



**Case Study:** Cognizant IoT - Retail

## Retail IoT solution connects analytics and building assets to boost efficiency and reduce waste

See how our retail IoT solution helped this client manage in-store devices, including refrigerators, remotely to boost efficiency and reduce waste.

Food waste costs in the global supply chain are massive—and cost billions. Poor temperature controls in storage equipment lead to spoilage, along with increasing energy costs and burning technicians' valuable time in servicing equipment. But who would think thermal dynamics would help grocery stores better control in-store equipment and energy costs? We did.

Our client—a grocery retailer—wanted to integrate how it monitored and managed an installed base of refrigerator and freezer units, and in-store temperatures to minimize food waste, improve equipment efficiency, optimize energy use across its global operations, and reduce expensive service visits.

### At a Glance

We helped a multi-national retailer reduce food waste by building a next-generation cloud-based platform to integrate and manage temperature and alerts in devices across its global operations.

### Outcomes

- Proof-of-concept executed in 200 stores in North and South America.
- Forecast 40% reduction in food waste costs in 2019.
- Automated 87% of work orders, reducing response times from 36 hours to less than 4 hours

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## The operational reality

Every year our client experiences across its stores revenue shrinkage due to food waste. The potential savings through increased operating efficiency and efficient space management is tremendous.

Food waste and cost is not the only issue at stake. Consumer safety is paramount, and comfort and convenience are also critical to ensuring great customer experiences in the stores.

There are hurdles. Every store has multiple refrigerator and freezer units and HVAC and lighting systems. Equipment has been purchased over time from different suppliers and OEMs, so device control systems vary widely. Stores have an average of hundreds of sensors and various systems generate a hundred million alerts every year: to adjust refrigerator temperatures, close doors, and change HVAC settings based on temperatures and lighting.

When a door opens in a refrigerator, temperatures change fast. Sensors trigger alerts, compressor units kick in, and energy usage soars, especially at peak-load times. Our client was unable to manage in-store devices remotely on a common platform. Thousands of work orders are developed manually each year to address the alerts with 60% of them requiring service technicians.

## Digital savings

The company needed to significantly reduce the number of critical alerts escalated to technicians, automating how different types of alerts are handled. The desired outcome was an integrated, efficient remote building management platform that allowed the company to proactively manage in-store operating systems.

Cognizant designed an enterprise IoT platform that allowed the client to aggregate and analyze information from its different building systems and equipment “at the edge.” Our objective was to triage alerts, using algorithmic decision-making to make in-store adjustments automatically, reducing the number of critical alerts generated. With the variety of the company’s equipment, we needed not only a cloud-based analytics solution, but a way to treat and standardize data from the building systems. Processing data at the edge was also required, while being able to monitor and control systems “at the center.”

Using complex rules-based algorithmic analysis, our solution classifies different types of device data to make the triaging process more efficient. It performs preventive analytics to determine patterns and anticipate failures, taking into account prevailing conditions such as temperature and work-load, but also factors such as how perishable products are, the prevailing costs of energy at different types of the day, even the principles of thermal dynamics.

## Business outcomes

Cognizant’s IoT solution forecasts to substantially reduce the number of work orders requiring an on-site service technician. The client realized an immediate 5% reduction in food waste losses, and we reduced critical work orders by 87%, while reducing response times from 36 hours to less than four. After a successful pilot at 200 discrete stores, our client now plans to roll out our solution to all current device control platforms in its global ecosystem.

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## About Cognizant

Cognizant (Nasdaq-100: CTSH) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 193 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at [www.cognizant.com](http://www.cognizant.com) or follow us [@Cognizant](https://twitter.com/Cognizant).

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