



Smart Hospitals

make
everyday
better.

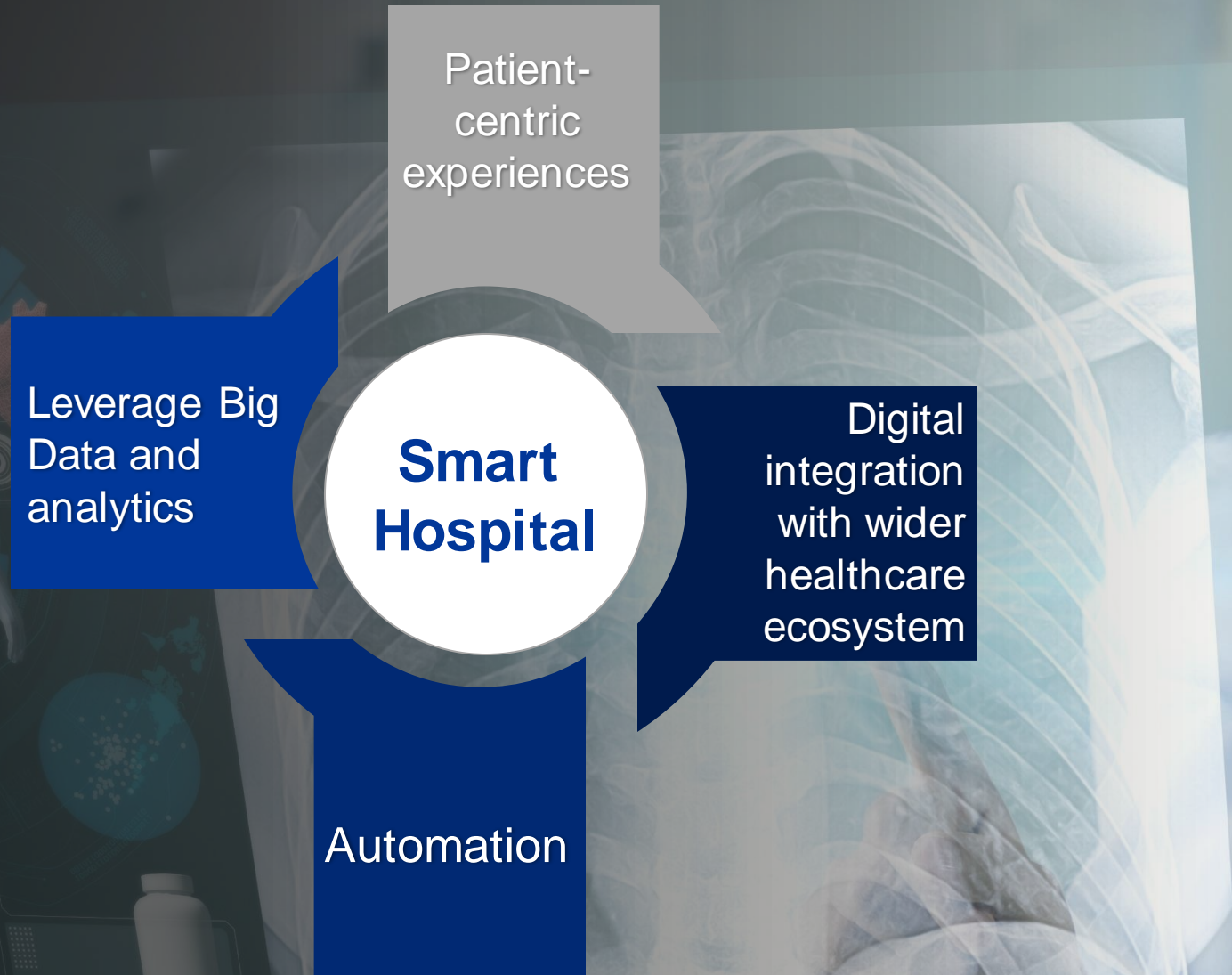
What is a Smart Hospital?

“A Smart Hospital integrates building infrastructure, digital technologies, people and processes to deliver improved community healthcare outcomes and reduced costs.”

Why Smart? Drivers for a Smart Hospital

- Increasing costs of healthcare
- Increasing workload on medical professionals & global skills shortage
- Community demand for improved patient experience and health outcomes
- Move from treatment focus to health management
- Ability to leverage digital technologies to create a distributed healthcare ecosystem

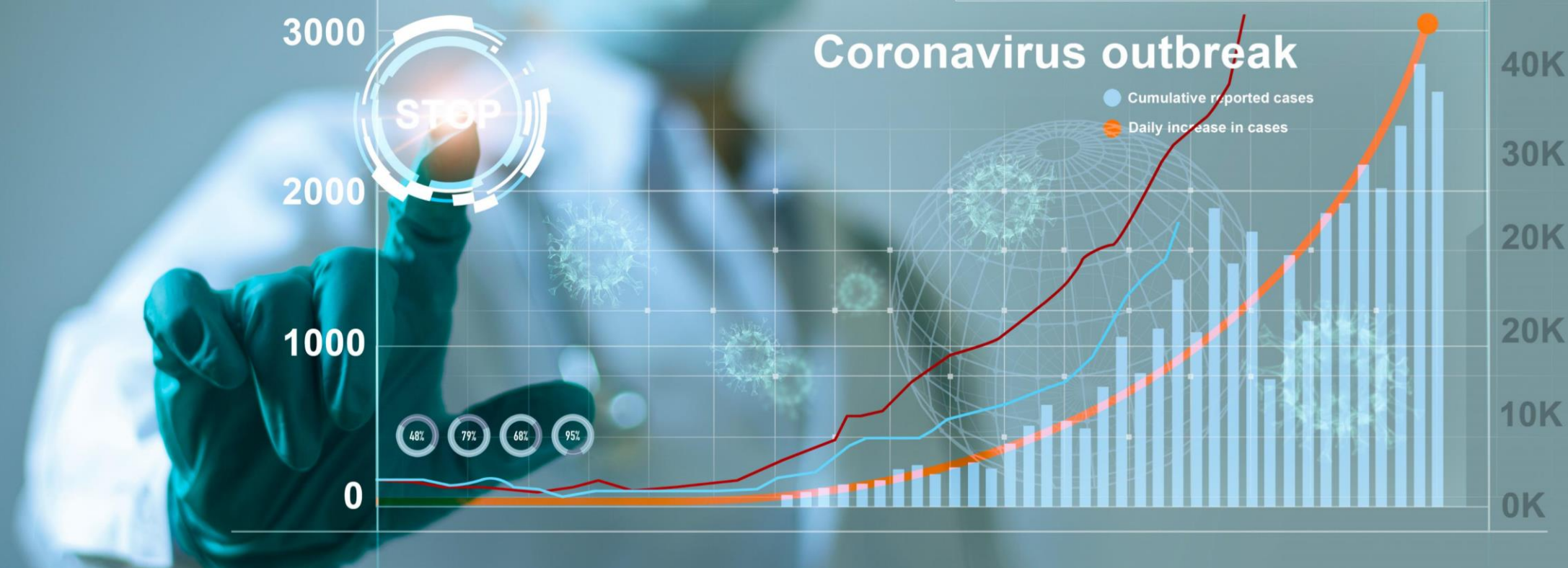
How is a Smart Hospital Achieved?



Patient-centric Experiences

A photograph of a healthcare professional in blue scrubs holding a newborn baby wrapped in a white blanket. The baby is looking towards the camera. In the background, another healthcare professional is visible, working with a white sheet on a hospital bed. The scene is set in a clinical environment, likely a hospital or clinic.

- Concept of “healthcare consumers”
- Improved patient AND family experiences
- Demand for high quality, safe, convenient, flexible and cost-effective medical services
- Desire to be involved in treatment decisions



Big Data & Analytics

- Data is a critical enabler for improving healthcare outcomes and reducing costs
- Through the power of analytics and artificial intelligence, it becomes feasible to:
 - Improve hospital efficiency
 - Reduce medical errors
 - Reduce costs
 - Improve patient experience
 - Improve clinical decisions (information available “anytime/anywhere”)

Automation

- Automation typically focuses on:
 - Using computers to perform manual or administrative tasks
 - Employing machines or robotic technologies to perform repetitive tasks
- The benefits of automation can include:
 - Reduced workload on healthcare staff
 - Improved efficiency
 - Reduced operating costs

Digital Integration

- To achieve community healthcare outcomes, a Smart Hospital must be integrated with the wider healthcare ecosystem
- Features include:
 - Seamless and secure data exchange between participants in the ecosystem
 - Healthcare professionals within the ecosystem have access to comprehensive and accurate patient data
 - Scalable and secure data storage
 - High performance, reliable data communications networks
 - Flexibility to enable rapid adoption of emerging technologies

How does a building support Smart Healthcare?

- Recognition that buildings have a significant impact on healthcare environment for staff and patients
- Intelligent control of environmental parameters to optimise building performance
- Must have capable ICT infrastructure (secure, reliable, scalable)
- Exploitation of sensor networks to generate the data needed to enable improved healthcare outcomes



Multi-media Terminal

new.siemens.com/global/en/products/healthcare/himed.html



Bedside Computer

remedi-tech.com/all-products/bedside-solutions/



Augmented Reality

microsoft.com/en-us/hololens



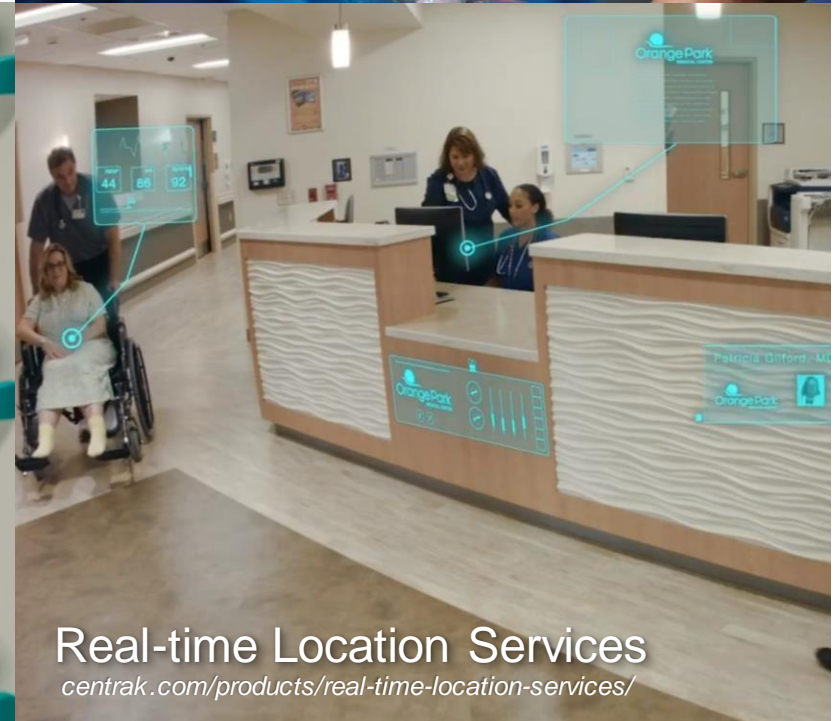
Command Centre

<https://www.stengg.com/en/products-solutions>



Asset Tracking

stanleyhealthcare.com/products/aeroscout-t2s-tag



Real-time Location Services

centrak.com/products/real-time-location-services/

Process to achieve a Smart Hospital (existing facility)



- Digital Maturity Index
- Drivers
- Objectives
- Constraints
- Dependencies

- Vision
- Trends
- Emerging Technologies

- Establish requirements to achieve Future State

- Plan to achieve Future State

Beca Buildings

We spend most of our lives inside buildings. Buildings can enhance our ability to learn or to heal; they can enable us to do our jobs well and spend our time productively; or they can simply create a space that we enjoy and want to be in.

We take an enquiry-based consulting approach. We work to understand our clients' overall objectives and to create buildings and environments that support them. We design beautiful, functional spaces, help lower energy use, reduce carbon emissions, reduce operating costs, and protect your building and your business operations from multiple risks.

We are strong on risk management. We actively manage risks involved – through our technical design process, project delivery, and we look ahead and think about our client's operational risks to engender resilience in our practice, to transform the way our people and those around us think and behave.

We continuously innovate. In the ever-evolving world we live in, we need to keep our knowledge current and bring fresh insights to our clients. We spend more than 10,000 hours every year in technical development, design automation and digital tools in order to create more value and deliver better results.

We provide a tailored, integrated and highly pragmatic design that best meets the often-conflicting requirements.

Smart Buildings Advisory

As independent advisers with decades of experience delivering innovative building projects, we have a deep appreciation of stakeholders needs and the ability to make sense of the complexity of technological options available.

We develop creative and reliable solutions that solve our client's real challenges. From increasing facilities staff effectiveness, to strengthening site security, to providing building users with direct control of their personal environment, to helping clients increase operational efficiency.

Our expertise lies in our ability to uncover client pain-points, where we tap our institutional knowledge while conducting project-specific consultation workshops. This enables us to tease out these needs and craft a rich customer journey map. We then apply a range of technologies that could potentially meet their defined needs, centered around business priorities, budgets and schedules.





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