Background

Earth Rangers™ is a Canadian non-profit organization that promotes the importance of protecting biodiversity and the adoption of more sustainable behavior through community events, online education, and a positive science. Earth Rangers has successfully applied their message and positive science to their 60,000 square foot (5600m²) facility, based outside of Toronto, to make it one of the most energy efficient buildings on the planet.

A results-oriented partnership

Earth Rangers was looking for partners who could donate equipment and expertise, and in 2009, Schneider Electric™ came onboard as their building automation, metering, security, and lighting controls supplier. The first installation included: Schneider Electric building automation hardware and software, power monitoring and energy management tools, Juno lighting, Pelco cameras, and PowerLink/Clipsal lighting controls. Significant savings and benefits were realized, but true to the organization's values, Earth Rangers wanted to do even more. After earning LEED (Leadership in Energy and Environmental Design) Gold for New Construction certification, Earth Rangers decided to further demonstrate their commitment to reducing energy use and CO_2 emissions by pursuing a LEED Platinum for Existing Buildings certification—the highest level of certification offered under LEED.

"The fact that our building is 83% below the national average energy usage of a standard building sets an outstanding example of the mindset we want to encourage in children," says Peter Kendall, Executive Director, Earth Rangers. Indeed, green building designer professionals from around the world visit the facility to study its energy efficient design and operation. "But, if we want to set the standard for how to operate a truly energy efficient, "green" building, it's vitally important that we continue to reduce our facility's energy usage."

Goal

Make own facility one of the most energy efficient buildigns on the planet

Story

Non-profit organization that promotes the importance of protecting biodiversity and adoption of sustainable behaviour wanted to showcase its own building as an example of its efforts.

Solution

- EcoStruxure™ Building Operation.

Results

- LEED Platinum certification - highest level of certification
- 20% reduction in energy usage year-on-year
- Greenhouse gas savings of 444.2 tons of CO_2.

Life Is On | Schneider Electric

Cloud-based Energy Operation converts aggregated building data into actionable energy efficiency information.

Hosted energy management solution delivers tangible benefits quickly

Schneider Electric recommended EcoStruxure™ Building Operation* an advanced energy management information system that leverages existing real-time monitoring and control systems with:

- automated tools to identify, analyze, and report on energy savings and sustainability initiatives
- automatic transfer of energy monitoring system data to a public facing display kiosk and corporate website
- verified utility billing data and reports providing insight on power sent back to the grid through on-site generation
- powerful management tools to validate the effectiveness of their energy savings initiatives and investments, helping document the true return on investment in dollars, kWh and CO_2 saved.

Utilizing professional design and commissioning from Schneider Electric, the upgraded installation was up and running by July 2011. Anchored by intuitive EcoStruxure™ Building Operation*, the new solution began providing actionable energy information to help Earth Rangers save time, reduce effort, and improve total facility energy performance. Key energy data was centralized into a single "facility scorecard" view for straightforward energy monitoring, real-time and historical analysis, and reporting. This key performance information enabled staff to evaluate and justify new energy efficiency building improvements, while detecting and correcting poor

energy efficiency in building automation, control, and HVAC systems. According to Andy Schonberger, Director, Earth Rangers Centre, "Energy Operation allows us to visualize integrated information from different platforms. At the click of a mouse, up to date energy metering and building automation tracking information are brought together into a package that is understandable to a building operator, manager, or the general public."

Recognition for outstanding green building achievements

What's more, EcoStruxure™ Building Operation* contributed substantially to Earth Rangers achieving certification to LEED Platinum by helping the organization target multiple credits under LEED Existing Building, namely Energy and Atmosphere Credits 3.2 and 3.3 (system level metering), along with Water Efficiency Credit 1.1 (sub-metering and reporting). Additional benefits include 20% year-over-year reduction in energy consumption and greenhouse gas savings of 444.2 tons of CO_2. Partnering with Schneider Electric was the right move for Earth Rangers. "Upgrading our building from LEED Gold to LEED Platinum, required us to continue reducing energy usage. Schneider Electric building automation/ energy management solutions helped us achieve this goal and gave us a much better view of where energy is being used in our facility and the intelligence to help us optimize energy usage to the point where we are completely self-sustainable," says Kendall.

Platinum
LEED certification, highest in category

20%
Energy savings yearly

444.2 tons
CO_2 greenhouse gas savings

"Schneider Electric building automation/ energy management solutions gave us a much better view of where energy is being used and the intelligence to optimize energy usage to the point where we are completely self-sustainable."

— *Peter Kendall, Executive Director, Earth Rangers*

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EcoStruxure™

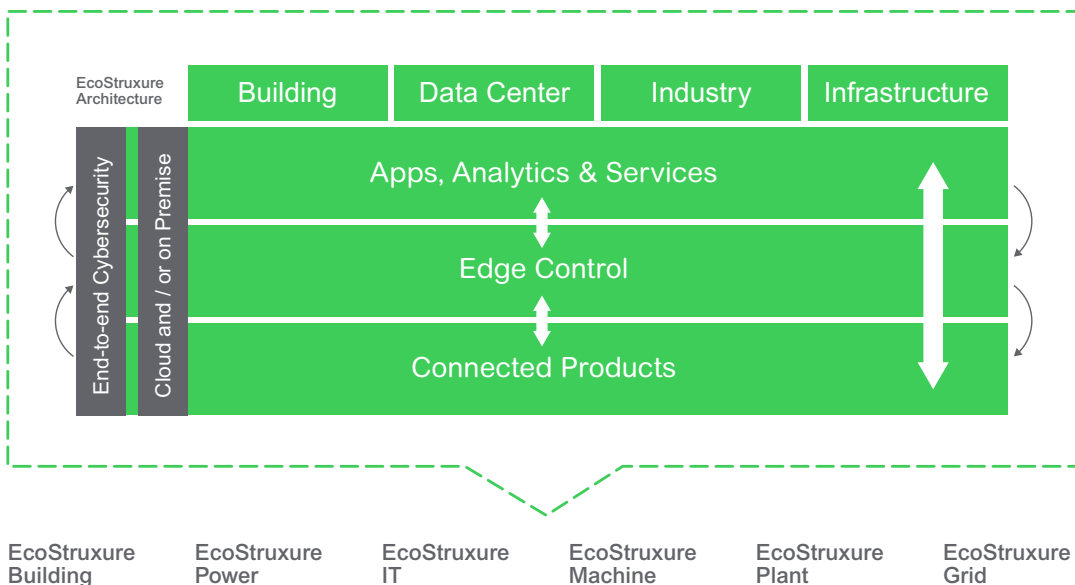## Innovation At Every Level

IoT-enabled solutions that drive operational and energy efficiency

EcoStruxure is Schneider Electric's open, interoperable, IoT-enabled system architecture and platform.

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

EcoStruxure leverages advancements in IoT, mobility, sensing, cloud, analytics, and cybersecurity to deliver Innovation at Every Level including Connected Products, Edge Control, and Apps, Analytics & Services. EcoStruxure has been deployed in 450,000+ installations, with the support of 9,000 system integrators, connecting over 1 billion devices.

One EcoStruxure architecture, serving 4 End Markets with 6 Domains of Expertise

EcoStruxure Architecture	Building	Data Center	Industry	Infrastructure

End-to-end Cybersecurity | Cloud and / or on Premise

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

EcoStruxure Building	EcoStruxure Power	EcoStruxure IT	EcoStruxure Machine	EcoStruxure Plant	EcoStruxure Grid

Connected Products

The Internet of Things starts with the best things. Our IoT-enabled best-in-class connected products include breakers, drives, UPSs, relays, sensors, and more. Devices with embedded intelligence drive better decision-making throughout operations.

Edge Control

Mission-critical scenarios can be unpredictable, so control of devices at the edge of the IoT network is a must. This essential capability provides real-time solutions that enable local control at the edge, protecting safety and uptime.

Apps, Analytis & Services

Interoperability is imperative to supporting the diverse hardware and systems in building, data center, industry, and grid environments. EcoStruxure enables a breadth of agnostic Applications, Analytics, & Services for seamless enterprise integration.

Find out more about EcoStruxure

schneider-electric.com/ecostruxure

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Contact us to start your journey

A sustainable space for 1500 species

EcoStruxure™ Energy Expert increases electrical and mechanical efficiency for Lake Land College

*Formerly known as StruxureWare Building Operation

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