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# Holistic material transport

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Bosch Rexroth and K.Hartwall work on automated transport solutions for intralogistics



On the photo from left to right: Sven Hamann, Head of Development within the Assembly Technology Business Unit at Bosch Rexroth and Jerker Hartwall, CEO at K.Hartwall Oy Ab (Image source: Bosch Rexroth AG)

**In future, Bosch Rexroth and the Finnish company K.Hartwall will be working together on integrated solutions for automated in-plant material transportation. With the autonomous mobile robot (AMR) ACTIVE Shuttle from Bosch Rexroth and the automated guided vehicle (AGV) A-MATE® FreeLift from K.Hartwall, users have two mobile robots for different tasks at their disposal. The VDA 5050-compliant ACTIVE Shuttle Management System (AMS) from Bosch Rexroth will control both robots and integrate them into the intralogistics system.**

“We want to drive forward the development of integrated solutions for intralogistics. Our technical focus and our portfolios complement each other perfectly,” says Sven Hamann, Head of Development within the Assembly Technology Business Unit at Bosch Rexroth, describing the future collaboration with the Finnish logistics specialist K.Hartwall. The AMR ACTIVE Shuttle from Bosch Rexroth and the AGV A-MATE® FreeLift from K.Hartwall cover transports from small load carriers to pallets.

### Mobile robots automate intralogistics

The ACTIVE Shuttle from Bosch Rexroth autonomously transports dollies with small load carriers with a total load of up to 260 kg through the factory halls. As a plug-and-go solution, it automates cyclical transports or a demand-oriented material supply. No structural measures such as magnetic strips in the floor or reflectors are required. During initial commissioning, the ACTIVE Shuttle creates a map of the approved routes without programming. The Automated Guided Vehicle A-MATE® FreeLift from K.Hartwall is used for voluminous or consolidated materials in foldable cages, on pallets, adapter pallets or roll cages. The robust and slim design of the AGV ensures the automated load carrier transport even in demanding environments.

### VDA 5050 compatible master control

The tried-and-tested ACTIVE Shuttle Management System (AMS) from Bosch Rexroth is a VDA 5050-compatible fleet manager for both mobile robots and transports ranging from small load carriers to pallets. It communicates seamlessly with the shopfloor infrastructure and

## PRESS INFORMATION

allows individual transport orders with configurable job templates so that both robots can be mapped with their full range of functions. In addition to simple transport movements from the source to the destination, complex work sequences too can be created. For example, users can define reference trips or use advanced functions. Jobs are transferred to the mobile robots either fully automatically from higher-level IT systems (MES, ERP etc.) or manually via the web-based operating interface with the help of a PC or tablet. The HMI of the AMS can be designed intuitively and changes are easily implemented. Dynamic production environments can thus be managed easily and without in-depth expert knowledge.

Solutions from both companies are already in use for internal material supply in some Bosch plants and other industrial companies. The ACTIVE Shuttle transports dollies from K.Hartwall. With its slim design, the AMR can drive directly into supermarket lanes and machine cells and load and unload material fully automatically.

### Basic Information Bosch Rexroth

As one of the world's leading suppliers of drive and control technologies, Bosch Rexroth ensures efficient, powerful and safe movement in machines and systems of any size. The company bundles global application experience in the market segments of Mobile and Industrial Applications as well as Factory Automation. With its intelligent components, customized system solutions, engineering and services, Bosch Rexroth is creating the necessary environment for fully connected applications. Bosch Rexroth offers its customers hydraulics, electric drive and control technology, gear technology and linear motion and assembly technology, including software and interfaces to the Internet of Things. With locations in over 80 countries more than 32,000 associates generated sales revenue of around 7.0 billion euros in 2022.

### Basic Information Bosch

The Bosch Group is a leading global supplier of technology and services. It employs roughly 428,000 associates worldwide (as of December 31, 2023). According to preliminary figures, the company generated sales of 91.6 billion euros in 2023. Its operations are divided into four business sectors: Mobility, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT provider, Bosch offers innovative solutions for smart homes, Industry 4.0, and connected mobility. Bosch is pursuing a vision of mobility that is sustainable, safe, and exciting. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross-domain solutions from a single source. The Bosch Group's strategic objective is to facilitate connected living with products and solutions that either contain artificial intelligence (AI) or have been developed or manufactured with its help. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is "Invented for life." The Bosch Group comprises Robert Bosch GmbH and its roughly 470 subsidiary and regional companies in over 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. The basis for the company's future growth is its innovative strength. At 136 locations across the globe, Bosch employs some 90,000 associates in research and development, of which roughly 48,000 are software engineers.

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