



You are here: [Home](#) / [Cold Chain Packaging](#) / The Importance of IoT for Cold Chain

# The Importance of IoT for Cold Chain

JANUARY 11, 2019 BY [RICK LEBLANC](#)

*The promise of real-time cold chain visibility has long intrigued cold chain leaders. For practical purposes, however, that initial excitement seemed to atrophy into many years of 'hurry up and wait.'*



The promise of real-time cold chain visibility has long intrigued cold chain leaders. For practical purposes, however, that initial excitement seemed to atrophy into many years of 'hurry up and wait.' During that time, onboard temperature recorders have continued to be the accepted practice for temperature monitoring in transit. Unfortunately, such devices draw attention to temperature issues after the fact, helping only in identifying compromised product rather than in informing front-line decision making and preventing product loss.

Gartner's [Hype Cycle for Emerging Technologies](#) for 2018 continues to position IoT platform close to the "Peak of Inflated Expectations" and another five to ten years away from maturity. None the less, the number of connected devices continues to grow rapidly. According to IHS Markit, the IoT market will increase from 15.4 billion devices in 2015 to 30.7 billion devices in 2020 and 75.4 billion in 2025. According to the [2018 MHI Annual Industry Report](#), 59% of survey respondents believe that Internet-of-Things (IoT) adoption will be disruptive or provide a competitive advantage, up from 55% in 2017.

New technologies and service providers have continued to emerge in recent years, although the uptake of pallet-level IoT monitoring remains modest. Barriers to IoT adoption in the cold chain have long known but until LPWA (low power wide area) technology there was no alternative solution for the whole supply chain.

## GET SITE UPDATES

Delivered straight to your inbox . . .

## FIND WHAT YOU'RE LOOKING FOR

Reusable and Recyclable

**E Air Pallet-10**

**SHUERT TECHNOLOGIES**

Learn how a shift in thinking will change your supply chain >>

**ORBIS**  
Powered by Yamashita Corporation

**con-pearl®**

**REUSABLE**  
Standard & Custom Corrugated  
**PLASTIC SOLUTIONS**

MDI.ORG

“Tracking solutions have either been too expensive or fail due to issues with the need to go through gates or have a manual screening procedure,” explained Ittay Hayut, Co-founder & CEO of [hoopo](#), a provider of affordably priced asset management and tracking solutions. Using hoop’s unique geolocation technology, its LPWA tracking solution is capable of geo-locating devices without using GPS.

“The expensive solutions are also not an integral part of the pallet and require frequent battery replacement when using GPS,” Hayut continued. The low power hoop solution, on the other hand, provides long battery life and is securely pallet mounted to provide ease of use.

## The Value of Cold Chain Visibility

IoT provides considerable value for the cold chain in terms of preventing food loss, providing automated data capture in support of food safety compliance, improving logistics efficiency, data analytics, and creating a better customer experience.

**Improved food safety compliance** IoT solutions can help simplify and automate the increasingly arduous recordkeeping requirements of regulators while reducing the opportunity for human error. Consider that under FSMA in the United States, food companies achieving more than \$1 million annually must retain at least [two years of safety records](#). Shippers and carriers must keep on file one year of transportation and training records.

**Reduced food loss** The prevention of shrink remains a powerful opportunity. Consider that up to [40% of food is lost](#) between field and fork. Real-time visibility can promote product integrity by identifying out-of-range temperatures as they occur, rather than when the recorder is read after delivery. Better temperature control results in reduced shrink, more saleable product, and product with a longer shelf life at retail as well as in the home. Problems can emerge because of refrigeration equipment malfunction or human error. The cold chain is especially vulnerable at “hand-off” points where perishable products may be compromised by a reefer trailer’s doors being open too long, or product being loaded onto a trailer that has not been precooled.

hoop’s tracking solution was recently implemented by a fresh meat supplier in the UK looking to prevent its loss of goods due to suspected exposure to high temperature as well as to improve logistics efficiencies. “hoop is intriguing because it offers an end-to-end cost-effective solution,” Ittay said. “The customer is able to track supply location and conditions and to get real-time alerts. Additionally, the fact that the sensors are integrated into the pallet itself means there is no need for battery replacement or any maintenance. And it requires minimal infrastructure.”

**Improved logistics efficiency and data analytics** IoT helps improve logistics operations in several ways. Through providing timely alerts to supply chain delays, bottlenecks or out-of-tolerance temperature variation, stakeholders will be able to more actively manage exceptions in order to optimize labor and facility planning as well as in taking steps as necessary to reduce retail out-of-stocks, and over time, reducing safety stock requirements.

The complex and fast-moving nature of the logistics sector makes it an ideal candidate for IoT and data analytics. IoT sensor data helps feed data analysis, providing opportunities for better forecasting, freshness prediction, inventory management, route optimization, and labor management. Ultimately, IoT paves the way to fewer quality defects, greater efficiency, and better customer experience. Customer expectations for real-time temperature control will predictably escalate. At the recent [Canadian Logistics Conference](#), one session participant commented that for some perishable goods customers, the provision of real-time visibility has become a service provider requirement. Customer pull-through, combined by the opportunity presented by affordable LPWA solutions such as hoop, offers the potential for greater cold chain IoT adoption.

FILED UNDER: [COLD CHAIN PACKAGING](#), [EUROPE](#), [FEATURED ARTICLES](#), [PALLETS](#), [TRANSPORTATION ASSET MANAGEMENT](#)



An advertisement for LITCO International, Inc. featuring the slogan 'Carry on.' and the logo for INCA. The main headline is 'Engineered Molded Wood™ HEAVY-DUTY PALLETS'. Below this, it states 'IPPC-ISP15 (HT) COMPLIANT' and lists several benefits: 'Water and mold resistant in high-humidity', 'High lead-edge damage-resistance', 'Strong and durable', '2,500 lb. dynamic capacity', and 'DST pallet deck reduces vibration and package damage'. A price point is mentioned: 'Volume Priced at \$7.50 to \$9.00 for a brand-new size 48" x 40"'. A call to action asks 'WANT TO SHIP WORRY FREE?' and provides contact information: 'Call today for a quote and a free sample 855-810-0104 or go to http://www.Litco.com/export-grade-pallets/'. A small note at the bottom states 'Founded in 1955, Litco has purposely built our good reputation on what we promise and what we deliver.' and 'www.litco.com'.

### CATEGORIES

Categories

### ARCHIVES

Archives