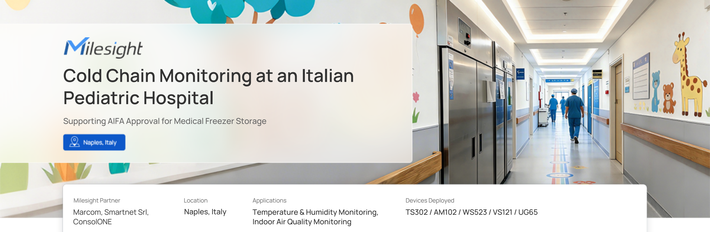
Milesight

Cold Chain Monitoring at an Italian Pediatric Hospital

Supporting AIFA Approval for Medical Freezer Storage

Naples, Italy



Milesight Partner	Location	Applications	Devices Deployed
Marcom, Smartnet Srl, ConsolONE	Naples, Italy	Temperature & Humidity Monitoring, Indoor Air Quality Monitoring	TS302 / AM102 / WS523 / VS121 / UG65

Background

A leading pediatric hospital in Naples, Italy, operates across three large buildings and required a centralized system to monitor critical cold chain freezers and environmental conditions. To achieve full oversight, the hospital implemented the SCR – Smart Control Room, powered by the ConsolONE platform, consolidating multiple technologies and protocols into a single management console. The system integrates Milesight sensors to track temperature, humidity, door status, and energy consumption, ensuring compliance with AIFA regulations, safeguarding medications, and enabling proactive management of all hospital assets from one centralized location.

Challenges

Distributed Freezers

Pharmaceuticals were stored at multiple sites, complicating centralized monitoring.

Lack of Real-Time Visibility

Staff lacked live access to temperature, humidity and other critical data.

Complex Building Layout

Thick walls and long distances hindered reliable data transmission.

High Manual Workload

Checks were laborious and susceptible to human error, delaying critical responses.

Solution

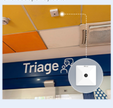
Milesight devices provided the foundation for a reliable hospital's cold chain management system.

TS302 Sensors–Equipped with temperature probes and door contacts for precise real-time freezer monitoring.

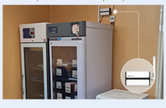
AM102 Sensors–Monitor ambient temperature and humidity to ensure optimal environmental conditions.

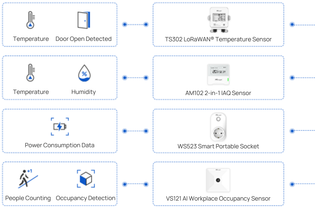
WS523 Smart Sockets–Track energy consumption and allow remote power control, including emergency restart of freezers and air conditioners.

VS121 AI Workplace Occupancy Sensor–Provides people counting and occupancy data.



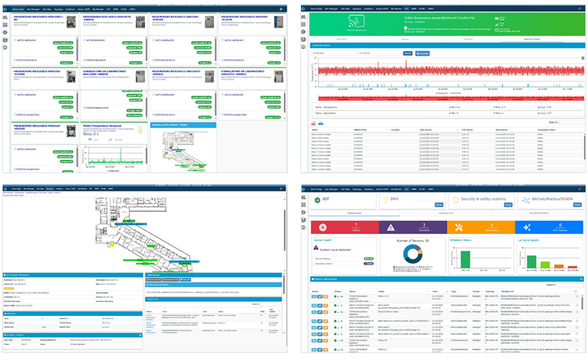
UG65 Gateways–Collect data from all sensors over a redundant LoRaWAN network, with 5G backup using WireGuard protocol for uninterrupted operation.





Milesight devices enable continuous monitoring of pharmaceutical freezers, supporting reliable temperature control and cold chain supervision. The solution reduces manual checks and improves visibility across storage locations.

All data is integrated into the GxP-certified ConsolONE platform, which consolidates cold chain monitoring alongside other hospital systems such as fire alarms, IT infrastructure, and asset tracking within a centralized Smart Control Room. This unified approach supports AIFA compliance and helps the hospital manage pharmaceutical storage more efficiently.



*Smartnet Solution and ConsolONE Platform

Results

Centralized Cold Chain Monitoring

Milesight devices track temperature, humidity, door status, and energy use across multiple buildings, giving staff a unified view of pharmaceutical storage.

Proactive Issue Prevention

Automated alerts and real-time data allow staff to respond before problems escalate, reducing drug spoilage, unplanned downtime, and operational costs.

Reliable Redundant Connectivity

Sensors communicate over a redundant LoRaWAN® network with double gateways, and at least one gateway per floor includes 5G backup via WireGuard. Local data logging ensures continuous monitoring during network interruptions.

Holistic Operational Insight

Milesight devices provide actionable insights across the hospital, enabling staff to optimize environmental conditions, energy use, and space management beyond cold chain monitoring.

Why Choose Milesight

> The combination of Milesight's reliable LoRaWAN® devices and the flexibility of the ConsolONE platform enabled a robust and highly efficient cold chain monitoring solution. Milesight gateways and sensors delivered stable data collection, redundancy, and certification-ready features such as datalogging, on-site temperature display, and customized probes, while the platform provided centralized governance, granular freezer-level control, and an intuitive 3D visualization. Together, they allowed us to move from reactive reporting to proactive issue prevention, significantly reducing drug loss and operational waste.

Partner

About Marcom

Marcom S.r.l., with twenty years of experience in industrial automation and communication, specializes in innovative solutions for M2M, IoT, and automation. Its extensive range of hardware and software products is designed to streamline the work of installers and integrators. The company stands out for its advanced LoRaWAN® solutions by Milesight, a key technology for developing long-range, low-power applications. Marcom offers complete packages, including LoRaWAN® gateways, sensors for energy monitoring, air quality, and antennas, ensuring efficiency and reliability.

About Smartnet Srl

SmartNet was founded in 1995 as a specialist in the development of advanced networking solutions. It positions itself as a next-generation System Integrator and a single point of reference for all network integration needs, offering implementations of LAN and WAN, Network Security architectures, based on Network Storage solutions, VoIP systems, Virtualization, Data Centers, and on-demand applications.

About ConsolONE

ConsolONE is a unique monitoring system designed to give you control over all your company's technological resources from a single console. Intuitive, comprehensive, and easy to use, the system addresses all your monitoring needs and ensures thorough oversight of every device.

Milesight

Tel: +86-592-5085280

Email: iot.sales@milesight.com

Web: www.milesight.com

Address: Building C09, Software Park Phase III Xiamen, Fujian, China