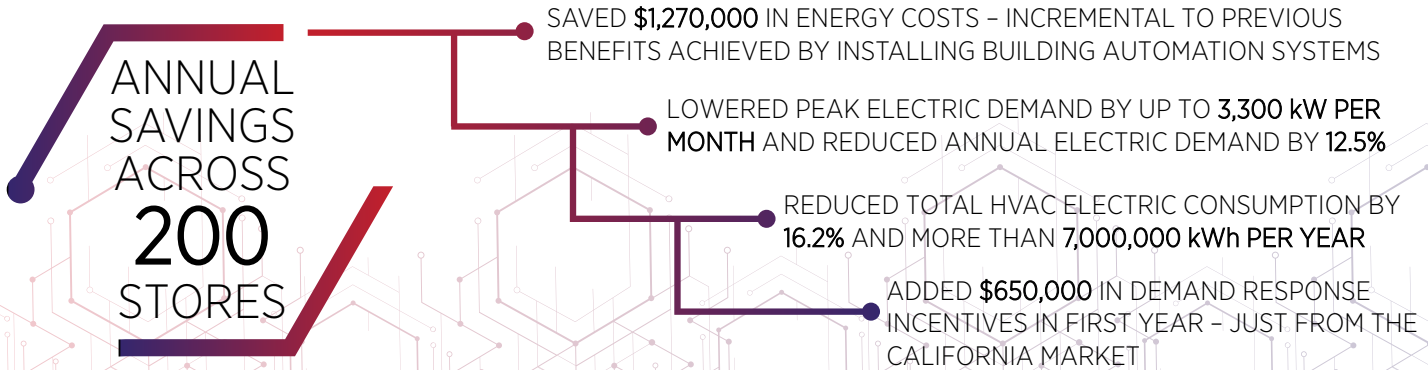




### HOW ENCYCLE HELPED A BIG-BOX DEPARTMENT STORE CHAIN REAP NEARLY **\$2 MILLION** IN ANNUAL ENERGY SAVINGS AND DEMAND RESPONSE INCENTIVES.



## BIG-BOX DEPARTMENT STORE

### NATIONAL RETAIL CHAIN SCORES SEVEN-FIGURE ENERGY SAVINGS

This well-known U.S. department store customer was looking for scalable ways to reduce energy use, which had become a top-five operating expense. Its stores ranged in size from 24,000 to 208,000 square feet, with the average store size being 105,000 square feet.

Like most retailers, this big-box retail chain had a lean facility management team that realized they needed better visibility into the performance of its existing HVAC equipment to help them develop an achievable cost reduction action plan. Additionally, the team knew it was missing out on revenue opportunities by not fully participating in demand response programs offered by utility companies across the country. In addition to operating across the continental U.S., the retail giant also had stores in Hawaii and Puerto Rico, which increased the range of climate zones that any one viable solution needed to support.



## CUSTOMER CHALLENGES

- Energy was a top-five operating expense, prompting the need to find scalable ways to lower energy spend, consumption, and peak demand.
- Lack of insight and visibility into the performance of existing HVAC equipment was limiting facility management's ability to anticipate and prioritize budget maintenance activities.
- Missed Demand Response (DR) revenue incentives offered by utilities nationwide due to a lack of technology required to participate in DR programs.

## SWARM LOGIC RESULTS

Operating autonomously in the background, the scalable solution created meaningful value across all geographies while maintaining comfort for shoppers and employees. The quick and seamless integration enabled HVAC units at each site to operate as a networked system, responding more efficiently to changing conditions such as outdoor temperature and building occupancy, thereby apportioning energy consumption more logically.

The customer viewed Encycle as an extension of their internal team, trusting their experienced energy analysts to provide the technical support and cloud-based solutions needed to transform the way their HVAC systems performed.

The facilities management team also gained access to valuable analytics on the performance of their HVAC systems, including identification of under-performing units. Having this type of real-time data enabled the team to direct its mechanical maintenance budget and resources to those units negatively impacting store comfort and causing the greatest excessive electric consumption and spend.

## ENCYCLE'S SWARM LOGIC SOLUTION

The customer deployed Encycle's Swarm Logic cloud-based technology through integration with their existing building automation systems across 200 of its stores and a total of nearly 3,000 HVAC units to keep occupants comfortable while still operating at top efficiency.

Fine-tuned energy management by Encycle's Swarm Logic solution delivered \$1,270,000 in annual energy savings, dramatically improving the company's bottom line. These savings were in addition to those already realized by previously installed building automation systems. After deploying Swarm Logic, reductions in HVAC peak electric demand and consumption per year reached 12.5% and 16.2% respectively.

With Encycle's guidance, the customer enrolled many of its California, Pennsylvania, Hawaii, and Puerto Rico facilities in DR programs. Swarm Logic technology also enabled participation in DR events in several markets, which yielded \$650,000 in yearly incentives from the California market alone.

*"WE FOUND THAT SWARM LOGIC REDUCES PEAK ELECTRICAL DEMAND WHILE MAINTAINING STABLE INTERIOR TEMPERATURES BY MINIMIZING THE NUMBER AND SIZE OF LOADS UNNECESSARILY RUNNING CONCURRENTLY, REDUCING HVAC UNIT RUN TIMES BY 10-20 PERCENT (OR MORE), DEPENDING ON BUILDING AND SPACE TOLERANCES."*

*PROGRAM MANAGER WITH A MAJOR CALIFORNIA ELECTRIC UTILITY*



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