

## *Properly maintain temperature and environmental conditions to enhance patient safety and maintain regulatory compliance.*

Healthcare facilities have numerous refrigerators, freezers, cryogenic tanks, coolers, and other storage locations which contain temperature-sensitive items. Wherever environmental conditions play an important role in the daily operations of your facility, automated monitoring solutions help to ensure materials are properly maintained and safe for patient use. CenTrak's wireless, real-time environmental monitoring system notifies personnel when conditions are sensed above or below user-set parameters to enable immediate corrective action and avoid costly product loss. Automating the collection and reporting of critical data, increases staff efficiency, minimizes disruptions to patient care, and reduces the potential for human error often associated with manual documentation.

CenTrak Environment™ is an end-to-end, enterprise-wide solution for healthcare. Our LCD display sensor monitors key parameters such as temperature (including ultra-low temperature), ambient temperature and humidity, differential air pressure, oxygen, door ajar status, and liquid nitrogen fill levels. CenTrak's easy-to-use software application provides robust reporting for regulatory compliance, real-time alerts, corrective action logs, and a customizable rules engine for escalation paths and notification management. NIST certification services are also available to ensure accurate and reliable performance.



Ensure patient safety and quality of care



Monitor and prevent loss of critical inventory/materials



Ensure vaccine, Vaccine for Children (VFC) and medicine efficacy



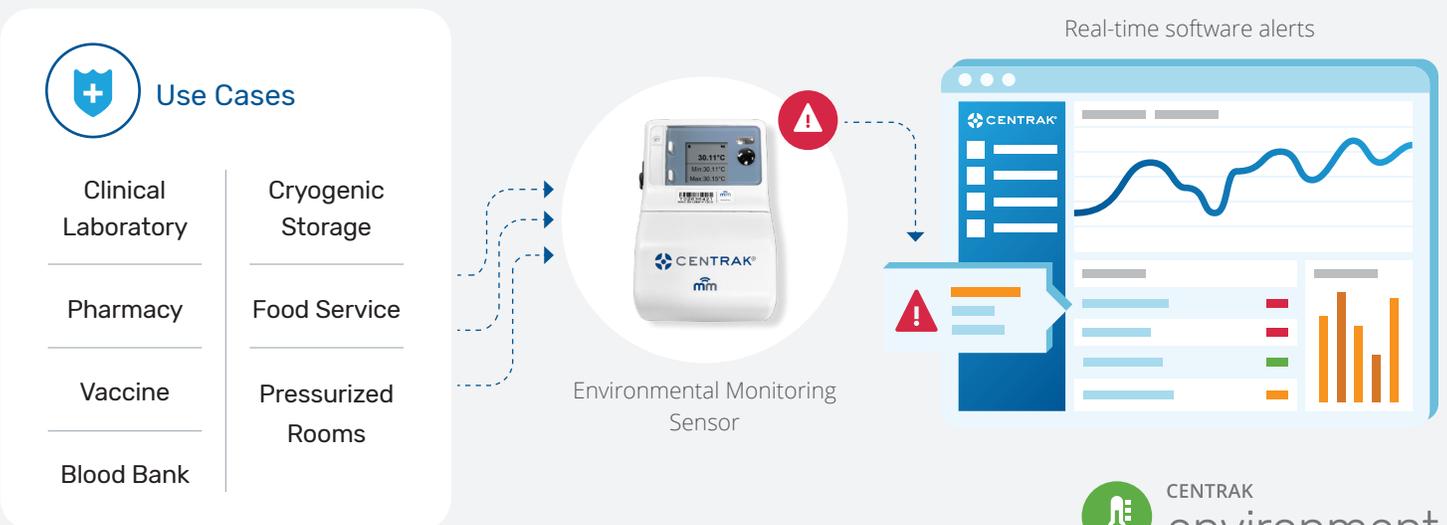
Compliance with state, federal and regulatory oversight requirements



Improve staff productivity, efficiency

## Enterprise Solution for All Environments

CenTrak's Environmental Monitoring solution can be quickly and efficiently deployed across multiple departments with a single software application. This scalable platform may be an add-on to your CenTrak RTLS deployment or a standalone solution.



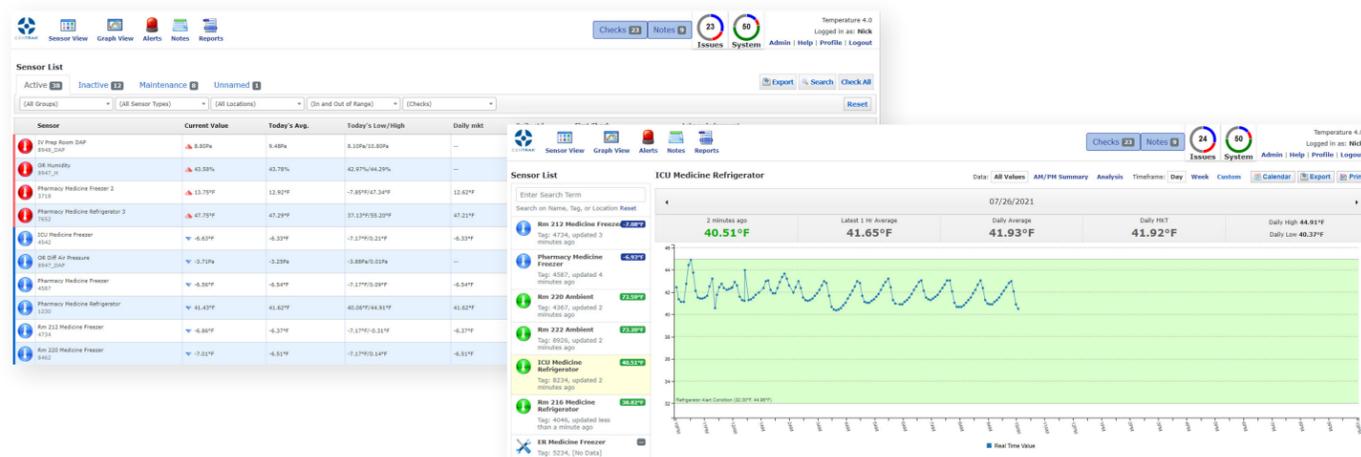
## The Data You Need Without All the Overhead

Don't let improper manual reporting slow you down or jeopardize patient safety. CenTrak's Environmental Monitoring software provides continuous visibility into high-dollar inventory such as medications, blood, lab specimens, vaccines, and food, as well as in critical patient-care areas, including pressurized rooms. The solution adheres to the FDA 21 CFR Part 11 guidance for electronic record keeping and audit trail requirements.

Data is recorded in intervals from 5-60 minutes, with configurable reporting rates, to ensure proper conditions are always maintained. Alert notifications are based on sensing value, device status (probe disconnect, door ajar, low battery) or process breakdowns. With an integration to Active Directory, notifications can be properly routed based on user permissions and staff scheduling. Quickly configure hundreds of sensors, users, and alerts through a simple import/export tool.

Real-time alerts and customizable escalation chains enable staff to take immediate action when conditions fall outside of safe parameters. When an alarm is triggered, the corrective action performed is logged in the system for sensor and alert management.

- Email
- SMS/MMS
- Alarm, lights, strobes
- Phone calls



## Meet State and Federal Regulatory Requirements

Gain peace of mind knowing that operations are always in compliance.

- Joint Commission
- State Board of Health
- CDC Storage and Handling of Vaccines
- Vaccines for Children
- American Association of Blood Banks
- Clinical Laboratory Improvement Amendments
- United States Pharmacopeia 797 and 800
- College of American Pathologists

The system generates a variety of automated compliance reports and sensor history audit logs, based on individual devices or customized groupings (i.e., departmental views).

- Daily check compliance report
- Monthly and hourly summary reports
- Alert and corrective action logging
- Operational performance reports

## Monitor With Confidence

Our devices are designed to eliminate the need to take continuous manual measurements and come equipped with dual ports to support a second measurement or door ajar sensing. The built-in display allows for immediate temperature viewing and local alarming.

**Versatile:** Enterprise healthcare solution used to monitor dual zone temperature, differential air pressure, ambient temperature and humidity, liquid nitrogen fill levels, oxygen, and door ajar status. Embedded real-time locating functionality. Multiple buffer types and probe lengths to suit a variety of needs across the enterprise.

**Reliable:** High-quality NIST-traceable probes ensure measurement accuracy and regulatory compliance. In the event of a power or network outage, the sensors will continue to monitor conditions and store measurements offline for up to 30 days. Data is then transmitted when the network is restored.

**Low Maintenance:** Sensors are equipped with a 2-year battery life and may be easily relocated to different departments as needed. DC Power with battery back-up option also available.



Environmental Monitoring Sensor



Sensor with CDI Probe

## Temperature Sensor

Accurate wireless temperature monitoring of refrigerators, freezers, coolers, cryogenic tanks, and other storage areas for standard temperature measurements, ultra-low temperatures, and liquid nitrogen fill levels (-200 °C to +115 °C). This sensor may be deployed across the healthcare enterprise to monitor critical items such as lab specimens, medications, vaccines, blood, food, and preserved cryogenic materials.

## Ambient Temperature & Humidity Sensor

Ensure correct temperatures and relative humidity levels in environmentally controlled rooms or areas to help keep patients safe and more comfortable. Monitoring the ambient conditions of healthcare facilities reduces the risk of dangerous static electricity, minimizes the spread of airborne illnesses, and more.

## Differential Air Pressure Sensor

Often used in patient isolation rooms, surgical operating rooms, and sterile processing departments, Differential Air Pressure sensors provide real-time monitoring of airflow to detect pressure changes between adjoining rooms or hallways. This prevents airborne pathogens from circulating the facility, reducing the infection risks to other patients and staff members.

## Oxygen (O2) Sensor

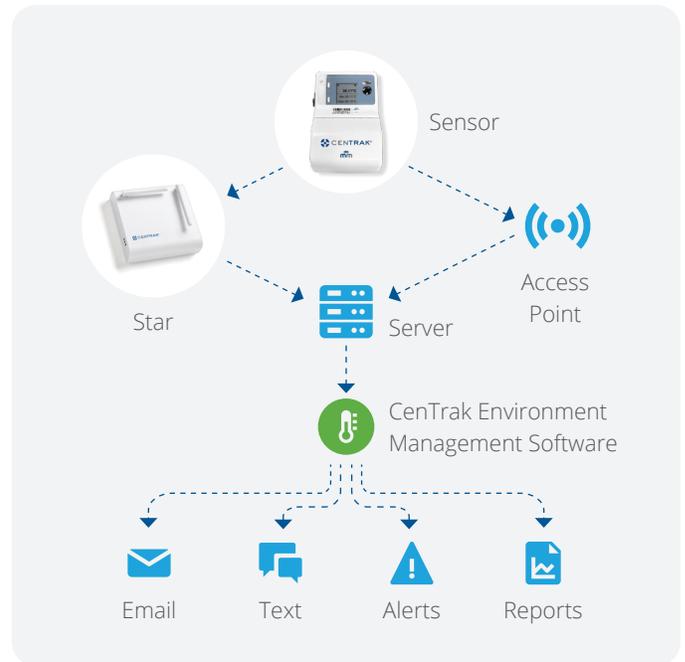
O2 sensors continuously monitor oxygen levels to offer protection from hazardous environments. In the event of liquid nitrogen leaks or a situation where the displacement of oxygen may occur, staff are alerted to unsafe oxygen levels prior to entering the room.

## How It Works

**Connectivity:** Select sensors can operate under various network configurations, such as Active UHF (i.e., 900 MHz) and Wi-Fi (i.e., Cisco CCX, Aruba ACX) including support for WPA2 Enterprise deployments. A combination of Active UHF and Wi-Fi may also be used to strengthen network connectivity where needed and support additional RTLS use cases.

**Simple Installation:** Fully configurable in the field and supports over the air firmware upgrades using UHF or Wi-Fi TCP. Bluetooth Low Energy (BLE) connectivity for local setup using CenTrak's Pulse™ Mobile application.

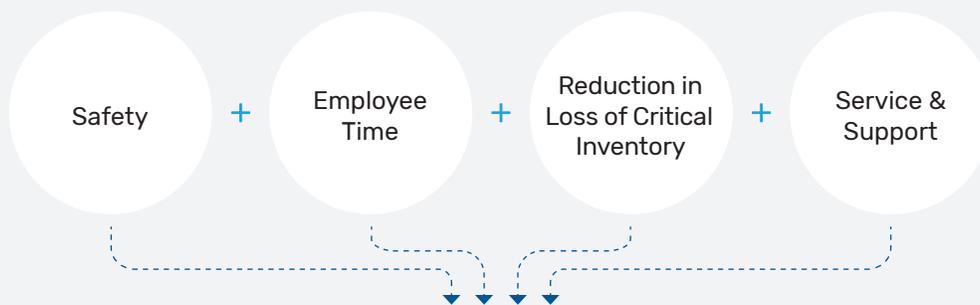
**Scalable:** Easily expand your environmental monitoring system to support asset tracking or CenTrak's other RTLS solutions



## NIST Certification Services

CenTrak adheres to ISO-17025 quality protocols and all testing conducted in-house is NIST traceable to ensure measurement accuracy and regulatory compliance. NIST services are provided by CenTrak and Certified CenTrak Partners. Additionally, NIST certificates are available within the software application.

## Measure Your Return on Investment



### Solution Outcomes:

ROI achieved from a single CenTrak Customer

**\$250,000**

product saved

**13,000**

staff hours reallocated  
to patient care

**\$970,000/yr**

labor savings

**6,000**

Flu vaccine doses saved

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