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Automated production supply with SOTO robots from Jungheinrich subsidiary Magazino

- **Fully automated production supply for the assembly area**
- **Innovative use of the SOTO autonomous mobile robot**
- **Transparent, efficient and reliable processes lower costs**
- **Flagship project with great potential for scaling up globally**

Hamburg / Wernau. 13 February 2025 – The Bosch Home Comfort Group uses innovative autonomous mobile robots SOTO from Jungheinrich subsidiary Magazino to automate its production supply at its Wernau site.

As a leading provider of sustainable and energy-efficient solutions for heating, cooling and process heating, the Bosch Home Comfort Group also relies on innovative technologies when it comes to intralogistics, too. The Group is gradually automating its production logistics at its Wernau site near Stuttgart (Germany). SOTO autonomous mobile robots (AMR) from Jungheinrich subsidiary Magazino are playing a key role in this. The first SOTO has been in use since the middle of last year, with all of the three vehicles ordered and delivered going into regular operation in 2025. The SOTO moves autonomously, safely and efficiently through the production facility. With an adjustable picker arm, it can remove the small load carriers from the transfer racks and sort them into the assembly Kanban racks on the production line.

Automated transport of small parts from the warehouse to the line

“The SOTO robots take care of the fully automated transportation and handling of small load carriers between the compact warehouse and the production lines for modern heating technology,” explains Markus Ruder Team Lead Project Management at Magazino, overseeing the implementation process as project manager. With a load-bearing capacity of up to 24 small load carriers per journey and a lifting height of between 400 and 1,700

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Jungheinrich Aktiengesellschaft
Friedrich-Ebert-Damm 129 · 22047 Hamburg · Phone +49 40 6948-0 · Fax +49 40 6948-1777 · info@jungheinrich.de · www.jungheinrich.com

Chairman of the Supervisory Board Rolf Najork
Board of Management Dr Lars Brzoska, Chairman · Nadine Despigneux · Dr Volker Hues · Maik Manthey · Udo Panenka · Heike Wulff
Company headquarters Hamburg · **Register court** Hamburg HRB 44 885
Bank account Commerzbank AG Hamburg (BIC: COBADEFFXXX) IBAN: DE57 2004 0000 0630 7300 00; (BLZ 200 400 00) 6 307 300
Deutsche Bank AG Hamburg (BIC: DEUTDEHHXXX) IBAN: DE96 2007 0000 0042 9977 00; (BLZ 200 700 00) 0 429 977

mm, the SOTO AMRs offer both impressive performance and versatility. Accessible from three sides, they can be integrated easily into existing production layouts.

The process is simple and efficient: An employee removes the small load carriers required from an automated compact warehouse and puts them in a transfer rack. There, the SOTO automatically picks up the containers and brings them to the Kanban rack by the assembly line. Over the course of the year, empty containers will also once again be handled by mobile robots and transported to a central collection point.

The vehicle is able to move fully automatically through the warehouse. With its flexible navigation, supported by 3-D cameras and four laser scanners, the robot can react independently to hazards in the warehouse environment and adapt its route dynamically. Over the course of 2025, the interface between the existing compact warehouse for containers and the assembly line supply is also to be fully automated and handled by the SOTO robots. The removal of small load carriers from the compact warehouse for the transfer rack is also to be handled by a robotic arm in future.

User-friendly, economical and easy to integrate

The feasibility was successfully tested and the cost-effectiveness calculated as part of a three-week pilot project at Bosch Home Comfort Group in Wernau back in late 2022. During this time, the SOTO proved its ability to automate processes and make them safer, more reliable and more efficient. An ROI analysis by Bosch also confirmed that the investment in the SOTOs would be amortised within a few years.

“The SOTO quickly impressed us with its performance, efficiency and high level of user-friendliness. Even inexperienced users can operate them very easily,” says Michael Staudinger, Plant Manager, Bosch Home Comfort Group in Wernau. “Thanks to the VDA-5050 interface, the robots can be integrated easily into existing control systems and work together seamlessly with other vehicles. The system also makes us more independent from the lack of skilled workers.”

Sustainable and efficient

The Jungheinrich SOTO robots play an active role in making intralogistics sustainable. They are equipped with efficient, maintenance-free lithium-ion batteries. This enables them to run continuously for up to eight hours, while the intelligent charging system avoids unnecessary

loss of charge. Compared with conventional systems, the AMRs result in significantly lower energy consumption, thus helping to keep CO₂e emissions to a minimum.

The automation of the material flow means the solution also reduces the need for manual transportation, which not only lowers operating costs but also optimises material consumption. Digital material tracking in real time ensures transparent, efficient processes and avoids unnecessary transports.

Flagship project with the potential for scaling up globally

Markus Heinecker, Vice President Automated Systems at Jungheinrich, emphasises the significance of the project: “With this flagship project, we not only strengthen our position as a leading provider of AMRs, we also create the basis for further strategic partnerships with Bosch. The SOTO is the perfect example of how innovative technologies can offer future-proof solutions for production logistics.”

The Wernau project is also a major milestone for the Bosch Home Comfort Group in the automation of production logistics. In future, the findings from this project are to be applied throughout the entire business division and the technology made available to other sites, too.

If you have any queries, please contact:

Dr Benedikt Nufer, spokesman

Tel.: +49 40 6948 3489

Mobile: +49 151 2779 1245

benedikt.nufer@jungheinrich.de

About Magazino

Magazino GmbH designs and builds intelligent, mobile robots that perceive their environment and make their own decisions. The automated robots work in parallel with people and make processes in the fields of e-commerce and production logistics more flexible and more efficient. With over 130 employees at its Munich location, Magazino has the one of the largest advanced robotics teams in Europe. Magazino has been a fully owned subsidiary of Jungheinrich AG since 2023.

About Jungheinrich

As one of the world's leading providers of material handling solutions, Jungheinrich has been advancing the development of innovative and sustainable products and solutions for material flows for more than 70 years. As a pioneer in the sector, the family-owned listed business is committed to creating the warehouse of the future. In the 2023 financial year, Jungheinrich and its workforce of more than 21,000 employees generated revenue of €5.5 billion. The global network comprises 12 production plants and service and sales companies in 42 countries. The share is listed on the MDAX.