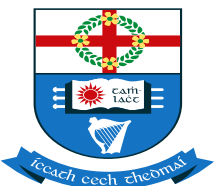# Scan4Safety Digital Supply Chain Implementation in Tallaght University Hospital (TUH)

Giving time back to patient care

GS1 Healthcare Webinar
26TH October 2023

Name: David Addie
Title: Deputy Director of Finance (TUH)

Name: John Donovan
Title: Head of Supply Chain & Logistics (TUH)

Tallaght University Hospital | Ospidéal Ollscoile Thamhlachta

An Academic Partner of Trinity College Dublin
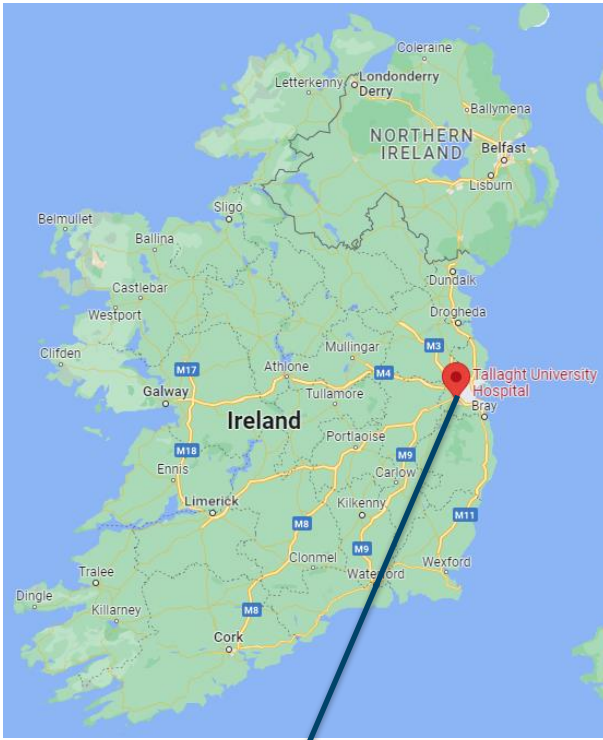
Agenda

- Overview & Background
- Where we were
- Rationale for implementation
- The Scan4Safety Solution
- Progress to date
- Outcomes
- Sample Reports
- Critical Success Factors
- Questions

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University
Hospital

Overview

- TUH provides access for patients to over 20 medical and surgical specialities, with comprehensive on-site Laboratory and Radiology support services.

- Currently, there are 495 adult beds and 67 paediatric beds, 16 theatres and 21 ICU beds in operation.

- The hospital has in excess of 420,000 patient attendances a year and has one of the busiest Emergency Departments nationally with a catchment population of approximately 640,000 people

- The campus is 31 acres in size, with significant future development capacity.

- Tallaght University Hospital employs over 3,000 people from over 40 different countries across the world.

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# Background

Hospital Strategic Priority Areas

- Digital Enablement: We will transform the way we deliver care through programmes of digital enablement.

National 'Patient Safety' Strategy

- Systems : We have resilient and safe systems where staff are supported to do their jobs safely and to work together effectively. There is coproduction of safe healthcare with patients and a culture of meaningful measurement and improvement for safety

- **Right Patient, Right Product, Right Place, Right Process**

- Proven to Improve **Patient Safety, Operational Productivity**

- **Supply Chain Efficiency.**

- **Implementation of GS1 standards**
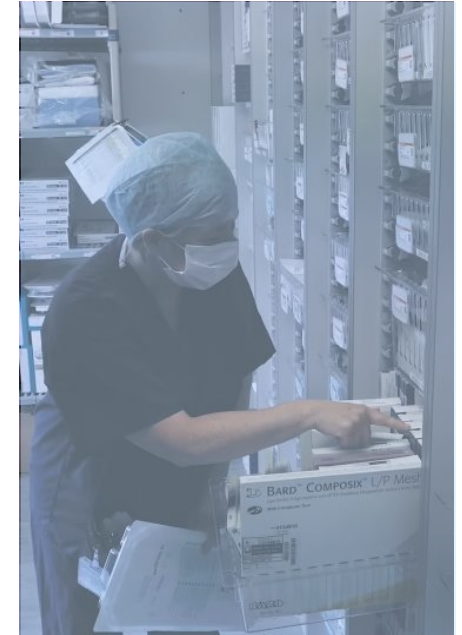
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Tallaght University Hospital & GS1 Ireland

- TUH has been a member of GS1 Ireland since 2010

- The hospital started with the track and trace of Surgical Trays (Reusable Invasive Medical devices (RIMD)) and endoscopes in the Central Decontamination Unit. This was part of a national rollout to track and trace all surgical trays and endoscopes across hospitals in Ireland

- TUH Implemented a ward inventory management system to manage stock at ward level including GLN labelling of locations

- GS1 Ireland provided barcode training in 2018

- Scan4Safety programme kicked off in September 2019

- Ongoing collaboration to support the National Traceability discussions

GS1 Healthcare Reference Book 2013-2014

Call out to Suppliers/Manufacturers:
TUH requires all products supplied to the hospital to have a GTIN/UDI barcode

Where we were

Manual System Ledgers

- Clinical staff at the Hospital were spending a large proportion of their time per week managing inventory

- Clinical staff found that they had difficulty accessing what item was used and with what patient. Ledgers and Books

- No system managing expiry dates created challenges. This posed a significant risk to patient safety

- Stock levels unknown or not accurate. Too much Stock /Too little stock

- Before Scan4safety was implemented the processes were very manual in nature and prone to human error
  - Clinical staff inputting requisitions on SAP
  - Records of implants used were kept manually in books
  - No lot and expiry tracking system
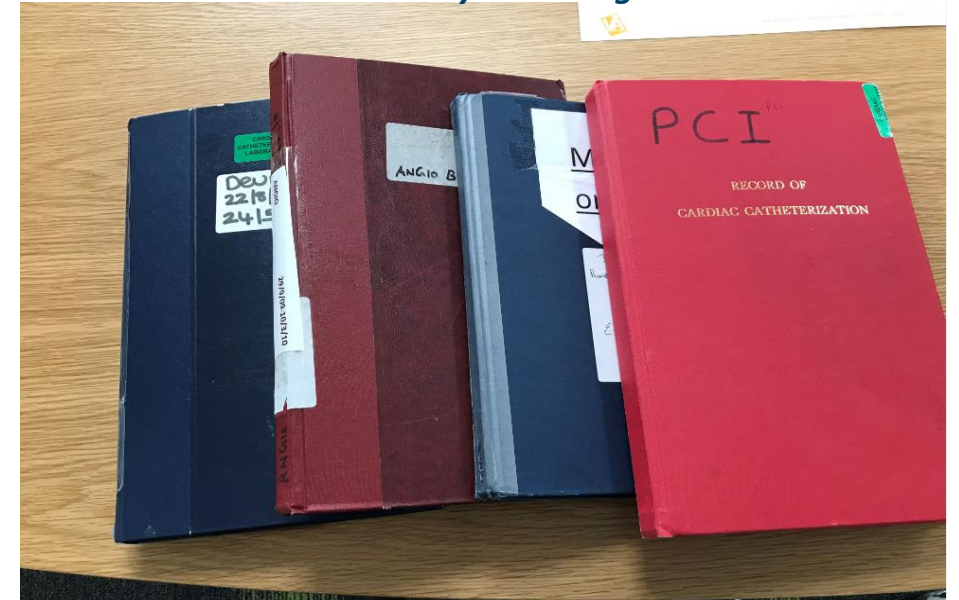
Implant Sticker Books
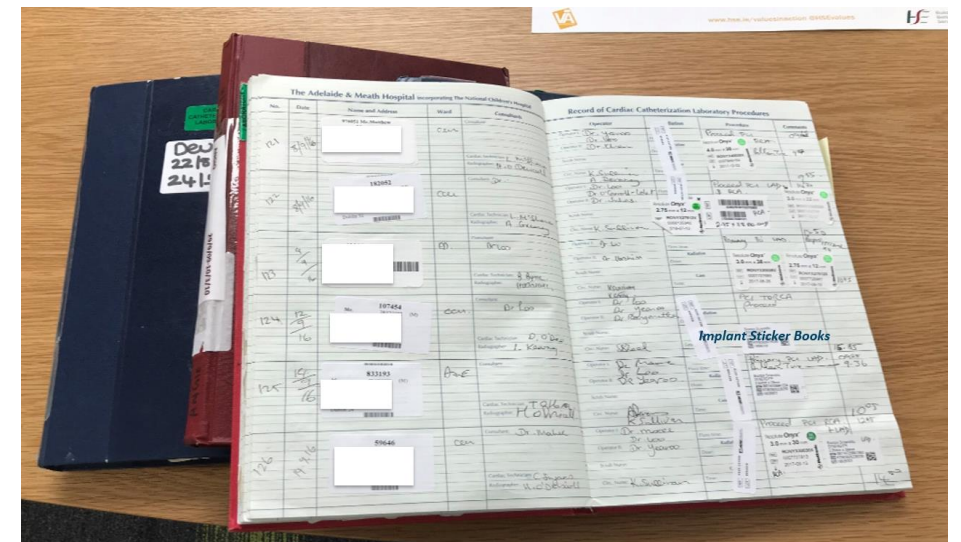
Options appraisal.. Continue as is

Advantages	Disadvantages
• Short-term avoidance of investment cost	• High % clinical staff time spent in SCM
• Maintain the status quo	• Inadequate control consignment stock
	• Lack of management information-PLC
	• No visibility of stock across the hospital
	• Non compliance with EU legislation
	• Loss of cash savings
	• No point of care traceability
	• No optimised stock levels / working capital
	• Higher clinical risk associated with expired/obsolete products

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Rationale for implementation

Why ?

- Patient Safety
- Inventory Management Efficiencies
- Digital Enablement-Hospital Strategy
- Purchase to Pay (P2P) System
- Medical Device Regulations
- Nursing retention and recruitment

ACCESS

INTEGRATED CARE

PEOPLE

INFRASTRUCTURE

TUH Strategic Priority Areas

RESEARCH & INNOVATION

DIGITAL ENABLEMENT

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Patient Safety

Safety/Medical Device Regulation

Health institutions are legally bound to maintain a record (preferably electronically) of the UDI for each class 111 devices. The key change was the introduction of a mandatory unique device identifier (UDI) as per (MDR Article 27).

Hospitals are legally required to have an internal process for reporting adverse incidents to The National Incident Management system and The Health Products Regulatory Authority (HPRA). **Scan4Safety technology helps achieve compliance to the directives discussed by virtue of the digital records of implants and patient procedures.**

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Nursing retention/recruitment

- The world needs to heed the lessons learnt from Covid-19 by investing in nursing and provide innovative solutions to support the profession (State of the World's Nursing Report, 2020).

- This evidence supports **urgent requirement to implement digital solutions to free up nursing time to concentrate on patient care**.

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How did we get started?

- Business Case

- Board & CEO support

- Standards Partner:
  - ✓ GS1 Ireland - Traceability Standard across healthcare and other industries. Experts on identification, barcoding and traceability

- Technology Partner:
  - ✓ Genesis Automation– Brings complete clinical traceability to healthcare. Delivers financial and clinical value for our Hospital

- Resources
  - ✓ Establishment of a Scan4Safety project team and a Scan4Safety steering group (including CIO, Medical Director and Finance Director)
  - ✓ Redeployment of existing resources
  - ✓ Project Team 5 wte (this has now grown to 8 wte) to deliver the project. This is the most important element of the project. Prioritise the type of team
  - ✓ The team must be able to collaborate / engage with clinical staff
  - ✓ Hosted regular Scan4Safety briefings for staff in theatres

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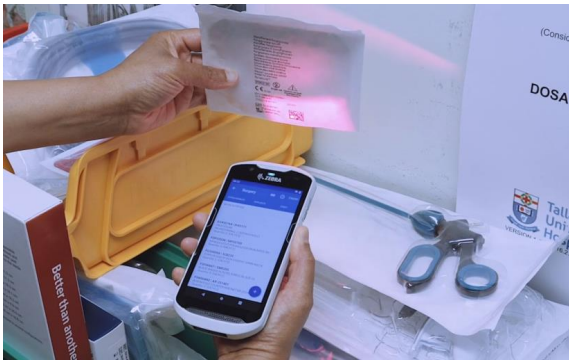
Incremental progress to date

Sep 2022 – Orthopedics x 4

Nov 2021 – Urology x 2

Mar 2021 – Endoscopy x 5

Jan 2021 – New offsite Day Surgery x 4

October 2023 – Paeds/Gynae/ENT x 2

Nov 2020 – Vascular x 2

July 2020 – Cardiac Cath Lab

Q1 2024 Interventional Radiology

Q4 2019 Proof of Concept (General Surgery – x 2 Theatres)

V A L U E

Q1 2019 Project initiation

Select S4S Partner

| 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |

Year 1   Year 2   Year 3   Year 4   Year 5

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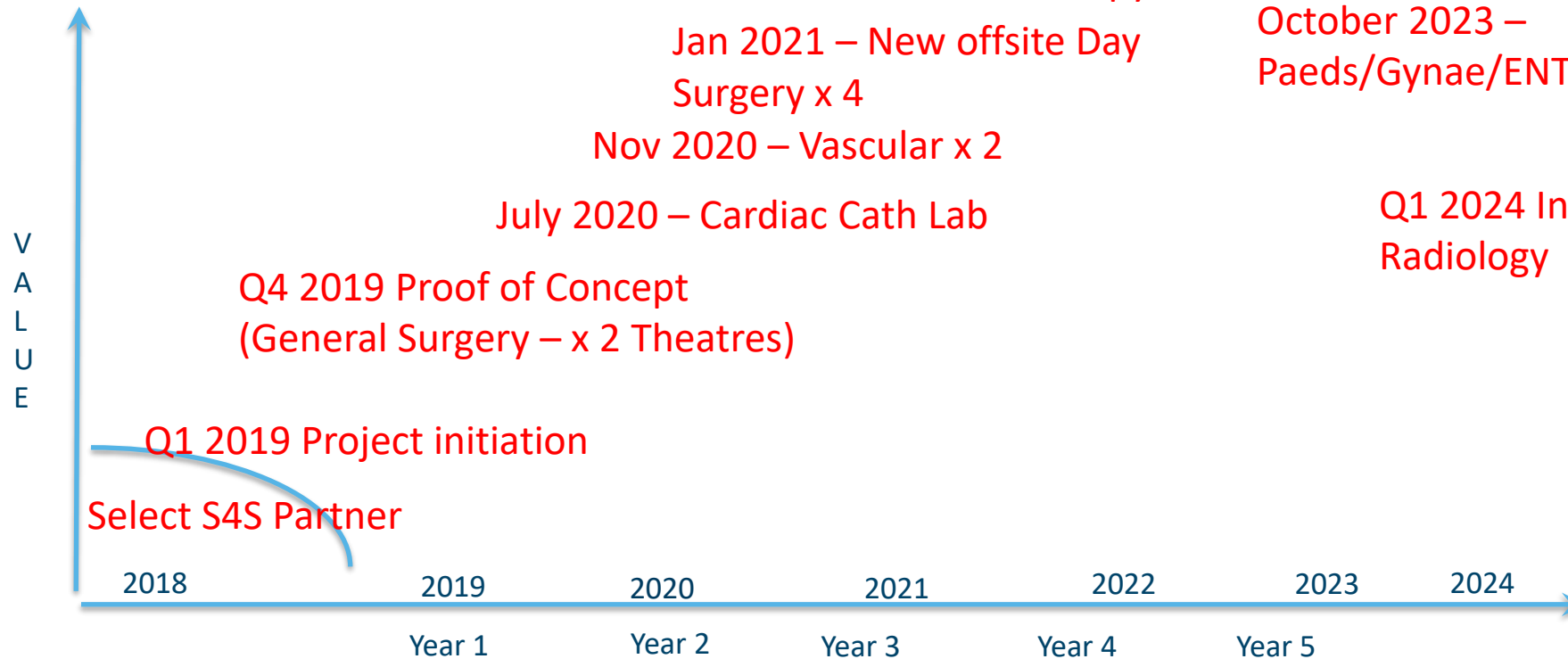
Progress to date

- ✓ Scan4Safety (S4S) live in about 90% of the Hospital (16 Theatres,Cath Lab etc.)

- ✓ S4S managed supply chain (No nursing involvement, Hrs. back to patient care)

- ✓ Automatic replenishing of stock (Financial), PO's sent automatically to vendors

- ✓ Full visibility of Supply Chain (Financial)

- ✓ Electronic Recall Management in place (Patient Safety)

- ✓ Electronic scanning of consumables/implants to patients (Patient Safety)

- ✓ External vendor software replaced by hospital owned system (can now track all stock & transactions)

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Progress / Challenges
Orthopedics

Challenges - Sterile V Non Sterile

Example of a sterile product

Example of non sterile product

Orthopaedic Master Data (Pre & Post Go Live)
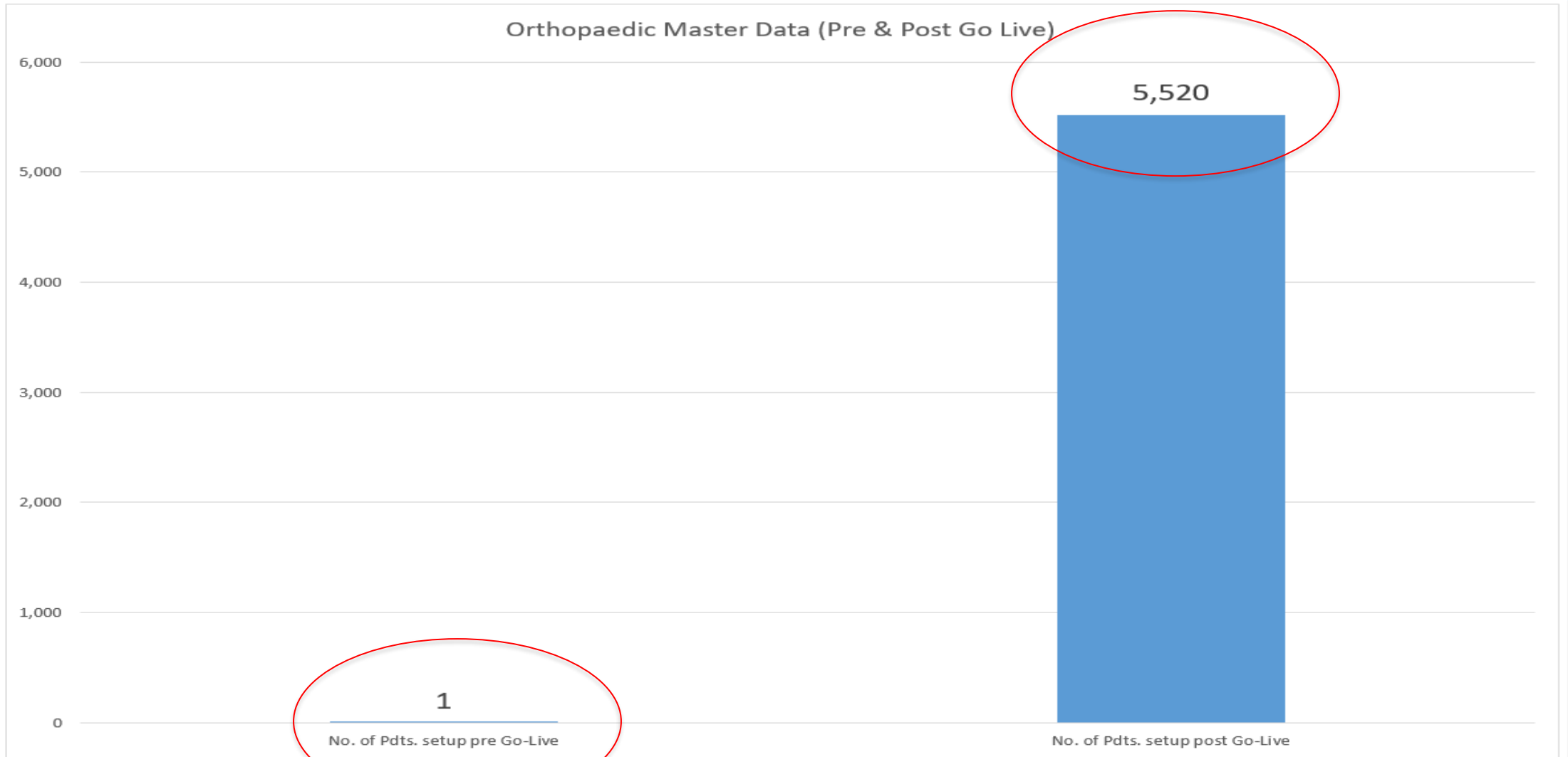
The Scan4Safety Solution
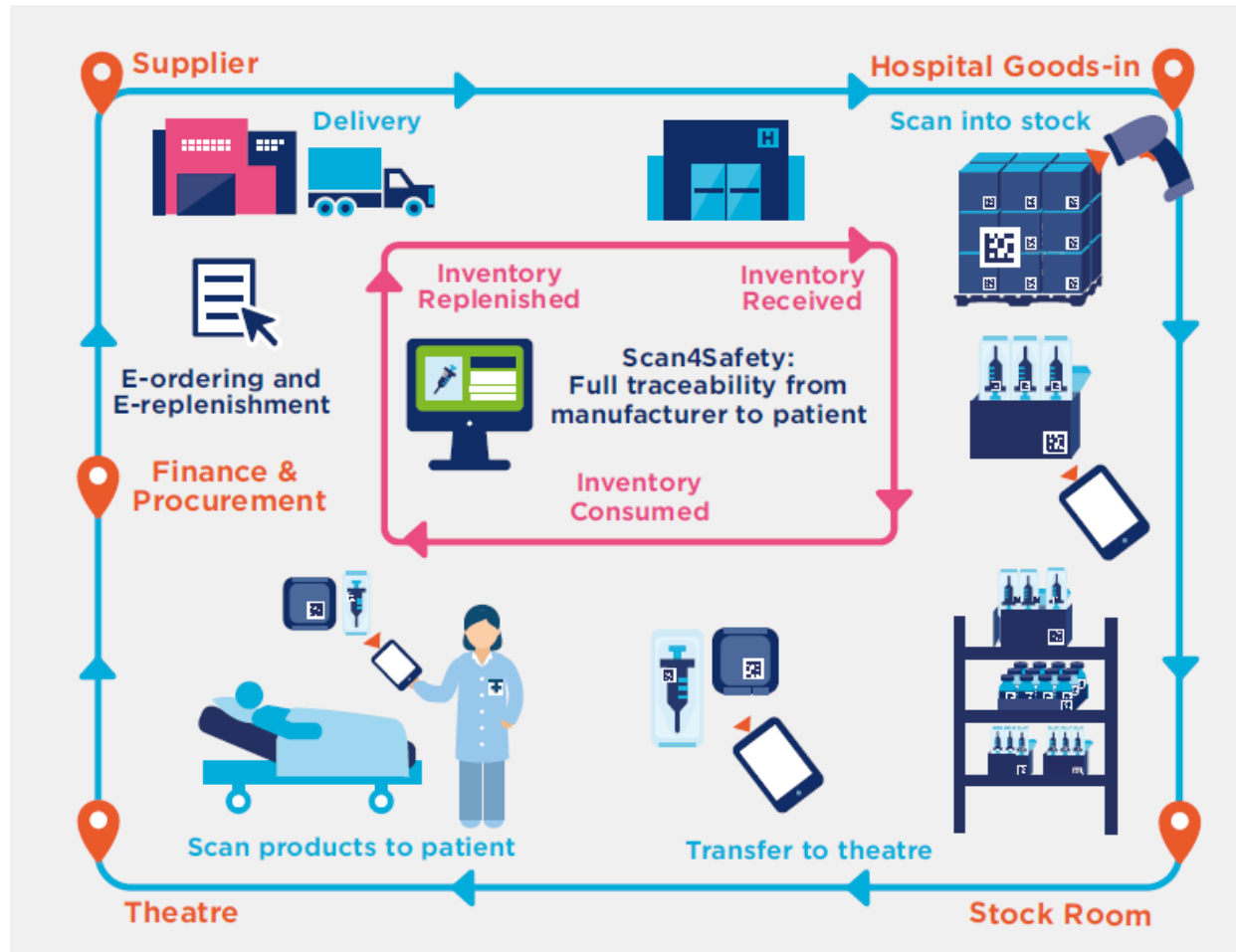
Implementation - Business Process Re-Engineering
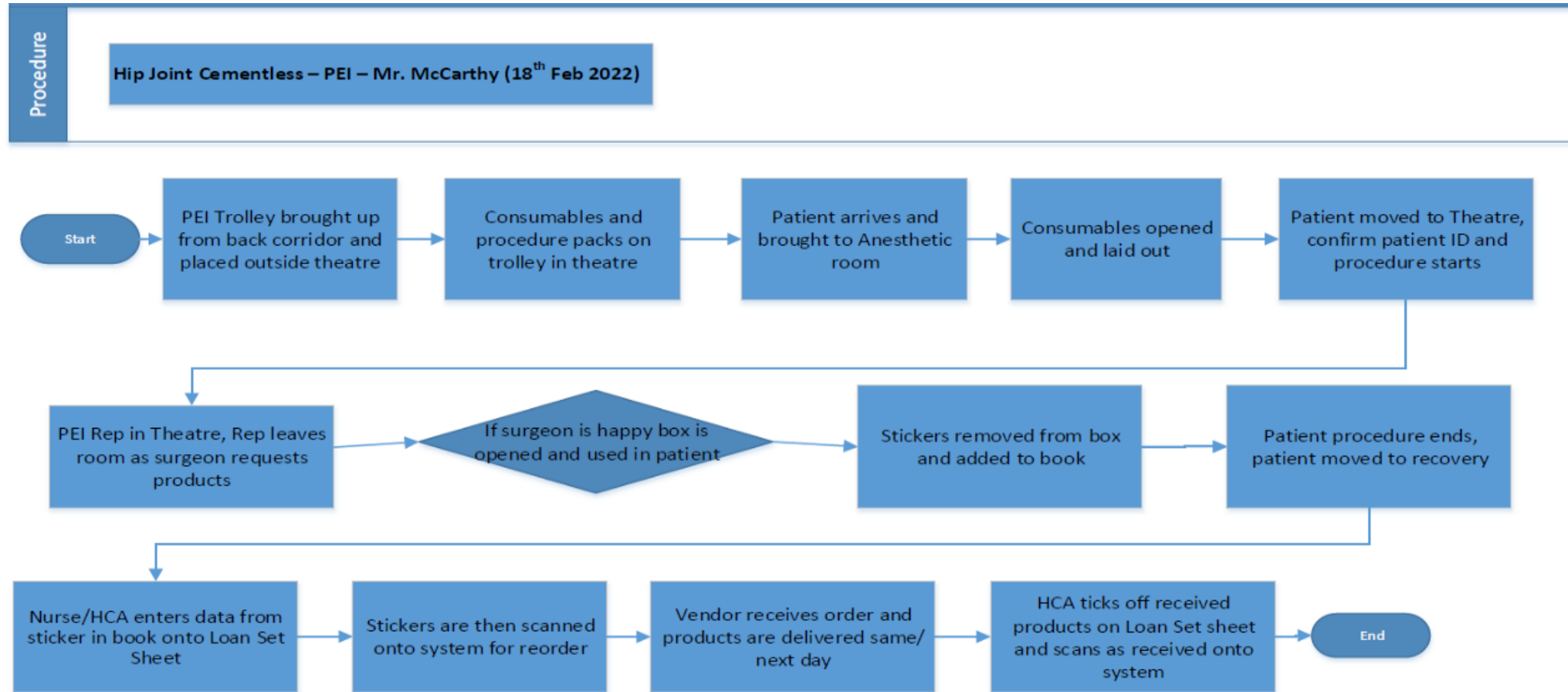
Outcomes

Clinical benefits	Clinical Hours given back to patient care	185 hours per week
Clinical benefits	Reduction in clinical risk / safety / Quality	✓
Clinical benefits	Expiry management (out of date stock removed)	✓
Clinical benefits	Recall management (full visibility / traceability)	✓
Working Capital	Stock Usage (saving recurring)	€250,000
Working Capital	Reduced Stockholding – once off	€300,000
Working Capital	Usage - Reduced expiry / obsolescence	✓
Working Capital	Usage - Identification slow moving stock	✓
Efficiency benefits	Costs - Improved pricing through purchasing	✓
Efficiency benefits	Costs - Reduced variation in procedure cost	✓

GS1 Healthcare Reference Book 2020-2021

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Case study & Video available here (or scan QR Code):
https://www.gs1ie.org/healthcare/resources/case-studies/scan4safety-at-tuh.html

Tallaght University Hospital Scan4Safety Video & Case Study

David Addie
Deputy Director of Finance,
Tallaght University Hospital, Dublin

The hospital has approximately €20 million per annum

Lucy Nugent
CEO, Tallaght University Hospital, Dublin

*"The Key Success Factors for the rollout of Scan4Safety was having over **95% compliance with GS1 barcodes**. The hospital has an annual spend of €20m per annum on spend in relation to consumables and implants. **We needed far greater control in terms of visibility and traceability"***
David Addie, Deputy Director of Finance

*"Here at Tallaght University Hospital, one of our strategic aims is Digital Enabled Care and by that I mean; changing how we do things, using technology. **Scan4safety has been a key delivery of that**. It has reduced the inefficiency of paper. It has given time back to patient care, which is a key priority, as well as actually being good value for money"*
Lucy Nugent, CEO

https://www.gs1ie.org/healthcare/resources/case-studies/scan4safety-at-tuh.html

Feedback from Staff!!

*"**The benefits of having traceability in place is patient safety.** The system will notify us if anything's expired or recalled before we use it."*

*"This is such a dream. I don't need to worry again. We have the products ready for when the consultant arrives. **It is safer for patients, and it gives me more time for patient care.**"*
Olivia Leigh, Clinical Nursing Manager (CNM 2) General and Vascular Theatres

*"What I really like about it is that it's **user friendly.** We don't have to wait as long for stock to come in, as we're scanning, it's highlighting that we're using something, so it's always on the shelf"*
Claire Ralph, Staff Nurse, General and Vascular Theatres

"We are beside ourselves with joy! Before we had to do everything manually!"
Carmel O'Callaghan, Clinical Nursing Manager (CNM 2) Cath Lab

*Scan4Safety has taken massive pressure off us. I used to have to spend hours doing stock levels, writing out stock lists, inputting it on the computer and liaising with purchasing and stores. Now I can concentrate on doing what I do, which is looking after patients and looking after my staff. **So it means that there's more of a flow of patient care, patient lists and staff welfare**.*
Leanne D'Arcy CNM 1, General and Vascular Theatres

"The GI lab was involved in the rollout of the scan4safety and we saw it develop and grow to its current state which is an efficient and user-friendly package to assist the employees on their daily stock management.
Emmanuel Omallao, GI Lab

*"Scan 4 Safety will change how the Hospital manages its stocks. End to End automation of the supply chain will deliver efficiencies, and real time data. This will help TUH to reduce waste, improve our working capital, and make **optimal use of our clinical resource.**"*
Dermot Carter, Director of Finance

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SAMPLE REPORTS

Reports-Expiry Dates

Reports-Stock Levels

Reports-Procedures

Critical Success Factors

- Leadership, this is about Patient Safety and Time back to Patient Care!

- The project had strong executive support from the very start

- Collaboration across Stakeholders: Nursing, Supply Chain and Finance had a shared vision of what the project was about

- Staff were kept engaged through ongoing communication, training and workshops

- Preparation: Getting the Master Data right was a big exercise, GTINs and good data are key!! We worked with our suppliers to check the product data and GTINs. GS1 Ireland supported us

- Dedicated and dynamic Scan4Safey team in place to support the operation

- Standards Partner (GS1 Ireland) and Technology Partner (Genesis AHC)

Success Story

- 185 hours per week back to patient care

- Data emerging from the NHS suggests that moving to a S4S solution reduces stock holding by 24% and provides cash releasing savings of 15% (NHS, 2020)

- Regular site visits requested to view system

- GS1 Case Study/ Video published 2022. GS1 noted the project as best implementation in an Irish Hospital that they have seen

- Presented at GS1 Global Healthcare conference in Paris November 2022

- CEO Award for delivering a truly impactful quality improvement initiative with inclusive approach and continued engagement with stakeholders

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Cumulative Statistics

	2019 - 2023
• Patients Scanned	• 48,872
• Products Scanned	• 474,123
• Value of items scanned	• €24.4M
• Value of Stock as of today	• €5.3M
• Value of Stock (Consignment)	• €2.2M
• Value of Stock (Non Consignment)	• €3.1M
• Quantity of Material Codes managed by S4S	• 10,016

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Scan4Safety Team – Awards and Thankyou!
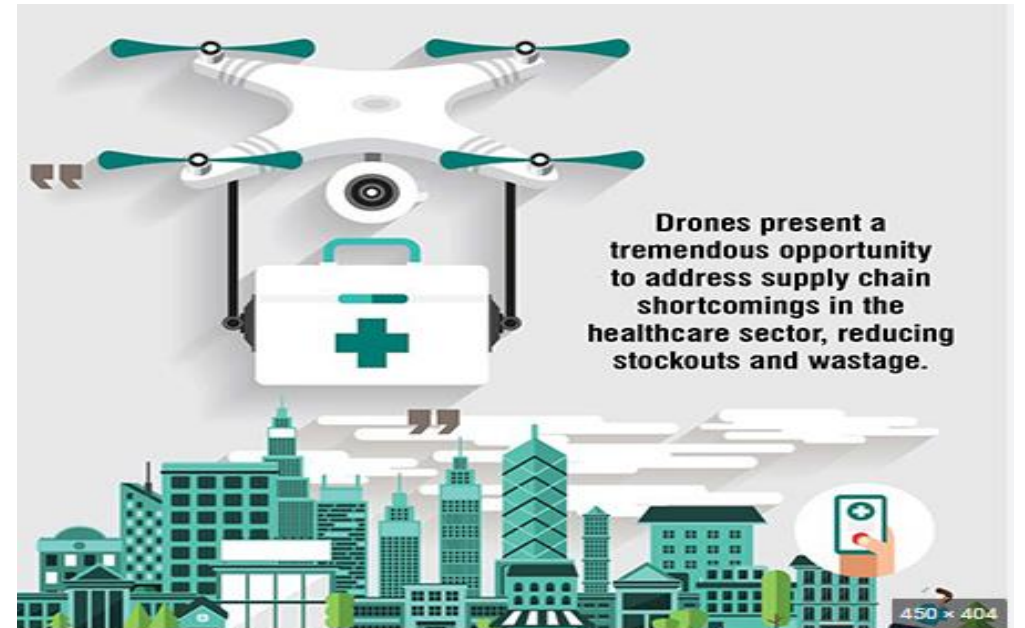
Thank you to the Tallaght University Hospital Scan4Safety Project Team

CEO Innovation Award presented to Scan4Safety Team by Director General, HSE and CEO of Tallaght University Hospital

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What's Next?

(New Doors!) – Innovation : Use Case Pilot of Drones in Healthcare - TUH

Questions?