

Benchmark Briefing

Automating for the Future with ASRS





Scaling for growth

Implementing ASRS boosts throughput to match rapid growth.

Van Meter is a 100% employee-owned electrical parts distributor that has been committed to providing unparalleled customer service and superior electrical products to Iowa's contractor, commercial, OEM, systems integrators, and energy markets since 1928.

Operating out of Cedar Rapids, Iowa, their 300,000 sq. ft. Central Distribution Center (CDC) acts as the primary hub for picking and packing orders for their 12 satellite locations across Iowa and Nebraska as well as servicing over-the-counter customers and deliveries to local markets.

With 18 Vertical Lift Modules from Kardex Remstar, Van Meter has increased their picking throughput by 25%, reduced labor costs by 21%, and raised accuracy to 99.99%.

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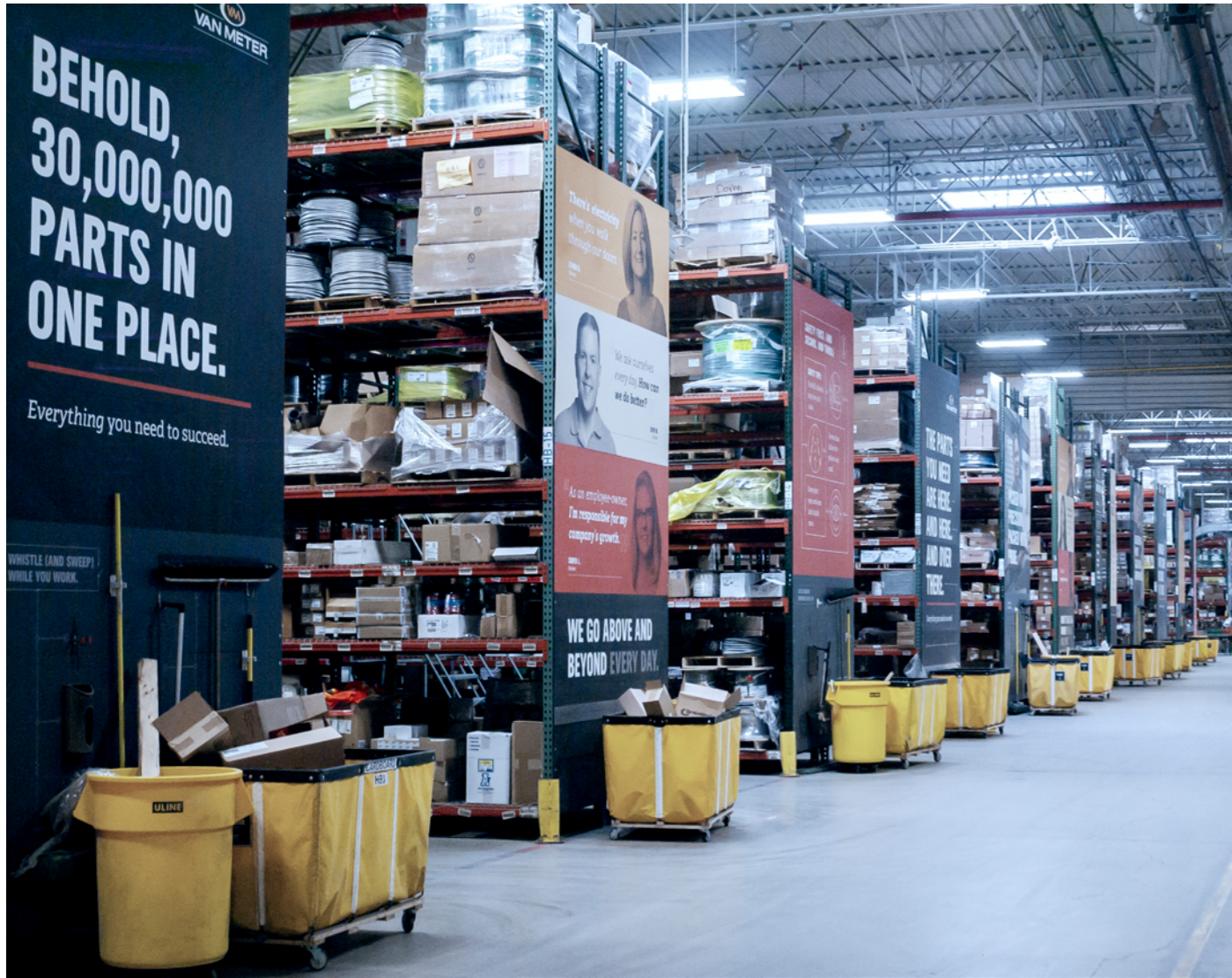
Raised
order accuracy
to 99.99%

Case at a glance

Site
Van Meter, Cedar Rapids, IA, USA

Application
Automated storage and order fulfillment solution for fast-moving electrical parts

Equipment
Eighteen Vertical Lift Module Kardex Shuttles with Kardex Power Pick System



Growing pains

Van Meter has grown rapidly in the past decade, with their lines picked per year increasing by 20% and peaking at over 1.08 million. Previously, Van Meter was filling orders from high bay racking (with forklifts and pallet-picking), and grey shelving (with workers hand picking products). As orders increased, the time spent walking and searching to fill orders grew, creating an inefficient process.

This growth quickly outpaced their existing space – inventory became more difficult to manage, storage space was limited, and orders became harder to process. Continued growth depended on a solution which better utilized existing space and increased order picking efficiency and accuracy.

Building for the future

As part of a larger warehouse automation project, Van Meter rerouted orders via conveyor into new picking zones featuring 18 Vertical Lift Modules from Kardex Remstar. The Kardex Shuttles are arranged into 4 work zones each integrated with pick-to-light technology and Kardex Power Pick System software to enable batch picking within each zone.

Kevin Foht, Director of Operations, commented, “Space is the very first thing that comes to mind when you think about vertical storage, and the ability to utilize the full height of the facility. There are a lot of things that go into a decision about a solution like this, but the very first thing was space and planning for our future.”

Prior to implementing Kardex’s automated storage solution Van Meter used a mix of grey shelving and high-bay racking zones. After implementing the solution from Kardex, Van Meter was able to save 36 bays worth of high bay space and reduce travel distance for their associates.



18 Kardex Shuttles organized into 4 Picking zones holding 2,400 SKUs



Kardex Power Pick System



Dual tray extraction

Raising throughput to match

With the addition of the VLM zones, Van Meter has increased their throughput by 25% - from 3,600 lines per day to 4,500 lines per day.

On average, Van Meter's high bay zones pick at a rate of 20 lines per hour. Their grey shelving zones pick at a rate of 50 lines per hour. Kardex zones average 65 lines per hour, with peaks as high as 100 lines per hour. Moving 2,400 SKUs from grey zone shelving into Kardex Shuttles increased pick speed by 30%+ for those items.

"When designing the system, we looked at what items we were picking the most, the receive quantity, and which items were physically suitable for totes," said Foht, "We've slotted our fastest moving, highest volume products into the Kardex zones. Only 10% of our inventory is in our VLMs, but that inventory accounts for 34% of our picks every single day."



Increasing accuracy

Prior to implementing their warehouse automation overhaul, Van Meter boasted an impressive 99.89% order accuracy rate. Despite the high starting point, after their new conveyor and VLMs were installed they saw a 0.06% increase for a total of 99.95% order accuracy warehouse-wide. While it may not seem like a large percent increase, when applied to a 1,000,000 lines per year central distribution center it's nearly 600 less errors per year, almost two less errors per day.

Not only did they see an overall increase in order accuracy – saving them money and securing their world class reputation for customer service – they were able to raise order accuracy specifically in the Kardex zones to 99.99%.

Doing more with less

Directly after the automation project, the 18 Kardex Shuttles were divided into six zones with one worker picking from three machines per zone. Foht said, "Initially we saw efficiency going from shelving to six Kardex zones, but we didn't know how efficient those zones would actually be. We eventually realized there was some downtime and were able to rearrange the existing 18 Kardex Shuttles into four Kardex zones within the Kardex Power Pick System. We are now managing picking and put away for the 18 machines with only four people, one in each zone. Phasing in these machines and reducing the total people in zones meant higher throughput, higher lines per hour, and less downtime."

After the warehouse automation project, the warehouse fulfillment team consists of only 19 workers, saving 21% on labor costs associated with order picking, all while increasing throughput.

Automating the process

As part of a larger warehouse automation project, Van Meter now routes order totes via conveyor through 9 zones in their warehouse, including 4 new zones with 18 Vertical Lift Modules (VLMs).

The process begins with orders dropping into an ERP system and displaying on an induction screen. A worker assigns each order on the screen to an order tote using a scanner and places the tote on a central conveyor that will carry it through the entire picking process. First, the totes pass through the grey shelving zones. Workers walk up and down aisles to pick items and fill totes as directed by RF devices. Once all grey zone parts are picked, the tote travels to the VLM zones.

Once there, the order totes kick off the central conveyor line into the correct VLM zone. A worker uses the Kardex Power Pick System to scan incoming order totes into a batch. Once the batch of orders is created, software directs the VLMs to deliver the SKU directly to the worker at the access window.

When the SKU is delivered, the worker references the pick-to-light display on the VLM to see both the location of the SKU on the tray and the quantity they need to pick to fill the batch of orders. After picking the correct quantity of the SKU from the Kardex Shuttle, the worker turns to the batch of totes and follows the put-to-light display on the conveyor to distribute the items among the totes in the batch.

As they distribute the correct amount of SKUs in the right totes, they push a confirmation button located beside each put light. While the worker is distributing SKUs, the VLM retrieves the next SKU required in the batch so there is no wait time. When an order tote has all of the items it requires, the put light will signal "done" and the worker will push it onto the central conveyor. From there, the order tote goes to the high bay zone for further fulfillment or is routed to shipping if the order is complete.



Putting it all together

Van Meter's transformation from a small Iowan electrical distributor carving a name for themselves in a post-depression economy, to a 100% employee-owned company known around the region for their exceptional customer service is nothing short of inspiring.

In the face of rapid growth and rising order counts, Van Meter invested in automation solutions to solve their current issues and create an order fulfillment process built with the future in mind. Through automation, they were able to double their throughput, reduce on labor cost by 21%, and improve their already impressive customer service by increasing order accuracy to 99.99%.

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Kevin Foht, Director of Operations