

# **Amazon wristbands could track workers' hand movements: 'Employers are increasingly treating their employees like robots'**

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As Amazon continues its quest to shrink delivery times and add warehouses in Illinois, the e-commerce behemoth is eyeing technology that could track the movements of its workers' hands as they fulfill orders.

The company recently won patents for wristbands that could be used as part of an inventory system, communicating with equipment in warehouses and nudging employees via vibrations if, for example, they were about to place items in the wrong bins. But in a world where the legal limits on gathering and using people's data remain largely undefined, use of such devices could quickly turn nefarious, some experts say.

The concerns tied to such a device range from the potential for discrimination to data security risks for the company's employees, which number more than 8,000 in the Chicago area.

Amazon waited almost two years for the patents to be approved, and it's unclear if it ever plans on deploying the technology in its warehouses. The company said it does not track or intend to track its employees' locations, but the concept still sends chills down the spines of the privacy-conscious. And if it doesn't, some experts say, it should.

"Employers are increasingly treating their employees like robots," said Lori Andrews, a professor at the Illinois Institute of Technology's Chicago-Kent College of Law. Part of the problem is that workers rarely realize it, she said.

Some companies hand out Fitbits as part of wellness programs, but those are collecting data on employees, Andrews said. A vending machine company in Wisconsin offered last summer to implant microchips in its employees hands to ease daily tasks like buying snacks or using the copy machine, the company has said.

If an employer is hacked, information on workers' movements or other habits could be stolen, Andrews said. The data gleaned from a company-issued device also could end up in insurers' hands. "You might have trouble getting life insurance if they learn you bought a lot of Cheetos," Andrews said.

Amazon says the wristband technology, for which the Seattle-based company was awarded patents at the end of January, could improve the work of warehouse employees and make them safer.

"Every day at companies around the world, employees use handheld scanners to check inventory and fulfill orders," spokeswoman Angie Quennell said in an email. "This idea, if implemented in the future, would improve this process for our fulfillment associates."

The scanning devices Amazon's warehouse employees use now are similar to those used in supermarkets or department stores, Quennell said. "We do not use GPS to monitor people's location in our fulfillment centers or for any other purpose," she said.

The wristbands wouldn't use GPS technology either. Instead, the patents Amazon received cover radio frequency and ultrasonic tracking

technology. A wristband with [radio frequency technology](#), like Bluetooth or Wi-Fi, could receive signals from antennas in a warehouse and nudge a worker's hand with a vibration, indicating which direction it should move toward the right inventory bin.

Ultrasonic tracking has been used in retail stores and advertising. If a beacon with the technology is installed on a rack of sweaters in a store, for example, it can ping customers' phones as they browse, sending them coupons for sweaters. The technology described in Amazon's patent could allow the wristband to communicate with transmitters throughout a warehouse.

The devices could give employers a fine-tuned understanding of how workers' hands are moving, what's working in the warehouse and what isn't, said Romit Roy Choudhury, a computer engineering professor at University of Illinois at Urbana-Champaign.

"Putting the wrong box in a particular place can have cascading effects," he said. "Being able to track these things and give an alert on your wrist saying that you put it in the wrong place, I think, is very important."

However, some argue the technology could lead to discrimination. Even if the wristbands don't use GPS tracking, they could tell a company if a woman taking is longer bathroom breaks than co-workers or whether a disabled [employee](#) is moving more slowly, which could reflect negatively on their job performance, said Paula Brantner, senior adviser at employee rights organization Workplace Fairness.

And if Amazon, a leader in multiple industries, starts using this [technology](#), it won't be long before other warehouses follow suit, Brantner said.

Amazon announced its first Illinois warehouse in 2015 and now operates

nine. The tech giant also is weighing cities around the U.S. and Canada for a location for its second headquarters, known as HQ2. Chicago is on the short list of 20 contenders that Amazon announced in January.

At some of Amazon's "fulfillment centers" around the country, robots move among the employees, grabbing racks of items and bringing them to the workers. Others, such as the facility in Romeoville, aren't as high-tech and are filled with employee-operated forklifts and items sliding along conveyor belts.

The company has been criticized for difficult working conditions at its warehouses. Still, job fairs for Amazon's warehouses draw hundreds of potential applicants.

Technology is pushing boundaries in the workplace, Brantner said, and employees have few rights to deny it.

"Everybody wants those Amazon jobs," Brantner said. "If you don't want to wear the wristband, someone else will."

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