
EcoStruxure
Innovation At Every Level
EcoStruxure Power:
thrive in a digital world.
Explore
Life Is On
Schneider Electric
se.com/us/ecostruxure-power

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A new world of energy is emerging

Our world is increasingly more digital and more electric — with power becoming more distributed, more complex to manage, and more integrated into our everyday lives.

8x
more connected devices than people by 2025
(IDC 2019; GSMA, U.N. population stat)

30B
connected things by 2020
(IHS, March 2016)

2x
worldwide power capacity by 2040
(BNEF, 2017)

30%
of total vehicle stock electric by 2040
(BNEF)

50%
renewable generation by 2040
(BNEF)

Embrace the digital-electric future

This evolution is challenging how we manage our businesses:

- Keeping facility staff and occupants safe is a priority that cannot be compromised.
- Business continuity is equally important. Outages reduce profitability and can threaten an enterprise's very existence.
- An environmentally conscious public expects — or even demands — energy efficiency and sustainability initiatives from its commercial neighbors.
- Safeguarding intellectual property and data from cyber risks demands ongoing vigilance.

Addressing these challenges requires a transformation of the infrastructure that powers facilities.

Fire is the second* leading cause of corporate insurance claims, after natural disasters. Electrical fire contributes to greater than $200M** (€180.1M) in property damage costs.

*Allianz, **NFPA

Power outages cost the U.S. economy about $110B and the EU economy €150B each year.

Berkeley National Labs, Consequences of Poor Power Quality — An Overview — 2011

Between 60 – 80% of buildings, industry, and infrastructure efficiency remains untapped.

World Energy Outlook 2012, OECD / IEA, Internal analysis

31% of organizations have experienced cyberattacks on operational technology infrastructure.

Cisco

Thrive in a digital-electric world

At Schneider Electric™, we embrace the digital revolution and its potential for positive change.

We envision a world where building staff and occupants are safer, with zero electrical safety incidents; where power is 100% available, with zero unplanned downtime; where energy and operations are more efficient, with zero energy waste; and where operational systems are resilient, with zero cyber intrusions.

We strive to make this vision a reality with EcoStruxure™ Power, our IoT-enabled architecture and platform. Delivered through our connected energy management ecosystem of partners and industry experts who are openly collaborating with us to push innovation, enhance productivity, reduce risk, and unlock new growth opportunities.

Maximize the performance of your critical infrastructure by improving ...

Electrical Safety

Power Availability

Efficiency

Balance the risks and benefits of digitization through ...

Cybersecurity

Connectivity

Digital intelligence for facility operations

EcoStruxure Power applications achieve real business results. This is where IoT transcends technology. It's about business outcomes:

Electrical Safety

- Reduce the risk of electrical fires
- Protect maintenance staff and occupants

Power Availability

- Gain resilience with distributed energy resources
- Avoid downtime from electrical failures
- Enhance electrical asset management

Efficiency

- Reduce energy usage and costs
- Improve sustainability and compliance

Cybersecurity

- Ensure resilience to cyberthreats

It is through EcoStruxure Power applications where facility teams …

Connect

Connect everything from shopfloor to top floor

Collect

Capture critical data at every level, from sensor to cloud

Analyze

Convert data into meaningful insights

Take Action

Drive action through real-time information and business logic

Reduce the risk of electrical fires

Striving for zero electrical safety incidents

Mitigate risks in the electrical installation

- Protect from insulation faults, short circuits, and overloading that can lead to fires
- Monitor connection points in electrical equipment

Digitize to manage

- Monitor loading on electrical circuits to respond to overload conditions
- Trend and alarm on connection point temperature rise before a fire occurs
- Reduce or eliminate need for thermographic studies

Analyze to optimize

- Cloud-based analytics to identify patterns and risks
- Notify personnel and proactively plan maintenance

Electrical fires by the numbers +

Protect maintenance staff and occupants

Striving for zero electrical safety incidents

Ensure the installation is protected

- Complete protection of MV and LV distribution with circuit breakers, relays, and safety switches
- Safeguard electrical distribution to reduce risk of electrical shock

Digitize the power system to increase awareness

- Active arc flash protection and operator notification
- Insulation fault protection, monitoring, alarming, and reporting
- Augmented reality and mobile apps to enable better informed operators and equipment maintenance beyond the arc zone

Staff and occupant safety by the numbers +

Gain resilience with distributed energy resources

Striving for zero unplanned downtime

Take control of your energy production

- Protect from insulation faults, short circuits, integrated solar, wind, combined heat and power, diesel generators, batteries, and other forms of energy-distribution resources
- Support different microgrid scenarios, including grid-tied, islandable, and off-grid

Manage energy resources in real-time

- Monitor real-time energy production and consumption
- Manage microgrid scenarios, such as automatic transfer schemes, load sharing, or shedding

Forecast to optimize

- Analyze demand and other factors such as energy cost to avoid peak charges
- Predict when to produce, consume, store, or sell energy

Resilience by the numbers +

Avoid downtime from electrical failures

Downtime costs by the numbers +

Peace of mind for your power distribution

- Complete protection coordination to reduce outage impact

Digital power system to enhance visibility

- Ensure operations and maintenance staff are always aware of electrical distribution status
- Monitor and correct power quality conditions that could lead to equipment failure or nuisance tripping
- Restore power in event of failure with root cause analysis and mobile app restoration guidance tools

Analytics to provide you decision support

- Analyze and optimize electrical distribution health using analytics and expert services to maximize uptime

Enhance electrical asset management

Striving for zero unplanned downtime

Asset management by the numbers +

Go paperless and simplify your life

- Simple QR code with all equipment asset documentation
- Easily manage asset maintenance lifecycle with digital maintenance logbook

Become more strategic about maintenance

- Monitor, alarm, and report on electrical asset conditions such as breaker status and aging
- Preventative and predictive analytics, notifications, and maintenance recommendations to optimize asset lifetime
- On-site field services to support your maintenance tasks

Reduce energy usage and costs

Striving for zero energy waste

Energy costs by the numbers +

Raise energy awareness

- Complete measurement plan to visualize energy from main incomer to sub-metered loads

Improve energy performance

- Monitor, trend, and report energy usage from main incomer to load
- Verify energy bills are correct, and challenge utility on errors
- Allocate energy costs to buildings, departments, or processes to identify targets for energy conservation projects
- Model and normalize energy usage with operational or process context and verify savings from energy improvements

Ensure quality data foundation

- Analyze your system to identify data quality issues and find gaps in your data to improve decision making

Improve sustainability and compliance

Striving for zero energy waste

Minimize impact with green products

- The Green Premium EcoLabel™ indicates product environmental information, including regulatory compliance and end-of-life instructions
- Energy-efficient electrical design support and active management systems help achieve building certifications (e.g., LEED)

Streamline sustainability reporting

- Monitor energy and convert kWh to CO_2 KPIs to track reduction performance
- Monitor backup power system testing and operational parameters to report to regulatory authorities
- Comprehensive and certified energy data management system in accordance with ISO50001

Energy costs by the numbers +

Ensure resilience to cyber threats

Striving for zero cyber intrusions impacting operations

A first line of defense

- Use products developed following the Secure Development Lifecycle
- Ensure certified products have cybersecurity features that are in accordance with global standard IEC® 62443

Cybersecurity by the numbers +

Ensure cybersecurity defense in depth

- Manage all aspects of a cybersecurity strategy — people, process, and technology — to assess risk level
- Design and implement cybersecurity solutions by OT security experts, supported by a network of partners
- Monitor, detect, and respond to cyber risks during the operations phase of the system

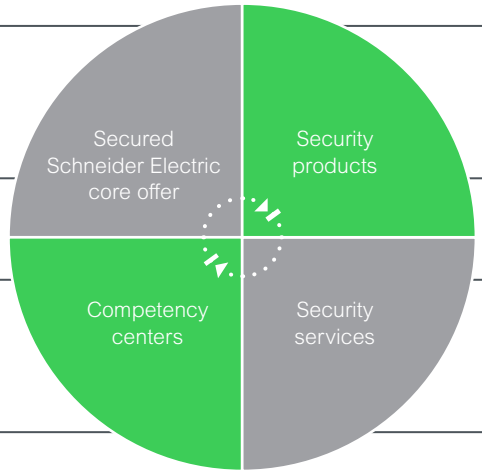
The best defense

Schneider Electric has adopted a “defense in depth” strategy to prevent or minimize cyberattacks. This multi-pronged defense system adheres to IEC® 62443 standards, and it involves the creation of a multi-layered and multi-technology strategy to safeguard critical systems.

Our 360° Cybersecurity Solutions

Required to provide competitive and reliable products and platforms

Security products interoperable with core offering — best-of-breed partnership ecosystem



Centralize security knowledge and have interoperable security solutions

End-to-end consulting, integration, maintenance, and managed services worldwide

ISO 27000

IEC 62443

ISA 99

Cybersecurity is in our product and software DNA:

EcoStruxure Asset Advisor

EcoStruxure Power Advisor

EcoStruxure Power Monitoring Expert

EcoStruxure Power SCADA Operation

Cybersecurity services

The defense in depth strategy is not just an implementation tool, but a holistic security approach. We don't just safeguard, but assess, manage, and monitor your systems with the help of Schneider Electric's Portfolio Lifecycle Methodology.

The power to improve any business

Our segment-oriented EcoStruxure Power architectures help our customers manage fully compliant, flexible, and scalable power systems — capable of meeting their needs today, and future-ready to support their evolving demands.

Data Center	Hospitals	Food & Beverage	Large Hotels	Automotive	Semi-conductor	Large Buildings	Oil & Gas	Process Industry

Proven technologies for any business

EcoStruxure Power is an IoT-enabled architecture and platform that digitizes and simplifies medium- and low-voltage electrical distribution systems. It leverages the most advanced measurement, sensing, mobility, cloud, analytics, and cybersecurity technologies to enable real-time management and control of all energy-related processes.

Open and Interoperable

Cost-optimized and Scalable

Flexible

EcoStruxure Power – your complete solution

Innovation at every level for a connected, three-tiered system

At the core of all the EcoStruxure Power solutions are three interwoven levels of innovation: connected products, edge control, and apps, analytics, and services. Continously communicating in real time within a cybersecure environment, they give you complete visibilty to optimize your network.

EcoStruxure™ Innovation At Every Level **Power**

Connected products for smarter operations

Our connected products collect and send information via the internet of things for a readily accessible flow of actionable information. Drive better decision-making by pulling real-time data from your devices, equipment, and network for a complete view of what's happening with your power at any given time. Modular and interoperable, connected products enable more effective management and control at the edge.

MV Switchgear	ATS	MV/LV Transformer	UPS	LV Switchgear	Harmonic Filters	Panelboard / Switchboard

+ Easergy P3
+ Easergy TH110
+ PowerLogic ION9000
+ EcoStruxure Power Device
+ VAMP Arc Flash Protection

+ Easergy TH110

+ PowerLogic PM8000
+ MasterPact MTZ
+ EcoStruxure Power Device
+ PowerLogic PM5000
+ ComPact NSX/NSXm

+ ComPact NSX/NSXm
+ PowerTag

This is only a sample of the EcoStruxure Ready connected products applicable for an EcoStruxure Power architecture.

Edge control for actionable intelligence

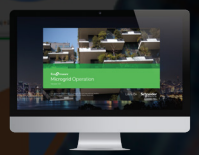
The electrical power management system (EPMS) is the “brains” of a digital power system, providing both real-time and historical analysis on the current state and overall health of the electrical distribution infrastructure.

An EcoStruxure Power architecture gathers data from the connected products and operations to deliver the full promise and potential of IoT. For example, you can track equipment and maintenance activity to reduce downtime, energy use, and maintenance costs while also improving site planning by revealing additional capacity.

You can only manage what you measure, so the more details you provide the system, the better equipped you will be to make decisions that impact your operations.

EcoStruxure
Power Monitoring Expert

EcoStruxure
Power SCADA Operation



EcoStruxure
Facility Expert

Analytics-based services maximize data value

Managing modern power distribution requires a skilled workforce with comprehensive knowledge, but many industries are challenged with the loss of in-house expertise and resources due to retiring staff and tighter operating budgets.

Our dedicated experts use advanced, cloud-based analytics tools to help you discover additional insights and solve issues before they become problems that impact your operations.

EcoStruxure
Asset Advisor

EcoStruxure
Power Advisor

EcoXperts: here to help

Domain expertise — anywhere power is critical

Critical Power EcoXperts have proven expertise in deploying power management systems, employing advanced metering networks, managing power quality, and using best-in-class software tools to help clients operating large buildings and critical facilities manage energy costs, improve electrical system reliability, and optimize electrical equipment performance.

Trained and certified by Schneider Electric, EcoXpert™ partners are the implementation arms of EcoStruxure, pioneering the future of intelligent buildings and IoT, to deliver smarter, integrated, and more efficient services and solutions to our customers.

Discover the value of our EcoXpert program

Connected people and technologies

Powering greater design, engineering, and deployment efficiency

Schneider Electric helps you lead the digital transformation for power with:

- An industry-leading, comprehensive technology portfolio
- A vast wealth of domain knowledge, experience, and expertise
- A collaborative, multi-local partner ecosystem with the global reach, regional expertise, and local representation necessary to facilitate integrated project delivery.

EcoStruxure Power enables a connected project lifecycle featuring greater design and engineering productivity, simpler installation and commissioning, and digital systems that are compliant to the wide range of standards influencing the industry.

The power to streamline every project

Paradigm shift in building design

Creating new opportunities

Reduced document errors and omissions	**61%**
Reduced rework	**36%**
Reduced construction cost	**30%**
Reduced project duration	**22%**
Fewer claims/litigation	**17%**

Source: The Value of BIM for Owners: Save Time and Money During the Building Lifecycle, Autodesk, 2014

Increase productivity through collaboration

Create. Collaborate. Scale.

Schneider Electric Exchange: The world's first cross-industry open ecosystem dedicated to solving real-world sustainability and efficiency challenges. Schneider Electric Exchange brings together experts and innovators to leverage the power of collective intelligence within a dynamic, single workspace.

Join Exchange

Get more done.

mySchneider Partner Portal:

Access a wealth of technical documentation, prescription materials, project reference designs, exclusive white papers, training, dedicated support, and digital tools.

Discover mySchneider

Simplify workload and expedite projects with digital tools

EcoStruxure Customer Lifecycle Software brings together a set of easy-to-use digital tools built on the EcoStruxure platform. With applications covering design through installation and beyond, EcoStruxure Customer Lifecycle Software is a new way to bring innovation, productivity, and simplicity to any project phase.

EcoStruxure Power Design

With EcoStruxure Power Design, consulting engineers are better able to engineer safe, reliable, and future-ready solutions that meet or exceed standards. Secure project lead time, control costs, and save time and money.

EcoStruxure Power Build

With EcoStruxure Power Build, panel builders can increase their productivity, building quality switchboards faster and more easily incorporating the latest technologies.

EcoStruxure Power Comission

With EcoStruxure Power Commission, panel builders and contractors can deliver a new level of reliability when they install and commission a system, testing and validating architectures with relative ease.

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Learn more about EcoStruxure Power

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