Oystar A+F of Kirchlengern, Germany, is a premier manufacturer of special-purpose machinery including tray erectors, casepackers, palletizers, and transport systems. To deliver value to customers, Oystar A+F incorporates modular servo and robotic designs with built-in flexibility. Further, Oystar A+F Automation has streamlined their manufacturing process by implementing these same modular concepts on the software solution. This success was accomplished with the SIMOTION® Top Loading library.

The freshly filled cups must now be packaged. The path is known, including limit values for acceleration, speed, inclination, etc. Converting these specifications into control parameters for the drives and monitoring them is a demanding programming task that has already been accomplished with the SIMOTION Top Loading library, capable of controlling a wide range of kinematics in robotic handling applications. Only the desired movement of goods needs to be input. The result is significantly rationalized engineering. The aim of Werner Woermann, Head of Electrical Design at Oystar A+F, is to limit in-house software development to 25 or 30 percent for the automation of any machine.

Less engineering overhead, more flexibility

“Application Sets” for the SIMOTION Motion Control System play a key role in rationalizing engineering at Oystar A+F. These are off-the-shelf or easily adaptable standard solutions for different machine applications. Oystar A+F has for some time been using the SIMOTION Top Loading library for controlling robotic handling machines. The library essentially reduces engineering to three steps: selection and installation of the SIMOTION Top Loading software module suitable to the machine’s
The software can also handle high precision work including automatically rounding the path contour when changing direction and automatically taking account of specified off-limit zones. Just a few interpolation points are typically enough to describe how, for example, a set of yoghurt cartons is moved from the sleeve labeling machine to the second row of the third layer in the box. Limit values for maximum speed and acceleration of the product are also calculated and monitored.

Customer satisfaction secures profit – and future orders

The end customer was highly satisfied with the cup packer and soon ordered two additional and significantly more complex packaging machines from Oystar A+F. These orders involved a display packer with special handling functionality and a tray packer, each with seven axes of control. Cup sizes between 125 g and 500 g are placed in their display packs and transport containers using these machines. The tray packer supports four packing formats for each layer, for boxes with up to three layers and for five different cup styles.

Special features:

- The TwinLine Two-Axis Robot is capable of up to 180 cycles per minute, depending upon the load. The system’s rigid, yet lightweight carbon arms are optimized for high dynamic response controlled by the SIMOTION Top Loading library.
- The SIMOTION Top Loading library provides pre-engineered function modules that are easily configured to control and monitor robotic movements.
- The pre-engineered solution drastically reduces engineering time and minimizes risk since all functions are standardized and tested.
- Standardized libraries for communication between machines and higher-level systems also minimize integration costs for the end customer.

www.oystafautomation.com