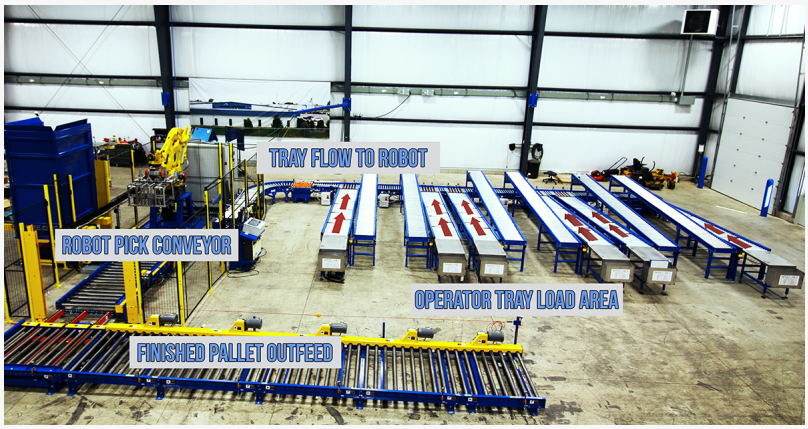
Motion Controls Robotics Advances Mixed-SKU Palletizing with Recipe-Driven HMI Control

MCRI's system uses HMI-controlled recipes to coordinate product release, layer setup, and pallet build sequencing, helping build retail-ready mixed-SKU pallets.



Six dedicated lanes keep multiple products available, while the HMI-controlled recipe determines what moves to the robot next.

FREMONT, OH, UNITED STATES, June 10, 2026 /EINPresswire.com/ -- Motion Controls Robotics (MCRI), a FANUC Authorized System Integrator, has advanced mixed-SKU palletizing with a system that uses HMI-controlled recipes to manage product movement, layer setup, and pallet build sequences for manufacturers handling multiple product types.

The system was designed for a cereal application where products are handled in trays, but the approach can apply to other multipacks, mixed tray products, cases, and packaged goods. Instead of relying on manual assembly to build mixed pallets, operators load product into dedicated lanes while the HMI recipe controls which tray or product is moved down the conveyor next.

> With Mixed-SKU palletizing the real challenge is controlling the sequence of feeding and tracking product through the system. The HMI gives operators a clear visual interface to set up the pallet."
>
> *Eric Hohman, Lead PLC Programmer*

For manufacturers supplying grocery stores, club stores, and other retail channels, full pallets of a single SKU are rarely the final shipping requirement. Mixed-SKU pallets often require specific products, counts, and layer patterns. In many facilities, this requires manual handling, creating more opportunities for errors.

MCRI's system addresses that challenge by making multiple SKUs available to the automation

cell at one time. Operators load trays onto lanes, and the system releases trays based on the active pallet recipe. Product is then delivered to the robot in a controlled sequence, allowing the robotic palletizing process to build the pallet in a continuous flow.

“This project includes a standard MCRI platform that allows us to quickly redeploy this solution for other customers at an affordable, full turnkey price,” said James Skelding, Vice President of Sales and Marketing at Motion Controls Robotics. “That makes this a game changer.”

A key part of the system is the HMI, which gives control over the product setup, layer build, and pallet recipe. This allows the system to manage product sequencing while reducing dependence on manual assembly.

"With mixed-SKU palletizing, the real challenge is controlling the sequence of feeding and tracking product through the system,” said Eric Hohman, Lead PLC Programmer at Motion Controls Robotics. “The HMI gives operators a clear visual interface to set up the pallet recipe, while the system works in the background to set up the order the product will be fed to the robot for a repeatable and error-free unit load.”

The system demonstrates MCRI’s continued focus on solving production challenges through practical robotic automation and programming. By combining operator-fed flexibility with recipe-driven control, the system helps manufacturers build repeatable mixed-SKU pallets without requiring the team to manually determine what goes where.

“This type of system is a good example of how automation can remove a manual decision-making step, not just a manual labor step,” explains Scott Lang, President and CEO of Motion Controls Robotics. “When the product mix, order accuracy, and continuous flow matter, the control strategy becomes just as important as the robot.”

Motion Controls Robotics designs and integrates robotic automation systems for end-of-line packaging, palletizing, depalletizing, material handling, and other manufacturing applications. As a FANUC Authorized System Integrator, MCRI supports customers with custom robotic solutions, service, training, and long-term system support.

About Motion Controls Robotics

Motion Controls Robotics (MCRI) provides solutions for customers by designing and building turn-key end of line applications, fulfillment solutions, and general material handling automation. MCRI offers unmatched capabilities to elevate companies to the next tier of Industry 4.0 by combining automation expertise with full plant and front office connectivity interfacing with ERP/WMS systems. MCRI has been implementing robotic automation since 1995, is a Certified Servicing Integrator for FANUC America, and Certified Integrator by the Association for Advancing Automation (A3) (formerly Robotics Industry Association).

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