

Road hazard service: Bosch hazard warnings in BMW Group vehicles

Greater safety in traffic for passenger cars and commercial vehicles

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- ▶ Dr. Markus Heyn, member of the board of management at Robert Bosch GmbH: “The road hazard service anticipates critical situations, making driving safer and easier.”
- ▶ Bosch is already successfully offering the road hazard service in Europe and the U.S. Customers include manufacturers of both passenger cars and commercial vehicles.
- ▶ The cloud-based service has been part of the BMW Group fleet of passenger cars since March 2026.

Farmington Hills, Mich. – The journey is its own reward. Bosch’s road hazard service brings safety to new heights so that drivers can enjoy an even more carefree and rewarding journey. The cloud-based service uses continuously updated data from numerous sources to quickly warn drivers of potential hazards on their route, such as sudden fog or black ice, and is already being used in millions of different cars and commercial vehicles around the world. Also, initial vehicles from the BMW Group are using the Bosch service. Bosch plans to roll out the service gradually in additional BMW vehicles over the next few years.

“The road hazard service from Bosch increases road safety while also increasing the ease of driving. Our cloud-based service is a tangible win for our customers because it predicts and informs drivers, whether they are in a car or a truck, of hazards on the route and helps them avoid critical situations,” says Dr. Markus Heyn, member of the board of management at Bosch and chairman of the Mobility business sector.

Bosch service already proving itself in millions of vehicles

The road hazard service from Bosch was released in June 2024 and went live with a European vehicle manufacturer. Six months later, a large commercial vehicle manufacturer also integrated the service, which Bosch has been

gradually rolling out since then. The cloud-based software solution is now available in millions of vehicles in Europe and the U.S. The service has also been part of the BMW Group's vehicle fleets since March 2026. Some of the models using the road hazard service include the BMW iX1, iX2, iX3, and X3, as well as several Mini models. One unique selling point of the Bosch technology is that vehicle manufacturers can set the sensitivity of the system – meaning the point at which the system triggers a warning – to their exact specifications and in line with their own market philosophy.

This includes notices about accidents and abandoned vehicles, for instance in construction zones. The service can also warn drivers of heavy rain that could lead to hydroplaning, heavy snow, and strong wind. In addition, Bosch is the only provider to offer a cloud-based wrong-way driver warning, which is, among others, used by a European high-volume manufacturer. Vehicle manufacturers can choose whether to purchase the wrong-way driver warning as part of the road hazard service package or as an individual feature. This technology provides drivers with an early warning and gives them crucial seconds to respond, often long before the wrong-way driver is even visible.

The wrong-way driver warning is shown either directly on the display in the cockpit or on a smartphone, if the driver does not yet own a vehicle with an integrated wrong-way driver warning. The feature can be used in a variety of smartphone apps from Bosch partners. Simply download one of the partner apps and activate the feature to use this Bosch service. In total, these apps have already been downloaded more than 100 million times.

Highly reliable thanks to smart data mix

The high degree of reliability of the road hazard service is based on a smart fusion concept. Bosch combines anonymized real-time data from a worldwide fleet of millions of connected vehicles with information from third-party providers such as weather services and road operators. These sources together provide a highly precise, current overview of the road conditions, which forms the basis for reliable warnings. Driver assistance systems such as adaptive cruise control (ACC) and emergency braking assist can also use the predictive warnings to respond even more safely and precisely.

In practice, an algorithm continuously analyzes and combines the incoming vehicle data, such as control interventions by the electronic stability program (DSC) and the activity of the windshield wipers. If the system determines, for example, that many vehicles in one region are using the windshield wipers on the highest setting and weather data is reporting heavy rain, the system concludes that there is a risk of hydroplaning. Affected drivers then receive an early warning and can adjust their speed in time. The quality of the predictions is continuously validated by Bosch's own test fleet, which is equipped with special sensors. In addition, external sources such as webcams along the roads verify the emitted warnings.

A new Bosch offering for even greater safety and ease on every drive: the connected speed limit system always knows the current speed limit and shows it to the driver directly in the vehicle. Thanks to smart connectivity, the service even recognizes dynamic limits, such as those in construction zones, on wet roads, or depending on the time of day.

Press photos and infocharts are available on the Bosch Media Service at www.bosch-press.com.

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About Bosch

Having established a presence in North America in 1906, today the Bosch Group employs around 38,000 associates in more than 100 locations in the North American region (as of Dec. 31, 2024). According to preliminary figures, Bosch generated consolidated sales of \$18.7 billion in the U.S., Mexico and Canada in 2025. For more information visit www.bosch.us, www.bosch.mx and www.bosch.ca.

The Bosch Group is a leading global supplier of technology and services. It employs roughly 412,000 associates worldwide (as of December 31, 2025). According to preliminary figures, the company generated sales of 91 billion euros in 2025. Its operations are divided into four business sectors: Mobility, Industrial Technology, Consumer Goods, and Energy and Building Technology. With its business activities, the company aims to use technology to help shape universal trends such as automation, electrification, digitalization, connectivity, and an orientation to sustainability. In this context, Bosch's broad diversification across regions and industries strengthens its innovativeness and robustness. Bosch uses its proven expertise in sensor technology, software, and services to offer customers cross-domain solutions from a single source. It also applies its expertise in connectivity and artificial intelligence in order to develop and manufacture user-friendly, sustainable products. With technology that is "Invented for life," Bosch wants to help improve quality of life and conserve natural resources. The Bosch Group comprises Robert Bosch GmbH and its roughly 490 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. Bosch's innovative strength is key to the company's further development. At 136 locations across the globe, Bosch employs some 82,000 associates in research and development.

The company was set up in Stuttgart in 1886 by Robert Bosch (1861-1942) as “Workshop for Precision Mechanics and Electrical Engineering.” The special ownership structure of Robert Bosch GmbH guarantees the entrepreneurial freedom of the Bosch Group, making it possible for the company to plan over the long term and to undertake significant upfront investments in the safeguarding of its future. Ninety-four percent of the share capital of Robert Bosch GmbH is held by Robert Bosch Stiftung GmbH, a limited liability company with a charitable purpose. The remaining shares are held by Robert Bosch GmbH and by a company owned by the Bosch family. The majority of voting rights are held by Robert Bosch Industrietreuhand KG. It is entrusted with the task of safeguarding the company’s long-term existence and in particular its financial independence – in line with the mission handed down in the will of the company’s founder, Robert Bosch.

Additional information is available online at www.bosch-press.com, www.bosch.com.

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