

ROBOTICS
IN THE WAREHOUSE:

Changing the
Fulfillment Paradigm

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Q&A



Logistics
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ROBOTICS IN THE WAREHOUSE: Changing the Fulfillment Paradigm

Locus Robotics' CEO Rick Faulk discusses how robotics can dramatically improve the makeup and efficiency of any fulfillment facility, and talks about the paradigm shift to "think outside the cart" that's driving this revolutionary development.

As barriers to entry continue to drop, innovation accelerates, and labor gets harder and harder to come by, the number of warehouses and distribution centers (DCs) deploying robotics is climbing to new heights. According to ABI Research, over 4 million commercial robots will be installed in more than 50,000 warehouses by 2025—up from just 4,000 last year.

Driven by the need to find flexible, efficient, and automated e-commerce fulfillment—and solutions that support their customers' same-day delivery needs—more companies are investing in warehouse robotics as an “attractive and versatile alternative to traditional fixed mechanical automation or manual operations,” ABI reports.

In this *Insider Q&A*, Locus Robotics' CEO Rick Faulk discusses the shifts that companies need to work through on their automation journeys, discusses the shortcomings of traditional cart picking, and shows how multi-bot picking significantly increases productivity and streamlines the fulfillment process.



INSIDER Q&A: WAREHOUSE ROBOTICS

Rick Faulk — CEO, Locus Robotics



Q: *How does the current labor market drive the need to optimize warehouse operations?*

A: Companies can't just keep throwing labor at the problem. Their businesses are growing, with e-commerce growing at 10% annually and still only a fraction of the entire retail market. Of course, this trend puts more labor demand on businesses that must hire more workers to support their organic growth. You also have to factor in the seasonal peaks and valleys. Because labor requirements fluctuate from month to month, companies are in a constant cycle of recruiting, training, deploying, laying off, and rehiring.

Q: *How can robotics help companies alleviate these fulfillment-related pain points?*

A: Speaking for Locus Robotics, our robots help workers be more productive—to the tune of a 2x - 3x increase in productivity. Someone who can pick 75 units per hour with a pick cart, for example, can now pick 160-170 units per hour with the use of our robots. One of our customers uses 75 robots year-round, but then when peak season hits, we take them up to 115 robots. In January, we take those excess robots back.

We offer the equipment on a “robots as a service” subscription basis, so there's no up-front capital outlay. Companies pay for the robots they need when they need them. Locus robots are versatile enough to accommodate any pick process or product profile, and, with no significant infrastructure change required, the robots can easily be moved into new or expanded facilities as the business continues to grow.

Q: *How do companies typically approach warehouse automation and robotics?*

A: The historic mindset has been, if there's more work to do and a bigger volume of orders to handle, then you need a bigger cart. Many operators have translated this “conventional wisdom” to their thinking about choosing robotics technology, but that can be a big mistake. Larger carts were adopted to offset the “walking tax” – the time workers spent getting to and from the aisles, and walking during picking. But robots should alleviate much of that tax.



Workers will waste less time walking *if* you choose a solution that solves for that. If your robot is really just a motorized cart, a larger robot is just a recipe for congestion, and—paradoxically—can actually be a drag on productivity. Operators need to think differently when adopting robotics. Robots shouldn't just be motorized carts. Our multi-bot approach is the key to dramatically enhanced productivity.

Q: *What makes Locus Robotics' robots different from other options on the market right now?*

A: What makes them powerful is the fact that they move independently of the human worker. The two are not tied together at all; they operate as separate agents—in effect, as automated co-workers. The robot does the carrying and most of the traveling, and the human does the picking. This is a really new concept, and sometimes it takes a while for people to understand how it works.

The robots travel to pick locations, where workers make each pick at the direction of a robot. Each employee contributes to filling orders on many robots. Contrast this with a worker who's "tethered" to a single cart—or a single "followbot"—snaking her way through the entire facility, and spending more time walking than picking.

Q: *Why is walking time such a critical issue?*

A: It's a waste of time that comes in three forms: workers walk in and out of aisles; they walk while they're picking; and they walk from one area to the next ("interzone" movement). Over the years, most warehouse operators have resigned themselves to the fact that their workers are going to have to do a finite amount of walking. So, they buy bigger carts that carry more orders, and keep workers in the aisles longer. It doesn't eliminate the walking burden; they're basically trying to outnumber the walking time.

Locus robots completely eliminate two of the three types of walking (in/out and interzone), and greatly reduce the third type. The time that workers used to spend walking is time workers now have available to pick merchandise. And that's the activity that earns money for the operator.

Q: *How has automation historically tried to solve this problem?*

A: Having been involved with early goods-to-person applications at a third-party logistics (3PL) facility, our founders experienced "first generation" robots firsthand. The promise of goods-to-person was appealing: "ditch the walking." While that dramatically increases worker productivity, it's also an expensive, inflexible solution.



At Locus, we challenged ourselves to solve for multiple key factors: reducing unproductive (walking) time; building in flexibility and scalability to accommodate seasonal shifts; and – this is most important—making the economics work. No “solution” really solves the problem if the math doesn’t work. We came up with a solution that is economically compelling and easily and seamlessly scales. Of course, in order to do this, we had to break the “get me a bigger cart” paradigm that people have come to expect.

Q: *How does the multi-bot paradigm work? Why is it called multi-bot?*

A: The real key is allowing workers to pick to multiple robots simultaneously. There’s no reason for a worker to be tethered to a single robot other than that’s the old cart picking model – the way it’s always been done. When a worker uses a traditional cart – or a similarly conceived “followbot” motorized cart – that worker is limited to the orders that fit on a single robot. With the multi-bot approach, a worker is limited only by her own picking skills. She is able to pick to any robot, and that means her pick capacity is not constrained by the capacity of a single robot.

Q: *That does sound very different. How does the worker know what to do?*

A: The robots carry both merchandise and instructions for the workers. They tell the workers, “Here’s what I want you to pick and here’s where I want you to put it.” Information is automatically displayed in the worker’s native language, and if the worker needs more detail, he can tap the screen to see a picture. When the worker is finished, the robot directs him to the next nearest robot. This really cuts down on the walking and decision-making, and helps make workers much more efficient and productive—and less fatigued by the end of the shift. With “gamification” features, picking even becomes a friendly competition that further enhances productivity.

Q: *What benefits do warehouse operators typically see from these flexible robotics solutions?*

A: We recently commissioned a Forrester “Total Economic Impact” study that found that the average Locus Robotics customer sees a 129% ROI in less than six months. We also have customers like DHL, who have reduced their training costs by 80% and doubled their worker productivity after deploying our solutions. Our system also eliminates the need for additional worker hardware (scanning guns, gauntlets, etc.) and lengthy user training, while significantly improving order picking accuracy via a powerful and intuitive user interface.



Another significant benefit of using a multi-bot solution is that you can finally deliver on the promise of omnichannel fulfillment. Locus robots can manage true task interleaving – handling multiple orders across retail, wholesale, and e-commerce channels in a single trip.

Q: *What's the secret sauce behind omni-channel fulfillment?*

A: The secret sauce is something only Locus Robotics is doing. In complex picking processes, such as retail store replenishment, merchandise must be picked in a prescribed order. If a worker with a cart attempted that level of picking, he'd be zig-zagging across the warehouse to pick items in the required sequence. A "followbot," or motorized cart, is no better. It must also zig-zag through the warehouse to pick retail orders—and its "tethered" worker must accompany it on that zig-zag path.

Because Locus robots operate entirely separately of their human co-workers, only the robot travels the retail pick sequence path. In each pick location, a different worker can make a pick. No worker has to zig-zag with the robot. The robot is doing exactly what robots were invented to do: removing the burden of arduous, repetitive tasks.

Moreover, even while the Locus robot is traveling its prescribed retail pick path, it can easily interleave picks for other order types at the same time. You can have an e-commerce order on the same robot, and workers will pick to any order the robot requests.

Q: *What would you say to the operator who's concerned about integration time and costs for a new robotics initiative?*

A: Integration typically takes about four weeks. And it's a pretty simple, well-defined process. The Locus solution is highly adaptable. We assess metrics like order volume and product profiles to determine the optimal configuration for their operation. A company that's shipping apparel, for instance, may optimize density with, say, a 6-compartment tote. If someone is picking cosmetics, the right configuration may include 15 or 20 compartments. The versatility and configurability of the robots means we can optimize the solution for each warehouse – even a multi-tenant warehouse, in which different merchandise is being picked for different end customers.



Q: *Are there limits to which WMS systems you can integrate with?*

A: In a word, no. Our solution integrates with all of the major WMS packages, including Manhattan, JDA, and HighJump. It also integrates with proprietary solutions. We have a set of application programming interfaces (APIs) that make the integration process smooth and simple.

Q: *What else should warehouse operators know about the changing fulfillment paradigm and the role that robotics is playing in it?*

A: Operators don't have to dramatically change their processes to take advantage of robots and automation. But they do have to "think outside the cart." We're not delivering motorized carts. We are providing highly intelligent robots that will double or triple their workers' productivity.

We are enabling functions, like true omnichannel fulfillment, that are in increasing demand, and are difficult or impossible to accomplish with other approaches. The Locus multi-bot solution delivers compelling, hard economic benefits to warehouse operators today. We're seeing more warehouses adopt this new standard for productivity, economic success, and competitive differentiation.

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Find out whether the Locus Solution is a fit for you!

There are many ways to show you how Locus can fit your needs without a big investment of time or money. And if it is a fit, we can have you up and running in 4-6 weeks!



- **GET A FAST OPERATIONAL & SAVINGS ASSESSMENT**
Complete our easy, 15-minute mini-survey by phone or email and receive our initial operational and savings assessment *within 48 hours!*
- **GET A LIVE, VIRTUAL DEMO**
Can't get away to see a live demo? No problem! We'll schedule a live, private, virtual demo for a firsthand look at LocusBots operating in our 5,000 sq.ft. fully-functional demo warehouse.
- **SCHEDULE A CASE STUDY REVIEW**
Learn how real companies like yours are putting LocusBots to work. We'll set up a case study review to share what others already know about Locus's flexible, multi-bot efficiency.
- **PARTICIPATE IN A PERSONALIZED, 1-DAY SOLUTION DESIGN WORKSHOP**
We'll meet at your facility, and build a Concept of Operations in real-time so you'll see how Locus will deliver real results for your business.



Let's Talk!

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