

How humans and robots work side-by-side in Amazon fulfillment centers

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Amazon employees start their shifts passing through turnstiles and a sign reminding them what they can't bring with them as they report for work alongside robots.

Cell phones, belts, keys, and loose change must be stored away in one of hundreds of lockers by the break area at the West Deptford fulfillment center. Inside, 7.75-inch-tall robots that can carry up to 1,250 pounds and have no resemblance to the humanoid robots of science fiction help them do their jobs.

The robots—effectively shelves on wheels—zip around at 5 feet per second inside a large cage on the second and third floors of a warehouse the size of almost 30 football fields.

While Amazon hires tens of thousands of people in the process to staff warehouses like the one opened in September in Gloucester County, the Seattle-based company is also embracing automation and deploying robots to do work once done by humans. Critics and labor advocates worry that automation could replace human workers and that the machinery-rich Amazon warehouses are an unsafe working environment.

"It's not humans vs. machines at all," Tye Brady, the chief technologist at Amazon Robotics, told the BBC this month. "It's humans and machines working together to achieve a task."

Amazon has grown rapidly, from 20,700 employees in 2008 to 647,500 full-time and part-time employees last year. In West Deptford, the company said it has more than 1,500 full-time employees and uses more than 3,000 robots.

Amazon's net sales increased 31% last year to \$232.9 billion and its net income more than tripled to \$10.1 billion.

"Despite these vast resources," a report from the National Council for Occupational Safety and Health states, "there is little evidence the company has made a significant effort to address worker complaints about stress, overwork, and other conditions which can lead to illness, injuries and even fatalities."

Six workers have died at U.S. Amazon facilities or operations since November 2018, and 13 workers overall have died since 2013, according to the report.

Amazon insists that its facilities are safe and that increasing automation does not mean it will hire fewer people.

A 2017 report from McKinsey Global Institute estimated that automation could displace up to 800 million people globally by 2030, even as it acknowledged that automation can create jobs.

'Little race cars'

Items from Amazon or vendors make their way into the West Deptford facility on a [conveyor belt](#) and travel to the second floor where "stowers," like Lisa Bailey, 51, of Camden County, work.

She stands outside the cage of robots and scans products ranging from Amazon Fire Sticks to pretzels to Ziploc bags. The robot carrying a shelf full of cubbies waits patiently as Bailey fills it. Other robots are moving around behind it, traveling close to each other, but never colliding. Once Bailey finishes, the [robot](#) whisks the shelf away.

"They look like little race cars," Bailey said on Friday inside the air-conditioned facility.

In the second-floor station next to Bailey, David Grieco, 45, of Lafayette

Hill, is a "picker." He follows instructions on a computer screen while removing items from the moving shelf, now paused in front of his work station. He scans items and places them in yellow plastic containers on a conveyor belt.

Those containers travel down to the ground floor, where Tyleira Thompson, 22, of Sicklerville, "a packer," puts the items into the cardboard boxes that will arrive on a customer's doorstep.

After taping them shut, Thompson places the cardboard boxes on another conveyor belt that takes them under a machine that sticks on the shipping labels before they go out into the loading zone, where trucks are filled for deliveries throughout the Northeast.

In cities like Houston, Salt Lake City, Tampa, Fla., and Sacramento, Calif., employees are doing the same work alongside robots.

The general manager of the West Deptford site, Roberto Miller, said the robots do monotonous tasks so employees can have more engaging jobs. While a human may have needed to lift heavy boxes before, now a large robotic arm does that work and the employee may work as a machine operator.

The West Deptford site is Amazon's fourth robotic fulfillment center in New Jersey, the company said. Amazon launched its operations in the state in 2012 and now employs more than 17,500 full-time statewide.

Amazon has been in Pennsylvania since 2008 and said it has more than 10,000 [full-time](#) employees across the state.

Amazon continues to hire, and has more than 150 openings in New Jersey, the company said.

Amazon has a \$15-an-hour minimum wage for U.S. employees. Full-time employees also receive health, vision, and dental, a 401(k) with a 50% match up to 4% of the employee's income, Amazon stock options, and up to 20 paid weeks of maternity and family leave, and a program that allows employees to share that paid leave with their spouse or partner.

Working conditions

Warehouse operators can boost the local economy by providing good-paying jobs with benefits, but Marcy Goldstein-Gelb, the co-executive director of the National Council for Occupational Safety and Health, said Amazon is not one of those companies.

Goldstein-Gelb, whose organization promotes safe and healthy working conditions, pointed to the group's most recent "Dirty Dozen," report on companies that put their employees at risk.

For the second year in a row, Amazon made the list. Machinery killed two employees at an Amazon warehouse in Carlisle, Pa., three years apart, and another employee at a warehouse in Avenel, N.J., in 2013.

In December, an "automated machine" inside Amazon's facility in Robbinsville Township, N.J., hit a 9-ounce aerosol can of bear repellent, sending "strong fumes" into the air, Amazon said at the time. Two dozen workers at the Mercer County facility went to the hospital.

"Amazon's automated robots put humans in life-threatening danger today," Stuart Appelbaum, the president of the Retail, Wholesale and Department Store Union, said in a statement after the incident. "This is another outrageous example of the company putting profits over the health and safety of their workers."

Amazon says it is committed to providing a safe work environment. The company also takes suggestions from warehouse employees and will make changes.

On the way to the break room, West Deptford employees pass a board with thought bubbles under the words voices in action. The changes spurred by [employee](#) recommendations are handwritten on the board and range from efficiency suggestions to workplace culture.

"We heard you wanted cup holders for the tote tanks and we had them installed," one reads.

At the end of a shift, employees clock out and, as they exit the lobby, pass through one of four metal detectors.

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