



Unlock the potential of the new digital grid >

EcoStruxure™ Grid

[se.com/ecostruxure-grid](https://se.com/ecostruxure-grid)

Life Is On

**Schneider**  
Electric



- > Tackle Your Grid's Challenges
- > Discover EcoStruxure Grid
- > Connected Products
- > Edge Control
- > Apps, Analytics and Services

# Tackle Your Grid's Challenges

**Grid  
Challenges**

Ecostruxure  
Grid

Connected  
Products

Edge  
Control

Apps, Analytics  
and Services



# The changing world of energy

With the rise of microgrids, prosumers, and energy aggregators, the business landscape for electricity companies is rapidly changing, disrupting the traditional utility model. This means greater business uncertainties, operational issues, and digital challenges.

On a granular level, this shift brings a number of new needs and tasks, such as: achieving a successful distributed energy resource (DER)\* integration, implementing smart meters, processing large amounts of data, cutting network losses, optimizing asset management, and better protecting the grid against cyber-attacks.

\* DER = behind and above the meter, distribution connected:  
Any kind of distributed generation, any kind of storage (including EV charging), flexible loads (for demand response)



# Modernize your electric distribution utility

Smart electric grids are vital to success in the new energy landscape. While centralized power generation will remain critical, DERs are becoming increasingly important for overall energy security.

This reality presents distribution systems operators (DSOs) with a number of challenges in grid efficiency and demand management.

It means they have an important role to play as an enabler and balancer of power transfers, and is one of the reasons that microgrids are becoming more and more popular.

Thankfully, Schneider Electric solutions enable you to get the most from microgrids, while turning the challenges into opportunities.



Grid  
Challenges



Ecostruxure  
Grid

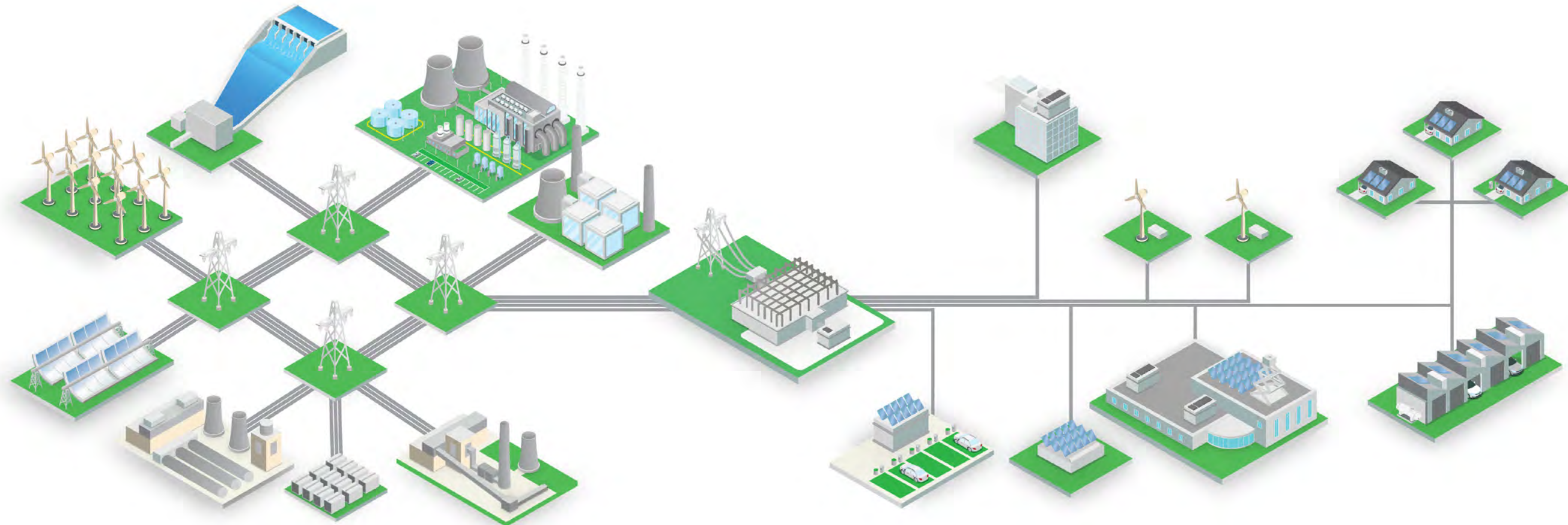
Connected  
Products

Edge  
Control

Apps, Analytics  
and Services



# Digitize for a smarter, decentralized grid



**Grid  
Challenges**



Ecostruxure  
Grid

Connected  
Products

Edge  
Control

Apps, Analytics  
and Services



# Discover EcoStruxure Grid

Grid  
Challenges

**Ecostruxure  
Grid**

Connected  
Products

Edge  
Control

Apps, Analytics  
and Services



# Meet EcoStruxure Grid

Although the digital transformation presents challenges to your business, it also provides you with major opportunities.

Our solutions, backed by [EcoStruxure Grid](#), help you make the most of your data, integrate new, connected technologies, and better serve your customers.

Part of EcoStruxure – our open, interoperable, IoT-enabled system architecture and platform – EcoStruxure Grid delivers IoT solutions across three critical layers:

- Connected Products
- Edge Control
- Apps, Analytics and Services

This unified approach provides more value than a more traditional network of isolated devices and is covered by end-to-end cybersecurity.



Grid  
Challenges

**Ecostruxure  
Grid**

Connected  
Products

Edge  
Control

Apps, Analytics  
and Services





# EcoStruxure™ Grid

Innovation At Every Level





# Connected Products

Grid  
Challenges

Ecostruxure  
Grid

**Connected  
Products**

Edge  
Control

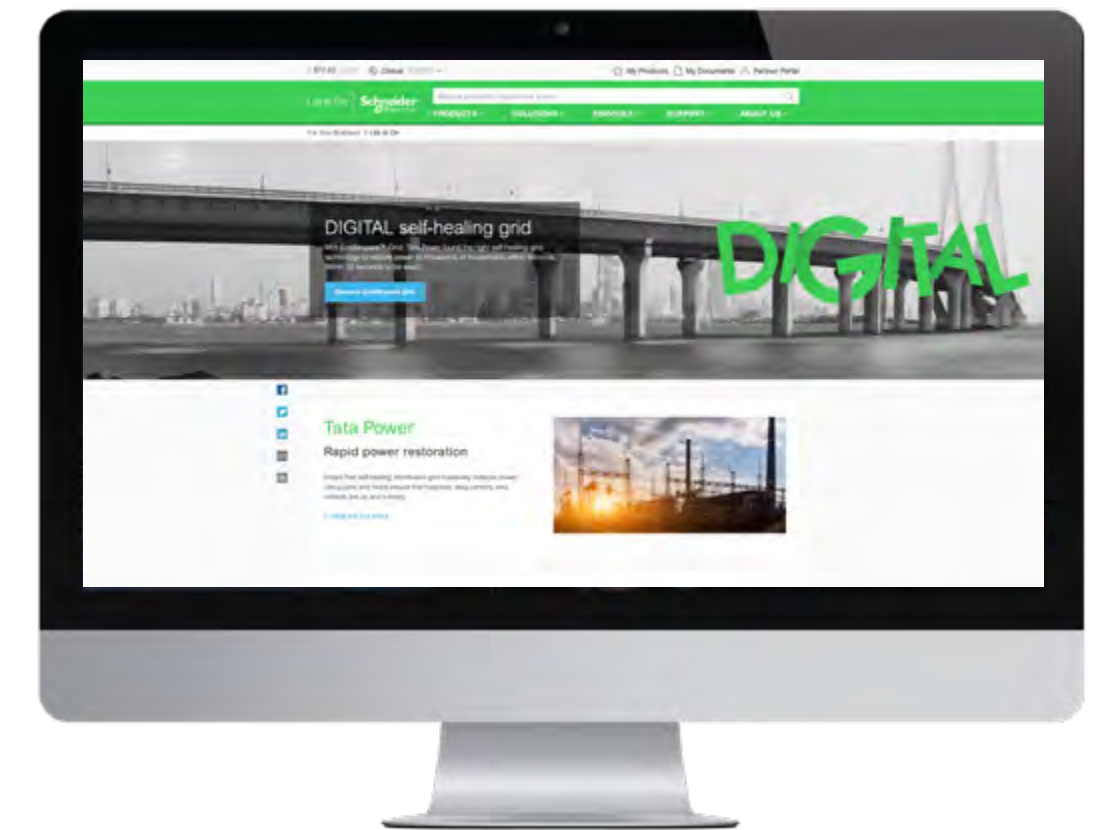
Apps, Analytics  
and Services



# Start your IoT journey with Connected Products

From protection relays, remote terminals, and ring main units, to switchgear and transformers, EcoStruxure Grid's Connected Products feature built-in cybersecurity and offer digital capabilities such as sensing, connectivity, and mobile operations to bring your network into the world of the IoT.

- With sensing capabilities added to EcoStruxure-ready products, you can collect data 24/7 that will help you improve asset condition knowledge and prevent outages.
- Advanced connectivity gives you nearby control and remote monitoring for simpler, safer operation.
- What's more, you can connect to mobile control applications or take advantage of augmented reality on wearable devices.



**Tata Power's** self-healing grid uses EcoStruxure Grid to massively reduce power restoration time.

[Check out the story!](#)

Grid  
Challenges

Ecostruxure  
Grid

**Connected  
Products**

Edge  
Control

Apps, Analytics  
and Services



# Easergy P5

The [Easergy P5 protection relay](#) is designed for demanding medium-voltage applications. It offers enhanced safety, security, reliability, and connectivity. Additionally, it can be used with a range of digital tools that make everyday operations simpler. It gives you:

- Built-in arc flash protection
- Latest cybersecurity
- Withdrawable design for quicker maintenance and 10-minute recovery time
- The ability to extend the lifetime of your substation equipment
- Powerful operation with digital tools



Part of the PowerLogic series of connected devices

Grid  
Challenges

Ecostruxure  
Grid

**Connected  
Products**

Edge  
Control

Apps, Analytics  
and Services



# Easergy T300

The [Easergy T300 remote terminal unit \(RTU\)](#) is a modular platform of hardware and firmware and an application building block for medium-voltage and low-voltage public distribution network management. It helps:

- Minimize supply interruptions with advanced fault detection
- Reduce SAIDI outage duration index
- Optimize network performance and volt-VAR management
- Reduce operational costs
- Simplify installation, commissioning, and maintenance
- Increase substation cybersecurity



Part of the PowerLogic series of connected devices

# RM6 Connected

**RM6 Connected** is a smart gas-insulated ring main unit (RMU) for underground secondary distribution applications, up to 24 kV. It combines all medium-voltage functional units to enable the connection, supply, and protection of transformers or feeders on an open ring or radial network. It offers:

- Nearby control and monitoring for simpler and safer operations
- Transformer protection with a circuit breaker
- Simplified maintenance for reduced network downtime
- Ease of installation and full interoperability
- Compliance to latest cybersecurity standards, when used with Easergy T300



# MCSets Connected

**MCSets Connected** is an indoor **MV switchgear** range for primary distribution applications up to 17.5 kV. It provides a well-known design with innovative solutions and cubicles designed and tested for internal arc resistance. With MCSets Connected, you get:

- High-level protection, with each section isolated by earthed metal partitions
- Interlocking to reduce risks
- Reduced maintenance time
- Condition monitoring for equipment health visibility
- Nearby control and monitoring for simpler and safer operation



Grid  
Challenges

Ecostruxure  
Grid

**Connected  
Products**

Edge  
Control

Apps, Analytics  
and Services



# Minera Connected

**Minera Connected** is a range of oil-immersed distribution transformers (ODT), with rated power from 50 kVA up to 3,150 kVA, and rated voltage up to 36 kV. Minera transformers feature high versatility throughout the range, best-in-class reliability and quality, and long service life. In addition, connected features integrate a set of innovative solutions, increasing safety for both operators and assets, offering:

- Temperature / oil / pressure monitoring
- Increased asset management efficiency to reduce unplanned downtime and enable schedule-based maintenance
- 24/7 connectivity for easier, better decision making
- Options for connected solutions at greenfield and brownfield facilities



Grid  
Challenges

Ecostruxure  
Grid

**Connected  
Products**

Edge  
Control

Apps, Analytics  
and Services







# Edge Control

Grid  
Challenges

Ecostruxure  
Grid

Connected  
Products

**Edge  
Control**

Apps, Analytics  
and Services



# Boost your grid operations with real-time Edge Control

Ranging from low voltage to high voltage, EcoStruxure Grid's Edge Control systems encompass solutions for substation automation, distribution automation, smart metering, and microgrids.

With real-time monitoring and control capabilities, Edge Control systems collect, refine, and process data from Connected Products to enhance management of grid, microgrid, and assets.

EcoStruxure-ready Edge Control offers are compliant with open communication and data standards to ensure interoperability with existing infrastructures and to smoothly support future evolutions of a digitized grid.



EcoStruxure Substation Operation, a digital control system for substation automation, helps the **Gibraltar Electricity Authority** achieve greater stability and reliability for its network.

[Check out the story!](#)

Grid Challenges

Ecostruxure Grid

Connected Products

**Edge Control**

Apps, Analytics and Services



# EcoStruxure Substation Operation

[EcoStruxure Substation Operation](#) is a digital substation control system, which operates on IEC 61850. It enables a more efficient design, operation, and maintenance of transmission and distribution substations. The system also helps provide long-term cybersecurity to your electrical installations. Other benefits include:

- Increased uptime and situational awareness
- Improved operational security
- CapEx and OpEx savings thanks to:
  - IEC 61850 standard compliance
  - Efficient engineering techniques and tools
  - Intuitive maintenance

## 1,600+

EcoStruxure Substation Operation systems installed worldwide



Grid  
Challenges

Ecostruxure  
Grid

Connected  
Products

**Edge  
Control**

Apps, Analytics  
and Services





# Apps, Analytics and Services

Grid  
Challenges

Ecostruxure  
Grid

Connected  
Products

Edge  
Control

**Apps, Analytics  
and Services**



# Make the most of the IoT with Apps, Analytics, and Services

EcoStruxure Grid's Apps, Analytics and Services dramatically improve grid reliability, efficiency, and the ability to integrate the growing number of DERs. When it comes to demand-side management, the solutions enable the optimization of microgrid resources and more efficient customer support.

Our portfolio of Apps, Analytics and Services is based on open standards allowing the integration of third-party applications and/or edge control systems – supporting online or offline operations.

With EcoStruxure Grid's powerful machine learning and AI technologies, you get next-generation performance and insight for activities such as predictive maintenance, LV network analysis, DER generation, and demand forecasting.



EcoStruxure ADMS helped **SA Power Networks** restore electricity for 1.5 million households after environmental power outages.

[See how!](#)

Grid  
Challenges

Ecostruxure  
Grid

Connected  
Products

Edge  
Control

**Apps, Analytics  
and Services**



# EcoStruxure ADMS and EcoStruxure DERMS

**EcoStruxure ADMS** offers an integrated network management solution, including monitoring, analysis, control, optimization, planning, and training tools that all function on a common representation of the entire electric distribution network. EcoStruxure DERMS models and deals with all connected DERs to deliver advanced DER management capabilities. With this fully-integrated, unified approach for network management with a unique data model, you get the following benefits:

- Improved total cost of ownership
- Greater reliability of network operations
- Decreased peak demand and power losses
- Reduced outage time for customers
- Better performance indicators
- Boosted utilization of network facilities



Grid  
Challenges

Ecostruxure  
Grid

Connected  
Products

Edge  
Control

**Apps, Analytics  
and Services**



# EcoStruxure ArcFM

**EcoStruxure ArcFM** is a comprehensive enterprise geographic information system (GIS) platform built specifically for electricity companies to better plan, design, and operate their grid infrastructures.

With this highly resilient, consolidated work management solution, you get:

- Centralized and more secure asset repository
- An intuitive interface and tools for efficient processes
- Greater field crew support with mobile apps

This means you benefit from:

- A streamlined engineering process
- High-quality asset data
- Improved SAIDI



Grid  
Challenges

Ecostruxure  
Grid

Connected  
Products

Edge  
Control

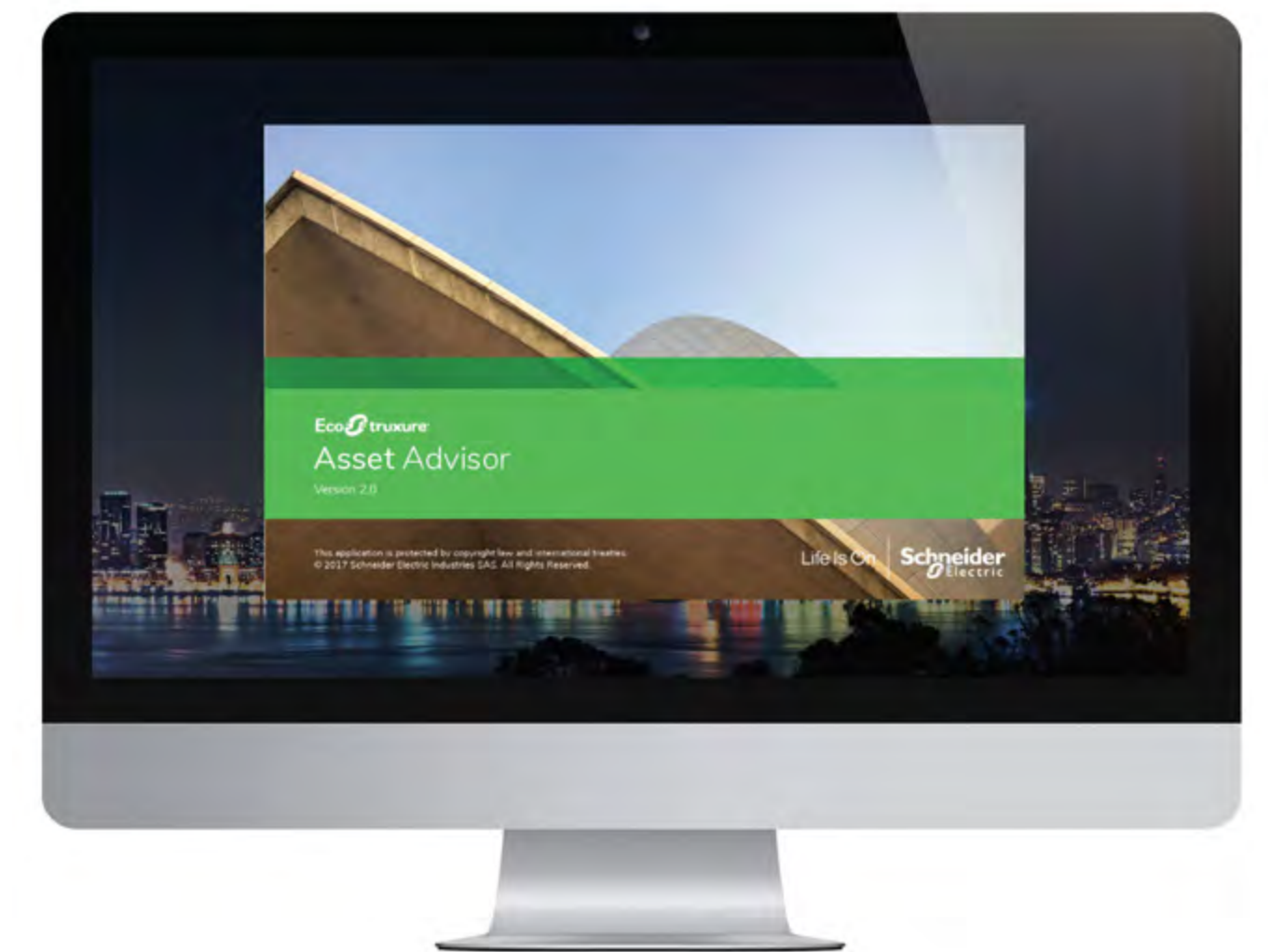
**Apps, Analytics  
and Services**



# EcoStruxure Asset Advisor

[EcoStruxure Asset Advisor](#) brings a proactive approach to electrical distribution, combining IoT and cloud-based technologies with Schneider Electric's expertise and services. It enables proactive maintenance, with the ability to anticipate and address issues before they become critical incidents. Your benefits include:

- Maximized return on assets
- Increased asset availability and workforce efficiency
- Proactive/predictive maintenance and planning
- Improved reliability and risk management
- Greater resource optimization and planning
- Mobility with contextual information on any device



Grid  
Challenges

Ecostruxure  
Grid

Connected  
Products

Edge  
Control

**Apps, Analytics  
and Services**





# EcoStruxure Microgrid Advisor

[EcoStruxure Microgrid Advisor](#) is a cloud-based, demand-side energy management software platform that allows you to collect data to forecast and automatically optimize the operation of distributed energy resources using predictive analytics. It advises you when to consume, produce, or store energy for maximum results. Microgrid Advisor features:

- Greener operation, saving money while improving reliability

So you get:

- Clear communication of real-time savings, earnings, and CO<sub>2</sub> emissions data
- Incorporated weather forecasts, historical DER data, real-time tariff rates, demand response requests, and site-specific operating constraints for dynamic scheduling
- Automatic default operation mode schedules for greater system reliability



Grid  
Challenges

Ecostruxure  
Grid

Connected  
Products

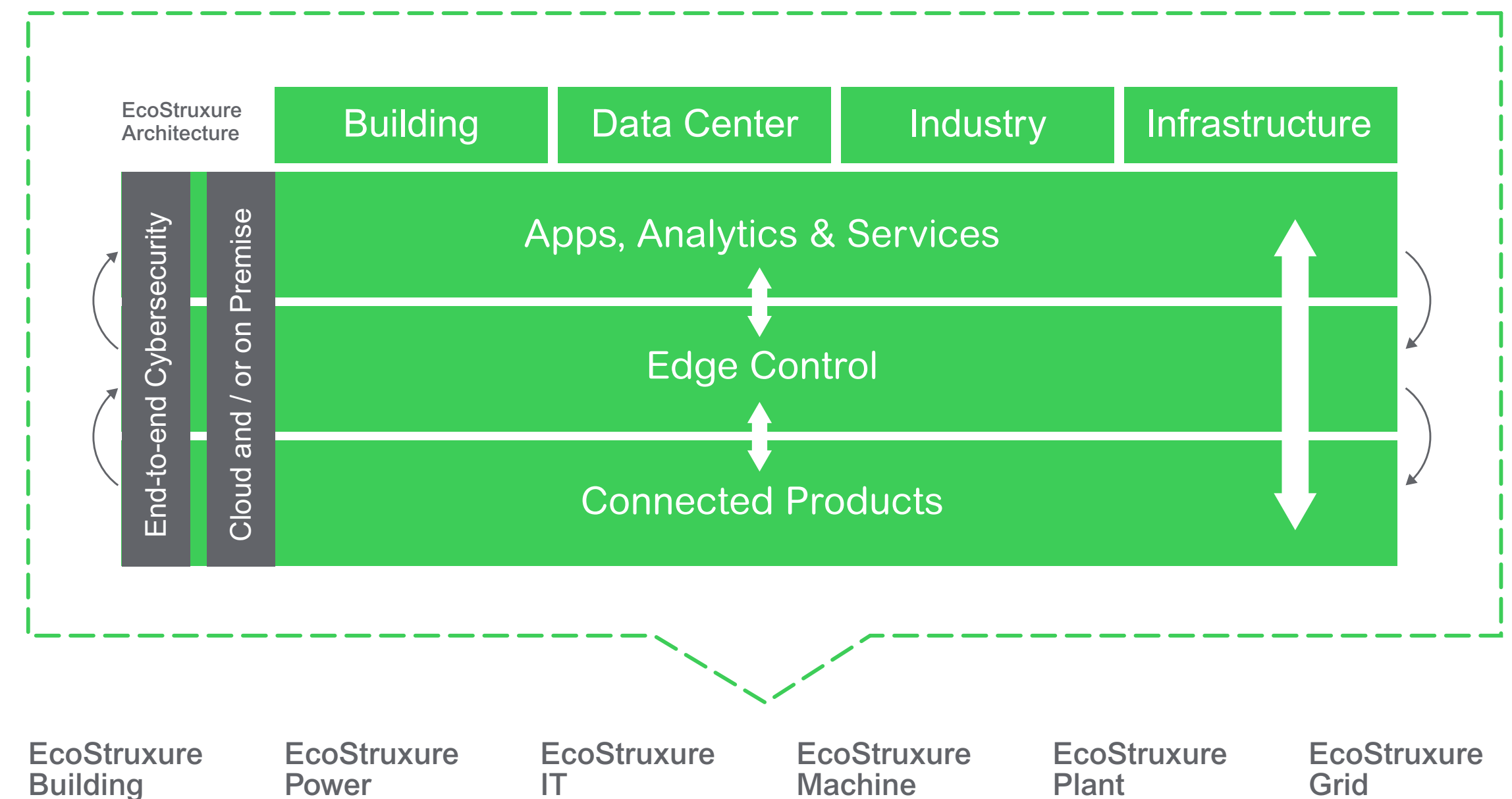
Edge  
Control

**Apps, Analytics  
and Services**



# IoT-enabled solutions that drive operational and energy efficiency

EcoStruxure is an interoperable technology platform and architecture that brings together connected products, edge control, and apps, analytics, and services. By providing enhanced value around safety, reliability, efficiency, sustainability, and connectivity, it opens up the digital world to users across key end markets, enabling them to be competitive in today's IoT economy.



Life Is On



EcoStruxure Grid gives you everything you need to make your grid smarter, safer, and more reliable. To find out more, visit:

[se.com/ecostruxure-grid](https://se.com/ecostruxure-grid)

**Schneider Electric**

35 rue Joseph Monier  
92500 Rueil-Malmaison, France  
Tel : +33 (0)1 41 29 70 00

© 2019 Schneider Electric. All Rights Reserved. Schneider Electric | Life Is On, Easergy, and EcoStruxure are trademarks and the property of Schneider Electric SE, its subsidiaries and affiliated companies. All other trademarks are the property of their respective owners. • 998-20383727

