

# The power of a SCADA uniquely designed for critical power management

EcoStruxure™ Power Operation

[se.com/power-operation](https://se.com/power-operation)



Life Is On

Schneider  
Electric



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# Discover Power Operation



# One single SCADA platform for Medium and Low Voltage networks

No matter the size or complexity of your electrical system, you need reliable power 24/7. Every second of downtime in a power-critical facility means business interruption, financial loss and unsafe conditions. Your team requires the ability to react and correct issues immediately for every potential risk.

EcoStruxure™ Power Operation is a SCADA system uniquely designed to help large electrical distribution applications in facilities like data centers, industrials, airports and electro-intensive operations maximize uptime, unite their Medium and Low Voltage networks and integrate mechanical monitoring.

With rich data integration from connected devices, Power Operation's unique capabilities provide real-time situational awareness and offer a high performant, cyber-resilient solution for your specialized power network.



Power Operation is the single-platform edge control for complete MV/LV power system management. [Watch the video](#)

# Purpose-built platform adapts to your complex electrical networks

Maximize business continuity and performance with EcoStruxure Power Operation, and ensure operators and application engineers have the insights and data they need to make critical decisions at the right time:

**Support safer operations** and safeguard people and assets by ensuring a reliable, functional network

**Ensure power availability** via Power Events Analysis using analytics and automation to perform root cause analysis 3x times faster than process automation SCADA's and building management systems

**Improve efficiency** by providing a single platform to monitor and control Medium and Low Voltage networks as well as mechanical assets

**Protect against cybersecurity threats** via platform certified to IEC 62443 4-1 and IEC 62443 4-2 at Service Level 2 (SL2)

**Empower operators** and reduce the chance of operator error via integration with electrical Digital Twin model.

**Improve sustainably** by reducing energy usage and saving costs, third-party certified to ISO50001 standards



# Perfect for your business



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Choose a segment below to see what Power Operation can do for your facility.



## Transportation



Critical infrastructure networks such as air, rail and port transportation are complex. They need the speed and control of a high-performant SCADA system to reduce outages while increasing power system safely and reliably.

EcoStruxure Power Operation software architecture is designed to be open, scalable and easily integrated into existing critical systems. Track real-time and historic data, manage maintenance schedules and monitor facilities, assets and power network functionality to ensure maximum uptime.



# Perfect for your business

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 Industry



Power quality and reliability is a critical component of a profitable and competitive production line. Power Operation reduces the risk of poor power quality and reliability and helps ensure optimized operations. Use the intuitive HMI to analyze alarms in context of electrical one-lines for fast root cause analysis. Secure, operator-dedicated, multi-user data offers customized user interfaces and can be fully optimized to your operational work flow, improving operator efficiency.

Optimize facility energy performance, ensure energy efficiency compliance, and make the smarter, faster decisions that affect your overall profitability.



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## Data Centers



Just one-hour of downtime can easily cost a data center \$1M. Energy costs can consume up to 50% of a typical data center’s operating budget. Power Operation offers single platform to monitor and control Medium and Low Power systems along with your mechanical cooling assets.

With real-time management, KPI reporting and sophisticated trend and alarm analysis, Power Operation reveals unused capacity and helps avoid unplanned downtime. Robust cybersecurity protocols comply with IEC 62443 4-2 SL2 to protect against disruptions from external threats.



# Perfect for your business

Choose a segment below to see what Power Operation can do for your facility.



Energies and  
Chemicals



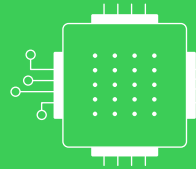
The Energies and Chemicals industry is under tremendous pressure to reduce costs, optimize asset performance and improve its environmental footprint while maintaining safety and reliability. Designed for these always-on critical power environments, EcoStruxure Power Operation helps reduce downtime caused by outages, unexpected standstills and maintenance.

The SCADA platform for Medium and Low Voltage networks improves situational awareness and provides fast analysis that reduces the time required for your operators and engineers to return to normal operations. Maximize ROI and minimize environmental impacts for greater efficiencies and cost savings.



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Semiconductor



The same megatrends promising significant growth to the semiconductor industry – IoT, energy efficiency targets and machine learning, for example – also require the highest level of energy stability and power quality.

EcoStruxure Power Operation helps maintain this level of quality and stability, automating SEMI F47 voltage sag reports and helping prevent future episodes with natural language descriptions of past events, disturbance direction detection (DDD) and load loss detection (LLD). Reduce the financial risks that could threaten operations and reliability.



# Meet any challenge

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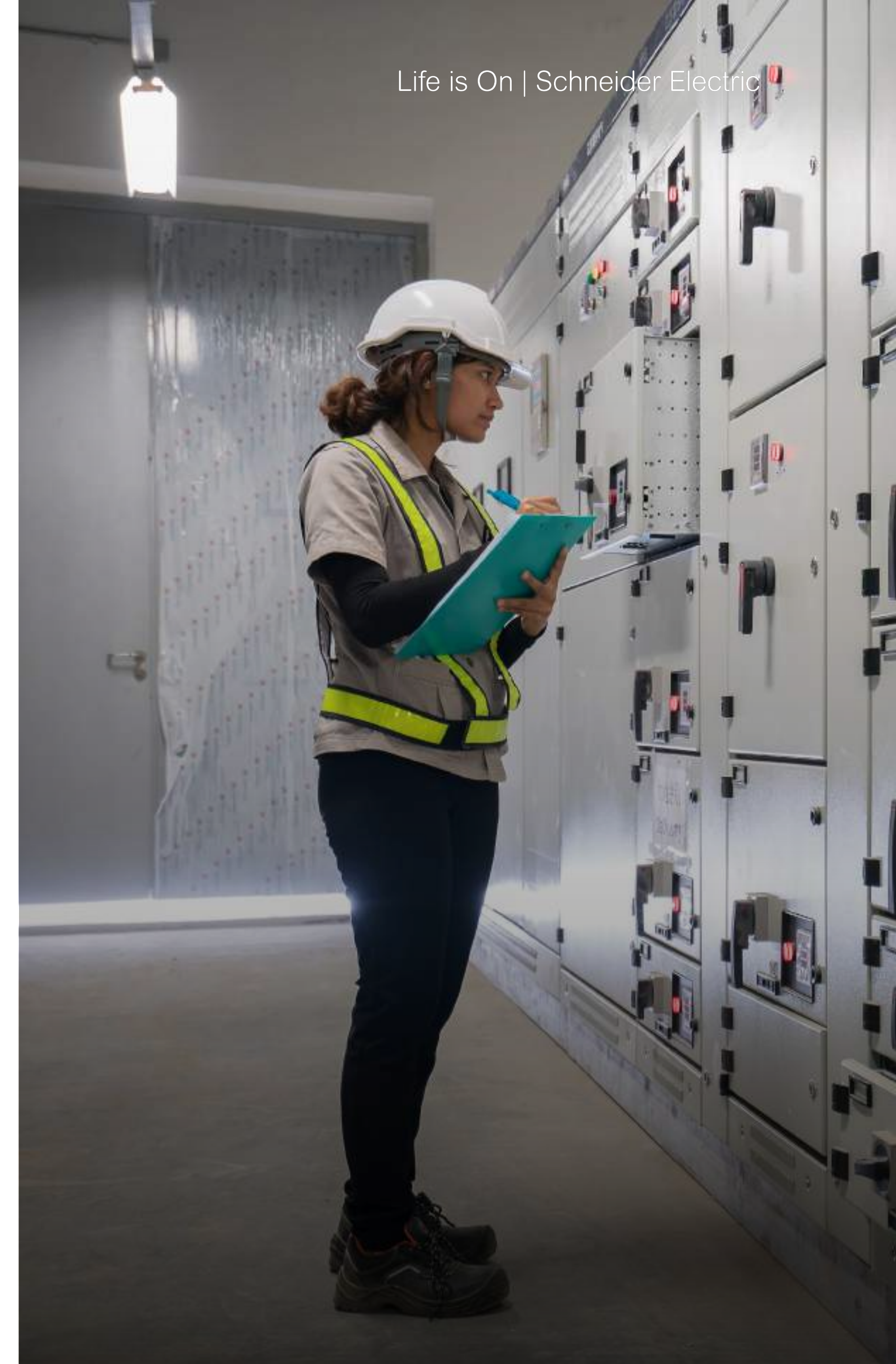




# Digital substation modeling

Future-proof technologies like IEC 61850 help digitize, design, configure and maintain power grids. With third-party certified IEC 61850 compliance, Power Operation unites Medium and Low Voltage power control and integrates mechanical monitoring to simplify operational efficiency.

- Interoperability and compliance to IEC 61850 with third-party DNV-GL certification
- Digital substation modeling helps lower installation and commissioning costs
- Faster, more reliable and repeatable commissioning and deployment with Top Down IEC 61850-compliant engineering
- Highly repeatable, faster MV system delivery with single-source MV system configuration of software and connected products (via integration with EcoStruxure Power Automation System Engineering or third-party IEC 61850 System Configuration Tools)

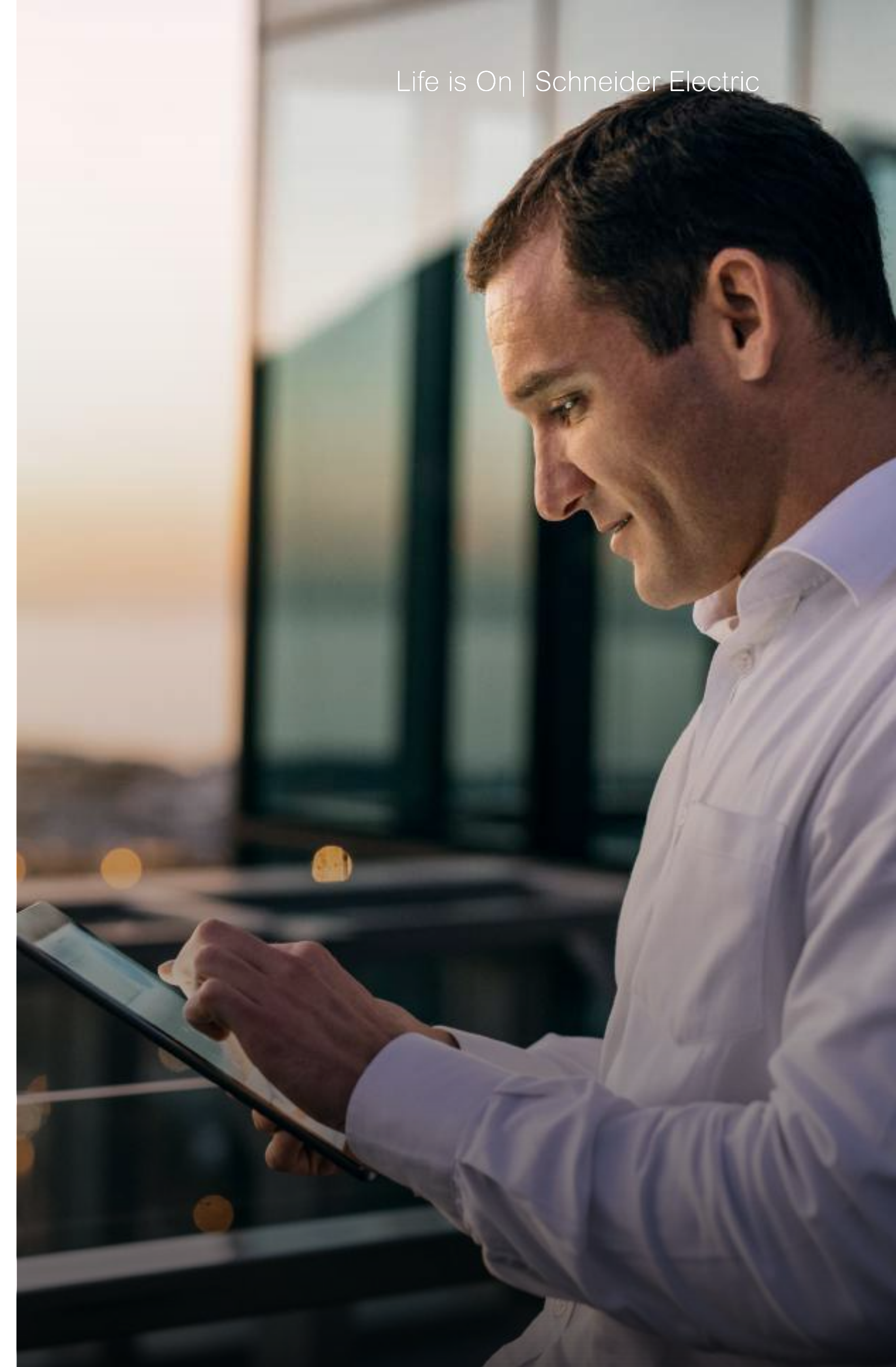




# Modern HMI

A connected HMI improves situational awareness and turns data into useful information. Native web client capabilities allow operators to have remote connectivity to access the system anytime, anywhere and from any modern web browser.

- Access system via any HTML5 compliant web browser including Chrome, Firefox, Edge and Safari
- Modern vector-based graphics maintain clear image quality as operators pan and zoom to see additional information about their systems
- Faster deployments via built-in, comprehensive graphic libraries for both Power and Building Management
- Animated electrical one-lines supporting the most complex multi-source electrical systems
- Multi-language support, including English, French, Simplified Chinese, Spanish, Portuguese, Swedish, Russian, Norwegian, German and Italian
- Quickly access system graphics, alarms, trends, reports and dashboards from the web browser
- Flexible and configurable user experience to fit exacting needs of operators
- Dark mode to reduce screen glare, improve readability and reduce eye strain





# Cybersecurity and IT Compliance

Protecting your supervisory control and data acquisition network is essential. A malicious cyber-attack can have dire consequences for the infrastructure, and robust cybersecurity is needed to protect against disruptions from external threats.\* Power Operation helps mitigate these risks and ensure IT compliance.

- Product certified with IEC 62443 4-2 at Service Level 2 (SL2) and product development processes certified with IEC 62443 4-1
- IT compliant software licensing technology ideal for virtual machines as well as physical machines
- Support for both IPv4 and IPv6
- Central tool for managing Role Based Access Control (RBAC) across Power Operation and other connected products in the system via EcoStruxure Cybersecurity Admin Expert
- Part of the IEC 62443 3-3 certified system, along with other Schneider Electric products
- Manage users via Windows Active Directory integration
- Support for multi-factor authentication

\* International Cybersecurity Operational Technology (OT) standard with various levels of robustness against cyber threats





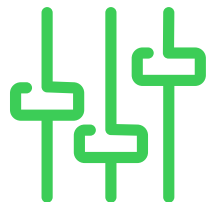
# Open Platform Connectivity

Connecting disparate systems to share information can be challenging. Often, they use different coding languages or communication protocols. Middleware helps bridge the gap, but development can be difficult. Power Operation’s ‘Smart Connector’ capabilities meet this demand for more insight and control, integrating with other systems and ensuring high-quality, customized solutions that expand the potential of EcoStruxure.

- Industrialized ‘[Smart Connector](#)’ framework helps simplify and accelerate integration with third-party systems or other data sources
- Integrates with third-party systems quickly to facilitate agile business adaptations when required

Learn more about Smart Connector

▶ [Click here](#)



| Protocols for Connected Products   |                      | Protocols for Data Exchange |
|------------------------------------|----------------------|-----------------------------|
| IEC 61850 Ed. 1 & Ed. 2 MMS client | DNP3.0 UDP client    | OPC UA 1.01 client          |
| Modbus TCP/IP client               | DNP3.0 Serial master | OPC UA server               |
| Modbus RTU master                  | BACnet/IP client     | OPC DA 2.0 server           |
| IEC 61870-5-104 client             | SNMP 2.0             | OPC DA 2.0 client           |
| DNP3.0 TCP/IP client               | ION client           |                             |



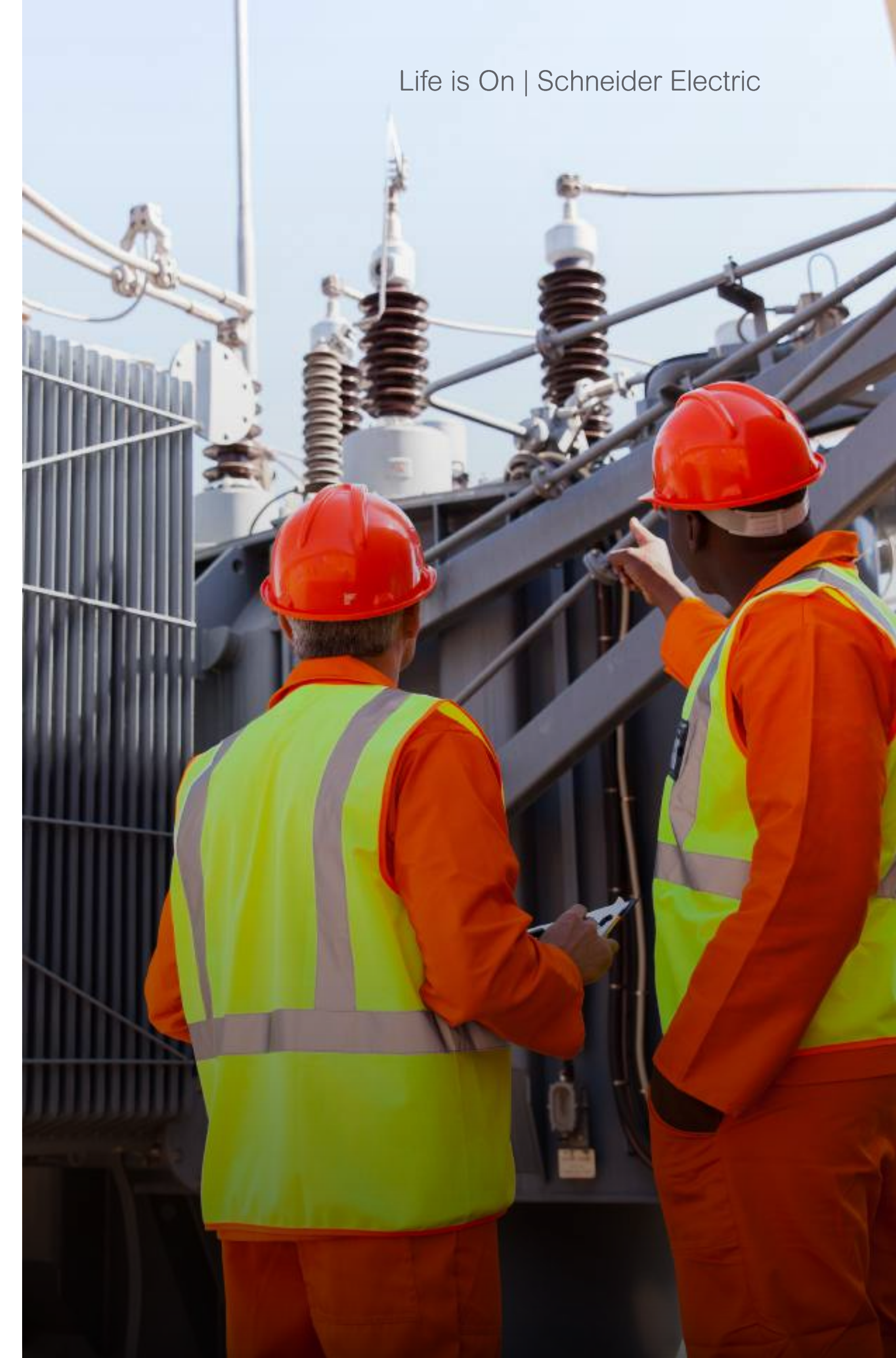


# Power Events Analysis

Operators need to understand the root cause and impact of cascading and chronic power system events and use this information to reconstruct events, respond appropriately and determine cause to prevent potential issues in the future. Earlier forensic analysis tools and techniques often became a time-consuming project.

Building on years of innovation, machine learning, analytics and automation to determine potential root cause three times (3x) faster than process automation SCADA systems.

- Faster cause identification via analytics providing potential cause descriptions of various Power Quality events eliminating need to manually interpret electrical waveforms
- Disturbance Direction Detection (DDD) to identify location of PQ events in your system using power quality meters
- Load Loss Detection (LLD) help operators prioritize investigation efforts by understanding amount of impact of events on the system
- Shelve alarms or groups of alarms for a period of time, or disable alarm(s) entirely
- Faster issue detection by automatically grouping related alarms "Smart Power Alarms"





# Lower total cost of ownership

As a capital investment, Power Operation offers long-term value over its lifetime. Engineered to maintain operational efficiency and maximize business continuity, the platform helps reduce deployment costs, ease data migration and speed the onboarding of new users.

- Publicly available, online virtual technical training targeted at both application engineers and power users
- Faster onboarding
- Online web help
- De-cluttering, graphics reuse add to efficiency features
- Graphics migration tools
- One-line diagrams launched from alarm view
- Simplified licensing



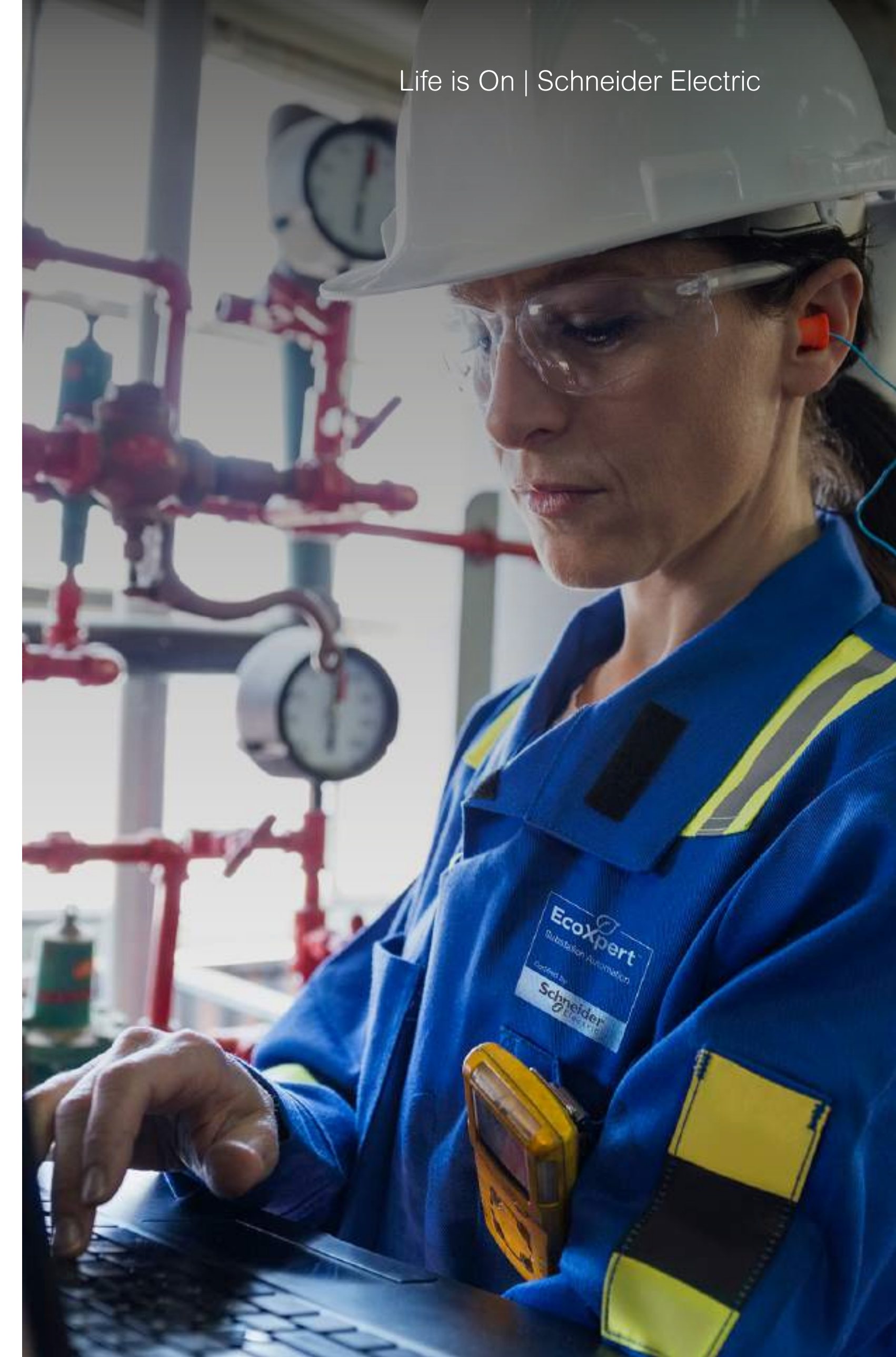


# Go further with EcoStruxure



# A network of certified innovators

Working with partners we trust is as important to us as it is to our customers. EcoXperts deliver innovative and sustainable solutions, through integrated technology and digitization, to our shared customers. Trained and certified by Schneider Electric, our ecosystem of EcoXpert partners provide best-in-class services and digital solutions that will exceed your expectations.



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# Digital Services

Reduce maintenance costs and maximize system uptime with real-time data on infrastructure performance. Get actionable predictive maintenance information that protects your customers, safeguards your reputation and minimizes financial impact.

- Optimize energy efficiency and reduce energy-related costs
- Reduce downtime from network issues or equipment failure
- Improve predictive maintenance and reduce reactive maintenance issues





# Field Services

Our Field Services professionals ensure minimized downtime while meeting all safety standards, maximizing your ROI. Utilize our extensive experience in asset management, to increase your business value, power reliability, and quality.

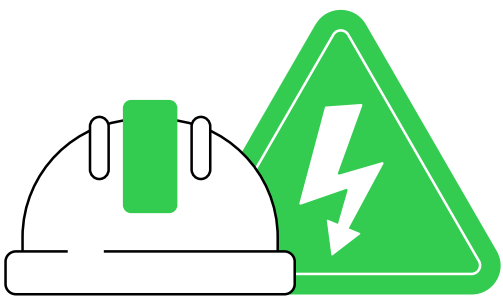
- **Asset reliability** to optimize day-to-day operations and ensure business continuity.
- **Operational efficiency** to maximize equipment life and achieve peak performance.
- **Trusted partnership** so you can rely on our on-site and remote experts to assess and support your installation.





# EcoStruxure innovation at every level

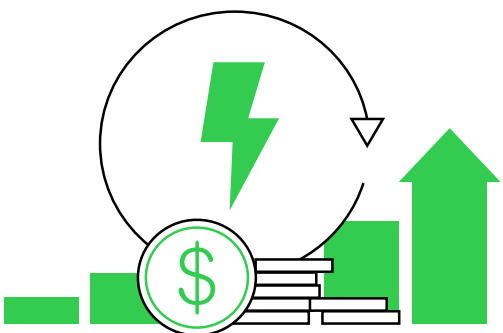
EcoStruxure is Schneider Electric’s IoT-enabled, plug-and-play, open, interoperable architecture and platform that unites Power and Building Management with connected devices, edge control software and digital services for enhanced productivity and improved resilience.



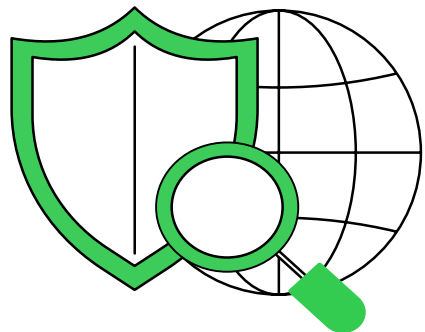
**Safe**  
Helps ensure safe delivery and operation of clean, reliable power systems



**Available**  
Enhance electrical asset management and avoid electrical downtime.



**Efficient**  
Reduce energy usage and costs, and improve sustainability and compliance.

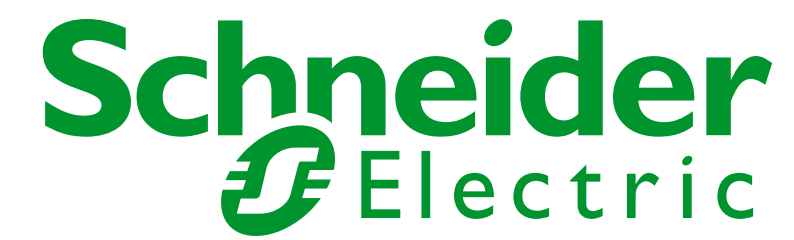


**Cybersecure**  
Helps ensure resilience to cyber threats that impact business operations.





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To learn more information about Schneider Electric  
**power management and control**, visit



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