



Express Lanes

How Seegrid Robots Navigate at Giant Eagle



Joe Hurley

Sr. VP of Distribution and Logistics



Giant Eagle, one of the nation's largest privately held multi-format food and fuel retailers, had to address how to handle inbound pallets beyond the manned hi-lift industrial vehicles used to putaway the product. Between twenty and thirty percent of inbound freight is now handled by three Seegrid GP8 double robotic pallet trucks at Giant Eagle's OK Grocery retail support center in Crafton, Pennsylvania. Giant Eagle also deployed four GP8 double robotic pallet trucks at its ASF retail support center in Cleveland, Ohio.

Giant Eagle uses driverless robotic pallet trucks to "streak" (moving pallets from one area to another) inbound delivered pallets to a drop zone via WMS (Warehouse Management System). Currently the robots are used for inbound delivered pallets. The company is evaluating opportunities to use the same process for outbound deliveries.

Just as shoppers use the express lane to get in and out of the supermarket as efficiently as possible, Giant Eagle uses an efficient, simple solution incorporating WMS integration with Seegrid robots. The VMU (Vehicle Mount Unit) along with a bar-

code scanner are mounted on the backrest of the robots. All inbound pallets are staged along the dock based on different product type. As soon as a robot operator scans each barcode on two double stacked pallets, the VMU screen displays the drop location of the pallets. The operator then enters the start, drop, and end location into the HMI (Human Machine Interface) on the robot. The robot then travels on its route and drops off the pallets.

As soon as the pallets are dropped off by the robot, forks are in the down position; the barcode scanner scans the barcode placed directly in front of the scanner on the mast. The hi-lift operator gets a notification on their scanner with instructions for a new task in their job queue. The new task is based on priority rules set by Giant Eagle. The hi-lift operator completes the putaway process by placing the pallets into the racking.

How Robots Improve Operations

Giant Eagle moves pallets from the receiving dock to an area closer to the reserve location. This practice improves operations





by shifting wasted travel on the hi-lifts to the reserve and back to the dock. Giant Eagle recognizes time savings along with the ability to haul more product each trip, thus clearing the dock faster—improving operations.

“Our Seegrid pallet jacks enable us to minimize travel within our operations,” said Joe Hurley, Sr. VP of Supply Chain and Logistics for Giant Eagle. “The robot is able to take pallets directly from the pickup point on the receiving dock to an end-of-aisle drop point without requiring an operator of a hi-lift. We’ve increased productivity with our replenishment hi-lifts in aisles, because operators now have more products to move in shorter distances. So we’ve actually increased productivity.”

Robots Create an Efficient Supply Chain

Giant Eagle is always looking for ways to make its supply chain more efficient. Seegrid robotic industrial trucks provide an option to remove wasted travel hours. Basic calculations were used to measure the distance that a hi-lift would have traveled if hauling product using the Seegrid robots. Comparing total time

per mission (trip) before and after incorporating Seegrid robots revealed significant savings in travel hours. Time saved with Seegrid robots removed costs from the supply chain.

Hurley noted, “Incorporating the Seegrid robots in the retail support center operation has allowed us to improve dock-to-stock speed and productivity. By providing a predefined route between pickup and drop locations, it creates a fixed time and space between product/aisle, selector, and robot. The predefined route and volumes bring considerable consistency to our operations. From an efficiency standpoint, we have reduced manned travel from putaway by 20-30% and increased hi-lift pallet per hour by 20%. The cost effectiveness that the new system incorporates has allowed us to remain successful in an extremely competitive environment and bring value to our end customers.”

Giant Eagle measures non-value-added work in labor savings. Seegrid robots allowed Giant Eagle to reallocate some Team Members to greater value-added activities. Though there are less putaway operators hauling product from the dock,

these valued Team Members are reallocated to jobs like replenishment and selection.

Giant Eagle is a lean operation, driven to improve current conditions, open to exploring alternative methods and new opportunities utilizing robots. Reducing non-value-added work, and removing pallets faster from a busy receiving dock, demonstrably improved the total number of pallets moved, as well as the percentage of total pallets moved per shift.

Giant Eagle enjoys the flexibility, ease of use, and safety provided from Seegrid robots. “They are simple to train and flexible because operators can easily retrain segments of the routes. The Human Machine Interface is extremely user friendly,” added Hurley.

Daily Route Changes Answered With Robotic Flexibility

Flexibility is a huge benefit the robots deliver because drop zones, route changes, and slotting configuration for inbound product change daily. Giant Eagle needed driverless pallet trucks that required zero facility modifications and allowed for routes to be modified quickly based upon business needs.

Manned forklifts that perform long haul travel are less proficient and less lean compared to robotic trucks because they require an operator who is paid on an hourly basis to perform non-value-added travel. When robotic industrial trucks do the work of manned forklifts, forklift operators are reassigned to

other job functions that are greatly needed and help increase productivity.

Operations have continually improved since the robots were introduced, though embracing the technology took time. Initially, Giant Eagle Team Members kept their distance from the machines; now they are a part of the flow and Team Members work with and around the machines as if they were any other piece of equipment.

Seegrid has developed a close partnership with Giant Eagle, allowing both teams to collectively work on operational goals while implementing new ideas and thought processes.

Giant Eagle’s goal was to create a safer work environment for the Team Members by allowing them to stay within a particular warehouse section, thus minimizing the number of times they get on and off the equipment. “Seegrid robotic trucks have integrated well into the safety culture. There have been zero safety incidents in the three years’ operating the robots,” reported Hurley.

Express Lanes have become a staple in supermarkets—a convenient, faster, effective and efficient way to complete the shopping experience for customers with little time to waste. Now behind the scenes in the retail support centers where the products are stored, management also recognized the benefits of the express lane concept: moving product with a convenient, effective, efficient and faster solution—Seegrid robots.

Driverless Robotic Pallet Truck

