



Reshaping Retail Fulfillment  
**with Robotics**



# Reshaping Retail Fulfillment with Robotics

*As consumers transition the majority of their shopping to the online realm, automation and efficiency have become two very important aspects of order fulfillment.*

**About 96%** of Americans do their shopping online.

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Technological advances with drones and robotics have created numerous opportunities for warehouses to reduce overhead costs, improve accuracy and refit operations for peak efficiency. Fulfillment centers may utilize a force of human pickers and packagers, mechanized systems for sorting and conveying items, or robots.

**Robotics** is reshaping retail fulfillment in the following ways:

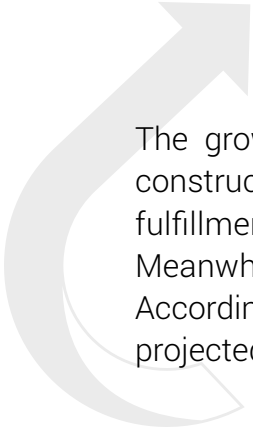
- Growing the retail fulfillment industry
- Optimizing fulfillment operations



## Expanding the Footprint of Fulfillment

Robotics allows for a much faster way upgrade fulfillment centers to accommodate the unpredictable nature of e-commerce. Additionally, the rapid and widespread advancement of online shopping has precipitated a boom in the construction of more fulfillment centers.

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The growth of e-commerce over the past five years has prompted the construction of an additional **74 million square feet of new warehouse** and fulfillment center space, according to Colliers International Group Inc. Meanwhile, almost *93 percent of that new space is already occupied*. According to Reis Inc., another 55 million square feet of warehousing space is projected for completion in 2017.

*In the past, these distribution centers needed to be located in areas that supported 2-3 day ground shipping anywhere in the United States. But the fully automated warehouse using robotics can be far more efficient, allowing fulfillment companies more options for the center locations (and potential for reduced rents and/or property taxes in cheaper regions).*

## Improving Retail Fulfillment Operations

The most important way that robotics is reshaping retail fulfillment is with key **improvements and optimization of operations**.

Robots offer the following advantages to fulfillment centers:

- *Highly efficient workflow, substantially more so than human workers*
- *Enhanced performance and flexibility*
- *Increased order accuracy*
- *Faster at picking and packaging order materials*
- *5-6 times more productive than manual picking*
- *Ability to lift up to 3,000 pounds*
- *Reduce order processing times*
- *Automate tasks to reduce labor costs*
- *Capability to rearrange product placement based on purchasing data so that more frequently purchased items are in closer proximity to the picking stations*

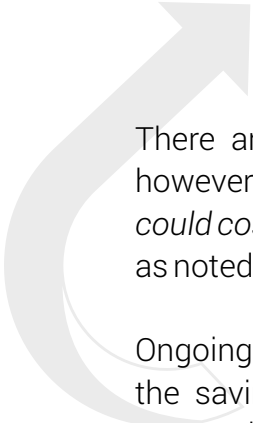
## Improving Retail Fulfillment Operations

- *Require less aisle space for maneuvering, allowing more actual storage square footage*
- *Autonomous navigation throughout the fulfillment center*
- *Meet peak season demands and volume increases quickly by adding more robots for easy scaling*
- *Simple integration into any standard warehouse for minimal disruption to existing workflows*
- *Human workers can spend more time on-task, less time walking around the warehouse*
- *Some robots are more collaborative and worker-friendly for warehouses that integrate their human and robot workers.*

All of these advantages build the case for robotics as a positive addition to retail fulfillment, reducing overall costs (after the initial investment), improving the accuracy and production of the supply chain, and creating a higher potential for consumer happiness. Last year, Forbes reported on a few of the leading robotics systems for warehousing and order fulfillment, identifying some of their notable characteristics.



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There are still challenges to work out with robotics in order fulfillment, however. With regard to price, fitting a *typical warehouse with 1,000 robots could cost \$15-20 million* with support software and training additional costs - as noted in a report from Rakuten Super Logistics.

Ongoing maintenance would also be an additional cost to consider. Of course, the savings over time, coupled with the opportunities for more revenue generation and optimized workflows would make the cost a worthy investment. Mechanical failures could present some additional dangers to human workers, even as robots can protect workers from other hazards.



## About Hollingsworth

*Hollingsworth is a leading provider of best-in-class logistics and supply chain management, offering fulfillment & distribution, assembly & sequencing, packaging & kitting, reverse logistics, program management, and warehousing services.*

*The company is headquartered in Dearborn, Michigan, with fulfillment centers located throughout the U.S. Hollingsworth prides itself on efficiency, accuracy, and cost-effectiveness, bringing greater opportunities for increased profits and improved customer satisfaction for its clients in the manufacturing and distribution communities.*

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