

# Manufacturing Facility with New Onsite Distribution Center Deploys MAX-N Tuggers to Optimize Long-haul Towing

## THE CHALLENGE

A global manufacturer of outdoor power tools planned to streamline operations by building an onsite distribution center. Finished goods once transported a mere 100 feet from end-of-line to shipping would now need to move more than three quarters of a mile for warehousing. The team estimated they would need to triple the size of their forklift fleet and hire several new operators. An autonomous tugging solution would eliminate the need for additional forklifts and headcount, and even enable after-hours material transport.

Traditional AGVs were ruled out because of the high volume of magnetic infrastructure that would be required across facilities. The team needed a solution that could deploy quickly—as soon as the new warehouse was complete—and adapt to frequent route changes prompted by dynamic production schedules.

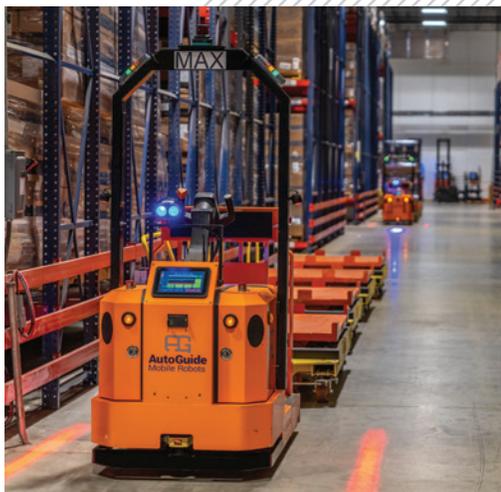
## THE AUTOGUIDE SOLUTION

High-capacity AutoGuide MAX-N Tuggers, each carrying a four-trailer train, were chosen to automate time-consuming tows and minimize trips. Each trip with a MAX-N Tugger transports up to 8 pallets—and 10,000 pounds—of finished goods. Total miles traveled each day is 30-40, compared to the 200+ miles required for manual forklifts to transport the same payload 1,000 pounds at a time.

Between the manufacturing and warehouse areas, MAX-N Tuggers safely travel up and down a connecting corridor with a 4% grade. For every trip, SurePath fleet control software identifies the most efficient route to the warehouse racks.

In the warehouse, MAX-N Tuggers park on in-mission charging pads while manual forklift operators unload finished goods. This enables continuous uptime and eliminates the need to monitor battery life.

Adding value to the deployment, AutoGuide recommended an additional task for the AMRs: on-demand delivery of raw materials to lineside team members. This workflow is supported by an interface



**Autonomous solutions can be rolled out in phases. AutoGuide recommends automation of long-haul tugging for facilities seeking a high-value initial AMR deployment. Using autonomous solutions to complete time-consuming, repetitive tasks frees employees for more strategic work.**

## Results

- One MAX-N Tugger run moves more product than 8+ forklift trips
- Decreased drive time for manual forklift operators, who stay productive in specific work cells
- The team expanded routes to add more drop-off locations and raw materials pick-up points
- LiDAR vision guidance allows low-light operation, supporting warehouse energy conservation efforts
- Multiple onboard safety sensors prevent MAX-N Tuggers from getting too close to manual forklifts or foot traffic
- High utilization rate for AMRs. On track for two-year ROI.

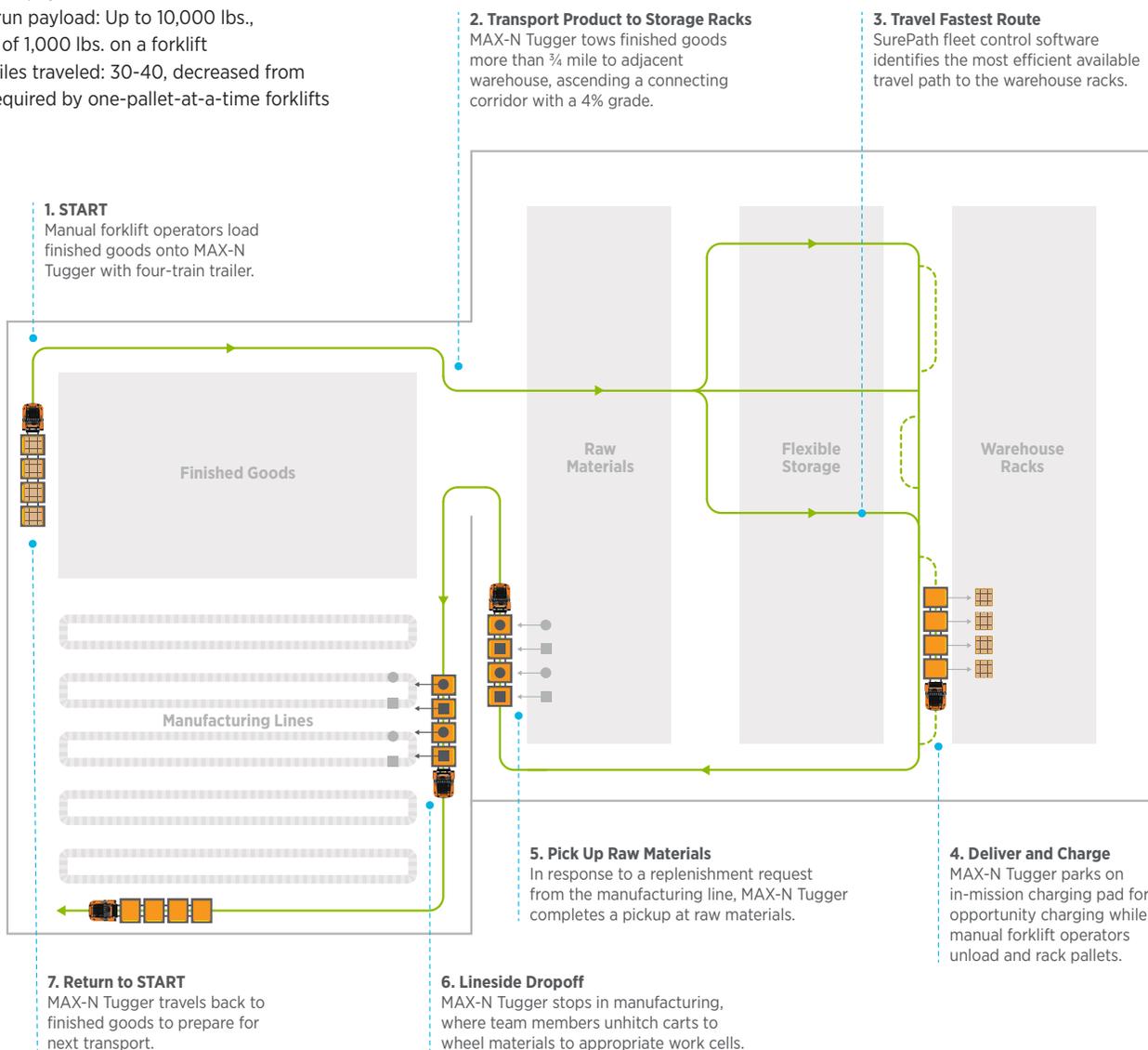
with internet-based TCP/IP call buttons throughout the facility and custom trailers that feature built-in carts so team members can wheel raw materials from end-of-aisle delivery zones to the work cell.

It took two people approximately two weeks to deploy the AutoGuide solution, including mapping the entire environment, teaching the AMRs all the routes, and optimizing the system. When routes are reconfigured in response to production changes, there's no need to reattach the entire facility, just the areas added or changed. The team has added two more MAX-N Tuggers to the fleet and the flexible AutoGuide system is always ready to scale quickly.

## THE DEPLOYMENT

### 800,000 Square Foot Area

- Daily total payload: Over 200,000 lbs.
- Single-run payload: Up to 10,000 lbs., instead of 1,000 lbs. on a forklift
- Daily miles traveled: 30-40, decreased from 200+ required by one-pallet-at-a-time forklifts



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