



**From Beta to Network  
Rollout: **PRECISION AND  
REPEATABILITY** at 20+  
Active Warehouses**

## THE PROJECT

→ A leading warehouse automation company launched a program integrating two separate robotics systems into a single process that automates the handoff between package stacking and loading at 20+ warehouse facilities. This program introduced robotic arm workcells to stack outbound packages, and AMRs to move the loaded pallets to staging areas.

With no prior layout standard established, installation teams relied on ad hoc tape-measuring and bulky templates. Engineers determined these manual methods lacked the repeatability, precision, and scalability needed to deploy across constrained, active warehouse environments within tight timeframes.

The company partnered with Rugged to develop a repeatable process that could deliver consistent results across every deployment.

WAREHOUSE LEADER

### Project:

CONFIDENTIAL  
WAREHOUSE AUTOMATION

### Use Case:

SHIPPING DOCK  
AUTOMATION

### Size:

20+ OPERATIONAL  
WAREHOUSES

## KEY BENEFITS OF RUGGED'S AUTOMATED LAYOUT

### NO PHYSICAL TEMPLATES

Eliminated the need to manufacture, ship or maintain bulky templates through design changes.

### FASTER EXECUTION

Cut deployment timelines from weeks to days, via close coordination with site team to start layout immediately after each decommissioning phase.

### ZERO DOWNTIME

Full-service approach scaled across 20+ projects in a single year—peaking at 8 simultaneous sites—without disrupting live warehouse operations.

## THE CHALLENGE

➔ **With no established practice for laying out the intersections of robotic arm workcells, AMRs, and auxiliary features like maintenance areas and charging stations, the company needed to assess its options.**

Their standard approach of surveying a fraction of points and filling in with templates couldn't deliver across fragmented equipment areas with misaligned reference points. Teams would need to measure every marker individually with a total station, causing exponential delays across 20+ sites—especially in constricted, working warehouse environments.

The company explored manufactured templates as an alternative but faced supply chain and scalability challenges across that many deployments.

Multiple install teams needed clear, consistent instruction beyond numbered groundpoints to help them get it right the first time; tight timelines between major holidays and sales events left little room for error and rework.

**“Rugged’s robots were only part of the value—they brought a full-scale, collaborative boots-on-the-ground approach that helped the project move faster and safer.”**

## THE SOLUTION

➔ Rugged embedded with the program team from beta sites forward, working hand-in-hand to develop layout standards optimized for flawless installation. This included running test prints at early development sites and iterating through multiple hardware packages to refine the approach.

Custom prints included new symbols for different equipment footers, utility drops, and robotic features. The program required larger-format fiducial prints, which were developed and refined by aligning with installation teams at the AMR development facility.

At each deployment, Rugged's seasoned operators used the Mark1 robot without lengthy setup or line-of-sight requirements. This flexibility allowed them to place targets and adapt positioning through busy live warehouse activity, while coordinating closely with client site teams to follow the phased decommissioning of existing stations and keep layout and installation work moving without disrupting the schedule or existing operations.



QUAD  
POWER DROP  
AT:

## THE IMPACT



Rugged's white-glove approach delivered repeatable results site after site. The team established a schedule advantage in week one and maintained that pace across every deployment, keeping installation teams moving without delays.

Projects consistently finished **at least 20% faster** than initially scheduled—cutting weeks from the timeline at nearly every site.

The platform's ability to adapt in live facilities without operational disruption allowed the company to execute the aggressive rollout on schedule, while consistently establishing and maintaining a standard of precision across all 20+ deployments.

**AUTOMATE.**  
**ACCELERATE.**  
**DOMINATE.**



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modernize your layout  
processes.**

No more crawling around snapping lines  
—just pinpoint precision, detailed  
information, and expedited results.

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