EcoStruxure™
Innovation At Every Level

UNIQUE

Design-driven energy efficiency at Barcelona Tower

Barcelona Tower Hotel – Barcelona, Spain

As a single-source, global solution provider, Schneider Electric helps Barcelona Tower Hotel achieve 30% energy savings through the design, installation, and integration of software, systems, and connected devices.

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Introduction

The Barcelona Tower Hotel is situated in the district of Bellvitge in L'Hospitalet de Llobregat, Barcelona, Spain. Its 105 meter tower spans 29 floors, and is topped by The Dome — a stunning glass-roof cupola that serves as a unique space for events and special occasions. The property was designed by famous British architect Richard Rogers together with Luis Alonso and Sergi Balaguer, and features 280 luxurious guest rooms with designer aesthetics and great views over Barcelona and the Mediterranean Sea. Other amenities include junior, duplex, and presidential suites, a health club, luxury spa, indoor pool, a trendy bar, and the contemporary Restaurant Bouquet.

Barcelona Tower also offers the largest hotel-based event center in the city. Its 5,000 m^2 Convention Center has 22 multi-configuration meeting rooms and two terraces with space for up to 1,800 people, as well as the eight-meter-high, 1,600 m^2 Cosmos Ballroom and a fully-equipped auditorium, which seats up to 480 people.

Barcelona Tower is part of NH Hotel Group, one of the top 25 chains in the world and one of the main chains in Europe. NH Hotel Group operates nearly 400 hotels with close to 60,000 rooms in 29 countries across Europe, America, and Africa.

Goals and challenges

Barcelona Tower is a very ambitious building, with a design that is focused on energy efficiency and bioclimatic technologies. Its structure is made of concrete, aluminum, and natural stones. A key objective was to combine the highest level of comfort with optimum energy efficiency. The property has achieved Gold Level status in TripAdvisor's GreenLeaders program, which was designed in collaboration with the US Green Building Council's LEED Certification Program, the United Nations Environment Program, and the US Environmental Protection Agency's ENERGY STAR program.

Foundation work for Barcelona Tower began in the summer of 2003, and the hotel opened in 2006. Services to the hotel and upgrades have been implemented in 2008 and 2009. Schneider Electric was originally considered to implement only the electrical distribution in the hotel. Thanks to a strong collaboration with the hotel operator, Schneider Electric was able to understand the specific needs of this project and to build, with its partners, an added value proposal that resulted in a much larger offer scope.

Goal

Provide the highest level of comfort to guests while optimizing energy efficiency.

Story

As a single-source supplier, Schneider Electric provided electrical distribution, power meters, variable speed drives, lighting control, connected devices, and a building management system for centralized management and control of the hotel.

Solution

- EcoStruxure™ Building*
- MV SM6 Cubicles
- LV Prisma Plus Cubicles
- Light and Motion Sensors
- Unica top switches and sockets

Results

- The bioclimatic architecture and systems integration help to achieve more than 30% energy savings
- Renewable energy provides more than 50% of energy needs
- Gold Level status in TripAdvisor's GreenLeaders program

105
metres
Height of hotel

29
No. of floors

30%
Estimated energy savings

Gold
TripAdvisor's GreenLeader's Program Status

The solution: driving efficiency through integrated technology

The EcoStruxure Building solution provided by Schneider Electric followed the building code regulations defined in Spain's Technical Building Code, *Codigo Tecnico de Edificacion (CTE).* Energy savings are estimated to be up to 30%. Key savings in this project have been achieved through the installation and integration of Schneider Electric software, systems, and connected devices:

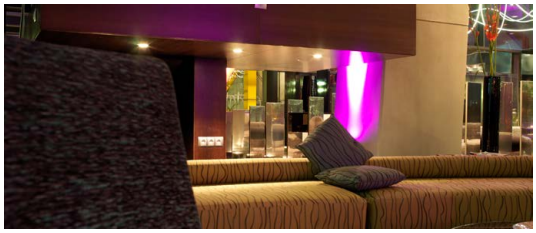
- EcoStruxure Building solution*
  - Provides management of climate and lighting in the public areas
  - Controls the climate and blinds in the guest room suites
  - Monitors energy consumption of the different areas
  - Provides tight control of boilers and air handling units
  - Integrates fire detection alarms
- Connected Products
  - Medium-voltage SM6 cubicles & Trihal transformers
  - Low-voltage Prisma Plus cubicles including PM710 to improve power quality
  - Variable speed drives and motor starters to manage the motors
  - Light and motion sensors
  - Unica top switches and sockets for guest rooms and common areas, to fulfil the interior designer's requirements

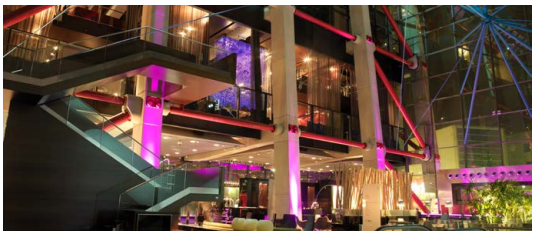
In addition, sustainability strategies were implemented to reduce the project's environmental impact, including the use of the following:

- Hydrothermal and aerothermal installations
- Photovoltaics
- Use of environmentally friendly material from production to recycling.

"The design of the energy solution was one of the most important points for choosing the company to provide the equipment. To be able to provide the Medium Voltage, Low Voltage and a centralised control of all the installations gave us a global solution for the entire building management."

— Innocenci Novell, Maintenance Director at Barcelona Tower during project implementation





Results

Thanks to the excellent design-phase planning and collaboration between Schneider Electric and Barcelona Tower, the hotel enjoys the advantage of a complete, integrated solution from a single solution provider which was specifically designed to help the hotel meet its energy efficiency goals. Benefits to Barcelona Tower Hotel are many, including:

- 30% energy savings
- Full visibility of energy consumption to optimize the installation
- Ability to monitor and control all installations centrally
- CapEx reduction through optimization of the communication and networks
- OpEx reduction through energy efficiency and maintenance optimization
- Optimum level of comfort and safety for guests
- Easy adjustment of temperature and lighting based on room occupancy
- Central control with the capacity to operate autonomously to ensure continuity of service
- Automatic alarms to solve problems before guests become aware of issues
- Load shedding function to automatically connect and disconnect loads based on priority defined by the hotelier
- An open system which can integrate both existing and future third-party systems
- A long-term partnership which includes service contracts and agreements concerning the use of the hotel for corporate events

"Barcelona Tower has an energy efficiency and environment policy. That's why we've invested in the management of items such as twilight switches, which we want to install in the building to control when all the lights come on ... having the Schneider Electric controllers allows us to manage the building from a centralised position, which makes it possible to maintain suitable energy efficiency ratios."

— Innocenci Novell, Maintenance Director at Barcelona Tower during project implementation

EcoStruxure™ for Hotels
Innovation At Every Level

EcoStruxure™
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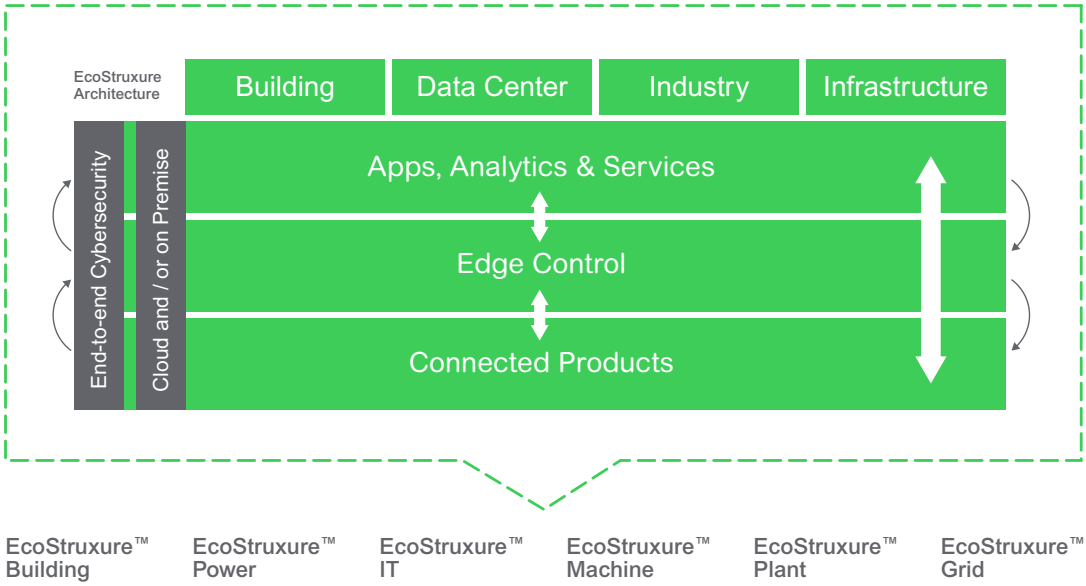
IoT-enabled solutions that drive operational and energy efficiency

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 480,000+ sites, with the support of 20,000+ system integrators and developers, connecting over 1.6 million assets under management through 40+ digital services.

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



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, 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

schneider-electric.com/ecostruxure

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Contact us to start your journey

Sheraton on the Park saves 15% on energy bill thanks to EcoStruxure™ Building upgrade

Barcelona Tower Hotel achieves 30% energy savings with EcoStruxure™

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*Formerly known as Integrated Building Management System

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