



A guide to successful edge computing deployments in industrial environments

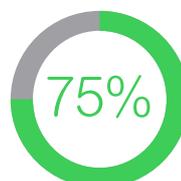
Enable industrial automation at the edge

Digitization is the driving force behind Industry 4.0, as companies in mining, metals and minerals, food and beverage, oil and gas, and manufacturing leverage industrial automation technologies to improve operations and business performance. In the industrial space, much of the investment in digital technologies focuses on the convergence of IT and OT (operational technology) environments.

However, Industry 4.0 applications require a lot of bandwidth, low latency, and reliable performance. To support them, organizations need extensive distributed networks that aren't easily managed from a centralized data center or the cloud. They need edge computing solutions that place applications and data as close as possible to users and data-generation assets. To drive efficiencies in edge deployments and management, Schneider Electric and Cisco have partnered to deliver turnkey hyperconverged edge solutions that are quick and easy to install and run. These remotely managed solutions simplify, standardize, and accelerate edge deployments.



\$232B will be spent by enterprises on artificial intelligence, machine learning, and robotic process automation technologies by 2025.¹



75% of enterprise data is expected to be created and processed at the edge by 2025.²

¹ <https://advisory.kpmg.us/content/dam/advisory/en/pdfs/ready-set-fail-avoiding-setbacks-in-the-intelligent-automation-race.pdf>

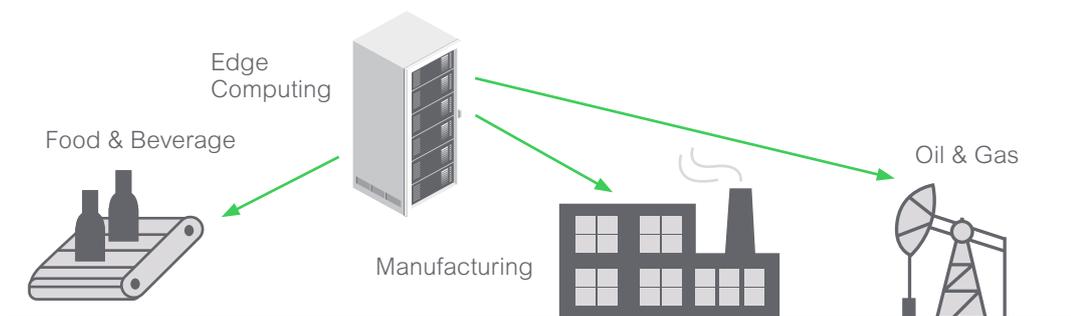
² <https://www.gartner.com/smarterwithgartner/what-edge-computing-means-for-infrastructure-and-operations-leaders/>



The path to industrial digitization is through the edge

Consider just a few scenarios where edge computing enables industrial applications:

- A major mining company uses autonomous trucks and remote-controlled railways to run cleaner, safer operations while saving \$1 million yearly in business costs.
- A wine producer with a quality control station leverages high-definition video analytics to check the level of wine in the bottle and the quality and position of the label in real time.
- A major automaker is testing self-driving vehicles, each generating five terabytes of data per hour, in various cities. The data is processed by micro data centers that move with the vehicles from one city to another.



Digital transformation, supported by edge networks, makes these scenarios possible. Today, companies find themselves at various stages of their digitization journey. While different companies have different goals, these objectives are usually among them:

- Improve operational performance and sustainability
- Enable automation
- Increase data quality, and collect and structure the data to improve processes and business outcomes
- Maintain business continuity by preventing interruptions in production lines

Digitization is a powerful and proven way to deliver these outcomes. It's what gives industrial companies the agility and responsiveness to more successfully compete in their markets.

IT/OT convergence

For organizations in manufacturing, food and beverage, mining, oil and gas and other industrial spaces, digitization primarily revolves around IT and OT convergence. OT consists of software and hardware that run industrial environments. IT and OT traditionally have operated separately, with IT focused on computer and data systems and OT on industrial and manufacturing processes. Keeping them separate is no longer efficient. Convergence drives efficiencies and boosts productivity by allowing business information to be considered when making operational decisions and operational data to be considered for business decisions. Some examples:

- By linking business and operational data, organizations enable proactive maintenance, automatic ordering of spare parts and scheduling of various production activities.
- Leveraging a combination of IT and OT data allows companies to work toward sustainability goals and get access to energy pricing, production scheduling, and operational benchmarking from one facility to another.
- Digital supply chain management systems deliver real-time access to purchasing systems, operation schedules and the supply chains of separate partner companies.

Schneider Electric and Cisco hyperconverged solutions help protect your edge and digital environments.

Success at the edge

Edge computing deployments support the infrastructure needed for digitization projects, such as converging IT with OT or launching an Industrial Internet of Things (IIoT) network. Here's how edge computing solutions enable digitization:



Speed - Without edge sites to process data locally, data can travel hundreds or thousands of miles to cloud centers, creating latency.

- When monitoring systems detect abnormal conditions, real-time data access helps determine whether to act immediately or wait for the next planned maintenance.
- Companies can compare energy costs with production output in real time to make production decisions. For instance, an energy-intensive process can be scheduled for times when energy is less costly or has a better sustainability profile (e.g., solar or wind in the middle of the day).
- Processing of IT/OT data at local sites generates insights that can improve decision-making.



Scalability

Even the most visionary of companies cannot fully anticipate all future needs, so they require flexibility to scale rapidly as they grow.

- Industrial digital transformation has far-reaching consequences for people, processes and technology, so it should be executed gradually – as a series of manageable projects prioritized by return on investment (ROI).



Security

As with the cloud, edge security is centralized and delivered consistently across the entire infrastructure.

- As the disciplines of process safety and cybersecurity converge, robust security is essential to protect people and plant assets.



Resilience

Edge deployments provide resilience through remote monitoring, consistent security policies, and deployment of repeatable solutions that boost reliability and availability.

- Companies can save millions by giving experts secure remote access to plant operations so they can make improvements, troubleshoot, and identify best practices at one plant that can be implemented companywide – without incurring travel costs.

Overcoming traditional edge challenges

Deploying, staffing, and managing a large network of edge sites to support industrial digital environments can be challenging and complex for many organizations.

That's where Schneider Electric and Cisco come in as two industry leaders offering hyperconverged solutions that accelerate edge deployments and provide resilience and availability through remote management and power backup. These solutions simplify, standardize and speed your digitization journey with pre-engineered, pre-validated hyperconverged bundles. Upon delivery, solutions are ready for quick, easy integration into existing infrastructure by a partner or the end customer.

Schneider Electric and Cisco hyperconverged bundles set the standard for easy installation and setup.

Whether you're a manufacturer looking to streamline production lines to boost efficiency and reduce waste, an oil and gas company seeking to capture data in real time at remote locations or a mining operation wanting to improve safety by controlling equipment remotely, Schneider and Cisco can get your edge sites quickly up and running. That's what you get with HyperFlex™ Edge solutions that support these types of edge deployments and many more.

Schneider and Cisco hyperconverged solutions deliver:

- Standardized, repeatable solutions for easy deployment
- Physical security and cybersecurity
- Remote monitoring and visibility



EcoStruxure™ Micro Data Center C-Series for Commercial Environments



What the Schneider Electric and Cisco alliance means for you

Edge deployments must be quick, straightforward and replicable across multiple sites. That's what channel partners and end customers need for digitization projects. And it's what the Schneider and Cisco alliance delivers.



Rapid deployment

Pre-validation of converged solutions from Schneider and Cisco accelerate deployment and provide assurance of compatibility and easy integration into data center design. This translates to faster go-to-market strategies and ROI.



Repeatable solutions

Converged infrastructure packages combine multiple IT and physical infrastructure components, such as uninterrupted power supplies from Schneider and Cisco UCS (unified computing system) servers, into a unified plug-and-play package that can be replicated across multiple sites.



Risk-free shipping

Damage to equipment incurred in shipping often leads to significant costs and delays. To safeguard against transportation damage, Schneider and Cisco solutions travel in purpose-designed packaging resistant to impact and vibration.



Integration with existing infrastructure

Besides speedy deployment, Schneider and Cisco bundles are designed for easy integration with existing edge and data center infrastructures, helping to accelerate your time to market.



Downtime prevention

Schneider and Cisco solutions deliver high availability and outage prevention through intelligent monitoring and management with power backup. Systems such as those that support autonomous vehicles cannot tolerate even short data transmission delays or interruptions.

The value of leadership

Schneider Electric and Cisco have a 15-year relationship. The alliance brings together two leaders in their respective markets and drives innovation for channel partners and end users in the industrial space.

Schneider Electric – Leadership and expertise in energy management, automation, and industrial solutions offered with industry-leading, reliable APC power solutions

Cisco – A world leader in IT and the #1 provider of networking and security solutions.

The alliance delivers value in multiple ways:

- Working with partners to deliver excellent products and complete solutions that help solve customer problems and deliver business outcomes
- Running complex operations to boost agility and competitiveness
- Delivering essential solutions that enable customers to adapt quickly to support business growth
- Connecting a large ecosystem of various partners to serve end customers



Peace of mind

Digitization projects involving industrial automation and edge deployments are complex endeavors that can pose risks if not planned and executed properly. The Schneider and Cisco approach removes as much of that risk as possible, from pre-validating solutions that ensure easy integration to shipping equipment in special containers to replicating solutions across large environments.

Speed and simplicity

In the digital era, customers have been conditioned to expect more from technology investments. As a customer, you expect measurable improvements in your operations and customer experience. But you need help to complete your digital journey, and that's where Schneider and Cisco come in. We've done a lot of the hard work so you don't have to. Schneider and Cisco partnered to simplify and accelerate your Industry 4.0 transformation, setting you up for success in the digital future.

Learn how the Schneider Electric and Cisco alliance can help your business thrive.
Discover more.



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