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Deep energy savings — guaranteed

Cinnamon Grand Hotel, Colombo, Sri Lanka

Award-winning retrofit leverages Schneider Electric's innovative hotel technology implemented by EcoXpert™ partner, Lanka Energy Conservation, and their energy management expertise.

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Introduction

The Cinnamon Group represents a vibrant new Sri Lanka, successfully competing with the world's biggest brands. It combines a contemporary Sri Lankan outlook with world-class service, and modern conveniences with old-world charm, to redefine the luxury hotel experience. Launched in 2005, the chain currently includes 14 properties, with three city properties in Colombo, eight resorts around Sri Lanka, and three island resorts in the Maldives.

One of the Group's premier properties, located in the heart of Colombo, Sri Lanka, is the Cinnamon Grand Colombo. This five-star property brings the best of tropical city life into its many spaces. As the largest hotel on the island, it boasts 501 guest rooms, 14 restaurants, 10 meeting and event spaces, two pools, two gyms, a luxury spa, and multiple outdoor venues designed for the best city moments to happen right at its doorstep. The hotel offers guests the opportunity to immerse themselves in authentic local experiences, including village cooking lessons, nature walks, river cruises, and architectural and history tours.

Goals and Challenges

As Sri Lanka's largest hotel (100,000 m²), energy costs were extremely high—22 million Sri Lankan Rupees (LKR) per month (146,000 USD). The hotel needed to implement energy conservation measures, because even though energy savings equipment had been previously installed, the operations staff was not able to identify specific areas where energy was being wasted. Additionally, two chillers were relatively new (installed in 2009), while the central plant was 16 years old. There was a need to integrate the mechanical and electrical plants, and gain visibility into the data in order to develop effective energy savings strategies.

The customer had several rather stringent requirements for the project; they requested measurable energy savings and an ROI of three years with zero disruption to operations. Furthermore, the project had to be completed within six months.

Goal

Significantly reduce energy consumption to meet energy and sustainability goals.

Story

The hotel required measurable energy savings and an ROI of three years with zero disruption to operations.

Solution

Schneider Electric certified EcoXpert partner Lanka Energy Conservation installed EcoStruxure™ Building solution as the centerpiece of its energy management strategy that includes multiple energy conservation measures (ECMs) and Sri Lanka's first-ever commercially guaranteed energy savings retrofit.

Results

- 48 million LKR saved in first year (\$320K USD)
- 160 million LKR guaranteed savings over 3.7 years (\$1,067,000 USD)
- 2.6 million kWh saved in first year
- 4,000 tons of GHG saved annually
- Net Present Value (NPV) increased by 150 million LKR

Solution: A Turnkey Energy Management Retrofit

The Cinnamon Grand Colombo hotel needed a systems integrator that could provide a turnkey energy management retrofit. A Schneider Electric BMS certified EcoXpert partner company, Lanka Energy Conservation (LEC), was chosen for the project based on their extensive expertise and excellent reputation. LEC is one of 3,000 Schneider Electric EcoXpert partners worldwide. The EcoXpert Partner Program unites the world's leading technology providers, who exhibit best-in-class system integration competencies in facility optimization, reliable infrastructures and energy management, with its customers around the globe. LEC of Sri Lanka is an associate company of Eco33, which has 100 years of combined industry experience in energy conservation services in Australia and Asia Pacific, with proven references. The company is the selected systems integrator for Sri Lanka and Maldives by the world's leading energy engineering companies, including Carnegie Wave Energy, Smardt and Schneider Electric. LEC received the Schneider Electric Partner of the Year award in 2015 for Building Management Systems.

EcoStruxure Building

After conducting an initial energy audit, LEC recommended an upgrade of the hotel's existing building management system (BMS) to Schneider Electric's EcoStruxure Building solution, based on its ability to deliver three key factors: seamless integration with other systems and devices, visibility into energy use, and overall energy savings.

Built on a collaborative smart building Internet of Things (IoT) platform, EcoStruxure Building combines proven software with hardware

"International and local hotel chains require building management applications that go beyond traditional BMS. They need smart, interoperable solutions that run on a proven technology platform, backed by continuous R&D. Schneider Electric's innovative EcoStruxure Building offering, which includes EcoStruxure Building Operation software, meets those needs."

– Rukshan Sheriff,
VP of Business Development, Eco33

innovation to connect everything from sensors to services over one IP backbone. At the heart of this solution is EcoStruxure™ Building Operation, Schneider Electric's user-friendly building management software for optimized building performance. Built upon open standards and end-to-end cybersecurity, it integrates and facilitates data exchange from energy, lighting, HVAC, fire safety systems and third-party hotel systems while leveraging digitization and big data to make buildings smarter, more sustainable and more efficient.

At the Cinnamon Grand Colombo, the EcoStruxure solution integrates the hotel's electrical and mechanical plants, which include building systems for air conditioning, exhaust, ventilation fans, pumps, steam and hot water boilers, energy meters, and high efficiency, magnetic bearing chillers from Smardt. The end result provides efficient energy monitoring, management, and reporting that drives savings across the entire hotel.

\$1,067,000 USD

Expected savings over
3.7 years

2.6 M kWh

Energy savings in year 1

Largest Hotel

in Sri Lanka



Guaranteed Savings Contract

In addition to the audit, LEC provided system design and engineering, installation, and energy visibility dashboards. The project also included a guaranteed energy savings contract that guarantees energy reduction of nine million kWh and 160 million LKR over the course of 3.7 years, with a three-year payback on the investment.

LEC's strength lies in its capability to re-engineer existing mechanical and electrical systems using in-house expertise. Most important to the customer was LEC's ability to seamlessly deliver an open BMS system that is user friendly. Additionally, LEC's in-house graphic designs added a lot of value to the operations team at the Cinnamon Grand, enhancing overall ease of use of the EcoStruxure Building solution. "Schneider Electric's EcoStruxure Building solution is extremely user friendly," explains Cinnamon Group's Panduka Wijeyawardena, Chief of Engineering – City Hotels. "The engineering staff was trained in two weeks. They are very happy with the system and have had no issues. With advanced alarms and extensive data output, they can now work more efficiently."

"One of the great achievements from Lanka Energy Conservation has been the ability to deploy a complete energy management program with various energy conservation measures, including some substantial tasks such as chiller retrofit, without impacting any of the guests on the property. In addition,

thanks to the Schneider EcoStruxure solution, they were able to provide the hotel engineering team with complete reports and alarms in order to better run the property in the long run and make it more sustainable," explains Laurent Coene, global hotel solution architect at Schneider Electric.

LEC also offers 24x7 call center support to its customers, along with online building energy management monitoring and management services.

Results

Final results for the Cinnamon Grand Colombo energy retrofit project were impressive. The project was completed with no disruption to service, and was executed within four months—two months ahead of schedule. In addition to achieving intended energy savings, the project was recognized at the 2016 Sri Lanka National Energy Efficiency Awards (SLEENA) with a bronze award in the Large Scale category—the only hotel to win in that category in 2016.

LEC also won an award at the SLEENA event for Best Energy Services Company (ESCO). LEC is the only company in South Asia to provide commercial guarantees on energy savings. The awards are conducted by the Sustainable Energy Authority (SEA) in collaboration with the Ministry of Power and Renewable Energy to recognize the achievements of public and private sector institutions in energy efficiency improvement and conservation.

100,000 m²

Area of hotel

501

Number of guest rooms

"Schneider Electric's EcoStruxure Building solution is extremely user friendly...The engineering staff was trained in two weeks. They are very happy with the system and have had no issues. With advanced alarms and extensive data output, they can now work more efficiently."

– Panduka Wijeyawardena, Chief of Engineering, City Hotels





Awards & Certifications

EarthCheck Bronze Benchmark
OHSAS 18001
ISO 14001
ISO 22000
Green Globes Certification
Sri Lanka National Energy Efficiency Awards
SWITCH Asia Greening Sri Lanka Hotels Awards
National Green Awards
Health & Safety Excellence Awards

Looking Ahead

As the largest hotel in Sri Lanka, the Cinnamon Grand Colombo will serve as a pilot site, setting a new standard in energy efficiency for hotels in the region. “International and local hotel chains require building management applications that go beyond traditional BMS. They need smart, interoperable solutions that run on a proven technology platform, backed by continuous R&D. Schneider Electric’s innovative EcoStruxure Building offering, which includes EcoStruxure Building Operation software, meets those needs. This technology, coupled with an in-depth understanding of hotel operations—including maintaining comfortable conditions and reducing energy costs—has become a proven winner with our customers,” says Rukshan Sheriff, VP of business development at Eco33.

As for the Cinnamon Grand, the next step in energy conservation is a solar installation. “We were very happy to receive the bronze recognition at the Sri Lanka National Energy Efficiency Awards,” explains Mr. Wijeyawardena. “Our next ambition is to go for the gold.”

Project Team

Schneider Electric

Wenura Jayasinghe - Associated General Manager, EcoBuilding

Eco33 (Pty) LTD

Lanka Energy Conservation (Pvt) LTD, Certified BMS EcoXpert Partner, Hotel Specialization

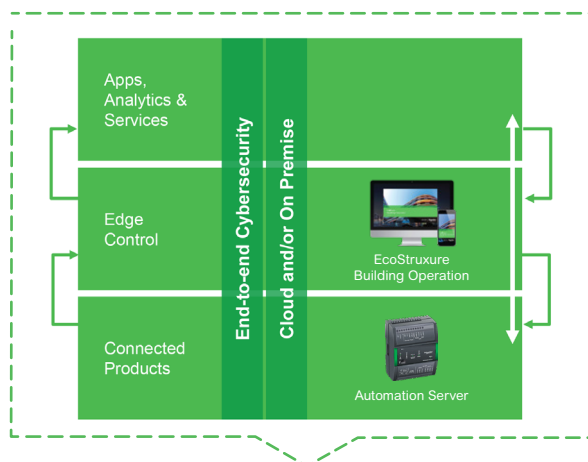
Rukshan Sheriff - Vice President, Eco33

Dammica Wickramaratne - Chairman, Eco33

Cinnamon Grand Hotel

Panduka Wijeyawardena - Chief of Engineering, City Hotels

EcoStruxure for Hotels implemented at Cinnamon Grand Hotel



EcoStruxure™
Architecture

EcoXpert™ EcoXpert Partner Program

Schneider Electric’s EcoXpert Partner Program pairs the world’s leading technology providers with customers around the globe to cultivate collaboration, connect expertise, and deliver best-in-class services and solutions. Learn more at schneider-electric.com/ecoxpert.

EcoStruxure™

Innovation At Every Level

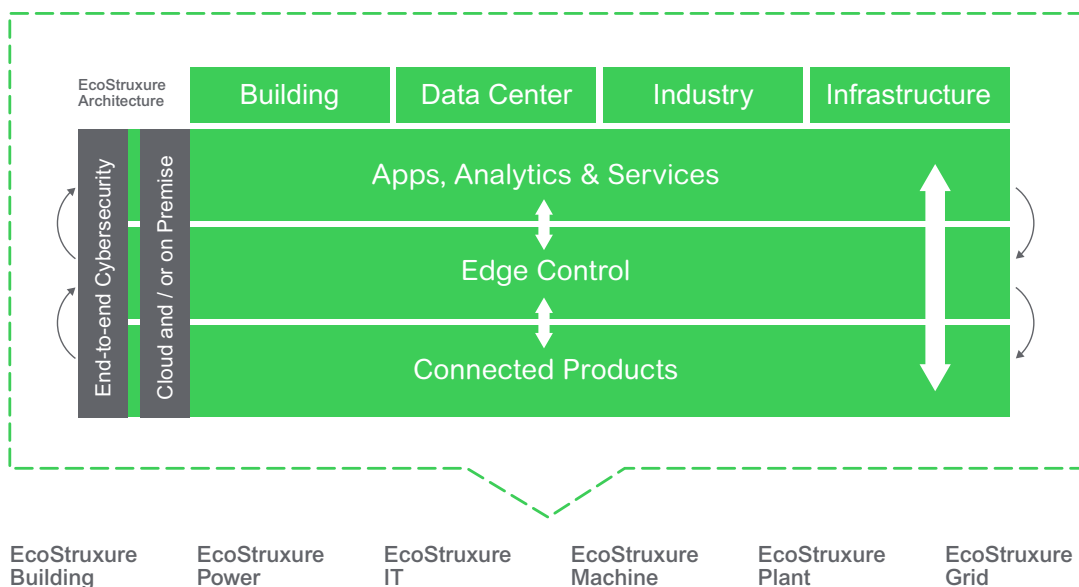
IoT-enabled solutions that drive operational and energy efficiency

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



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, Analytics & 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

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