CASE STUDY

Autonomous Forklifts handle 90% of inbounds at this DHL warehouse. Here's how.

Fox Robotics' Autonomous Forklifts not only unload up to 100% of this warehouse's inbounds, but also have reduced claims for damaged pallets by 30%.

FOX robotics

About the DHL site

Location: **Louisville, KY**

Warehouse Size: **300,000 square feet**

Number of Dock Doors: **28**

Average Shipment Volume: **30 inbounds daily**

34 shipments out daily

Average Number of Employees: **76**

The Challenge

How to achieve maximum throughput in a tight labor market

Like many warehouses across the country, the DHL distribution center site in Louisville, KY, first began feeling the effects of today's labor crunch during COVID-19. Warehouse labor, namely forklift operators, are critical in helping sites like this, which receives 1.1 million cases per month, achieve maximum throughput.

The Fox Robotics Solution

The need for greater efficiency, along with the twin constraints of persistent labor shortages and steadily rising wages, led DHL to look into automation.

For this particular site, introducing the FoxBot Autonomous Forklift just made sense. The warehouse's layout appears to be tailor-made for automation. Plus, the products being handled—glass jars of pasta sauce—are well-suited to the precise and careful movements of the robots.

Following a successful pilot, and owing to DHL's commitment to innovation, the DHL facility acquired its first FoxBot in November of 2021 and its second just over one year later. Together, the two robots have worked a total of more than 4,000 hours and have picked more than 100,000 pallets.

Scott Gossett, General Manager of this DHL distribution center, tells us that from the start, the robots fit well into the facility's existing workflow: "You don't need to make any kind of special arrangements for them. They operate very safely. They're aware of their surroundings, people, other equipment, even just potential obstacles."

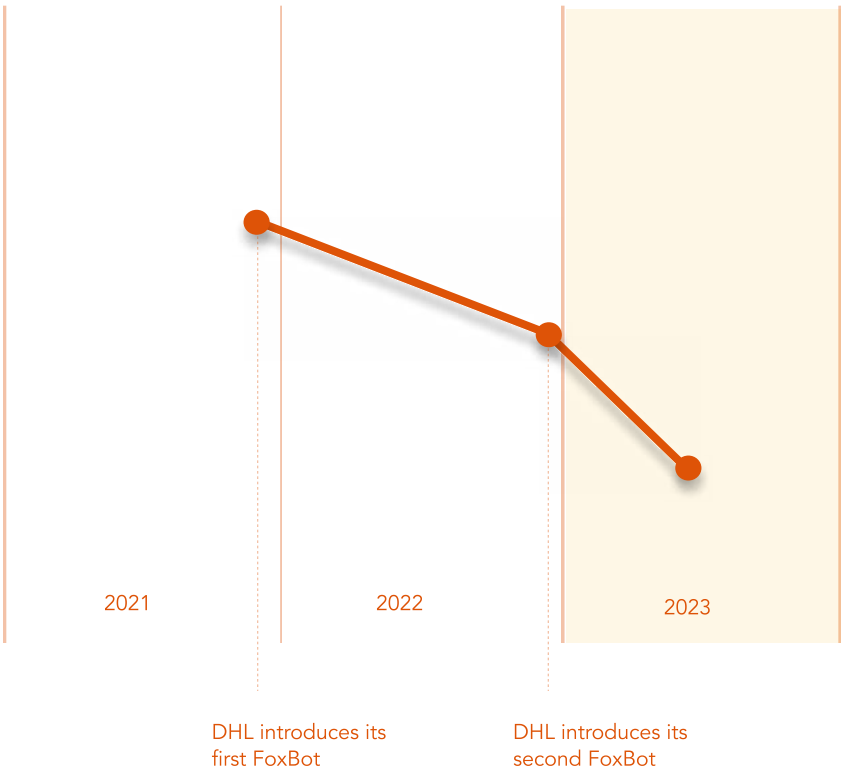
> **"They're here; they're integrated into our business."**
>
> **— Scott Gossett, DHL DC General Manager"**

The Results

100,000+ Pallets picked

90% Inbounds handled

56 Trailers unloaded daily



30%
Reduction in claims

Seamless integration instantly doubled productivity

The FoxBots work in two separate areas of the facility and have allowed the DHL site to double productivity. Gossett explains that when the warehouse had just one FoxBot, an operator would arrive onsite and start the FoxBot on a door. Once the FoxBot finished unloading the first trailer, the operator started the bot on a second door, then received and put away the pallets from the first trailer.

"Essentially, he was doing two jobs," says Gossett. Before, he adds, unloading trailers and moving pallets away from the dock were two separate workflows. Now, as one FoxBot unloads a trailer, a forklift operator can move product from the place zone to storage.

With two FoxBots, productivity continues to progress. One operator is now dedicated to the area where the bots run, overseeing their progress and resolving interventions as needed.

Today, the bots run until about midnight, at which point they each regularly unload around 28 trailers per day. During most of the year, the FoxBots handle 90% of the warehouse's inbounds. When things are slower—when there are 24-28 inbounds per day—the FoxBots handle 100%.

Rapid deployment eased labor burdens

The FoxBots not only free up forklifts so that operators can work on other tasks; they also reduce stress for workers with their reliability and ease of use.

For Gossett, the dependability of the FoxBots has simplified labor planning. Knowing what the robots will do on a daily basis eases stress and allows for more streamlined processes.

"The Fox Robot's always here, every day, work[ing] through breaks. All you've got to do is change her battery," says David Denham, local DHL Operations Supervisor.

Denham adds that with each software update, the FoxBots also become easier to use. With the latest update, someone who has never worked with the robots before can learn to use the technology and begin a run to unload a trailer within five minutes.

New technology continues to drive employee engagement

While it'd be easy to assume that introducing automation would lead employees to question their job security, sentiments toward the robots—which employees named "Foxy" and "Roxy"—are resoundingly positive.

In fact, the warehouse managers at this DHL site are very clear about one thing: The FoxBots aren't taking jobs from employees. Rather, they're creating a new position—and one that's higher paying.

"New technology is a little scary for people, but for us, I think it's really driven some engagement," Gossett explains. "It's allowed for a better paying job. The people who operate the [FoxBots] get paid more than regular forklift operators do."

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DHL Supply Chain employees are eager to learn more about the technology and cross-train on the FoxBots, the warehouse managers tell us. Overall, they also said, the robots have helped employees gain a sense of pride in the facility and their work—as evidenced by a mural painted in the warehouse depicting a FoxBot carrying a pallet of pasta sauce.

Safety and precision reduced claims by 30%

A tight labor market not only makes it difficult to hire and retain workers, but also contributes to higher costs and tighter margins for the customer. For DHL and its customers, the FoxBots have brought an unexpected benefit: Cost savings due to a reduction in claims.

The FoxBots' precise navigation and pallet placement, as well as safety standards, guarantee that products are handled with care.

Gossett explains that their site works with one particular customer that will not accept damaged pallets. DHL Supply Chain managers were pleasantly surprised to see that since deploying the FoxBots, claims from that customer have come down 30%, Gossett estimates. “The Fox robot does a really nice job of being very cautious with the product,” he says.

Conclusion

For DHL’s site, the FoxBot Autonomous Forklifts are delivering on their promise of creating safer, more efficient working conditions and are closing the labor gap to keep operations running at peak productivity. Still, the warehouse managers recognize that integrating the FoxBots wouldn’t have been possible without a strong management team and engagement from leadership.

Gossett explains that although automation can be a costly upfront expense, warehouses like theirs are seeing an ROI faster than ever before. Rising wages are steadily closing the gap between labor costs and investments in automation, he notes. In other words, the ROI timeline for automation is getting shorter every day.

About Us

Fox Robotics combines the latest in robotics, machine learning, and optimization to build autonomous forklifts that are smart, safe, and effective.

Using deep-learning powered vision in place of IT or WMS integration, the FoxBot Autonomous Forklift navigates in and out of trailers with ease to unload pallets and place them on the warehouse floor with guaranteed precision.

Founded in 2017, Fox Robotics has deployed FoxBots to more than 24 customer warehouses. With more than 1.2 million pallets picked, the FoxBot Autonomous Forklift is helping customers maximize productivity, improve safety, and combat labor shortages.

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