Refrigerated equipment monitoring for local US deli

⚠ Challenge

The client, Summers Deli, is a small deli from San Diego (CA) that wants to ensure chilled and frozen food storage. The deli has to fulfill the USDA guidelines saying that if refrigerated equipment goes down, they must discard perishable food such as meat, poultry, fish, eggs after 4 hours without power. So power loss leads to lost revenue and disrupted business activity.

Like other delis, Summers Deli was interested in establishing a system that would help avoid equipment failure and ensure compliance with the strict standards regarding the safety of food storage.

DCS, a telecommunications service provider, took the initiative and offered a monitoring solution that keeps the equipment at optimal temperature and sends a notification when a problem occurs.

✨ Solution

DCS provided Summers Deli with the MiSensors solution that is easy to install, affordable, and expandable. The solution collects data from sensors, sends it to the monitoring system and generates alerts in case of emergency. It is capable of:

- **mitigating power loss, power fluctuation, and ventilation failure risk** for Summers Deli's refrigerated equipment: walk-in refrigerators, beverage walk-ins, ice cream, and salad cold boxes;
- **setting temperature and humidity alerts** if the normal temperature level or humidity level is exceeded;
- **sending a door open/close notification** to avoid temperature fluctuations in case an employee leaves a door open;
- **sending an SOS signal** if an employee gets locked into a walk-in cooler;
- **monitoring the air pressure in the cooler** to remove the food from the place when a fan in it goes down;
- **controlling energy consumption** with a lighting control system.

The solution consists of hardware and software components.

Hardware

The MiSensors solution is based upon the following components:

- **OptConnect mylo router.** The 4G/LTE cellular device has mag mounts and can be easily installed on any appliance without professional assistance.
- **BLE5 Dongle**. The device acts as a beacon for the sensors to communicate with the gateway, and ultimately parse the data back to the MiSensors platform.
- **MiTag sensors**. Mounted into the appliances, the sensors are programmed to record the temperature, humidity, door open/closed, light, and air pressure, and the SOS button.

If the temperature is too high, the app will send an alert and show the exceeded temperature threshold. The user can click on an alert and make it resolved.

The data is processed by the custom-made MiSensors platform.

🏆 Results

Company profile

🏆 **IoT project of the year nomination:** Cold chain transportation

Country: USA

Industry: Long-haul transportation

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