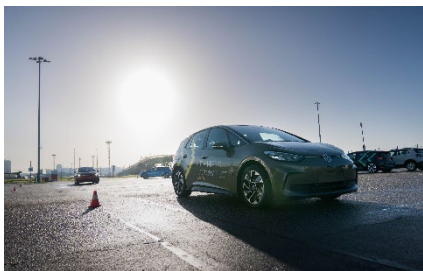


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Automated vehicle logistics put to the test: Volkswagen, Telekom, Unieke and BIBA conclude innovation project in Emden

- Volkswagen, Deutsche Telekom, Unieke and BIBA, the Bremen Institute for Production and Logistics at the University of Bremen, have spent more than two years testing automated vehicle movements under real-world logistics conditions
- The public 5G network, edge computing and the Unieke Marshalling Solution enable communication between vehicles and logistics infrastructure, allowing vehicles to be controlled without a driver
- The focus was on interaction between automated and manually driven vehicles, as well as integration into existing workflows
- The insights gained provide a basis for the further development of automated logistics solutions

Emden, October 28, 2026 –How can vehicles be moved automatically within logistics areas and integrated safely into existing processes? Over the past two years, Volkswagen, Deutsche Telekom, the Finnish technology company Unieke and the Bremen Institute for Production and Logistics at the University of Bremen (BIBA) have been investigating this question at the Port of Emden. The aim of the 'AutoLog' innovation project, funded by the Federal Ministry of Transport (BMV), was to investigate the potential of automated vehicle movements for more efficient and sustainable port logistics.



The test site is located in a logistics area close to the port of Emden. In addition to parking areas and driving routes, it includes a busy roundabout. These conditions allowed the project partners to investigate a range of traffic situations. A particular focus was on interaction between automated and manually driven vehicles during ongoing logistics operations, as well as on integrating the technology into existing workflows.

Christian Vollmer, Board Member of the Volkswagen Passenger Cars brand responsible for Production and Logistics and member of the Extended Executive Committee: "AutoLog

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demonstrates the potential of automated driving for our logistics operations. For us, the key is not just to develop new technologies under laboratory conditions, but to test their practical suitability where our logistics operations take place every day. Together with our partners in Emden, we have gained valuable insights into how vehicle movements can be automated more intelligently and logistics processes further developed in the future. We intend to draw on this experience as we continue to develop the technology."

Technology components working together

AutoLog combines several technology components into an integrated system for automated vehicle logistics. The Unieke Marshalling Solution (UMS) provides overall control and coordination of the vehicles. This requires vehicle technology, environment perception, communications infrastructure and logistics software to work together reliably.

A digital representation of the parking areas supports the planning and coordination of vehicle movements. For communication between the system and the vehicles, the project uses Deutsche Telekom's public 5G network, enhanced with additional capabilities to meet the application's requirements.

The UMS runs on an edge cloud system. Data is processed via a high-speed, dedicated fiber-optic connection in close proximity to the cellular network to meet the technical requirements for time-critical applications.

Klaus Werner, Managing Director of Business Customers at Telekom Deutschland: "AutoLog demonstrates how industry-ready connectivity can form the digital backbone for automated processes throughout vehicle logistics. The combination of low-latency, reliable connectivity, edge infrastructure, and intelligent vehicle control creates the technical foundation for scaling automated vehicle distribution from the end of the production line via rail and ship to the end customer."

Insights to support the further development of vehicle logistics

Other areas of focus included standardised communication and safe interaction between people and technology. AutoLog is guided by the ISO 23374 standard for Automated Valet Parking and investigates how automated vehicles can be integrated into complex logistics environments. This includes interaction with people and other road users, as well as the coordination of automated vehicle movements with existing logistics processes.

Vesa Kiviranta, CBO Automotive & Marshalling Solutions at Unieke: "In Emden, we have demonstrated that automated vehicle movements can be tested even in a demanding logistics environment with mixed traffic. The interaction of our marshalling solution with the existing infrastructure and manually driven vehicles is an important step. The experience gained helps us to further develop the technology and assess its commercial readiness to other logistics environments."

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Work on automating vehicle movements is also underway elsewhere in the Volkswagen Group. As part of a collaboration between the AutoLog project and Audi's Ingolstadt site, the project partners tested the automated loading of vehicles onto rail wagons. This brings another stage of vehicle logistics into focus: precisely positioning vehicles as they are transferred to rail transport. The successful pilot adds another use case to the experience gained in Emden and demonstrates the range of tasks along the logistics chain that can be redesigned and further developed through automated driving.

The conclusion of AutoLog marks the end of the joint testing phase. The insights gained are intended to inform the further development of automated logistics processes and provide a basis for assessing additional applications. In the long term, automated vehicle movements could help make logistics workflows more flexible, safer and more sustainable, while opening up new ways of organising vehicle transport within plant and terminal areas.

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The Volkswagen Group is one of the world's leading car makers, headquartered in Wolfsburg, Germany. It operates globally, with 111 production facilities in 16 European countries and 10 countries in the Americas, Asia and Africa. With around 663,000 employees worldwide. The Group's vehicles are sold in over 150 countries.

With a comprehensive portfolio of strong global brands, leading technologies at scale, innovative ideas to tap into future profit pools and an entrepreneurial leadership team, the Volkswagen Group is committed to shaping the future of mobility through investments in electric and autonomous driving vehicles, digitalization and sustainability. The goal: As a "Global Automotive Tech Driver", to make the best automotive technologies accessible to customers worldwide - from entry-level mobility to the luxury segment.

In 2025, the total number of vehicles delivered to customers by the Group globally was 9.0 million (2024: 9.0 million). Group sales revenue in 2025 totaled EUR 321.9 billion (2024: EUR 324.7 billion). The operating result in 2025 amounted to EUR 8.9 billion (2024: EUR 19.1 billion).

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