TECH OFFER

Intelligent Communities Lifecycle (ICL) Digital Twin Suite

KEY INFORMATION

TECHNOLOGY CATEGORY:

Green Building - Sensor, Network, Building Control & Optimisation

Energy - Sensor, Network, Power Conversion, Power Quality & Energy Management

Environment, Clean Air & Water - Sensor, Network, Monitoring & Quality Control Systems

Sustainability - Low Carbon Economy

TECHNOLOGY READINESS LEVEL (TRL): TRL9

COUNTRY: SINGAPORE

ID NUMBER: TO174897

OVERVIEW

With a focus on built environment, the digital twin technology developed by a Singapore SME offers a suite of tools to model, analyse and continually optimise entire groups of buildings, portfolios, communities, cities and resource networks across their lifecycle, providing a truly scalable solution to decarbonise the built environment.

Bridging the gap between the real world and simulation, the digital twin enables the energy efficient design and continuous operational optimisation of not just single but entire groups of buildings.

For more information, contact techscout@ipi-singapore.org

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The digital twin solution investigates operational problems using AI and machine learning, engaging the community feedback in real time. It improves operational decisions by understanding where to focus attention on and facilitate decision making by the building operators.

The technology owner is seeking partnerships with large building portfolio owner, product developer, IoT solutions provider who can deploy the digital twin solution for their clients.

TECHNOLOGY FEATURES & SPECIFICATIONS

The digital twin tools integrate physics-based simulation with 3D models, real-time operational data, machine learning and AI, to provide a digital twin solution for the built environment that is unique to any other in today's market.

The digital twin technology provides:

- Physics Enabled Simulation
- Climate Ready Master-planning
- Design & Retrofit to Zero-Carbon Standards
- Community Energy & Renewable Integration
- Operational & Community Dashboards
- Data Analysis from Physical & Virtual Sensors
- Real-Time Optimisation & Fault Detection

POTENTIAL APPLICATIONS

The digital twin technology can be used in any built environment (e.g. universities, local authorities, commercial real estate, healthcare, manufacturing, cities).

The solution can be used for singular buildings or scale up to a city, across any geographical scale, the tools link all aspects of every building's lifecycle from design and construction right through to operation. The solution connects everyone from owners and occupants, to planners and community leaders, in a single collaborative environment.

MARKET TRENDS & OPPORTUNITIES

Digital twins are one of the fastest growing technology segments in the market. Fortune Business estimates the market to be USD 6.7bn with a CAGR of 40%. The growth potential coupled to the growing applications makes digital twins an enormous potential for this decade.

UNIQUE VALUE PROPOSITION

Fully scalable from a single building to an entire city, The digital twin technology goes beyond building information modelling to create a live digital twin which responds and behaves like its real world counterpart. Delivering the data-driven information needed to uncover significant energy, carbon, capital and operational savings, while taking account of resource use, transport, social and economic factors.