



As mobile robots become more common, companies are investing in safety technology to protect people around autonomous machines.

Wireless E-Stopping Improves Safety Around Warehouse Robots

THE CHALLENGE

A leading manufacturer of autonomous mobile robots (AMRs) came to FORT with a safety challenge for one of their warehousing clients.

The client's facility had multiple robots operating within a gated area. They were looking for a reliable way to stop all of the robots when a person entered that zone. Each AMR had its own e-stop button, but manually stopping every vehicle would slow down productivity, and getting close enough to a moving robot to push the on-board stop button could be dangerous.

The right solution would:

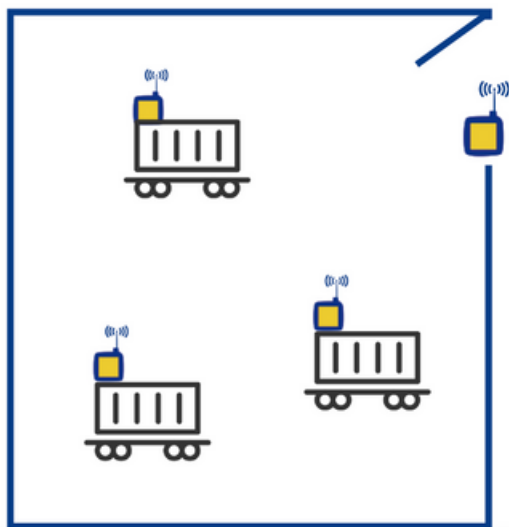
- Stop all of the robots at once
- Adhere to industry safety requirements
- Be easy to use
- Have a highly dependable wireless signal to limit potential interference

THE SOLUTION

FORT proposed a wireless e-stopping system using our Vehicle Safety Controller (VSC.)

A VSC was installed on each of the mobile robots, and a “master” VSC was installed on the door to the caged area. This system automatically sends a wireless safety-rated e-stop signal that stops every robot whenever the door is opened.

The VSCs stay in constant contact via FORT's patented wireless communication system, designed to ISO 13849, Cat3, PLd safety standards. Each endpoint has redundant, built-in safety technology to ensure that all units stay in communication with the master controller, and the radios use rapid frequency hopping to minimize interference. The result is a highly-reliable safety architecture that ensures that opening the door to the caged area safely stops every robot, every time.



VSCs are installed on each mobile robot, and on the door of the gated area



FORT's Vehicle Safety Controller

At FORT, our goal is to unlock the full benefits of autonomy without ever sacrificing safety.

IMPACT

The FORT safety solution makes it safer and easier for workers to enter the gated AMR area for maintenance and other operations, increasing productivity and peace of mind. The implementation has been a success in small test runs, with plans to scale the system for larger areas with more robots.

The wireless solution can be replicated for other applications where people and mobile robots work in proximity. With FORT's patented safety technology, customers can reap the productivity benefits of autonomous robots without ever having to sacrifice the safety of their workforce.