



Omron's Shanghai factory addresses labor shortages and boosts throughput on high-mix, low-volume production lines with collaborative robots

Solving societal issues and respecting humanity are important to Omron's corporate philosophy. The future of manufacturing will require factories to adapt processes flexibly and intelligently to meet ever-changing customer demands, and new technologies will give manufacturers the opportunity to realize the collaboration between people and robots at a higher level. This so-called "Factory of the Future" will also help relieve workers from dull, repetitive tasks and allow them to focus on more creative ones.

Omron's factory in Shanghai is creating an environment in which humans and robots work together to meet today's manufacturing challenges, such as manpower shortages and overall equipment effectiveness. The goal is to employ collaborative robots (also called "cobots") to help humans and machines collaborate more closely and achieve true harmony. Cobots have many advantages from a safety point of view, since they can operate at a slower speed in collaborative mode and make a safe stop if contact becomes likely.

Collaborative robots significantly reduce the risk of human error in high-mix, low-volume production lines that can't be fully automated. By helping to eliminate the need for manual data input and management, cobots can significantly improve traceability and overall quality. In addition, they can be integrated with mobile robots like Omron's LD Series to freely and autonomously move between production lines to transport parts and material.

Business need

Rising labor costs and growing manpower shortages were making it increasingly difficult for Omron's Shanghai factory to hire operators for its high-mix, low-volume production lines that resist full automation.

Unique solution

The factory chose the Omron TM14 collaborative robot for its applications because its integrated vision and 3D positioning capabilities make it highly suitable for high-mix, low-volume production needs in which layout changes occur frequently.

Customer benefits

Production efficiency improved dramatically with an ROI of just 12-14 months, and the factory is now in a position to easily and gradually increase its number of cobot units as production expands in the future.

