



# REDAS-RICS Smart Buildings Conference



Building transformation for the future

6 March 2019

Grand Copthorne Waterfront Singapore

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#RICSSEA #SmartBuildings

# Smart Buildings Conference 2019

## Overview

Looking ahead to 2030, building functions should aim to become completely autonomous and self-learning, better known as smart buildings. This starts from the basic design and conceptualisation stage through to construction, energy, life cycle and people flow stages.

While new buildings can be designed and constructed to implement smart technologies from the ground up, existing buildings can be transformed to incorporate and converted into smart buildings.

As Singapore embarks on the Smart Nation journey, **REDAS-RICS Smart Buildings Conference 2019** will deep-dive into the government's strategies and activities on how to transform existing buildings to be 'smart', such as retrofitting existing industrial, commercial and residential buildings as well as incorporating smart FM solutions.

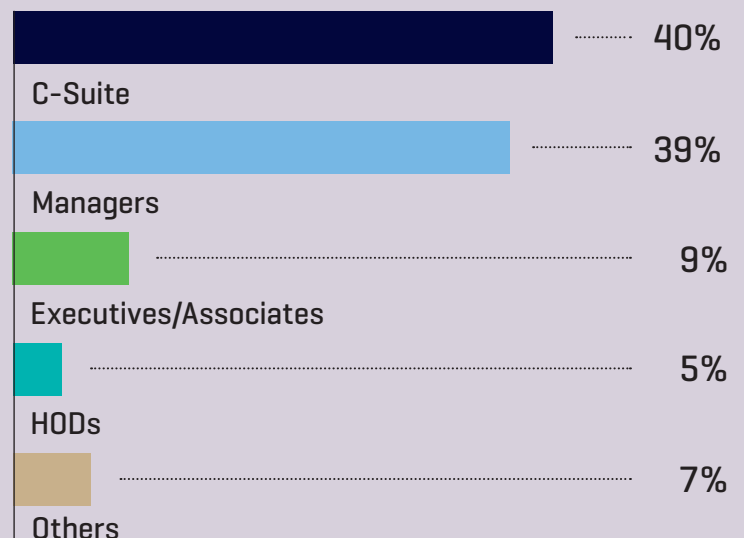
## Highlights

- 1 Singapore's Smart Nation: The national strategic implementation for existing and upcoming buildings.
- 2 Smart systems within the building: Understand the integration, limitations and benefits.
- 3 Hear from the dynamic panel of experts: What are the technical aspects and social implications?
- 4 The future smart buildings: Change is the only constant?
- 5 Insights into the value chain of smart technologies investment.

## Looking back: REDAS-RICS Smart Buildings Conference in 2018



## Job Profiles



# Programme

## Wednesday, 6 March 2019

### Conference chairperson's welcome

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### REDAS opening remarks

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### RICS welcome remarks

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#### Smart nation city initiatives: Transformation of smart building

- Vision and key focus area of national strategic projects (National Digital Identity (NDI) Framework, e-Payments, Smart National Sensor Platform, Smart Urban Mobility, and Moments of Life)
  - Initiatives push and challenges in converting existing buildings to be smart
  - The agencies and private sectors contributing towards the initiatives?
  - Project opportunities and funding provided by the government to push the initiatives
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### Networking refreshment break

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#### A New Frontier in Public Residential Development: Smart Home

- Integration of mechanical and electrical building system in the existing HDB
  - Smart home solutions implemented and the benefits for HDB
  - How do home owners accept and benefit from the changes?
  - Limitation in the infrastructure of smart home solutions
  - Smart HDB Town Framework – Smart Planning, Smart Environment, Smart Estate and Smart Living
  - Case study: Existing project and in development
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**Er Dr Johnny Wong**, Group Director, Building & Research Institute, Housing & Development Board

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#### Towards smart building – Developments in Singapore

- BCA Initiatives in pushing smart building development
  - How does the existing buildings ride on the initiatives in conversion to be smart buildings?
  - Key focus of BCA strategic projects on transforming existing building to be smart buildings
  - Pitfalls in smart building transformation: safety and security
  - Case studies
- 

**Benjamin Towell**, Senior Manager - Green Mark Department (New Development), Building & Construction Authority

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#### The campus journey in transformation from conventional to smart

- Evolution of the smart innovation implemented to deliver low energy building
  - Smart feature integration into the "old" building – what are the challenges and benefits?
  - Integration of design, mechanical and electrical building system, sustainability and management
  - Case study on SMU student hostel - Prinsep Street Residences (PSR)
- 

*Senior Representative*, Singapore Management University

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#### JTC integrated smart estate

- Challenges in transforming industrial building to be smart and sustainable
  - Role and implementation of IOT and Data Analytics in the transformation
  - Strategies in changing the mindset and skillsets for this transformation journey
  - Showcase on JTC Integrated Smart Estate and Building Operations System
- 

### Networking lunch

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#### Collaborative works in transforming old building into smart

- How do stakeholders integrate smart technology (IOT, cloud computing, data analytics, AI) into the current system operated in a building?
  - How does smart system affect collaboration among stakeholders?
  - What are the challenges in revamping the design and infrastructure of legacy buildings to install smart technology?
  - Is smart system an enabler or disruptor for building owners, operators and occupants? Why?
  - What is the value occurred in retrofitting the legacy buildings with smart technology application?
  - Showcase of operational efficiency, resource management, space utilisation and occupant experience
- 

Moderator: **Dr Boaz Boon**, Director, Real Estate Advisory, Vest Asia

Panelists:

**Seng Joo How**, CEO, CPG Facilities Management Pte Ltd  
**Gordon Falconer**, Global Director, Smart Cities, Schneider Electric  
**Seah Chee Huang**, President, Singapore Institute of Architects

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#### Modification of facilities management with smart solution

- Integration of smart technologies - Augmented Reality (AR), Data analytics and AI - in building operation and maintenance
  - Advantages and disadvantages of smart FM Solutions
  - If smart FM solutions control all the operation and maintenance, what would happen with the people? How do they upskill with the technologies?
  - Implementation of smart control system to predict the building operation and maintenance
  - Case study
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### Networking refreshment break

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#### Building safety and security driven by smart technology

- Key issues on data collection through smart technology for building safety and security
  - Safety and security enhancement through smart solutions
    - Predictive maintenance
    - Building protection
    - Prevention of faulty operation
  - Who are the stakeholders involved in data collection?
  - Case study on data collection through smart building which provide comfort for tenants
- 

**Ansley Yeo**, IOT Lead Southeast Asia, Microsoft

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#### Retrofitting existing buildings to grow smart city

- What is the contribution level of retrofitting existing building to grow smart city?
  - If building is only one of the components in the smart city planning, what are other "smart" components required in growing smart city?
  - Smart city challenges in putting across smart system to connect existing buildings with the overall estate operations
  - Showcase on services in planning and delivering "smart" solutions in a city
- 

**Jimmy Lee Yeong Wee**, Head of Advisory, Smart City Solutions, Surbana Jurong

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#### Transforming existing building, creating future smart building

- Four frontier smart technologies: AI, data analytics, immersive media and IOT
    - What will happen if they replace the human planning in design and construction of buildings?
    - How do they integrate with the existing system in legacy building?
    - What are their limitation in building conversion?
  - How do building, smart technology and people integrate? What are the challenges?
  - What are the differences between legacy and smart buildings?
  - How does "smart" add value or enhance experience of the occupants?
  - How do you foresee in the transformation of the current building now and in the future, 10, 20, 30 years to come?
- 

Moderator: **Scott Dunn**, Vice President, Strategy & Growth, Southeast Asia, AECOM

Panelists:

**Phil Lazarus**, Digital Practice Leader, Asia, Aurecon  
**Benjamin Towell**, Senior Manager - Green Mark Department (New Development), Building & Construction Authority

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### Close of the conference

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