香港綠色創新大獎
Hong Kong Green Innovations Awards 2019

銀獎
Silver Award

ARUP 太古地產 SWIRE PROPERTIES

奧雅納工程顧問及太古地產 — Neuron智能建築控制平台
Arup and Swire Properties Limited –
Neuron Smart Building Digital Platform

Neuron智能建築控制平台利用每台設備的運作數據來預測最適當的製冷設定，並使用其機器學習技術，透過視像分析計算樓宇空間佔用率和人流模式以提升送風安排，從而較傳統製冷系統減少能源消耗達8%至10%。Neuron目前已成功應用於香港太古坊一座。

Based on the historical data of each equipment and cooling load prediction value, and adoption of a machine learning model to calculate optimised airflow intake through video analytic to analyse occupancy and pedestrian pattern, Neuron Smart Building Digital Platform (Neuron) can predict the optimised settings cooling load, so that the chiller plant will consume less power and achieve energy saving of 8 to 10% when compared to conventional chiller plant operation. Neuron has already been applied at One Taikoo Place.


通過使用人工智能機器學習技術，系統能夠分析模式、估計和將未來的能源使用量減至最低，從而對建築物管理系統進行優化和規劃，促進有效的建築物運營和預防性維護。

By using Artificial Intelligence machine learning technology, the System is able to analyse patterns, estimate and minimise future energy usage, and thus allows optimisation and planning in building management systems to facilitate effective building operation and preventive maintenance.

系統可以有效地簡化複雜的手動操作，從而為主要能耗設備(例如製冷機、冷卻塔、水泵等) 計算最佳操作模式；及根據特定規則來分析事件和以自動反應系統來盡量減少設備故障的機會。

The System is effective in simplifying complicated manual operation in calculating the optimal operating modes for major energy consuming equipment such as chillers, cooling towers, pumps, etc.; and minimising chances of equipment failure by applying rule-based analysis of events and automatic responding system.
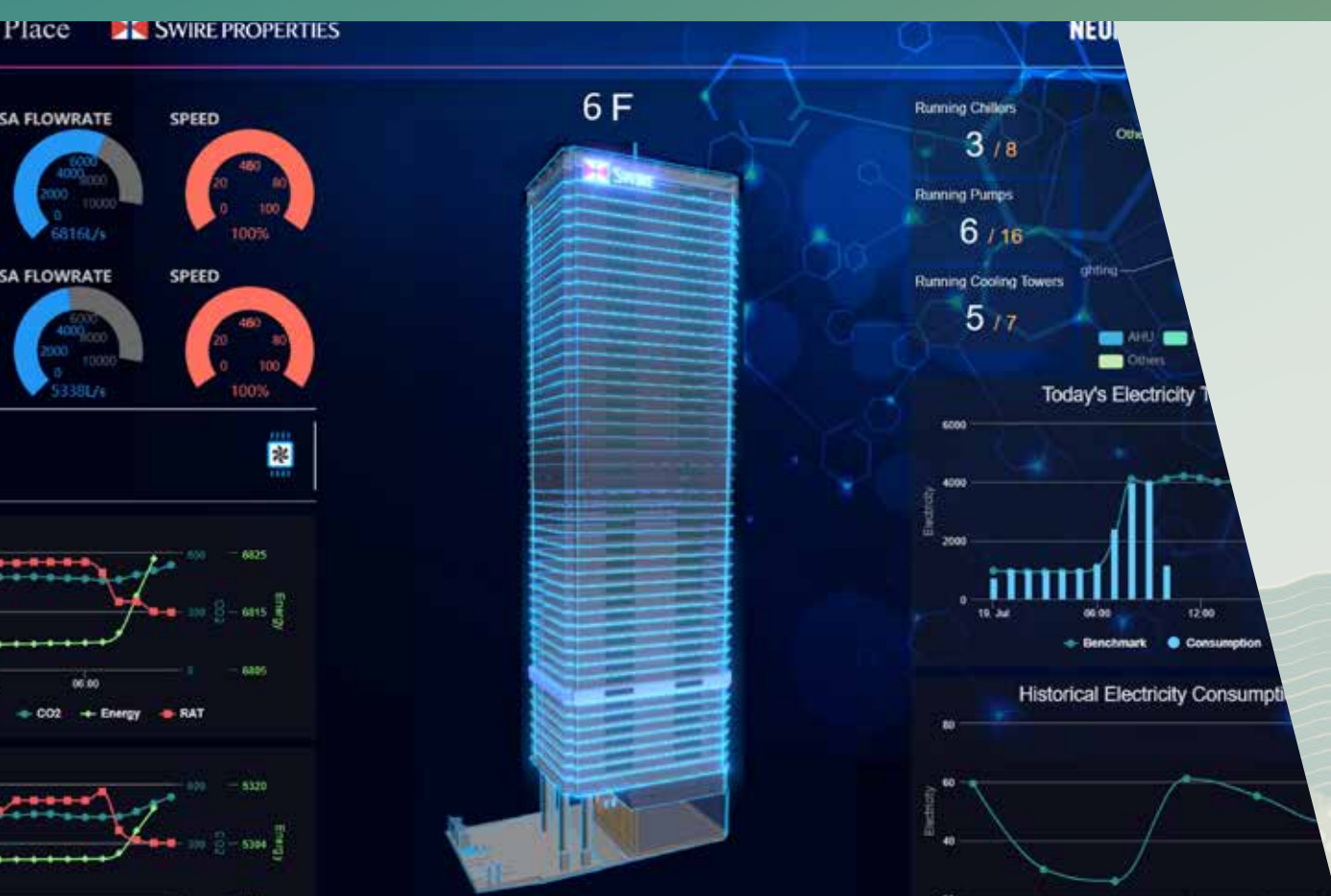
系統會不斷自動收集來自物聯網傳感器、實時運行監控和視頻的數據。當與早期階段的建築信息模型空間數據輸入共用時，系統可以將理想的效能使用與所有建築物服務設備的當前使用之間的差距收窄至最少。

Data from Internet-of-Things sensors, real-time operation monitoring and video stream are collected automatically periodically in the System. Together with the Building Information Modelling spatial data input at early stage, the System can build its building-specific data pool to narrow the gap between ideal efficient use and current use of all building services equipment.