

# INNOVATION

Nemours Children's Hospital

Your child. Our promise.

Creating a life-saving environment  
through the IoT-enabled EcoStruxure™  
architecture and platform

Nemours Children's Hospital, Orlando, Florida, USA

An EcoXpert™ partnership helps to deliver a world-class  
healthcare facility that boosts efficiency, comfort, safety,  
and reliability.

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Life Is On

Schneider  
Electric



Nemours Children's Hospital (NCH) in Orlando, Florida is a renowned, state-of-the-art hospital that provides care for children with the most-complex illness and diseases. The hospital is just five years old but already, families seeking world-class pediatric care have come from more than 70 different countries.

NCH, part of the Nemours Children's Health System, was designed through close consultation with families, many of whom had extensive experience with the pediatric health system. "We see many patients from all over the world," said Nelson Roque, Director of Facilities and Operations for Nemours. "Some of our kids unfortunately are here for many weeks and months at a time."

From the way rooms are organized to be as homelike as possible, to the special visits from characters from our local theme parks, everything at Nemours is designed to create a calm, comfortable, and efficient place of recovery for the children and their families.

This attention to excellence extends to the hospital's world-class medical technology, and even to the electrical system that powers this technology and the building itself.

### Building a team

For hospitals, a pure, continuous source of power in a healing environment is essential. It not only provides reliable electricity for equipment to function 24/7, it also provides staff, patients, and parents with the constant peace-of-mind necessary to maintain a successful recuperation environment. Electricity is the fuel that runs the hospital.

To create the power system at Nemours, the hospital called on a team consisting of Schneider Electric EcoXpert™ and other technology partners. Through collaboration, innovation, and expertise, these four firms combined resources to make the Nemours vision for reliable power a reality.

Located in Sanford, Florida, MC2 is a system integrator and Schneider Electric Master EcoXpert™ partner,



certified in building management systems and critical power solutions. Schneider Electric's 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. Stronger



## Goal

To create a world-class power system for a new hospital that ensures a safe, comfortable environment for staff and patients.

## Story

Through collaboration and innovation, four Schneider Electric partners, including one Master EcoXpert partner, worked with Nemours from the early design stages, gaining an intimate understanding of the hospital's needs and the unique power requirements of the advanced medical equipment that would be used.

## Solution

An integrated system built on the IoT-enabled EcoStruxure for Healthcare architecture and platform, enabling critical operational efficiency for this world-renowned healthcare facility.

## Results

A LEED® Gold facility built on a pure, continuous source of power that provides Nemours Children's Hospital with reliable electricity for their equipment to function 24/7.



together, this partnership cultivates collaboration, connects expertise, and delivers best-in-class services and solutions.



TLC Engineering for Architecture is a national company with expertise in mechanical, electrical, plumbing, structural, life safety, fire protection, and energy services. Recognized in 2017 as a JUST organization, TLC's priority is to excel in their design policies and operations. JUST is a transparency platform that informs about an organization's operations, financial and community investments.



Borrell Electric is a well-respected electrical service and contracting company headquartered in Tampa, Florida. Serving its community for more than 70 years, Borrell's electrical technicians are trained and certified on the latest tools and technologies to drive innovation. Borrell proudly boasts a 100% safety record with zero unscheduled outages.



Graybar is a premier supplier of Schneider Electric products throughout Florida and nationwide. An employee-owned Fortune 500 company, Graybar brings deep electrical expertise to everyday power distribution problems as well as more complex design and build projects like Nemours Children's Hospital. Graybar also specializes in advanced supply chain management services for contractors.

By working with the hospital from the very beginning, and then executing as a close-

knit team, the partner companies were able to deliver a world-class power system for Nemours that has met all expectations.

### Delivering the solution

"One of the things the owner chartered us to do was to provide redundancy, resiliency, and safety in our designs," said Vince Rea, Senior Electrical Engineer for TLC Engineering.

To meet this goal, the team developed a 3-tiered power system: critical power for operating theaters and essential medical devices; equipment power for AC, heat, and less critical medical equipment; and convenience power for lighting and amenities in non-critical locations. Incoming electrical power is treated, cleaned, and diverted to the relevant areas and equipment across the hospital, ensuring that sensitive medical equipment receives the precisely the power needed. The system is monitored in real-time by the hospital facilities team. Using EcoStruxure Power Monitoring Expert and Asset Advisor software, the team can use graphical interfaces to view status, generate reports, and identify potential problems before they affect safety or operational efficiency.

Resilience is built into the system. If Nemours ever experiences a power loss, generators automatically fire up and restore full power within ten seconds across the hospital. Schneider Electric switchgear equipment transfers power to the hospital circuits, monitoring and controlling power levels to ensure proper distribution of energy to medical equipment, lighting, and utilities.

While ten seconds to power is rapid response, it is not fast enough in some cases. To fill this gap, Schneider Electric Uninterruptable Power Supplies (UPS) provide immediate battery backup for sophisticated critical assets such as incubators, life-support machines, operating theatres, radiology equipment, and data center.

The result is a smooth-running, seamless power system that keeps the lights on and the equipment operating at all times. Caregivers and patients are never left in the dark, and care is never interrupted by power failures.

up to  
**30%**

operational efficiency

**24 x 7**

Assured, continuous power operation



### The power of partnership

Technology played a big part in the project success. But everyone involved agrees that it's also a story about partnership and teamwork. "I think the teamwork in innovative product delivery from the very beginning, with all the team players involved, made it a very successful project," said Vince Rea of TLC Engineering.

Justin Powell of Graybar agreed: "There's a personal touch, a personal relationship." And Roy Hoffman, president of MC2, stated "We were able to work as an extension of Schneider Electric."

Brian Keemer, Manager Healthcare Solutions, Schneider Electric, summed it up well: "There is nothing more important

than our value chain. All the players are doing what they're supposed to do. They have expertise, skill, and capability in the industry to make it all happen for the end user so that kids are able to receive their treatment, and doctors are able to deliver their skill."

Most importantly is the satisfaction that the people at Nemours Children's Hospital feel about the performance of the partners who delivered this project. As Mr. Roque states, "We have a number of partners that we have had for many years. I can't brag enough about the quality of work that they've done for us. To have partners that continue to perform for you every time, every job, is wonderful."

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– Nelson Roque,  
Director of Facilities,  
Nemours Children's  
Hospital

EcoStruxure for Healthcare implemented at Nemours Children's Hospital



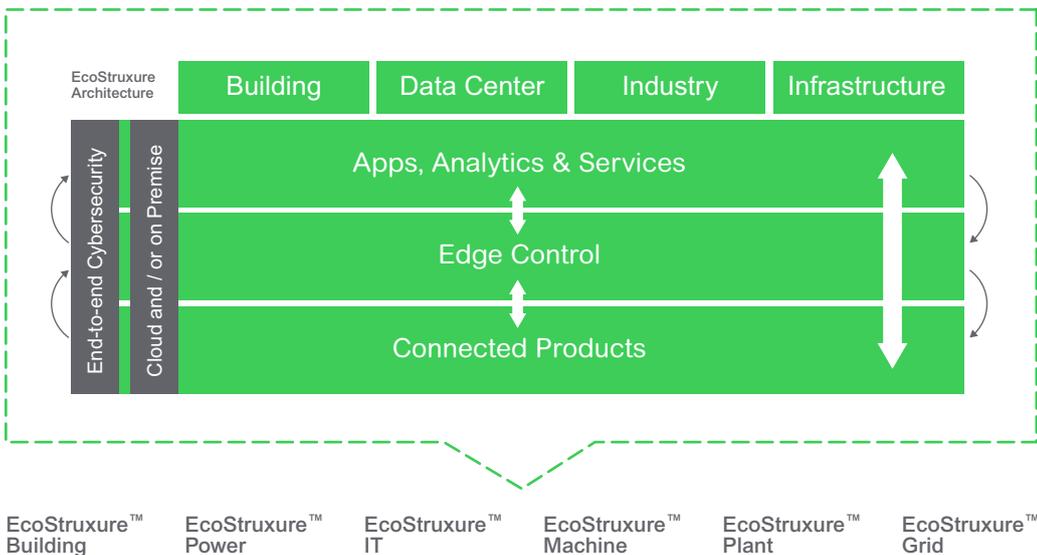
EcoStruxure™  
Architecture

# EcoStruxure™

## Innovation At Every Level

### IoT-enabled system architecture and platform that drives operational and energy efficiency

EcoStruxure™ by Schneider Electric is our open, interoperable, IoT-enabled system architecture and platform. EcoStruxure delivers enhanced value around safety, reliability, efficiency, sustainability, and connectivity for our customers. We leverage technologies in IoT, mobility, sensing, cloud, analytics, and cybersecurity to deliver Innovation at Every Level. This includes Connected Products, Edge Control, and Apps, Analytics & Services, Analytics & Services. EcoStruxure has been deployed in 450,000+ installations, with the support of 9,000 system integrators, connecting over 1 billion devices.



### 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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Another EcoXpert story featuring EcoStruxure for Healthcare at Watson Clinic



Contact us to start your journey

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