



ABOUND



An American discount retailer achieves multiple goals with AI, IoT, and remote operations.

Standardized store and equipment operations, improved occupant comfort, and exceeded target cost savings across over 2,100 stores in the USA.

The Client

An American chain of discount department stores operates in over 45 states in the USA. They focus on bringing customers high-quality department and specialty store brands at great savings while providing an exceptional experience.

The Challenge

The retailer faced challenges around the rising demand for occupant comfort while also trying to reduce energy and maintenance costs across their store network. They wanted to standardize HVAC and lighting configurations and monitor all stores from a central location, to preempt and proactively resolve issues for better equipment performance. However, an average of 7-8 rooftop units (RTU) of different brands per store, increased the complexity of the challenge.

The Solution

To overcome these challenges, the retailer partnered with Carrier Abound to deploy their AI and IoT-driven services across the store network. The initiative leveraged the existing building management system, sensors, meters and equipment across the retailer's store network. These were on-boarded onto our Abound™ Insights platform. The platform processed the data extracted from the connected systems and analyzed it to discover energy efficiency and store operation improvement opportunities. The platform would advise the potential impact of issues and recommend corrective actions for them, which helped in prioritizing actions across the store network.

The stores were supported by our 24/7 BluEdge™ Command Centers – who offer a centralized service desk for remote diagnostics and technical assistance that captures insights and takes effective measures to resolve issues. The Command Centers with its team of data scientists, HVAC, controls and other domain experts enabled the retailer to meet their business objectives through round-the-clock service, proactive actions and continued supervision of the stores' equipment operations and maintenance.

Along with the Abound Insights platform, seamless connectivity to an automation software package was also enabled, which offers automatic corrective actions. This enabled the retailer to eliminate a range of manual tasks, and significantly reduced the need for unscheduled maintenance, while also becoming more agile to any issues that could arise.

The Abound Insights platform provided predictive insights to the Command Centers to ensure the equipment's health effectiveness. These insights helped introduce several strategic initiatives to effectively manage energy consumption.

The Command Center team introduced a Repair and Maintenance (R&M) program to address controller issues, focusing on delivering cost-effective solutions to problems with quick resolution times. This initiative led to a notable reduction in downtime for the Building

Management Systems. Additionally, it offered the retailer visibility into the status of each R&M work order.

The team created weekly weather reports to tackle equipment issues in the retailer's widespread store network. The report covered temperature changes, storms, and fires, providing insights into possible impacts on stores' operations. It enabled the team to take proactive actions, address comfort issues, and facilitate early planning for storm support. Furthermore, during extreme weather conditions such as hurricanes, the team provided hourly updates on the operational status of stores, accompanied by the latest weather reports.

In 2022, the retailer began participating in Demand Response (DR) events. The command center team set up the environment (configuration, batch files) for over 350 stores to support the selected DR events. In 2023, this was scaled up to over 800. Subsequently, in early 2023, an Automated Demand Response (ADR) program was launched for the retailer.

The services by Carrier Abound standardized the way the retailer manage energy and implemented HVAC and lighting controls-based savings strategies. In addition to cost reduction, the retailer got unprecedented visibility into store energy operations which led to an increase in overall compliance levels.

The Result

Carrier Abound implemented complex control logic and robust operating processes to deliver significant cost savings and efficiency in operations. This partnership with Carrier Abound became cash-positive for the retailer in its first year through a share of the energy cost savings delivered by the program, exceeding expectations.

As of 2023, Carrier Abound:

- delivered energy savings of 104 Million kWh over 4 years of the engagement
- remotely resolved 45% of work orders around HVAC and lighting, saving over USD 5 Million⁽¹⁾ from truck roll avoidance
- handled over 26,000 work order dispatches to the stores to ensure smooth fixes
- met the set operational service-level agreement (SLA) for calls and tickets - 91% calls were answered within 20 seconds

⁽¹⁾Disclaimer: This value is based on assumed value per truck roll

Write to us at abound@carrier.com for more on how we can help your company achieve its business and sustainability goals.

About Carrier Abound

Carrier Abound provides digitally connected lifecycle solutions and services for diverse building portfolios. The solutions and services enable building management to see deeply and broadly across their assets, prioritize and act on real-time insights, and refine, adapt, and scale on a continual basis to improve energy efficiency and asset performance, enhance occupant comfort and productivity, and streamline compliance reporting. Carrier Abound is part of Carrier Global Corporation.

For more information, please visit abound.carrier.com. Join the conversation on [LinkedIn](#).

