muddy boots by TELUS Agriculture

Cold Chain Management

Reduce waste and improve quality control with accurate product temperature transparency at every stage.

Effective cold chain management is integral to the safety and quality of food and is a critical factor in the food industry's battle against food waste. Rising consumer demand for out of season produce and high food quality expectations has shown the importance of identifying ways to improve the efficiency of our complex global supply chains.

Digitizing the measurement of direct product temperature gives you the opportunity to identify points where product temperature abuse may occur in the supply chain, that are currently difficult to monitor. When this is combined with additional quality metrics, it allows for more informed decisions around the safety and expected shelf life of products.

Muddy Boots Cold Chain Management offers a combined software and hardware approach that transforms your product into an intelligent, self diagnosing data source. Utilizing real time cloud-based software to measure, identify, and drive continuous improvement of both cold chain infrastructure and quality control practices.

Industry statistics

20%*
of perishable foodstuffs are lost globally through a lack of refrigeration
(International Institute of Refrigeration)
*% out of total production

54%
of total food wastage occurs from upstream sources, including production, post-harvest handling and storage
(Food and Agriculture Organization)

2.1 billion
tons of food will be wasted annually by 2030, if current rates of food loss and waste continue
(Food and Agriculture Organization & Hegnsholt et al. 2018)

3 billion
tons of greenhouse gases are emitted because of food waste
(World Food Program USA)

40%
of recorded in-bound product issues in Greenlight Quality Management were attributed to post-harvest temperature abuse
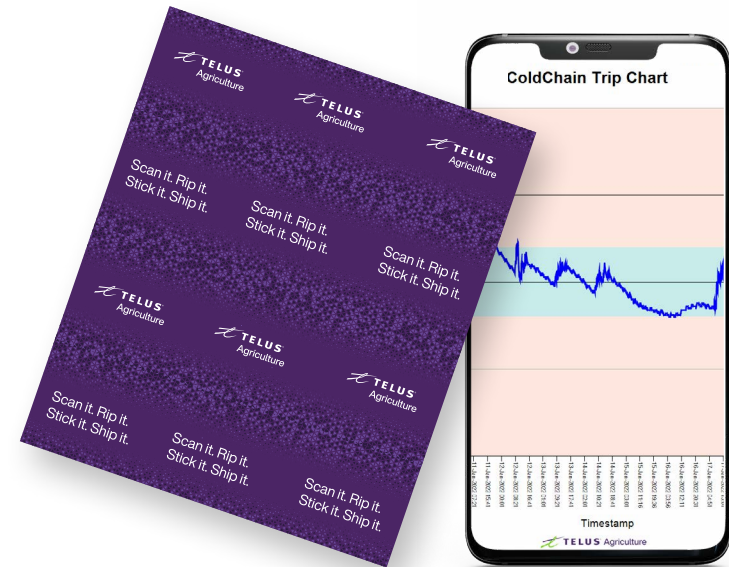(Based on Muddy Boots customer data, 2021)

$1 trillion
is the annual value of global food waste
(Food and Agriculture Organization)

How Cold Chain Management can help you

Our solution digitizes quality, compliance and temperature data into one platform. Allowing you to efficiently manage inventory, improve food safety, cold chain practice and reduce waste.

Disposable

The battery drain process allows for safe disposal with no unit recycling backhaul.

Measuring product

A thin design with adhesive back allows the tag to be stuck on or in packaging.

Long life

Low power state comfortably lasts over two years.

Simple activation

Tear strip designed for gloved hands.

Scan it. Rip it. Stick it. Ship it.

The cold chain tag is a disposable and recyclable contactless smart label that enables accurate temperature monitoring of virtually any product from source to store.

Robust escalations

Improve issue management with real-time reporting and alerts where known issues occur.

Check by exception

Intelligence led checks focused on product with known risk.

Integration

Automated data received from the sensor and your suppliers removes data duplication and increase inspection efficiency

Visibility

Real-time performance data provides a clear view of your estate, consolidating cold chain, compliance and quality data/ practices of your suppliers and products.
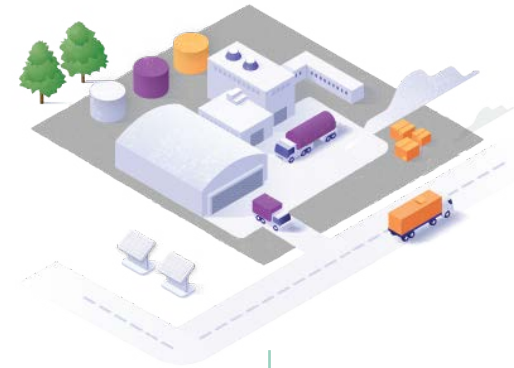
How it works

Supplier activation

Before dispatch the tag is scanned which automatically syncs to the cloud. The tag is activated and stuck onto the required product ensuring product temperature data is captured.

Report generation

Dispatch report is auto-generated and accessible in real time.

Real time alerts

Temperature alerts are raised to key stakeholders if a break in cold chain is recorded. Escalations are automatically raised if issues are found at inspection.

Arrival upload

The tag continuously records data during transport and auto-uploads this at depot arrival.

Product inspection

Compliance and quality data can be captured alongside temperature to ensure full compliance with your requirements.

Drive improvement

Our analytics platform allows easy trends analysis and performance benchmarking as well as overlay of compliance, quality and temperature metrics.

Case Study: **Sundrop Farms**

Challenges

Sundrop produces high quality truss tomatoes that are distributed across Australia through a major Australian retailer and are committed to delivering fruit that provides a great taste to their customers. Continual arrival issues indicated potential temperature abuse throughout transportation, this led to the requirement of a cold chain management solution that would provide accurate and real time visibility of product temperature from farm all the way to DC, enabling changes to be made that would improve quality control and brand trust.

Implementing cold chain management

Ensuring produce is consistently of the highest quality once it reaches supermarket shelves is key to any fresh food supplier. With large volumes of tomatoes leaving Sundrop everyday, throughout the year to retail distribution centers across Australia, identifying points where product temperature abuse may occur was crucial for quality management. Muddy Boots Cold Chain Management, provides continuous temperature data during transport to DC. Once the product reaches DC data is auto uploaded to Greenlight Quality Management, providing an accurate record of any abuse of temperature. Michael Rogers, Health, Safety and Compliance Manager at Sundrop Farms, explains that this has 'provided a record of temperature measurement that we can give to transport companies showing breaches in temperature, this assists us in better cold chain management to maximize customer experience.'

Who are Sundrop Farms?

Sundrop Farms state-of-the-art facility at Port Augusta in South Australia is a pioneering hydroponic farming concept. The large-scale sustainable operation is world leading in food production and unlike many 'traditional' farming set-ups that rely on soil or fertilizers, their key ingredients are sun and seawater. The facility opened its doors in 2015 and has transformed agriculture by producing food without harming the environment. Their mission is to 'benefit the environment and the local community in which they operate, by showing the world that you can grow delicious, mouth-watering produce without needing fossil fuels, vast amounts of fresh water and thousands of acres of cultivated farmland.'

Future plans

Sundrop plans to use cold chain management 'as an ongoing commitment to food safety and quality. A commitment that is shared between us and our customers' explains Michael Rogers. 'The use of a live system that flags both high and low temperature extremes, providing a location of the breach, time and duration will allow us to have corrective actions allocated specifically to the event that occurred.' These analytics drive continuous improvement and allow for easy trend analysis and performance benchmarking. Reducing rejection rates, product waste, and helping businesses to meet their sustainability goals.

Connecting food and farming supply chains for a safer sustainable future

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