CO2

Cold Storage Solution
from OmniWOT

We deliver advanced IoT-powered cold storage monitoring solutions to optimize supply chain management and ensure product quality and safety.

Deployment of IoT based Remote Monitoring System for Cold Storage Warehouse

Perishable food items like fruits, vegetables, meat, poultry, and dairy products have a limited shelf life after harvest and are highly susceptible to spoilage if not stored under optimal conditions. Failure to maintain and monitor critical environmental parameters in storage units often leads to product decay and wastage.

A prominent cold storage company with facilities across the country required an advanced IoT-based remote monitoring solution to ensure real-time tracking and management of key ambient conditions in their storage units. This solution aimed to prolong product shelf life and minimize losses. Our cutting-edge technology ensures optimal temperature control, safeguarding product quality & safety for businesses across industries.

CHALLENGES

Traditional Monitoring Limitations: The client used outdated methods to track and control conditions in their cold storage, which lacked efficiency and real-time visibility.

Challenges in Storing Perishables: Fruits, vegetables, and meat require specific storage conditions to stay fresh. Different items demand varying temperature and humidity levels, making manual management complex.

Dependence on Wired Sensors: Wired sensors required operators had to physically visit the site to log data and make adjustments, leading to delays and inefficiencies.

Limited Monitoring Frequency: Operators checked data weekly, causing delays in detecting and addressing temperature deviations, which often led to spoilage.

Decision to Upgrade: The client chose an IoT-based solution for 24/7 remote monitoring to improve accuracy, ensure real-time alerts, and reduce manual effort.

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OUR SOLUTION

1) At OmniWOT, we analyzed the client's challenges and provided a solution featuring a hardware gateway device that continuously collects real-time sensor data and transmits it to a secure cloud server. Using the OmniWOT application platform, the client can now access and visualize this data on a user-friendly dashboard anytime, anywhere, ensuring seamless monitoring and control.

2) We provided them with a web/mobile app for real-time monitoring and concerned facility managers can check the status of their cold storage units at anytime from anywhere.

3) A fully automated solution reducing the reliance on a tedious manual process to record data.

4) Easy and simple setup requiring no technical expertise.

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Effortless IoT Integration with OmniWOT's Open Cloud Platform

OmniWOT's Open Cloud Platform is designed for seamless connectivity, enabling **Wireless IoT sensors to effortlessly onboard via LPWAN/LoRaWAN Gateways.**

With a **hardware-agnostic architecture,** it supports a broad range of IoT devices, providing **scalability and flexibility** for diverse applications.

Unlock real-time monitoring, smart automation, and data-driven insights with minimal setup effort, making IoT integration more efficient and future-ready.

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Key Benefits of Wireless IoT in Cold Storage Solution

1. Real-Time Monitoring
Wireless IoT sensors **continuously track temperature and humidity, ensuring perishable items** like Food, Pharmaceuticals, and Chemicals remain within safe storage conditions.

2. Instant Alerts to Prevent Spoilage
Automated alerts notify facility managers of **temperature fluctuations, unstable cooling equipment, or unexpected power failures**, allowing immediate action to prevent spoilage.

3. Energy Loss Prevention from Door Misuse
IoT-enabled door sensors detect **frequent or prolonged door openings**, helping minimize cold air loss, reduce energy waste, and maintain stable storage temperatures.

4. Predictive Maintenance for Unstable Equipment
IoT analytics identify early warning signs of **cooling system inefficiencies or failures**, enabling proactive maintenance and reducing costly downtime.

5. Cost Reduction & Energy Efficiency
Smart cooling automation **optimizes power consumption** based on real-time conditions, preventing excessive energy use and reducing operational costs.

6. Remote Monitoring & Compliance Assurance
A cloud-based IoT platform enables remote access to storage conditions, ensuring compliance with **HACCP, FDA, and industry regulations** while reducing manual inspections.

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