Benchmark Briefing

Scaling Success with ASRS

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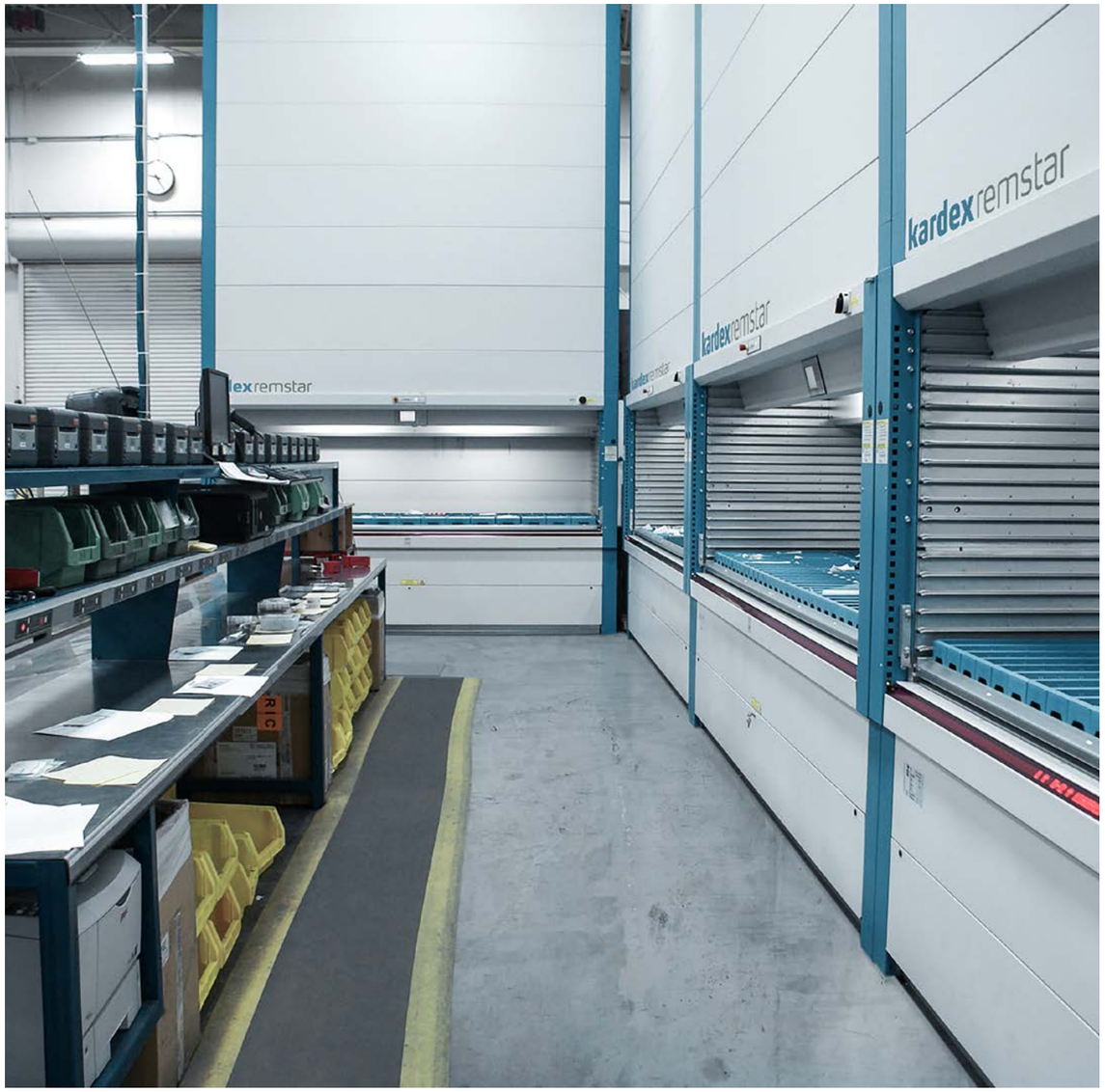

Batch picking strategy increases throughput

Faster picking and less labor required with batch picking strategy

Körber is the world's leading supplier of manufacturing technology for the international tobacco industry. At the operations facility in Richmond, VA Körber specialists completely dismantle and remanufacture machines using state of the art technology with verified, overhauled and new OEM quality components providing customers tried and tested machines that are once again as good as new.

At the center of the remanufacturing operations, the stockroom uses eight Vertical Lift Modules Kardex Shuttle with Kardex Power Pick System inventory management software to manage over $21 million dollars in parts inventory.

Case at a glance

Site
Richmond, VA, USA

Application
Order fulfillment & distribution of spare parts

Equipment
Eight Kardex Shuttles with Kardex Power Pick System inventory management software

Increased throughput by 75%

Reduced labor by 47%

Saved 65% floor space

Making space

When management needed to reduce the footprint of Richmond's remanufacturing operations to make room for other revenue generating actives, the stockroom was faced with a 60% reduction in floor space. "We couldn't reduce our quantity of parts on hand without slowing down manufacturing, we had to find more space," said Austin Williams, Stockroom Manager at Körber.

A scalable solution

Körber initially installed a complete order fulfillment solution in 2013 including five Kardex Shuttles with Kardex Power Pick System inventory management software integrated with SAP, an 18-position batch station, light directed pick/put technology and label printers. "We needed a complete solution start to finish; from the initial cube analysis and equipment installation to providing a logical parts slotting plan and physical parts loading through long term support – and that's what we got," said Williams.

After the initial project's resounding success and the growth that it helped facilitate, Körber scaled their solution to include a two more VLMs in 2014 and one additional VLM in 2023, bring their total stockroom count to eight.

- Eight Kardex Shuttles
- Kardex Power Pick System inventory management software
- 18-position batch station

Automation – benefits and processes

Faster picking with less labor

While order volume and SKU count has remained the same, Körber is picking 75% faster with 47% less labor. With an average of 628 picks and 278 puts a day, Körber performs over 223,000 transactions per year. “We are absolutely picking orders faster with the Kardex Shuttle technology- we’re easily picking the same number of orders in a quarter of the time,” said Williams..

Space savings exceeded

The original stockroom occupied 9,069 sq ft of floor space. The new Kardex Shuttle stockroom and bulk area occupies 3,180 sq ft, allowing Körber to free up 5,889 sq ft of floor space. “We were required to reduce the stockroom footprint by 60%, and we exceed the requirement by reducing our footprint by 65%,” said Williams.

Easy to maintain accuracy

“Our accuracy has gone from 97% to 99%, but it requires a lot less effort to maintain it now,” said Williams. Previously, multiple orders were sorted from one box of picked parts and while they achieved accuracy, it was a manual and very time-consuming process.

When receiving a part into the stockroom, the manual system would require a cycle count of that part within 24 hours to ensure the put location was correct. This was redundant, but necessary to maintain accuracy in the previous system. “With pick-to-light technology directing replenishment and the Kardex Power Pick System inventory management software consistently cycle counting, our 99% accuracy rate is easy to achieve,” said Williams.

Putting it all together

The stockroom manages over 29,500 SKUs. The Kardex Shuttle area manages 28,000 SKUs while the bulk overflow area holds 1,500 SKUs. The stockroom fulfills two types of orders, sales orders for shipment to an end user and manufacturing orders for delivery to a manufacturing production cell. All orders are entered into SAP and downloaded into the Kardex Power Pick System inventory management software for fulfillment by the stockroom.

From the group of orders ready for fulfillment the Kardex Shuttle operator creates a batch of orders in the Kardex Power Pick System software. Up to 18 orders can be fulfilled at one time. Each position on the batch station is assigned a tote, for a sales order or for a manufacturing order. Each tote represents an order.

With the click of the button the operator starts the picking and the eight Kardex Shuttles move to retrieve the parts required to fill the batch of orders. Each Kardex Shuttle is equipped with pick-to-light technology to direct the operator to the exact location within the tray to pick from while displaying the quantity and part number to be picked. The operator picks the quantity as indicated by the pick light and pushes the confirmation bar located underneath the access point.

With the parts in hand, the operator turns to the batch station to distribute the parts among the orders. A label printer and a “put” light are located above each tote. The printer prints an identification label for the operator to adhere directly to the part or bag and tag the part. The put light indicates how many of the parts to place into the tote.

The operator continues to pick parts required from the Kardex Shuttles as directed by the pick lights and places them into the totes as directed by the batch station put lights. Once the parts required for each order have been fulfilled, the batch of orders is done and can be sent either to shipping for shipment to the customer or to kitting for delivery to the manufacturing floor.

If an order requires parts from the bulk area a paper pick ticket is generated and sent to the bulk picking area. The worker picks the parts required and delivers them to shipping or kitting to be matched with the parts from the Kardex Shuttle area to complete the order. The Kardex Shuttle area picks 99% of the parts required.

Scaling the solution to match growth

The initial project was justified and approved based on space and labor savings. Higher picking throughput, lower labor costs, increased order accuracy and the impressive space savings Körber was able to achieve helped grow their business even further. After several years of working with the initial five Kardex Shuttles, Körber's management team made the decision to scale their automation solution to match the newfound growth and installed an additional two VLMs.
Over a decade later, they double down and added yet another VLM to grow their automation solution with their needs.

These three additional VLMs allowed Körber to store an additional a significant amount of additional SKUs in the Kardex Shuttle stockroom while only marginally increasing the footprint. "If we were to try to add the same amount of SKUs with standard rack and shelving, we wouldn't have enough room. The only way we could expand are inventory in a cost effective way was to add more Kardex Shuttles, and it's something I could see us doing in the future if we continue to need it." said Williams.

"We reached our initial return on investment in 12 months, and have already started planning on more Kardex Shuttles in the future."

Austin Williams, Stockroom Manager at Körber