



HEALTHCARE SOLUTION OVERVIEW



Delivering complete healthcare facility visibility that uncovers business intelligence for better decision-making.

Core is an integrated RTLS, RFID and barcode solution that improves safety, asset management, workflow and patient satisfaction. It empowers healthcare providers with expanded resource visibility and transactional data to provide real-time business intelligence that improves processes and increases efficiency.



Summary

Healthcare providers face many challenges in delivering a cost-effective, efficient and safe service. Cutting-edge technology is vital in healthcare service delivery to meet the medical and administrative needs of the organisation, staff and patients.

Key challenges for healthcare providers include:

- **Safety** – patient, visitor and staff safety is paramount for all healthcare facilities.
- **Asset management** – most healthcare organisations have tens of thousands of assets ranging from equipment and electronic devices to linen and pharmaceuticals. Effectively tracking each item in real time increases efficiency, reduces search time, minimises theft or loss, and increases the ROI on assets.
- **Cost benefit** – it is important for healthcare organisations to find a single solution that addresses multiple business issues.

In order to meet these challenges, healthcare providers use existing barcode, RFID and RTLS technologies. But these solutions are not integrated, so organisations are not able to utilise a technology-independent, comprehensive solution to drive business intelligence. The lack of an integrated solution results in more time and resources spent on training staff and managing systems. It also leads to higher capital expenditure and running costs, an increased risk of data loss and privacy breaches, and less informed decision-making.

ECSG's Core Solution

Core by ECSG offers an integrated RTLS, RFID and barcode solution that delivers tangible benefits from these technologies to assist healthcare providers in meeting the challenges of improving safety, asset management, workflow and overall patient satisfaction.

Core provides search capabilities, rules-based alerts and advanced reporting, and enables multi-modal tracking of staff, patients and assets.

Not merely asset tracking and management software, Core empowers healthcare providers with expanded resource visibility and transactional data – collecting it from thousands of assets in single or multiple facilities – to provide real-time business intelligence that improves processes and efficiencies.

The ECSG Core solution is designed to be used by staff at any level of the organisation, reducing the time necessary for training and management of the system.

Key Challenges in Healthcare

The fast-paced and critical nature of healthcare services makes real-time visibility of key assets and people a necessity. But healthcare providers are restricted in taking advantage of new technologies due to the high costs of acquiring multiple solutions to address key organisational needs.

Key challenges facing healthcare organisations include:

- **Staff safety** — providing a safe work environment in healthcare facilities is increasingly important due to the rise in safety incidents in hospitals.
- **Patient wandering and elopement** — leaving a care location without authorisation increases risk and reduces safety for both patients and staff, especially in mental health and aged care facilities.
- **Asset management** — a typical hospital's assets range from significant high-value assets, such as infusion pumps or dialysis units, to various less critical or costly items such as chairs and linen. The range and number of assets makes efficient management a major challenge.
- **Medication and pharmaceutical tracking** — high-value drugs, live cultures, as well as toxic waste, need to be tracked to prevent loss and theft.
- **Inventory and stock take** — healthcare organisations often use multiple tracking systems for inventory and stock take, which can lead to the human error and no real visibility of an asset during its lifecycle.
- **Linen/bulk item tracking** — linen and other bulk items are a major cost centre for healthcare providers. Lack of full enterprise visibility to identify and locate assets reduces efficiency and increases the risk of theft.

Lack of integration results in higher costs and less efficiency

Many hospitals use barcode, RFID and RTLS technologies on their own to meet these challenges. Unfortunately, these solutions are usually not integrated, so several unintegrated systems are used.

The lack of an integrated solution results in:

- Staff needing to learn to use more than one system — this can hinder the adoption of new technology and requires increased time and expense for training
- More time and resources spent managing multiple systems
- Higher upfront infrastructure capital expenditure with higher running and support costs
- Greater risk of data loss and privacy breaches
- Lack of ability to integrate data from multiple sources to make decisions that drive business efficiency and intelligence.



Core offers an integrated solution for healthcare organisations to gain real benefits from RFID and RTLS technologies to meet their specific business needs.

The Core solution enables multi-modal tracking of staff, patients and assets to:

- Increase staff safety
- Improve patient care and safety
- Expand and enhance resource visibility across the organisation
- Monitor multiple sites
- Support decision-making and improve asset utilisation
- Improve workflow
- Reduce costs and inefficiencies
- Increase business intelligence through the use of transactional data gathered and generated by Core.

Overcoming integration challenges with Core

ECSG's Core solution eliminates the technological obstacles that prevent the implementation of integrated RFID and RTLS solutions in healthcare.

Core is a web-based, enterprise-wide software solution for viewing location, status and condition information from any source — Wi-Fi-based RTLS, passive RFID and barcode technologies.

The system provides:

- Search capabilities
- Rules-based alerts
- Advanced reporting.

Core can cost-effectively track up to 100,000 items in a single facility and up to one million items in multi-facility environment. By using an existing wireless network and ECSG Core software to provide precise asset tracking, staff can locate equipment from any hospital computer or mobile device — in real time, from anywhere in the facility.

The Core Asset Status can instantly inform staff if equipment is available, in use, or not available. The Core software provides both map-based and list views of the status and location of items with an intuitive computer interface that enables personnel to search by equipment type, equipment state or equipment ID.



The Core solution provides a multitude of applications that can be selected and scaled according to each organisation's requirements.

Asset management

Core has a built-in asset management capability with integrated return on investment (ROI) reporting which makes it easy to measure the hard and soft-dollar savings delivered through increased efficiency and reduced search times.

The Inventory Search functions enable users to search for items several ways, including:

- **Inventory Search Grid grouped by type** — users can look up the item location and movement tracking records.
- **Inventory Search View grouped by location** – the Core Map View shows each asset grouped by type on a facility map. Clicking on an icon reveals item data and tracking information.
- **Detailed information on each item** – the Core software includes 90 fields of information about each unique item it manages, including barcode IDs, RFID, RTLS and Universal IDs. It can store OEM information such as item image, serial number, make, model, version, description and other information. The system also holds descriptions and other information about every location in the facility where items can be moved.
- **Searching by status** – the system provides searchable information about the status of items, such as available, in-use, being serviced.
- **Asset movement history** – the Core solution holds the history of an asset's path or movement for at least 12 months. This information is displayed and available for export.
- **Asset search capabilities** – the easy to use search feature enables users to search all data fields in the Inventory, Item and Location tables, similar to a Google search.
- **Location menu** – the system holds information about every location in the facility and is organised to include maps of rooms, departments, floors and facilities. Search parameters include asset type, asset ownership, location, status, and more.

Patient and staff tracking

ECSG Core integrates with 802.11 Wi-Fi based RTLS B4 and W4 tags to track staff and patients in real time. UHF RFID wrist bands as well as RTLS tags can also be used with Core to track patients and staff.

Mobile duress alarm/emergency communications

ECSG Core integrates with 802.11 Wi-Fi based RTLS badge tags to provide mobile duress alarms to improve staff safety. Badge tags have a safety switch to activate the mobile duress alarm and can send and receive pre-programmed text messages to and from the ECSG Core system.

Prevention of patient wandering and elopement

Using RTLS and RFID tags, Core initiates theft, wandering and elopement alerts. This is achieved by setting zones within a facility and creating alerts when a tagged person or asset goes beyond the zone boundary.

Medication and pharmaceutical tracking

High-value drugs, live cultures, as well as toxic waste, can be tracked using Core to prevent loss and theft.

Inventory and stock take

ECSG Core software provides an easy to use interactive drop-down menu to perform mobile stock takes as well as inventory counts.

Linen and bulk item tracking

Using low-cost RFID tags, ECSG Core provides full enterprise visibility to identify and locate linen and other bulk items.

Core delivers a range of benefits including:

- Improved staff and patient safety
- Enhanced productivity and patient care
- More efficient asset management
- Prevention of loss and theft
- Reduced data gathering and analysis costs
- Lower operating costs
- Higher return on investment.

Improved staff and patient safety

Using a Wi-Fi based duress system provides instant notification to nearby staff and hospital security departments. If patients leave supervised areas or enter prohibited areas, the RTLS Core system directly notifies staff to prevent dangerous or unauthorised activities. Patients or staff can call for immediate help by pressing the device alert button on an active RTLS tag. The Core software can be configured to respond to incidents with urgent alerts to specified staff to enable prompt assistance.

Enhanced productivity and patient care

The ability to manage and quickly locate assets reduces the time searching or waiting for equipment.

The Core solution:

- Eliminates time-consuming equipment searches and reduces paperwork associated with medical assets
- Enables staff to search for assets by type, location, status, department and other criteria
- Monitors the location and use of equipment to optimise deployment and improve care. This ensures that enough equipment is available to meet needs throughout the facility and across campuses.

Monitoring patient treatment sequences and administrative processes can reduce patient waiting times and equipment shortages. By uncovering delays, nursing administrators and staff can restructure processes to minimise waiting and improve patient experiences.

Medical staff can manage competing priorities and tasks during a shift, and routine tasks can be electronically prioritised and scheduled as needed.

Active RTLS tags with call buttons for patients and staff minimise the time lost in providing patient service and summoning assistance in an emergency. Task information can be sent to caregivers with active tags, so they do not need to return to a central location. By using these tags, patients can be queued effectively to reduce waiting times. Additionally, providing patient-specific messages to the tags prevents missed opportunities and enables patients carrying tags to move around while waiting.

More efficient use of assets resulting in lower capital investment costs

By identifying equipment usage patterns, and by ensuring that items are used efficiently, administrators can reduce short-term rentals of equipment to meet needs. They can also determine if equipment is in use, misplaced or unused.

Assets can be found quickly by logging into the Core software suite to locate a specific item. The system can also be used to determine specific assets based on their role as well as other parameters. Up to 90 fields of specific information about each asset, including a photo image, can be included in the system.

By comparing item use and down time, administrators can assess needs and determine whether additional equipment is required. Linking this information to maintenance records enables confident assessment of equipment utilisation. This information can be used to ensure that adequate stocks are maintained and surplus inventory is disposed of or distributed to other units if needed.



Spoilage, loss and theft prevention

With the Core software, combined RFID and RTLS technologies can be used to prevent spoilage, loss and theft.

Critical storage and refrigeration of drugs, blood and other materials can be monitored for temperature and humidity. Sensing tags can be used to produce alerts when temperatures reach unsafe levels, and data from tags can be saved to show compliance with standards.

Core makes it easy to prevent loss and theft by monitoring all types of equipment and assets – from expensive surgical devices to laundry items.

For example:

- Alerts are triggered when equipment is removed from specific geo-fenced areas.
- High-value drugs are monitored with low-cost RFID tags on packaging.
- Inexpensive laundry-specific RFID tags are used to prevent loss of linen items.

Lower costs and less time spent on data gathering and analysis

Utilising large amounts of data gathered by systems may require specialised storage and data mining technologies. However, the Core software provides in-house data analysis, resulting in:

- Increased usability of data
- Ease of integration
- Insightful reports with minimal cost and effort.

The Core RFID and RTLS software suite reduces costly staff effort in gathering data from hand-held barcode scanners and manually updating the information stored.

Core Web Module

Provides a web interface to the Core data stored on the local Core servers, for staff on the go to quickly search for and locate an item. This application can be activated with an additional software licensing option.

Core Workstation Module

Installed on a PC, the Core client application can be configured to control access – from full administration control to lower-level user functions. The client workstation can also be configured for a remote off-site standalone unit. This provides the ability to edit, delete or change assets in the system and to create or alter rules sets.

Core Multi-Facility Module Viewer

This option, using Core Server Software, enables data aggregation and sharing from multiple sites, making it possible for tracking information to be securely distributed and synchronised across multiple healthcare facilities in both connected and disconnected networks. The Core Campus Viewer provides the option of seeing tracking information for a network of campuses simultaneously using a Core Intra-Campus server.

Core Reporting Module

This utility and workflow reporting option requires the Core Server software. This feature includes a number of key business performance reports, including utilisation and ROI reports.

Core Handheld Module

The Core Mobile software application integrated with the leading mobile handheld readers available in the market provides a broad range of asset tracking and asset inventory management functionalities using barcode and RFID technologies. For mobile handheld RFID readers, it includes an intuitive dropdown menu and a docking cradle to synchronise records with Core workstations. Mobile RFID handheld scanners receive system and parent table updates during the synchronisation process.

Core Fixed Reader Module

The Core Mobile software is integrated with the ECSG Core RFID Portal. The interface includes full monitoring and tracking functionality of any RFID tag with the use of the ECSG RFID Portal.

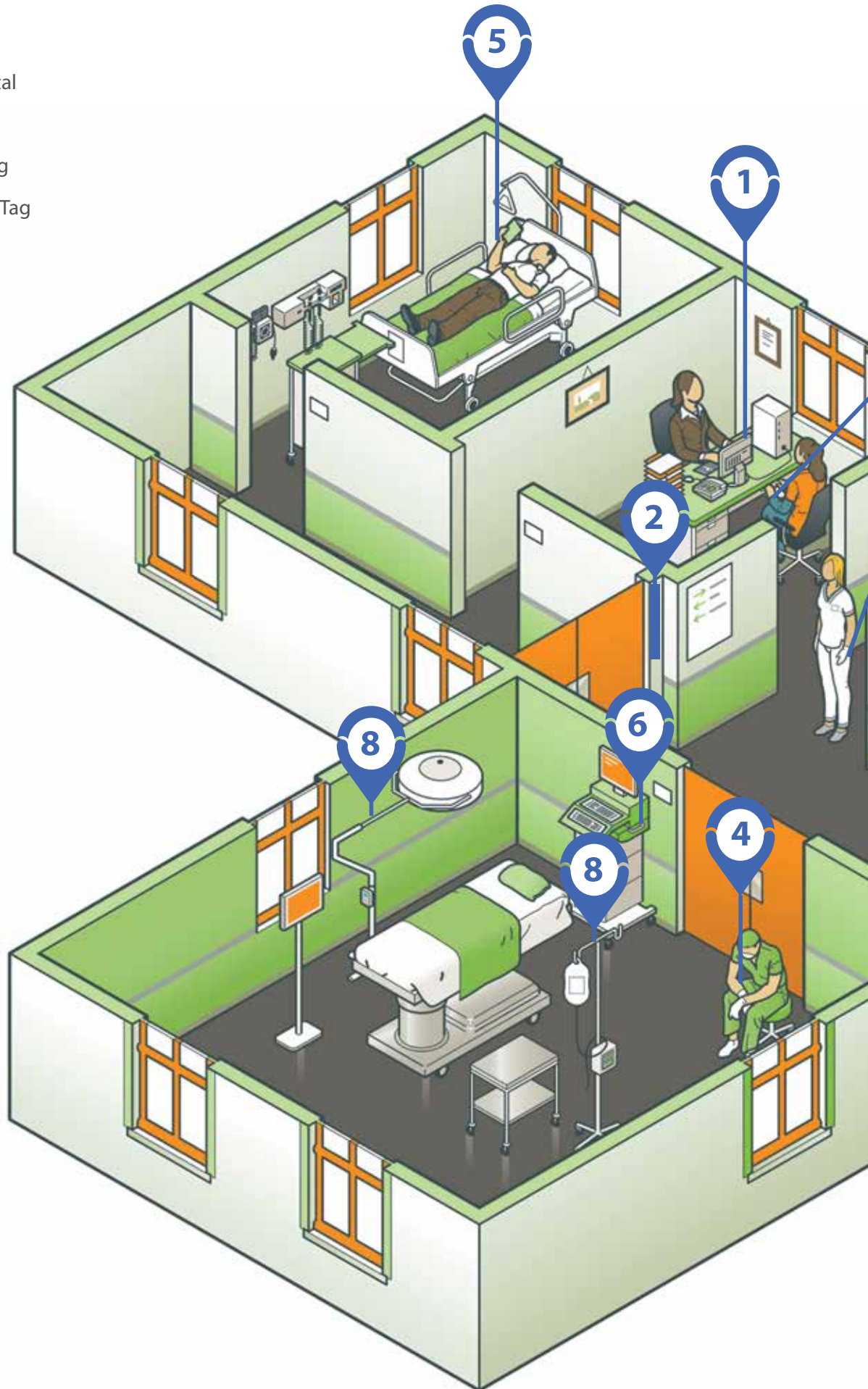
Barcode, RFID and RTLS Tags

The Core system is able to track any barcode, passive RFID and Wi-Fi based RTLS tags, which can be mounted on a broad range of materials and equipment. Each type of tag provides different benefits for its selected applications.



Sample Hospital Layout

1. ECSG Core Software
2. ECSG Core RFID Portal
3. Mobile RFID Reader
4. RTLS Staff Duress Tag
5. RTLS Patient Duress Tag
6. RTLS Asset tag
7. RFID Wrist Band
8. RFID Asset Tag





We would be glad to discuss your specific challenges and how we can create a solution to improve your healthcare organisation.

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Certification



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