



New digital-first BMS service elevates outcomes for children's hospital

WADE COMPANY, EcoXpert partner — Little Rock, Arkansas

With a reputation for improving building management systems (BMS) uptime and reducing energy waste, Wade Company deployed EcoStruxure™ Building Advisor's digital service platform to help a new children's hospital reach its energy efficiency and uptime goals.

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"The [EcoStruxure Building Advisor](#) digital platform is watching all of the time, 24/7, so I only need to use one team member to address priority issues as they are developing." – Danny Brown, Principle, Wade Company

For healthcare facilities where uptime and energy efficiency can make the difference between life and death, facility managers need a more digital and remote approach to BMS. Healthcare facility managers are also facing increasing pressure from regulatory agencies to reduce their carbon emissions, requiring more oversight of building systems to reduce energy waste.

For example, energy efficiency and carbon emissions can have a significant impact on healthcare facilities' regulatory obligations, such as the [Sustainable Healthcare Certification \(SHC\)](#) requirements established by The Joint Commission (TJC). By improving energy efficiency to meet TJC requirements, healthcare facilities can reduce operational costs, minimize environmental impact, and ensure a safe and comfortable environment for patients and staff.

All of these issues were top of mind for one facility manager of a new children's hospital, who was responsible for maintaining the new hospital that included 350 zones used to define the physical space within the facility, including 11 air handling units (AHUs). The facility manager was also under pressure from hospital stakeholders to meet ENERGY STAR ratings to show the hospital's progress in decarbonization efforts.

Because the facility manager did not have the manpower to maintain and optimize energy efficiency for a 350-zone hospital, he contracted a new service agreement with Wade Company, his trusted BMS maintenance partner who had serviced multiple facilities for the same hospital system since 1980.

Situation: Time to elevate the service partnership

Danny Brown, Principle of Wade Company, and his project manager Jeremy Hammonds, had already built a reputation for improving BMS uptime and reducing energy waste through customized maintenance solutions and retrofits. They were also known by the children's hospital for their responsive, boots-on-the-ground service.

"Real service goes beyond control systems," says Hammonds. "It's about maintaining systems the way they were designed to be maintained. That's what made the hospital system partner with us for more than 40 years."

Goal

Elevate BMS maintenance outcomes with digital-first service to root out energy waste and increase uptime for environmental controls in five operating rooms and a pharmacy.

Story

Wade Company was selected by the new hospital to help find opportunities to reduce energy waste and increase energy efficiencies to maintain an ENERGY STAR® rating of 75.

Solution

Wade Company selected the EcoStruxure Building Advisor digital service platform as the solution to meet the new hospital's energy efficiency goals, with capabilities that include:

- Continuous BMS condition monitoring
- Actionable data with analytics reporting
- Prioritized tasks and energy scores in an intuitive dashboard

Results

- The digital service platform saved the hospital labor costs for maintaining the 350 maintenance zones and Wade Company did not have to hire an analytics engineer to diagnose and report BMS issues.
- Wade Company was able to help the hospital meet The Joint Commission (TJC) regulatory requirements for optimal BMS conditions in the operating rooms while increasing efficiency and systems' uptime.
- Thanks to BMS improvements by Wade Company, the children's hospital has surpassed its ENERGY STAR rating of 75 and now regularly ranks in the top 10 in the nation for ENERGY STAR ratings.

But Hammonds and Brown needed to advance their service delivery capabilities to help the new children's hospital maintain their ENERGY STAR efficiency rating while ensuring TJC compliance and systems' oversight of five essential operating rooms and a pharmacy.

The new maintenance contract with the hospital would require nearly continuous condition monitoring of essential control systems and actionable reporting to maintain a 75 ENERGY STAR rating. (A score of 75 or higher indicates the building is a top performer.)

It was time for Wade Company to find a new way to elevate their BMS service offerings to meet the needs of their number one customer.

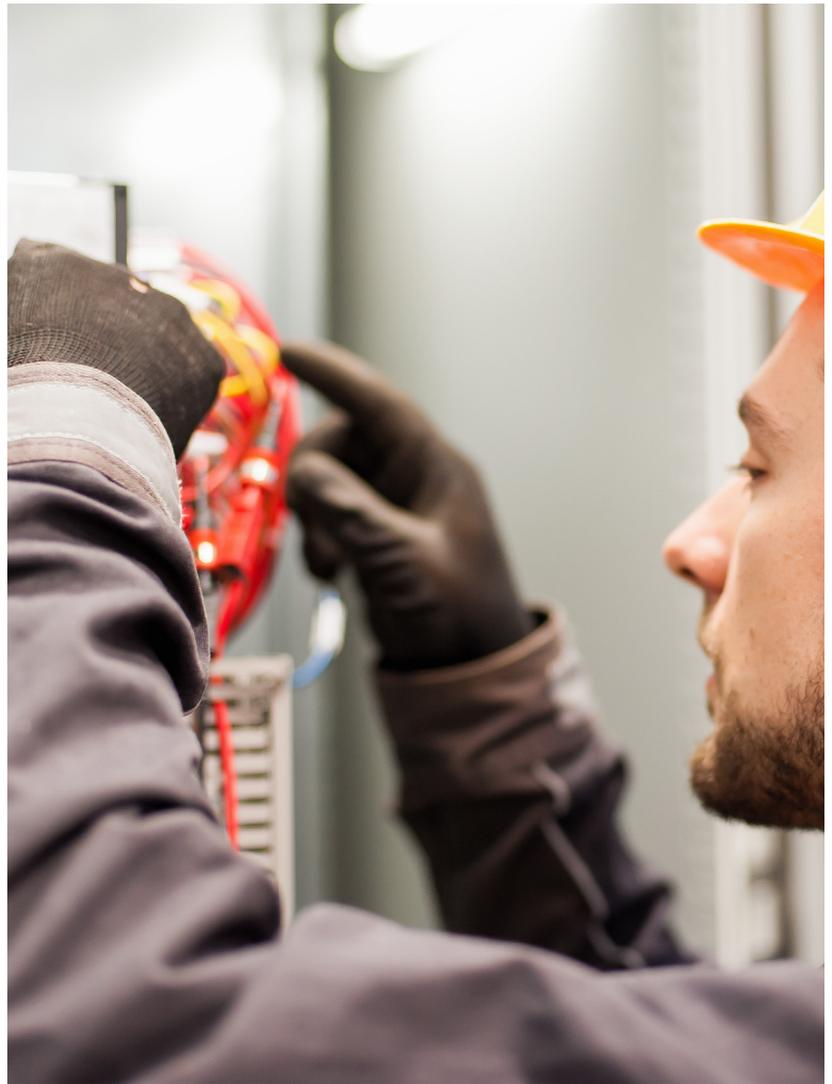
Hospital challenges: Financial and maintenance hurdles

Because ENERGY STAR-rated environmental controls are more energy efficient, healthcare facilities can save a significant amount of energy costs in the long run. For example, according to the American Society for Healthcare Engineering (ASHE), a hospital with a low [ENERGY STAR score](#) has a cost per bed of about \$11,700, while a hospital with a higher ENERGY STAR score has a cost per bed of \$8,050. Also, [ENERGY STAR-labeled office buildings](#) have annual energy bills that are at least \$0.50 per square foot lower than the average building, or 35% lower.

While the children's hospital did have a maintenance team to oversee staff and patient comfort controls, they did not have the manpower to maintain their desired ENERGY STAR rating. As the hospital and control systems would inevitably begin to age, the hospital lacked the bandwidth to maintain optimal energy efficiency.

Maintenance partner challenges: Delivering desired outcomes

Even before the new children's hospital maintenance contract, Wade Company's workforce was nearing maximum capacity for their multiple service contracts. It simply was not possible for Hammonds to be onsite



at the new hospital every day. To meet the hospital's energy efficiency goals, Wade Company would have to hire an analyst and possibly additional maintenance staff to service, monitor, and report progress toward the desired ENERGY STAR rating.

"Even if we could touch every Variable Air Volume (VAV) box in the hospital once per year, that is only a snapshot in time," Brown says. "Something could go wrong right after the snapshot was taken and the on-site team may not be the wiser."

Or, there could be a faulty environmental sensor, which may not be detectable until after the AHUs are no longer operating at optimal efficiency and are already wasting energy. Preventing energy waste from system issues like these would require

EcoStruxure Building Advisor works as Wade Company's virtual maintenance and analytics staff to monitor systems 24/7 and flag anomalies, prioritized by urgency, in condition monitoring reports.

continuous monitoring and data analytics.

The power of collaboration and digital service integration

Brown and Hammonds chose EcoStruxure Building Advisor as their digital-first service solution to continuously monitor the hospital's 350 zones, including environmental controls in the five operating rooms where systems' uptime was essential. The digital service platform now works as Wade Company's virtual maintenance and analytics staff to monitor systems 24/7 and automatically generates work order tasks for flagged anomalies.

"Now it's like I have a set of eyes on the BMS control systems all the time, so I don't have to be onsite at the hospital every day," Hammonds says. "EcoStruxure Building Advisor alerts me to issues that I can often find and fix without being onsite, or fix more quickly when I am onsite."

The continuous monitoring functionality is

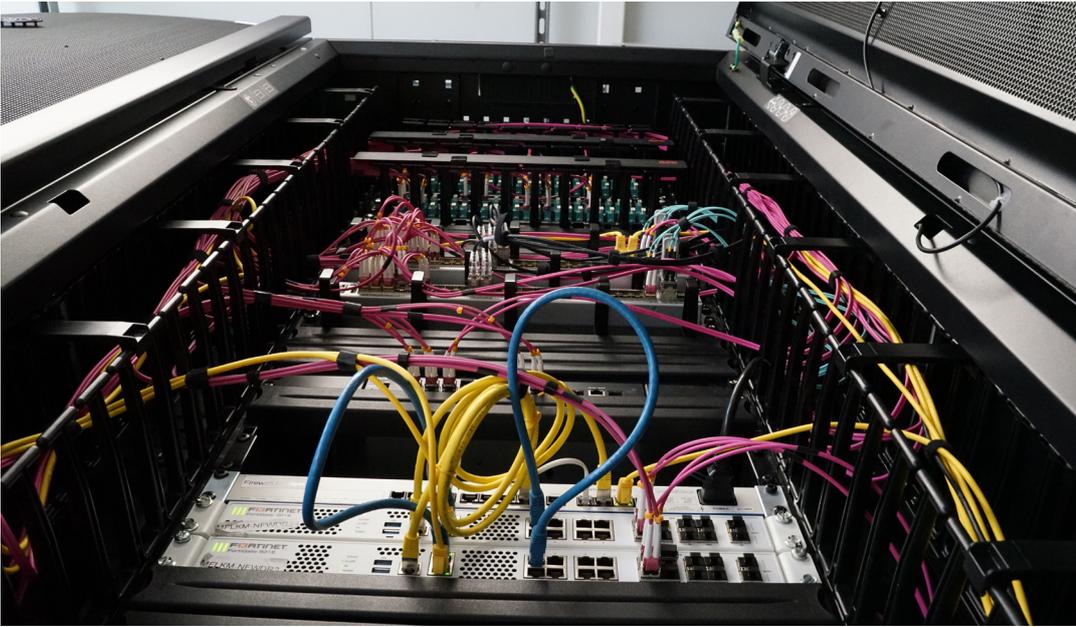
key to fulfilling Wade Company's service agreement to support TJC Utility Systems Management Report requirements. These include keeping the five operating rooms in compliance with a positive room pressure and maintaining the room humidity between 40-55%. These systems also impact uptime, so Wade Company is responsible for room pressure monitors, VAV controls, and return air damper controls to maintain the positive air pressure for each operating room.

EcoStruxure Building Advisor continuously gathers performance data for these systems into condition monitoring reports. Hammonds then reviews the reports with the hospital's facility manager, so they can identify the best opportunities to drive energy efficiency and sustainability.

The condition monitoring reports also show the hospital's progress in reducing carbon emissions. This progress is reflected in "Energy Scores" which include annual carbon savings, electrical savings, and

There is also the financial impact of increased uptime in operating rooms when controls are operating at maximum efficiency and when those systems are helping to maintain patient and staff comfort.





The EcoStruxure Building Advisor analytics, combined with digital-enabled condition monitoring and reporting, work as the building blocks to better BMS outcomes, such as reduced energy waste for ENERGY STAR ratings.

annual cooling and heating savings. These savings all add up to a higher ENERGY STAR rating, as well as reduced energy costs.

“We’ve been able to use these energy savings to help the children’s hospital maintain an ENERGY STAR rating of 83-89, which regularly places the hospital in the top 10 for rankings in the nation,” Hammonds says. “Comfort scores are also very important, but if you’re getting a high ENERGY STAR rating, comfort, uptime, and regulatory compliance are usually guaranteed because environmental controls are at optimal performance.”

Condition monitoring and reporting benefits for Wade Company

Because EcoStruxure Building Advisor is continuously monitoring hospital systems, Hammonds now has more time to review the analytics to find opportunities for new energy-saving efficiencies and optimizations.

For example, a condition monitoring report recently revealed that an operating room AHU was humidifying when it should have been dehumidifying. Hammonds was able to quickly diagnose the cause, which was a malfunctioning humidity sensor.

“Eventually humidity alarms would have alerted us to the issue,” Hammonds says. “But the analytics and reporting flagged

the issue sooner, so it took me less time to diagnose and resolve the task.”

For Brown, the continuous monitoring and reporting capabilities saved him from having to hire a new analyst to review all of the hospital’s systems and generate the condition monitoring reports.

“The EcoStruxure Building Advisor digital platform is watching all of the time, 24/7,” he says. “So I only need to use one team member to address priority issues as they are developing. This provides great labor savings. The cost of adding a full-time BMS specialist would far exceed the cost of leveraging the new technology into my digital service agreement.”

Condition monitoring and reporting benefits for the hospital

For the children’s hospital facility manager, EcoStruxure Building Advisor serves as an extension of his maintenance staff to show his progress to stakeholders in reducing carbon emissions. The condition monitoring reports gather the results from work order tasks into a bird’s eye view of all the carbon and energy savings that add up to a higher ENERGY STAR rating.

The same condition monitoring reports are helping the facility manager meet his TJC requirements for energy efficiency and uptime for essential environmental controls in the operating rooms. There

is also the financial impact of increased uptime in operating rooms when controls are operating at maximum efficiency and when those systems are helping to maintain patient and staff comfort.

For example, according to a study by the [National Library of Medicine](#), part of the National Institutes of Health (NIH), the estimated annual cost of elective inpatient and outpatient surgical procedures in the United States was \$147.2 billion and the estimated total hospital reimbursement was \$195.4 to \$212.2 billion. This resulted in a net income of \$48.0 to \$64.8 billion per year for the U.S. hospital system. Cancellation of all elective procedures would result in estimated losses of \$16.3 to \$17.7 billion per month in revenue and \$4 to \$5.4 billion per month in net income to U.S. hospitals.

“At the end of the day, we’re helping the children’s hospital save money,” Hammonds says. “With EcoStruxure Building Advisor, we can quickly flag issues that are wasting energy that the hospital otherwise may not know about. Many of these system issues impact uptime and hospital revenue.”

Building trust to provide better outcomes

One key benefit of digital condition monitoring and reporting is that it creates more opportunities for human collaboration. Hammonds says the EcoStruxure Building Advisor’s digital platform is responsible for growing his customer relationship with the hospital facility manager into a true partnership.

“Once the facility manager could see how we were saving the hospital money in the analytics and condition monitoring reports, it really evolved Wade Company into a trusted advisor,” Hammonds says.

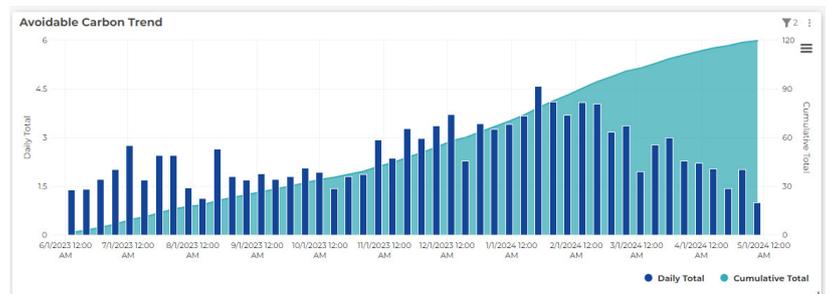
“He can see specific energy savings related to closed tasks and he can share those findings with his stakeholders.”

Hammonds says the hospital facility manager now sees Wade Company as a trusted advisor for the BMS data the hospital needs to find new energy-saving opportunities. The facility manager also trusts Hammonds to make recommendations for retrofits and system

upgrades, which can add up to additional pull-through revenue for Wade Company.

According to Brown, it’s the “proof of performance” that EcoStruxure Building Advisor provides that builds trust with their number one hospital customer.

“The condition monitoring and reporting is a huge value,” he says. “It is my value report to the customer. It is my proof of service.”



The EcoStruxure Building Advisor platform tracks energy, comfort, and maintenance scores over time. Throughout their BMS service, Wade Company has completed 123 tasks that resulted in 173 tonnes of annual carbon savings and 232,378 kilowatts (kWh) of annual electric savings. Graph and data represented from 7/1/21-5/1/24.

WADE COMPANY

Start building better outcomes with EcoStruxure Building Advisor

Ready to become a trusted advisor to your customers? With EcoStruxure Building Advisor, you can elevate your customer relationships to trusted partnerships to grow new revenue streams and business opportunities.

Reach out to your Schneider Electric territory sales manager to learn how the integration of a digital-first service model can transform your customer relationships.

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