wanwave

SEPTEMBER 2024
WHITEPAPER

WANWAVE FOR HOSPITALS: TRANSFORMING HEALTHCARE FACILITIES WITH IOT SOLUTIONS

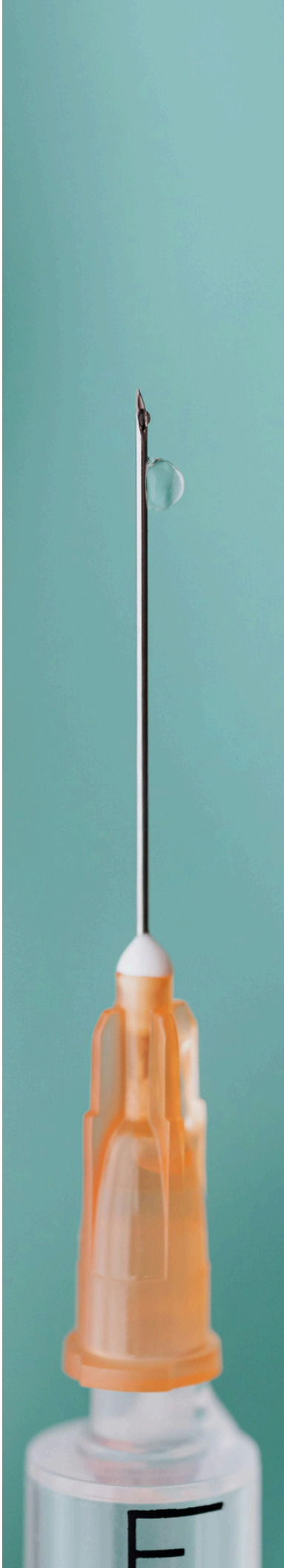
INFO@WANWAVE.COM

WWW.WANWAVE.COM

INTRODUCTION

Hospitals are complex institutions that face a multitude of operational, safety, and efficiency challenges on a daily basis. From managing medical equipment and monitoring environmental conditions to ensuring patient safety and streamlining administrative operations, hospitals require advanced technological solutions to optimize performance and improve patient outcomes.

The **wanwave** IoT platform is designed to meet the diverse needs of healthcare facilities by providing a comprehensive suite of IoT solutions that leverage long-range, low-power networks. By implementing smart technology in hospitals, administrators can ensure more efficient resource management, better environmental controls, and enhanced security for patients and staff alike.



THE NEED FOR ADVANCED TECHNOLOGICAL SOLUTIONS IN HOSPITALS

Hospitals today are under increased pressure to deliver high-quality care while maintaining cost-effectiveness and operational efficiency. In healthcare environments, factors like patient safety, infection control, equipment availability, and resource management are critical to smooth operations. Yet, many hospitals still rely on outdated or manual systems that are prone to human error, inefficiency, and potential failure.

Smart hospitals require integrated systems that provide real-time data, automated alerts, and proactive responses to both day-to-day and emergency situations. By adopting IoT technology, hospitals can ensure optimal use of resources, while maintaining stringent safety and compliance standards. **wanwave** offers a robust solution that can help hospitals transition into smart healthcare facilities, offering real-time monitoring, automation, and control over critical systems.

wanwave

APPLICATIONS OF WANWAVE IN HOSPITALS

1. Environmental Monitoring

Maintaining optimal conditions in a hospital setting is crucial for infection control and patient comfort. **wanwave**'s environmental sensors monitor air quality, temperature, and humidity in real-time, ensuring that patients in intensive care units, operating rooms, and other critical areas are in environments that meet stringent healthcare standards. This can help reduce infection rates, maintain patient comfort, and comply with healthcare regulations.

2. Perimeter Control and Intrusion Detection

Security in hospitals is a top priority, as hospitals often have to protect sensitive areas like operating rooms, pharmaceutical storage, and restricted research zones. **wanwave**'s perimeter control solutions provide real-time monitoring of hospital premises, preventing unauthorized access and ensuring the safety of patients, staff, and sensitive equipment. Alerts can be generated immediately if any unusual movement or unauthorized access is detected.

WANWAVE AIR QUALITY SENSOR

- **Measures and reports air quality values**
- **Measures VOC**
  Volatile organic compounds
- **Ingress Protection Code**
  IP44
- **5 year battery life**
  No maintenance required

AUTONOMOUS PERIMETER SENSOR

- **Automatically transmits messages about intruders crossing controlled zones**
  For both indoors & outdoors use
- **Ingress Protection Code**
  IP67
- **5 year battery life**
  No maintenance required

3. Waste Bin Monitoring

Effective waste management in hospitals is not just about cleanliness; it is a matter of safety. Medical waste, if not handled properly, can become a public health hazard. **wanwave** enables real-time monitoring of medical waste bins, ensuring that hazardous materials are properly disposed of and that bins are emptied when needed. The system provides alerts when bins reach capacity, helping prevent overflow and contamination risks.

4. Leakage and Flood Detection

Flooding and leaks can cause significant damage in healthcare settings, leading to equipment failures, power outages, and even contamination. **wanwave** provides continuous monitoring of areas susceptible to leaks, such as bathrooms, water tanks, and storage areas. Hospitals can receive real-time alerts the moment a leak is detected, preventing potentially expensive and dangerous situations from escalating.

5. Panic Button System for Emergency Situations

Emergencies in hospitals require fast, coordinated responses. Whether it's a medical emergency, an external security threat, or a hazardous materials spill, **wanwave** supports the deployment of panic buttons throughout the facility. Staff can press a button to alert security or medical teams to their exact location, ensuring that help arrives promptly during critical situations.

UNIVERSAL WASTE BIN SENSOR

- **Monitors the fill level of waste containers**
- **Universal fit**
  Works with any container
- **Ingress Protection Code**
  IP67
- **5 year battery life**
  No maintenance required

WANWAVE WIRELESS CALL BUTTON

- **Works from stationary locations or moving objects**
- **Can be produced in various form factors**
- **Ingress Protection Code**
  IP64
- **5 year battery life**
  No maintenance required

THE WANWAVE NETWORK: SECURITY AND RELIABILITY

Security in healthcare IoT systems is paramount, as hospitals handle sensitive patient information and rely on the continuous operation of life-saving equipment. **wanwave** operates within secure, license-free frequency bands that are designed to be resistant to interference and jamming, ensuring uninterrupted communication.

All data transmissions between the hospital's IoT devices and the central monitoring system are encrypted to prevent unauthorized access. Furthermore, **wanwave** operates independently of external telecom providers, ensuring that hospitals remain in control of their own networks and are not vulnerable to external disruptions.

Resistance to Jamming

The robustness of **wanwave**'s communication protocol is a key advantage for ensuring uninterrupted operations in various environments. The network can dynamically select channels to avoid interference, further enhancing its reliability and robustness.

Unified Infrastructure for Multiple Use Cases

wanwave offers a versatile and comprehensive infrastructure that can be applied to a wide range of use cases within the hospital management environment. This unified approach simplifies deployment, maintenance, and management and allows for future applications to be easily added.

INTEGRATION WITH OTHER SYSTEMS

wanwave is designed to seamlessly integrate with existing hospital management systems, including patient management systems, building management solutions, and emergency alert systems. This provides a unified platform where administrators can monitor environmental conditions, security systems, and patient and staff movements from a single interface.

Additionally, the system can connect with municipal emergency services, ensuring that external agencies are alerted immediately during major incidents, such as fires or natural disasters, ensuring that the hospital's response is well-coordinated.

wanwave

CONCLUSION

As hospitals continue to face growing challenges in managing their facilities, ensuring patient safety, and optimizing resources, **wanwave** offers a versatile, scalable IoT platform to address these needs. From personnel monitoring and environmental control to medical equipment tracking and emergency alert systems, **wanwave** provides hospitals with the tools they need to create a safer, more efficient environment for patients and staff.

By deploying **wanwave**, hospitals can improve operational efficiency, reduce healthcare-associated risks, and provide better patient care through the use of real-time data and smart technologies.

CONTACT US FOR FURTHER INQUIRIES

info@wanwave.com www.wanwave.com