Honeywell Intelligrated

Transform Order Picking and Inventory Replenishment With Automation

You can achieve high-density storage in space-constrained omnichannel fulfillment and distribution center (DC) environments by investing in automated storage and retrieval systems (AS/RS).

The Business Case for AS/RS

DC operators invest in automation, including shuttles and/or AS/RS, for a variety of reasons, but chronic shortages of reliable labor top them all. Businesses look to automation as solutions for these challenges[1]:



55% Labor shortages



40% E-commerce fulfillment



38% Outdated storage, picking or material handling equipment



21% Omnichannel fulfillment

Challenges You Can Address With AS/RS

Integrate AS/RS with advanced warehouse execution software (WES) to address the growing challenges of retailers and manufacturers.

Rapid Growth in Order Volume and Velocity



Without automation, more human pickers are needed to keep up with increases in SKU quantities, creating congestion that slows order picking.

Popularity of E-commerce



Retailers and groceries need to improve speed and efficiency of click-and-collect services by implementing micro-fulfillment systems that can relieve pressures on in-store inventory and staffing.

High-value and Highly Regulated Products



Accuracy rises to the top of the priority list when picking expensive SKUs and items required to be tightly controlled, e.g., medical devices, pharmaceuticals and alcoholic beverages.

Need to Expand Capacity



Winning budget approval to build DCs is difficult, so a viable alternative is maximizing vertical space in existing DCs with more racking hardware and pick modules and systems to manage them.

Optimize DC Processes

The flexibility of AS/RS makes it possible to integrate automated systems with a variety of picking technologies, including goods-to-people (GTP) and goods-to-robot (GTR):



GTP fulfillment

Combines shuttles with conveyor systems and lights or voice picking to reduce human walk times and improve efficiency



Mixed-load, full-case and break-pack fulfillment

Manage inventory to support advanced processes that meet customers' ever-changing orders



Inventory management

Responds to better inventory control while minimizing loss



Product sequencing and buffering

Deliver the right products and quantities



Route-based sequencing

Optimizes truck load patterns for faster, more efficient deliveries

Plot Your Growth Path

DC operators have multiple options to scale AS/RS in order to meet future demands:



Add aisles or levels and GTP stations to make full use of the floor space and height inside the DC cube.



Convert GTP stations to GTR. Robotic pickers can increase throughput, and utilizing them to expand an existing DC can optimize an equipment investment.



Upgrade DC software and racking and conveyance hardware to make better use of existing square footage and avoid DC expansion or new construction.

1. Roberto Michel, "2018 Warehouse/Distribution Center Survey: Labor crunch driving automation," Logistics Management, November 5, 2018, https://www.logisticsmgmt.com/article/2018_warehouse_distribution_center_survey_labor_crunch_driving_automation (accessed October 24, 2019).