



EcoStruxure™
Innovation At Every Level

EcoStruxure Power:
thrive in a digital world.

Life Is On

Schneider
Electric

se.com/ecostruxure-power

Table of contents



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)

175_{ZB}

Amount of
data generated
by 2025

(*IDC, 2018)

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 its occupants are safer, with zero electrical safety incidents;
- Power is 100% available, with zero unplanned downtime;
- Energy and operations are more efficient, with zero energy waste;
- 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 that digitizes and simplifies your electrical distribution infrastructure:

- Get real-time situational awareness of your entire power system and receive actionable business intelligence;
- Have predictive, condition-based information at your fingertips to improve maintenance effectiveness;
- Receive expert recommendations and tools to optimize the performance of your critical equipment.

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

Efficiency

- Reduce energy usage and costs
- Improve sustainability and compliance

Power Availability

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

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

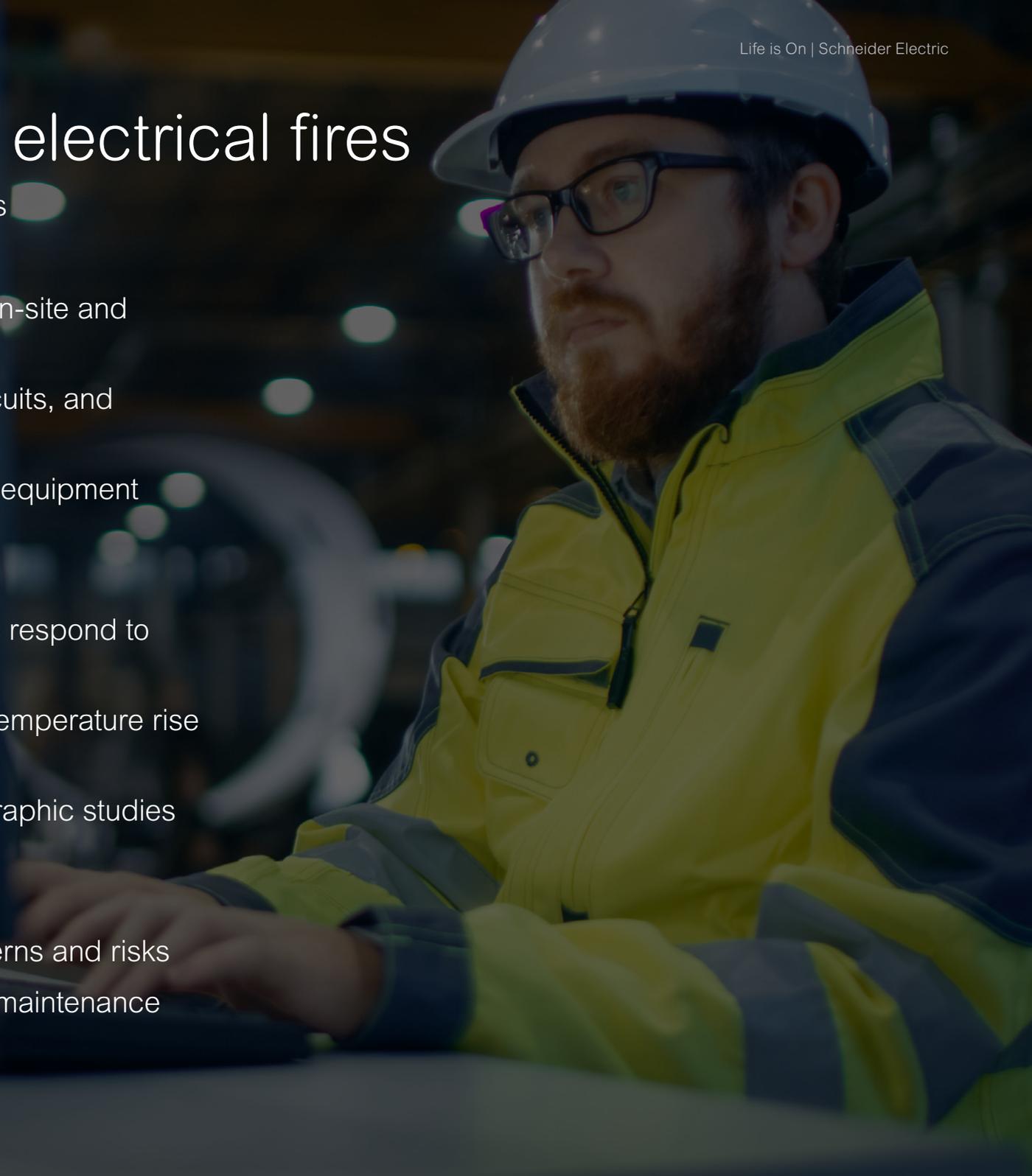
- Minimize electrical fire incidents with on-site and remote audits
- Protect from insulation faults, short circuits, and overloading that can lead to fires
- Monitor connection points in electrical equipment

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



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

Train maintenance staff on electrical risks

- Electrical Risk Prevention e-Learning
- Operator training simulators
- Immersive training with haptic virtual reality
- Prepare your team for the unexpected

Gain resilience with distributed energy resources

Striving for zero unplanned downtime

Take control of your energy production

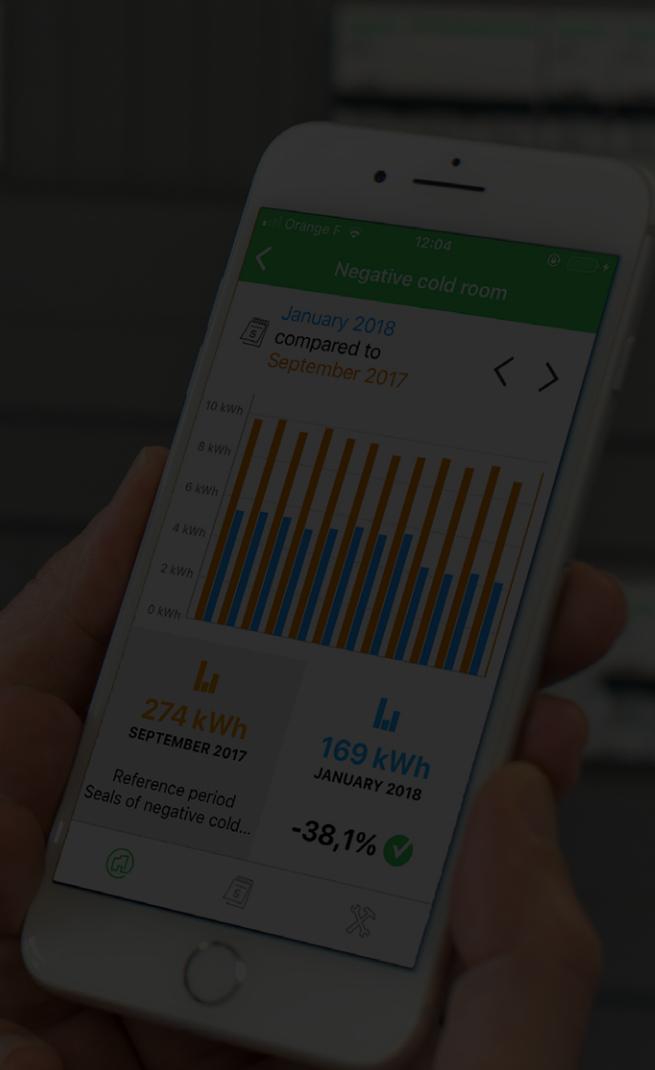
- Protect from insulation faults, short circuits, integrated solar, wind, combined heat and power, diesel generators, batteries, and other forms of energy-distribution resources
- Support different microgrid scenarios, including grid-tied, islandable, and off-grid

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



Avoid downtime from electrical failures

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

- Optimize system health using analytics
- 24/7 support and recommendations from electrical distribution specialists



Enhance electrical asset management

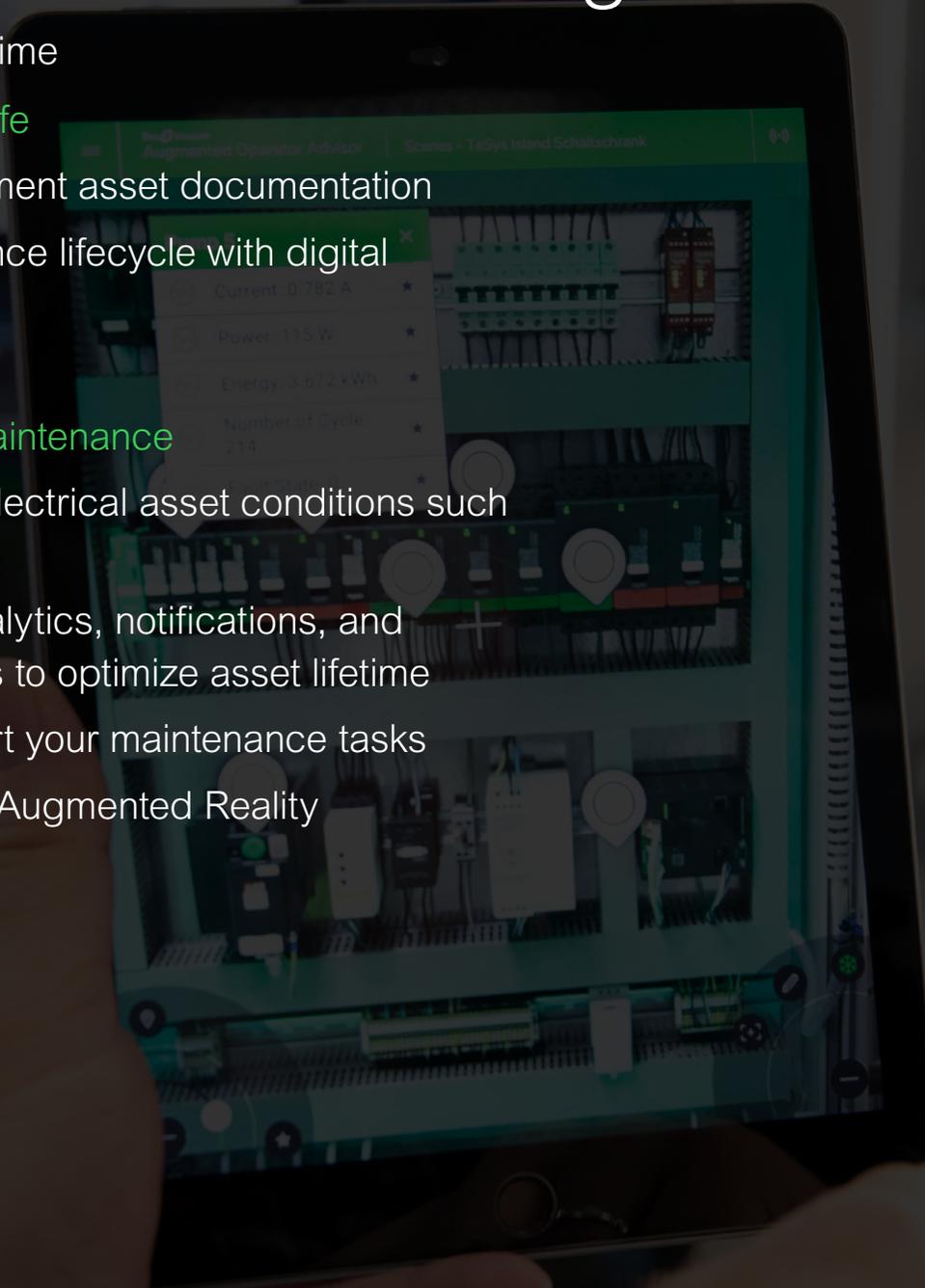
Striving for zero unplanned downtime

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
- Diagnose issues remotely with Augmented Reality Remote Expertise



Reduce energy usage and costs

Striving for zero energy waste

Raise energy awareness

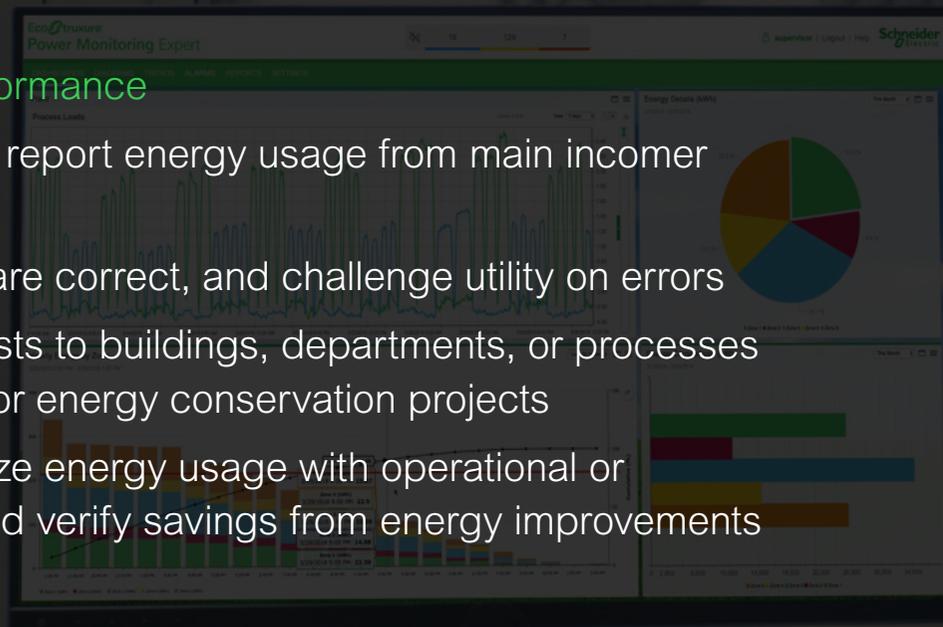
- Complete measurement plan to visualize energy from main incomer to sub-metered loads

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 your carbon footprint

- 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)
- Processing of obsolete equipment and closed-process SF6 recycling or destruction
- Sustainable modernization approach: replace only active electrical components

Streamline sustainability reporting

- Monitor energy and convert kWh to CO₂ 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



Ensure resilience to cyber threats

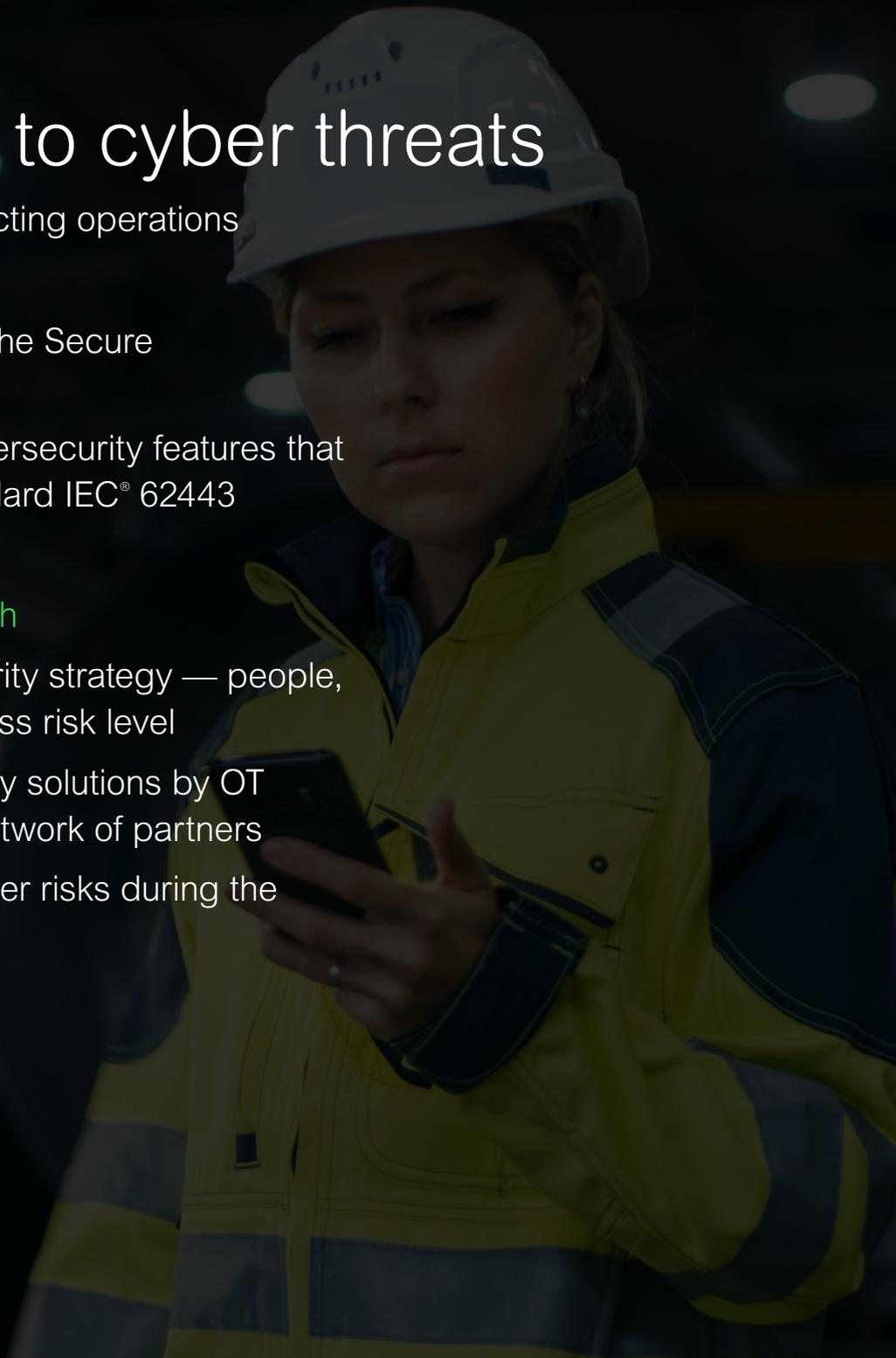
Striving for zero cyber intrusions impacting operations

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

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

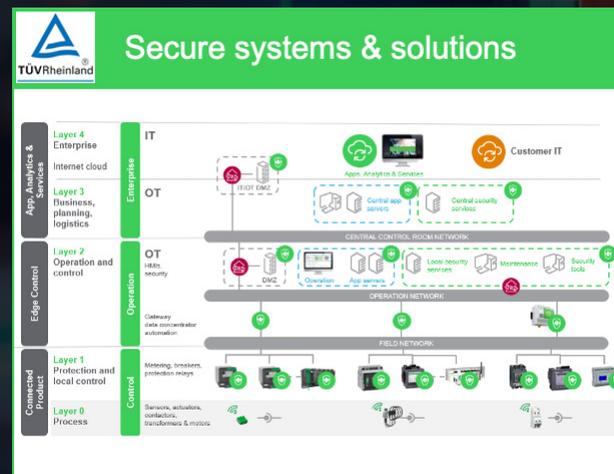


Securing digital power distribution systems

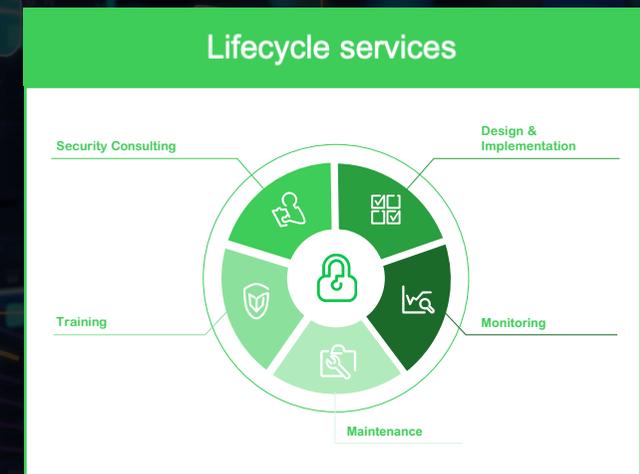
Schneider Electric has adopted a “defense in depth” strategy to prevent or minimize cyberattacks.



Certified products developed according to IEC 62243 functional requirements with Secure Development Lifecycle processes.



Certified secure system architecture according to IEC 62443-3-3 with documented processes and solutions. System configuration software for consistent security policy deployment.



Consulting services from design, implementation, operations and maintenance to tailor your security solutions with your strategy and budget.

Secure Development Lifecycle

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.



[Explore our customer success stories](#)

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. Continuously communicating in real time within a cybersecure environment, they give you complete visibility to optimize your network.



Connected products for smarter operations

Our connected products are devices with native and systematic connectivity to the internet of things. Drive better decision-making with 24/7 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 are an enabler of effective management and efficient operations, including edge- or cloud-connected control and monitoring.



Click to open / close the connected products to learn more. This is only a small sample, and their location can vary in an actual 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
Facility Expert



EcoStruxure
Power Monitoring Expert



EcoStruxure
EcoStruxure Power
Operation



EcoStruxure
Microgrid Operation



EcoStruxure
Power Automation System

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



EcoStruxure
Microgrid Advisor

Meet your goals safely and efficiently

Schneider Electric is your trusted advisor that helps you increase asset reliability, improve your total cost of ownership, and drive your enterprise's digital transformation towards sustainability, efficiency and safety.

Improve business resiliency

With industry-leading remote monitoring and a global base of experts, we can help you maintain and upgrade your critical assets.

[See us in action](#)

Maximize uptime. Go digital!

With expert support, 24/7 monitoring, and predictive maintenance plans, your installed asset base will see new levels of performance and efficiency.

[Learn more](#)

Digitized modernization is the new norm for business continuity

As critical infrastructure ages, it is more likely to fail. We can help extend the life of your critical equipment with our exclusive ECOFIT solutions. Avoid major shutdowns by proactive and predictive maintenance and reach a new level of risk management.

[Discover how](#)

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 expertise and experience
- A multi-local partner ecosystem with global reach, regional insight, and local representation

An EcoStruxure Power solution enhances the project lifecycle through greater design and engineering efficiency, simpler installation and commissioning, and compliance to the wide range of standards influencing the industry.

Together with our technology & channel partners, and other industry experts, we are openly collaborating to push innovation, enhance productivity, reduce risk, and unlock new growth opportunities.

The power to streamline every project

Paradigm shift in building design



Integrated Project Delivery

+



Digitization

Creating new opportunities



Innovation and Productivity



Risk and Cost

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

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.

[Learn more](#)



EcoStruxure Power Build

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

[For LV Panels](#) | [For MV Panels](#)



EcoStruxure Power Commission

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.

[Learn more](#)

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](#)



Collaborate

EcoXpert

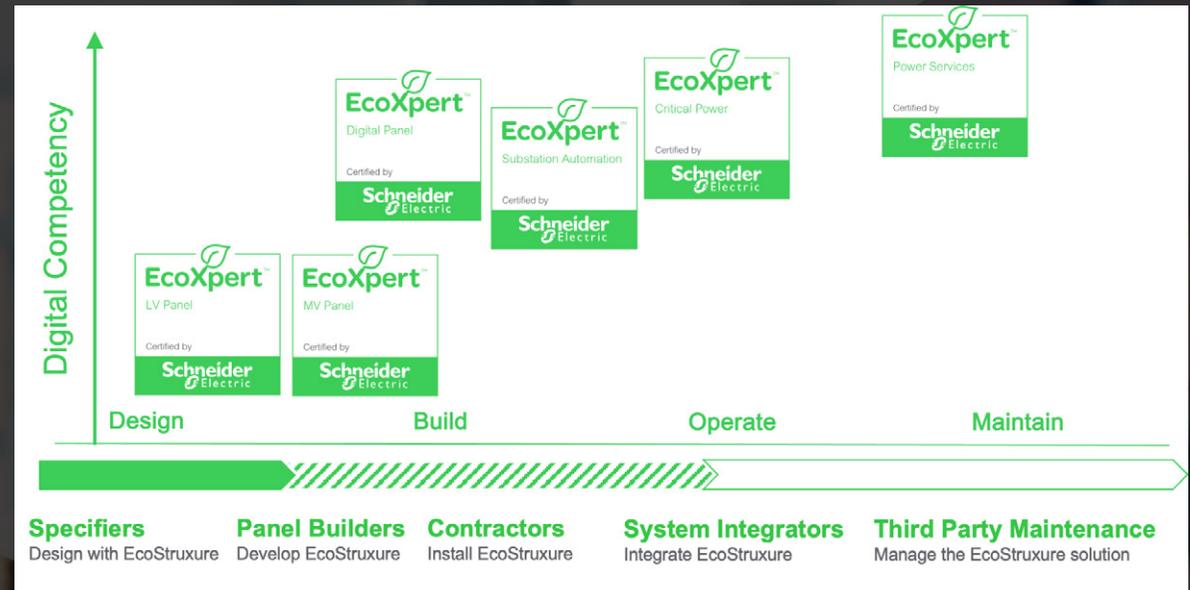
Certified Expertise in Power

EcoXpert is a partner program defined by competency certifications that enable our channel partners to shift their focus from **product lifecycles to customer lifecycles**.

Design to Build: LV & MV EcoXpert certified partners develop and manufacturer the latest technology in electrical distribution switchgear and panels. Our Digital Panel EcoXpert partners can take these connected panels to the next level with augmented interfaces to improve operator interaction as well as equipment performance and maintenance tracking.

Operate & Maintain: Both operational and cost performance are critical for an electrical distribution network. Critical Power and Substation Automation EcoXpert partners integrate software at the edge to ensure optimal management and control of the network. Power Services EcoXpert partners help deliver the full lifecycle of the solution through advanced analytics and field services to maintain network resiliency.

Discover the value of our [EcoXpert program](#)



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Learn more about EcoStruxure Power

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