

Smarter energy use, better business competitiveness

Simple Energy Management Solutions
for small to medium-sized buildings
and facilities

How much do you really know about your building's energy consumption?



When it comes to energy-efficiency, investors, building systems designers, contractors, occupants, and operators all have a role to play. It starts with effective metering and monitoring.



Today, energy efficiency is a priority for building owners, operators, and occupants. Are you making the right energy decisions for your building? To be sure, you need to understand how your building is performing. Today's energy management systems can do this—and much more. Whatever solution you choose, metering and monitoring are the essential first steps.

The path to savings starts with reliable information

Automatic water, air, gas, electricity and steam (WAGES) metering directly in each area is the best way to get the detailed energy-performance data you need while eliminating tedious and error-prone manual meter reading. Continuous automatic metering also ensures that you get real-time information to respond quickly to malfunctions and abnormal energy consumption.

Making the right energy decisions

Once you know how a building is performing, you can implement concrete improvements to increase rental property yields, lower building operating costs, and achieve measurable reductions in energy consumption—a great way to lend credibility to sustainable development policies and obtain energy-efficiency certifications. Finally, investing in energy management increases a property's resale value.

Energy management that works today and tomorrow

The current energy landscape is complex and uncertain, from fluctuating utility rates for fossil-based energy sources to shifting regulatory requirements. In Europe, for instance, the Kyoto Protocol calls for a 20% reduction in greenhouse gas emissions, a 20% share for renewable energies, and a 20% increase in energy efficiency by the year 2020. When it comes to managing risk and hedging against tomorrow's higher—possibly much higher—utility rates, measuring energy performance is no longer optional; it is the only way to lock in future savings today.

Making operation and maintenance more efficient

In addition to helping reduce consumption and optimizing contracts with utilities, effective energy management can also streamline building and facility operation and maintenance, generating further savings. Real-time information, alarms, and simple load control result in safer, more efficient maintenance and the capacity to take corrective measures quickly in the event of wasting malfunctions.

Simple Energy Management Solutions by Schneider Electric

Schneider Electric, the world's leading supplier of energy management solutions, now offers a system tailored to meet the unique needs of small to medium-sized buildings and facilities (up to 10,000 sq. m). Schneider Electric Simple Energy Management Solutions are designed to provide detailed yet easy-to-understand information about a building's water, air, gas, electricity and steam (WAGES) consumption. The data generated serves as a solid framework for making strategic energy management decisions to enhance building energy performance—and business competitiveness.



Simple Energy Management Solutions by Schneider Electric: your path to savings

Simple, cost-effective, and easily upgradeable, Simple Energy Management Solutions are designed specifically to enable the owners and operators of small to medium-sized buildings and facilities to reduce their energy consumption, lower their energy bills, facilitate operation and maintenance, reduce their carbon footprint, and communicate specific data on progress towards environmental goals.

The solutions provide clear, detailed energy performance data in an easy-to-understand format, offer a user-friendly interface, ensure secure data transmission and storage, and are flexible enough to expand or upgrade at minimal cost. Performance can be tracked by usage load, and users can configure green dashboards to set cost-reduction targets and monitor progress.

Metering equipment tracks energy use at the source and a data transmission system sends the information to a PC, tablet or mobile device in easy-to-understand graph or table format at whatever frequency is deemed appropriate by the user, either locally or remotely.

Your energy data at a glance!

- Data aggregation for same energy or different energies converted to same units (such as gas to kWh)
- Environmental parameters like temperature, humidity, and CO₂ emission
- Dynamic data on degree days and production output
- Raw and normalized consumption data
- Energy cost data in the appropriate currency
- Monthly energy consumption as compared to target and reference period
- Energy consumption breakdown in chart format



All Schneider Electric solutions include tested, validated, and documented architectures, products, and services.

Tested: All possible configurations have been tested and results approved by Schneider Electric independent or certified labs.

Validated: All solutions live up to Schneider Electric's global solutions values of safe, reliable, efficient, productive, and green as proven by testing on platforms that reproduce various customer environments over the entire solution lifecycle. The lifecycle management of each component is guaranteed.

Documented: In addition to Schneider Electric customer support, customers receive a complete set of user guides, training, and toolboxes to ensure they achieve all of the benefits they expect from the solution.



Energy bills account for more than half of my hypermarket's expenses. What I wanted was simple: a tool that would allow me to check consumption by area (the meat and produce departments, dairy, cleaning products, the beer coolers). Schneider Electric's Simple Energy Management Solution lets me check in on how each area of my store is performing in real time. I just select the data and format and the system does the rest.

Greg Sharp, manager of three hypermarkets in Bedford, England



Benefits for facility managers, property managers, and building tenants:

- Save on energy costs by reducing consumption and cost per kWh
- Involve building occupants in energy-efficiency measures
- Implement measures like demand control, peak shaving, and power-factor correction
- Negotiate better utility contracts and eliminate billing errors
- Improve and reduce the cost of operations and maintenance
- Lower the carbon footprint
- Achieve compliance with energy regulations and produce data for energy-efficiency certifications
- Get advice from our energy management specialists



Benefits for property developers and owners:

- Increase property value
- Facilitate resale
- Increase rental occupancy and yield
- Go green and show it by communicating specific data

Start saving now with a user-friendly energy management interface and real-time data

Case study

Single-operator, owner-occupied office building

Building size: 2,800 sq. m over five floors; one floor leased to a commercial tenant.

Installation metering

- > Main water meter
- > Main gas meter
- > Main electric meter
- > Electric and heat sub-metering for cost-allocation to tenant
- > Air-conditioning sub-metering
- > Temperature: two sensors

Energy cost savings achieved: around 10%



- User behavior: 3%
- Control like lighting and HVAC scheduling: 5%
- Optimization of electric utility contracts: 2%

Return on investment:

\$ 2 years

Relevant data via a user-friendly interface

Schneider Electric's energy management solutions offer easy-to-read displays that are accessible to all authorized users. Energy data is presented depending on user preferences—users configure exactly what they want to see and avoid wasting time sorting through data that is not relevant to them.

Real-time information at the source

Energy performance is automatically monitored at various locations throughout the building, so you know exactly where and how energy is being used. Automatic metering at the source allows you to generate consolidated data with no impact on operating costs and get detailed energy performance information in real time.

Secure, reliable, available data

The solutions are compliant with IT security rules with no additional IT maintenance costs. Data is stored on a secure server. In addition, a GSM/GPRS wireless data transfer option enables cable-free communication with the installation, remote alarming, and operation independent of occupants' IT networks.

Cost effective installation and operation

Designed to be simple and cost-effective to install and operate, Schneider Electric's energy management solutions are fully compatible with third-party products. With optional GSM/GPRS wireless data transfer, the solutions can be installed and deployed with minimal disruption to operation of your existing installation, making them perfect for renovation projects. In addition, the solution can be installed easily by your trusted electrical contractor.

Your energy data made simple

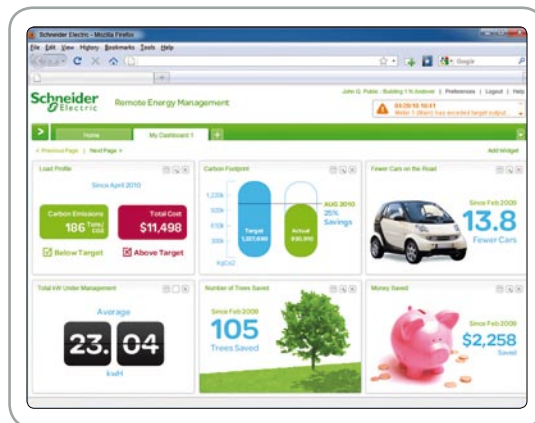


Usage graph

Visual display of your energy usage data including CO₂ emissions

Real-time environmental impact monitoring

View your CO₂ emissions and assess your progress toward better energy performance in terms of number of trees saved



Web widgets

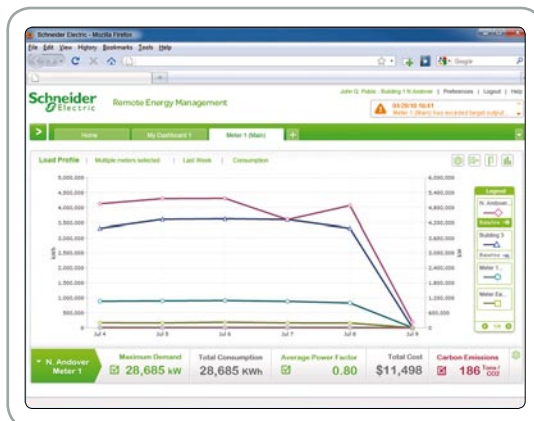
Quickly and easily view selected reports by converting them to Web widgets that can be viewed from your iGoogle page

Customized dashboards

You decide what widgets you want to display and where, creating your own customizable dashboard

Dynamic reporting

Easily adjust your date range to accurately compare and contrast usage patterns



Profile energy usage

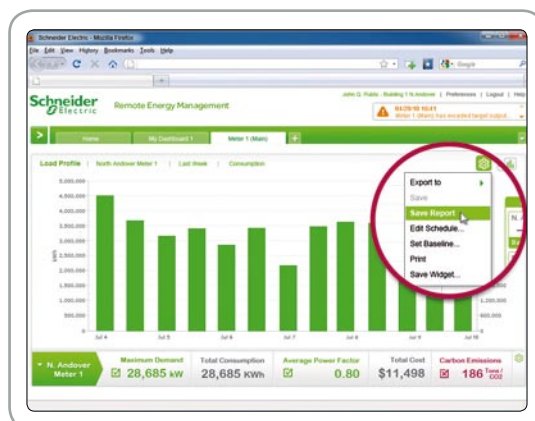
Understand your organization's usage patterns, history, and costs

Find areas for improvement

Quickly and easily identify high impact usages such as peak demand

Normalize data

Prepare accurate comparisons from one time period to another making adjustments for variables such as weather and occupancy



Save reports

Save your preconfigured reports for easy tracking and reporting

Export reports

Send your reports to your personal home page which will be updated in real time

A solution for every building and every budget

Schneider Electric offers two solutions designed to suit your energy management preferences and goals:

- an on-site solution that includes energy metering equipment installed at your building or facility—the building operator manages the system and data.
- a hosted solution which, once the metering equipment is installed, enables you to decide what data you need and how often. Schneider Electric takes care of the rest.

Designed for both new constructions and existing buildings, for single site and multi-site installations

When you choose a Schneider Electric Simple Energy Management Solution for your new construction project, you get the opportunity to build energy efficiency in from the start. As soon as your building is completed, you have complete energy consumption information at your fingertips.

Existing buildings already equipped with metering systems present a number of potential challenges: business requirement may not allow for prolonged interruptions during installation, or the building operator may not be willing to take on complicated, costly, and messy cabling work, for instance.

Schneider Electric's energy management solutions allow third-party equipment integration and a wireless Smart Interface Module (SIM) that enables communication with difficult-to-cable meters in difficult-to-access locations.

Simple Energy Management Solutions are suitable for all building configurations:

- Single-site either as an on-site solution or as a hosted solution managed by Schneider Electric
- Multi-site, to address enterprise-wide requirements and to compare the performance of different sites for benchmarking purposes and to identify and share best practices



A single electrical contractor to design, install, configure, and maintain your system





Find out which solution is right for you: on-site or hosted

The On-Site Energy Management solution consists of a complete architecture installed on site and independently managed by the building operator.

On-Site

- The solution is on an energy management controller (iRio) which processes the data.
- Users can view data from a PC located anywhere with no additional software installation.
- Building operators manage the system, including software upgrades, and data, including backup.
- Building operators set targets themselves and pinpoint where and how to reduce energy consumption.
- Building operators can generate their own reports.

Built on a streamlined architecture, the Remote Energy Management solution requires only the installation of simple metering equipment on site and an integrated gateway server to transfer data.

Hosted

- Full-service solution that works via a communication gateway.
- Schneider Electric gathers and processes data and sends to the customer at the desired frequency and in the desired format.
- Schneider Electric analyzes the data and makes recommendations.
- Schneider Electric is responsible for data storage and backup.

On-Site Energy Management solution for direct access to your data, your way

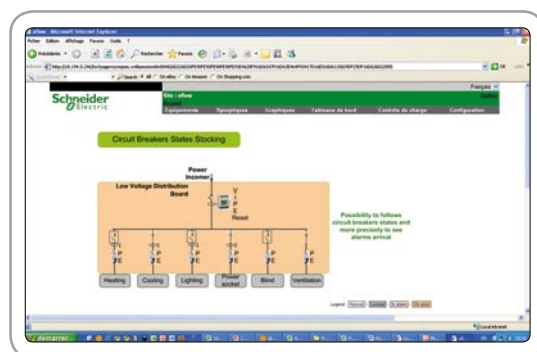
Are you looking for an easy, cost-effective way to reduce energy consumption, lower utility bills, facilitate operation and maintenance, and make your building greener?

The on-site solution is particularly suitable for customers:

- Who want total control over their energy data
- Who need essential load control functions like daily scheduling
- Who need to keep all data management in-house for security reasons
- Who have or would like to train an in-house energy manager
- Who have the skills and resources they need to manage issues like software upgrades, maintenance, and data backup in house
- Who prefer to invest in their own energy management system rather than subscribing to a service

The building operator retains total control over the data

With the on-site solution, once the necessary metering devices and energy management controller are installed, the building operator can carry out the necessary controls and alarming. All information is available in real time at all times from any PC. This enables users to respond quickly in the event of a malfunction like power to cooling equipment being cut off, for instance, or other issues affecting WAGES consumption. In particular, on/off load control can be used to turn lights off automatically in certain areas of the building, avoiding waste and boosting energy savings.



Load control

On/off load control function increases energy savings and facilitates operation.



User benefits

> Cost-effective:

- The solution works with pulse metering technology
- Possible small initial rollout to secure quick ROI can be scaled up later with additional metering

> Pre-developed energy management controller software modules eliminate the need for software development

> Powerful customization capabilities: implement additional control functions if and when required

> Web-based for easy implementation: no dedicated workstation required; data can be accessed from any PC, tablet, or smartphone

How it works

The hub of the system is an iRio energy management controller, which picks up metering data from power (pulsing contacts or Modbus Serial Line communication) and gas or liquid meters (pulsing contact, Modbus Serial Line communication, or M-Bus open metering communication). The solution detects problems like flow leakages, overrides, and equipment left on.

Data can be exported in CSV (Excel-compatible) format for analysis and backup or viewed via web-based dashboards, curves, and reports.

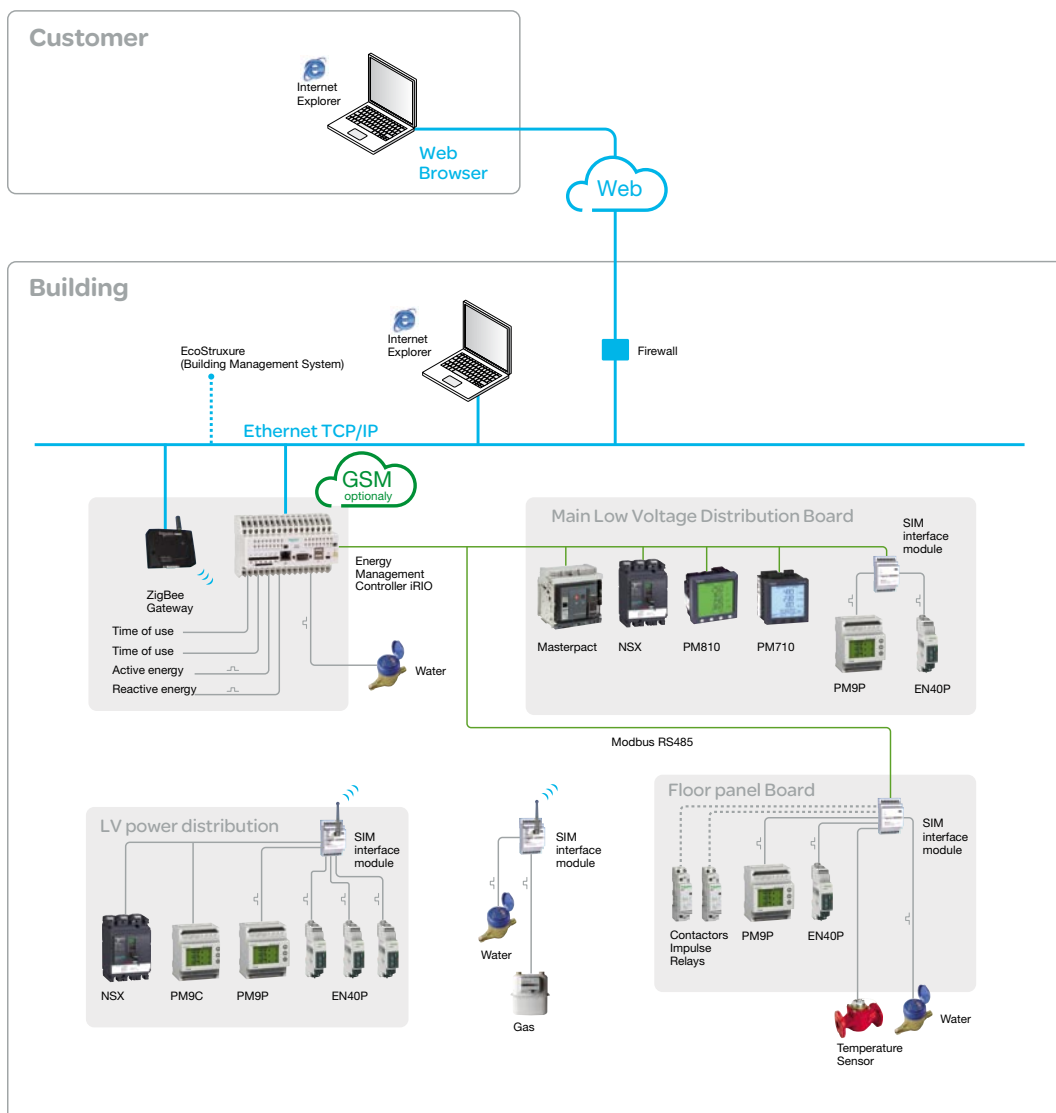
Smart Interface Modules (SIM) provide communication with meters in difficult-to-access locations for easy implementation and minimal disruption to existing installations. Optional wireless operation is available via the easy-to-use low consumption ZigBee wireless communication protocol.

Additional functions are also available, including:

- An alarm generator for maximum energy consumption overruns, power faults, and abnormal consumption cycles
- A local controller for automatic shutdown and override limitation
- A scheduler for load control and automatic shutdown
- An alarm triggered by abnormal environmental conditions like temperature and humidity

Information delivered

- Energy cost data in the appropriate currency
- Monthly energy consumption as compared to target and reference period
- Data aggregation for same energy or different energies converted to same units
- Environmental parameters like temperature, humidity, and CO₂ concentration
- Dynamic data on degree days and production output
- Raw and normalized consumption data
- Energy consumption breakdown in chart format
- Electrical parameters
- Simple load control



Let Schneider Electric take care of everything with the Remote Energy Management solution

Are you looking for a hassle-free way to reduce energy consumption, lower utility bills, facilitate operation and maintenance, and make your building greener?

The Remote Energy Management solution is particularly suitable for customers:

- Who prefer not to handle data storage and backup themselves
- Who do not have the skills or resources they need to manage the technical and IT aspects of the solution in house
- Who would like expert energy management advice from professionals.
- Who wish to shift a portion of their capital expenditures to operating expenses
- Who prefer the predictability of a regular subscription fee to facilitate budgeting

No software to install or upgrade: the data you want, right in your inbox

The Remote Energy Management solution easily turns your energy usage data into actionable information, accessible via a standard web browser, eliminating the need to install additional servers or software on site. The service can either be linked to existing meters or new power meters via communication gateway. It is easy to install and use and can be customized to meet end-user specifications. Just tell Schneider Electric which information you want and how often, and that's all! There's nothing more to do.



Multi-site management features

- View simultaneously several locations equipped with the Remote Energy Management solution
- Green map pins indicate facilities that have achieved their energy-savings goals



User benefits

> **Cost-effective and rapid return on investment:** subscription fees are partially offset by immediate energy savings

> **Enterprise-wide access to energy information:** a simple web browser on a PC, tablet, or smartphone is all you need to access data from anywhere

> **No need to install servers and software on site:** Schneider Electric handles all data transmission, processing, and backup in a 24/7 high-reliability data center

> **Analysis and recommendations delivered by Schneider Electric energy experts**

> **Easy to learn and use:** no special training required

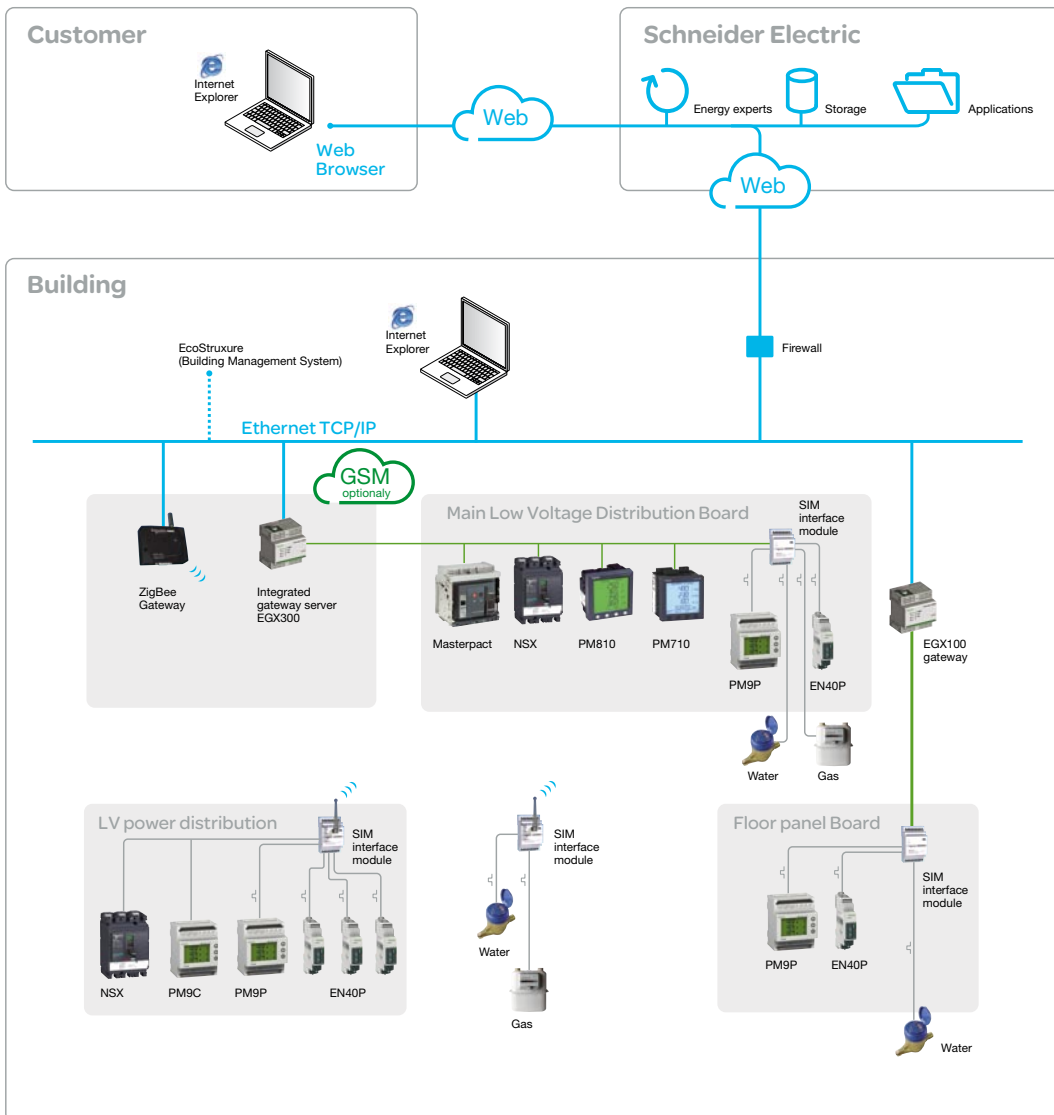
How it works

Once the necessary WAGES equipment is installed by your electrical contractor, data is directly and automatically sent by email to dedicated secure servers hosted by Schneider Electric. Users do not need to intervene. Schneider Electric handles backup and protects the confidentiality of all data. Users simply receive the data they need in the format and at the frequency they request. The e-mailed reports can be scheduled automatically to facilitate the estimation of energy bills or to compare consumption data between different locations or time periods, for instance.

Smart Interface Modules (SIM) provide communication with meters installed on site, even in difficult-to-access locations for easy implementation and minimal disruption to existing installations. Optional wireless operation is available via the easy-to-use low-consumption ZigBee wireless communication protocol.

Information delivered

- Pre-defined energy analysis reports in graphical and tabular format for: load profiles, usage history, interval data
- Cost summaries for individual meters or a group of meters
- Comparative consumption data for different sites or time periods
- Average daily and monthly consumption data



Get more out of your energy investment with added-value services for end users

Schneider Electric Simple Energy Management Solutions go beyond reliable equipment and the latest technologies with support and services to ensure energy savings for a long time to come.

On-site and remote solutions: a service and support contract with 3 levels of coverage

Bronze support

Bronze support helps you maintain your energy monitoring system thanks to direct support and an annual solution check by our support engineers: your one-stop source for solution support!

- > Telephone support
- > Annual solution check and status report

Silver support

Silver support includes time- and money-saving services to help you get the most from your energy monitoring system: remote diagnostics, direct access to support engineers, and annual energy usage reports throughout your installation's lifecycle.

- > Service Packs and hot fixes
- > Remote access troubleshooting and priority Email support
- > Energy efficiency support on energy usage

Gold support

Gold support delivers strategic technical and energy-efficiency support for organizations seeking specialized assistance: you get added services to reduce total cost of ownership and ensure your energy monitoring system continues to deliver outstanding long-term value.

- > Assigned application engineer
- > Periodic proactive solution evolution and maintenance
- > Solution ID summary
- > Two-hour online training coupon
- > Energy efficiency support on energy bill and conservation measures



The solutions and services in this brochure can be rolled out by a Schneider Electric Partner with the skills you need in a location near you.



Schneider Electric's Simple Energy Management service lineup helps partners add value while boosting add-on sales and repeat service business.

The latest technologies for products you can count on

EGX300 integrated gateway server

The EGX300 is an Ethernet-based device providing a simple, transparent interface between Ethernet-based networks and field devices.

It requires only a web browser and Ethernet network to log and display real-time data and trend plots from up to 64 PowerLogic system devices, including other gateway devices on the same network and any other communicating device operating under the Modbus RS 485 protocol.

A GSM option can be added via a GSM gateway: Digi Connect WAN cellular routers provide secure high-speed wireless connectivity to remote sites and devices for reliable primary wireless connection to equipment at remote locations or backup to existing landline communications. Digi Connect is also ideal when wired networks are not feasible, or when alternative network connections are required.



EGX100 Ethernet gateway

The EGX100 gateway serves as an Ethernet coupler for PowerLogic System devices and for other communicating devices that use the Modbus protocol.

The EGX100 gateway offers complete access to all measurements and status information.

Smart Interface Module (SIM)

The SIM acquires analog and digital inputs and controls digital actuators at field level.

SIM modules allow blended architectures combining wired and ZigBee wireless instrumentation.

SIM wireless instrumentation offers an easy-to-install solution for existing sites presenting wiring challenges due to building infrastructure or meters located far from the building.

A broad range of meters

Schneider Electric offers a broad range of meters, from Kilowatt-hour meters designed for metering active energy consumed by a single-phase electrical circuit to PM700 and PM800 meter families providing high-performance measurement capabilities.

Schneider Electric meters are designed for a wide variety of applications in both the industrial and service sectors.



iRIO energy management controller

iRIO is a simple, efficient energy management controller that enables remote operation and control of your installation using a simple web browser. Completely scalable, iRIO is designed to suit any application. The device centralizes the management and monitoring of remote operations via a single, easy-to-use interface.

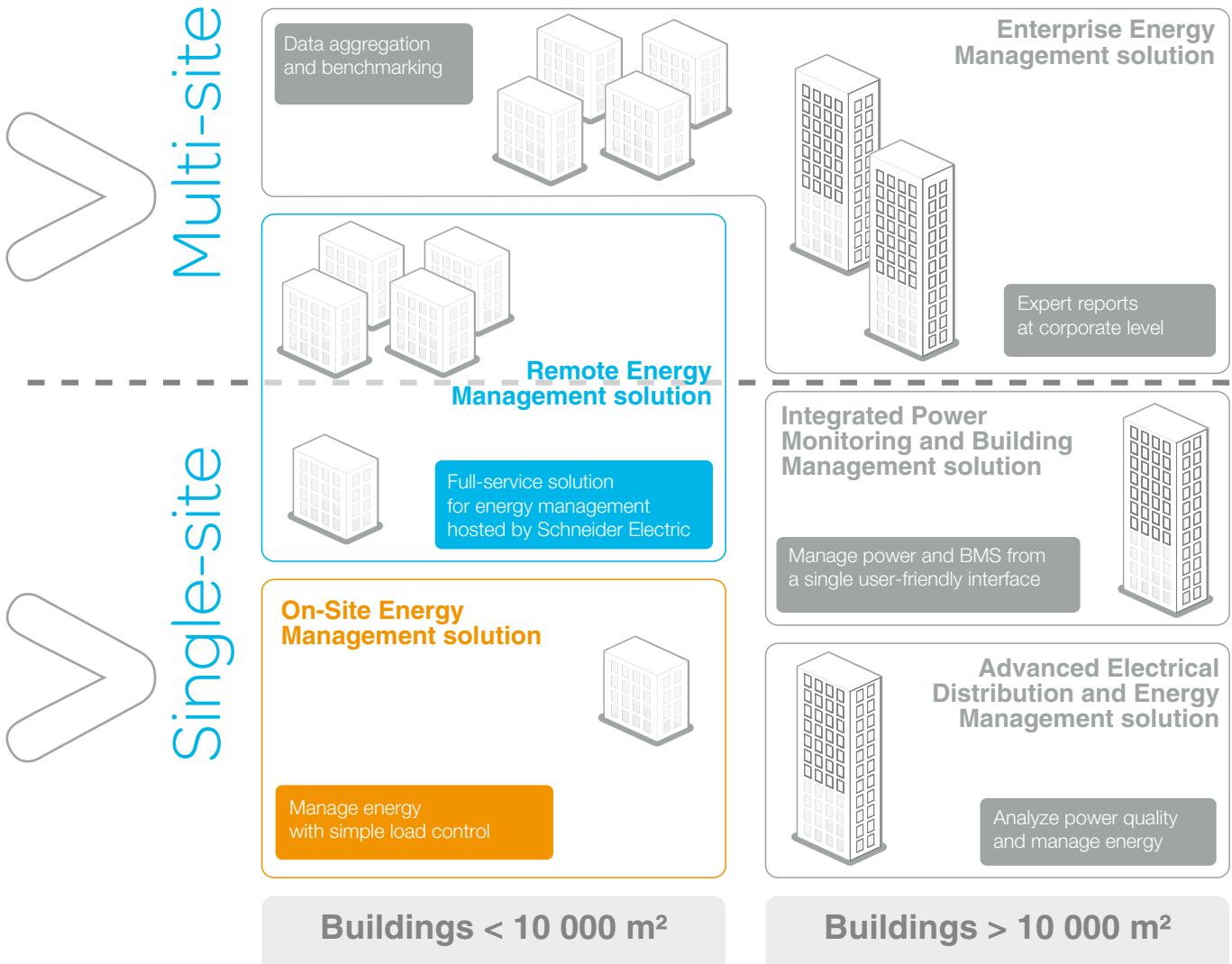
Designed for single-site operations, the iRIO energy management controller monitors and transmits information, tracks electricity production, and provides WAGES (water, air, gas, electricity, and steam) consumption data—critical for detailed budgeting and usage optimization.



Compact NSX and Masterpact circuit breakers

The Compact NSX range allows increased energy availability, optimized energy consumption, and simplified operation of electrical installations. Integrated measurement functions and data availability enable the Compact NSX range to go beyond simple protection, making it a full-fledged management resource aimed at improving electrical efficiency. Your existing Compact NS circuit breakers can quickly and easily be upgraded to Compact NXS models.

The Masterpact air circuit breaker is the smallest power circuit breaker in the world, concentrating all the performance of a sophisticated power circuit breaker in a compact unit. Masterpact NT optimizes installation and guarantees operation for total peace of mind. The Masterpact is easy to upgrade if you wish to add communication capabilities.



The Schneider Electric Simple Energy Management Solutions in this brochure belong to the Schneider Electric family of solutions developed to optimize WAGES (water, air, gas, electricity, steam) management. Whether you're running a small hotel or a large corporation, the right solution for your buildings and your needs is now available.



Simple Energy Management Solutions are particularly well-suited for buildings, but they can also be implemented for other types of facilities with similar needs, such as water treatment plants, for example.

> Make the most of your energy

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Due to changes in standards and equipment, the specifications in this document are binding only after confirmation in writing by Schneider Electric.

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