

Festo develops AI robot solution for logistics center at Würth

Innovation partnership between Festo and Würth

The innovation partnership between Festo and Würth has already lasted two years, and the first phase of the partnership is now coming to an end – with success: the prototype works. Würth wants to comprehensively test Festo's tailor-made AI software solution at the Reinhold Würth Innovation Center Curio, discuss it with employees and, if everything proves successful, implement it in its logistics centers worldwide.

In Künzelsau, at the Headquarters of the Würth Group, there are final packaging stations in the logistics center, where a wide variety of products arrive in trays on so-called sorter conveyors. Employees remove the objects from the trays and pack them into shipping cartons. Würth has around 1,000,000 products in its portfolio – from small and light products to very heavy parts. Working with heavy parts is extremely stressful for the employees. The "GripperAI" software from Festo should therefore be able to handle parts weighing up to 20 kilograms with a robot. Festo impressed with its AI expertise and was selected by Würth for the innovation project, the development of a customized and flexible solution.

Customized software solution developed

The Advanced Development Analytics and Control department from Research and Development at Festo worked on the project for over two years: "We built a copy of Würth's sorter conveyors in our laboratory and were thus able to develop the various capabilities of the robot: Object-dependent gripper selection, gripping any objects from the trays, packing shipping cartons and handling the cartons and trays," says Jan Seyler, Head of Advanced Development Analytics and Control. The robot cell is equipped with a tool station as a special feature. The robot can use various suction cups and grippers here – depending on the type of object, shape and surface finish, GripperAI determines which tool is most suitable. An integrated camera in the robot recognizes the various objects, enabling precise selection. The Festo GripperAI solution can grip almost anything that is presented to it – and for which the gripper and robot are designed. The grippers specially developed for this project set new standards in robot technology, while the suction cups come from Festo's portfolio.

The customized AI robot solution enables Würth to handle heavy parts and various objects efficiently, which significantly reduces the workload for employees and increases efficiency in operations. "Another advantage of the Festo solution is that it requires no teaching or training. Just do it, just get started. It also works with any robot and vision system, making us flexible in our choice of partners," says Roland Schneider, Head of the Technical Department at Würth.

Development of a learning path

As part of the partnership, the Festo team was able to test and validate its AI capabilities from research. "Our many years of experience in the fields of mechanics, logistics and industrial automation, as well as our AI expertise as a team, have enabled us to develop this complete solution for Würth," says Jan Seyler. At the same time, a training path is to be developed to further train the specialists for the future world of work and explain how they work together with the collaborative robot.

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Successful deployment

The robot cell has been in use at Würth since spring 2023 and can serve all the intended lanes. Further development work and optimization steps have already been defined, such as higher speed, better packing and optimization of the overall process. Johannes Scheuermann, Head of Inventory Management at Würth: "We were impressed by the team spirit and the high level of expertise of the developers and researchers at Festo. We are convinced that this project will enable us to significantly improve our logistics processes and facilitate further growth, even in difficult times when there is a shortage of skilled workers." The collaborative robot makes it possible to absorb further growth and support the employees.

About the Reinhold Würth Innovation Center Curio

The Reinhold Würth Innovation Center Curio is one of the world's most efficient test centers for fastening technology with its own dowel laboratory. Around 250 Würth employees, scientists, students and customers work at the innovation center to bring pioneering product and system innovations to the market even faster and in a more customer-specific way. Workshops, test fields, climate chambers, 3D printing technology, seismic test benches for dowel technology, a development IoT laboratory and a research logistics area drive application-oriented research and development forward.

About the Würth Group

The Würth Group is the global market leader in the development, manufacture and sale of assembly and fastening materials. In addition, trading and production companies, the so-called Allied Companies, are active in related business areas such as electrical wholesale, electronics and financial services. The Group currently employs more than 87,000 people in over 400 companies with more than 2,500 branches in 80 countries worldwide. The Group generated sales of 19.9 billion euros in the 2022 financial year. With over 7,700 employees, Adolf Würth GmbH & Co. KG in Künzelsau is the largest single company in the Würth Group.

Immagini stampa



Festo and Würth innovation partnership_Image 1

Festo developed an AI robot solution for Würth that efficiently handles heavy parts and various objects in particular, thus significantly reducing the workload on employees and increasing efficiency in operations.



Festo and Würth innovation partnership_Image 2

The customized Festo GripperAI solution can grip almost anything you put in front of it - and what the gripper and robot are designed for. The grippers specially developed for this project set new standards in robot technology, while the ...



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