

Success Story

All World Machinery

ASRS wins over the warehouse



ALL WORLD



kardex



World-class space savings, efficiency, and accuracy

All World Machinery solves space challenge with ASRS

All World Machinery is an international machinery component distributor known for their high quality machine tool parts and expertly crafted custom machine accessories. Their 112,000 sq ft headquarters in Roscoe, IL serves as a distribution center, service, and assembly facility. As a one-stop shop for almost every type of machinery component you can think of, All World carries small parts such as bearings, sensors, switches, and valves to larger components such as pumps and motors, hydraulic units, and oil chillers.

With such a diverse inventory, it's no surprise that All World's continual growth pushed their available floorspace to the limit. To solve this space challenge, All World Machinery installed four Vertical Lift Module Kardex Shuttles with Kardex Power Pick System, reducing storage floorspace by 75%, increasing picking efficiency of small parts by 400%, and improving order accuracy to 99.8%.

Case at a glance

Site

All World Machinery, Roscoe, IL, USA

Application

Automated storage solution for machinery component distribution

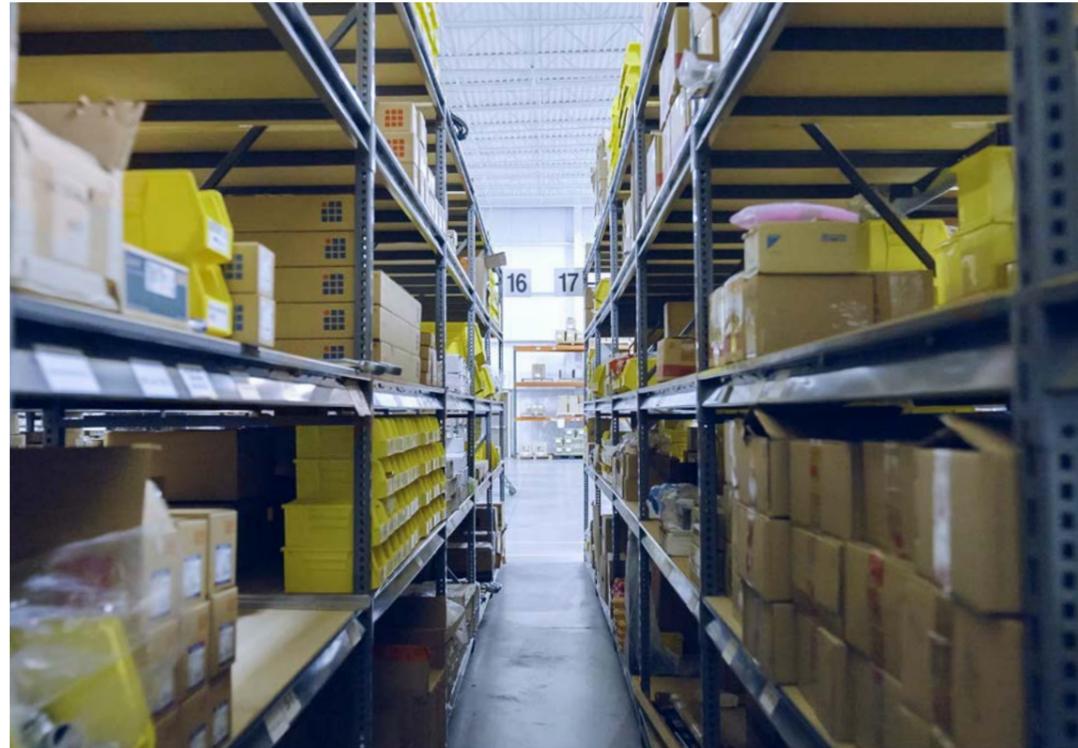
Equipment

4 Vertical Lift Module Kardex Shuttles with Kardex Power Pick System

Reduced
storage floor
space by 75%

Increased
small parts
picking efficiency
by 400%

Improved
picking accuracy
to 99.8%



Committing to automation

Prior to their automation solution, All World's storage zones consisted entirely of static shelving. There was high bay shelving for large items and pallets, and standard shelving for small parts. To solve their space challenge, All World transitioned from traditional static shelving to an automated storage solution from Kardex Remstar initially comprised of three Vertical Lift Module (VLM) Kardex Shuttles. They doubled down on their commitment to automation by adding another VLM a year later to further increase their storage capacity, and a conveyor system to effortlessly transport inventory through their warehouse.

Koepp commented, "We simply would not have had the space for our current conveyor system without the space freed up by the VLMs. We have centered the entire warehouse around the VLM zone because the majority of what we're doing happens in that zone."

It feels like a small world after all

All World has grown steadily since its founding in 1993, and their inventory counts have grown with them. This led them down a path familiar to many successful distribution businesses – a path that inevitably ends in a lack of floor space. Kyle Koepp, Director of Logistics at All World, said, "When we moved into this space in 2015, it was big and new, but we soon outgrew it. A good problem, but still something to resolve."

As the new Director of Logistics, Koepp immediately realized the pressing need to solve All World's space problem. "When I took over the role, we were simply out of warehouse space. I looked at lots of different possible solutions, mainly different shelving, and mezzanine options, but also other ASRS. Nothing seemed to fit or make sense enough to justify the project. Then I found the vertical lift module and with the density and capacity it provided I knew it was the right technology for us," said Koepp.



4 Vertical Lift Module Kardex Shuttles



Kardex Power Pick System



Pick-to-light Display

Winning the warehouse over

All World's push for automation was met with some initial hesitation from the warehouse crew. They were used to the old manual shelving and order process, had concerns that the VLMs would be too complicated or end up causing unnecessary work, or as a worst case scenario might even replace the workers themselves.

"When I first told my distribution team that we were getting VLMs, not one of them was on board because they didn't understand the solution. Once they saw how easy it was and how parts could be retrieved with the simple push of a button, they got on board with the project fast," said Koepp.

Now the team is really seeing the benefits. Their travel times to pick items are much lower and they're not bending over or reaching up to pick items – reducing injury risk and making their jobs less physically demanding. Not only that, their team's overall efficiency has increased dramatically because of the VLMs. The best part? Not a single employee was out of a job. Because less people are required to perform the bulk of All World's daily picks, more team members are free to handle other tasks around the warehouse. It's truly a situation in which everyone wins.

"When I took over the role, we were simply out of warehouse space. I looked at lots of different possible solutions [...], Nothing seemed to fit or make sense enough to justify the project. Then I found the Kardex Vertical Lift Module and with the density and capacity it provided I knew it was the right technology for us."

Kyle Koepp, Director of Logistics at All World

From super cramped to super clean

While they still have high bay shelving for infrequently picked large items and pallets, All World has been able to reduce the amount of floorspace required for their small parts storage by 75%. With this extra available space, All World installed their conveyor system, further increasing the operational efficiency of their distribution team.

"We were able to take out three-fourths of the shelving units – all of that inventory is now managed in the Kardex VLMs. Since we've been able to open up that space, we've put in a conveyor system – it's awesome - super efficient, super clean. We are loving it," said Koepp.

Throughput through the roof

Before automating, there needed to be a minimum of four workers walking thousands of yards daily, up and down rows of static shelving to keep up with order volume for small parts. "The amount of steps required to pick an order and bring it to packing was just crazy. The VLMs have completely eliminated all of that unnecessary walking," said Koepp.

Now, a single worker is able to provide enough picking throughput to completely cover what used to take four, resulting in an approximate 400% increase in overall picking efficiency for 66% of their most-picked small parts. The remaining three workers are now freed up to take care of other tasks around the warehouse.

Inventory accuracy improvements

Prior to their automation solution, All World struggled with the usual suspects when it came to inventory management in distribution centers with large and varied SKU counts. As space became less and less available, their inventory tracking system was pushed to the limits. Now, with their automation solution, All World has achieved an astoundingly high 99.8% order accuracy rate.

Koepp put it best when he said, "Items would often end up in random places when there was no space on the shelf. One of the biggest perks of the VLMs is the Kardex Power Pick System, which provides a history list showing where each part has been and where it currently is. This system makes inventory control fool-proof. Parts are scanned and directed to their exact location, greatly improving our accuracy."

How the (All) World works

All World transitioned from an entirely manual picking and replenishment process to a highly automated batch picking system leveraging ASRS and conveyor to increase efficiency.

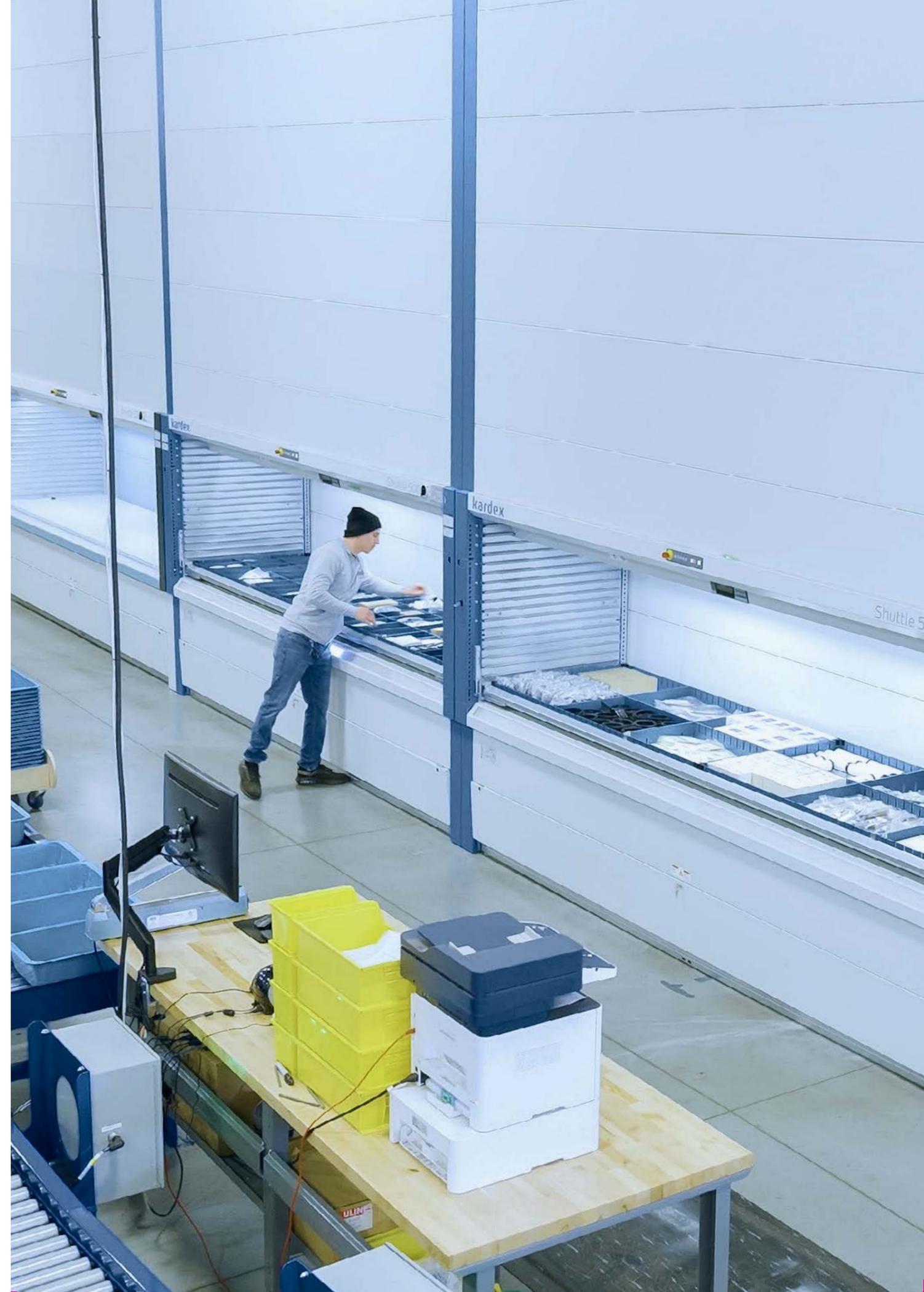
The warehouse is divided into three storage zones. The first zone is high bay shelving around the distribution center's exterior, storing large parts that don't fit on shelves or in the VLMs. These large parts represent only 3% of the total SKUs but occupy 77% of the warehouse's available floorspace. The VLM zone, centrally located and about 2,000 sq ft (10% of the storage space), stores all small parts, comprising 66% of the total SKUs and accounting for the majority of daily picks. The third zone is traditional shelving for unique or special small parts not yet integrated into the VLMs, occupying 13% of storage space and 31% of SKUs.

All World handles two types of orders: customer parts orders (81%) and assembly orders (19%). Customer parts orders come through online ordering or direct contact with customer service, while assembly orders are for internal use by the Assembly team. The picking process is the same for both, differing only in the post-picking phase.

All World employs a batch picking process. Every ten minutes, a printer near the VLM zone prints a set of pick tickets. A worker collects these tickets, waiting for 12 tickets to form a complete batch. The process begins in the VLM zone, where the worker scans the tickets and places each in a tote to create the batch.

Each ticket represents an order and is assigned to a specific order tote. The Kardex Power Pick System software prompts the VLMs to work simultaneously, delivering the required parts. The worker picks the parts from the VLMs and places them in the correct totes at the batching station, guided by pick-to-light displays on the VLMs and put-to-light displays at the batch station. This process continues until all parts for the batch are picked and placed in the order totes. The worker confirms completion with a button push, and the order totes move onto the conveyor.

If additional parts from other zones are needed, workers manually push a cart to pick the necessary items. Once all parts are picked, customer orders proceed to the manifest area for final distribution, while assembly orders go to the new builds area of the warehouse for assembly and subsequent shipping to the customer.





From bedroom beginnings to global powerhouse

All World Machinery has come a long way from its humble beginnings in the back bedroom of an Illinois home in 1993. They've grown into an international powerhouse providing high-quality machinery components and top-notch service for businesses around the world. Their commitment to innovation and efficiency through automation has positioned them as a leader in the industry, capable of meeting the demands of their diverse customer base with the speed and accuracy they've come to be known for.

This transformation underscores their dedication to providing exceptional service and quality, ensuring their continued growth and success for many years to come.