MONNIT®

Smart Monitoring Solutions for Pharmacies and Laboratories

Smart Monitoring Systems for Pharmacies and Laboratories

How pharmacies and labs can implement reliable, low-cost, monitoring solutions for smarter, safer, and more efficient operations.

Introduction

Vaccines save 2.5 million lives each year, while more than 3 million people die each year from vaccine-preventable diseases. The methods of providing the availability of vaccines globally often include unreliable transportation systems and inaccurate temperature storage facilities, which makes it challenging to prevent vaccine spoilage.

Preventing Spoilage

A Physician or Pharmacy Manager's worst nightmare is to find their products have become jeopardized or completely ruined due to a power outage, a freezer or refrigerator unit failed overnight, or a refrigerator door was left open. As doctors regularly have up to $60,000 worth of vaccines in their refrigerators.

- A clinic in Ohio had 1,123 doses of vaccines spoil due to being stored in a faulty refrigerator. (http://www.chroniclet.com/news/2014/03/29/Health-department-More-than-1-100-vaccines-ruined-by-faulty-fridge.html).

- 8,600 patients of a clinic In Minnesota had to get revaccinated after receiving vaccinations that were stored in refrigerators and freezers outside of the acceptable temperature range. (http://www.westsherburnetribune.com/cwt/mdh-recommends-revaccination-patients-two-st-cloud-clincis).

- The Michael J. Fox Foundation for Parkinson's Research Inc. sued the Camden, NJ. Coriell Institute for Medical Research in 2015 for failure to properly close a freezer door, which resulted in ruined blood and cerebrospinal fluid samples. This incident caused more than $150,000 in damages to study samples.

The Internet of Things and Pharmaceuticals

Many laboratories and pharmaceutical companies are facing significant challenges with reducing waste or spoilage and accurately recording storage temperatures. Most have no way of knowing if the power goes out or a cooler or freezer fails after hours. That is where the Internet of Things comes in.

The Internet of Things (IoT): the network of physical objects ("things") embedded with sensors, software, electronics, and network connectivity, which enables them to collect and exchange data.

The IoT has been around for years and affects many of our lives on a daily basis, but is just recently becoming a necessary technology for pharmacies, hospitals, and laboratories. With an IoT temperature monitoring systems, companies can remotely monitor any temperature controlled storage system, while also securely recording data and providing immediate alerting if the power goes out, or if temperature conditions go above or below predefined thresholds within a unit.

Here are a few of the struggles, concerns, and responsibilities a pharmacy or laboratory professional can overcome with Monnit's connected solutions:

- Reduce Waste and Spoilage
- Save Time and Resources
- Protect Your Investment
- Increase product and patient safety
- Conform with regulatory compliance
- Become aware of storage cooler problems
- Protect your reputation
- Monitor from anywhere

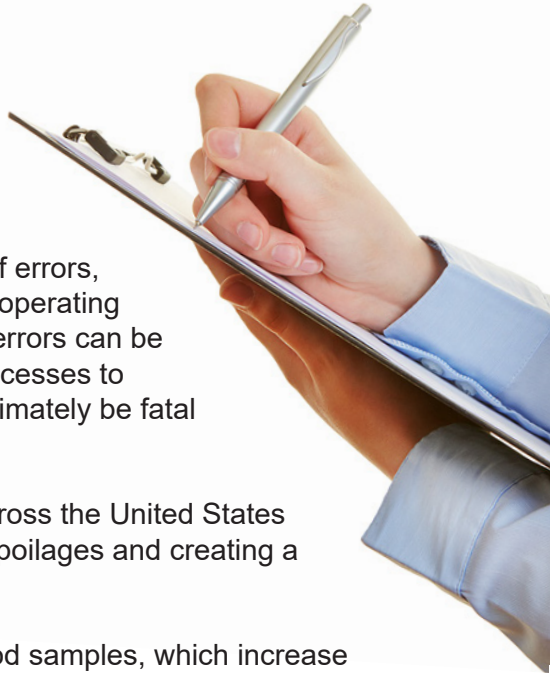
Transportation

One significant area that connected sensors is improving, is sample temperature monitoring during shipping. Utilizing temperature sensors inside of transportation coolers allows companies to track and record temperature data while in transit by using cellular connection. The temperature data can be accessed through secure online software from anywhere in the world near-real-time. This capability allows management to correct issues as they occur, preventing samples from being spoiled or compromised.

Transporting vaccines and specimens can be difficult as they are sensitive to fluctuating temperatures, but transporting organs is a matter of life and death. Many patients have to wait up to five years to receive an organ donation. With so much at stake, reliable wireless temperature monitoring can make sure an organ or other temperature sensitive medical supplies are transported safely.

The ability to track temperatures during shipments is not new, but being able to monitor, measure, and analyze shipments affordably brings clinical laboratories a step closer to the goal of being error-free. Monitoring clinical samples during shipping is also a major step in achieving higher levels of quality while decreasing costs.

Out with the Clipboard, In with Monnit



Monnit helps improve processes that have traditionally been manual. This is important since manual processes increase the possibilities of errors, are difficult to track, and can be challenging to determine if standard operating procedures are being followed. With an monitoring system in place, errors can be quickly discovered, which can eliminate costly spoilage, increase processes to high-quality levels, and reduce the chances of oversights that can ultimately be fatal and threaten patient safety.

Investigators found that employees of several clinical laboratories across the United States were not following some of the most basic rules which led to costly spoilages and creating a bad reputation for many clinics. Some of the violations were:

- Technicians were not properly monitoring temperatures of blood samples, which increase the chances of bacteria within the samples, which is harmful to patients.

- Sample temperatures were not being documented routinely. In some instances, documents were shredded or never created. Data was also not being entered into the electronic records systems within a timely manner.

The investigators of the clinical laboratories found several crucial deficiencies that could seriously harm patients, including failure to verify and document the temperatures of which blood was being stored in.

Monnit is helping pharmacies and clinics reduce the impacts of a recall and meet the requirements of detailed monitoring and record keeping to assure product safety by collecting real-time data from multiple sensors 24/7.

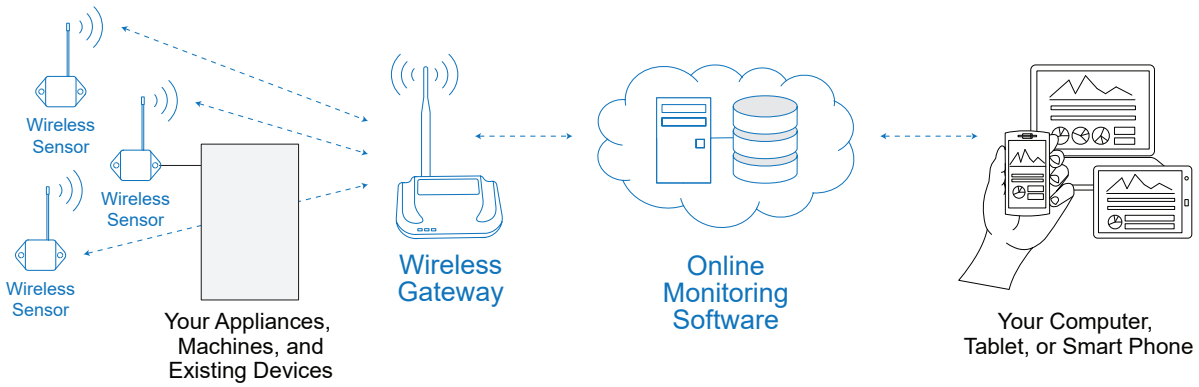
An All-In-One Solution

Monnit Wireless Sensors are making a big impact with many pharmacies and laboratories across the globe, and can help you and your staff monitor various aspects of your lab's environment with multiple sensors in a single view. With Monnit you and your staff can:

- Reduce Waste and Spoilage
- Save Time and Resources
- Protect Your Investments
- Increase Product Safety
- Preventive Maintenance
- Protect Your Reputation
- Monitor from anywhere, 24/7

With Monnit, Wireless temperature, humidity and door monitoring are affordable and allow you to keep track of everything from anywhere in the world, while also securely logging data and offering immediate alerting whenever conditions exceed your predefined thresholds. In today's modern world, the convenience, flexibility, and importance of cloud-based monitoring and mobile application access to system statistics cannot be overemphasized.

How the Monnit Solution Works



The Monnit solution consists of wireless sensors, gateways and monitoring software, to offer a complete remote monitoring solution. Wireless sensors can be used to monitor various environmental aspects of your business as well as integrate with your existing equipment (such as coolers and appliances) to give you real time data. Wireless gateways act as a communication bridge between your wireless sensors and the iMonnit Online Monitoring Software which allows you to view sensor information from anywhere, anytime through a computer, tablet or smart-phone. The iMonnit software can also alert you immediately by email and/or text message, and can even call your phone if conditions that you set are met or exceeded.

With Monnit's wireless sensor network (WSN) can be expandable from a single local area to a multi-site network with sensors anywhere in the world, as long as the sensors are connected to a Monnit gateway. The gateway will then transmit the data to Monnit's cloud-based software which allows you to configure, monitor, and manage all of your locations from one network.

Monnit has over 50 different wireless sensors types, and all have unique characteristics depending on their application to provide the solution you need. Monnit also delivers a variety of gateway communication options, such as cellular, Ethernet, USB and serial MODBUS to connect your devices to Monnit's cloud software. Cellular, Ethernet and USB gateways are capable of connecting with up to 100 wireless sensors per gateway and serial MODBUS gateways can connect with up to 50 wireless sensors.

Features and Benefits

- Easy to setup and use
- Reliable, proven technology
- Low cost
- Low power/long life
- Exceptional wireless range
- 50+ sensor types
- Scalable / Expandable (100 sensors per gateway)
- Global RF frequencies
- Cloud-based monitoring software
- Provides alerts by text message, email, or phone call
- Accessible 24/7 from anywhere
- Custom sensors available upon request

Benefits For Your Business

Monnit and the IoT provide promising solutions to provide traceability, visibility, and controllability for many food distribution challenges. The Monnit Remote Monitoring System is the most intuitive, reliable, and cost-effective solution on the market.

As regulations, and competition grows, pharmaceutical clinics and laboratories cannot afford to take risks with product safety. Suffering the loss of stock due to spoilage is an expense that most organizations may not overcome. Monitoring pharmaceutical storage cooler temperatures will ensure product safety and minimize costs from waste while helping meet regulatory compliance.

Monnit Wireless Sensors can be used to monitor; vaccine coolers and freezers, sample storage coolers, biological incubators, sub-zero (cryogenic) freezers, liquid nitrogen containers, and other equipment to provide real-time, 24/7 monitoring and recording of temperature, humidity, access, door statuses and much more. This information is recorded in the software system and can be accessed from anywhere through the online dashboard or mobile apps via secure login.

If a cooler or freezer temperature becomes too hot or too cold, an alert can be sent to multiple contacts via text message, email, phone call or even to a local warning system to notify any employees nearby. This not only eliminates the potential for human error but will also save you time, money, and give you the visibility you need to ensure your inventory is safe, even after hours.

Key Takeaways

- A number of regulations and processes are mandatory within pharmaceutical and laboratory services to ensure drug safety.
- Proper manual processes and documentation are time consuming, resource intensive and prone to human error.
- Monnit’s automated system can properly track and record temperature critical processes such as drug and sample storage temperatures.
- Monnit systems can protect stored inventories, preventing spoilage due to cooler or freezer failures by immediately alerting staff of any detected issues.
- Pharmacies and labs can realize cost savings in energy use by monitoring the power consumption of coolers, freezers, appliances, HVAC systems and more.
- Monnit’s reliable remote monitoring solutions give you peace of mind by giving you 24/7 access to your business from anywhere and alerting you immediately of any issues.
- Implementing the Internet of Things in your business is easy and affordable!

> “Where do I begin? Monnit’s products, as well as their team, have been incredible. The sensors were very easy to setup and the system does everything we need it too. Monnit products were also more affordable than any other solution we came across and offer more features. That’s a win-win!”

– Charlotte L., Manager Laboratory Sciences

About Monnit

Monnit bridges the gap between industry and technology through the Internet of Things, empowering businesses with easy-to-use, low-cost remote monitoring solutions. Monnit solutions can be used to remotely monitor a variety of “Things” (i.e. temperature, motion, humidity, energy use, etc.), alerting you by text, email, and/or phone call when user-defined conditions are met. Our goal is to save you as much time, money, and stress as possible, by preventing issues with inventory, infrastructure, and more.

As a Global Top 50 innovation leader in The Internet of Things (IoT), Monnit’s technology has significantly expanded the frontier of both what and how “things” can be connected, monitored and controlled. It is almost impossible to identify an asset, process or solution, from SMB to Enterprise, indoors or outside, commercial to industrial, that cannot be uplifted by one of Monnit’s 50+ reliable, affordable, tiny, powerful, wireless monitoring solutions.

MONNIT®

For more information about our products or to place an order, please contact our sales department at 801-561-5555.

Visit us on the web at www.monnit.com.

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