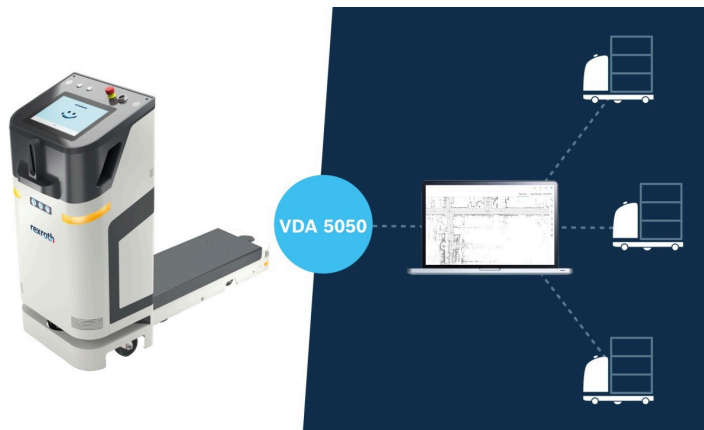


PRESS INFORMATION

ACTIVE Shuttle: Team-capable thanks to VDA 5050

Manuela Kessler | 29.03.2023 | Lohr am Main / Germany | PI 011/23

- Standardized interface makes it easier to operate mixed fleets
- Full interoperability during day-to-day operation
- Universal standard reduces costs



Thanks to standardized interfaces such as VDA 5050, the ACTIVE Shuttle autonomous mobile robot is future-proof and flexible. (Image source: Bosch Rexroth AG)

Cost pressure, ever smaller lot sizes with more product variants and a severe shortage of specialist staff: There has never been a better time to automate intralogistics. This can be achieved in a particularly economical manner with autonomous mobile robots (AMRs) that support the VDA 5050 interface such as the ACTIVE Shuttle from Bosch Rexroth. Users can put together their fleet individually – regardless of manufacturers and with minimal engineering work.

When it comes to automation, Bosch Rexroth favors open interfaces. Standards supported by many manufacturers are more durable and help to encourage innovations. The ACTIVE Shuttle AMR therefore communicates via the standardized VDA 5050 interface. This interface, which was defined to be compatible with products from a number of manufacturers, standardizes communication between a master controller and AMR as well as other AGVs (automated guided vehicles). It is the result of a collaboration between the German Association of the Automotive Industry (VDA) and the VDMA's Materials Handling and Intralogistics group.

VDA 5050 makes it easier to operate mixed fleets with tractors, forklifts or AMRs. End users can put together their fleet individually, regardless of manufacturers, and operate it “as a team” under a master controller. Standardization ensures full interoperability during day-to-day operations and the various vehicles can travel jointly defined routes.

Quick commissioning thank to Plug and Go

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The robust ACTIVE Shuttle transports dollies with small load carriers and a total load of up to 260 kg independently through factories. Given its high load capacity, it is suitable for use in the automotive industry (including suppliers), battery production, the electrical industry and other sectors.

As a Plug and Go solution, the AMR automates cyclical transport tasks as well as the needs-based supply of materials. It requires no structural measures such as magnetic strips at the floor or reflectors. During initial commissioning, the ACTIVE Shuttle creates a map of the permitted routes with no need for programming. Because the ACTIVE Shuttle Management System (AMS) has an intuitive user interface, commissioning a pilot takes less than one working day.

Comprehensive safety concept

ACTIVE Shuttle offers a comprehensive safety concept which was developed in partnership with the German Social Accident Insurance organization (DGUV) and meets Performance Level d requirements in accordance with EN ISO 13849-1. In addition to the safety laser scanner, stereo cameras scan the room in 3D. As a result, they detect objects projecting into the travel path and take evasive action within a defined corridor.

VDA 5050 compatible master controllers such as the ACTIVE Shuttle Management System (AMS) from Bosch Rexroth offer comprehensive software for fleet and job management. Within the Bosch Group, Bosch Rexroth already uses the ACTIVE Shuttle for numerous applications. As leading users, plants from the Bosch Group check out the potential of new Bosch Rexroth solutions such as the ACTIVE Shuttle in practical applications. The development teams have taken into account the findings gained from day-to-day operation and used them as a basis for further product development. In addition to simple source-to-sink transport movements, they have integrated energy management and a traffic control function to avoid congestion.

By automating logistics, users reduce the manpower required for material provision, reduce stocks and gain space for production systems. The standard also reduces the engineering costs as the costs for multiple software licenses are eliminated. At the same time, the use of a master controller in accordance with the VDA 5050 standard simplifies the topology. With the AMS, only one fleet manager needs to be connected to the IT systems and only one interface needs to be programmed.

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 Applications, Machinery Applications and Engineering, and Factory Automation. With its intelligent components, customized system solutions 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 31,000 associates generated sales revenue of around 6.2 billion euros in 2021.

Basic Information Bosch

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The Bosch Group is a leading global supplier of technology and services. It employs roughly 402,600 associates worldwide (as of December 31, 2021). The company generated sales of 78.7 billion euros in 2021. Its operations are divided into four business sectors: Mobility Solutions, 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 440 subsidiary and regional companies in some 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. With its more than 400 locations worldwide, the Bosch Group has been carbon neutral since the first quarter of 2020. The basis for the company's future growth is its innovative strength. At 128 locations across the globe, Bosch employs some 76,100 associates in research and development, of which more than 38,000 are software engineers.

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