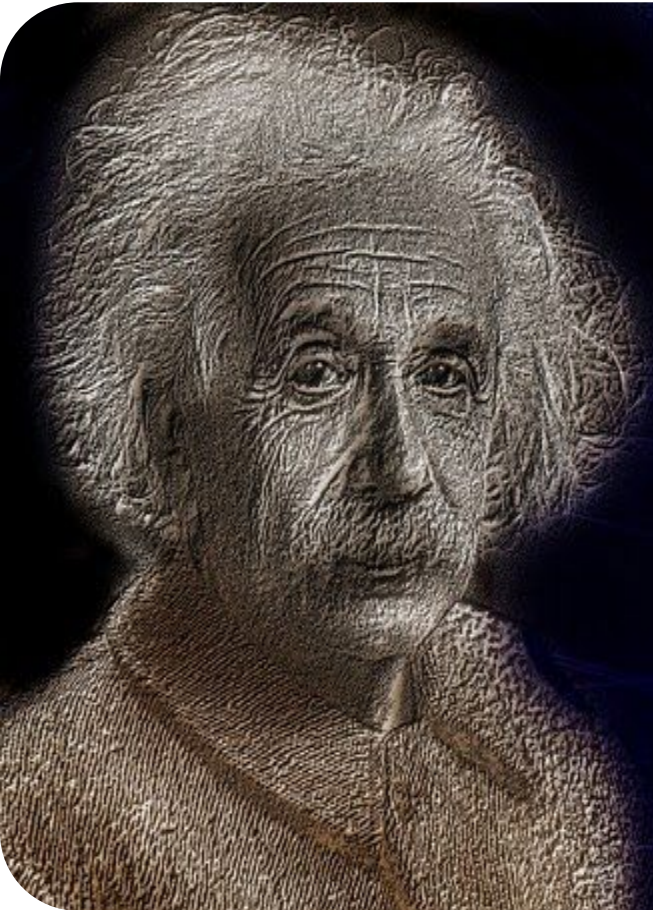


EMA Energy Innovation 2022

George LOH
Senior Director, Strategic Collaboration & Partnership
15 July 2022





**Necessity is the mother
of all invention.**

~Albert Einstein~

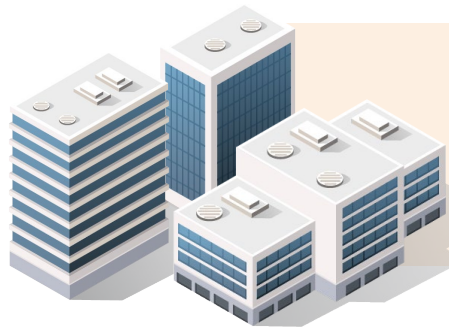
NUS Research Community



**Senior
Management**

**Research Directors,
Deans and Vice-Deans**

Strategic hires | Establish platforms | Support researchers

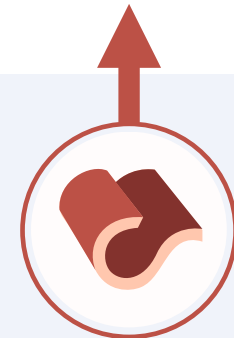
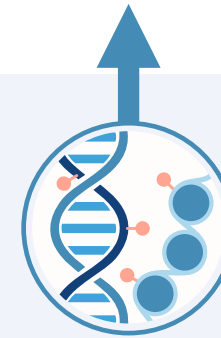
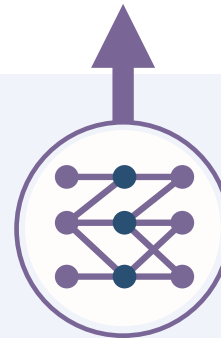
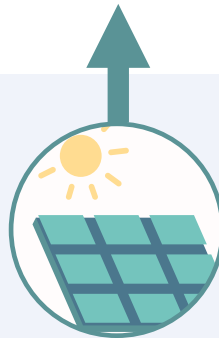


A **‘living lab’** for the generation of new knowledge & the development and test-bedding of innovative solutions



4,057
Research Staff

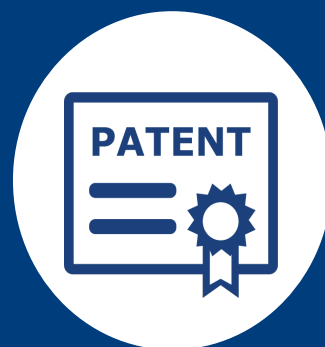
2,563
Faculty



Research Output 2020



Our researchers collaborated with
3537 institutes from
166 countries



764

Patent
applications

167

Patents
granted



439

Invention
disclosures

130

Technology
licences
executed

Smart, Safe and Sustainable (S³) Campus



University
Campus Infrastructure

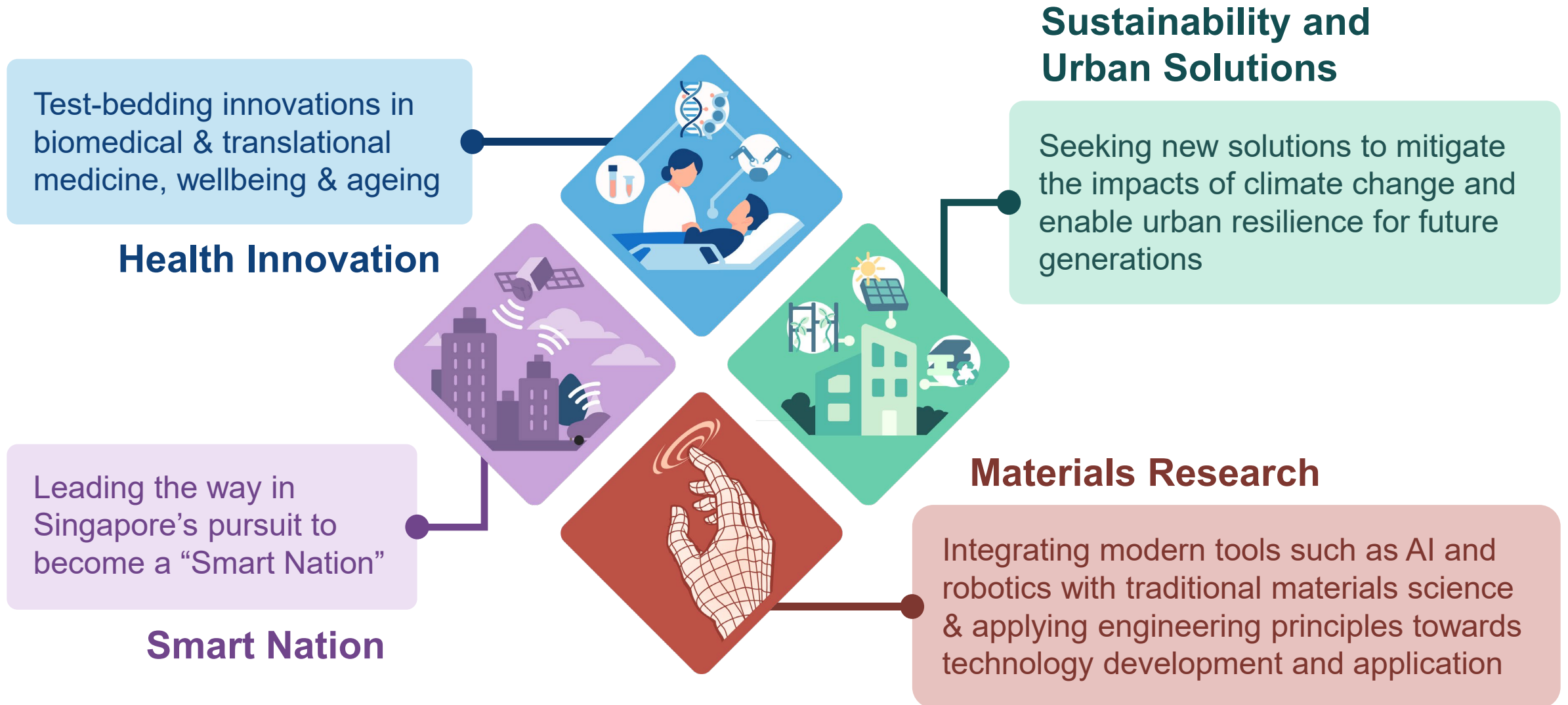


Mission Statement

Develop and operate a **Smart, Safe and Sustainable (S³) campus** to energize innovation and enterprise in a learning community

Putting people and humanity first

Interdisciplinary Research Areas

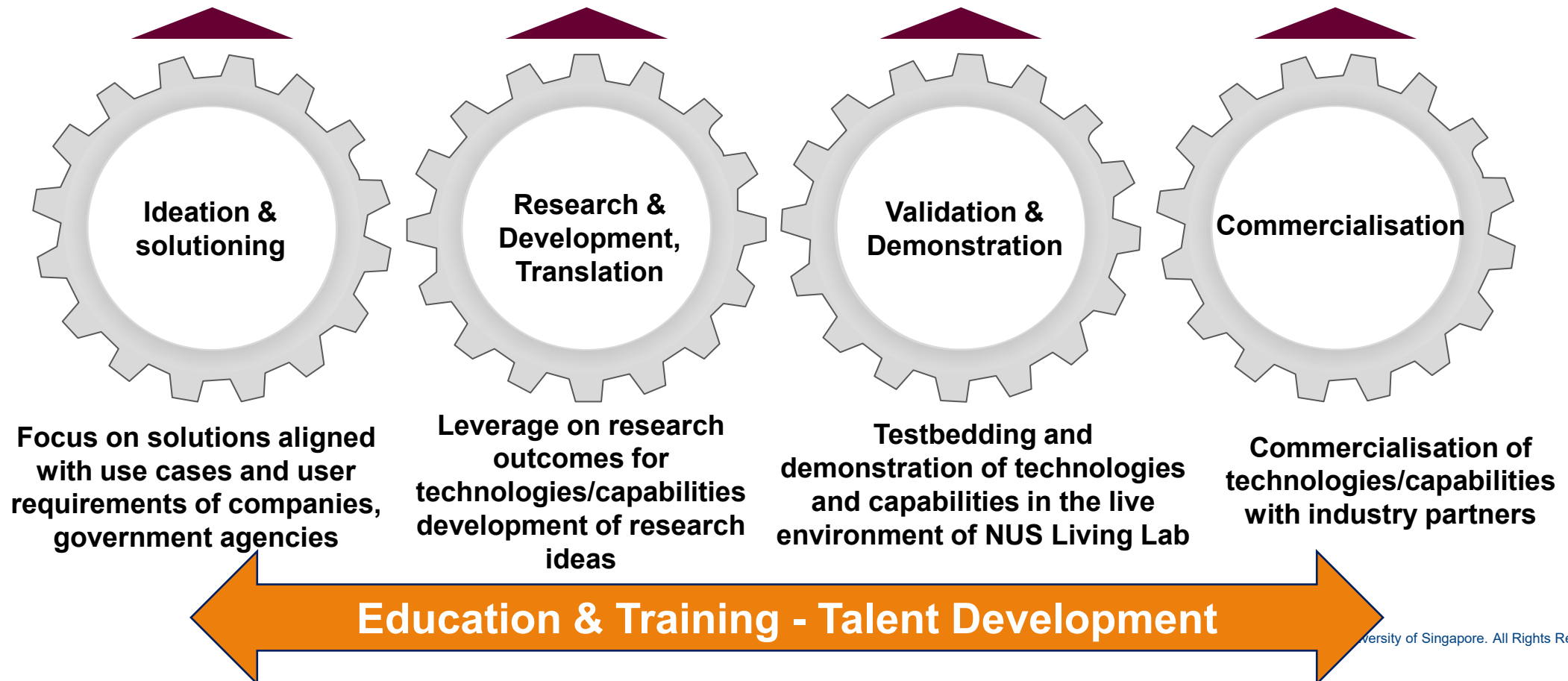


Translation of Research through **NUS Living Laboratory**



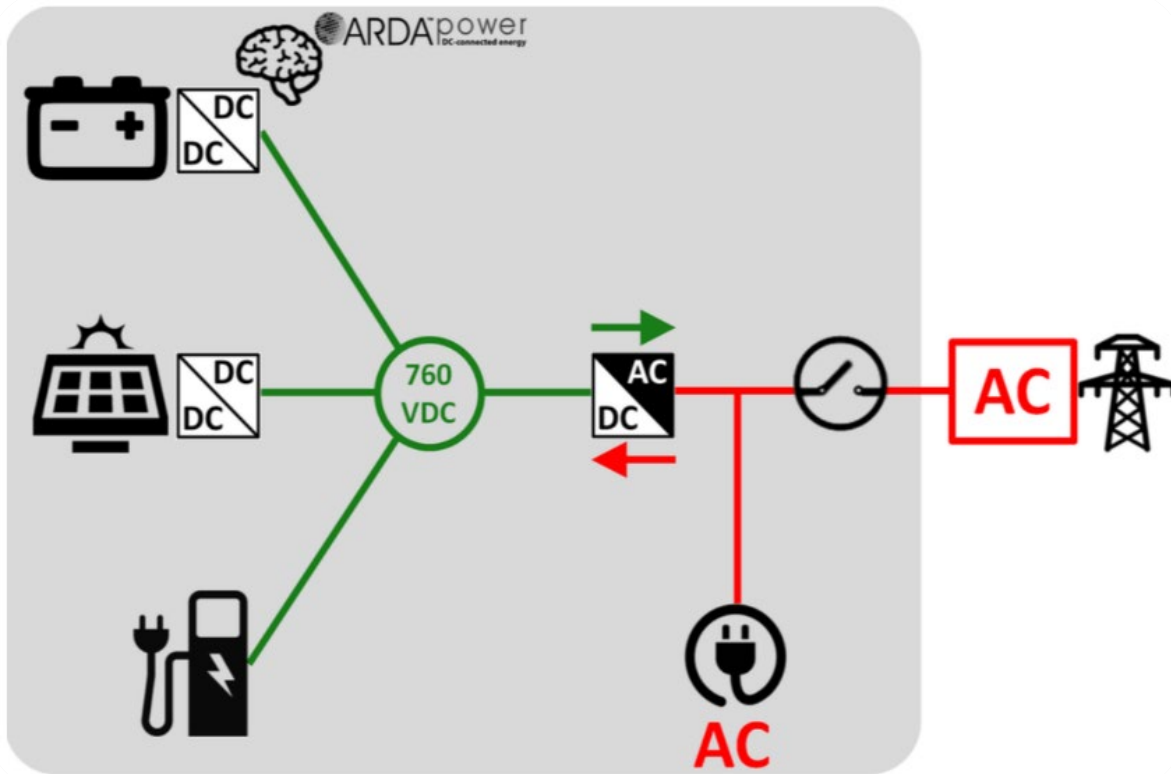
Research Collaboration Framework For NUS as a Living Laboratory

Interdisciplinary research collaboration with Industry



Key Industry Partnerships

Keppel Infrastructure



Hybrid AC/DC micro-grid



District cooling

Key Industry Partnerships



BIODIVERSITY CONSERVATION AND EDUCATION

Singapore's Southern Islands as A Focal Point for Marine Biodiversity Conservation

The Southern Islands

A LIVING LAB

Unprecedented opportunities to

- Advance marine science
- Protect Singapore's rich biodiversity and ecologically important habitats
- Develop sustainable solutions for conservation action



SPECIES RECOVERY

Restore native marine species and protect Singapore's marine biodiversity



CORAL TRIANGLE BIODIVERSITY CONSERVATION

Conduct joint biodiversity surveys in and around the Southern Islands



MARINE MAMMALS

Explore the role of Dolphins in supporting research and education



HEALTH & WELLNESS

Understand the benefits of nature experiences to human health and well-being



On-demand driven e-mobility

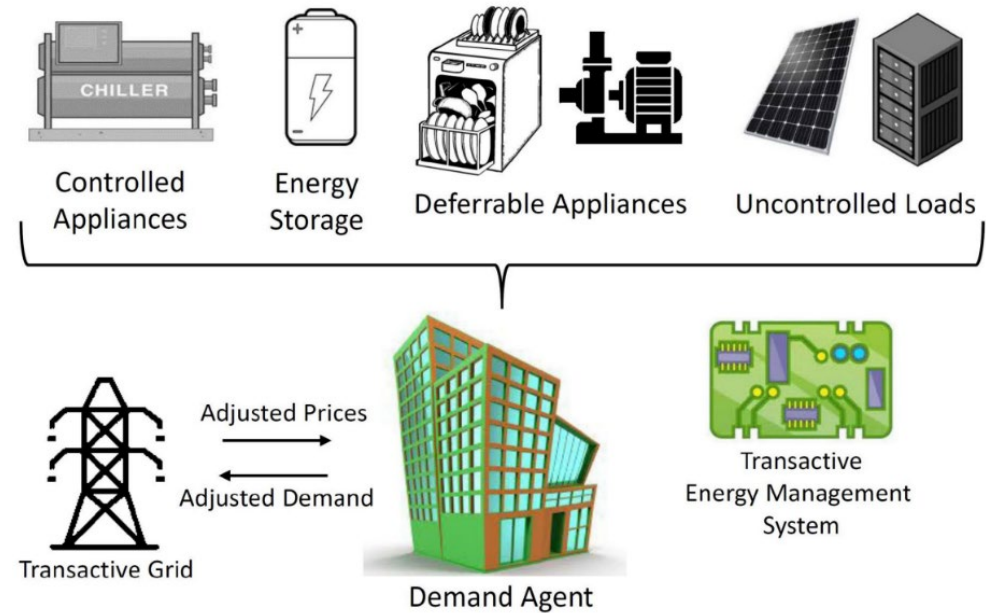


Keppel-NUS Low Carbon Living Lab

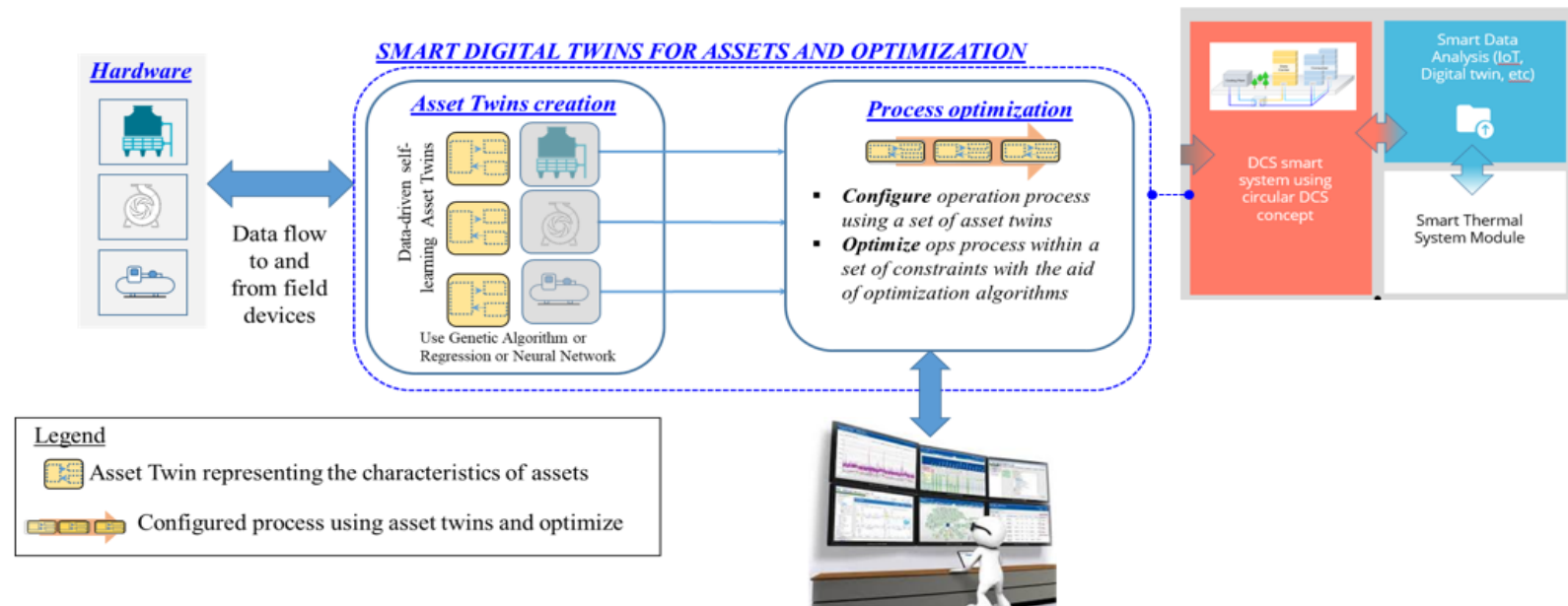
Keppel Infrastructure

Demand side Management

- Deployable solutions of demand response on industrial micro-processors
- Realize energy savings and cost savings through an appropriate incentive/preference structure
- Peer-to-peer energy interactions between *connected communities* (cluster of buildings)



High Efficiency Integrated District Cooling System Solution Part of the Smart Grid



THANK YOU