

## ROBOTICS ON THE RISE

By Anne Marie Soto, Retail Marketing Society



Technology is revolutionizing all aspects of the fashion business. In one of four enlightening sessions at the recent Techno Trends symposium, sponsored by the Retail Marketing Society and FIT Professional Studies, Mike Futch of Tompkins Robotics talked about how robotic technology is having a huge impact on the supply chain arena.

### Supply Chain Problems

Futch identified three key problem areas. The first is the high cost of labor and the scarcity of available workers. The second is higher demands for accuracy, speed and convenience — all things the customer wants. The third is the need for flexibility. In the order fulfillment area, one day can bring a spike in e-commerce orders, which is labor intensive, and the next day the focus is on store replenishment. And what happens if a company outgrows its space?

### Robotic Solutions

There are several types of automation and robotic solutions that can go into supply

chain facilities.

**Transport robots:** Also known as AGDs, these are robotic vehicles that drive a container, pallet, etc., from one part of a building to another.

**Pick and place robots:** These are becoming more popular, less expensive and more capable than they used to be.

**AMR (Autonomous Mobile Robots):** These robots perform tasks with a high degree of autonomy; they have the ability to move all or part of themselves throughout the operating environment without human assistance. Automated storage and retrieval systems fall into this category.

**Sortation robots:** These robots can pick up, recognize and sort objects.

Tompkins Robotics has developed a t-sort system that performs much like a tilt tray or cross belt sorter, using free moving, independent robots. This is the equivalent of having a tilt tray with no track, which allows each robot to travel independently along the shortest path to any divert or induction station. Robots, chutes and induction stations can be added modularly at any time with no downtime or interruption of the workflow. An additional robot can be added in seconds to increase capacity. These robots can handle round things, cylindrical things, shoes, footwear, apparel, general merchandise, a gallon jug of motor oil and more. The whole system is assembled like snap-together Lego blocks. If the system needs to be rapidly deployed, it can be moved in an hour, 50 feet from its original location, and put back together.

Innovative automation systems in the supply chain's fulfillment centers means goods can be received automatically, stored automatically and brought out to the pick and place robot. This robot puts it on top of the sortation robot, which sorts it out, then another vehicle (the AMR) picks it up and drives it to an auto-packer or auto-boxer. Then, it goes to another sortation system for outbound shipping.

### Robotics and the Ecosystem

Products in the distribution center can be sent to the consumer's home or to a store. Mall warehouses, club warehouses and super centers have background areas that stores product and where trucks are unloading. Imagine being able to batch-pick items in the store, bring it to a back room where it is packed into individual orders. Automation has created a fulfillment engine for e-commerce, for buy-online/pick-up-instore and can also handle inbound merchandise.

Automation systems, used both at the distribution center and at the store, in all channels and all levels associated with e-commerce, store replenishment, and in-store pickup, improve service, increase accuracy and convenience, and makes customers happier. It meets the essential business criteria of having the right product at the right place at the right time. The end results are delighted customers, enhanced business and increased brand loyalty.

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