



Environmental Sensors Use Cases



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Healthcare



Manufacturing



Retail



Transport



Distribution



ZS300 Enables Protein Distributor to Improve Customer Satisfaction



Orders received each day
into temperature controlled
warehouses



Temperature set
0c - -1c for a majority
of items



Temperature tracked to arrival
at destination with a validation
certificate

The Challenge

Distributor of High-End Protein was experiencing over 30% complaint rate and 10%+ product waste due to temperature excursions, driving up costs and impacting customer confidence in their brand.

The Solution

Temperature-related queries have plummeted from 30% of all orders to less than 2%. This significant reduction not only underscores the effectiveness of precise temperature management but also boosts product quality and customer satisfaction.

Consequently, companies benefit from fewer inventory errors, minimized spoilage, and enhanced consumer trust, ultimately leading to improved operational performance and profitability.



ZS300 Sensors Enable On-Time and On-Temp Food Delivery



Utilizing ZS300 for monitoring temperature of cooked produce



Tracking temperature excursions when out for delivery



Insights in real time to ensure quality control and a reduction in waste

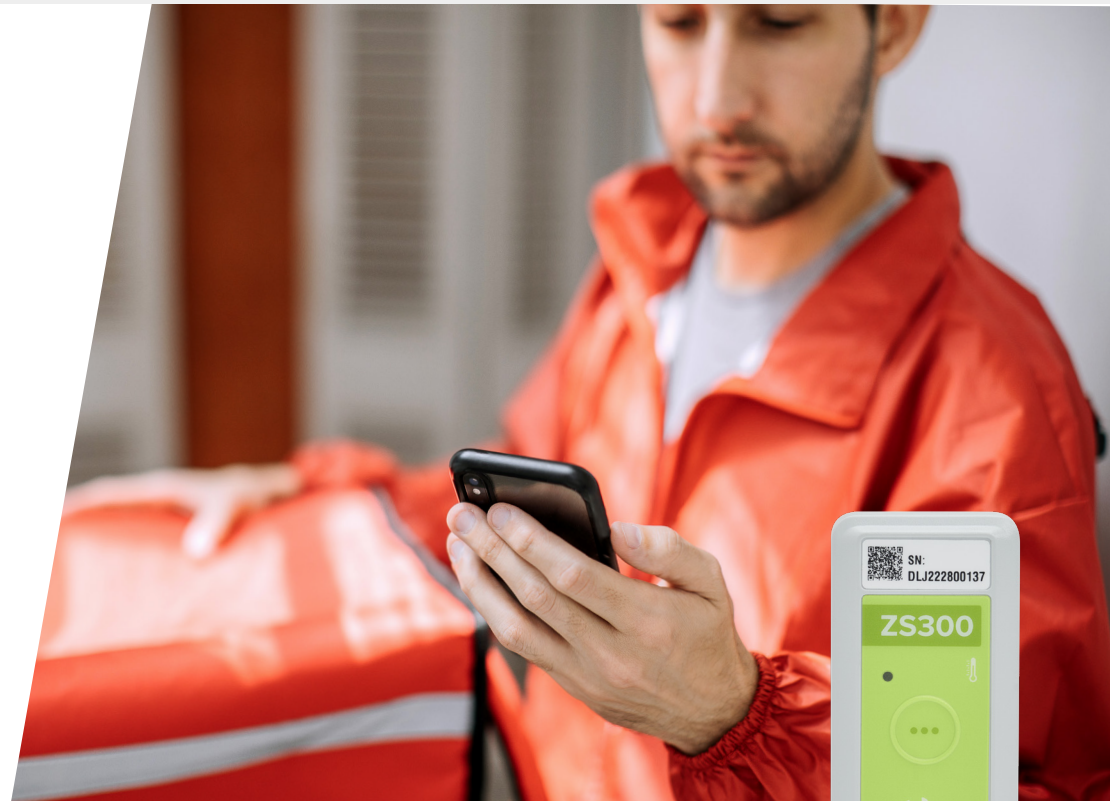
The Challenge

Quick serve restaurant needed real time monitoring solution for food in transit, to ensure drivers are delivering products “On Time and On Temp”. Deliveries not meeting metrics were driving customer complaints, putting the brand at risk.

The Solution

By integrating RFID technology and incorporating the ZS300 electronic sensor the QSR can ensure that the correct item is placed in the correct bag and sent to the correct location and maintained at the correct temperature. This advanced tracking system enhances accuracy and efficiency minimizing errors and improving customer satisfaction while reducing costly complaints.

“Exceptional people on a mission to be the best pizza delivery company in the world.”



Agricultural Producer Delivers Efficient Traceability



Utilizing ZS300 from farm to production plant



Then Packaging to distribution



Tracking when produce in transport to final destination

The Challenge

A leading agricultural producer, specializing in potatoes, corn, and blueberries, struggled to track the status of their products from the farm to the distribution center. This lack of visibility created uncertainty among their customers about adherence to quality processes and the readiness of products upon delivery. Additionally, this uncertainty led to increased supply chain costs due to the need for manual inspections.

The Solution

To enhance their quality control process and increase transparency with their customers, the producer implemented Zebra's ZS300 to monitor each shipment. The data collected from the ZS300 would be shared with customers, earning their trust and offering a more valuable service.



Convenience Store Cuts Supply Chain Losses



Utilizing ZS300 to apply to totes



Tracking temperature from distribution center on their journey



Arrival at convenience stores

The Challenge

A leading convenience store chain faced significant losses due to high waste costs, as products were frequently lost, unmonitored, or misplaced while being transported in totes from the distribution center to individual stores. The absence of detailed tote location information led to gaps in product transit visibility.

The Solution

To enhance traceability and swiftly identify issues, the company implemented Zebra's ZS300 sensor. Access to near real-time alerts has helped reduce waste and losses of totes as they move through the supply chain.



Grocery Store Chain Bags Up High-Efficiency Distribution Process



Utilizing ZS300 to apply to totes / boxes



Tracking temperature from larger grocery store on their journey



Arrival at smaller convenience stores

The Challenge

A multinational grocery chain required visibility into the status of temperature-sensitive products as they navigated their complex supply chain. The absence of product traceability was increasing manual labor costs, as additional efforts were needed to ensure that products were processed and handled correctly upon delivery.

The Solution

To improve traceability and effectively monitor each cold chain shipment, the company adopted Zebra's ZS300 sensor. Access to near real-time sensitive data has enabled the operations team to identify areas for enhancement in their packaging, while simultaneously reducing waste and optimizing their supply chain.

“We aspire to enhance the quality of life of our customers through a differentiated value proposition, focusing on the quality of our products and excellent service across all our physical and digital stores.”



Multinational Food Manufacturer Ensures High Quality Meals



Utilizing ZS300 for facility monitoring in freezers and refrigerators



Also used for facility monitoring in cooking areas



And to monitor products being shipped from the facility to other locations worldwide

The Challenge

This multinational Meat, Snack, Beverage, and Ready to Eat Meal Manufacturer needed to ensure products in processing and storage adhered to their quality standards. There are large risks to health and waste if those standards are not properly monitored. They need to control costs associated with waste, monitor large manufacturing facilities, and ensure proper control over products in motion.

The Solution

By implementing advanced monitoring systems, there has been a significant reduction in time staff spend in sub-zero conditions, enhancing workplace safety and comfort. Additionally, we now get 100% validation that temperature thresholds are consistently maintained during transit. Assurance not only improves end-customer satisfaction but also leads to a substantial reduction in temperature-related complaints. Logistics processes become more reliable, ensuring that products reach customers in optimal condition, thereby reinforcing trust and loyalty.

“Inspired People. Inspired Food.”



International Provider of Fresh Foods Gains Visibility Into Daily Deliveries



Utilizing ZS300 for facility monitoring in freezers and refrigerators



Also used for facility monitoring in cooking areas



The shipment of products on a daily basis to store outlets

The Challenge

An international provider of Fresh foods needed to monitor their distribution sites and daily deliveries to thousands of stores worldwide. Uncertainty around product suitability for use was driving cost into the process of making daily deliveries into thousands of locations.

The Solution

Improved operational efficiency by implementing preventative alert systems that notify drivers of potential temperature excursions before they become problems. This real-time visibility ensures quality and sustainability across the supply chain, reducing waste and optimizing resources. Superior product quality and enhanced customer satisfaction and trust.

“To be the quality leader in everything we do”



Transcontinental Beverage Shipments Need to Keep it Cool



Apply ZS300 to packed
high value beverages



Goods in transit with
temperature tracked



Temperature report provided
upon arrival overseas to
distribution center

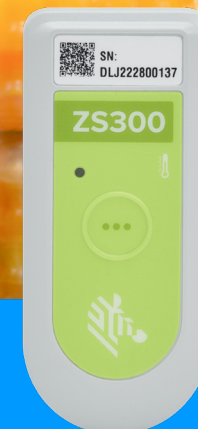
The Challenge

A Beverage Producer needed to track cold chain process compliance as products made multi-week transits across the Pacific Ocean. Lack of tracking meant they could not establish who had product custody when temperature excursions happened. This made assigning charge backs highly challenging.

The Solution

The ZS300 is designed to excel in long journeys, offering exceptional battery life without compromising sensor accuracy or data logger memory. It meets every requirement, ensuring that extended operations are seamlessly supported while maintaining precise data capture and storage. This robust performance makes the ZS300 an ideal solution for demanding conditions, delivering reliability and efficiency throughout Intercontinental journeys.

“Provide flavor, pleasure and well-being, through products derived or not from coconut, with respect to the environment and its entire chain of action.”



Pet Medicine Provider Teaches Warehouse New Tricks



Apply ZS300 to warehouse racking in central location



Connect to Temp Genie application



Monitor temperature of the warehouse for stored pet medications

The Challenge

A Provider of Compliance Controlled Medicines for Pets needed to eliminate the high cost of manually checking product temperatures in their warehouses. The lack of a monitoring solution meant they could not real-time track when environmental conditions were impacting viability of products in their warehouse.

The Solution

The ZS300 delivers significant labor savings by automating temperature monitoring, providing precise real-time temperature readings. This technology eliminates the need for manual checks, enhancing efficiency and freeing up valuable resources. By ensuring continuous, accurate monitoring, the ZS300 not only reduces labor costs but also enhances operational reliability and product quality throughout the supply chain.

“Help pets live happier, healthier, and longer lives”



Medical Courier Service Lights Up Samples in Transit



RFID Label applied to Individual blood samples



Blood samples loaded into an RFID “tagged” transport bag with ZS300 included



Temperature report provided upon arrival at key destination

The Challenge

A national courier service needed to track and report on the handling of sensitive medical samples as they arrived at testing facilities. The lack of a tracking method resulted in a high number of samples needing either regathering or retesting to drive patient care.

The Solution

The ZS300 is the only solution in its price range offering minute-by-minute reporting in transit with over a year of battery life. This capability significantly reduces costly retests and saves time for all parties involved, providing exceptional value and efficiency.

“Deliver high-quality services for all”



Medical Device Provider Cuts Waste Costs with Sensors



Medical Device
Prepared with a
ready-to-use
Transtracker



Medical device
transported



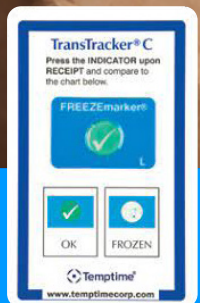
Visual indicator on
Transtracker card provides
at a glance temperature
record

The Challenge

A provider of medical devices found that their cardiac care devices were being exposed to damaging environmental conditions during transit. These events drove up their costs associated with product waste and created uncertainty about their Quality processes.

The Solution

The Transtracker card offers quick and accurate visual confirmation with a precision of $\pm 1^{\circ}\text{C}$. This feature ensures reliable temperature monitoring immediately, enhancing both efficiency and confidence in maintaining optimal conditions.



Pharmaceutical Manufacturer Reveals 3PL Process Compliance



ZS300 Sensor packed into samples transport bag with medical assets



Temperature monitored through transit by 3PL



Data downloaded at Testing facility to show any excursions

The Challenge

A Pharmaceutical Manufacturer needed to move product samples and assets in tightly controlled environmental conditions, through a complex, 3PL-enabled, transport system. A lack of monitoring drove uncertainty around how samples and assets were being handled, resulting in an unclear chain of custody.

The Solution

The ZS300 solution is designed for rapid efficiency, capable of transferring and uploading data to the cloud within 30 seconds of the driver's arrival. This swift data integration ensures timely access to crucial information, enhancing decision-making and operational responsiveness while maintaining seamless connectivity across the supply chain.

