



Smart Hospital Solutions

How can automated hospital storage solutions lead to improved patient care?

How automated storage solutions improve your hospital logistics



Ask any hospital manager their number one priority and they'll say patient care. From facilities staff to surgeons, management, nurses and everyone in between, the purpose of this huge, complex team is to treat and improve the lives of patients at their most vulnerable.

However, clinical staff are frequently diverted into administrative duties and away from the patient care only they can deliver, impacting negatively on patient care and wasting resources.

By taking a close look at your logistics for finding, fetching and delivering medical supplies and equipment, could you make more time for better patient care?

Time, space and money – the triple threat to effective patient care

As populations grow, hospitals are under increased pressure to treat a greater number of patients, often without additional resources. Our hospitals are dynamic hubs of activity and, to maintain standards, clinical staff require the correct equipment at the right time, so operations and ongoing patient care are run efficiently.

Time away from patient care

Increasingly, nurses and clinical staff are being distracted by administrative duties that stop them being able to focus on the important tasks of patient care, a role that only they are qualified to deliver.

Equipment and consumables such as bed linen, medication and surgical equipment is often held in stock rooms located in each ward. With inefficient filing systems, packaging taking up space, and localised stock-taking, nurses may find it difficult to find the equipment that they need, often making long trips to other wards to restock. Even with efficient porter systems, there may be long lead times for equipment and medication as porters navigate multiple floors and make return trips with empty cages.

With regulated or climate-sensitive drugs, ward-based stocking might not even be possible, adding even more time for staff to fetch the necessary medication.

Cluttered corridors

Nothing is quite as stressful for patients and staff as an overcrowded and cluttered ward. Frequently we see large pieces of equipment, such as monitors and beds, stored in corridors as there just isn't space elsewhere on the ward. This can also lead to confusion, unnecessary mistakes and additional waiting times for patients, as staff struggle to find equipment.

In just a few days, stock rooms can become cluttered without the enforcement of strict protocols for ordering and filing equipment. With ineffective stock controls, over or under stocking can quickly become a problem.

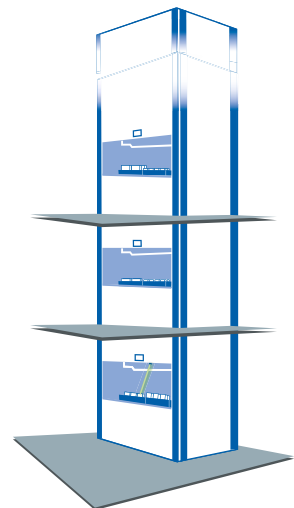
Valuable cash bound in stock

Running out of medication or equipment is not an option when it comes to effective patient care. With many different stock points across a hospital, overstocking is often an issue. While the goods may be available, valuable funds are tied up in this stock and accumulations of drugs and other goods may be left unused or unfound when other wards need them.

Automated and optimised storage driving patient care improvements

To become more efficient and to serve their stakeholders better, hospitals are embracing lean logistics practices. Facilities teams and hospital leaders are choosing automated and optimised storage solutions to improve stock management, saving time and space and reducing the cash tied up in inventory.

Providing one central storage and retrieval point, automated storage solutions are accessible to everyone and deliver inventory in a timely and secure fashion. Retrofitted to existing facilities or included in new build, storage systems are located in a central space, spanning multiple floors and providing access points on each level.



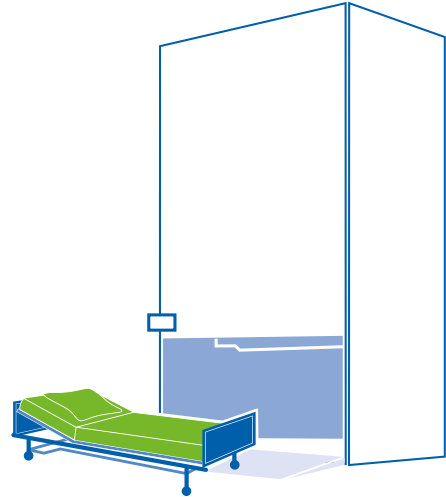
In at the basement and available on all levels

Typically, a vertical lift automated storage system receives goods in at the basement level. All external packaging is removed and the goods sorted into pre-defined and categorised trays. Inventory items are retrieved through access points on each floor, with staff only able to access items that are pre-programmed into their profile.

Systems typically work with a range of industry standard identification systems that enable users to select a required item. The automated system then selects the appropriate tray and presents it to the user through the access hatch.

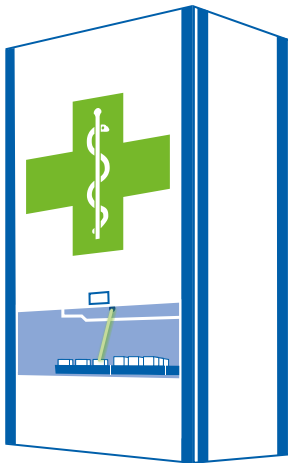
Optimised stock storage allows more beds

Hospital staff immediately notice the additional space provided by an automated storage system. Kardex Remstar's largest storage systems can reach heights of 38.5m and serve six floors with a footprint of just 15 square metres. The height of each stock item can be automatically measured so that space is optimised within the shelving. From miniature surgical devices to entire beds, all stock is categorised and carefully stored to make the most of the space. With space savings of up to 85% reported, hospitals can provide additional rooms and beds for patients



And, of course, corridors can be cleared of heavy and obstructive beds and equipment to create a less congested environment but with the peace of mind that items can be quickly and conveniently located.

Less stock, more control



By creating one centralised stock room, inventory can be managed more effectively and precisely. With advanced software such as Kardex Remstar's Power Pick Global Warehouse Management system, stock levels are automatically adjusted as soon as an inventory item is removed.

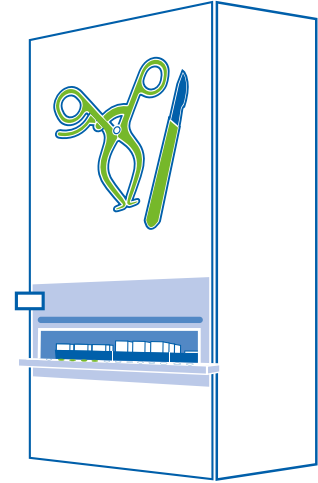
Inventory levels can be dramatically reduced as all supplies are held in one place. Close monitoring of inventory leads to a reduction in waste, as small quantities can be held and reordered automatically when needed. Crucially, software can be integrated with enterprise resource planning (ERP) systems for a single view of all stock and extended resources. In turn, this leads to less capital being bound in inventory and more controlled spend on equipment and medicine.

Each user has their own password-protected account. Only authorised personnel can access restricted medication and with Kardex Remstar's personalisation settings, trays can even be presented at the optimum height for each operator, ensuring a comfortable and safe working environment.

More time for patients

By accessing one central stock from any floor, the amount of time spent moving goods up and down and around corridors is greatly reduced. Clients have experienced nurses cutting administration time by 75%, valuable time that can now be spent on patient care.

From perishable medication and sensitive equipment to linens and larger items, staff can access whatever they need, when they need it.



Straight to the cleanroom

With stainless steel construction and dust protection, automatic storage systems can be specified to cleanroom standards. But where safety and hygiene are concerned this isn't always enough. Systems can now be developed with advanced climate control. Humidity can be reduced to as low as five per cent for dry items and raw materials. Temperature regulation is also achievable on Kardex Remstar systems to within a range of +60 to -25 °C providing protection for perishable items.

Smart inventory management sets the standard in Sweden



Karlstad Central Hospital in Sweden embarked on a large-scale building project in 2010 to extend its facilities. The extension would increase hospital capacity to accommodate 600 beds and serve 350,000 patients a year, growing the footprint of the hospital to 147,000 m².

Karlstad Central Hospital Facilities team approached Kardex Remstar to design and build a vertical lift module to provide inventory storage and management for the entire hospital.

Two key issues prompted the hospital management to consider an automated storage solution. A huge amount of capital was tied up in inventory, impacting on cashflow and limiting funds for other areas of the hospital. But finance wasn't the only issue - clinical staff were also caught up in time-consuming manual tasks running the wards. Nurses were spending a staggering four hours per shift picking and distributing items such as gloves, injections and linens. As a result, patients weren't receiving as much quality care time.

Delivering speed through the Shuttle

Kardex Remstar recommended a Kardex Shuttle XP 500 system. At 25m high, spanning all five floors and with an access point at every level, the system was designed as the central hub for the building.

The vertical lift system contains 125 trays with stainless steel dividers and 10 different location sizes, offering a flexible and hygienic storage solution. All authorised staff have access to the automated storage solution through handheld devices, picking and scanning stock with a 'pick to light' system.

The Kardex Remstar proprietary Power Pick Global Management Software feeds into the existing hospital IT software, providing real-time stock inventory. Stock is only ordered when needed and the capital tied up in stock has reduced by 90%.

But the biggest impact for staff has been in manual picking and distributing tasks. Nurses now only spend one hour per shift managing stock items, providing an extra three hours per nurse, per shift for patient care.

The same amount of stock is now available in 10% of the footprint, freeing up space for clinical staff to care for another 4-5 patients per floor.

To learn more on how Kardex Remstar Automated Storage and Retrieval Systems can save your hospital time, money and space, contact our dedicated healthcare team now [kardex-remstar.com/contactus](https://www.kardex-remstar.com/contactus).