How to get your Hospital or Health Centre **Wired for the Age of Smart Care**

EVALAN

Summary

Embedded monitoring and smart care technology are opening up new doors in healthcare. With solutions ranging from real-time asset tracking to smart mattresses, smart tech in hospitals and other healthcare institutes is already raising the quality of healthcare, optimizing operational processes, increasing efficiency, and enhancing the entire patient, employee, and visitor experience. As the pressure on healthcare providers continues to rise across the globe, these solutions offer a critical contribution to the challenges of both today and the future.

The use of embedded monitoring, smart care solutions, and asset monitoring is spreading throughout the sector. Adoption rates are likely to keep rising, with embedded monitoring and smart tech taking their place as a fundamental part of healthcare. In other words, these are technologies that every hospital and healthcare institute must take seriously today.

In this whitepaper, we focus on smart healthcare buildings, asset monitoring, and specific healthcare solutions. We explore the developing range of uses for embedded monitoring and smart infrastructure in healthcare institutes, looking at what they can do, what they can offer you, and how they can overhaul your operation. In view of both the benefits and challenges surrounding uptake, we illustrate how the smart era is already well underway in healthcare and propose that now is the time to begin equipping your organization. In the final section of this whitepaper, we offer practical advice on how to plan implementation.

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1. Introduction

Healthcare: an industry under pressure

Across the world, healthcare providers are under pressure. With a growing and aging population, among whom sedentary lifestyles and poorer diets are commonplace, the strain on healthcare providers is quickly becoming a significant issue of both our time and the future. And the consequences are already visible today: the World Health Organization has predicted a shortage of 12.9 million healthcare workers by 2035, an increase from 7.2 million in 2013.[1] How can we alleviate this pressure and create a healthcare system equipped for the future?

Our answer: technology.

With each passing year, technological developments impact every area of our lives. From transport to business, no sector is untouched by the tech (r)evolution. Healthcare is no exception. Current technologies are already raising the quality of healthcare, reducing workloads, raising efficiency, and much more. Technology offers solid answers to the challenges of the 21st century. One key innovation has a vital role to play in the healthcare revolution: the Internet of Things (IoT).

[1] *A Survey on Health Monitoring Systems for Health Smart Homes*, International Journal of Industrial Ergonomics

The Internet of Things (IoT)

Today's world is built on connection. Our houses, phones, and more and more of our devices and appliances communicate with each other. This network of connections, known as the Internet of Things, or IoT, is becoming a central element in the fabric of our world: McKinsey estimates that by 2025, IoT will hit an economic value of USD 11.1 trillion per year, or 11% of the world economy.[2]

The Internet of Medical Things (IoMT)

IoT is making an impact in healthcare, too, with more and more key industry players beginning to realize how this developing technology can revolutionize healthcare in many different ways. In fact, the Internet of Medical Things, or IoMT, is quickly becoming a significant aspect of healthcare:

- The global IoMT industry is predicted to reach a compound annual growth rate (CAGR) of over 11% between 2017 and 2022.[3]

- Across the world, the healthcare sector is estimated to invest USD 410 billion in IoMT devices, services, and software by 2020.[4]

- By 2017, almost 60% of healthcare organizations had already adopted IoMT solutions, with the figure expected to rise.[5]

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[2] *Unlocking the potential of the Internet of Things, McKinsey Global Institute*
[3] *Internet of Things (IoT) medical devices are the future of healthcare*, SoftwareDesignSolutions

[4] *As healthcare costs rise and patients demand better care, hospitals turn to new technologies*, Business Insider
[5] *Internet of Medical Things, Forecast to 2021*, Frost and Sullivan

The era of smart care

Through the increasing adoption of cutting-edge technology, the healthcare industry is quickly finding ways of optimizing operations. In fact, the industry is ushering in an era of *smart care*. In this whitepaper, we explore two key tools that will play a role in this change: embedded monitoring systems and smart building connectivity.

In this whitepaper, we will explore how embedded monitoring systems and smart connectivity have the potential to change the game in healthcare – and how you can enter the era of smart care.

Today's world is built on connection.
Our houses, phones, and more and more of our devices communicate with each other.

2. Current trends in healthcare and smart technology

Emerging technologies of many kinds today are transforming the entire healthcare experience. As central drivers of this transformation, IoMT solutions are quickly becoming the norm. Before looking into embedded monitoring systems, in this chapter, we will explore some of the key developments in digital monitoring systems used in healthcare today.

A wearable revolution

The rapid rise of wearable technology in mainstream culture highlights the growing popularity of IoMT solutions. Look around in any busy street and you'll agree that wearable tech has become part of our society – from smart wrist bands and chest straps to rings, shoes and pocket devices. When integrated with biometric sensors, any wearable device can become an IoMT monitor. The most common example is the smartwatch or Fitbit many consumers use to monitor temperature, heart rate, stress levels, exercise, sleep cycles, and more. Smart systems can track all of these data and convert them into practical recommendations for improving our health and fitness. Consumer uptake of these solutions is steadily growing and it is likely that before long wearable tech will be a part of our lives day and night.

Remote patient monitoring in healthcare

Beyond these popular devices, more sophisticated medical applications are also gaining ground. Across the healthcare industry, the push for operational optimization and improved patient experience are driving this development. Remote patient monitoring, in particular, is leading the way in the adoption of IoMT solutions in the sector.

Through IoMT-based biometrics, healthcare professionals can remotely monitor their patients' health and wellbeing. For example, a sensor can track a patient's heart rate, blood pressure, and temperature with a wearable device, while a software system collects and analyses all the data, converting them into actionable recommendations. If a patient's heart rate suddenly spikes, a doctor is notified automatically; as long as the patient's condition is stable, the doctor is free to spend time with other patients. Simple solutions like this one offer clear benefits to both the healthcare provider and the patient like a reduced workload, improved healthcare quality, and better patient experience.

Learn more about biometric wearables in our whitepaper on

[Impacting Health, Safety, and Performance with IoT-based Biometrics](#)

Increasing patient freedom with smart home monitoring

The idea of the smart home is becoming increasingly popular. With an aging population, more and more people are choosing – as well as being encouraged by healthcare providers and government – to live out their later years with the support of integrated home health monitoring technologies, instead of staying in hospitals and care centers for extended periods of time.

With the emergence of smart technology and ever-smaller sensors, it is becoming easier to create a smart home system that can assist the ill and elderly, providing a reliable form of 24/7 care without the need for frequent visits from doctors or nurses. By fitting sensors around the house, in furniture and appliances, a smart system can recognize –and coach – the activities of the individual, remind him or her to take medicine, monitor health parameters, collect medical data, and alert a professional if necessary. As a result, the patient can live a normal life at home, instead of being relocated to a care center or hospital for monitoring. The healthcare provider, meanwhile, saves on time and money, while offering higher quality care.[67]

Equipment and asset monitoring: a new opportunity

Much of the conversation around healthcare monitoring involves biometric sensors for patient monitoring. Alongside this, there are major opportunities in healthcare equipment and asset monitoring. With embedded monitoring and integrated smart building infrastructure, you can track the location and usage of assets. While this may sound simple, the possibilities are nearly endless: from real-time tracking of important medical equipment to patient localization and alarm systems, embedded monitoring and smart systems can significantly increase efficiency, optimizing the entire operational process of your healthcare institute.

In the next section of this whitepaper, we will explore some of these possibilities in more detail, explaining how and why embedded monitoring and smart infrastructure systems are vital for the future of your healthcare institute.

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[6] *Integrated Home Health Monitoring,* Analog Devices

[7] *Biomedical Monitoring Technologies and Future Healthcare Systems,* Journal of Science and Technology

3. What is embedded monitoring?

Before we take a closer look at the potential of embedding monitoring in healthcare, we need to understand what it is. In simple terms, embedded monitoring systems combine hardware and software functionality, often through a sensor, in any given device. The device can sense and record data and communicate through IoT, prompting either automated action or human intervention. In the case of embedded monitors, the device can send the data it collects to a nearby reader, where it can then be analyzed, read, and converted into a relevant treatment plan.

How does an embedded monitoring system, or any smart solution, work? While there are different definitions, we've identified six essential components that make up a smart machine or an embedded monitoring system:

1) A sensor for collecting data

   Examples: include location data monitored with an RFID tag (more about RFID, or radio frequency identification, in Section IV), or a patient's temperature monitored with a biometric sensor

2) A device that processes and communicates the data, before presenting it to the user

3) A wireless communication protocol, like Bluetooth, ZigBee, Lora, 3G or 4G

4) A backend system, such as a server, a database, or the cloud

5) A data processing and analysis tool, for instance an algorithm, machine learning, or Artificial Intelligence (AI)

6) A user interface, like a Human Machine Interface (HMI), an Application Programming Interface (API), apps, text messaging, or Excel sheets

These are the essential components for any cutting-edge healthcare system, from a tiny biometric monitoring solution to an expansive smart care infrastructure system.

In simple terms, embedded monitoring systems combine hardware and software functionality, often through a sensor, in any given device.

4. What can embedded monitoring and smart infrastructure do for healthcare?

IoMT solutions offer hospitals and healthcare centers many benefits. In this section, we look at two promising areas: building and equipment monitoring, and specific healthcare solutions.

Building and equipment monitoring in healthcare

First, let's explore developments in building and equipment monitoring and their implications for healthcare institutes.

The rise and benefits of smart buildings

Across the world, more and more utility and residential buildings are appearing, or being fitted, with integrated smart infrastructure. Analysts estimate that in the United States alone, the implementation of smart home devices will hit a compound annual growth rate of 42% between 2017 and 2022.[8]

What are the benefits of smart buildings?

With integrated smart infrastructure, a building's users have access to a broad range of functions that contribute to more efficient, streamlined processes, such as:
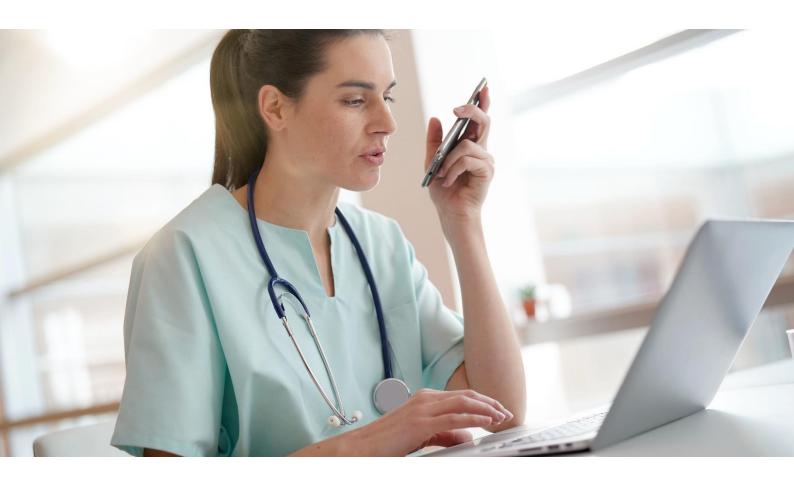
- ✓ Wayfinding
- ✓ Colleague finding
- ✓ Workplace finding
- ✓ Asset tracking
- ✓ Room booking
- ✓ Personal control of light and climate settings

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[8] *Mapping the Smart-Home Market,* Boston Consulting Group

On top of these conveniences, this technology offers important operational benefits, like the reduction of energy costs, improve site management, and increased employee and user satisfaction with the workplace experience.

From smart buildings to smart hospitals

While not strictly a healthcare solution, it's easy to see how this technology can help your healthcare institutions improve its performance. From finding a doctor during a busy shift to making sure the temperature is right or making sure your operating theatre is used efficiently and to maximum potential, the possibilities are endless.

Smart asset tracking

With a smart infrastructure, another area of potential is the use of asset monitoring and tracking. The simplest and most obvious benefit: finding the tool you are looking for faster. In a busy, large hospital, with staff in a rush to perform different tasks for different patients or colleagues across different locations, instant access to the right piece of equipment can ease the strain, adding up to important time and cost savings.

Asset tracking allows your staff to find what they need with a real-time search function, so they don't have to waste time checking every room and cabinet, but instead can get on with the tasks at hand. With embedded monitoring, you can also track the status of a given piece of equipment, for example, whether or not it had been cleaned, inspected or otherwise prepared for reuse. This will allow your staff to look for a working device, rather than simply highlighting each tagged device.

And this is just the start. Process the data you collect through asset tracking in a smart inventory system, and you will be ready to monitor usage over time, gaining insights that will be of great value in your purchasing decisions. For example, you may identify over- or underuse of certain devices, perhaps in specific departments. This means you may be able to redistribute equipment more efficiently and economically, or to earn major savings on the purchase and/or maintenance of medical equipment. Adding an automated ordering system, moreover, means you can free your staff members of the burden of manual ordering, ensuring that specific product supplies will be automatically replenished before running out. An optimized logistics and storage system like this will help you to run your healthcare institution more smoothly, save money, and free up staff for focusing on patient care.

How it works: location tracking with RFIDs[9]

We have seen that a key function of embedded monitoring is the possibility of location and status tracking. But how does this work? One solution uses an evolving technology called Radio Frequency Identification, or RFID, for this purpose. An RFID tag can be attached to a device to collect data, for example regarding location or temperature. The tag features an antenna that can send information to a reader, typically part of the larger smart care system. Using the reader, your staff member can track the whereabouts and condition of any medical device fitted with an RFID tag. Readers, typically, are web or mobile applications, that include a search function, so that users can easily request and quickly find a specific piece of equipment.[10] The system thus places all the equipment they need right at their fingertips.

Location tracking with Bluetooth Low Energy tags

With integrated smart infrastructure, it is possible to track location and status with BLE tags.[11] These tags are cheap and available in many shapes and sizes. Similar to the solution with RFID tags, equipment that needs to be tracked can be fitted with a BLE tag. This equipment can then be tracked, in real-time, throughout the facility with the smart infrastructure.

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[9] *Healthcare Sensing and Monitoring*, Lecture Notes in Computer Science
[10] *RFID and IoT: A smart symbiosis for hospital asset tracking and management*, ScienceSoft
[11] *Bluetooth Low Energy,* Wikipedia

Use Case: smart mattresses

One potential usage for this technology is smart mattresses. Every day, hundreds of mattresses are used in hospitals. Maintenance and hygiene are of the utmost importance in ensuring patient safety, hygiene and comfort. With an automated tracking system based on embedded monitoring and smart technology, your staff can see at a glance which mattresses are available, or which require washing and drying. Healthcare mattresses often come with smart technology, so implementation is not expensive or difficult. The benefits are obvious. For example:

- ✓ Reduced risk of cross-contamination
- ✓ Automatic assurance of hygiene standards
- ✓ No more time-consuming manual checking of matrasses

Optimization of even your smallest assets

The example of smart mattresses makes it easy to see how embedded monitoring solutions can save a huge amount of time and money while raising the quality of your service. By adopting smart technology and embedded monitoring systems, you can fully optimize each aspect of your operation, no matter how small. Combined with future-proof smart care infrastructure, this will enable your healthcare institute to lead the way into the era of smart care.

Healthcare-specific solutions

As well as upgrading your operational processes, embedded monitoring offers healthcare-specific possibilities that can change the way you provide care.

Patient monitoring

One of the most significant developments in health tech has been the adoption of smart patient monitoring devices. With wearable biometric monitors, a patient can be monitored 24/7, alleviating the strain on doctors and nurses and saving time and money, while offering the patient more freedom and confidence in their healthcare experience. The technology has many different applications, from wearable devices and injectable tech (microchips) to smart home systems that can assist the sick or elderly. Also referred to as e-health, the field is constantly developing and quickly becoming a central part of healthcare.

Beyond remote biometric monitoring, patient monitoring has other potential applications as well. One of these is location tracking. In hospitals and care centers, patients are often encouraged to move around the premises for exercise and pleasure. The downside is that when a patient is needed for treatment or meals, staff may have to waste precious time looking for her or him. Embedded monitoring systems can solve this problem: by simply upgrading a common heart rate monitor to include location tracking, you can give your staff access to the real-time location of their patients. This simple measure will save time, energy, and effort. And if a patient's heart problems quickly escalate, he or she can be found quickly, allowing for fast, and potentially life-saving, intervention.

Use case: preventing Legionnaires' disease with precise temperature monitoring

As well as monitoring patients, embedded monitoring has other significant uses in healthcare. With temperature monitors and smart care infrastructure, you can construct a high-precision temperature monitoring system. One possible application: preventing the risk of Legionnaires' disease resulting from infection by Legionella bacteria.

Preventing the occurrence of Legionella bacteria is a serious task for any hospital or healthcare institution. Today, preventive measures, such as weekly flushing of waterlines, are performed manually. With a smart monitoring system, you can relieve your staff of this burdensome task, streamline the procedure, and optimize quality, as the system provides 24/7 monitoring that is accurate and free of human error. Embedded monitoring is easy to implement and will make it far easier for your healthcare institutions to keep the risk of Legionella under control.

Evalan's wearable sensor node

In our own practice, we have developed a wearable sensor node as part of our smart care systems. As well as enabling you to track the location of a patient, the node can track important user activities. For example, you can use it to detect a fall, or a patient may use it to call for help in an emergency. On top of that, the node offers you the operational benefits of collecting, aggregating, processing, and transmitting measurements for continuous monitoring, analysis, and prediction.

Patient safeguarding

One of the key potential uses of this device is patient safeguarding. Currently, if a patient is walking through a hospital and suffers a fall, she or he may be at risk of a serious injury and unable to call the right person for immediate help. If the patient is outfitted with Evalan's wearable node, which can be worn on the wrist or clipped to the belt, he or she can call for help by simply pressing a button.

The alert will be sent directly to the relevant staff, letting them know the exact real-time location of the patient – and notifying the patient that a helper is on the way and, optionally, how soon he will be there.

Automatic fall detection

Buttons like this are not yet very common in healthcare, yet offer an easy way of improving patient safety reducing response time to falls. If you are thinking about implementing this sort of device, there are a number of possible ways to harness its potential. You could start by introducing the wearable node in your practice or center. Then you could add additional functionalities to the node, such as the response feature mentioned above, and finally, the node can be integrated into your building's smart infrastructure, and linked with other remote patient monitoring functionalities to even enable automatic fall detection.

5. The benefits of embedded monitoring in healthcare

Let's look at some of the improvements you can expect if and when you adopt embedded monitoring systems in your healthcare institute.

1. **Increase your efficiency through an optimized operation**

   Employees will save time: Help your staff maximize the time spent doing the valuable work they need to do. One survey noted that nurses can spend over <u>one hour every shift</u> looking for the right equipment – needless to say, this can add up to a substantial loss of time.[12]

   Process optimization: Identify the small inefficiencies in your daily operations causing slowdowns and waste.[13] This will lead to reductions in costs, improvements in quality, and reductions in waiting time for patients.

   Better investment: Stop making purchases that are unneeded, and instead buy the right equipment at the right time.[14]

2. **Improve your services**

   Offer your patients a higher quality service: Detect risk factors earlier, reduce reliance on individual intuition, and find the most effective, personalized treatment for a given patient.

   Build a safer care environment: Make your healthcare institution cleaner and safer than ever with high-precision temperature monitoring, hand sanitization monitoring and many other simple, effective solutions.

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[12] *Nurses waste 'an hour a shift' finding equipment*, Nursing Times
[13] *RFID and IoT: A smart symbiosis for hospital asset tracking and management*, ScienceSoft
[14] Ibid.

Give patients a more pleasant experience: Make your patients' healthcare journey easier, happier, and safer – whether at home or at your hospital or care center. One example: smart beds that automatically adjust to provide the right amount of pressure to patients, keeping them comfortable at all times.[15]

3. **Reduce pressure on your employees**

    Relieve pressure on your staff by automating tasks that today are just one more duty in an already busy daily schedule. Where once there was a reliance on individual intuition, there will be a huge amount of real-time data to support clear, sensible decisions.

    With all these benefits in view, why do many hospitals seem hesitant to adopt embedded monitoring and smart systems? In the next chapter, we will explore this question in more detail.

> *'Recent advances in embedded systems technology are rapidly transforming healthcare solutions. Thanks to the progress in embedded technology and IoT, we are headed to a future of smaller, smarter, wearable and connected medical devices'*
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> - TotalPhase[16]

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[15] *How Embedded Systems have Transformed the Healthcare Industry with Biomedical Applications*, Total Phase

[16] Ibid

6. Why should I start using embedded monitoring now?

Despite the significant benefits of embedded monitoring and smart systems, some organizations remain hesitant. In this section, we will examine some of the reasons why this attitude lingers on, as well as ways of dealing with these blockers. We will also explain why now is the time to get started.

Hesitations

Certifications and regulations

As technology evolves, the rules and regulations that surround it do, too. In healthcare, some of these regulations can be dealt with simply, while others remain challenging. For example, a 24/7 heart rate monitoring solution that is not medically certified will not be adopted, despite the huge impact it may have on overall performance. There are good ways of reducing the impact of this issue. One approach could be to collaborate with regulators on the process of developing guidelines.[17]

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[17] *Eight IoT barriers for connected medical devices…and how to overcome them*, Deloitte

The division of operations and infrastructure

In most hospitals, the operational processes and infrastructure of the building itself are two distinct areas. Often, they are managed by separate departments that do not commonly communicate with each other. Nurses and doctors focus on working with patients, equipment, and fellow staff, while – almost in another world – their non-medical colleagues work with power supplies, temperature management, electricity systems, IT systems and other installations throughout the building.

While this distinction has been a given for decades, the implementation of a smart system along with embedded monitoring solutions involves the merging of operations and infrastructure.

Data protection

Privacy is a clear issue in dealing with data in any sector, including healthcare. Which data do you collect? Who has access to these data? What happens if data get lost or stolen? While these questions are concerning, and represent a real challenge to all IoMT solutions, they can, and are being, overcome. Through robust quality assurance and data management systems, privacy risks can be handled. And through proper communication, patients can be put at ease: by communicating clearly about the privacy and security policies you have set up, the rights patients have, and what happens with their data, you can help your patients feel safe and secure in your care. In terms of data protection, one option is to use a cloud-based solution. This means that all data gathered through embedded monitoring remain within your hospital's smart system, rather than being uploaded to the Internet.

The implementation of a smart system along with embedded monitoring solutions involves the merging of operations and infrastructure.

Why should I start using embedded monitoring now?

We believe that embedded monitoring and smart care systems are the future of healthcare. Simply put, the benefits offered to both the healthcare provider and the patients are too important to be cast aside by any present doubts. But why should you adopt embedded monitoring *now*? Here are some of the key reasons why we believe that now is the right time.

- ✓ Upgrade your performance
- ✓ Respond to today's challenges by prioritizing efficiency
- ✓ Become futureproof
- ✓ Upgrade your current building

'With the convergence of IoT, the influence of embedded systems in healthcare is all set to soar higher'

– TotalPhase[18]

If you are planning on adopting smart care in your hospital or healthcare institute, the first steps you take are vital for your success. In the next section, we discuss one of the most important stages of your IoT journey: putting together a plan.

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[18] *How Embedded Systems have Transformed the Healthcare Industry With Biomedical Applications,* TotalPhase

7. 4 key factors to include in your embedded monitoring plan

If you're working in the high-stakes world of healthcare, overhauling your organization with smart technology may seem like a daunting, if not impossible, task. That's why writing a solid game plan is of the utmost importance. Here, we discuss four crucial elements you need to include in your smart tech adoption plan:

1. *Focus on troubleshooting and benefits, rather than technology*
    It's essential to have a grounded understanding of the cost, effort, time-scale, and desired outcome of your project. But keep in mind the reasons for adopting embedded monitoring systems: from troubleshooting, optimizing processes, and saving money, to improving the healthcare services you offer patients. And it's helpful to remember the human element: in healthcare, new technological developments can help save lives.

2. *Aim for the future – and consider an agile implementation path*
    Although starting with a simple solution is a solid way of entering the age of smart care, we advise our clients to plan for the long-term, too. While you might want to solve a local, small-scale problem at your hospital, it's important to keep in mind the potential endpoint: a fully-integrated smart hospital, with numerous interconnected monitoring systems and optimized operations. You might not want to start there, but it's best to be aware of these options so you can plan and develop your infrastructure accordingly.

3. *Invest in the right people*
    When you start implementing IoT, smart technology, and embedded monitoring systems, a large percentage of your staff may feel uneasy, lost, or confused. Take the time to train your staff, helping them feel fully comfortable with this new technology. If you focus on the huge number of improvements this technology

offers, most will soon be convinced. And make sure your team includes people who can think outside the box and are ready to help take your operation to the next level.

4. *Collaborate with experienced partners*

   We've come to believe that close collaboration is a key part of adopting smart technology in a healthcare institute. It ensures that everyone involved can agree on a plan, and will fully understand the technology, while offering support to each other. By working across disciplines and merging our expertise, we can build a solution that perfectly matches the daily realities of your healthcare organization.

It's essential to have a grounded understanding of the cost, effort, time-scale, and desired outcome of your project

8. Wrapping it all up

The future of smart care

As technology evolves, so does everything around it. Healthcare is no different. By adopting embedded monitoring and smart technology, you can develop your institute into a smart healthcare environment, with integrated embedded monitoring devices and smart infrastructure that will change the ways in which you provide care and your patients experience it. It's clear that this technology will become a central part of our healthcare in the near future. Here are some of the main reasons we've explored in this whitepaper:

- The increasing strain on healthcare institutions across the world, from an increasing and aging population to a lack of medical staff, calls for significant efficiency improvements
- With operational costs and the strain on resources rising, prioritizing optimization is key
- Patients expect better and more personalized treatment, a more convenient and pleasant healthcare experience, and embedded monitoring solutions can answer this need
- Smart tech solutions provide opportunities for you to enhance the daily operational processes at your hospital, raising efficiency, saving money, and increasing safety

The time is now: by upgrading our current healthcare technology, we can respond to the challenges of today and create the healthcare of the future. Adopting embedded monitoring and smart technology offers solutions that can impact every area of healthcare institutes. By adopting sooner, you will be ready to meet these challenges head-on, while providing the highest quality of healthcare possible – and playing a key role in ushering in a new era of smart care.

About us

Evalan is a fast-growing and innovative development and application partner in the field of the Internet of Things. We work in close collaboration with our customers to achieve the best results possible. Evalan focuses primarily on remote monitoring, biometric measurements, and telemetric solutions for the healthcare, industry, and government sectors. We develop mobile devices, sensors, data management systems, data processing algorithms, and user interfaces for different platforms. We serve around 100 clients, ranging from large multinationals like Heineken and Unilever to government departments like the Ministry of Defense to hospitals and small technology companies. In 2010 and 2014, Evalan was ranked by the Chamber of Commerce among the 100 most innovative Dutch small to medium-sized enterprises. The company was founded in 2005. From our offices in Amsterdam, we operate in over 50 countries. Find out more at ***https://evalan.com/***. Or follow us on ***Twitter*** or ***LinkedIn***.

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