

Meet the Security Robot That May Be Coming to Your Local Store or Office Park



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Even without the googly eyes of some of its sister automatons, Badger Technologies' PatrolBot resembles more of a roving kiosk than the dystopian Terminator-type that the idea of a security robot might conjure to some.

The robot is the latest addition to the company's roster of automated retail workers and its first foray into the security guard industry. Its task list is relatively innocuous: It roams warehouses, office parks and stores and checks that door and window locks are fastened, monitors for unsafe debris on the floor and fills potential gaps in security camera coverage. Computer vision artificial intelligence helps it recognize patterns to better do these jobs.

Nevertheless, Badger's team was conscious of the preconceived notions established by science fiction and designed the bot to appear as friendly as possible.

“We tried to take a bit of an approach that softens the technology, if you will,” said Badger Technologies CEO Tim Rowland. “It doesn’t look like a RoboCop kind of thing. We’re trying to use muted colors; we’re trying to make sure the operation is smooth, the speaker voices appropriate. So there’s certainly a human acceptance element that we’re trying to build into the technology.”

The robot is designed to augment rather than replace existing facility security teams, helping with understaffed late shifts and busy times like holidays or covering areas that are more difficult for human guards to reach. Sometimes it is even accompanied by a human supervisor.

The concept arose out of requests from various of Badger’s clients. One of the company’s other models—each of which is designed to assist in a different aspect of brick-and-mortar operations—was already doing some of the work of a guard and stores were asking if it could be repurposed.

The company set to work, imagining every possible in-store scenario and what might go wrong and modeling it in a sterile environment. It then worked with early adaptor grocery stores to test the prototypes in a live space, using only human escorts at first, but gradually relinquishing control.

“At the very beginning, we had a failsafe PlayStation controller, believe it or not, that would actually take over control if need be,” Rowland said. “And it was just a matter of testing, verifying, releasing the leash a little bit each time.”

Like other robots offered by Badger, many of PatrolBot’s capabilities are rooted in computer vision tech. For instance, some of the company’s software is trained on images of dirty and clean floors of all kinds—from tile to parquet—allowing it to recognize the visual patterns that indicate a spill. Around 1.5 million images stream in each day from the 500 robots

Badger has deployed at stores right now, and that data helps it constantly hone the algorithms.

That said, the product does not use facial recognition tech, nor does any of the store security software with which the bot currently integrates.

Retail robots of all kinds have become more popular in recent years as stores seek to maximize the efficiency of operations to compete with online shopping. Walmart deployed a fleet of robots to help with simple tasks like inventory tallies last year, and other retailers are even using AI avatars to help with sales and customer service.

Correction: An earlier version of this article suggested that PatrolBot was primarily used in grocery stores. While that is one possible application, its use also spans office parks, warehouses and other retail stores.

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