ela INNOVATION

» Success story

Temperature monitoring

to avoid a break in the cold chain »

metrix

1000+ supermarket refrigerators

monitors temperature to avoid a cold chain break

Approximately **one-third of the world's fresh fruits and vegetables**, totaling over $35 billion annually, **are discarded** due to **inefficient cold chain processes**. In response, a Spanish supermarket has entrusted to Metrix, and ELA Innovation to address **temperature and humidity monitoring** challenges. Their objectives were to include providing +1000 supermarket refrigerators with remote measurement sensors to **prevent spoilage and time loss** during supply outages, reducing manual temperature recording times for compliance with **public health regulations**, anticipating operational issues in refrigerators through remote monitoring, preserving the integrity of the **cold chain**, and streamlining the installation process without drilling or modifying coolers.

Around **500 ELA Innovation Bluetooth sensors**, such as **Blue PUCK T EN12830**, **Blue PUCK T-PROBE**, and **Blue PUCK RHT**, were deployed to achieve these goals in the **temperature monitoring solution**.

The key players

ela INNOVATION

IoT sensor manufacturer

metrix

Integrator of IoT solutions

> « Throughout the preliminary analysis and subsequent deployment, we have demonstrated great savings in maintenance times and temperature recording for Publich Health Dept. with the use of the ELA Innovation and Metrix solution. We have saved the client a lot of money and time, compared to traditional solutions. measurement with traditional industrial probes and PLCs. »
>
> Fernando Cassina, Technology Manager,Metrix

The client requirements

- ✓ **Prevent time loss** and **food spoilage** due to supply outages
- ✓ **Reduce manual temperature recording** of refrigerated foods to exhibit to public health
- ✓ **Anticipate** operating problems in refrigerators & **streamline maintenance**
- ✓ **Preserve the cold chain** & minimize installation impact

The equipment

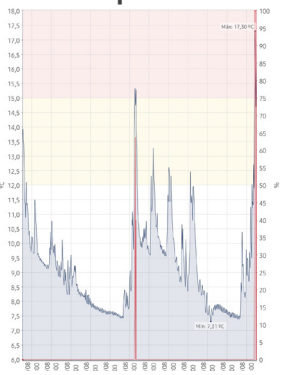
- **500 Blue PUCK T EN12830**, **Blue PUCK T-PROBE** & **Blue PUCK RHT** (1)
- Paessler PRTG Network Monitor
- Teltonika Router RUTX10 (2)

(1)

(2)

The operating mode

From a technical point of view, the temperature monitoring system works with **Bluetooth Low Energy (BLE) technology**. BLE sensors play an essential role in this system, transmitting both their **identification** and **temperature** measurements. These transmissions are received by a Teltonika router, which in turn seamlessly inserts the collected data into a designated **MQTT broker subject.** Following this data transfer, the PRTG monitoring console plays an essential role in reading the MQTT broker subject. It not only records **temperature measurements, but also sets alert thresholds based on predefined parameters**. If monitored temperatures exceed or fall below these thresholds, the system alerts the people designated as responsible for managing environmental conditions.



In addition, the monitoring system generates **automated reports that provide an overview of temperature variations over time**, enabling rapid reaction to any anomalies. This integrated approach guarantees effective **real-time monitoring**, **alerting and reporting for optimal temperature control and management**.

The results

- Remarkable **7-to-1 solution cost reduction**
- Streamlined manual tasks : **230+ hours/month saved in manual tasks**
- **Zero cold chain loss incidents**

The advantages

- Exceptional time savings
- Quick & easy sensor installation & configuration with cost-efficiency
- Automated & encrypted logs
- Maintenance efficiency and automated alarms
- Anticipation of events impacting product quality