RFID & DATA CAPTURE IN HEALTHCARE LOGISTICS

LYNGSOE X-TRACKING™

Biomedical/Clinical Engineering Association of Ireland
BEAI
Aontas Bithleighis Innealtóireacht na hÉireann

Lyngsoe Systems

20th July 2022

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www.lyngsoesystems.com

AGENDA

- Introduction Lyngsoe Systems
- Rethinking Hospital Logistics
- Data Capture - X-Tracking™
- Technology – Barcode, Passive, Active
- Importance of integration
- Live Demo
- Questions

Aars, Denmark
HQ – Sales/Project
Manufacturing

Ontario
R&D Facility

Maryland
Sales/Project

Lincs/Cambs
Sales/Project

Kerava
Sales/Project
Manufacturing

Hamburg
Sales/Project

SOLUTIONS FOR SMARTER LIBRARIES

Enter smart library solutions

WALSALL NHS TR

"We couldn't fault 2CQR's delivery on this project. Their pre-installation visit enabled us to plan with them, not just the practical positi...

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THE HEART OF ENGLAND FOUNDATION TRUST

"2CQR were able to deliver on all our specific requirements and we were particularly impressed with their commitment to long-term partnershi...

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EDINBURGH NAPIER UNIVERSITY LIBRARY

"As long time holders of Customer Service Excellence accreditation the university prides itself on working with the best and 2CQR's presenta...

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LIBRARIES IN CLACKAMAS COUNTY

Switch to an AMH central sorting system made materials handling easier

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AIRPORTS & AIRLINES

CUSTOMS & SHIPPING

STREAMLINE YOUR LOGISTICS AUTOMATION

Enter intelligent logistics solutions

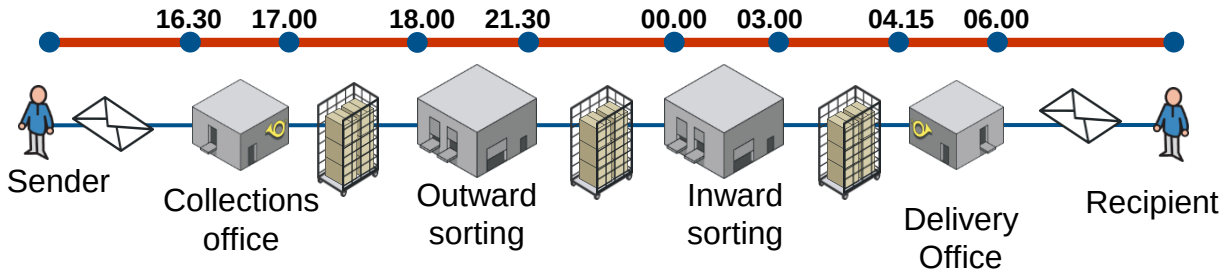
MANUFACTURING & SUPPLY CHAIN

HEALTHCARE

POSTAL & LOGISTICS

IPC – International Postal Corporation
80% of Worlds Postal Companies
Quality of Service & performance measurement

- ✓ **Quality of Service and Performance measurement**
- ✓ **400+ sites and 3000+ measurement points across the UK network**



CASE STORY

SWISS POST

Full visibility on Container and Products via tracking with RFID

- Optimized business processes
- Real-time overview
- Less errors – Improved quality
- Improved assets utilization
- Reduced cost – Less manual registrations, Less manual control and Automatic load control

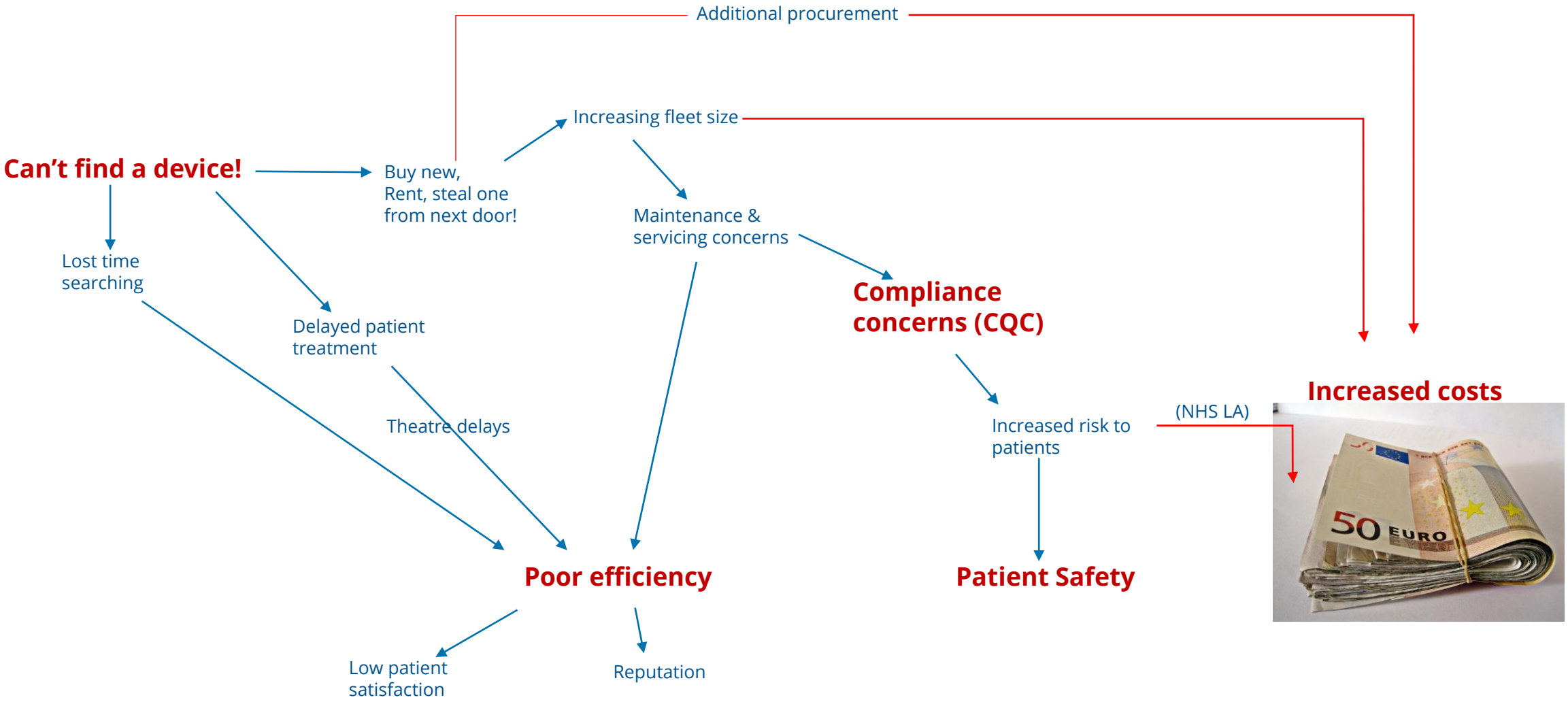
RETHINKING HOSPITAL LOGISTICS

- Challenges scale/size of a busy hospital
- Visibility & utilisation of assets, equipment, resources
- Patient safety
- Operational efficiency
- Forecasting, demand planning
- Transformation, adapting to change
- Implementing Standards

VISIBILITY OF MEDICAL DEVICES

- Where abouts are the…?
- How many have we got?
- Are they safe for patient use?
- Regulatory compliance (CQC)
- 3rd Party Suppliers
- Recalls

Assets -Impact of *'unable to supply'*



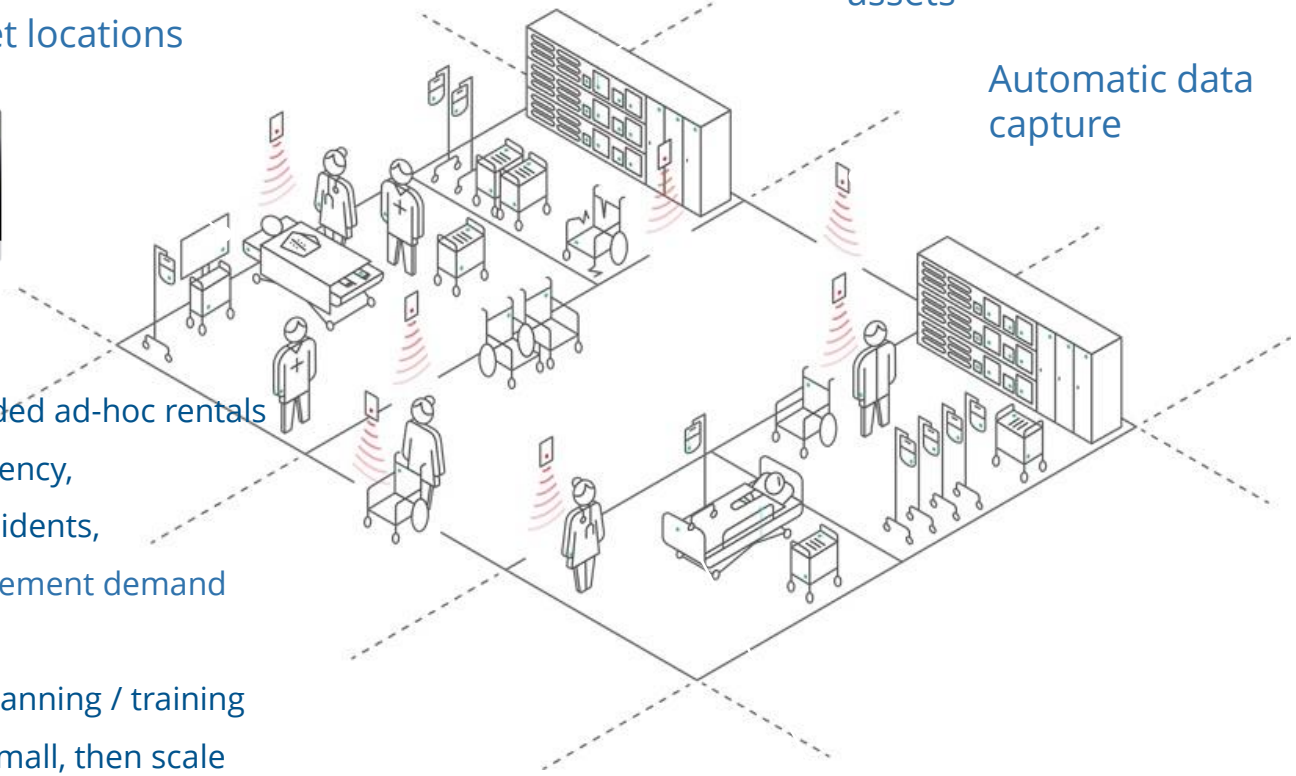
Tracking Medical Devices, Assets & Resources

Real-time inventory of assets

Record asset locations

Automatic data capture

Quick simple search

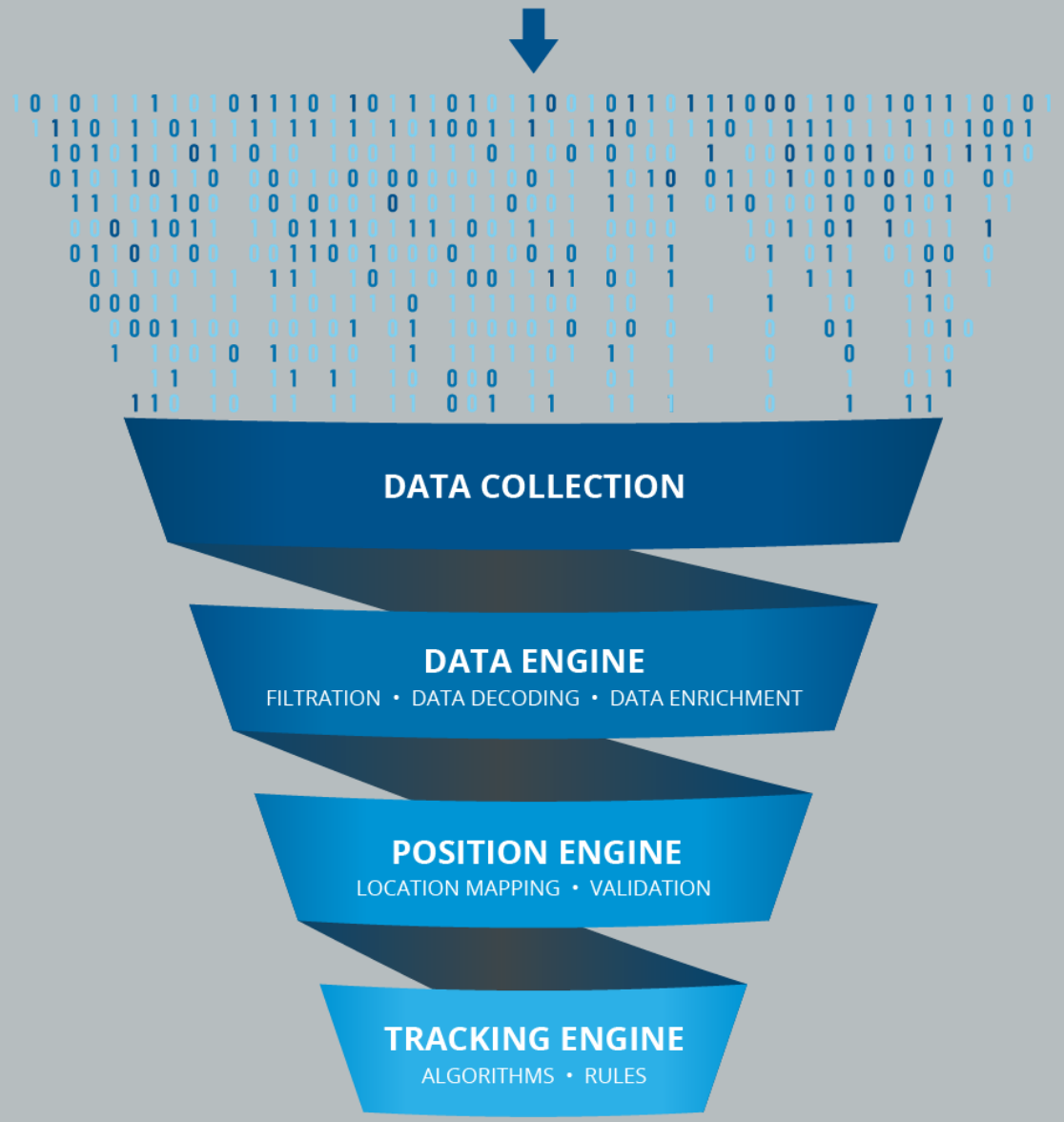


- Improve visibility, utilisation, - removed surplus equipment- avoided ad-hoc rentals
- Effective use of engineer's time servicing – PPM % increase, efficiency,
- Improve patient safety, manage risk (MDSO) – Reduce patient incidents,
- Cost avoidance – better use of existing inventory, reduced replacement demand
- Saved time (cost) site audits – months to days
- Store asset location history data - available for tracing issues / planning / training
- Blended technology, *'Land & Expand'* solutions – Think big, start small, then scale
- GS1 compliant, Scan4Safety – Ideal platform to start from
- Monitor/measure 3rd party suppliers – ability to question / verify SLA… refund?

Record asset state

CONNECTING PHYSICAL FLOW TO THE DIGITAL LANDSCAPE

- Support multiple use cases
- Provide visibility of workflow
- Scalable solutions to fit present and future needs
- Based on international data standards
- GS1 Data Capture Application
- Supporting GS1 guidelines and Scan4Safety



X-TRACKING PLATFORM

X-TRACKING™ APPLICATION

- Search
- Move
- Notifications

3rd PARTY SYSTEMS

ECRI

- Tracking Events
- Master Data

EPCIS

EVENT STREAM PROCESSING

- Cross Read Filtration
- Directionality
- Advanced Blackout Filtration
- Data Consolidation
- Data Routing
- Data Decoding

DATA MANAGEMENT

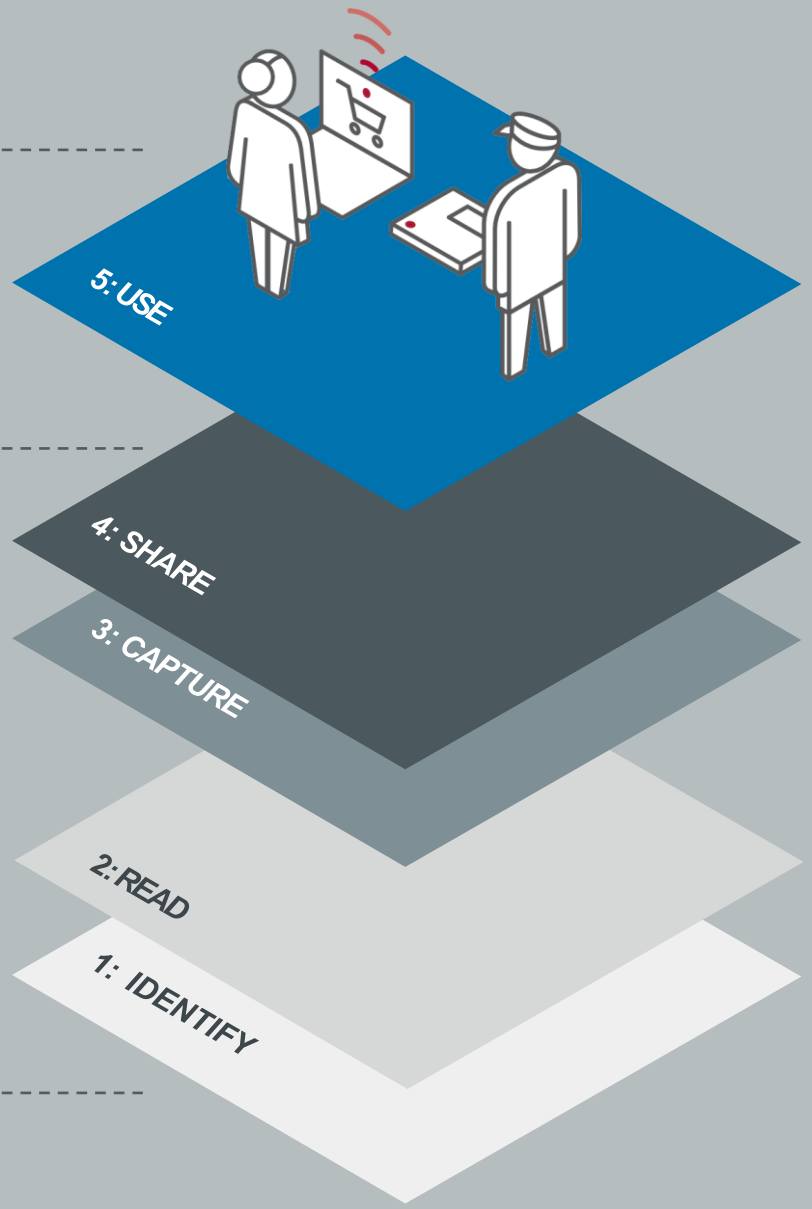
- Location Management
- Asset Administration
- Trace Data
- Read Point Management
- Tracking Nested Assets
- Data Security
- Location Mapping
- AD Integration
- Admin Client

DATA COLLECTION | **LOW LEVEL FILTERING** | **TAG ZONE VALUES** | **READER MANAGEMENT**

LLRP | PROPRIETARY

RFID READER | **WIFI NETWORK** | **BLE GATEWAY** | **SATELLITE** | **BARCODE SCANNER**

RFID TAGS | **WIFI TAGS** | **BLE TAGS** | **GPS UNIT** | **BARCODES**



PASSIVE UHF RFID TAGS

- Enable automatic tracking at a very low cost per asset
- Wide selection of RFID labels/tags for multiple use cases – Lyngsoe Systems has vast experience.
- Labels supplied in rolls 1000 Pre-Printed Encoded or Pre-Printed only (two colour, 1000 per roll, MOQ apply)
- Labels are durable to withstand regular cleaning
- Zip tie solution for on-metal applications
- Specific on-metal tags available
- High performance reliable RFID label printer encoder
- X-Tracking™ manages GS1 numbering process
- Specialist tags can be GS1 encoded and laser marked

ACTIVE RFID

- X-Tracking™ works with multiple technologies
- BLE low energy tags
- Mesh based network options, low-cost tags
- Up to 5-year battery life
- Wire free ‘Mesh’ nodes connect via Gateway

X-Tracking™
integrated with;

CANTEL

SoftPro Medical Solutions

CASE STORY

NHS Lothian CSSD/Med Physics

- 4 main acute hospitals, 14 remote sites
- CSSD tracking sets, endoscopes, dental cassettes
- Case cart tracking with nesting
- Clinical engineering tracking medical devices across sites
- Passive RFID UHF – c.40,000 tags
- Autoclavable tags for SDU
- 450 Fixed readers plus mobile & handheld data capture
- GS1 standards

CASE STORY

Aarhus University Hospital

AARHUS UNIVERSITY HOSPITAL

Medical Device and Staff Tracking

- 1 location 450,000 sqm.
- 400,000 medical devices and other assets
- 100,000 RAIN RFID Tags
- 500 Active Bed Tags
- 1000 RAIN RFID staff tags
- 2400 RFID Readers 5500 antennas
- Integration to Systematic Task Management Software

Benefits

· Reduced time in finding assets, equipment and colleagues
· Effective utilization of equipment & consumables
· Improved real-time data in the workflows & logistic processes

CASE STORY

Kings College Hospital – London
New Project 2022

- Medical Device Tracking with Integration to ECRI Aims
- Medical Equipment Library & Wards

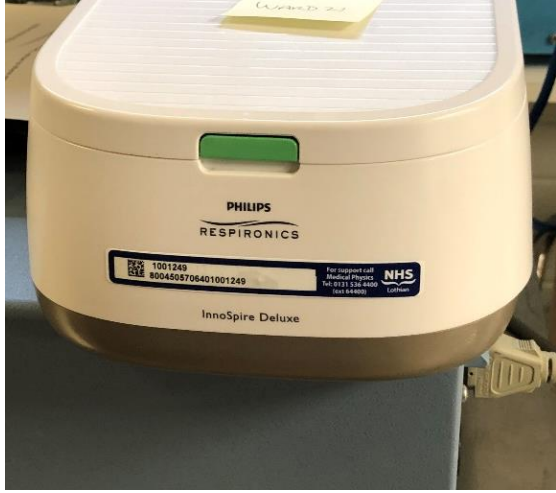
- Passive RFID & GS1 Standards
- Fixed passive RFID with antennae choke points
- Fixed passive RFID with multi antennae array
- Mobile Data Capture Cart
- Handheld Data Capture
- Assorted Passive RFID GS1 asset labels

Expected Benefits:

- Automate the current manual equipment loan booking process
- Reduce the amount of time clinical and engineering staff spend searching for devices.
- Improve utilisation levels of equipment
- Improve compliance (preventative and corrective maintenance, safety alerts, etc.) and facilitate inventory audits.

RFID TAGGING EXAMPLES

RFID TAGGING EXAMPLES

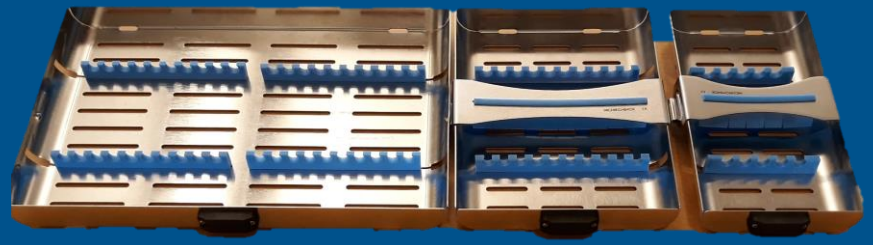


RFID TAGGING EXAMPLES

Sterile Tray Tracking

Management of sterile trays
Track from SDU to individual theatre stores
Record useage
Integrate with sterile processing software

RFID tags withstand sterilisation cleaning processesat high temperatures 134-137 deg C



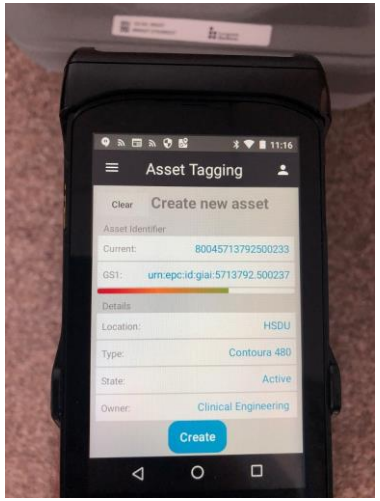
RFID HOSPITAL READER

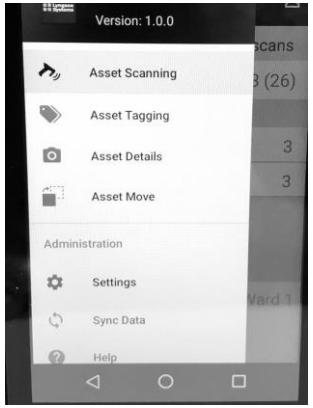
Key features:

- Provides accurate real-time registrations of RFID tags
- Reads and locates multiple assets at the same time
- Easy to install
- Covers doorway with 2 logical reading points.
- Connects to PoE
- For indoor use

The RFID Hospital Reader consists of:

- 1 RFID Reader
- 2 RFID Antennas
- 2 Antenna Cables (6m) with colored markers
- 2 Antenna Test Tags
- 1 Ethernet Cable (Cat6 UTP) – for PoE option
- Ceiling mounting kit options





RFID HANDHELD TERMINAL

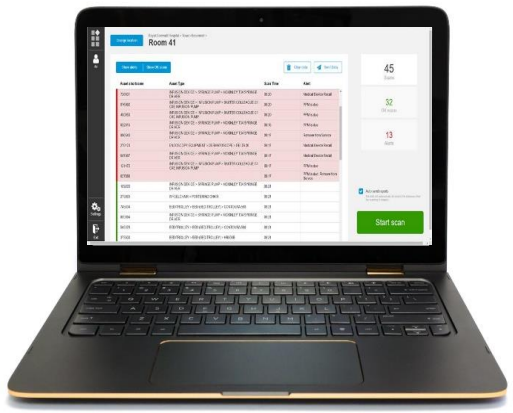
Key features:

- Scanning barcodes and RFID tags on assets
- Features: Asset move, Nesting, Seek asset
- Alert Notifications, such as “service overdue”
- Special features: Asset Tagging with RFID signal strength gauge for testing RFID tag placement
- RFID tag coding
- Android based App – working offline
- Excellent operational battery life
- Touchscreen, durable for environment
- BLE connectivity

The RFID Handheld Terminal consists of:

- 1 RFID Terminal
- 1 Charger

MOBILE DATA CAPTURE CART (MDCC)



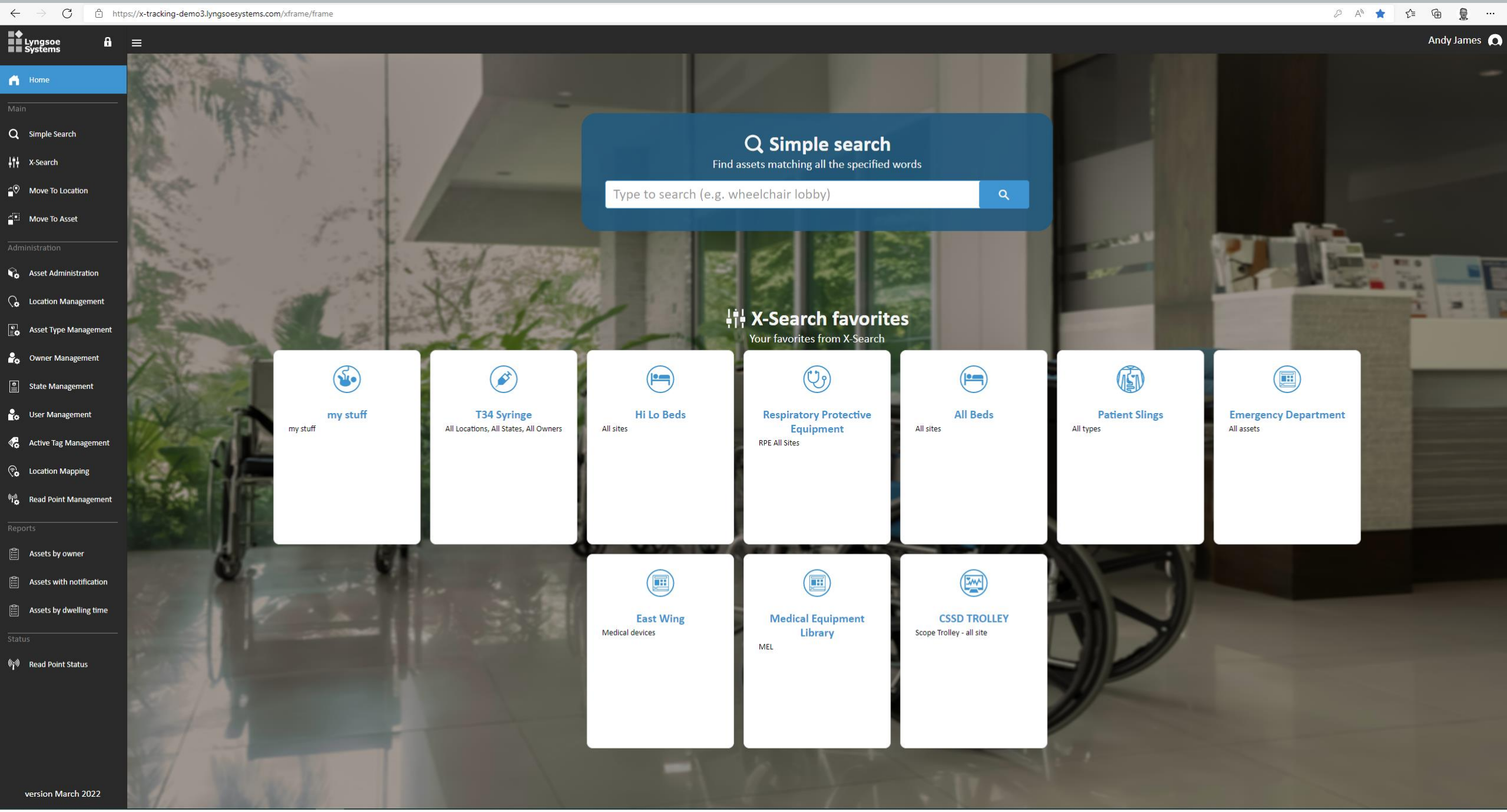
MOBILE DATA CAPTURE CART

Key features:

- Rapid accurate audit tool - highlights assets overdue PPM service alerts
- Proactive risk management tool
- 270° field of view
- Detection up to 10m with passive UHF tags
- Data capture off-line
- Easy to manoeuvre
- Adjustable working height
- UPS power supply

The Mobile Data Capture Cart consists of:

- 1 RFID Reader, 3 RFID Antennas
- 1 laptop (provided by hospital)
- 1 workstation on wheels with UPS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Home
Main
Simple Search
X-Search
Move To Location
Move To Asset
Administration
Asset Administration
Location Management
Asset Type Management
Owner Management
State Management
User Management
Active Tag Management
Location Mapping
Read Point Management
Reports
Assets by owner
Assets with notification
Assets by dwelling time
Status
Read Point Status
version March 2022
Simple search
Find assets matching all the specified words
Type to search (e.g. wheelchair lobby)
X-Search favorites
Your favorites from X-Search
my stuff
my stuff
T34 Syringe
All Locations, All States, All Owners
Hi Lo Beds
All sites
Respiratory Protective Equipment
RPE All Sites
All Beds
All sites
Patient Slings
All types
Emergency Department
All assets
East Wing
Medical devices
Medical Equipment Library
MEL
CSSD TROLLEY
Scope Trolley - all site

WE ARE **FRONT RUNNERS**, NOT NEWCOMERS

WE ARE AN **EXPERIENCED** & **DEDICATED** TEAM

EXPERIENCE

+40

COUNTRIES

59

HQ

DK

INSTALLATIONS

5000

BUSINESS UNITS

6