



The Definitive Guide to
**Environmental Monitoring
in Hospitals**



Index

- Overview 3
- What is Enterprise Environmental Monitoring? 4
- Why Environmental Monitoring is Important? 5
- Aspects of Enterprise Environmental Monitoring in Hospitals 6
- Capabilities of Modern Environmental Enterprise Monitoring Solutions 7
- The Importance of an Enterprise (Unified) Environmental Monitoring Solution .. 9
- 8 Key Criteria to Consider for Environmental Monitoring 10
- How to Evaluate Your Current Environmental Monitoring 12
- Enterprise Monitoring Self-Assessment 13
- Conclusion 14

Overview

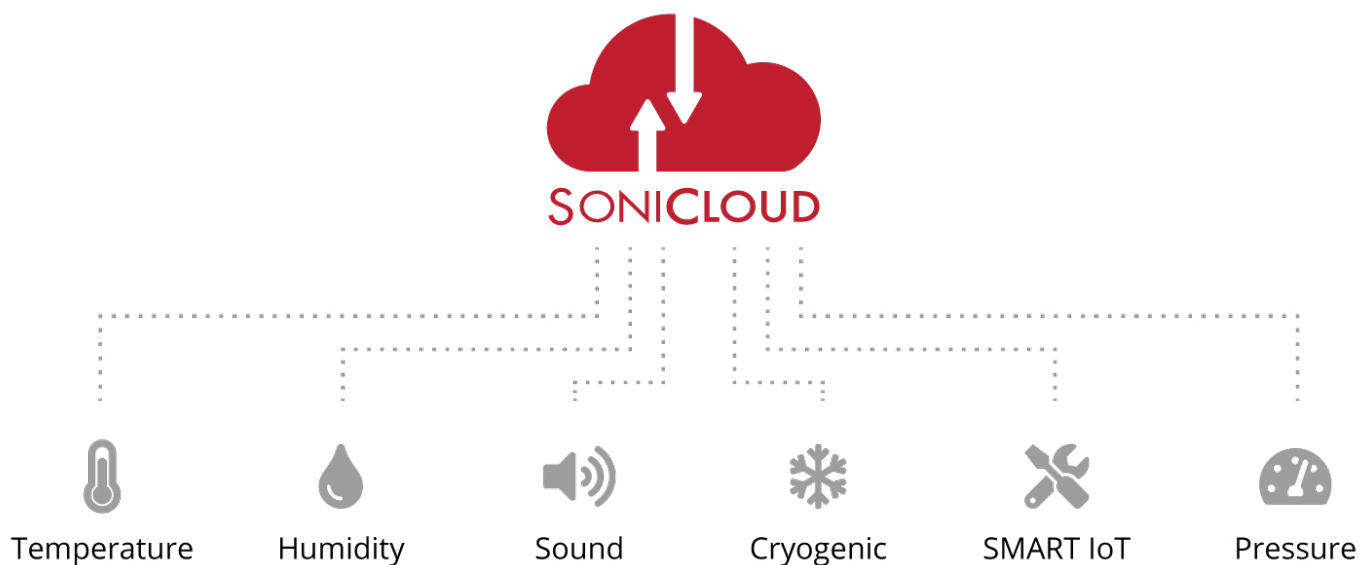
Maintaining an environment of care that ensures patient safety is a primary responsibility for any hospital. Medication and food safety, optimal room conditions, sterilization of procedure rooms, products and equipment, proper air quality and more must be maintained, and documented, every single day. These responsibilities are shared throughout multiple departments in the hospital: pharmacy, lab, nursing, nutrition, infection control, and facilities teams, for example, all play a part.

In addition to these highly critical areas, there are a host of other responsibilities a hospital must perform to ensure patient safety, patient comfort, and promotion of optimal healing conditions. Everything from water temperature, to the proper temperature of warming blankets and fluids, ideal noise levels and more all impact patient safety and satisfaction.

With the variety and amount of unique and departmental needs for environmental monitoring, regulatory compliance, and employee responsibility - the inherent organizational structure of a hospital leads to an inevitable ad-hoc approach to fill in gaps for compliance-based monitoring, causing inadequate processes that hospital employees are challenged with for years to come. From time consuming, manual processes that prevent staff from mission-critical patient care to the lack of 24/7 data visibility and alarming when environmental conditions aren't up to par - not having a comprehensive, cloud-based system creates unnecessary obstacles, risk, and time for healthcare organizations.

What is Enterprise Environmental Monitoring?

An Enterprise Monitoring system is the most comprehensive, unified approach to environmental monitoring for protecting valuable assets, adhering to compliance requirements, and increasing employee efficiency. Enterprise Monitoring systems take a cloud-based approach using wireless sensors that deploy anywhere and everywhere that compliance-based monitoring or asset protection is required. Along with continual compliance monitoring, enterprise systems come with a software system that provides an operational dashboard for viewing real-time figures, logging data, and creating automated, regulatory-compliant reports.



A cloud-based, sensor-driven approach to monitoring is vastly different and more effective and efficient than other methods of compliance monitoring and reporting. Traditional methods, such as manual data logging or relying on your building management system take up hours of employee time, have unreliable data, and don't provide any insights into how things are being stored - other than when employees are actively present. Modern, cloud-based monitoring systems complement building management systems by automating this process; overriding the need for manual labor and logging while ensuring no data gaps occur for compliance reporting. Enterprise Monitoring systems should require no IT Infrastructure or integration into a BAS/BMS, leading to easy implementation, minimal up-front investments, and long-term benefits.

Why Environmental Monitoring is Important?

In any case, environmental monitoring is critical to the success of a hospital's operation. Environmental monitoring leads to increased patient safety and satisfaction as well as full compliance adherence. Hospitals work so hard to maintain compliance within Joint Commission guidelines, and it is financially catastrophic to be denied full accreditation. With an Enterprise Environmental Monitoring approach, organizations are given these benefits and the peace of mind knowing that compliance risk is minimized - all while removing or improving current, manual, or inadequate monitoring processes.

Enterprise Monitoring can help your organization:

- Prevent losses, improve patient safety, and protect critical assets
- Save staff time by eliminating manual data logging of equipment and conditions
- Simplify and standardize compliance-based reporting and calibration
- Spot operational risks, quickly and easily
- Provide timely, reliable reporting across the entire hospital in a single interface
- Unburden IT utilization with remote, cloud-hosted solution



Aspects of Enterprise Environmental Monitoring in Hospitals

Sonicu's approach to Enterprise Monitoring is simple. First, assess the critical components of an organization's monitoring strategy. These are typically compliance-based monitoring points or monitoring points protecting valuable assets or ensuring patient safety, such as:

- Pharmacy Fridges/Freezers
- Lab Freezers
- Procedure Rooms
- Patient Nutrition
- Isolation Rooms
- Indoor Air Quality
- Compounding & Clean Rooms

Next, take a look at less critical points of monitoring throughout the organization. While these can still fall under guidelines from regulatory agencies, most are best practices for healthcare organizations. These include:

- Soiled Utility Rooms
- Blanket Warmers
- Sterile Storage
- Sound Levels
- Liquid Warmers

Lastly, assess the areas in which a cloud-based monitoring approach may complement current systems, the facilities team, or the Building Management System. These points of monitoring can include things such as:

- Leak Detection in critical areas
- Equipment Status
- Hot Water Temperatures
- Vibration levels



Capabilities of Modern Environmental Enterprise Monitoring Solutions

The beauty of an Enterprise Monitoring approach to environmental conditions is the unification and cohesiveness of a future monitoring and compliance strategy. By streamlining all departments onto one platform, organizations are given superior operational visibility and a significant reduction in risk by lowering the chance of losing valuable assets, maintaining optimal conditions for patient safety, and keeping up with compliance procedures.

Sonicu's Enterprise Monitoring system includes wireless sensors throughout an organization, as well as a cloud-based software system, SoniCloud. This platform aggregates all monitored data into a single dashboard with 24/7 access to live device status, plus historical data and reporting features from anywhere - providing superior operational visibility, enterprise-wide.

Sonicu's Environmental Enterprise Monitoring systems come with the following features:

1. Superior Asset Protection – Sonicu SMART Alarm Handler

- a. Buffers & Delays - *Prevents Alarm Fatigue*
- b. Snooze Alarming - *Pause Alarms without Forgetting*
- c. Escalation/Tiered Alarms - *Advanced Asset Protection*
- d. Customizable Notifications & Schedules – *Notify Right People at Right Time*
- e. Alarm Configuration Snapshot - *Ensures Alarms are Enabled Correctly*

2. Regulatory Compliance – Meets or Exceeds Joint Commission, HFAB, and State Requirements

- a. Automated Data Logging & Reporting – *Eliminate Manual Logging*
- b. Alarm History – *Documents Corrective Actions*
- c. Data Sync – *No Data Gaps on reports from communication outages*
- d. SNAP Calibration - *Simplifies Ongoing NIST Calibration*

3. Implementation – Ease of Implementation and Ongoing Use of the System

- a. Web-Based Dashboard - *View Conditions from Anywhere*
- b. Implementation Wizard - *Guided sensor deployment via SoniCloud APP or desktop*
- c. Enterprise Dashboard - *Aggregated View of Multiple Locations – Full Visibility of Enterprise*
- d. Roles/Privilege Based Access – *Control Access by department or location*
- e. Flexible Data Transmission Options: *Cellular, Wi-Fi, 900MHz, Ethernet, Failover*

The Importance of an Enterprise (Unified) Environmental Monitoring Solution

With today's available technology, it's critical that healthcare organizations move towards an Enterprise Cloud-Based Monitoring approach. Segmented and incoherent monitoring and compliance reporting strategies only create gaps in a system with incomplete data. Not having full visibility and knowledge into how critical medications are being stored, if they are still within proper efficacy, leaving gaps for compliance reporting, and wasting employee time on manual logging are all things that can be fixed with Enterprise Monitoring.



Without a clear and organized structure of how to manage data logging and compliance reporting, you can't measure the efficiency of the process or the success of it. Because of this, it's virtually impossible to standardize procedures. This is inevitably because you can't standardize what's not centralized. By creating a centralized, top-down approach to Enterprise Environmental Monitoring, hospitals are given a clear view on the effectiveness, efficiency, and safety regarding monitoring points throughout the organization. These insights also give a clear view of how to move forward in making decisions with real data points that are reliable, trustworthy, and timely.

8 Key Criteria to Consider for Environmental Monitoring

There are a few things hospitals should evaluate when considering alternative enterprise monitoring solutions. Although not an exhaustive list, the 8 criteria below include some of the most important things to remember:

1. Cloud-Based Approach

A cloud-based approach to Enterprise Monitoring is crucial. It requires no local IT infrastructure and no integration into an organization's current building management system which means quicker and easier implementation, full visibility into an organization's operations, and provides an easy route for scalability.

2. Breadth and Depth

Ensuring that your monitoring partner can cover every aspect of environmental monitoring for your enterprise is critical. If a partner only focuses on one aspect of enterprise monitoring, an ad-hoc approach will slowly creep back into operations and your ROI will be lost.

3. Regulatory Compliance

Quite possibly the most important feature of an enterprise system is meeting or exceeding regulatory compliance procedures set forth by state, federal, and private agencies like the Joint Commission. Compliance should be easy, streamlined, and reliable. An ongoing program for NIST-Certified sensors can also be helpful to ensure compliance is met.

4. Built-In Redundancy

From backup batteries to DataSync, ensuring all points of monitoring operate continually during potential power or network outages is important. This guarantees that sensor data is continually analyzed and data loss doesn't occur when transferred to the cloud.

8 Key Criteria to Consider for Environmental Monitoring

5. Customizable Alarming System

An alarming system should be customizable to your organization. This includes setting up schedules around employee shift times to ensure the right people are notified at the right time. Features such as snoozing alarms, buffers, and delays also help prevent alarm fatigue for workers.

6. Easy Implementation

Implementation shouldn't be complicated, lengthy, or expensive. A cloud-based approach requires no local IT infrastructure, meaning that installation can be completed by anyone - regardless of technical expertise. However, monitoring partners should offer professional installation as an option to unburden staff.

7. Security Requirements

Cloud-based monitoring systems must maintain or exceed data security requirements set forth by both private and public organizations.

8. Standard Procedures for Enterprise Monitoring

Lastly, a monitoring partner should have standard procedures for all aspects of an environmental monitoring system, including assessing your current situation, quoting, installation, training and education, and ongoing account management.

How to Evaluate Your Current Environmental Monitoring

If you find yourself wanting to learn more about an Enterprise Monitoring approach in hospitals, consider using our best practices guide to evaluating environmental monitoring within your organization. This self assessment will guide you through some of the areas that you can start to explore to see if automated, enterprise monitoring could be a benefit for streamlining your hospital's approach to compliance-based monitoring, reporting, and keeping patients safe.

Sonicu's consultative monitoring experts can also help evaluate your hospital to see where automated monitoring will save you time, improve compliance, and continue focusing on operational safety and efficiency. If a consultative assessment sounds like the right option for your organization, contact info@sonicu.com to get set up.

Enterprise Monitoring Self-Assessment

Thinking about an Enterprise Monitoring package? Let's take the first step with this self-evaluation of all points of monitoring that Sonicu could automate for your enterprise. Afterward, reach out to one of our friendly representatives at info@sonicu.com for more information!

Temperature Monitoring

- ☐ Medication Fridges
- ☐ Medication Freezers
- ☐ Blanket Warmers
- ☐ Fluid Warmers
- ☐ Walk-In Coolers
- ☐ -80 Freezers
- ☐ Cryogenic Storage
- ☐ Kitchen Warmers
- ☐ Lab Warmers
- ☐ Heating Blocks
- ☐ Incubators
- ☐ Hydrocollators
- ☐ Pipe Temperatures

Room Condition Monitoring

- ☐ Ambient Temperature
- ☐ Humidity
- ☐ Air Velocity/Air Changes
- ☐ Oxygen Levels
- ☐ Air Quality

Sound Monitoring

- ☐ NICU
- ☐ Patient Areas

Pressure Differential Monitoring

- ☐ Clean Rooms
- ☐ Surgery Suites
- ☐ Isolation Rooms
- ☐ Sterile Storage Rooms
- ☐ Soiled Utility Rooms
- ☐ Fire Stairwells

Status Change Applications

- ☐ Water Rope/Leak Detection
- ☐ Door Open/Door Close
- ☐ Room Occupancy
- ☐ Tank Levels
- ☐ Dry Contact

Smart IoT Applications

- ☐ MRI Machine Status
- ☐ Chiller Machine Status
- ☐ Vibration
- ☐ Light
- ☐ Power: AMPS, Volts

Conclusion

An Enterprise approach to Environmental Monitoring is critical for the future success of a hospital. It is the most comprehensive way to protect valuable assets, adhere to compliance requirements, increase employee efficiency, and reduce overall risk. With Enterprise Monitoring, your organization will have a unified, structured approach to compliance monitoring, reporting, and protecting valuable assets that is automated and easy to manage. Features such as a customizable alarming system, automated reporting, and supportive implementation are key items to evaluate when deciding between alternatives.

As the pioneer of the Enterprise approach to Environmental Monitoring in hospitals, Sonicu would love to help your organization implement this critical component into your operations. Our team full of monitoring experts will be here every step of the way from evaluating your current situation, creating a sound plan, installation and implementation, and beyond. We can't wait to help your organization succeed with Sonicu.

