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A milestone for greater road safety: more than two million vehicles produced with Car2X

- Car2X can inform drivers of traffic jams, accidents, roadworks and approaching emergency vehicles, etc. in their immediate vicinity and can help to avoid critical situations⁰¹
- The more vehicles that use the technology, the more effective the system becomes
- Information is transmitted at lightning speed via direct communication between vehicles or infrastructure – without requiring a mobile network
- Car2X is available as the traffic hazard alert assist system in numerous Volkswagen models

Wolfsburg – Connectivity can make driving a car safer, more convenient and more efficient. The production of more than two million Volkswagen models with Car2X for Europe is therefore an important step towards fewer road traffic accidents. The vehicles networked via Car2X use the principle of local swarm intelligence and can communicate both with each other and with the local traffic infrastructure in real time. In critical situations, the traffic hazard alert assist system can then display a warning message in the digital cockpit to vehicle occupants. The system is available in numerous Volkswagen models – partly as standard, partly as optional equipment.



The greater number of Car2X capable models on the roads allows increased communication between vehicles and infrastructure.

With the large number of Car2X capable vehicles, direct communication between vehicles and infrastructure can take place in milliseconds, without the need for mobile network reception. The associated increase in information density permits timely warnings and reactions in situations where fast transmission is important, for example, in the event of emergency braking, a suddenly approaching end of a traffic queue or nearing emergency vehicles. Connectivity with surrounding infrastructure is also gaining in importance: for example, intelligent roadside units can send specific warning messages to vehicles about various traffic events – such as wrong-way drivers and traffic jams, people, animals and objects on the road – and about unusual weather events.

Veronica Lehr, Head of Driver Assist Systems in Volkswagen's Development department: "With the increasing use of Car2X, road traffic can become more cooperative and anticipatory in many areas. The technology is therefore a key component for our 'Vision Zero' – traffic without serious accidents. In addition, Volkswagen is laying the foundation for the mobility of the future, which is set to be safer, intelligent and connected."

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Media Information

Car2X notifications: vehicle to vehicle		
 Stationary Vehicle	 End of Queue	 Stationary Emergency Vehicle ¹
 Breakdown	 Dangerous Driving Situation (e.g. emergency braking)	 Emergency Vehicle (approaching vehicle, with direction indicator) ¹
 Accident	 Slow Moving Vehicle ^{1,2}	
Car2X notifications: infrastructure to vehicle		
 Roadworks	 Accident ²	 Strong Wind ²
 Wrong-Way Driver ²	 Animals on Road ²	 Restricted View ²
 Queue ²	 Obstruction on Road ²	 Slippery Road ²
 Stationary Vehicle ²	 People on Road ²	
¹ requires equipped special vehicle		² available in ID. Software 4.0 and higher

Overview of all Car2X notifications and the corresponding symbols, which may vary depending on the respective vehicle or software version.

Communication with intelligent traffic infrastructure. Across Europe, increasing investments are being made in Car2X equipment for transport infrastructure. For example, Autobahn GmbH in Germany has already equipped over 1,000 roadworks trailers with Car2X-technology. In Austria, roadside units are now in place throughout the motorway network. Countries such as Italy, Spain, the Czech Republic, Hungary and Slovenia have likewise already installed a large number of roadside units and equipped emergency and special vehicles. In addition, breakdown services also use the technology to share information with Car2X-enabled road users within a range of up to 800 metres. Road operators and rescue services see this as a milestone in the prevention of accidents and the safety of their staff on the roads. For example, if a fire service vehicle is equipped with Car2X, other compatible road users can see from which direction the emergency service vehicle is approaching by means of a corresponding warning. The volume of the infotainment system in the car receiving the warning can also be reduced if necessary.

Assist systems can be even better. In addition, Car2X opens up new possibilities for innovative assist systems designed to make driving even more convenient and efficient in the future. Even today, Car2X already functions as a virtual sensor that supplements the on-board vehicle sensors and can support the driver assist systems in the vehicle. After receiving corresponding information, the optional Travel Assist with ACC can reduce the vehicle's speed within the system limits even if the end of a traffic queue is not yet visible, for example. For assisted lane changes on motorways, Car2X information can be used to control acceleration in a more convenient manner. In the future, bicycles, motorcycles and other road users such as trucks and buses could also be networked. Among other things, Volkswagen is a member of the Coalition for Cyclist Safety, a consortium of leading names from the automotive, bicycle and technology industries. Founded in 2023, the initiative aims to further increase safety for cyclists by integrating them into the technological ecosystem.

Car2X technology at a glance. The Car2X direct communication in Volkswagen models is based on the Wi-Fi p standard. With the help of this technology, vehicles can



exchange warnings, location data and other information in real time within a radius of up to 800 m. The notification exchange process is open and standardised, enabling communication across manufacturers. To protect privacy, the notifications are anonymised. In addition, the primary user must activate Car2X in the Infotainment system. The transmission of information is free of charge, as it does not take place over the mobile network. The traffic hazard alert assist system with Car2X-technology is currently available as an option in the Golf, T-Roc, Tiguan, Tayron, Passat, ID.3, ID.4 and ID.5 models and is equipped as standard in the ID.7.

Technical innovations for a broad target group. The prestigious Centre of Automotive Management (CAM) has awarded the Volkswagen brand the AutomotiveINNOVATIONS Award 2025 as the most innovative volume brand. According to CAM, Volkswagen impresses with its wide-ranging innovations at a high technological level, with the areas of electric mobility and connectivity being highlighted in particular.

⁰¹ *Car2X technology works only within the system limits.*

The Volkswagen Passenger Cars brand has a global presence and produces vehicles at 28 locations in 12 countries. In 2024, Volkswagen delivered about 4.8 million cars. These include bestsellers such as the Polo, T-Roc, T-Cross, Golf, Tiguan and Passat as well as the successful all-electric models of the ID. family. About 170,000 people currently work at Volkswagen around the world. With its ACCELERATE strategy, the company is consistently driving forward its development into the most desirable brand for sustainable mobility.
