

Safeguard product quality and safety with Cold Chain Management Solution

Technology-driven platform for efficient thermal monitoring & traceability

Maintaining a consistently low temperature along the supply chain for perishable products, especially foodstuff, is critical to consumer health and safety. Unregulated temperature changes in the source-to-store process can affect the freshness and quality of food items at the expense of consumption safety. This, in turn, may undermine the brand reputations they represent.

GS1[®] Hong Kong's **Cold Chain Management Solution**, which provides for improved performances in end-to-end cold chain visibility and traceability, has been developed to manage the abovementioned risks. Driven by ezTRACK™, a standard based EPC Information Service (EPCIS) platform, it provides simplified, precise and cost-effective temperature monitoring on a real-time basis.

Better product traceability, quality and safety in the logistics process can now be achieved, given the integrated functions of GS1 Hong Kong's Cold Chain Management Solution:

- ❑ Monitoring of temperature changes along the supply chain, where critical alerts are generated through RFID (Radio Frequency Identification) temperature sensor tags embedded in the logistics units.

- ❑ Tracking and tracing of shipment events along the logistics process. Temperature data, time and location information are generated to provide end-to-end visibility and help stakeholders oversee cold chain management easily on a single portal.
- ❑ Sharing of comprehensive, real-time visibility information among trading partners and customers globally, on a standard based EPCIS communication and traceability platform, ezTRACK™.
- ❑ Customization to the specific needs of temperature-sensitive industries such as the pharmaceutical, food and beverage, and logistics sectors.



Stepping forward to protect consumers and brand integrity

GS1 Hong Kong's Cold Chain Management Solution benefits enterprises in various ways:

1. Improved product quality and safety

This solution enables real-time temperature monitoring of goods in transit. Temperature alert notifications are generated when the storage temperature exceeds specified high and low set points. Fast, accurate critical temperature data are constantly accessible to stakeholders, who could then ensure that the perishable goods stay fresh for an optimal shelf life and reduced spoilage.

2. Higher operational efficiency

RFID sensing tags are embedded in logistics units to detect and log the temperature at programmed intervals. Data from the tags can serve as electronic proof of delivery and speed up the billing process. Comprehensive temperature-monitoring and location data is also generated to help reduce the time for data analysis, location mapping and other supply chain procedures. Efficient inventory management is also made possible with the up-to-date product lifespan information obtained.

3. Instant information sharing along the cold chain

A variety of information is captured and instantly shared among different partners along the cold chain to attain an easy, clear chain of custody and ePedigree visibility for the products.

4. Lower implementation cost

Compared to conventional temperature loggers, the Cold Chain Management Solution can achieve higher operational efficiency but costs less to implement.

Case Study: Supply chain visibility for premium Japanese melons

Japan produces a premium variety of melons cherished for their sweet juicy textures, which sell for hundreds of dollars in Hong Kong supermarkets. Customers are concerned about the quality of these expensive products. The farmers are also keen to obtain buyers' feedback to maintain a sound customer relationship.



Recently, GS1 Japan collaborated with Auto-ID Lab Japan, IBM Japan and Daiwa Computer to develop a platform combining an EPC RFID system with an e-commerce mechanism to help monitor the supply chain process for the melon crops. Besides tracking how the fruits are cultivated, packaged and transported, it can also facilitate communication between customers and growers.

After harvesting, the melons are boxed according to purchase orders from the e-commerce system, which also issues shipping orders. An RFID tag with a temperature sensor encoded with an Serialized Global Trade Item Number (SGTIN) is attached to each box, and the data is then transmitted to the EPCIS repository. Stakeholders could track the boxes from the farm through the supply chain using the EPCIS.

The e-commerce system, which includes a payment feature, tracks the delivery of melons and is linked to a Facebook page. Customers could scan the QR code attached to each melon with their smartphones and connect to Facebook for information from the farm, including recommendations on the best days to eat the fruit. Consumer feedback could also be channeled back to the farmers directly.

By implementing a traceability system and cold chain solution built upon GS1 standards, the new platform enables information sharing among stakeholders throughout the supply chain. Such interactions promote a higher level of cold-chain visibility and win-win outcomes for the different parties.

About GS1 Hong Kong

Founded in 1989 by the Hong Kong General Chamber of Commerce (HKGCC), GS1 Hong Kong is the local chapter of GS1, a not-for-profit, global supply chain standards organization headquartered in Brussels, Belgium, with over 110 national chapters in 150 countries.

GS1 Hong Kong's mission is to enable Hong Kong enterprises to have more efficient, visible and safer supply chains through the provision of global standards and a full spectrum of standards-based solutions and services, thus making possible business optimization and value creation. Currently, GS1 Hong Kong has more than 6,500 corporate members covering close to 20 industries including retail, apparel, wine, food, healthcare, logistics and ICT.

Interested in learning more about this service?
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