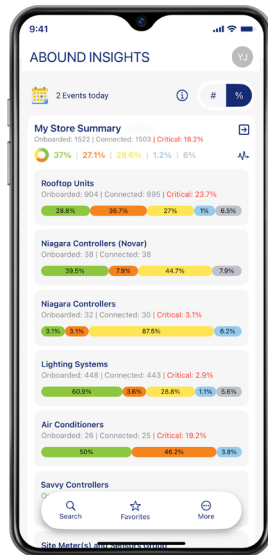




ABOUND

AI Assistance For Retail Store Energy Efficiency

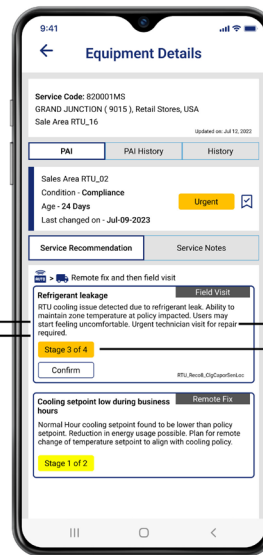
A centralized dashboard offering summary of equipment health and actionable statuses for a portfolio of sites.



Portfolio Summary

What is the problem with a Piece of equipment?
RTU cooling issue detected due to refrigerant leak

What is the impact of the problem?
Ability to maintain zone temperature at policy impacted. Users may start feeling uncomfortable



Prescriptive Recommendations

What is the corrective action to be taken?
Urgent technician visit required to repair

How close is the equipment to breaking down?
Stage 3 of 4

The Abound™ Insights platform enables saving the time, effort and costs involved in operating and maintaining store equipment and making them energy efficient.

The Abound Insights platform is an Artificial Intelligence (AI) and Internet of Things (IoT) platform that focuses on predicting equipment behavior and enabling retailers to operate them efficiently. The platform analyzes data from connected equipment and either acts on the predictions automatically or provides prescriptive recommendations in natural language. Implementing the recommendations helps retailers to prevent equipment failure and reduce maintenance and energy costs.

The Abound Insights assistant interface simplifies the execution of the recommendations by bringing together retail energy managers, facility managers and maintenance partners in an integrated, intuitive user interface. The Abound Insights assistant interface summarizes the recommendations from the Abound Insights platform and helps users create and execute worklists. These worklists are proactive and can be prioritized according to the urgency of the situation.

The Abound Insights Assistant application's intuitive interface enables energy and facility managers to:

1. Create worklists categorized by trade (HVAC, electrical, controls, etc.)
2. Distinguish between tasks that can be executed remotely or onsite
3. Export and send worklists to appropriate maintenance partners
4. Track and validate the progress of the maintenance activity
5. Check the effectiveness of the maintenance activities

Facility managers can subsequently extend the assistant interface's utility to include their maintenance partners, who can:

1. Receive a prioritized Abound Insights Assistant application enabled work list and plan their activities
2. Review system generated recommendations and repair history, and carry out repairs
3. Confirm, update or scan in the repairs and parts utilized
4. Validate their against from the equipment health status
5. Export and email their work summary to their supervisors or back to the facility managers

The implementation of the recommendations brings visibility, agility and predictability to operations by:

1. Reducing unplanned equipment downtime, which improves user experience and reduces emergency repair costs
2. Enabling "early repairs" instead of "near to failure repairs", thus reducing wear of critical parts and avoiding costly replacements
3. Enabling effective and comprehensive maintenance in each visit, increasing the mean time between failures and the 'time till the next maintenance visit'
4. Enabling accurate repairs, without depending on the experience level of the visiting technicians

The Abound Insights platform delivers value to retailers

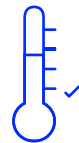
For a large retailer with over 1,900 connected stores in North America, the use of the Abound Insights platform enabled:



Energy saving over
24% with year-on-year
increased saving



26% improvement in the
mean-time between HVAC
technician visits to sites



94% temperature
compliance

Get your retail stores connected to the Abound Insights platform

The Abound Insights platform enables a new way of working with store equipment for maintenance and operations. The platform offers usage of its Abound Insights assistants* for most of the equipment categories from multiple Original Equipment Manufacturers (OEM), that are typically installed at retail stores including:

1. Heating Ventilation and Air Conditioning – Rooftop units (RTU, constant and variable volume), unit heaters, etc.
2. Lighting – Dimmable and non-dimmable systems
3. Refrigeration cases
4. Building Management System (BMS) Controllers – WebCTRL® controllers, Niagara Framework® controllers, etc.
5. Site sensors and meter network

*The detailed catalogs of capabilities of the Abound Insights assistants are available on request.

Each of the Abound Insights assistants cover multiple aspects of the above categories of equipment, be it mechanical, electrical, controls or connectivity problems.

Connecting to the Abound Insights platform is simple with multiple BMS and IoT connectors available, including an open API for streaming data. A recommendation feed API from the platform is available for integrating with a retailer's own business applications.

Why choose the Abound Insights platform over others?

	The Abound Insights Platform	Other platforms
Approach	Proactive	Reactive
Intelligence	Preventing the failures in equipment and their processes from occurring	Fault Detection and Diagnostics (FDD)
Application of Intelligence	What is to be done to prevent something from going wrong?	What went wrong? What is the root cause?
Outputs	Natural language recommendations, as well as graphs and charts for further analysis	Graphs and charts
Equipment supported	Multiple stacks and multiple ways of integration	Specific to one stack
Business Model	Multiple models: SaaS, outcome-based service with flexible pricing models	Mostly SaaS or on-premises

E-mail us at abound@carrier.com for more on how we can help you and your teams manage building operations more efficiently.

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, global leader in intelligent climate and energy solutions.

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

