

Jungheinrich customer reference

**WAGO chooses SOTO to prepare
for tomorrow's challenges.**



JUNGHEINRICH

Smart logistics within production supply.

A world leader in spring pressure connection technology and a renowned provider of electrical interconnections and automation technology, WAGO is constantly seeking innovative solutions to boost production efficiency. A test run with SOTO proved to be a complete success. This Jungheinrich Mobile Robot has been used for tote handling at the company's Minden headquarters since April 2023. This role involves supplying small load carriers to the production line and transporting them autonomously between the warehouse and production environments. It navigates freely, interacts safely with personnel and enables the economic scaling of processes – proving a hit for the customer in every way.

MILESTONE WITHIN AUTOMATION.

Constant pressure to innovate and a call for automated solutions to respond to modern-day challenges prompted WAGO to collaborate with Jungheinrich and Magazino to implement the Mobile Robot SOTO within in-house production for the first time. The innovative, end-to-end automation solution is responsible for supplying materials to the injection moulding machines. The enormous throughput performance, the high level of process reliability and the ease of integration have all impressed the company. "Watching SOTO carry out the first transport order was truly a key moment for us," says Marius Bunge, Technical Process Engineer at WAGO.

SOTO – the smart link between warehouse and production.

MAXIMUM EFFICIENCY IN THE FLOW OF MATERIALS.

The Mobile Robots in the SOTO fleet are the ideal solution for the automated transport of small load carriers. The adaptive gripper technology enables impressive agility when conveying up to 24 totes of various sizes. SOTO employs SLAM navigation to adopt a flexible response to changes in the environment and to adapt to changing needs within daily logistics operations. Maintenance-free lithium-ion technology with rapid 1.5-hour charging ensures high availability and continuous

operation for up to 8 hours. The customer's processes are therefore more efficient and also more cost-effective.

PEOPLE AND ROBOT WORKING SIDE BY SIDE.

To get employees on board at an early stage, WAGO was open and transparent in its communications from the outset. Training was given to explain how SOTO changes existing working processes and the benefits that the automated system provides. The robot works in parallel with staff and uses laser scanners and 3D camera technology to navigate safely through the production areas, while also avoiding obstacles. In addition, SOTO reduces the number of vehicles required in the area compared to individual transports of small load carriers by buffering small load carriers in its backpack rack.

IDEALLY POSITIONED FOR THE FUTURE.

Not only is SOTO easy to integrate into existing warehouse systems, but the standardised VDA 5050 interface also makes it possible to add additional trucks as needs change and the company grows. The successful trial of the SOTO system within injection moulding production at WAGO is forming the basis for plans to expand automation to other areas of production. A project that was inspiring and enriching for both parties, it has led the customer to reinforce its commitment to advanced technologies. The company is now also in an ideal position to tackle the challenges of the future.

01
SOTO supplies the production line with small load carriers and transports them independently between the warehouse and production.

02
SOTO can be easily integrated into existing storage systems and enables the addition of further vehicles via a standardised VDA 5050 interface.





// SOTO is the right system for our application. //

Thorben Eppmann
Technical Process Engineer,
WAGO

**We speak with
Thorben Eppmann,
Technical Process
Engineer, WAGO**

What do you see as the key advantages of the SOTO system?

A system that weighs about a tonne and is able to interact safely with people, navigate freely, actively handle totes, and do all this via a unique interface – when you put all these elements together, the effect is extremely impressive. SOTO has improved our processes in many ways. The system carries out transport orders for us 24/7, which has enabled us to significantly reduce non-value-adding activities in container handling. The travel dynamics with an environment scanner, equipment to protect personnel and the ability to go around obstacles: these guarantee a high level of safety in environments where both personnel and machinery operate, which is also a key factor.

Did the process of integrating SOTO into your production environment run smoothly, and how have your employees reacted to the new technology?

A multi-stage process was used to implement SOTO within our production environment. We worked with our partners, Jungheinrich and Magazino, to expand the use case gradually. Ultimately, we successfully rolled it out on a double row of injection moulding machines. We involved our employees on our path to greater automation, by organising training courses or holding information events, for example. The aim was to make it clear in advance which problems SOTO was to solve for us within production and what it was not intended to do. It is explicitly not about taking work away from people. We aim to use robotics to lighten people's load, not to make them superfluous.

How did you find the collaboration within the project, and would you recommend Jungheinrich?

We would definitely recommend Jungheinrich as a partner for intralogistics. We are all extremely proud of what we have achieved with Jungheinrich and Magazino in the last few months. The Mobile Robot SOTO has got off to a successful start in our production environment, putting us in a really good position on which we want to build. We have the option in future of using even more trucks for the same application to optimise processes even further. I think anyone who knows about automation technology will be amazed when they take a look at SOTO and the process it realises at WAGO.

THE PROJECT AT A GLANCE



Customer:	WAGO GmbH & Co. KG
Sector:	Electrical interconnections, automation technology, electrical engineering
Company size:	9,000 employees worldwide
Location:	Minden, Germany

CHALLENGE

Introduction of a mobile robot to automate small parts logistics within injection moulding production, and the seamless integration of the automation system into the existing production environment.

JUNGHEINRICH SOLUTION

The innovative and agile SOTO mobile robot for autonomous tote handling within production with the ability to transport up to 24 small load carriers, comprehensive safety features and a VDA 5050 interface.

RESULTS

Successful trial of the SOTO system within one section of injection moulding production with a significant increase in efficiency and process reliability, as well as the option to expand using other truck types in future.

IMPRESSIONS

The use of the Mobile Robot SOTO reduces the number of vehicles in the area by buffering small load carriers in the backpack rack.



The system carries out transport orders 24/7, which has significantly increased productivity in tote handling.