PACTIV

World's Largest Food Packaging Provider Deploys AMRs for Improved Efficiency of Material Transfer, Production Capability, and Safety.

HEARTLAND AUTOMATION

Overview

Pactiv, with over 50 global manufacturing sites, is the world's largest producer and distributor of plastic food packaging and foodservice products. Their continual drive to create versatile and innovative packaging products by utilizing the latest in automation technology has ensured their position at the top spot, and they currently supply every major foodservice retailer and distributor in North America. Heartland Automation, located in Georgetown, Kentucky, has a long history of working with Fortune 500 companies to deliver fully integrated material handling solutions.

Over the last two years Heartland Automation has worked closely with Pactiv across 6 North American manufacturing sites in providing an enterprise wide, fully integrated Tugger and Pallet Stacker solution. As a result, Pactiv now has a rapidly scalable palletizing and pallet movement solution that ensures the fastest transfer times, eliminates human error, and improves overall manufacturing throughput efficiency. They can move inbound products more readily, with greater efficiency, and minimized risk to operators and increased machine safety.

The Challenge

Michael Kramer, Automation Project Engineer at Pactiv, noticed that the manually driven forklift trucks presented several inefficiencies, as well as safety risks, in nearly all of Pactiv's sites in North America.

Firstly, inbound pallets from the many palletizing locations, as well as inbound receiving and manufacturing work cells, were not being picked and placed in an efficient manner, resulting in up to 20,000 hours of downtime per year, half of which was due to lack of availability of skilled personnel, insufficient experience of some team members, or a combination of the two. Secondly, there was a need to improve efficiency in the facilities and maximize production time by automating the process of delivering pallets from the many palletizing locations to two different stretch wrappers. Although the main driver was to reduce and optimize manual labor for pallet movement, there was also a growing concern around safety of personnel and hardware assets. The wellbeing of their workforce is of paramount importance to Pactiv.

Michael engaged with 3 well known suppliers, one of which was Heartland Automation, to provide a fully automated and integrated guided vehicle solution that could be potentially rolled out across all Pactiv sites globally.
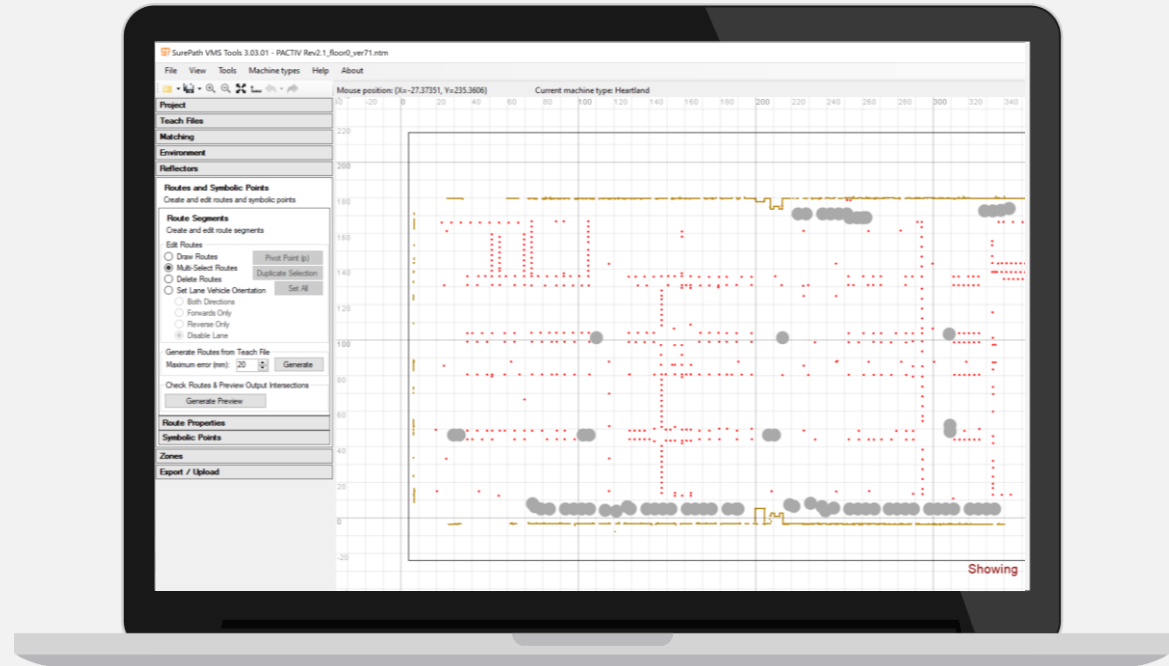
The Solution

Heartland Automation is a premier automation solution provider specializing in AMR deployments. Heartland Automation is also the premier integrator and distributor of the Max N10 Series Autonomous Mobile Robot (AMR) from AutoGuide a modular, feature rich, material transportation system with a variety of hardware configurations that include, Tuggers, Pallet Stackers, Pallet Jacks, and High Bay Lifts, among others. The US built solution from Heartland Automation has a short lead time, and 24/7-tiered support program, providing a world class Return on Investment (ROI).
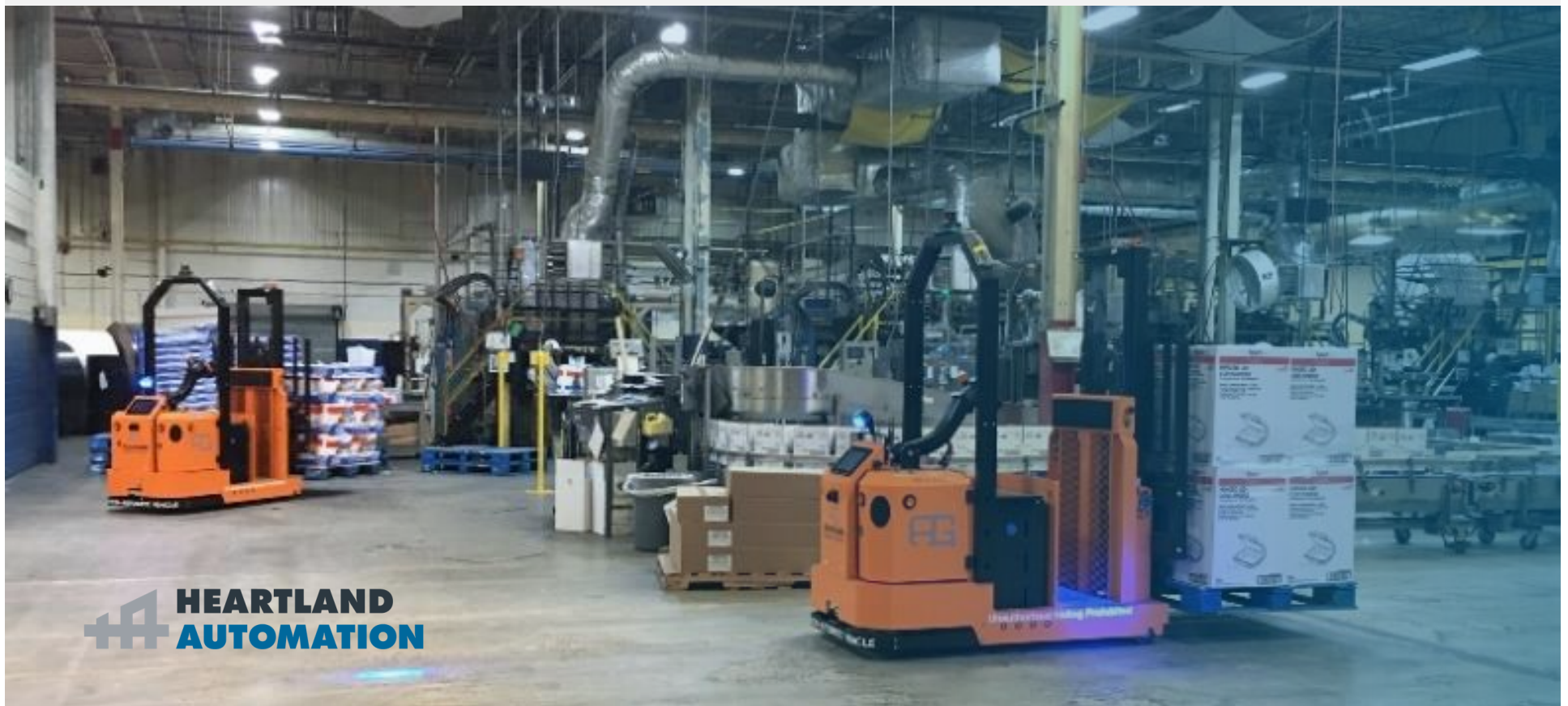
The Solution

The proposed AMR solution has an infrastructure-free installation and uses natural feature guidance that recognizes and adapts to surrounding conditions, ensuring that no assets or personnel are at risk. Heartland Automation provides custom material transfer solutions using the AMRs by integrating with Enterprise Applications, Cobots, factory side PLC integration, Safety Light Curtains, Conveyors, and other custom attachments. This ensures the solution delivered by Heartland Automation provides seamless operation across work cells and use cases in both the warehouse and manufacturing floor.

The Enterprise Scale fleet manager software, SurePath, ensures a cohesive material transfer solution across different AMRs within the same facility while providing a top down integration architecture for mission, job, traffic, and fleet management. This architecture and technology stack ensures the solution delivered is the most cost and time efficient, leveraging the shortest path.

Another key benefit and competitive advantage are the ability to charge the AMRs in situ, during loading/unloading sequences, and natural resting times, maximizing utilization. The charging is achieved by using floor mounted charging plates that can be easily installed in multiple locations. This is unlike any other AMR technology in the market which requires the AMRs to be off-line whilst charging.

The Results

By having fully autonomous, networked vehicles, managed by SurePath, and with a direct connection to the factory Warehouse Management System (WMS), Heartland Automation was able to reduce the overall pallet loading and transfer times by 33% when compared to existing manual operation. Heartland Automation is working with Pactiv to add additional business rules and automation capability to reduce these transfer times to 50%. Furthermore, due to the increased operational efficiencies that reduce waiting times and eliminate human error, downtime is reduced by half at nearly 10,000 hours per year. The solution, that was better than any of the competitors, provided a massive improvement in safety of personnel and assets, particularly on the busy manufacturing floor.

"The single biggest reason for the success of the project was due to the unique technology offered, the natural feature guidance system, and the honesty, integrity, and trustworthiness of the Heartland Automation team", said Michael Kramer. "They may be a smaller company compared to the competition, but their attention to detail and close collaboration with Pactiv is what made the project a success."

Heartland Automation's Solution Architect on the project, Adam Henkel stated "Heartland Automation's AMR solutions are the only ones that are completely modular and allow for configuration of Tuggers and Pallet Stackers using the same software interface."

The success of the project will lead to a global rollout of the solution across many of Pactiv's 50 sites, which will all be led by Heartland Automation.

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