

# SUSTAINABLE

Schneider Electric helps make the edge among  
“the world’s most sustainable” office buildings

Deloitte – Amsterdam, Netherlands

BREEAM-NL “Outstanding”-rated building features  
EcoStruxure™ Building and Power solutions.

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Life Is On

**Schneider**  
Electric



The Edge in Amsterdam, named the “world’s most sustainable office building,” garners global recognition for good reason. This exciting new BREEAM-NL ‘Outstanding’-rated building features EcoStruxure Building Operation as a single backbone to enable real-time access and connection to critical building data.

Located in Zuidas, Europe’s fastest growing business and knowledge district, The Edge in Amsterdam, The Netherlands, has been heralded as the world’s most sustainable office building. Officially opened in May 2015, this 40,000 m<sup>2</sup> multi-tenant, Class A office building was conceived by OVG Real Estate, a Dutch commercial real estate developer committed to green development, in partnership with Deloitte, a global professional services firm and the building’s primary occupant.

### Open and flexible architecture

The Edge is designed according to ‘The New World of Work’ principles, which challenge traditional organizational cultures to create an agile, high-performance workplace where innovation can thrive in an open and flexible environment. Adhering to that philosophy, The Edge is designed with a breathtaking glass exterior and large, open floor plans situated in a U-shape around a majestic 15-story, north-facing atrium. The atrium is surrounded by balconies, and residents can easily move between levels to gather in lit meeting areas.

### Technically as well as visually impressive

A marvel of architectural design, behind the scenes at The Edge is a comprehensive array of building engineering and energy efficiency ecosystems that make it outstanding both operationally and environmentally as well as aesthetically.

A broad range of Schneider Electric integrated building management solutions, electrical distribution systems, and IT infrastructure are employed throughout The Edge. Schneider Electric was pleased to unite once again with OVG at The Edge following their successful collaborations a few years earlier at the carbon-neutral TNT Centre (Hoofddorp, The Netherlands). They also introduced OVG to the project’s lead system integrator, BMS EcoXpert, HC Groep.

A transversal team from Schneider Electric EcoBuilding Division and Partner Business served as liaisons between Schneider Electric entities and several other well-respected participants in their industries, including: primary end user (Deloitte); engineering consultant and specifier (Deerns); and contractor (Homij Bosman Combinatie), as well as other integrators and panel builders.

## Goal

Prioritize the health, comfort, and productivity of other occupants while maximizing energy efficiency and sustainability.

## Story

Implement a single IP backbone for all building ecosystems with the ability to track and manage data analytics; employee control room comfort with a third-party smartphone app.

## Solution

EcoStruxure™ Building Operation & EcoStruxure™ Power Monitoring Expert, electrical distribution and field devices, implemented in part by BMS EcoXpert™ partner, HC Groep.



## Results

- Connectivity
- Sustainability
- Simplification
- Awarded a high score of 98.36% by the Building Research Establishment (BRE)
- <0.3 kWh/m<sup>2</sup>/yr estimated energy consumption at The Edge

“During the bidding process we worked closely with Schneider Electric to ensure that the newest building automation technology was available and could be integrated in all the emerging new technology in The Edge,” said Jacob Jansen, General Manager of HC Groep, a leading system integrator in The Netherlands for 25 years. “Because of the important scope of this project, a mock-up was built in our climate laboratory to demonstrate the feasibility and integration options.”

### Smart building approach

EcoStruxure Building Operation is used at The Edge, including 50 automation servers. Installed in ceilings and in technical rooms are BMS-compatible field devices, including sensors, valves, actuators, and heat meters, which provide energy-related measurement of the thermal energy used in the building.

The Edge facility managers are able to manage building operations and energy use on-site or remotely to maintain optimal comfort for occupants. Access and connection to critical building data is available via easy-to-use dashboards and advanced reporting to make information-based decisions to optimize HVAC energy use and reduce waste.

Schneider Electric electrical distribution products are also used throughout the building, including electrical panels, busbars, energy meters and frequency drives located in technical rooms. Over 180 energy and heat meters are installed

in the building, and energy measurement information is captured in EcoStruxure™ Power Monitoring Expert software.

“This was a very complex job, and Schneider Electric demonstrated that we have a full complement of vision and expertise as well as products, systems and solutions to help simplify the entire experience for our customers,” says Erik Zwaan, EcoBuilding Commercial Manager at Schneider Electric in The Netherlands. “The success at this impressive edifice, including a full spectrum of building ecosystems, demonstrates our comprehensive team approach and ability to deliver results as a true multi-faceted project management organization.”

The Edge also features other impressive building efficiency measures. It is the first building to utilize a third party’s Ethernet-powered LED connected lighting (Light Over Ethernet/LOE), which enables employees to use an application on their smartphones to regulate the lighting and climate in their individual workspaces. This innovative technology not only saves money on energy costs, but also provides information and data analytics about how the building is operating.

The Edge is also a net-zero energy building. To achieve this, the south façade is fitted with solar panels on all non-window surfaces. Additionally, aquifer thermal energy storage (approximately 130 m below ground) generates all energy required for building heating and cooling. Rainwater harvesting, electric vehicle charging stations, and motion-sensored ventilation are some of the other eco-friendly features at The Edge.

# 98.36%

The Edge's BREEAM-NL rating, the highest score ever awarded at the time

# <0.3 kWh/m<sup>2</sup>/yr

Estimated energy consumption at The Edge



Employees working at The Edge can use a smartphone app to regulate lighting and climate in their individual workspaces.



Real-time energy consumption and efficiency data gathered from the EcoStruxure™ Building Operation BMS are shared with building occupants and visitors via a dashboard located on a video screen located in The Edge lobby.

### A feat of modern engineering and sustainability

The Edge not only sets a new global benchmark for the built environment, but also prioritizes the comfort, health, and productivity of its occupants. Schneider Electric was able to partner directly with the property developer, lead occupant, specifier, system integrator and other essential participants from the early stages of the project. Schneider Electric’s energy management expertise and ability to understand and plan for the life cycle of the building helped The Edge earn the highest score ever awarded at the time by the Building Research Establishment (BRE®) — 98.36 per cent — and the distinction of BREEAM® NL New Construction certification of ‘Outstanding.’



Schneider Electric’s EcoXpert™ Partner Program unites the world’s leading technology providers, who exhibit best-in-class system integration competencies in facility optimization, reliable infrastructures, and energy management, with its customers around the globe. Stronger together, this partnership cultivates collaboration, connects expertise, and delivers best-in-class services and solutions.

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“Sustainability is about more than a great BREEAM rating. It is also about a building’s overall comfort and efficiency for its occupants, so that they can operate with ease in a productive and healthy environment.”

— Coen van Oostrom, Founder and CEO of OVG Real Estate

## EcoStruxure™ Building

Innovation At Every Level



# EcoStruxure™

## Innovation At Every Level

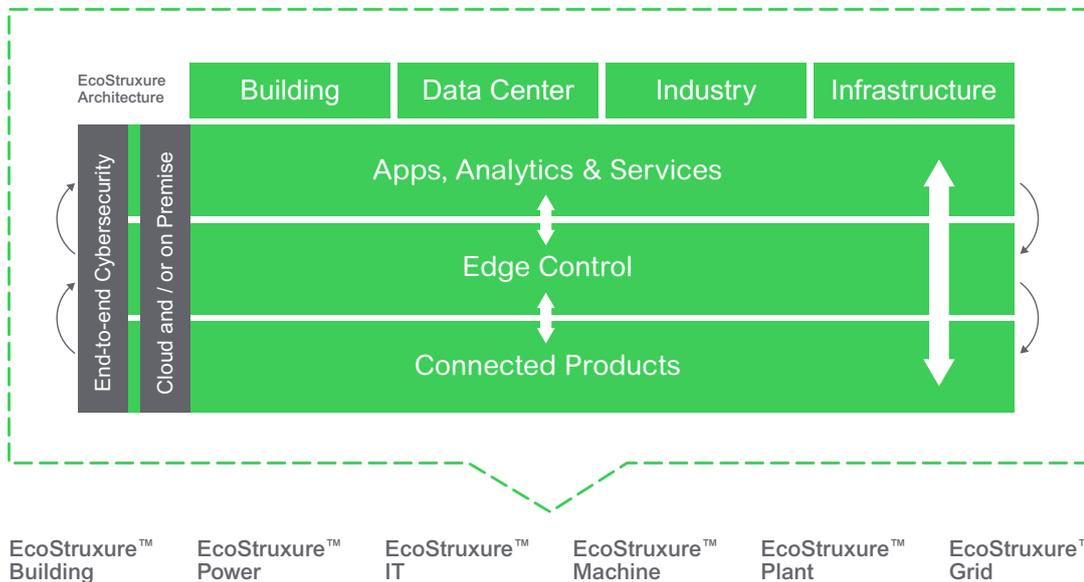
### IoT-enabled solutions that drive operational and energy efficiency

EcoStruxure is Schneider Electric’s open, interoperable, IoT-enabled system architecture and platform.

EcoStruxure 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. EcoStruxure™ has been deployed in 480,000+ sites, with the support of 20,000+ 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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Discover EcoStruxure™ Building



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