Deploying Mobile Robotic Automation to Support a Distributed Logistics Network

tompkins robotics
Flexible. Simple. Powerful.

About Tompkins Robotics

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Tompkins Robotics is a global leader focused on the robotic automation of distribution and fulfillment operations. Our primary system, tSort, consists of autonomous mobile robots that sort a wide range of items and parcels to consolidation points for order fulfillment, store replenishment, returns, parcel distribution – virtually any process in the supply chain. tSort is a truly modular, scalable, and portable robotic sortation system that helps build world-class supply chains while providing unmatched flexibility and throughput. With three models, tSort; tSort Plus; tSort Mini; and two sortation methods, tilt trays and cross belts, Tompkins Robotics systems handle the broadest range of product on the market – as small as a penny to up to 40 inches long by 30 inches wide and weighing up to 120 pounds. Our systems work in small operations in the backroom of a grocery, supercenter or mall anchor store to large fulfillment centers processing millions of units a day. Our systems maximize performance, making our clients more agile, adaptable, profitable, and successful in today's dynamic marketplace.

We also have other proprietary solutions such as the xChange and tSort3D. xChange is a robotic sortation order removal and replacement system for orders and shipping systems. tSort3D is a new, very dense sortation system ideal for ecommerce and provides as much as 10 times the sort destinations and volume compared to competing solutions. We continue to expand the core systems with complementary robotics and integrated material handling systems to automate fulfillment operations.

The challenge was to find a cost-effective solution that improved safety and increased throughput in our NZ facility to support our growing store network and volume.

Justin Boyd- Kmart Head of Assets, DC Design and Automation

Growth & Impact

THE RESULTS

Tompkins Robotics' tSort solution was installed, tested, and commissioned utilizing mostly remote resources while during the Covid pandemic and has successfully supported the operation since its go-live in May 2021.

- **Supports the reduction in manual handling activities on site**
- **Increased throughput to meet store growth and volume**
- **Improved inventory accuracy**
- **Achieved more than 60% reduction in space over traditional solutions**
- **The start of installation to go-live was less than 5 months, with an operational ramp-up to full production in just a few weeks**
- **An improved financial outcome for the business**

MHI
THE INDUSTRY THAT MAKES SUPPLY CHAINS WORK®

Tompkins Robotics' Mobile Robots Deliver Big Benefits for Kmart Australia

The Challenge:

In the case of Wesfarmers retail division Kmart, the continued growth in their busines along with the desire to remain flexible withir their operation necessitated evaluating new technologies to pilot and implement in their New Zealand D&F hub. Kmart is a discount department store retailer that has more than 300 stores in Australia and New Zealand anc employs more than 31,000 staff.

With a network of D&F operations across Australia and New Zealand, supply chain leaders were looking for a cost-effective solution that could increase their facility throughput, reduce the labor gap, and provide modularity to be transferred between facilities as needed to accommodate varying demand in their distributed logistics network. The network delivers to high-volume stores with a wide product mix and unique product handling requirements for case, inner pack, and item sortation to meet the annual and seasonal demand of the Kmart store network.

The Solution:

Seeking a best-in-class automation solution and through a detailed RFP process, Kmart ultimately selected Tompkins Robotics' tSort system. The award-winning AMR solution optimizes fulfillment operations and provides a wealth of benefits for retail replenishment, including:

- **High throughput**: High volume rates in a modular fashion to allowed Kmart to scale the solution to fit the operation
- **Rapid deployment**: Less than half the time of traditional sortation systems. This allows for faster installation between peak seasons for minimal disruption to Kmart's operations.
- **Low capital investment**: Cost approximately half the cost of large tilt trays or crossbelt sorters and additional robots and assets can be installed as needed to grow a system. Buy what you need, as you need it which postpones capital investment and allows maximum utilization of all assets.
- **Scalable & Portable**: Fully modular, configurable, and portable. All elements and robots can be easily added, removed, or relocated at any time to meet changing demands and business requirements. Portable design enables "lift and shift" of systems to accommodate an evolving distribution network.
- **Wide range of capabilities & applications**: As a general merchandiser, Kmart has a wide range of products and varying packaging. tSort can process a wide variety of products and packages in many different environments and applications, including polybags, cartons, loose items, and many more product configurations.
- **Higher capacity in a smaller footprint**: tSort's multi-level design can process more than double the volume in less than 25% of the space of traditional sortation systems.

This tSort system and program was implemented remotely across multiple time zones including the USA, Australia, New Zealand, and India. This was achieved through the challenges of a global pandemic with strong collaboration and teamwork.

Sean Hewat- Kmart DC Future Proofing Manager