Powering and Digitizing the Economy

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Partner Manager

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Schneider Electric is leading the digital transformation of energy management and automation

Key figures for 2018

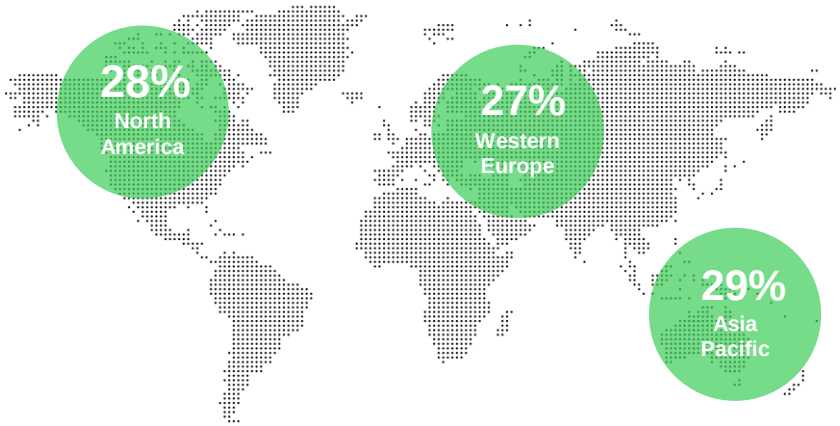
5%
of revenues devoted to R&D

€26 bn
2018 revenues

42%
of revenues in new economies

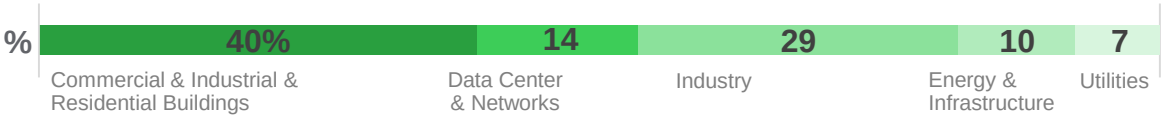
137,000+
employees in over 100 countries

A well-balanced global presence (2018 revenues breakdown)



Four end markets:

*Based on non-GAAP FY 2018 orders



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Edge Solution of Schneider Electric

helps increase customer satisfaction

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Agenda

- Trends driving Innovation
- Computing Eco Systems…
- Edge Computing…
- What Local / Regional Edge ?
- LEC – Local Edge Configurator

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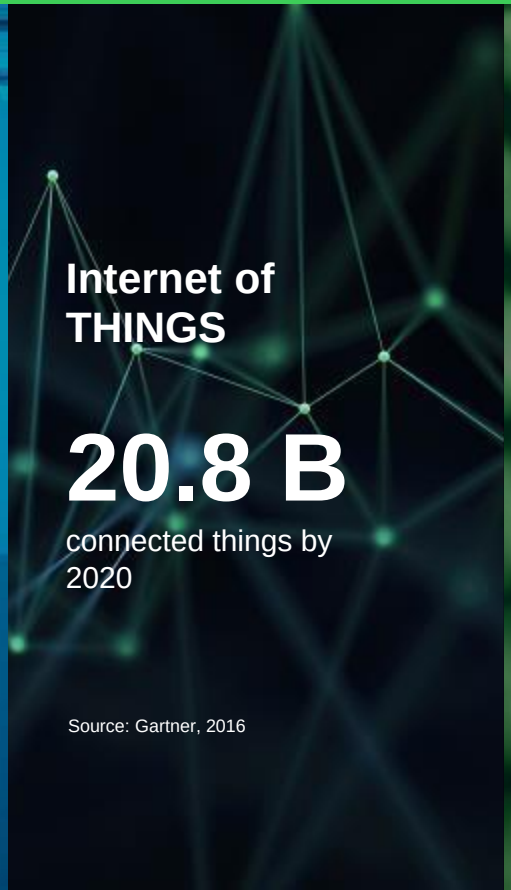
Reliance on Data Centers is increasing and is not only driven by IoT but also by these major trends

Digital TRAFFIC

3x

growth of global data center IP traffic over the next 5 years

Source: Cisco Cloud Index Report 2015



Internet of THINGS

20.8 B

connected things by 2020

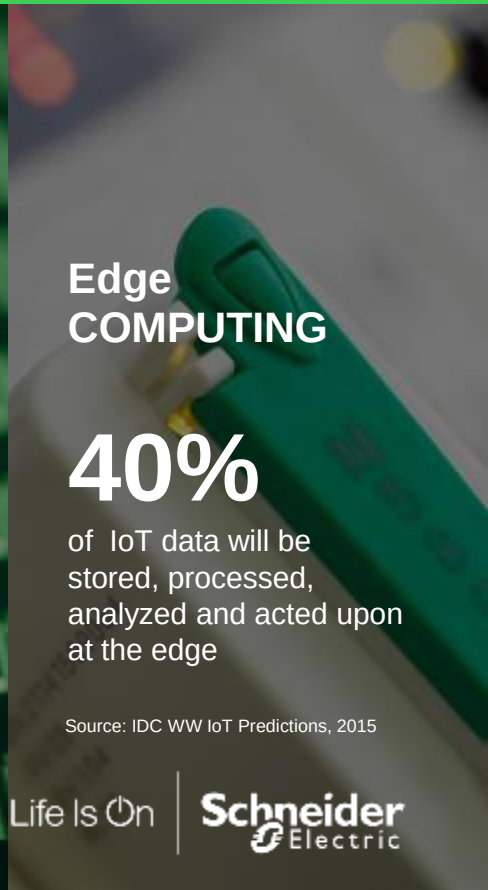
Source: Gartner, 2016

Data PRIVACY

Up to **4%**

total annual turnover fine for failing to comply with the EU's GDPR by 2018

Source: EU Data Protection Reform



Edge COMPUTING

40%

of IoT data will be stored, processed, analyzed and acted upon at the edge

Source: IDC WW IoT Predictions, 2015

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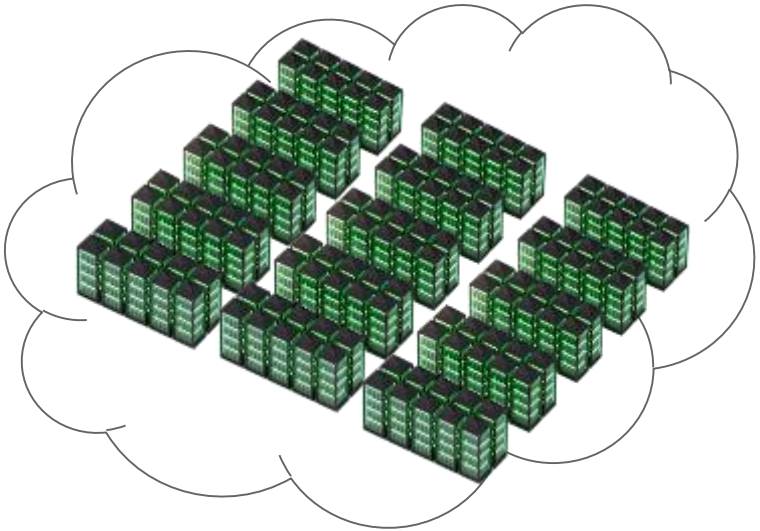
The centralised cloud was conceived for these applications

E-mails

Payroll

Social media



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But, cloud was not designed for new IoT applications, which redefined expectations of performance and availability

Key Challenges:
Latency
Bandwidth
Regulations

Cloud

Digital Transformation Brings New Bandwidth, Security, and Privacy Requirements

Enterprise: Retail, banking, and branch offices

Healthcare and Education

Government and Military

Industrial: Oil & gas, mining, manufacturing

Examples of Edge Applications

Office branch

- ✓ Antivirus & Firewall
- ✓ Windows updates
- ✓ Disaster back up and recovery
- ✓ CRM tools deployment (such as SAP, etc.)
- ✓ VoIP and telepresence
- ✓ Videos streaming and content delivery

Retail

- ✓ Self-service kiosk (order, check-out and payment processing)
- ✓ Infrared beacon technology
- ✓ Smart fitting room (AR)
- ✓ Radio-Frequency Identification (RFID)

Banking

- ✓ Video Teller Machine
- ✓ Banker tablet with 360 view of customers
- ✓ Robot greeter
- ✓ Biometric authentication
- ✓ Real-time fraud detection

Examples of Edge Applications

Education

- ✓ Tablet-based teaching
- ✓ Virtual labs (using VR and AR)
- ✓ R&D
- ✓ Students' record digitization.
- ✓ 24/7 WiFi campus-wide
- ✓ Surveillance network

Government

- ✓ Self-service kiosk
- ✓ Automated customs clearing
- ✓ Biometric authentication
- ✓ Facial and behavioral surveillance system.
- ✓ Drones
- ✓ Smart City

Industrial

- ✓ Real-time data-driven exploration
- ✓ Automation
- ✓ Predictive maintenance
- ✓ Unmanned warehousing

Edge solution for Edge Computing demands

Products Category

- Power (Smart-UPS / Smart-UPS Online and above)
- Rack & Accessories
- Power Distribution (Rack PDU)
- Security & Environmental Monitoring
- Cooling (InRow)
- DCIM (DCE / DCO)
- Services

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Standardized & Redundant Infrastructure

- Options & Capabilities for different business models

Pre-Integrated

Pre-Integrated physical infrastructure for micro data centers, orderable as SKUs*

Micro Xpress 24U SX

Micro Xpress 42U SX

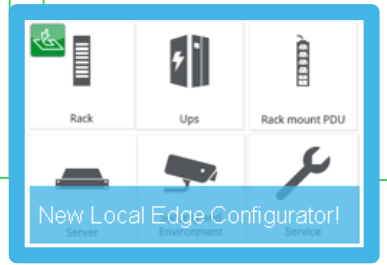
Pre-configured

Vendor approved reference designs and Cisco UCS Certification

Accelerate your business potential with innovative IT Services

Configure to order

Configure to order integrated physical infrastructure that scales at the rack level



Custom Rack and PDU (Region dependent)

Custom designed racks and PDUs for highly specialized deployments

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Best Practices for Local Edge Sites:

- Standardized and Redundant Deployment
- Remote Site Management
- Physical Security

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EcoStruxure IT

Overview of Architecture

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EcoStruxure IT
Overview of Market

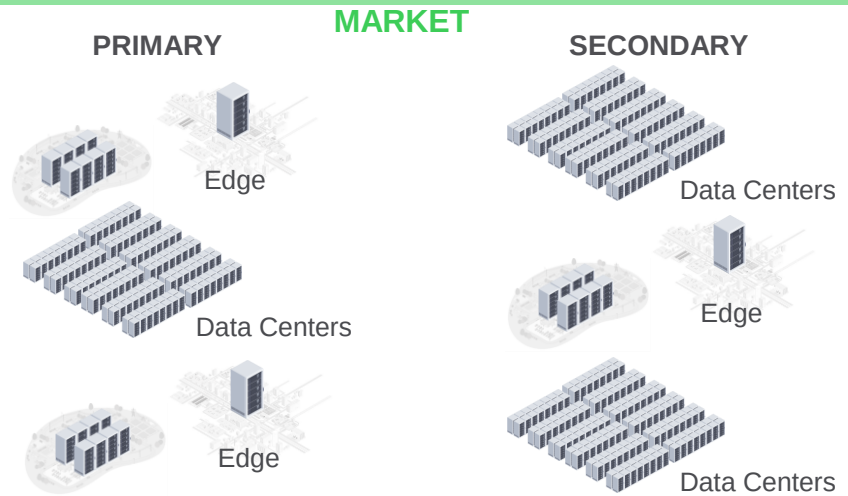
Cloud-based

EcoStruxure IT
Mobile Application

Asset Advisor
Remote Monitoring Service

IT Advisor
Planning & Modeling
March 2019

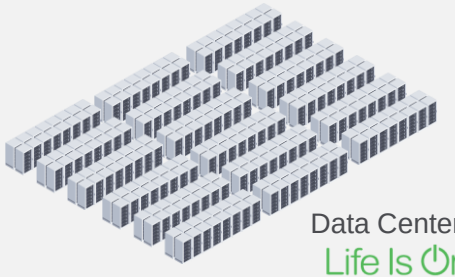
IT Expert
Monitoring



On-premises

Data Center Operation
Planning & Modeling

Data Center Expert
Monitoring



Data Centers
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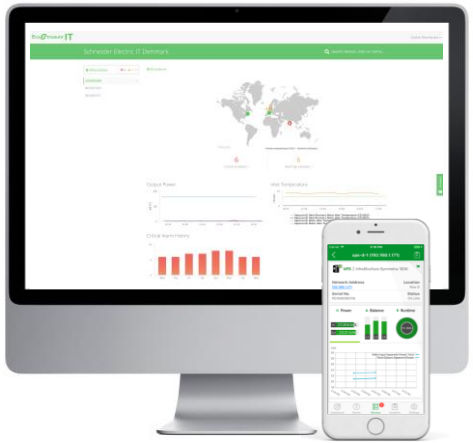
EcoStruxure IT

Overview of offers

VISIBILITY

Data Center Expert
IT Expert



INSIGHTS

Data Center Operation
IT Advisor

24/7 MONITORING

Asset Advisor

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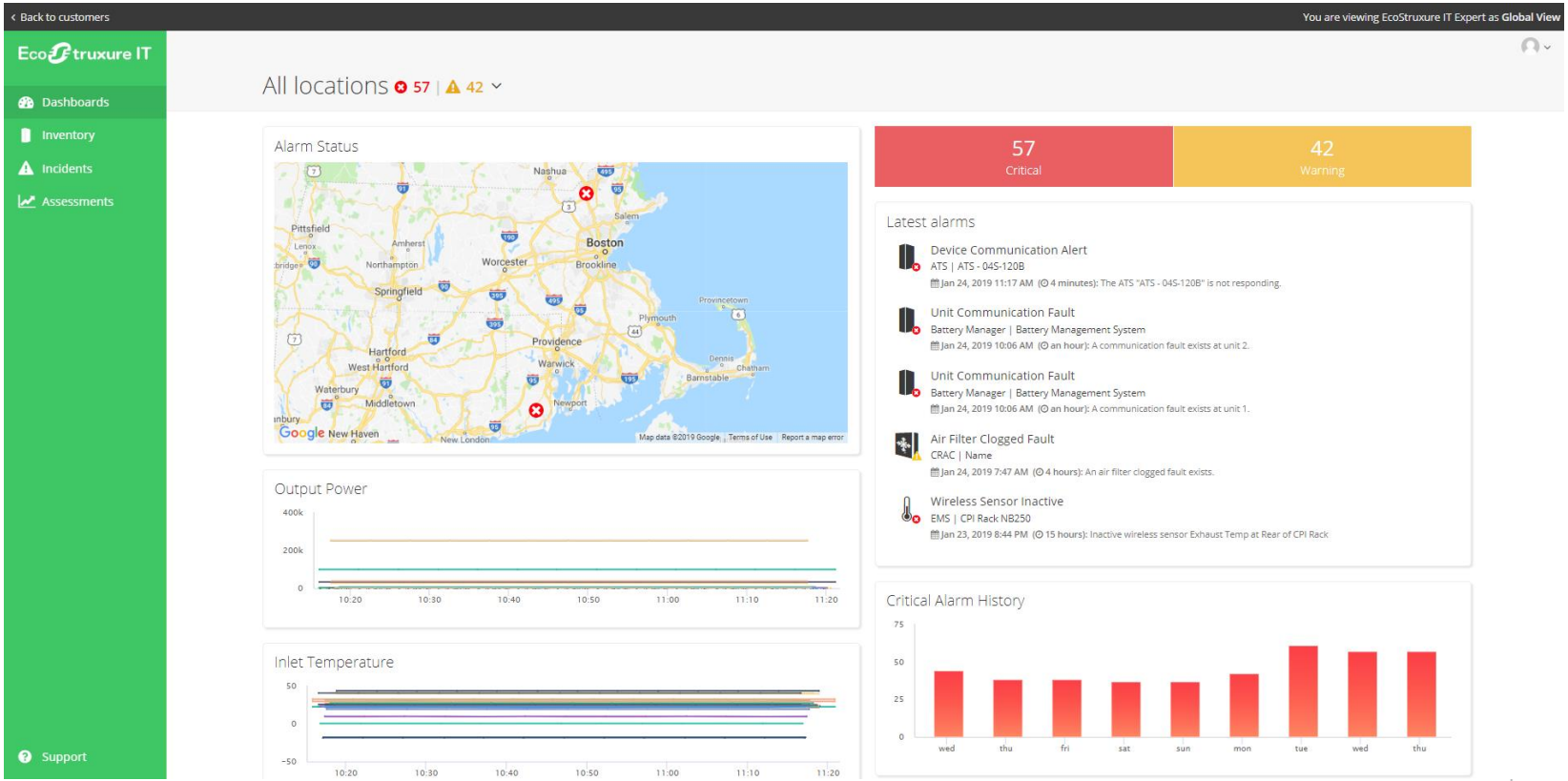
Overview Dashboard



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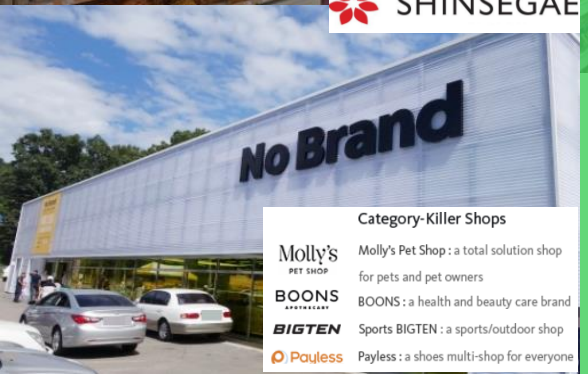
Shinsegae E-mart



Customer Background

- E-mart is the largest retailer in South Korea. There were 160 stores across the country as of Dec.2016. It was founded on Nov.1993 by Shinsegae group as the first discount retailer in South Korea.

Customer Challenge

- Monitoring & Managing for quick action
- Protect critical data and POS system from power problems by supplying clean and reliable network-grade power

The Solution

- StruxureWare Data Center Expert Basic : AP9465
- SMT2200/3000RMI2U, SRT5KRMXLI x 260set
- Smart-UPS VT 15,20,30kVA x 120set
- Network Management Card : AP9630, AP9631

Competitor

- Vertiv
- RAMEtronics Korea

Applications of Local Edge

- NoBrand : Stabilize Power for 3 POSs(200W each) fed by centralized UPS at the wiring closet.
- E-mart : SUVT installed in SVR room is protecting both POSs(15-20) and Server room.

Value Proposition & Customer Benefits

- Centralized view of power monitoring
- Early detection and quick resolution of downtime

Discount Stores

emart

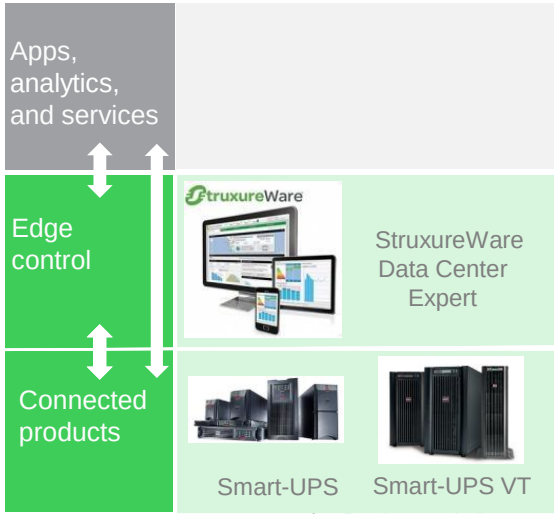
Emart : the No. 1 discount store in Korea

E-MART TRADERS

Emart Traders : the EDLP market for small business owners

E-mart is the first hypermarket franchise in Korea, and a retail company devoted to creating joyful lifestyle of customers

EcoStruxure™ Innovation At Every Level for Data Center



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Case Study:
Samuel Simmonds Memorial Hospital - Alaska, USA

Barrow, Alaska

"I was thrilled to be able to get all the pharmacy IT gear into one CX."

–Adam Y. Smith
Information Systems Administrator, Samuel Simmonds Memorial Hospital

Challenge

- Cope with patients' data increased digitization while providing the best security standards
- Remote location requires "Server-Room-in-a-box" type of solution

Solution

- SmartBunker CX 24U * 10 units
- Smart-UPS with Network management cards for remote monitoring

The Results: Life is On with...

"The decision to purchase the NetShelter CX has saved our medical center roughly **$150,000** for not having to put in dedicated cooling for our 4 data centers. Our power saving costs have been approximately **$1,500 to $3,000** per month."

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Murdoch University

Top100 young universities in the world

The Customer

- Based in Perth, mission is to be a creative force for current and future generations; Providing cutting-edge learning, teaching and research facilities to students and teachers.

Customer Challenge

- Ageing infrastructure
- Build a robust and reliable IT innovation hub for an immersive learning experience.
- Offer a 24/7 work space for student/teacher digital experience.

The Solution

- EcoStruxure IT
- APC Hot Aisle Containment system was an extremely ideal solution due to its real-estate footprint, efficiency and a direct connection to the water cooling system
- BMS integration with EcoStruxure Building that allows an overview of the entire space.

The Results

- Helped students understand real-life working environments
- Leading to greater learning, research and maximum flexibility
- First institution in Western Australia to have this infrastructure

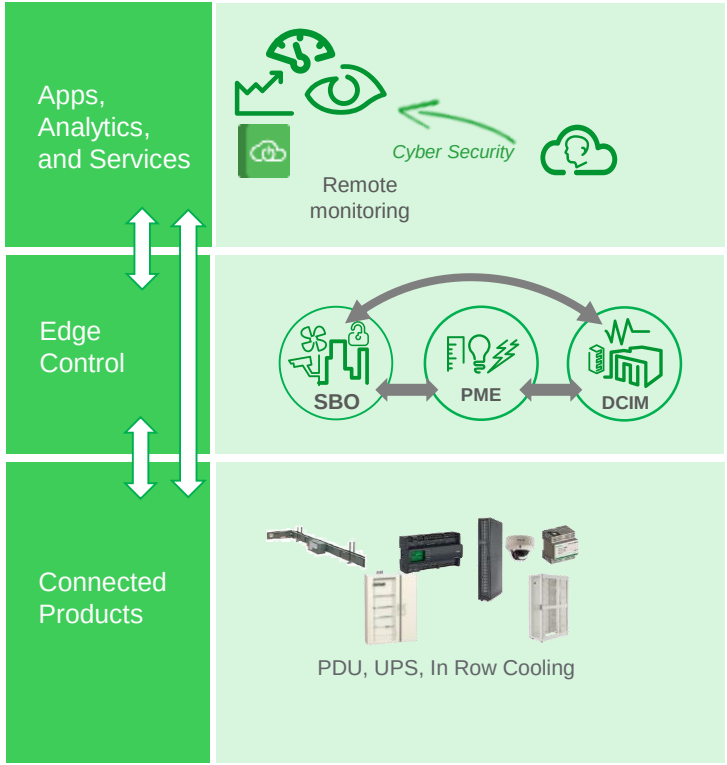
Customer Testimony

"The day Schneider came with EcoStruxure IT, it just materialised what IoT should actually be, that central environment where everything reports to a central point and then you can have that global picture and that's what we love about the product."

MURDOCH UNIVERSITY
PERTH, WESTERN AUSTRALIA

EcoStruxure™ Innovation At Every Level

Edge Solutions



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Boehringer Ingelheim NZ

Leading pharmaceutical company

Boehringer Ingelheim

The Customer

- Leading pharmaceutical company worldwide
- Operations in NZ grew from one to three offices
- Focus on environment protection and sustainability

Customer Challenge

- Due to diverse environment, customer requires local infrastructure and locally-installed applications.
- Existing infrastructure had no capacity for chilled water to run throughout the building services

The Solution

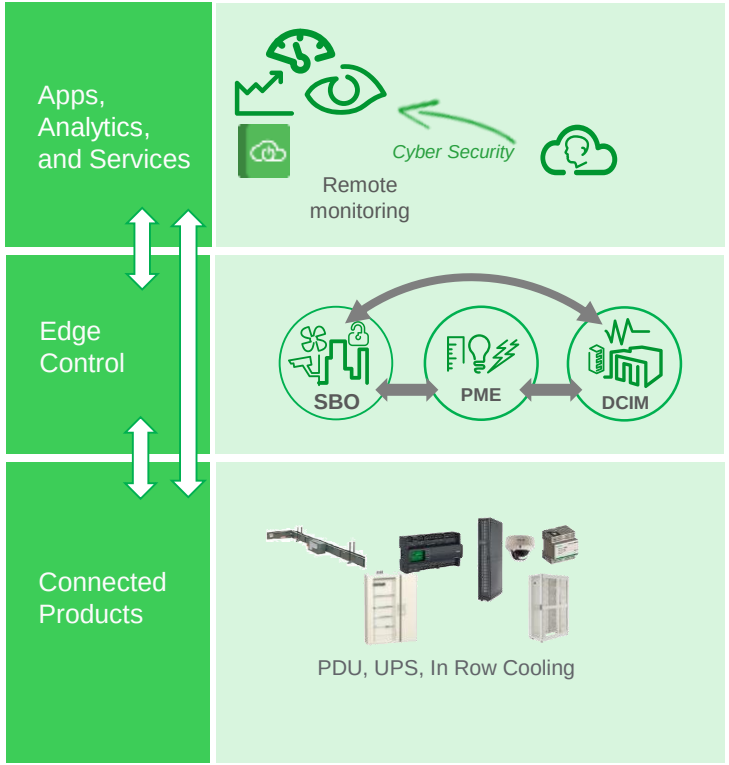
- APC by Schneider Electric deployed the EcoStruxure architecture. It supplied and installed a complete data centre solution including server racks, power distribution units (PDUs), uninterruptible power supplies (UPSs) and InRow Cooling.
- Self-Chilled In-Row cooling was chosen to ensure the two server racks are kept running at efficient and effective temperatures.
- Double redundancy across UPS and cooling systems required for reliability
- Temperature/ humidity control for energy efficiency

Customer Testimony

"What impressed me most was the technical expertise of the Business Development Manager, Sergei Vovchak, and the engineering team. They provided us with the right solution and made the whole project trouble-free."

EcoStruxure™ Innovation At Every Level

Edge Solutions



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Local Edge Configurator

https://designportal.apc.com

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Local Edge Configurator – Your Small IT Designer Tool

NEW!

1. **Layout your complete IT rack**, including 3rd party servers, storages, etc.
2. **Save time** using recommendations, warning and saved templates.
3. **Design true solutions** including PDU, remote & environmental management, and accessories.
4. **Easily generate and customize** customers solutions reports (BOM, Rack elevation, assembly, etc.)

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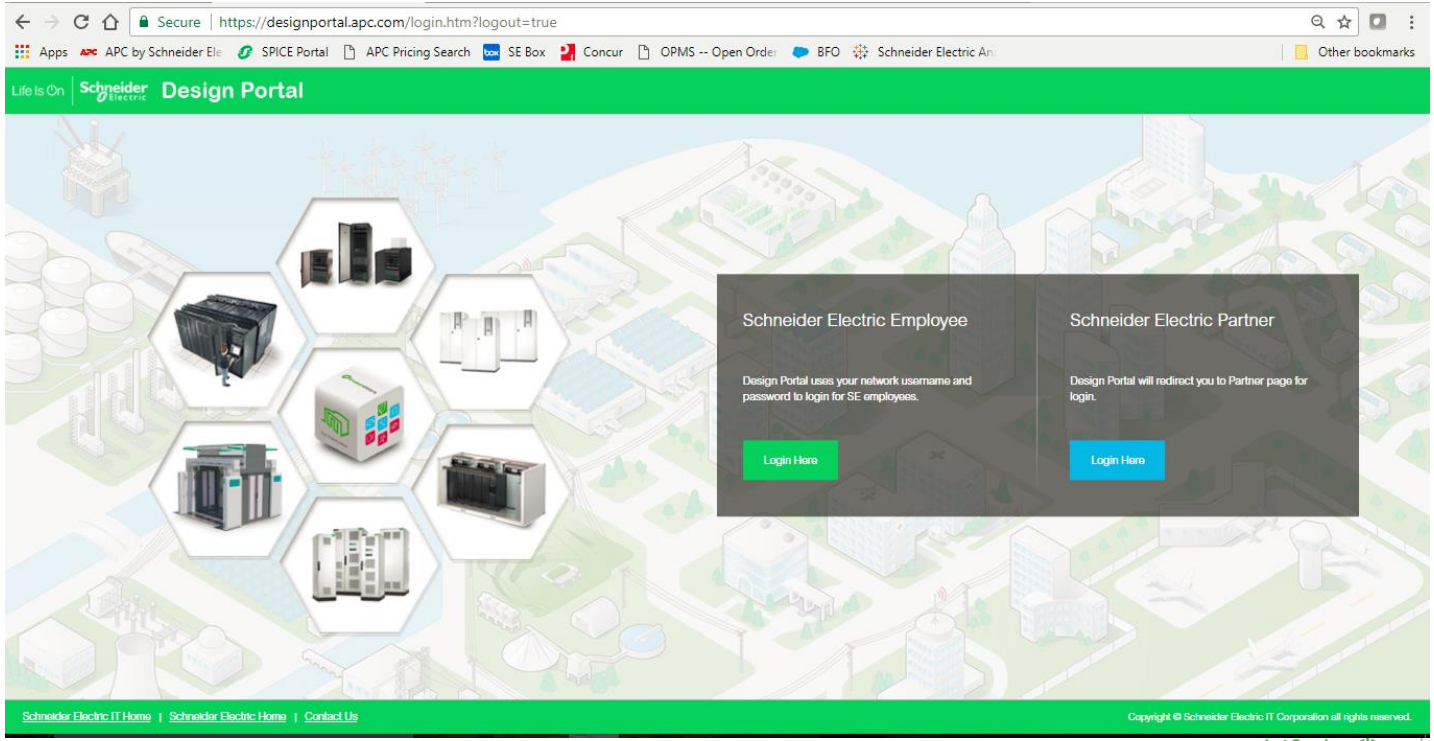
Log In to Design Portal

- Log in to Design Portal at https://designportal.apc.com.



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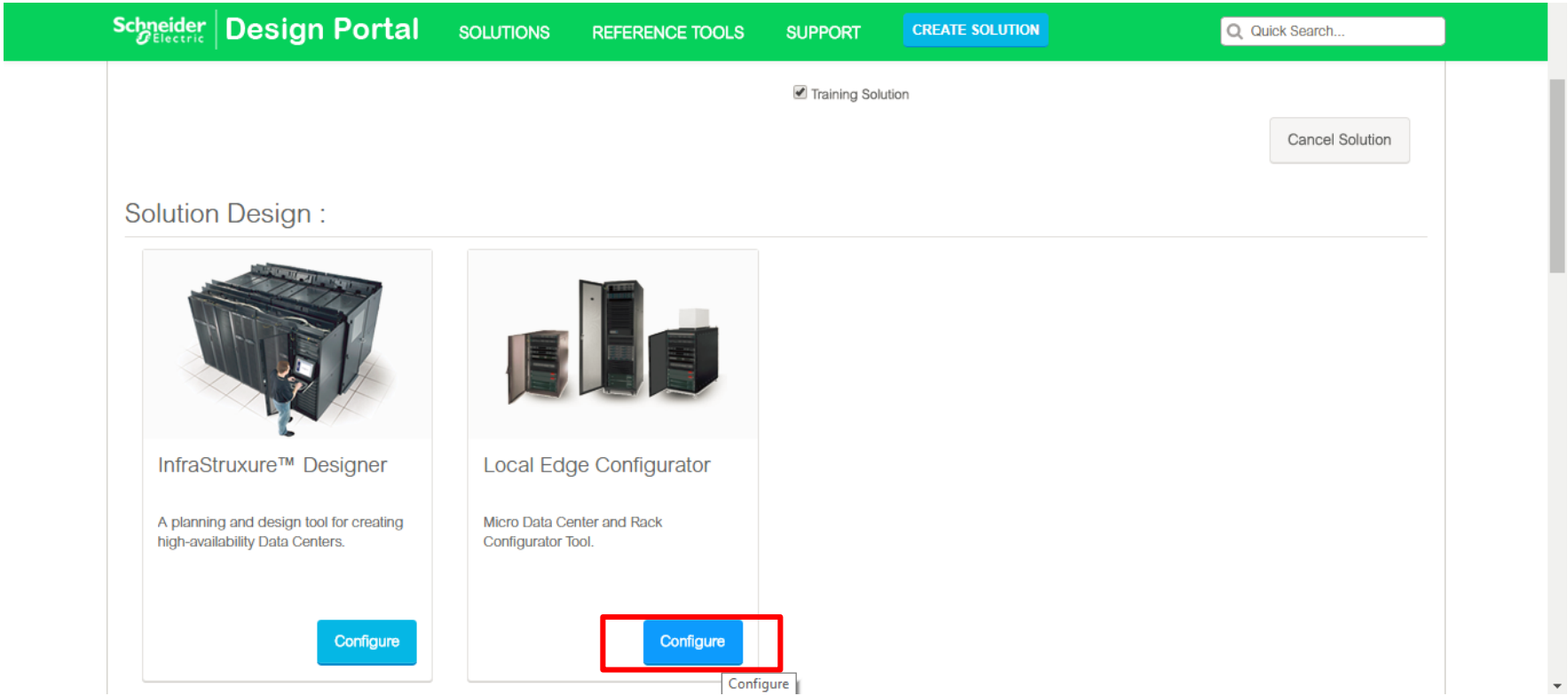
Access to Design Portal



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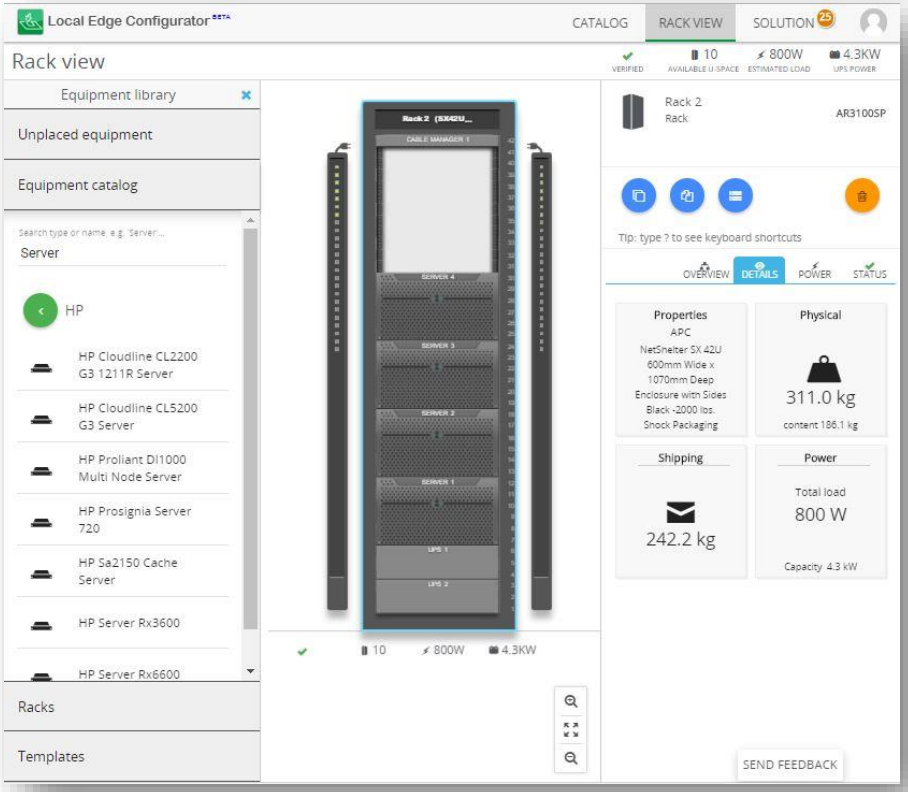
Key Features

- Accessible on mobile, tablet and laptop browsers. https://designportal.apc.com
- Layout entire IT deployment includes 3rd Party IT Devices
- Search and add from a refreshed catalog of rack mountable equipment
- Drag and drop equipment into rack
- Automatically ensure validity of solution
- Copy/paste racks or save as template for future use
- Get rack assembly and shipping reports



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Q&A

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