

# Accelerate your grid digitization with smart RMUs

A range of connected ring main units with scalable smart-grid functionality,  
from basic to advanced levels

[se.com/smart-rmu](https://se.com/smart-rmu)



Life Is On

**Schneider**  
Electric

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An innovative solution for customers in the following sectors:



Utilities



Airports



Marine



Water &  
Wastewater



Data centers



Buildings



Wind



Solar

# Introducing smart RMUs

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smart RMUs



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Technical  
specifications



# Introducing the New Electric World

The consumption of electricity will double in the next 20 years, and people are investing in electricity because it allows decarbonization.

The New Electric World improves overall system through digital technologies and is more decentralized because it is powered by distributed renewable energy sources and storage systems.

As a result, the way electricity is being generated and consumed is changing significantly.

As well as a huge opportunity, this presents a great challenge for electricity companies. Utility distribution system operators (DSOs) must act more like transmission system operators (TSOs). They are required to balance the output of multiple distributed energy resources (DERs) against transmission-supplied baseloads using new grid technologies that support a two-way flow of both electricity and data.

## CO<sub>2</sub>

emissions need to be halved by 2040

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## 85%

of CO<sub>2</sub> emissions are related to energy

Source: IEA 2013

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## 2x

electricity demand in the next 20 years

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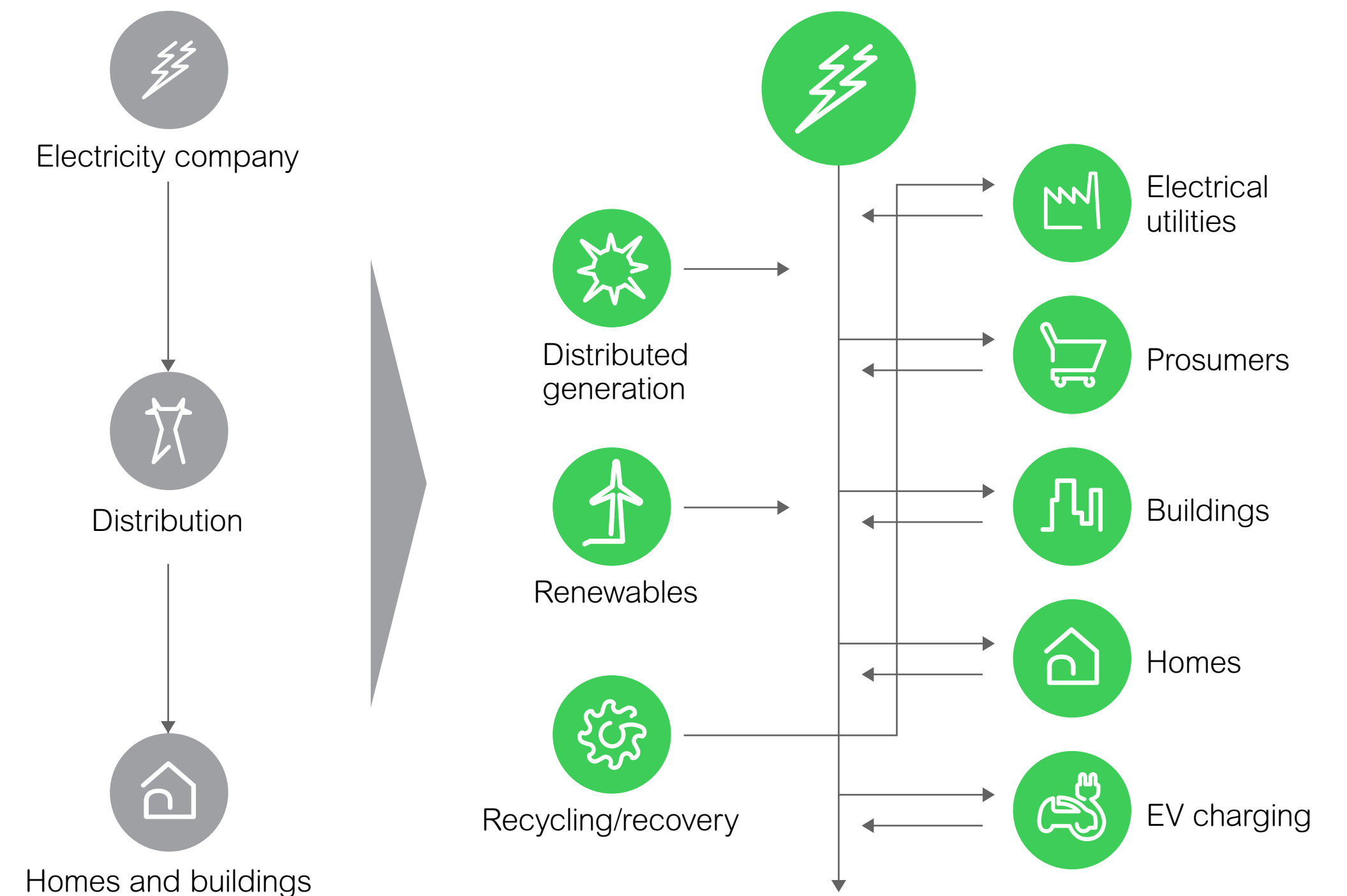
# Welcome to the modern grid

In this New Electric World, the grid is changing from its more traditional structure to a more decentralized modern model. This means network management is becoming increasingly complex. While tackling this grid-evolution challenge, operators need to ensure safe, reliable energy at optimal costs.

A challenge, yes, but managed properly, this transition also brings new opportunities. As every business is different, Schneider Electric offers future-ready grid management solutions tailored to your needs, helping you bring innovation to every level of your operations.

Whether your electrical distribution network runs overhead or underground, our simple, flexible, and digital solutions help you to easily manage DERs and control loads as well as optimize CapEx and OpEx.

The outcome? A smoother transition to a future-ready grid – whatever size your business.



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# Best-in-class RMUs

Built on decades of electrical distribution experience, Schneider's smart ring main units (RMU) are tested to provide increased safety and reliability – even in the harshest environments, and feature:

- Embedded safety features, such as rotating arc technology\* and visible earthing contact
- Standard or custom metal enclosures for indoor or outdoor\* installation
- Compliance with the latest IEC standards and cybersecurity requirements
- Smart-grid ready sensors, indicators, relays, and automation

A smart RMU helps to optimize your application for the modern grid, with features to improve power availability and quality, while helping to manage costs and boost efficiency.

\* Available for Ringmaster and RM6

## A world leader in RMUs for 40+ years

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1975

Our first outdoor oil-filled RMU

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1980

Our first RMU with gas insulation to reduce installation size

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2018

More than 2.5 M RMUs installed to date

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2019

IoT-connected RMUs with scalable connectivity

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# Our proven RMUs become smarter



RM6  
2,000,000+  
Modules installed



FBX  
350,000+  
Modules installed



Ringmaster  
100,000+  
Modules installed

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# Address your modern grid challenges

The modern grid presents a wide variety of challenges, from network planning to equipment maintenance.

## Distributed energy resource integration

- Impact on planning and operations
- New regulation and practices

## More active customers

- Prosumers, communities, microgrids, etc.
- Impact on power quality

## Operational efficiency

- Reliability (SAIDI and SAIFI), losses, customer satisfaction, investment, OpEx, affordability

## Digital transformation

- IT / OT integration readiness
- Cybersecurity



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# Discover the right level of connectivity

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# Discover your smart RMU with scalable connectivity

The smart RMU is an innovative solution that makes it easier for you to answer the evolving challenges of secondary electrical distribution.

Building on our proven RMUs, Schneider Electric's smart devices are seamlessly integrated with intelligent sensors and automation.

Our solutions, backed by EcoStruxure™ Grid, enable you to manage your data, integrate new, connected technologies, and better serve your customers.

Customizable to your needs, the smart RMU offers three levels of connectivity:

## Enabled

- Take the first step into the world of EcoStruxure

## Enabled Plus\*

- Widen your connections with Edge Control

## Advanced

- Maximized benefits in one integrated solution

\*Under development

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# Smart RMU Enabled

Our entry-level offer helps improve everyday equipment maintenance and reduce OpEx costs. It features wireless thermal sensors and a smartphone app to replace infra-red thermal scanning. Additionally, it enables early detection of conditions that can result in electrical connection failures, fires, arc flashes, or worse.

## Reduce operation and maintenance expenditures

- Increase service continuity, simply detect hot-spots earlier and prevent from downtime
- Optimize maintenance costs, providing the right maintenance activity at the right time
- Monitor substation equipment for preventive maintenance or optimized asset management
- Extend the service life of your equipment with flexible, modular and interoperable solutions



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# Smart RMU Advanced

Our fully-optimized and integrated advanced-level offer for metering, condition monitoring, and fault detection.

## Reduce operation and maintenance expenditures

- Fault detection including directional networks, broken phases and neutral LV cutout
- Automate network reconfigurations
- Measurement in real time for Volt / VAR optimization
- Optimize power flow and power quality

## Optimize your networks for increased demand

- 24/7 Condition Monitoring enables less site visits and longer service life
- Load/flow analytics help identify losses, and manage load shedding
- Helps secure local and SCADA access with IEC 62351 / IEEE 1686 compliance



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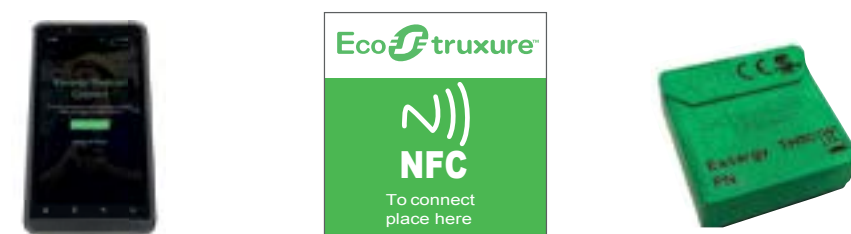
Technical specifications



# Scalable to your needs

## Smart RMU Enabled

An efficient and cost-effective alternative to thermal scanning.



Condition monitoring

## Smart RMU Advanced

A fully-integrated solution, providing optimum connectivity benefits in a single box.



Easergy T300



EcoStruxure Grid  
EcoStruxure ADMS

- EcoStruxure Microgrid Operation
- EcoStruxure Substation Operation



Current and voltage sensors



Condition monitoring

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# Which model is right for you?

Find the solution that best fits your needs and existing installation

Applications	Devices	Enabled	Advanced
Thermal monitoring	One TH110 sensor per phase (cable compartment)	■	■
Environmental monitoring	Three CL110 sensors per RMU	-	■
Voltage detection	One VPIS or VDS sensor per function	-	■
Voltage measurement and quality	One LPVT per switch	-	□
Current measurement and quality	One CT per phase (cable or bushing)	-	■

- Included
- Optional
- Not available

Applications	Devices	Enabled	Advanced
Nearby monitoring and control (minimal)	One HU250 per substation (optional GSM and antenna)	-	■
Nearby and remote monitoring and control	One Easergy T300 per RMU (configuration varies)	-	■
LV Measurement	One LV150 (T300 upgrade) per switchboard	-	□
Protection relay (self powered)	One per circuit breaker	-	■

Connection capabilities	Enabled	Advanced
Local on demand	■	■
Ready for SCADA, ADMS, PM	-	■

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# Get more with EcoStruxure

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# Discover the benefits of EcoStruxure

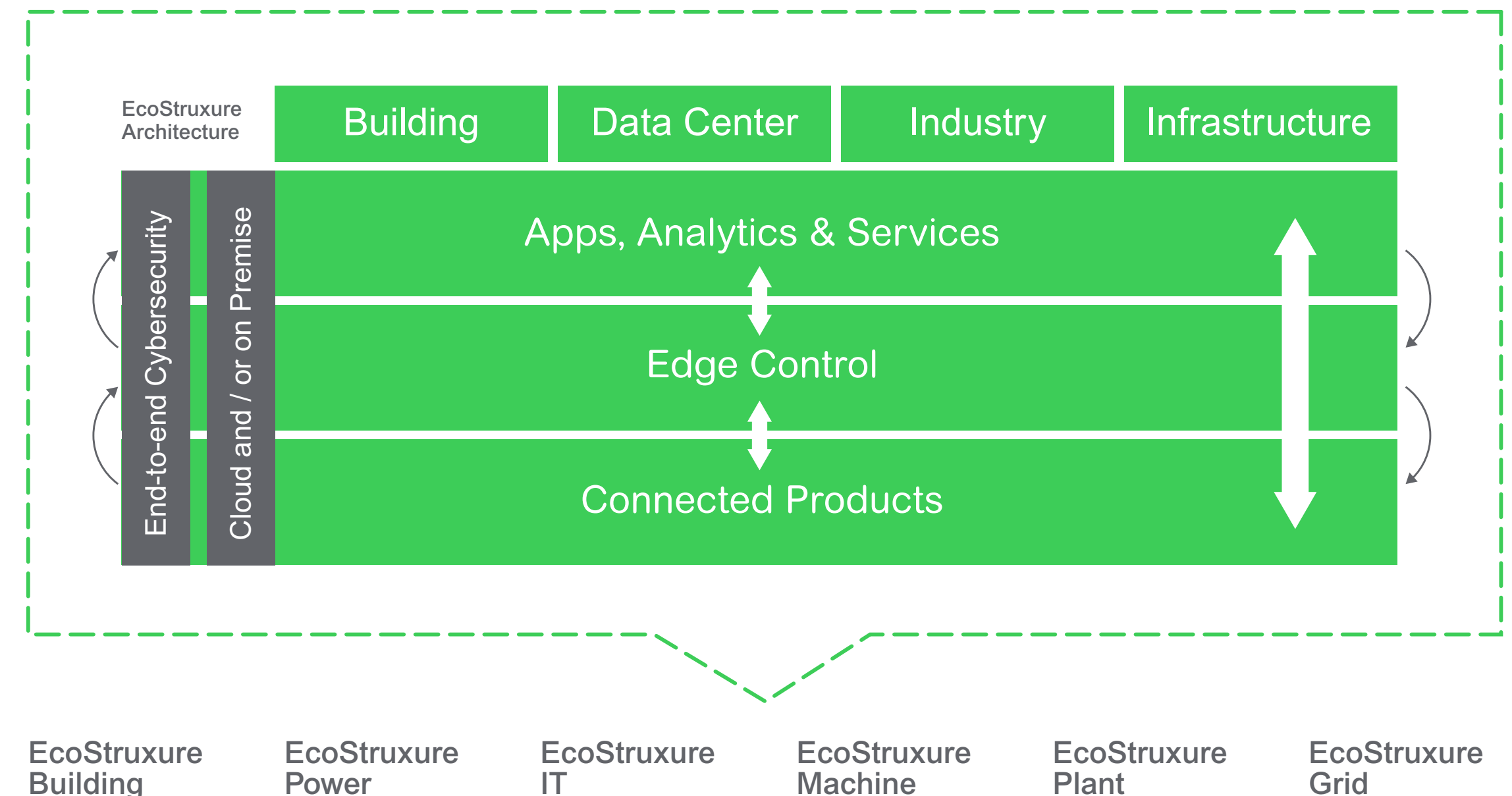
EcoStruxure Grid is part of Schneider Electric’s open, interoperable, IoT-enabled system architecture and platform.

It delivers enhanced value around safety, reliability, efficiency, sustainability, and connectivity for our customers.

EcoStruxure Grid leverages advancements in IoT, mobility, sensing, cloud, analytics, and cybersecurity to deliver Innovation at Every Level with solutions across three critical layers:

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

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



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RM6

FBX

Ringmaster

Rated system voltage	12 – 24 kV	12 – 24 kV	13.8 kV
Rated frequency	50/60 Hz	50/60 Hz	50/60 Hz
Rated short-time withstand (main and earth)	20 kA 3 seconds	16/20 kA 3 seconds	21 kA 3 seconds
Peak withstand current	2.5 × 20 kA IEC	2.5 × 20 kA IEC	2.5 × 21 kA IEC
Circuit break rated load current	200/630 A	630 A	200/630 A
Installation	Indoor or outdoor (please consult us)	Indoor	Indoor/outdoor (IP54), extensible/ non-extensible, freestanding/ transformer mounted
Operation	Manual/motorized	Manual/motorized	Manual/motorized
Switch rated load current	630 A	630 A	630 A
Find out more	<a href="#">RM6</a>	<a href="#">FBX</a>	<a href="#">Ringmaster</a>

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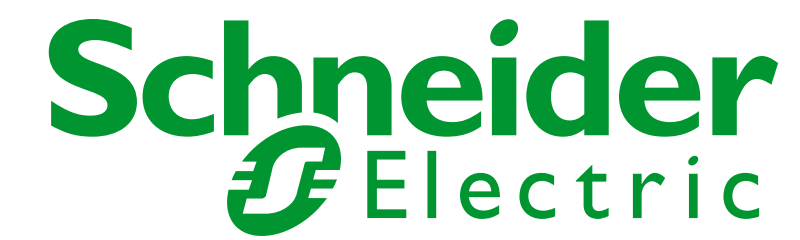
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To learn more about our smart RMUs, visit:

[se.com/smart-rmu](https://se.com/smart-rmu)

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