

Customer Spotlight:

Satellite Broadband/Managed Services Provider Deploys Enel X's Energy Intelligence Software to Find Savings, Improve Operations, and Cut Carbon

The Organization

Hughes is the world's leading provider of satellite broadband for home and office, delivering innovative network technologies, managed services, and solutions for enterprises and governments globally. HughesNet® is the #1 high-speed satellite Internet service in the marketplace, with offerings to suit every budget. To date, Hughes has shipped more than 3 million systems to customers in over 100 countries, representing over 50 percent market share.

Headquartered outside Washington, D.C., in Germantown, Maryland, USA, Hughes operates sales and support offices worldwide and is a wholly owned subsidiary of EchoStar Corporation (NASDAQ: SATS), a premier global provider of satellite operations and digital TV solutions.

Hughes actively seeks ways to reduce the cost of energy across its facility portfolio, including starting a sustainability program that is a driving force behind many of its energy-related initiatives.

Hughes monitors customer networks 24/7/365 to ensure reliable services to its customers from its Germantown national Network Operations Center facility. Facilities manager Amy Pangburn notes that electricity costs are the single largest expense in the Hughes facilities budget and more than 80% of the Germantown data center's electric

load is driven by air conditioning. Improving energy efficiency, although challenging in this environment, is an absolute must. "Managing our electric power requirements better offers a big potential for savings," says Pangburn, who is responsible for facility services, utility management, and sustainability at the Hughes Maryland locations.

Hughes approaches energy costs and efficiency methodically, achieving success by leveraging one successful initiative into another. The company started an equipment efficiency program with EnergyPro, LLC, who recommended that it partner with Enel X. After careful evaluation, Hughes deployed Enel X's energy intelligence software (EIS), turning its flexibility into revenue through demand response and reducing operational costs through continuous facility optimization.

Deploying Enel X's Energy Intelligence Software

Hughes chose Enel X's energy intelligence software to maximize operating efficiency at seven buildings comprising the Germantown headquarters. Enel X installed small gateway devices to collect Hughes' real time energy and operational data and stream it to Enel X's cloud-based EIS platform. Hughes relies on Enel X's Facility Optimization component of EIS to take the data and analytics to the next level by serving up a prioritized list of detailed energy and operational measures. Tim Zirkle, HVAC



INDUSTRY

Telecommunications



LOCATION

Germantown, MD



ANNUAL SAVINGS

\$33,000



ELECTRICITY REDUCTION

2,490,000 kWh/yr



GREENHOUSE GAS REDUCTION

2,097 tons/yr of CO₂

“I’ve found that small changes can accumulate into a large volume of savings. Even the low- and no-cost savings add up.”

—Tim Zrkle, HVAC Systems Manager

Systems Manager, is the hands-on BMS and environmental systems expert at Hughes and works closely with the Enel X team. Both he and Pangburn agree that Enel X’s software and engineers provide a critical outside perspective, backed by detailed data and experience. “Enel X is able to take a larger macro view and give a long range forecast of efficiency and savings in true time,” says Zirkle.

Hughes works with their Enel X Energy Advisor to evaluate each recommendation and prioritize implementation, using their internal resources and vendor network to implement the measure. Once completed, Enel X’s software verifies that expected efficiencies have been achieved. Importantly, the software continues to monitor equipment performance to ensure that the savings achieved through different measures do not erode over time through building drift. “It’s been a really good team effort on both sides,” adds Pangburn.

With Hughes aggressively implementing measures, the teams have a weekly tag-up meeting to review ongoing progress and keep the ball rolling.

The Results

Over \$900,000 in potential energy efficiency savings have been identified at Hughes after they deployed Enel X’s software. Further, because Hughes diligently implements the no- and low-cost measures, more than \$480,000 in annual savings have been verified and realized. “The partnership has done well and beyond what we thought we would be getting. We’ve exceeded our initial target already,” says Zirkle.

Eighty-seven percent of Enel X’s measures for Hughes have been no- or low-cost with a payback of less than one year. “We’ve found many ways to be more efficient by modifying the BMS programs, scheduling the use of our equipment, and adjusting our air handler and space temperature operating strategies,” says Zirkle.

Hughes has also implemented measures including variable frequency drive (VFD) conversions, economizer operation programming changes, and water meter installation on cooling towers to reduce sewer costs.

In addition to no- and low-cost measures, some energy efficiency measures require capital expenditures. For these, Enel X gave the Hughes team the information they needed to make smart decisions about resource allocation and long term capital investments. For example, although Hughes can obtain substantial savings by replacing their rooftop air conditioning units immediately, they chose to schedule the replacements over the next three years rather than take a single, large budget hit.

The cumulative savings from Enel X so far have been a bit surprising to Zirkle. He admits, “I’ve found that small changes can accumulate into a large volume of savings. Even the low- and no-cost savings add up.”

The Benefits

Increased Savings and Profit:

Enel X’s EIS delivers real energy savings by targeting high ROI opportunities and delivering them in an intuitive workflow to ensure they are rapidly resolved. No- and low-cost measures are a major focus of each engagement, making sure that customers can gain savings quickly, achieve shorter payback periods, and gain traction for measures that have impactful savings behind an upfront capital expenditure.

New and Ongoing Insights:

“You can’t be old school. You have to stay up-to-date or you’re dead in the water,” says Zirkle. With more than 40 years in facilities management, Zirkle knows that it’s crucial to be proactive with energy management and stay current on technology. By putting Hughes energy management in the cloud and pairing it with true energy expertise, Enel X made it easy to rapidly identify measures down to the system level, saving time and money.

Trustworthy Partnership

Bringing in an outside team to evaluate your facility's energy-related operations can feel a little threatening. "I was skeptical letting data go outside our walls—we keep close ties to our data within the organization. I wondered, can they change or modify anything or are they just looking?" said Zirkle. His initial unease faded when he began working more closely with the Enel X team, who valued the Hughes data as much as he did and showed him how his implementation of the measures would result in savings.

"The team," Zirkle says, "always bends over backwards, they want you to ask questions and they either know the answer or they will find out. I'm amazed at all the detail. There's never a question that goes unanswered."

Delivered Results:

Amy Pangburn had dealt with other vendors that promised savings, but she did not always see the results. With the ability to access their data realtime in the cloud, "I have actually seen the kilowatt hours go down," says Pangburn. Enel X verifies the actual performance of measures to make sure customers are getting what they expect. "This has been one of our more successful sustainability efforts resulting in significant savings," says Pangburn.

Executive Reporting:

In addition to real-time data, Enel X's software provides regular reports that make it easy for facility managers to communicate program progress and realized financial impact to upper management. Each quarter, Pangburn passes the report directly on to her supervisor and senior management team.