

IntelliSite IoT Solution Comes to Life to Proactively Monitor a Leading Northwest Hospital Network's Pharmaceutical Grade Cold Storage



SUMMARY

A prominent Northwest hospital network chose IntelliSite's Internet of Things (IoT) platform to streamline the monitoring and management of its pharmaceutical-grade cold storage units across eight hospitals. Tasked with hosting a variety of biopharmaceuticals, blood and vaccines, monitoring the hospitals' cold storage units using IoT allows the hospitals to achieve compliance and real-time insight at a significant cost and resource savings.

Through wireless connectivity, the hospital's pharmacy and maintenance personnel can monitor the status of numerous cold storage units spread throughout the hospital and receive proactive alerts regarding the health and status of the units. This enhanced insight also allows hospital personnel to monitor the various temperatures of the rooms as well as the health and productivity of the air conditioning units themselves. IntelliSite's delivery of real-time data and alerts to hospital personnel's mobile devices displaces the previously required daily monitoring and manual reporting of the cold storage units' temperature. Additionally, the hospital's use of sensors to monitor the status of the AC unit to detect vibrations helps ensure that the units are operating efficiently and helps detect early system failure or need for attention.

The ongoing analytics shared through IntelliSite results in significant cost savings for the network's hospitals and ensures the viability of the stored goods and reduces the amount of resources required to achieve FDA regulatory compliance associated with monitoring the stored products. The temperature monitoring also helps close the "last mile" loophole in the pharmaceutical company cold chain to ensure highest levels of patient care.

Challenges

A hospital's ability to monitor temperature is paramount to the proper storage of medicine and biopharmaceutical products. A hospital's inability to correctly monitor temperatures of cold storage units can lead to significant loss of products and endanger patient care as well as the reputation of the hospital. For instance, some medicines require refrigeration, and some need to be kept well below freezing. But others can lose strength if they are frozen. And some medications must be kept at a designated room temperature. Because all medicines and products need to be stored at varying degrees to ensure their intrinsic value, the units must each be individually monitored and maintained at optimal levels.

Before IntelliSite, hospital personnel were responsible for manually checking the temperatures throughout the day and night, report on the various temperatures, adjust thermostats and keep a physical record of their findings. This placed a significant burden on the hospital staff to achieve regulatory compliance and ensure the safety of its stored products.

Specific challenges that the network of hospitals addressed with IntelliSite include:

- Streamline the reporting and monitoring of the cold storage units by hospital personnel
- Achieve holistic management of multiple storage units across the network of hospitals

- Improve labor productivity of hospital personnel
- Achieve remote access, management and control of the individual storage units
- Monitor the health of the air conditioning units that service the storage units
- Attain regulatory compliance related to the reporting
- Achieve return on investments (ROI) through financial benefits and cost savings

SOLUTION

Multifaceted in nature, the hospitals' cold storage units require a flexible IoT-based solution that supports their key initiatives, including real-time sensor readings, intuitive monitoring and reporting, and enhanced remote management. The hospitals' adoption of an LTE-based IoT solution by IntelliSite provides them with a flexible platform and the ability to add additional services in the future, including security and surveillance.

IntelliSite delivered a solution that is built atop wireless market leader Cradlepoint's Gigabit LTE solution. Cradlepoint provides an LTE-equipped cellular solution that is plug and play, cost-effective, and low maintenance. Specifically, IntelliSite provided the hospital with a powerful solution that was built around Cradlepoint's COR IBR900 and NetCloud Manager. Cradlepoint IBR series routers provide the hospitals with a reliable solution that, coupled with cloud management, delivers increased bandwidth and control in a secure environment.

The IntelliSite IoT for Cold Storage solution provides the hospitals:

- Cradlepoint's Elastic Edge, a pervasive software-driven wireless WAN based on LTE
- Cloud management of LTE routers and easy provisioning
- Ability to use LAN as primary connection with LTE as fail-over
- Cradlepoint's Secure Threat Management, a comprehensive intrusion detection system

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"The introduction of IoT to monitor our cold storage units are a critical step to modernizing our storage, streamlining our processes and allowing us to better serve our patients. IntelliSite's IoT solution has already generated a significant ROI and we are continuing to look at how we can leverage IoT into other aspects of our hospital operations," said Director of Technology at the Northwest Hospital & Medical Center..

RESULTS

The hospitals' use of LTE wireless technology to monitor the cold storage units provide real-time analytics concerning the various temperatures and health of the cooling systems themselves. Now equipped with an always-on connection for consistent telemetry and real-time reporting, the hospitals measure success in three ways:

- *Monitoring:* Effortlessly monitor essential and reliable temperature data so that any variation, no matter how small, can be tracked.
- *Compliance:* The hospitals can meet FDA regulatory requirements and reduce the risk of non-compliance with continuous monitoring and digital logs.
- *Protection:* With enhanced insight, the hospitals can streamline corrective actions and unify processes when excursions occur to reduce or eliminate the risk of asset loss.

This combination of services strengthens the hospitals' operational efficiency and further improves patient care. IntelliSite's ability to manage the dispersed locations through a "single pane" of glass allows each hospital to remotely identify and resolve issues and create operational transparency that extends across the entire network of hospitals.

