ela INNOVATION

>> Success story

Cold-chain packages
temperature tracking >>

UBIQUICOM | THE INNOVATION
BEYOND LOCATION

Leading Italian shipping & logistics company **tracks & monitors 800 isothermal boxes**

Compliance with the cold chain during the transport of pharmaceutical and food products is crucial. **Breaks in the cold chain** for heat-sensitive products can result **in carrier liability**. Temperature monitoring and control are therefore significant health and economic challenges.

To address these challenges, a leading shipping and logistics company operating in Italy and across Europe has partnered with UBIQUICOM and ELA Innovation.

They have implemented a comprehensive fleet management solution to **track isothermal containers** throughout the transport cycle. This solution covers the entire journey, from pick-up to final delivery, including transitions between branches where the isothermal boxes are within thousands of refrigerated containers across various Italian regions.

» The key players

IoT sensor
manufacturer

IoT RTLS Platform
vendor

« The integration of ELA sensors with our IoT Cold Chain Platform brings innovation to the market and ensures products integrity to the customer end-to-end with a clear indication and position of temperature anomalies in real-time. »

Davide Renzi, CTO UBIQUICOM

» The client requirements

✓ To monitor in real-time position and temperature of thousands of isothermal containers for pharmaceuticals and food during shipment.
✓ To ensure efficient and sustainable cargo storage.
✓ To maintain an accurate and reliable record of temperature variations.
✓ To ensure high service availability at all data flow stages.
✓ To ensure product quality.
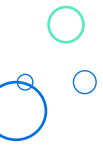
» The equipment

✓ 800 Blue PUCK T EN12830

✓ 100 externally powered 4G/Wi-Fi gateways

✓ IoT Cloud platform UBIQUICOM Locator

» The operating mode

From a technical point of view, each isothermal container is equipped with ELA Innovation Blue PUCK T EN12830 temperature sensors. These Bluetooth Low Energy and highly reliable sensors, provide high-precision temperature monitoring and long autonomy. The sensors continuously gather data on the container's location and internal temperature. Each piece of data is linked to information on the refrigeration unit housing the container and its relative position. Location calculation uses GNSS technology for outdoor areas and BLE location systems or cell-based systems for indoor areas.

Gateways mounted on vehicles, hubs, exchange zones, and refrigerated cells transmit sensor data to the UBIQUICOM software platform in real-time. Multiple levels of temporary data storage ensure data continuity, preserving information during disconnections and delivering it to the platform once the connection is restored.

The UBIQUICOM software platform integrates in real-time data from various sources to accurately reconstruct the thermal curve of each load. End-user can visualize temperature history and location data as graphs and reports on this platform. Real-time alarms for out-of-threshold values are managed based on configured tolerances and limits. If the temperature exceeds preset limits, an alert is sent to the driver's smartphone.

» The results

✓ End-to-end temperature tracking in compliance with EN 12930 and ISO 27001

✓ Real-time issues management to prevent product spoilage and address anomalies immediately

✓ Correlation of transport operators and vehicles with location details and travel durations

» The advantages

✓ Permanent and real-time monitoring of the temperature of isothermal containers

✓ Quick and easy installation of sensors and platform deployment

✓ Reliability and high accuracy of datas

✓ Quick and easy access to accurate reports and history

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