iBox Healthcare

Illuminating patient pathways with iBox and Real Time Location Services (RTLS)

Introduction

We have developed an additional Real Time Location Services (RTLS) toolset to complement our iBox acute healthcare platform, which has the capacity to dramatically increase visibility and 'findability' of patients, staff and equipment.

By utilising BLE (Bluetooth Low Energy) Tags, key assets throughout hospitals or healthcare facilities can be tracked, alongside with BLE enabled NHS patient wristbands and staff badge holders.

Who are iBox?

iBox are a team of healthcare informatics experts that deliver command centre solutions. Working with NHS clinicians, we optimise patient flow help deliver operational efficiency.

Our unique technology enables real-time information to be shared securely without expensive per-user licence models which can be easily incorporated into the Trusts' intranet.
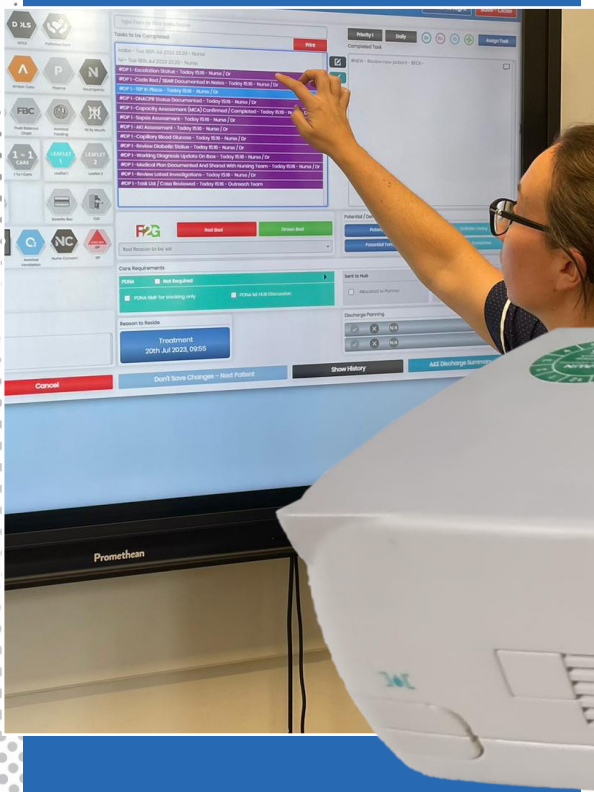
We have already helped assist over two million A&E patients within Northampton, Kettering, The Whittington and George Elliot Hospitals. Our focus is combining digital health data to produce useful information visualisations for executives and operational staff to improve patient flow. This impacts positively on their experience and ultimately their outcomes.

Introducing iBox Illuminate

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What are the benefits of using the iBox Illuminate module?

iBox Illuminate provides increased visibility across your hospital that will improve the healthcare environment for all involved.

With access to real-time data, there is a significant reduction in demand and financial loss for hospital management. Currently our staff report spending up to 20% of their time looking for equipment required for delivery of care, with no current way of identifying a real-time location. Finding equipment for servicing and end of lease equipment return can also reduce costs. By using BLE tags, assets can be promptly tracked, optimising asset management and reduction in over ordering.

The 'Illuminate' toolset is completely customisable to the Trust's dynamic needs, with the potential to create healthcare specific tags, alongside NHS patient wrist bands, staff badge holders. Using innovative ML (Machine Learning) predictions, organisations can forecast possible challenges based on historical data.

Without a digital solution, manual clerical data entry is heavily relied upon, which takes significant time and can result in user errors. The 'Illuminate' RTLS solution gives healthcare professionals access to the important insights on assets which can reduce clinical errors and delays and significantly improve working conditions which aides staff retention.

Currently roughly 7% of patients suffer healthcare acquired infections in hospitals. Illuminate's real-time patient tracking helps with infection control through real-time planning of patient moves and decisions can be made promptly to stop the spread of contamination.

Considering the extensive time restrictions within the NHS, this toolset is quick to deploy, and extremely cost effective as it is built on an NHS Trust's existing WIFI Access Point investment. When integrated with iBox real-time patient flow and Ward/Bed management the potential is huge, illuminating Trusts from within.

Four Main Components

- Utilising existing WiFi Access Point's with BLE support (legacy for most trusts)

- BLE Tags; For key assets, mobile devices, wristbands, badge holders.
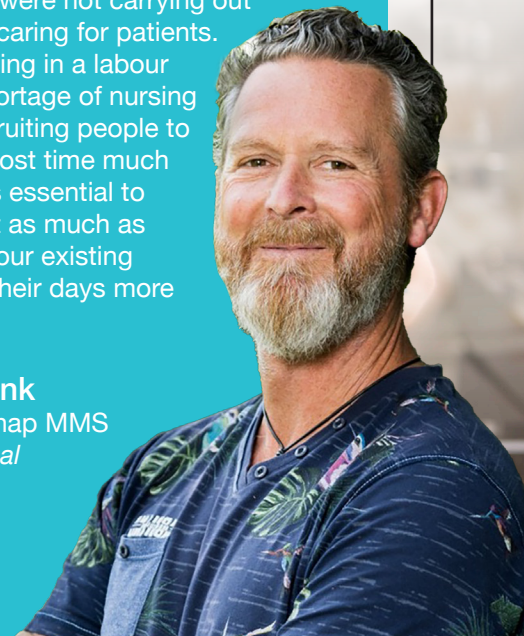
- iBox Illuminate Platform

- iBox Illuminate Mobile Apps showing where things are

This is a low-risk Software as a Service (SaaS) solution.

"It's essential to limit the time lost as much as possible so that our existing staff can spend their days more effectively.

"Our research showed that each of our 67 FTEs spent 15 minutes to half an hour daily looking for assets. Out of 3,800 FTEs, that may not seem like much, but the point is that our nursing staff were not carrying out their core tasks: caring for patients. This was happening in a labour market with a shortage of nursing staff, making recruiting people to make up for the lost time much more difficult. It's essential to limit the time lost as much as possible so that our existing staff can spend their days more effectively."

Martin Meijerink
Director, Maatschap MMS
(Maasstad Medical Specialists)

01.
Patient Flow

Using BLE Tags, a patient pathway is created from the moment they arrive at a hospital or healthcare facility, and this flow of movement is tracked throughout their healthcare journey, through to discharge.

20% of NHS staff spent time looking for equipment required for delivery of care. Staff then end up over-ordering items due to poor stock visibility. With BLE technology, assets can be tracked, saving critical time that should be used providing top-quality healthcare, as well as optimising asset management and reduction in over ordering.

02.
Asset Tracking

03.
Staffing

Enhance staff retention and engagement by focusing on improving working conditions and addressing workplace frustrations of trying to find things.

As with all NHS acute settings roughly 7% of our patients will suffer healthcare acquired infections whilst receiving care in our hospital which can result in overstays by days or weeks. This consumes significant Trust resources and can block 20% of our beds. This has high direct & indirect treatment costs and adversely impacts the safety & wellbeing of our staff & patients.

Many current Infection Prevention and Control (IPC) systems rely on manual data entry, which is often delayed and rarely real-time. Bed management data entry is also frequently incomplete, leading to discrepancies between actual and visible capacity. Slow, labour-intensive IPC processes are unable to prevent infection spread effectively, causing about 20% of hospital beds to be occupied by patients overstaying due to healthcare-associated infections (HCAIs). Additionally, patients ready for discharge may catch infections while waiting, prolonging their stays. By addressing infection risks in real-time, staff sickness, absence, and retention can improve.

04.
Infection Control

05.
Contact Tracing

Digital contact tracing provides real-time information that helps coordinate patient admissions, discharges, and ward transfers. This ensures that our hospital resources protected and optimally utilized by minimising the risk of infection transmission.

Factor	RFID Passive UHF	BLE from iBox
Cost	RFID solutions are on average four times more expensive than BLE alternatives due to additional 'readers/ gateways' required.	Solution delivered at a lower cost than UHF RFID or UWB alternatives; does not require additional cables or power points. Reusable devices. Big Savings & Happy staff!
Location	Location updates when there is movement between rooms.	Continuous location of beds to within one metre anywhere in a ward, side rooms or corridors. Location accuracy can be readily improved through additional Access Points and signal triangulation capability built into the iBox platform.
Tracking Frequency	Only triggered when passing an antenna at door.	Automated pings every 10 – 30 seconds.
Cost of reconfiguring wards	Can cost thousands of pounds to build 'gateway' readers.	Not necessary.
Fixed Infrastructure	Needs extensive technology including fixed readers, Antenna and cabling.	Utilises existing AP's in most cases. Good technology solution built on existing IT-WiFi Infrastructure. • BLE Radio technology is ready built into existing WiFi Access Points from Cisco/Meraki/etc . • Can be rapidly deployed in most cases without additional Hubs/Beacons/Radio Rx.
PFI costs (relevant Trusts)	Can cost thousands of pounds for minor changes.	No extra fee (subject to existing AP location suitability).
Use case extensions	N/A	Automatic contact tracing for infection control. Bed management. • Patient Safety – High Risk patients, children.

Optimise flow and patient experience

- Start Small, Scale to Thousands of Assets
- Fast to implement - uses existing infrastructure
- Open platform - easy to integrate
- Pay-as-you-grow - annual managed service model
- Insights gained with ML and BLE Location Data
- Locate And Monitor. Anything. Anywhere.

iBox 'Illuminate' real-time location tracking platform revolutionises patient and resource management with actionable insights and automating tracking. With Illuminate, you can easily locate and monitor your assets anytime, anywhere.

iBox Healthcare

Our Awards

Transforming healthcare with cutting-edge, user-friendly award-winning technology

HSJ PATIENT SAFETY AWARDS 2022
Finalist 2022
Early-Stage Patient Safety Innovation of the Year

HSJ PATIENT SAFETY AWARDS 2022
Finalist 2022
Deteriorating Patient and Rapid Response Initiative of the Year

HSJ PATIENT SAFETY AWARDS 2016
HSJ Patient Safety Award 2016
Technology and IT to improve patient safety

HTN HEALTH TECH NEWSPAPER
HTN Award 2019
Best use of Data

DTAC CERTIFIED **UKCA**

What compliance certifications does iBox have?

The iBox solution conforms to DTAC, UKCA, GDPR, Data Security and Protection Toolkit & Cyber Essentials requirements.

Trusting Us

They trust us, work with us, and believe in iBox

NHS
George Elliot Hospital
NHS Trust

NHS
Kettering General Hospital
NHS Trust

NHS
Whittington Health
NHS Trust

NHS
Northampton General Hospital
NHS Trust

NHS
George Eliot Hospital

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