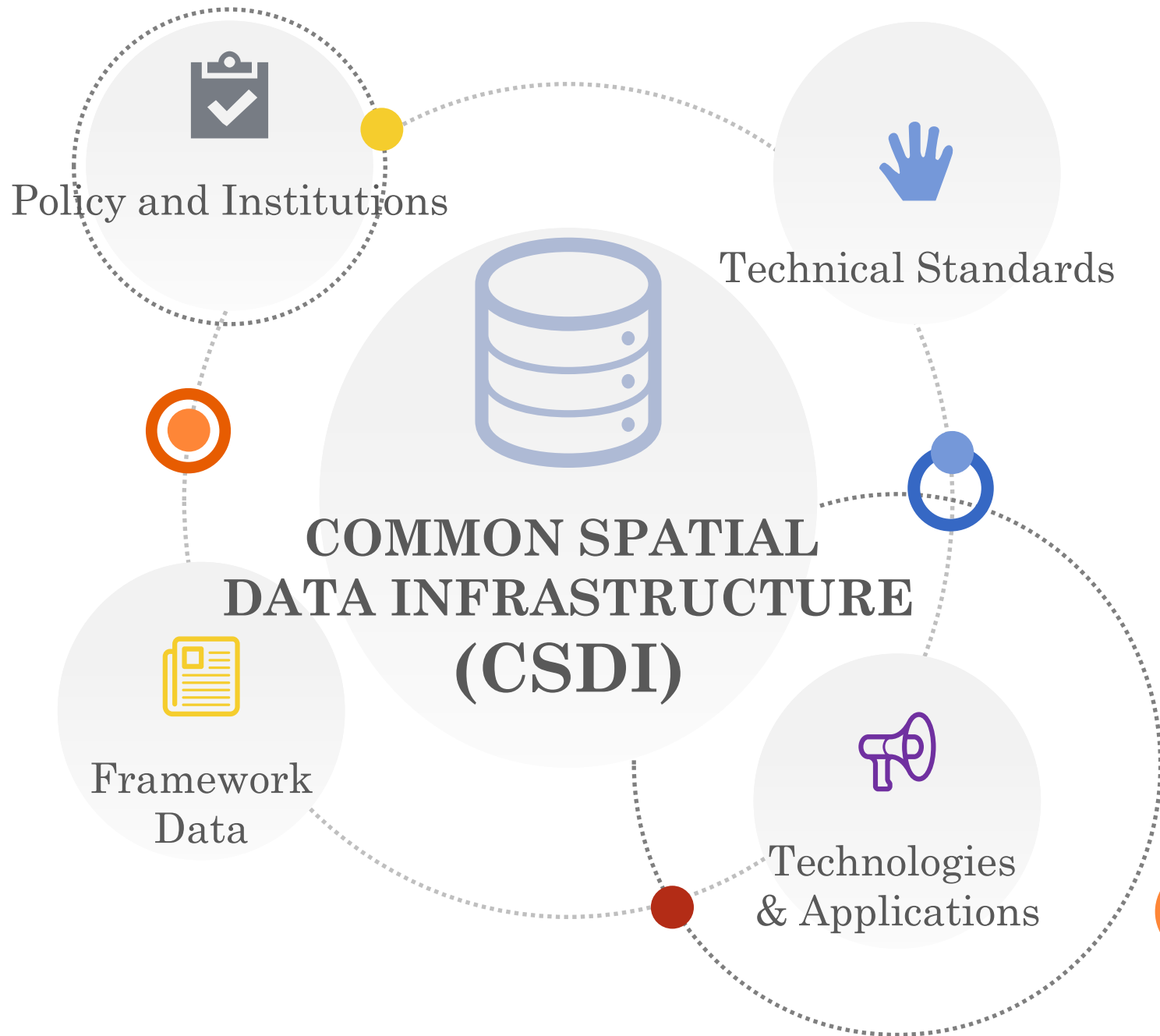
Overcome data governance and standardization challenges to achieve:

1. Sustainability
2. Compatibility
3. Interoperability
4. Shareability
5. Reliability

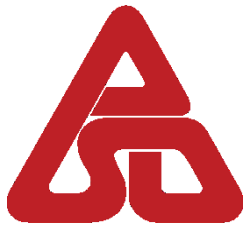
COMMON SPATIAL DATA INFRASTRUCTURE (CSDI) VISION

- to facilitate spatial data exchange, common standards adoption and interactive application development,
- to empower the city with convenient access to quality and up-to-date spatial information, applications and services, and
- to support ‘smart city’ initiatives, innovations and technology development, and decision making for sustainable development.

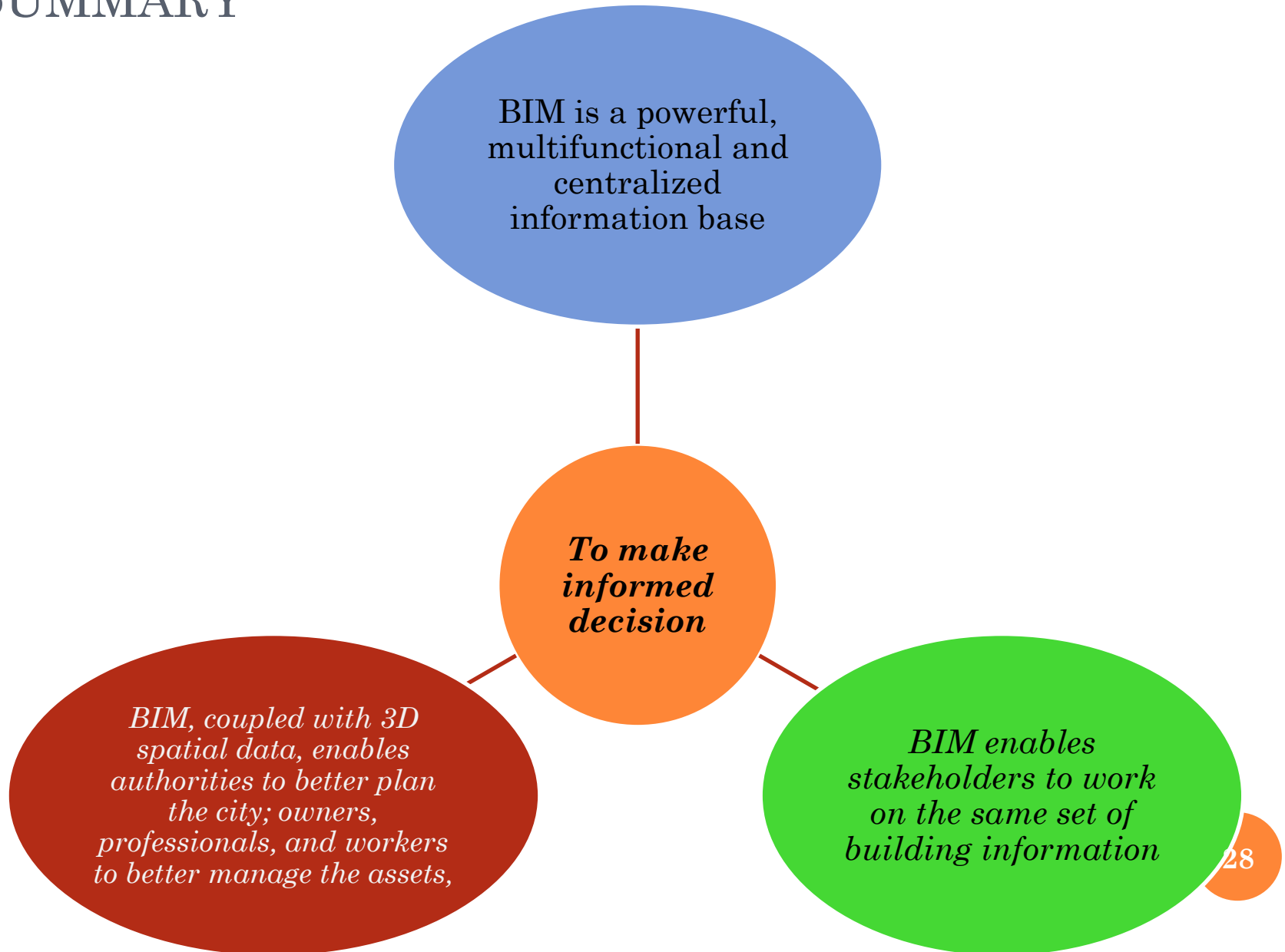




BIM IN ACTION



SUMMARY



SUPPORT FOR BIM ADOPTION

- *CIC offering BIM training courses*

(<http://www.cic.hk/common/tcis/mgt.aspx?lang=en-US>)

- *The Technology Voucher Programme (VTP) of ITC*

(<https://tvp.itf.gov.hk/>) to facilitate SME to procure BIM related technological services and solutions

LET'S BUILD
A SMARTER HONG KONG
TOGETHER!

Thank
YOU!