

Automation

L-A-C's Automation Revolution: Delivering Warehouse Efficiency

At a time when warehouses across the UK are tasked with holding more inventory due to challenging supply chains and an unprecedented rise in e-commerce operations, it's little wonder that the need for storage capacity optimisation remains at the top of the agenda. With space at such a premium, warehouse operators are increasingly looking at automated solutions to manage their complex processes to remain competitive, agile and efficient.

One of the key factors affecting operational efficiency is the swift deployment of storage put-away, and retrieval. Coupled with the need for enhanced storage density, the integration of cutting-edge automated technologies stands out as the smart investment to manage these processes.

Technologies such as Automated Storage and Retrieval Systems (ASRS) provide a significant opportunity to transform warehouse operations, offering innovative solutions that enhance storage capacities and operational efficiency within warehouses.

These highly sophisticated systems have become instrumental in driving increased efficiency and productivity, providing a welcome solution to overcome key challenges of space constraints and streamlined inventory management, as well as meeting the escalating demands of today's e-commerce market.

L-A-C has a long history in designing and installing automated warehouse storage systems and is proud to partner with HUBMASTER,

to provide innovative ASRS technology to the warehouse industry.

HUBMASTER specialises in providing space optimising stacker crane storage automation solutions designed to increase storage density and accelerate operations across storage, put-away, and retrieval. Their highly flexible ASRS systems can be suspended from above the building or existing racks, thus reducing its installation footprint.

With many different operational configurations available, the versatile systems can be integrated across numerous industry sectors including food and beverage. At a customer's wine and spirits storage facility, HUBMASTER has been integral to improving the overall picking and distribution process through the installation of an automatic storage and retrieval system managing 11,000 pallets.

Typically, this industry requires significant storage capacity due to the volume and wide range of products. The customer was struggling with a lack of storage space and inefficient use of their existing warehouse. Additionally, the use of manual labour for the picking process was both costly and impacting order processing efficiency.

To overcome these challenges, a new system was installed consisting of three wide span HUBMASTER automatic multi-aisle stacker cranes, which run along rails supported from the building itself, and each serve five aisles.

The cranes are extremely agile and capable of moving at high speed along the aisles to both store and retrieve pallets from the racking system. Once



outside the aisle, the cranes travel at a slower speed, controlled by integrated sensors, to avoid any potential collisions with either personnel, product or infrastructure.

Just as effective for the automotive sector, a customer was looking for an automated solution capable of the storage and retrieval of small, delicate thermoformed moulds. This would reduce the risk of accidents and potential damage to the moulds currently experienced through manual handling, as well as enhance the speed of the overall picking process. Equally important to the customer was enhancing the density for product storage to free up valuable floor space needed for other production processes.

The HUBMASTER stack crane was fully integrated with their racking

system and managed using their HMWare® Warehouse Control System software, providing real-time control and monitoring of their inventory. Overall, the solution has fully automated their processes, improved efficiency and reduced labour costs, allowing their established workforce to be dedicated to additional value-added tasks.

Technology such as the HUBMASTER ASRS systems offer a flexible, efficient and cost-effective solution to today's warehousing optimisation challenges. Contact the L-A-C team today to find out how automated solutions can support and enhance your operations.

Contact us on sales@lacgroup.co.uk or by telephone on 01159 753 300.



Opinion

The growing benefits of high-density warehouse storage

Rising wages, rental and energy costs are creating a need for higher-density storage systems in distribution centres. Manufacturers, distributors and retailers want to get the most out of their available floor space. A continuing rise in demand for consumer goods, particularly pharmaceuticals, food & beverages, and textiles has pushed up costs and highlighted a need for more efficient storage systems.

How does high-density storage work?

High-density storage means storing the largest quantity of products in the smallest space minimising storage costs. It requires using the right type of storage and racking systems, optimising vertical space, and reducing aisle space. Many options for storage media depend on the type of stock to be handled and the required throughput and access required. The ideal solution is a combination of racking system types.

The advantages of high-density warehouse storage

- more efficient inventory management and accessibility.
- better productivity - faster picking and packing.
- lower operational costs - staff and utilities.
- enclosed storage media reduces damages and lost items.

- improved safety and security.
- increased customer satisfaction.

The different types of racking solutions

A warehouse racking system is a storage solution designed to stack materials in rows with multiple levels. The design of racking will vary depending on the type of goods it is intended to store. Some racking solutions are better suited to perishable goods such as food or medicine, whereas others are better suited to longer-term storage of bulky items like building materials.

The most common types of racking systems are:

- **Selective Racking.** Inexpensive with a wide selection of sizes. Double-deep options increase storage density allowing two pallets to be stored back-to-back.
- **Pallet Flow racking.** High-density storage that uses a combination of elevated rails and dynamic components such as gravity rollers, conveyors, etc. Using this system can double or triple your storage capacity.
- **Case or carton-flow racking.** Consists of shelves equipped with rollers or wheels that allow cases or cartons of products to flow forward as they are picked.
- **Drive-in racks.** Offer maximum density storage of products by

allowing products to be stored in multiple positions deep, cutting down aisle space.

- **Push-back racking.** This high-density storage option is like drive-in racking but can store pallets up to five deep. The system is commonly used in food and cold storage applications.
- **Narrow Aisle Racking.** Emulates the characteristics of selective racking offering, better access to every pallet. The warehouse storage racks set up high-density storage by making better use of the floor area and roof height.

Trends in high-density warehousing

- 1. Using vertical space**
Vertical solutions address the increased demand for efficient space. Businesses are optimising their warehouse storage by using taller racks, mezzanines, and automated vertical lifts. Multilevel warehousing, utilising mezzanine floors is another solution
- 2. Automation and Robotics**
Automated storage and retrieval systems (AS/RS) improve efficiency, accuracy, and speed in managing inventory. Autonomous mobile robots (AMRs) and robotic arms are extensively used for picking, packing, and sorting.
- 3. Warehouse Management Systems (WMS)**



A WMS provides data-driven decision-making and technological support for modern warehouses. Cloud-based WMS solutions offer scalability, flexibility, and real-time visibility across multiple locations.

4. Flexibility and Scalability
The expansion of e-commerce and changing customer demands in the B2B environment means warehouses need to be flexible and scalable. Modular storage systems and adjustable racking solutions allow for easy reconfiguration and expansion as needed.

5. Sustainability
Businesses are continuing to adopt eco-friendly practices to reduce energy consumption, minimise waste, and lower carbon emissions. Advances in software solutions

provide the opportunity to enhance overall productivity, help minimise human error and reduce labour costs.

Implementing high-density storage solutions is an excellent way to maximise limited warehouse space. Selecting the right warehouse storage solution can be a confusing and exhausting task due to the wide variety of systems available in the market.

Our team of experienced warehouse consultants can recommend the best solutions for your needs in terms of warehouse space optimisation. Book a consultation with our expert consultants at +44(0)1926 430 883 or email your enquiry at info@sccgltd.com.