

“We began with a test of the Smart Refrigeration Solution in one store, and that initial store has achieved a 19% improvement in energy efficiency. As a result, we have expanded the solution to the first set of stores and plan to roll it out to more stores as we continue to see the benefits.”

— Charlie Lowe, Director of Refrigeration/HVAC/Lighting/
Food Equipment Services, K-VA-T Food Stores, Inc.

Smart Refrigeration Solution Enabled Food City Store to Improve Case Performance, Energy Efficiency and Extend Equipment Life

Case Performance Improved 27 Percent, Energy Efficiency Improved 19 Percent

THE OPPORTUNITY

Food City has more than 130 stores in Virginia, Georgia, Tennessee and Kentucky. The stores range in age, but common to all was a need to lower energy consumption, maintain food freshness, expand equipment life, minimize unplanned maintenance spend, and reduce the risk of downtime.

THE SOLUTION

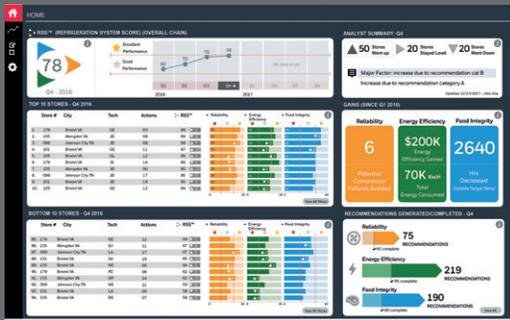
To assess the overall health and efficiency of the refrigeration system, as well as improve uptime and performance, Food City turned to Honeywell's Smart Refrigeration Solution. Honeywell's solution goes beyond the traditional monitoring systems that primarily provide alerts and alarms. It identifies operating issues and provides actionable insights to fix them.

Food City Gains Insights and Efficiencies

The energy and maintenance costs of supermarket refrigeration systems are among the largest expenses faced by supermarkets. Just as important, the poor operation or sudden failure of any refrigeration equipment or display cases can disrupt store operations, put food at risk, and eat away at profits through unexpected expenses. To improve both efficiency and reliability, Food City tested Honeywell's Smart Refrigeration Solution (SRS) in its Bristol, Virginia store.

“We picked a store that we felt was in good but not perfect shape,” said Charlie Lowe, Director of Refrigeration/HVAC/Lighting/Food Equipment Services for Food City. “If the Smart Refrigeration Solution could help us improve a store that wasn't already out of date, then that seemed like a fair test for the value of the solution.”

The test began in August 2016 with initial analysis of the refrigeration system data by the Honeywell software and Lowe quickly began seeing benefits. “When the software identified that some equipment was operating out of range, it saved the time that service technicians used to spend tracking down the problem. Instead, they were able to get right to work.”



The SRS Dashboard

The intuitive dashboard provides the health of the refrigeration system at a glance. You can view the overall refrigeration system performance of all your stores and quickly drill down to each store to understand the root cause and recommended actions. Honeywell's Smart Refrigeration Solution enables supermarkets to:

Reduce Energy Consumption

Adjust set points based on weather, compressor and condenser performance, system configuration, and more.

Maintain Food Freshness

Proactively ensure that refrigeration cases are running at optimal temperatures resulting in better food quality and fewer alarms.

Benchmark Store Performance

Compare your top- and bottom-performing stores to gain insights for improving performance in all stores.

Extend Equipment Life

Detects underperforming refrigeration system components, identifies adverse operating conditions and gets recommendations to prolong equipment life.

Reduce Unplanned Maintenance

Resolve potential problems in a timely fashion during routine maintenance, thus reducing costly unplanned maintenance.

Embracing the Digital Transformation for a Brighter Future

From fresh produce from local farmers to onsite pharmacy and fuel services, Food City takes a lot of pride in providing an outstanding shopping experience for its customers. That experience includes well-stocked refrigeration cases and freezer units maintained for food safety. Customers see an outstanding display, but Lowe knows the real action is behind the scenes. "The Smart Refrigeration Solution gives us detailed insights into the performance of our system."

Much more than traditional monitoring services, the SRS starts with data collection from a range of refrigeration system components, then provides specific and actionable recommendations on an intuitive dashboard that can be customized to the preferences of the user. The SRS utilizes Honeywell's many years of refrigeration experience to deliver accurate insights. "For example," notes Lowe, "one recommendation pointed out a compressor operating out of parameter due to excessive energy consumption. I had a lead technician check the compressor under the guidance of the compressor manufacturer. The manufacturer claimed it was operating within design tolerances, but two months later the compressor failed."

A True Timesaver

Before using the SRS, Food City refrigeration technicians invested a considerable amount of time troubleshooting refrigeration systems due to lack of actionable information. Preventive maintenance was performed based on schedules rather than need, and it was difficult to know of potential issues in advance.

“The Smart Refrigeration Solution provides a means for the service technician to immediately begin addressing equipment performance and operating concerns upon arrival at a store,” said Lowe. The time saved also contributes to reduced downtime and more time operating at peak efficiency, saving Food City money. Lowe also found another timesaving aspect of the SRS. “For less experienced technicians, it also provides detailed direction on a course of informed maintenance actions.”

Positive Impact

Overall, the store operates more efficiently now, including a 27% improvement in case performance, and a 19% improvement in energy efficiency. The result was a reduction in energy use even though my refrigeration load increased due to improved case temperatures.

Lowe sees the SRS trial and rollout to more stores as a big win for Food City. “The initial store operates more efficiently, and the predictive failure analysis is working as far as compressors are regarded. I strongly suspect I’ll see similar results when compressor motors begin to have bearing issues or winding issues that influence energy consumption.”

Lowe sees the biggest value of the Smart Refrigeration Solution as the ability to prioritize. “The dashboard’s best feature is laying out deficiencies in a manner that provides an organized means to accomplish tasks in an effective and prioritized manner. It provides technicians a quick and easy overview of the equipment health and deficiencies in their respective stores. My hope is that refrigeration maintenance technicians will be able to stay focused on keeping systems tuned and spend much less time on corrective maintenance.”

Counting on Honeywell

While the SRS was new to Food City, working with Honeywell was not. “I was sold on Honeywell refrigerants long ago,” notes Lowe, so utilizing Honeywell’s SRS was a natural extension. “The trial was successful, and we have already expanded the solution to the first set of stores. We plan to roll it out to more stores as we continue to see the benefits. Being more efficient aligns with Food City’s strategy to lower energy usage, reduce operational costs, and contribute to conservation of the environment through the reduced energy consumption.”

Go Beyond Monitoring

You can find monitoring services that alert you when refrigeration system components are malfunctioning, but they don’t give you much time to react and certainly don’t tell you how to fix the problem. Honeywell’s Smart Refrigeration Solution not only provides you specific and actionable recommendations, but it also delivers them in an intuitive dashboard. You’ll be better equipped to lower energy consumption, maintain food freshness, reduce maintenance cost, extend equipment life, and reduce unplanned system downtime. **As Lowe puts it, “It’s called Smart for a reason.”**



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HVAC/Lighting/Food Equipment
Services, K-VA-T Food Stores, Inc.

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