

Driving Ultimate Building Performance through Smart Electrical & Mechanical Systems for Sustainable Built Environment

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Organisers:



CONSTRUCTION
INDUSTRY COUNCIL
建造業議會



HKGBC
香港綠色建築議會



International Co-owners:



Sustainable Buildings
and Climate Initiative
Promoting Policies and Practices for Sustainability



Global Alliance
for Buildings and
Construction



Driving Ultimate Building Performance through Smart E&M Systems for Sustainable Built Environment

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and Information & Communication Technology (ICT)
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Organisers:



International Co-owners:





Introduction

7.5B

World Population

40%

Global Energy Used in Buildings

55%

HK Energy Use is Electricity

90%

HK Electricity Use is in Buildings

Sustainable Built Environment

Building Performance

E&M Systems and Energy Performance

Asset Management



Organisers:



International Co-owners:



Global Alliance
for Buildings and
Construction



Building E&M System Performance (1)

A

ailability



M

aintainability

R

eliability



Organisers:



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Building E&M System Performance (2)

M

aintainability

Conventional

- Regular Preventive Maintenance
- Corrective Maintenance



Condition Monitoring
of Chiller

Modern

- Condition Monitoring
- Automatic Self-diagnosis



Building E&M System Performance (3)

Reliability



iBMS in Central Government Complex

Conventional

- Redundancy
- Resilience

Modern

- Condition Monitoring
- Integrated Building Energy Management System (iBMS)



Building Energy Performance

Energy



**BEMS of EMSD
Headquarters**

Conventional

- Measuring Electricity Consumption Annually
- Energy Audit

Modern

- Retro-commissioning
- Building Energy Management System (BEMS)



Emerging Development of Data Technology (DT) & Information & Communication Technology (ICT) (1)

Smart Sensors



Data Technology (DT) and Information & Communication Technology (ICT)



Analytic Tools



Internet of Things (IoT)



Big Data



Cloud Computing



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Emerging Development of Data Technology (DT) & Information & Communication Technology (ICT) (2)



Building Information Modeling (BIM)



Asset Management (AM)



BIM-AM in EMSD Headquarters



Organisers:



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Smart Building Performance

**Digitization and open-up of
building information**



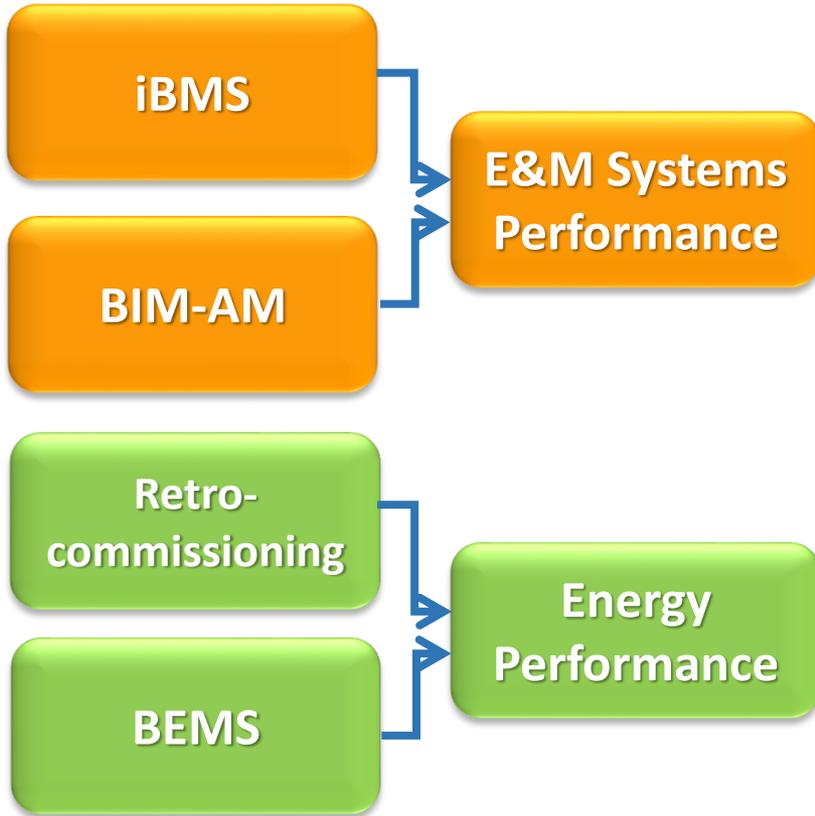
System-oriented



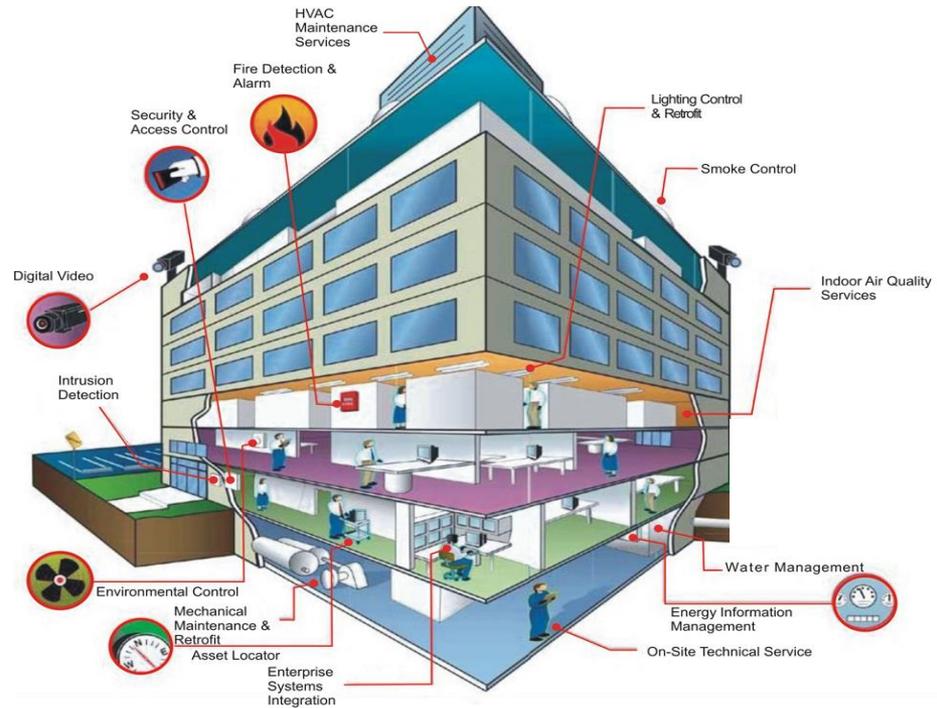
People-oriented



Conclusion (1)



Integrated BIM



Smart E&M Systems



Organisers:



International Co-owners:



Conclusion (2)

People-oriented Smart Building Performance



Thank you



International Co-owners:

