

Use case

Eliminating cold-chain blind spots

Learn how automated cellular tracking can protect inventory, reduce QA workloads and prevent spoilage.

In food manufacturing and distribution, technology must deliver measurable operational value.

For companies operating on short-shelf-life models, undetected temperature fluctuations can lead to escalating inventory spoilage and rising financial risks. Traditional manual monitoring is often inefficient, leaving critical gaps during off-hours and night shifts that threaten product quality.

To address these vulnerabilities, organizations need continuous, automated visibility across all storage zones. By replacing manual logs with a reliable digital foundation, manufacturers can protect their inventory from the factory floor to remote storage units. Modernizing this infrastructure allows quality assurance teams to focus on high-value testing rather than routine paperwork, driving efficiency across the supply chain.

Challenge

A national food manufacturer faced a more than 50% year-over-year surge in food spoilage costs due to undetected temperature swings. Facility storage constraints required renting portable refrigerated storage units.

To manage risk, quality teams had to physically open trailers to manually record temperature logs three times per day. This process introduced cold-air loss, created labor inefficiencies and left night-shift coverage gaps. Furthermore, the company struggled to find a single technology partner capable of delivering a fully integrated, turnkey hardware and software solution to resolve these operational disconnects.

Verizon Sensor Insights provides a centralized, near-real-time monitoring system that helps eliminate manual temperature checks and prevents costly inventory losses from food spoilage.

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Solution

To resolve these constraints, the manufacturer deployed Verizon Sensor Insights to replace manual checks with 24/7 automated tracking. The solution utilizes cellular gateways and wireless battery-operated LoRaWAN sensors to track temperature across their campus, even in the event of a power outage. The solution does not depend on corporate networks or an existing IT infrastructure. Near-real-time temperature and environmental data are securely transmitted over the Verizon cellular network to a unified cloud portal, providing complete visibility across all production zones.

Automated, condition-based alerts instantly notify maintenance teams of temperature threshold breaches. This enables preventative action before spoilage occurs, while the platform automatically generates continuous digital logs to simplify regulatory audit compliance.

Benefits

By implementing Sensor Insights with NIST-compliant calibrated sensors, the manufacturer established a clear path to reduced spoilage. Near-real-time visibility and automated alerts allow the company to mitigate risks and prevent inventory loss before damage occurs, protecting both product quality and the bottom line.

Automating the temperature logging process can lead to a material reduction in QA workload, allowing staff to be reallocated from manual paperwork to higher-value operational tasks. Sensor Insights also offers the ability to recalibrate NIST-compliant devices and tracks the expiration date of the calibration, offering a single view of the sensor lifecycle for health inspections and other regulatory audits.

Why Verizon

Verizon Sensor Insights delivers a complete, turnkey IoT monitoring solution that combines pre-tested hardware, cellular gateways and robust software. Backed by America's most reliable 5G network,[1] our solution provides the secure, long-range connectivity required to monitor critical assets across complex environments. We help you streamline compliance, protect inventory and drive operational efficiency with a single, trusted technology partner.

- Turnkey hardware and software integration, eliminating vendor disconnects and simplifying deployment.
- Long-range LoRaWAN technology to monitor assets in Wi-Fi blind spots up to 15 km away.
- Automated digital logging and customizable real-time alerts to ensure continuous compliance.

Learn more

Talk to your Verizon Business representative today or visit thingspace.verizon.com/sensorinsights to explore how we can help you secure your cold-chain operations.

1. Based on RootMetrics® United States RootScore® Report: 1H 2026. Tested with best commercially available smartphones on three national mobile networks across all available network types. Your experiences may vary. RootMetrics rankings are not an endorsement of Verizon. All rights reserved.

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