



As Industry 4.0 takes hold,  
are you prepared to be your  
customers' IT/OT consultant?

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

Life Is On

**Schneider**  
Electric

# The Industry 4.0 challenge — and opportunity

In the commercial and industrial space, talk of Industry 4.0 is nearly inescapable, and for good reason. The application of Industry 4.0 technology — artificial intelligence, robotics, digital twins — can help companies more effectively gather and analyze data, enabling more agile, efficient processes that help them increase quality and productivity while reducing costs.

But Industry 4.0 involves implementing significant amounts of new technologies that require edge computing,<sup>1</sup> meaning compute power close to the users or things that need them. And if these edge systems are not deployed and maintained properly, it can result in downtime for the entire business operation — throwing a wrench into the expected return on investment from industrial transformation projects.

**75.4B** connected devices globally by 2025<sup>2</sup>

**\$232B** will be spent by enterprises

on artificial intelligence, machine learning, and robotic process automation technologies by 2025<sup>4</sup>

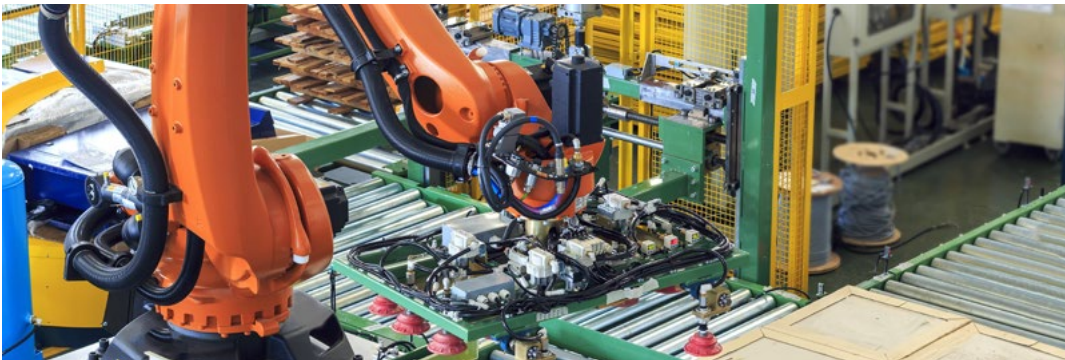


**75%** of enterprise data is expected to be created and processed at the edge by 2025<sup>3</sup>

72% of companies implementing industrial transformation projects are still in the definitional or pilot phase, and of this,



**13%** are “stuck” in the pilot phase with no real results to show<sup>5</sup>



## The industrial system integrator opportunity

As an industrial system integrator, you can play an integral role in Industry 4.0 projects by helping customers choose and implement software and hardware solutions that are well-suited for their Industrial Internet of Things (IIoT) applications. Schneider Electric makes it easy for you to capitalize on this opportunity. Through our unmatched IoT portfolio, learning path, reference designs, and access to our global network of IT Solution Providers, you'll have the baseline you need to grow your business and become your customers' IT/OT consultant.

<sup>1</sup> APC — “Edge Computing: Supporting Your Digital Transformation,” May 2020

<sup>2</sup> IHS Markit — “IoT platforms: enabling the Internet of Things,” March 2016

<sup>3</sup> Gartner — “What Edge Computing Means for Infrastructure and Operations Leaders,” October 2018

<sup>4</sup> KPMG — “Ready, set, fail? Avoiding setbacks in the intelligent automation race,” July 2018

<sup>5</sup> LNS Research — “Industrial Transformation (IX): Four Organizational Disconnects That Hinder Momentum,” May 2019

# Industrial edge solutions — deployments made simple, reliable, and secure

Implementing effective industrial edge computing solutions requires several components all working in concert. Core hardware and software applications, physical and cyber security, and remote monitoring and maintenance solutions come together to ensure everything stays up and running 24/7.

With over four decades of experience delivering solutions that meet IT/OT requirements, Schneider Electric provides complete, pre-integrated industrial edge computing solutions that industrial system integrators can quickly deploy and easily manage at customer sites. Working with our network of leading technology partners and AVEVA, we have ensured that our pre-integrated solutions are designed to run industry-standard software.

## EcoStruxure™ Micro Data Center solutions

From low-profile, wall-mount to larger, floor-standing enclosures complete with cooling, EcoStruxure Micro Data Center solutions offer a fast, easy way to build and deploy edge computing infrastructure in any environment. Features include:

- Pre-assembled, pre-tested enclosed rack systems including IT equipment, physical infrastructure, and management software
- Standardized, pre-integrated designs enabling speedy, reliable deployments
- Security cameras, environmental sensors, and access controls to prevent malfunctions and provide visibility into potential security breaches



## EcoStruxure IT software and services

Managing edge computing sites is critical to ensuring business continuity, requiring around-the-clock monitoring and proactive maintenance to detect and correct issues before they occur.

EcoStruxure IT software and services enable users to mitigate and anticipate risk of failure of critical IT infrastructure while reducing operational expenses through an open, vendor-agnostic platform.

Our global footprint and domain expertise in IT infrastructure provide users visibility, insights, 24/7 expert remote monitoring, and on-site support.

With EcoStruxure IT software and services, you can provide customers around the globe with peace of mind as you help them take advantage of everything Industry 4.0 has to offer.



# Pre-approved reference designs — reduce time to market

No one company can deliver all the components that comprise a fully functional edge computing solution. That's why Schneider Electric has cultivated relationships with the most respected global brands of IT compute, storage, and network equipment to develop a network of partners that can deliver reliable, long-term solutions.

We've also worked hard to pre-configure complete solutions that are ready to implement — so you can have peace of mind that all the components will work together as intended.

Our pre-configured reference designs can ...

- ✓ save you up to **40%\*** in field engineering costs
- ✓ get systems to market **20%\*** faster
- ✓ reduce maintenance costs by **7%\***

... meaning the customer gets a faster time to value.<sup>1</sup> Everybody wins.

\* Based on previous data, 2019. This is not a guarantee of future performance or performance in your particular circumstances.

## What are reference designs?

Reference designs are configurations of hardware, software, networking, and storage components approved by their respective manufacturers to work together. These can even be customized to a client's specific installation needs.

Schneider Electric worked with AVEVA, the market leader in industrial automation software, to understand the requirements for small, medium, and large installations. We then worked with our IT technology partners to define the best compute, network, and storage equipment to support each set of requirements.



**Small installation**  
1 to 25,000 I/O<sup>2</sup>  
per system



**Medium installation**  
25,000 to 50,000 I/O  
per system



**Large installation**  
50,000 to 400,000 I/O  
per system

The result? Comprehensive, approved reference designs that can be implemented in our EcoStruxure Micro Data Center enclosures, complete with supporting electrical and (if needed) cooling systems. The entire system can be monitored and managed by EcoStruxure IT software and services, ensuring ongoing reliability and uptime.

<sup>1</sup> World Wide Technology — "Your Digital Transformation is Only as Good as Your Supply Chain," June 2019

<sup>2</sup> Stands for "inputs/outputs"

# Based on HPE ProLiant technology

With its deep experience in the enterprise data center market, HPE® understands what it takes to create effective edge data centers. Now, HPE has teamed with Schneider Electric to provide edge computing solutions with certified interoperability, dramatically streamlining the process of deploying EcoStruxure Micro Data Center solutions that rely on hyperconverged infrastructure (HCI).

EcoStruxure Micro Data Center solutions sit close to applications to ensure low latency and high performance from IIoT and other applications while offering protection for IT equipment in edge installations that must coexist in non-IT environments.

HPE and Schneider Electric integrated edge computing solutions are highly scalable and able to easily adapt computing capacity and infrastructure to increasing volumes of data. They also put a premium on security, both in terms of the physical IT infrastructure and in helping to prevent intrusions from IIoT devices.

HPE and Schneider Electric have worked together to deliver standardized infrastructure

optimized to run applications based on AVEVA™ System Platform, fulfilling requirements for:

- Continuous streaming of near-real-time data from multiple sources
- Persistent workloads
- High CPU clock speeds
- Mostly low disk capacity requirements, but benefits from high IOPs disk throughput
- Data latency from real world to screen: 1 – 2 seconds
- Recovery point objective: configurable from less than 1 second to 15 minutes
- Data loss objective: configurable from 0 – 60 seconds

And, Schneider Electric's EcoStruxure IT software and services allow for remote management, reducing the need for and cost of on-site IT support staff.

Designed in collaboration with:



# Specifications

## HPE and Schneider Electric reference design for industrial edge

- Purpose-built and pre-validated solution for HPE ProLiant
- Pre-validated edge solution for AVEVA System Platform applications
- Optimized for applications with 5,000 to 100,000 data points
- Secure, comprehensive infrastructure

### Features and benefits:

- HPE ProLiant DL360 Gen10 server supports industry-standard technology leveraging the Intel™ Xeon Scalable processor with up to 28 cores, 12G SAS and 3.0 TB of 2933 MT/s HPE DDR4 SmartMemory
- HPE ProLiant DL360 Gen10 server comes with services offered by HPE Pointnext to accelerate digital transformation, increase agility and stability, and reduce risk
- Unmatched expandability packed in a dense 1U rack design with up to three PCIe 3.0 slots
- HPE iLO 5, the world's most secure industry standard servers with HPE silicon root of trust technology to protect against attacks
- Network of global partners to deliver products, applications, and solutions that work together seamlessly to meet the needs of industrial edge computing applications

The solutions follow reference designs engineered and tested with Schneider Electric IT Alliance Partners and aligned with AVEVA System Platform. You save engineering time and reduce risk while delivering a complete, self-contained, secure, optimized, and highly energy-efficient IT solution.

Type	Part Number	Description
Rack	AR106VI	NetShelter™ WX 6U Low-profile Wall Mount Enclosure 230V Fans
UPS	SMT1500RMI2UNC	APC™ Smart-UPS 1500VA LCD RM 2U 230V with Network Card
PDU	AP7920B	Rack PDU, Switched, 1U, 12A/208V, 10A/230V, (8)C13
Security & Environmental Monitoring	NBRK0250 or NBRK0750* NBPD0165 (optional)	NetBotz™ Rack Monitor 250 or NetBotz Rack Monitor 750* NetBotz Camera Pod 165 (optional)
Sensor	NBES0303 (Qty 2)	NetBotz Door Switch Sensors (2) for an APC Rack - 12 ft.
Blanking Panel	AR8136BLK	1U 19" Black Modular Toolless Airflow Management Blanking Panel - Qty 10
Other	AR8471	AR106V Caster Kit
Software & Service	SFTWES5-DIGI and/or WEXTWAR1YR-SP-02	EcoStruxure IT Expert Access for 5 Nodes and/or 1 Year Extended Warranty (Renewal or High Volume)
HPE	---	HPE ProLiant DL360 Gen10

\*Required for NBPD0165

# Based on Lenovo ThinkSystem technology

When it comes to server technology, Lenovo™ offers enterprise roots that run deep. Now, Lenovo is partnering with Schneider Electric to deliver complete EcoStruxure Micro Data Center solutions to support edge data centers.

EcoStruxure Micro Data Center solutions sit close to applications to ensure low latency and high performance from IIoT and other applications while offering protection for IT equipment in edge computing installations that must co-exist in non-IT environments. Constant condition monitoring helps ensure optimal performance for all IT equipment and applications. Lower latency means users who depend on IIoT applications get the data they want and need faster and more reliably.

The solutions are also highly scalable, and able to adapt as business requirements change. They also put a premium on security, both in terms of the physical IT infrastructure and in helping to prevent intrusions from IIoT devices.

Schneider Electric has worked closely with Lenovo to develop standard edge computing reference designs, so companies can roll out EcoStruxure Micro Data Center solutions quickly without sacrificing reliability or performance. Each solution is:

- Purpose-built and pre-validated for Lenovo ThinkSystem
- Pre-validated for AVEVA System Platform applications
- Optimized for applications with 5,000 – 100,000 data points
- Based on secure, comprehensive infrastructure



Designed in collaboration with:



# Specifications

## Lenovo SR250 server

- Lenovo ThinkSystem SR250 is an affordable, single-socket 1U rack server for applications that need optimized performance and flexibility for future growth, along with enterprise-class reliability, management, and security
- The SR250 server offers a wide range of processors — from Intel Celeron to Intel Xeon E Series
- Supports memory capacity of up to 64 GB and internal storage of up to 32 TB

## Complete EcoStruxure Micro Data Center solutions

Along with Lenovo and other global partners, Schneider Electric has developed products, applications, and solutions that work together seamlessly. Our reference designs are engineered and tested with our IT Alliance Partners, including Lenovo, and designed in collaboration with AVEVA.

The solution is optimized for AVEVA System Platform applications that have a requirement for:

- Continuous streaming of near-real-time data from multiple sources
- Persistent workloads
- High CPU clock speeds
- Mostly low disk capacity requirements, but benefits from high IOPs disk throughput
- Data latency from real-world to screen: 1 – 2 seconds
- Recovery point objective: configurable from less than 1 second to 15 minutes
- Data loss objective: configurable from 0 – 60 seconds

Schneider Electric provides all required data center physical infrastructure and remote management software in a single self-contained, secure enclosure for converged and hyperconverged architectures. You save engineering time and reduce risk while delivering a complete, optimized, highly energy-efficient IT solution.

Type	Part Number	Description
Rack	AR106VI	NetShelter™ WX 6U Low-profile Wall Mount Enclosure 230V Fans
UPS	SMT1500RM12UNC	APC™ Smart-UPS 1500VA LCD RM 2U 230V with Network Card
PDU	AP7920B	Rack PDU, Switched, 1U, 12A/208V, 10A/230V, (8)C13
Security & Environmental Monitoring	NBRK0250 or NBRK0750*	NetBotz™ Rack Monitor 250 or NetBotz Rack Monitor 750*
	NBPD0165 (optional)	NetBotz Camera Pod 165 (optional)
Sensor	NBES0303 (Qty 2)	NetBotz Door Switch Sensors (2) for an APC Rack - 12 ft.
Blanking Panel	AR8136BLK	1U 19" Black Modular Toolless Airflow Management Blanking Panel - Qty 10
Other	AR8471	AR106V Caster Kit
Software & Service	SFTWES5-DIGI and/or WEXTWAR1YR-SP-02	EcoStruxure IT Expert Access for 5 Nodes and/or 1 Year Extended Warranty (Renewal or High Volume)
Lenovo	---	Lenovo ThinkSystem SR250 or SR530

\*Required for NBPD0165



# Based on Stratus ftServer technology

In enterprise IT, the name Stratus is synonymous with terms like “zero touch edge computing” and simple, autonomous, and protected platforms. Now, Stratus is partnering with Schneider Electric to deliver complete EcoStruxure Micro Data Center solutions to support hyperconverged infrastructure (HCI) in locations where reliability is a must: edge data centers.

As more and more computing takes place at the edge of corporate networks, companies are revisiting and optimizing the architecture, deployment, and management of their edge computing infrastructure. EcoStruxure Micro Data Center solutions deployed close to where your applications are running offer the performance, reliability, and efficiency of a standardized solution, while also providing protection for IT equipment that often must coexist in non-IT environments.

EcoStruxure Micro Data Center solutions that include Stratus ftServer offer reduced latency for IIoT and other applications to promote real-time decisions. With Stratus ftServer, your EcoStruxure Micro Data Center delivers the kind of resilience and continuous availability that business-critical edge computing applications require.

And, Schneider Electric’s EcoStruxure IT software and services allow for remote management, reducing the need for and cost of on-site IT support staff.



Designed in collaboration with:



# Specifications

## Stratus ftServer and Schneider Electric reference design

Stratus ftServer provides greater than 99.999% uptime, making continuous availability a reality even at the network edge. Schneider Electric worked closely with Stratus and AVEVA to create a purpose-built, pre-integrated edge computing solution combining the Stratus ftServer with Schneider Electric's EcoStruxure Micro Data Center enclosures and supporting infrastructure — all pre-validated to fully support AVEVA System Platform edge applications. The result is an integrated, continuously available platform that's easy to deploy, manage, and service.

## Stratus ftServer features and benefits

- Greater than 99.999% availability
- Automated Uptime Layer features multi-path I/O failover to prevent lost transactions and data loss or corruption
- Industry-standard components: x86 processors, memory DIMMS, SSDs, and HDDs
- Active service architecture: self-monitoring, self-diagnosing system simplifies systems management
- Single system with redundant hardware presented as a single system — only one OS or application license required
- Hot-swappable customer replaceable subsystems and components

## Complete edge solutions

Schneider Electric provides all required data center physical infrastructure and remote management software in a single self-contained, secure enclosure for converged and hyperconverged architectures. You save engineering time and reduce risk while delivering a complete, optimized, highly energy-efficient IT solution.

Type	Part Number	Description
Rack	3103	APC NetShelter SX 12U Server Rack Enclosure 600mm x 1070mm w/ Sides Black
UPS	SRT2200RMXLI-NC	APC™ Smart-UPS SRT 2200VA RM 230V Network Card
PDU	AP7920B	Rack PDU, Switched, 1U, 12A/208V, 10A/230V, (8)C13
Security & Environmental Monitoring	NBRK0250 or NBRK0750*	NetBotz™ Rack Monitor 250 or NetBotz Rack Monitor 750*
	NBPD0165 (optional)	NetBotz Camera Pod 165 (optional)
Sensor	NBES0303 (Qty 2)	NetBotz Door Switch Sensors (2) for an APC Rack - 12 ft.
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Other	AR8471	AR106V Caster Kit
Software & Service	SFTWES5-DIGI and/or WEXTWAR1YR-SP-02	EcoStruxure IT Expert Access for 5 Nodes and/or 1 Year Extended Warranty (Renewal or High Volume)
Stratus	---	Stratus ftServer 2900

\*Required for NBPD0165

# Integrated ecosystem of partners — mitigate your risk

Implementing IIoT applications requires effective edge computing solutions, thoughtfully integrated from multiple vendors, to deliver on the industrial transformation promise.

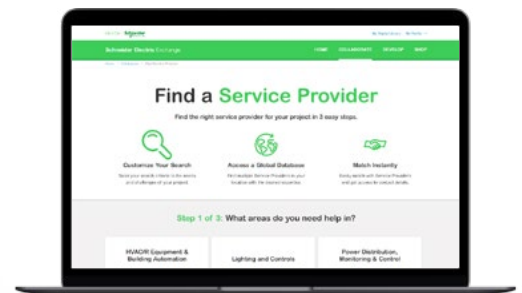
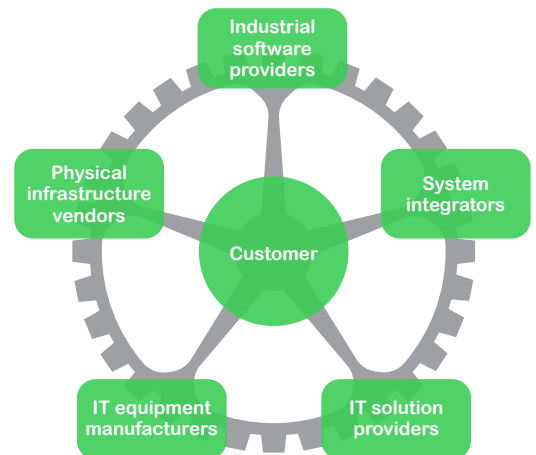
With Schneider Electric, you get access to the most recognized portfolio of critical infrastructure in the market, with over four decades of experience delivering IT/OT solutions, as well as our global network of industry-leading IT technology partners and industrial automation software providers.

## We're making it easy for you to connect with the right experts

Schneider Electric has an established network of IT solution providers that collectively offer all the hardware, software, and expertise required to build reliable edge computing solutions. We're empowering industrial system integrators to take advantage of this network through the Schneider Electric Exchange platform.

We have built a dedicated Industrial Edge Computing community in Exchange where you can easily collaborate with subject matter experts and locate trusted IT solution providers.

With our integrated ecosystem of partners, industrial system integrators are in a great position to be the single point of contact to help implement turnkey solutions for their customers.



# How to get started

## 1 Become an Alliance Partner

Join our System Integrator focused Alliance Partner Program. What's in it for you? Grow your business and revenue, access key partners in your ecosystem, and explore practical information and resources to enable your success.

[Register today >](#)

## 2 Expand your knowledge

To fully understand and align your skills to the new IT demands in the industrial space, access our learning path. There, you can explore the underlying drivers behind edge computing solutions and what challenges and strategies you need to consider when specifying solutions for your customers.

You will also learn how you can take advantage of our fully customizable, pre-integrated edge computing solutions, user-friendly design tools, and industry-leading edge management platform.

[Access the learning path >](#)

## 3 Engage with a trusted IT Solution Provider

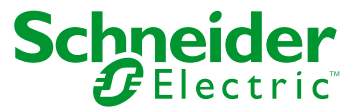
Building, deploying, and servicing edge computing solutions demands special expertise. To minimize your risk, we've built an industrial edge community in Exchange with a matchmaking feature where you can easily identify and collaborate with edge-certified IT Solution Providers.

Our global network of highly skilled and experienced IT Solution Providers gives you access to a comprehensive portfolio of fully customizable, pre-integrated edge computing solutions at the most competitive prices.

[Connect now through Exchange >](#)



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