

VELOCITY VIDEO CASE HISTORY

A DC VELOCITY SPEED CHALLENGE

Auto-mated parts delivery

An automated storage and retrieval system at Midwest Express provides efficient, sequenced delivery of parts to Ohio automotive manufacturing plants.

AUTOMOTIVE COMPANIES THAT MANUFACTURE using just-in-time processes depend on their parts arriving when scheduled and ready for production. Any delays can cause significant problems that can ripple throughout the entire plant.

That's why most automotive companies rely on third-party providers (3PLs) to receive, store, and sequence parts for delivery directly to lineside assembly operations. Such is the role of

Midwest Express, a 3PL that serves an automotive manufacturer in Ohio.

Midwest Express has a 213,000-square-foot distribution center in East Liberty, Ohio, that receives parts from suppliers all over the world and then feeds them to four assembly plants and two drive-train facilities. It also ships a limited number of parts to other assembly plants overseas.

"We do import parts, export parts, and sequencing of parts directly lineside for our customer," explains Stephen Sparks, assistant manager of engineering at Midwest Express. "We also do a little bit of subassembly and tire and wheel assembly as well."

To meet its client obligations, Midwest Express installed a Muratec FX Quad automated storage and retrieval system (AS/RS) in East Liberty to house and sequence parts. The three-aisle system is served by three storage and retrieval cranes, each capable of handling a mix of four cartons or totes at the same time. The parts are stored in double-deep locations, where they remain anywhere from one hour to two weeks, with an average dwell time of seven to 10 days. When needed, they are delivered in sequence to output stations, where they are palletized and then delivered to the production plants.

SQUEEZED ON TWO FRONTS

In making the move to its automated systems, Midwest Express was driven by a pair of critical factors that were limiting the productivity the company desired with its manual picking.

"We struggle with space and manpower in this building. Those were the two main drivers," says Sparks. "With a low level of unemployment in our area, there's not a whole lot of manpower and work force out

there. As well as in the logistics industry, space is always at a premium."

Midwest Express reached out to DMW&H, a warehouse consulting and systems integration company, to find a solution to these key concerns. Midwest Express had worked with DMW&H previously on another project and had confidence in its solutions. After exploring a number of options, the Muratec FX Quad AS/RS was selected.

"We were impressed that it has the ability to handle a variety of cartons, meet our throughput needs, and store double-deep. Other companies were not able to meet that," says Sparks.

DMW&H provided design and integration expertise on the project, as well as supplied conveyors, controls, and scanning systems.

The FX Quad system provides fast retrieval of parts, with the capability of handling 450 cases in and 450 cases out per hour (900 total moves hourly). That substantial volume from a system containing only three aisles is achieved through the quad-handling capabilities of each storage and retrieval crane. The system also continuously re-slots products in the storage positions, making

certain that faster-moving products and those needed for upcoming orders are placed closer to the input/output stations to reduce crane travel distance and time.

The results of the move to automation have been impressive. The AS/RS stores parts in 18,000 locations, yet occupies a footprint of only 10,600 square feet. In replacing the previous manual picking areas, the new system freed up 35,000 square feet of space in the building for other operations. On the labor front, the new systems use 23 fewer workers than were required with manual picking. Those workers have been reassigned to other duties in the building.

Inventory is also controlled better, as there is real-time knowledge of every one of the more than 2,000 different part SKUs held in the system. Processing accuracy is nearly perfect at better than 99.9 percent.

"We are very satisfied with it," adds Sparks. "Productivity has been good, and we have had no showstoppers since go-live. It's doing its job."

For more information on Muratec, visit www.muratec-usa.com. For information on DMW&H, visit www.dmwandh.com.



To see a video of operations at the Midwest Express facility, including the AS/RS in action, go to dcvtv.com and click on the Midwest Express video on Channel 2.