

# SUSTAINABILITY

## Laying the foundation for sustainability

Samwoh Corporation – Singapore

How a leading construction company leverages EcoStruxure™ to pioneer Singapore's first positive-energy industrial building

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### Forging a new beginning with a trusted partner

In 2021, Singapore introduced three targets - collectively known as “80-80-80 in 2030” to realise a low carbon and greener built environment. By 2030, the country pledges to green 80% of buildings (by gross floor area, GFA), ensure 80% of new developments are Super Low Energy buildings, and achieve an 80% improvement in energy efficiency for best-in-class green buildings. For these ambitious targets to be realised, construction companies like Samwoh Corporation are doing their part to drive transformation for a greener urban environment.

Since its humble beginnings as a transport and logistics company in 1975, Samwoh has grown to become a leading engineering and construction firm known for its willingness to invest in new technologies and solutions for innovative and sustainable construction. This willingness was demonstrated further when the company moved to group its operations from across five locations in Singapore and centralise them into one, by building a new headquarter known as the “Samwoh Smart Hub” in Kranji, Singapore.

Apart from using sustainable construction materials such as 100% recycled concrete aggregate and excavated rocks from a cavern, Samwoh also wanted its new four-storey headquarters to come equipped with energy-efficient and smart features. Hence the vision for the “Samwoh Smart Hub” was clear from the offset: become Singapore’s first positive energy industrial building – a building that generates more energy than it uses.

## Goals

- Achieve efficient energy usage and lower energy utilisation
- Future-proof operations for sustainable growth

## Story

When Samwoh decided to centralise its operations in Singapore by unifying its facilities spread over five locations, it enlisted the help of Schneider Electric to optimise power usage and future-proof its operations. Samwoh’s “Smart Hub” is Singapore’s first energy-positive industrial building - generating more energy than it consumes.

## Solution

Edge Control:

- EcoStruxure Building Operation

Connected Products:

- Smart Panels
- MasterPacT MTZ
- ComPacT NSX
- PowerLogic™ PowerTag
- PowerLogic™ Power Meters
- SpaceLogic™ Automation Server
- EVlink Smart Wallbox

## Results

- Up to 50% savings in utility with efficient energy usage.
- At least 25% of electricity generated by the facility’s solar panels returned to the national grid.
- Received Singapore’s Building and Construction Authority’s Green Mark Platinum (Positive Energy) certification.

“To achieve this vision, Samwoh needed trusted and reliable partners that could help us optimise energy efficiency in our new headquarters. Schneider Electric and its system integrator, DG Energy Controls are ideal partners that also shared similar goals of driving sustainability and innovation for a greener future,” explains Samwoh Deputy Chief Operating Officer, Sam Pang.

### From efficiency to sustainability

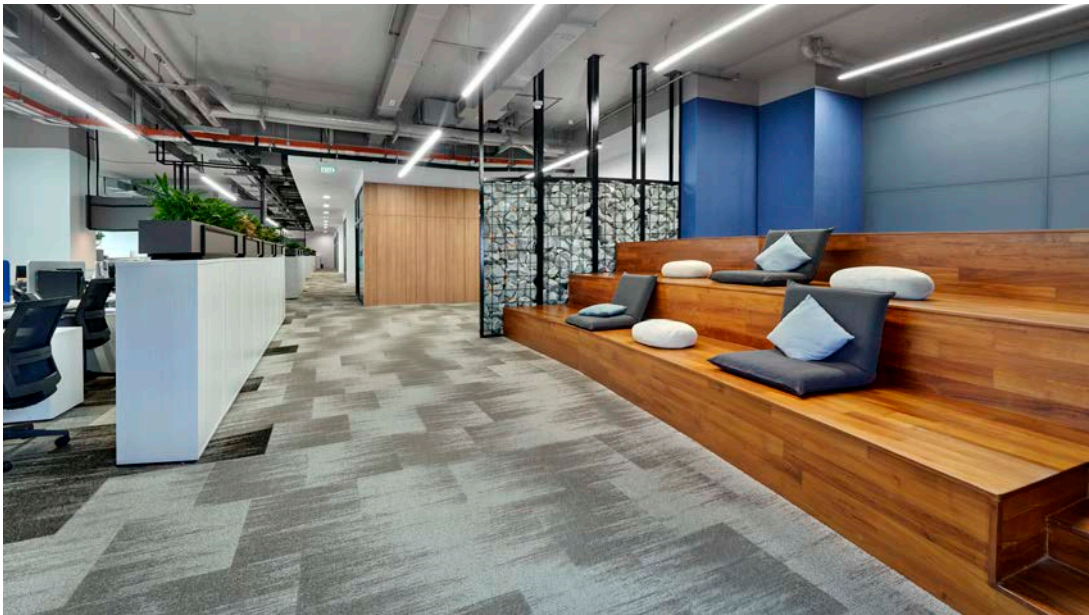
To help Samwoh gain better visibility and control of the building’s energy utilisation, Schneider Electric, with its EcoXpert partner and system integrator, DG Energy Controls, deployed its next-generation building management system (BMS), EcoStruxure Building Operation. This BMS is a complete ecosystem of smart devices, software, apps, and services that is open, future-ready, insightful and connected. This includes the PowerTags – wireless sensors that

help to accurately monitor and measure energy use in real time. The data collected is integrated into a centralised dashboard that helps compare and inform decision making, as well as alert the Samwoh team of sudden power losses or potential overload threats. There are also smart sensors implemented throughout the building to optimise temperature and humidity based on occupancy.

Schneider Electric also deployed a number of connected products with the BMS including the MasterPact MTZ air circuit breakers, a future-ready circuit breaker infrastructure that incorporates digitalisation into the legendary performance and reliability of the MasterPact line. It also deployed its ComPact NSX line of circuit breakers, that feature an innovative all-in-one design that provide time- and cost-savings while also offering greater connectivity with wireless auxiliaries.

50%

of annual utility costs saved with efficient energy usage, thanks to Schneider Electric’s solutions



Schneider Electric’s Electric Vehicles (EV) charging station, EVlink Smart Wallbox, was also deployed to expand the Smart Hub’s EV capabilities. The connected EV charging station, which was designed for smarter charging, has energy metering capabilities and superior connectivity that provides Samwoh the ability to ensure user authentication, generate reports and billing, allocate costs to individual users and even perform remote maintenance. The EVlink Smart Wallbox offers the Smart Hub a reliable, flexible and sustainable smart charging solution to enhance its green capacities and make it truly EV-ready.

“Schneider Electric’s EcoStruxure is our preferred solution for gaining complete visibility and control of our building’s energy utilisation,” explained Pang. “The connected products are integrated into a single ecosystem, and seamlessly collects real-time data on energy consumption and production. With EcoStruxure, the information we need is just a click away.”

With the solutions, Samwoh is reaping utility savings and has increased its energy efficiency by up to 50%. The facility also reports an Energy Efficiency Index of less than 60 kWh per metre square per year. This allows 25% of the electricity generated

by the facility’s 2,588 solar panels to be returned to the national grid, making it the first energy-positive industrial building in Singapore.

“We are delighted to have collaborated with Schneider Electric and DG Energy Controls on our journey towards achieving the prestigious BCA Green Mark Platinum Positive Energy for Industrial Buildings Award and to be part of the Green Buildings Innovation Cluster programme”, added Pang.

### Championing green buildings of the future

Through partnerships with industry players like Schneider Electric and DG Energy, Samwoh Corporation aims to champion the nation’s green cause and will continue to set meaningful examples for the industrial built environment sector in achieving the nation’s “80-80-80 in 2030” goal.

“We aim to continue leading Singapore’s construction industry for sustainability. We are committed to create a future where every building in Singapore is a symbol of progress and environmental stewardship” said Pang.

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— Sam Pang,  
Deputy Chief Operating Officer, Samwoh

## EcoStruxure™ for Building

Innovation At Every Level



# EcoStruxure™

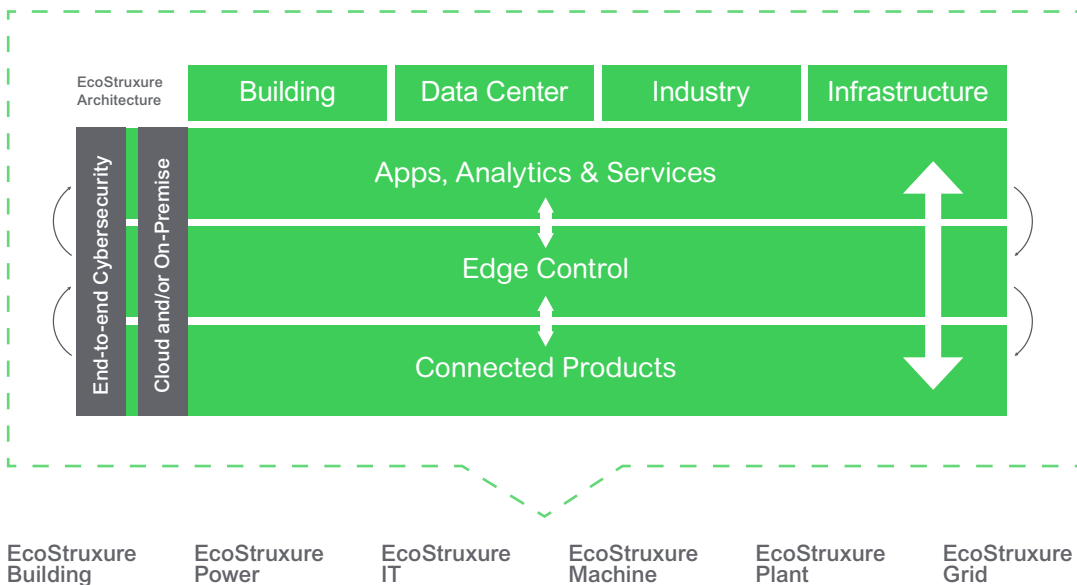
## Innovation At Every Level

IoT-enabled solutions that drive operational and energy efficiency

EcoStruxure is Schneider Electric's open, interoperable, IoT-enabled system architecture and platform. It delivers enhanced value around safety, reliability, efficiency, sustainability, and connectivity for our customers.

EcoStruxure leverages advancements in IoT, mobility, sensing, cloud, analytics, and cybersecurity to deliver Innovation at Every Level including Connected Products, Edge Control, and Apps, Analytics & Services. It has been deployed in 480,000+ sites, with the support of 45,000+ system integrators and developers, connecting over 1.6 million assets under management through 40+ digital services.

One EcoStruxure architecture, serving 4 End Markets with 6 Domains of Expertise



### Connected Products

The Internet of Things starts with the best things. Our IoT-enabled best-in-class connected products include breakers, drives, UPSs, relays, sensors, and more. Devices with embedded intelligence drive better decision-making throughout operations.

### Edge Control

Mission-critical scenarios can be unpredictable, so control of devices at the edge of the IoT network is a must. This essential capability provides real-time solutions that enable local control at the edge, protecting safety and uptime.

### Apps, Analytics & Services

Interoperability is imperative to supporting the diverse hardware and systems in building, data center, industry, and grid environments. EcoStruxure enables a breadth of agnostic Applications, Analytics, & Services for seamless enterprise integration.

Find out more about EcoStruxure

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Contact us to start your journey

## Schneider Electric

50 Kallang Avenue,  
Singapore 339505

[se.com/sg](https://se.com/sg)

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