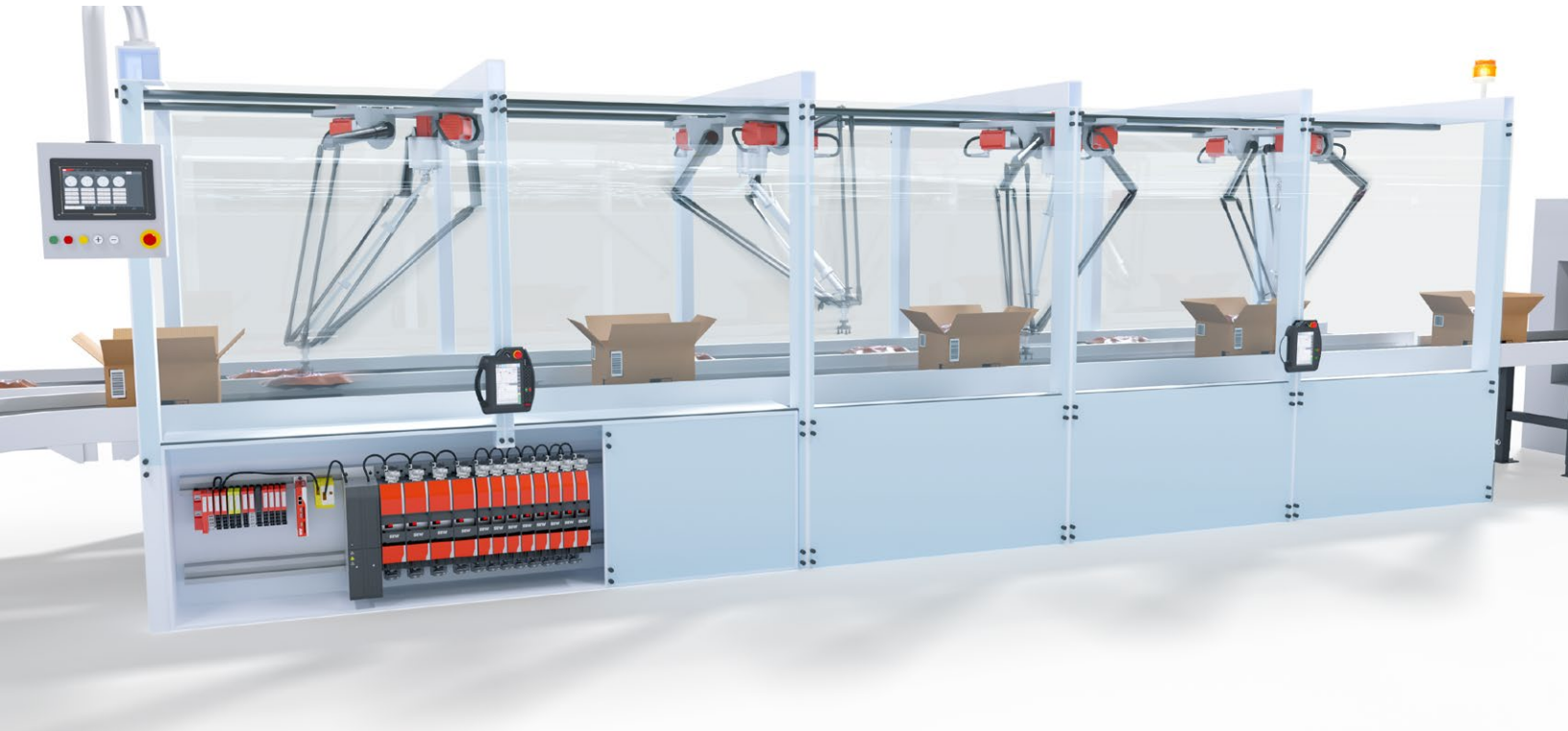# MODULAR, SCALABLE KINEMATICS

SEW-EURODRIVE's MOVIKIT® software library
now includes robotics.

Solutions featured:

MAXOLUTION® parallel arm kinematics kit

MOVIKIT® pre-built robotics software module

PxG® planetary servo gear unit

EASILY ADD KINEMATICS TO YOUR AUTOMATION PATH

SEW-EURODRIVE proves how easy it is to create even highly complex robotic solutions with its MAXOLUTION® parallel arm kinematics kit. You can now configure and order the perfect solution, assemble the components, and easily create complex motion control paths with the MOVIKIT® robotics software module.

A lot of people are intimidated by robots. This is often a result of the unanswered questions they have about how to design mechanics and drives properly. It also comes from the fear of not being able to master the seemingly complex motion sequences in programming. SEW-EURODRIVE solves this engineering dilemma with a functionally scaled robotics solution – the MAXOLUTION parallel arm kinematics kit. It consists of three individually customizable packages that fit nearly any automation

robotics application. The <u>controller package</u> contains the control system and software, the <u>robot axis package</u> houses the matching drives and servo controllers, and the <u>robot mechanics package</u> consists of the mechanical components for the robot kinematics and the appropriate gear units, including the new PxG® planetary servo gear unit.

Machine designers can use solution packages tailored to suit their own application and complete their robots themselves using these three packages – even including controller and safety technology. The modular system takes no longer than a two-man shift to assemble, and can be effortlessly programmed thanks to convenient teach-in functions.

Typically, what makes robot kinematics so complex is the software. SEW-EURODRIVE simplifies motion control path design thanks to the MOVIKIT Robotics software module.

"We don't sell ready-to-use robots, or make the steel structure, or the control cabinet. Instead, we focus on finding the perfect automation and drive solution for robotics applications – in the

form of a customized modular system," says Machine Automation Technology Manager, Rick Simer, explaining the MAXOLUTION group's automation expertise. Typical pre-packaged robotics systems are rarely tailored to the exact application, and are available in just a handful of sizes offering only limited flexibility. Providing a complete package of custom controls, components, and software – all designed to work together - is what distinguishes the SEW-EURODRIVE solution from pre-packaged robot systems sold by other manufacturers.

HYGIENIC DESIGN

SEW-EURODRIVE's MAXOLUTION parallel arm kinematics kit offers the flexibility to allow users to create hygienic solutions for food and packaging industries. The food processing sector in particular has begun to rely more and more on robot-assisted food sorting or packaging. Robot kinematics also excel at order picking, filling secondary packaging, and other handling tasks in the beverage industry.

COMBINED SOLUTION PACKAGES

SEW-EURODRIVE has strategically integrated its various robot packages into the new MAXOLUTION Machine Automation business area. In doing so, the company is determined to focus more on system solutions skills in the future. "We combine software with reliable mechatronics to form complete, easy-to-integrate solution packages," says Simer. In addition to solving robotics challenges with SEW's robotic kinematic kits, the MAXOLUTION Group saves engineer's time. The aim is to make things easier for them. The same goes for the software, which plays a key role in the parallel arm kinematics kit. This is why SEW-EURODRIVE launched its MOVIKIT Robotics standardized software modules.

SIMPLE STARTUP

MOVIKIT software modules make automation tasks so simple that your engineers can do their job without having in-depth robotics programming expertise. What matters is that

they can parameterize the software, while doing very little programming – no need to learn G-code or IEC languages typically used for sequence control. The integrated visualization function of MOVIKIT Robotics software provides additional convenience with 3D simulations. This means the system startup engineer can "teach in" the travel path profiles of the robot kinematics on site directly via the visualization screen. The fully automated program then calculates the necessary drive data for the multi-axis drive system and control components. All that's left for the operator to do is press "Start" to launch the motion sequence. This is ideal for simple picking tasks, which is precisely where we want to harness the power of robot kinematics using simple software.

BENEFITS FOR OEMS

SEW's MAXOLUTION Machine Automation Group focuses on providing a complete automation package – not just providing drive components. Functional Safety, for example, is becoming increasingly important in machine automation. Because SEW-EURODRIVE can provide a complete automation solution, functional safety components from other

manufacturers can easily be integrated into the system. No need for customers to configure products that fall outside of the SEW product line.

Small- and medium-sized mechanical engineering companies (OEMs) in particular benefit from SEW's automation package expertise by freeing up costly engineering time, and by reducing the need for specialists, such as in safety technology. Using MAXOLUTION parallel arm kinematics kits enables OEMs to easily build their own robots that work more precisely, and with more flexibility than multi-purpose robots taken off the shelf. This customizable approach adds robotics to your machine automation, enables new machine concepts, and makes customization quicker and less expensive than the alternative.

Contact our machine automation specialists at **we.automate@seweurodrive.com**, or visit: https://www.seweurodrive.com/kinematics

MAXOLUTION®
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