


## *Case Study*

### *The Smart Hospital Trend:*

### *From Standalone Systems to a Unified Technology Backbone*

*Hospitals are increasingly moving away from fragmented technology deployments that have typically meant separate systems for clinical care, communications, security, patient engagement, facilities management, and emergency response. Instead, they are moving toward integrated, interoperable technology ecosystems. The goal is not simply to add more connected devices. It is to create a unified digital backbone that enables information to flow securely to the right people, systems, and locations at the right time. This shift is being driven by several pressures: rising operating costs, workforce shortages, clinician burnout, increasingly complex patient needs, heightened safety expectations, and consumer demand for a more convenient and personalized healthcare experience. In a global survey of health system executives, McKinsey found that nearly 90% viewed digital and artificial intelligence transformation as a high or top priority. However, 75% said their organizations had not yet allocated sufficient resources or planned to fully deliver on that priority.*

*However, a world class medical system in New York City metro is beginning the journey by investing in the digital infrastructure it needs to address these pressures now and in the future as technology evolves. To help them design the unified technology framework necessary for Smart Hospitals, this medical system sought the expertise of global engineering and consulting firm, Syska Hennessy Group.*

## *What Is a Smart Hospital?*

*A smart hospital uses a common digital infrastructure to connect clinical, operational, and facility technologies across the patient journey. Rather than functioning as isolated tools, these systems exchange data, trigger automated workflows, and provide staff with actionable information in real time.*

*The concept does not necessarily mean that every application comes from one vendor. A more sustainable model is often a standards based, modular architecture that allows specialized technologies to work together.*

*The World Health Organization has emphasized that interoperable, scalable, and secure systems require common standards rather than disconnected product based pilot projects that cannot easily scale. Market insights company, Toward Healthcare, predicts that the smart hospitals industry is expected to grow from $58.22 billion in 2024 to $298.07 billion by 2034.*



FSR

## *Designing For Today and Tomorrow*

*Brian Nguyen, associate principal at Syska Hennessy Group, took on the job of aligning current hospital operations, processes, and technology with those that would be relevant in the future, as the hospital scales and continues their digital investment. Nguyen has worked with seemingly conflicting requirements before, and he knew this challenge needed a creative and sustainable solution. He says, "With the increasing demand for Master Systems Integrator (MSI) requirements Smart Hospital systems are evolving to require a unified technological framework. This framework is essential for the seamless installation and termination of various systems, including environmental and lighting controls, nurse call systems, audiovisual components, patient entertainment solutions, and compact workstations. Such integration not only enhances accessibility but also facilitates effective Day 2 support for ongoing operations."*

*Bridging the technology needs across various areas of the hospital, from patient rooms to operating rooms, and from medical staff to patients, and administration, means that technology must integrate seamlessly and flawlessly. Ensuring mission critical performance starts at the termination points. Nguyen needed a hospital grade unified technology enclosure that would be able to house multiple technology devices, cooling, and healthcare rated power. The enclosure must be commercial UL rated, ADA compliant, and minimally intrusive as they were designed to be placed in high use rooms.*

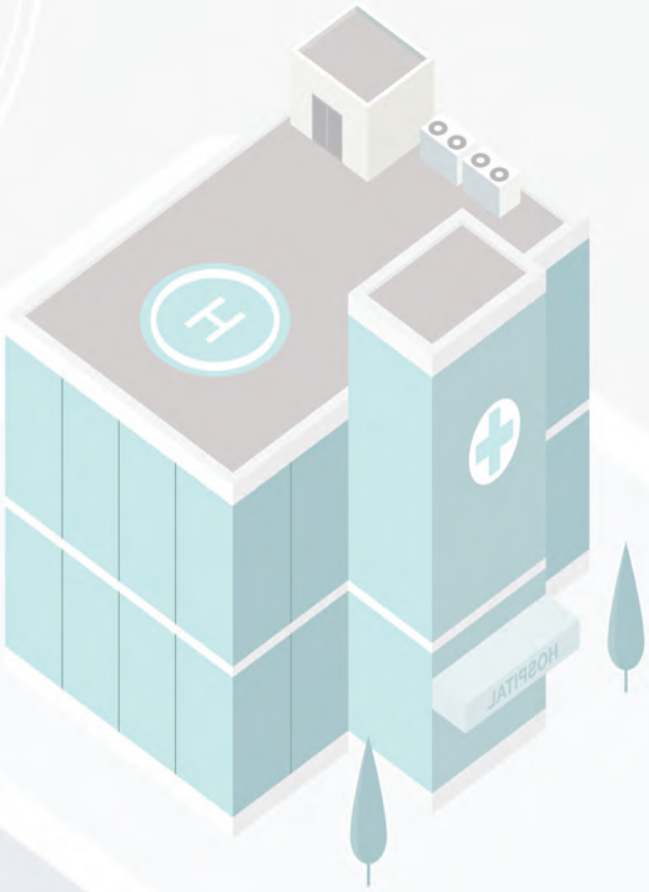
*For over four decades, FSR Inc. has designed and manufactured innovative infrastructure solutions for power, data, and audiovisual systems across commercial, education, government, and healthcare environments. Nguyen knew that if FSR, Inc. didn't have the right solution for the job, they would build one for him that addressed all the requisite features.*

*Infrastructure requirements change as quickly as technology evolves. Connectivity, cabling, and device management needs are diverse and can be specific to individual projects. That's why FSR custom engineering offers options to create the wall box, or any infrastructure product, to fit the design requirements.*

*Hospital-grade outlets are heavy duty electrical receptacles designed to withstand the rigorous demands of medical environments. They offer superior durability enhanced grounding reliability, and a tighter plug grip compared to standard residential outlets.*




*Hospital-grade outlets must meet UL 498 (Standard for Safety for Attachment Plugs and Receptacles) and federal specification UL WC-596. They are recognizable by a prominent green dot on their face, verifying they have passed rigorous testing for grounding reliability, assembly integrity, and physical durability.*







## *Customization and Consolidation*

*After some initial discussions, Ed Rivano, Regional Sales Manager with FSR (and custom project sales guru), and the FSR engineering team designed the custom "Smart Hospital Enclosure" specifically for Syska Hennessy Group's client. Rivano said, "The FSR Smart Hospital Enclosure is a purpose built wall box designed to function as a single consolidation point for smart patient room and other healthcare settings. It's not a traditional in-wall box. It's a Unified Technology Enclosure engineered specifically for modern healthcare environments."*

*The new PWB-HSPTL is a16-gauge, healthcare-grade metal enclosure that offers separate zones for components, power, cabling. It has support for healthcare-grade power & cooling, clean cable management, and structured mounting, with lockable access for authorized personnel. This custom enclosure provides the medical systems with faster, cleaner installations, reduced construction and coordination costs, and simplified maintenance and Day 2 support. Possibly the most important benefit of the custom product is that it was designed as a scalable platform for future smart room technologies.*

*The combined expertise of Syska Hennessy Group and FSR resulted in an enclosure that was intentionally designed, but flexible enough so hospitals can easily evolve their technology while leveraging the existing infrastructure. Seeing the possibilities for hospitals and medical systems globally to adopt this type of technology enclosure, FSR has since added a new multi-trade wall box to their offering that is precisely based on the PWB-HSPTL, the MWB-28.*

*The MWB-28 multi-trade wall box is designed for installations where multiple devices, such as PoE network switches, set-top boxes, and emergency call systems, can be secured and easily accessed for maintenance. The MWB-28 simplifies AV/IT installations by providing space for routing cables, AC power connections, and digital media products*

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*"FSR has long been my go-to for infrastructure and connectivity requirements in my designs," Nguyen explained. "But working with them to create a custom new product for my customer made me realize how rare it is for a manufacturer to go to these lengths for project. Their commitment to precision and their knowledge of certification, testing, and local requirements helped us every step of the way."*

*The system-wide upgrade is only just beginning, and Syska Hennessy Group will design the PWB-HSPTL into future phases as the world class medical system journeys toward their goal of being a world class Smart Hospital system.*

FSR wall box products meet the Build America Buy America Act (BABAA) and TAA requirements

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