

Vehicle Motion Management: new software solution provides early warning for tire issues

Data-based technology for tire monitoring

December 10, 2024
PI 11913 BBM ak/af

- ▶ New software solution detects gradual tire pressure loss and loose wheel bolts using intelligent algorithms.
- ▶ The data-based service continuously evaluates tire condition and provides the driver with early, easy-to-understand warnings about potential hazards.
- ▶ Bosch expands collaboration with partners to offer innovative data-based tire solutions software.

Stuttgart, Germany – Hardly anyone thinks about them, but they are essential for driving safety - tires. Loss of tire pressure or loose wheels can lead to breakdowns and lead to potentially dangerous situations. Systems that detect tire condition and warn the driver in time can help prevent such incidents. Currently, the market offers various technologies that can monitor tire conditions. This can be done either directly through additional sensors installed in the tires or software-based by analyzing vehicle behavior. Bosch is now expanding its range of software solutions for data-based tire health and will offer them as part of its data-based service, within the Bosch Vehicle Motion Management ecosystem – a software system solution for the entire scope of vehicle motion. For this purpose, Bosch is also working with partners. In the area of indirect systems that do not require additional sensors in the tires, Bosch is expanding its long-standing business relationship with the automotive supplier NIRA Dynamics, with focus on gradual pressure loss and loose wheel detection, leveraging the expertise of both companies to ensure precise and cost-effective solutions.

Data-based Tire Solutions is an innovative, data-based service consisting of various algorithms that continuously monitor the condition of the tires and provide early warnings to the driver about gradual tire pressure loss or loosened

wheel bolts. "With Data-based Tire Solutions, we're offering our customers a vehicle motion management software solution that covers all key factors of tire health to prevent potential breakdowns" says Stephan Staß, member of the executive management of the Bosch Vehicle Motion division.

Early warning of gradual tire pressure loss and loose wheels

The Bosch data-based tire system monitors each tire continuously and individually, alerting drivers of gradual loss of tire pressure and loose-wheels through a user-friendly interface. One of the new algorithms of the data-based tire solutions is able to detect even small, gradual pressure loss in the tires. As soon as the tire pressure value deviates from the nominal value by around 5 percent, drivers are informed and – if necessary – warned. Once the tire pressure has been fully restored, the system can be easily reset using the Easy Reset function. Another algorithm detects a loosening wheel as soon as the wheel bolts are loose by just half a millimeter, which is very difficult for untrained drivers to notice. In addition to providing adequate, early warnings to drivers, the system also recommends specific courses of action. In this way, Bosch data-based tire solutions help prevent to avoid breakdowns and enhance safety on every drive.

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

Contact person for press inquiries:

Athanassios Kaliudis

Phone: +49 711 811 7497

Mobility is the largest Bosch Group business sector. In 2023, its sales came to 56.2 billion euros, or just under 60 percent of total Group sales. This makes the Bosch Group one of the leading mobility suppliers. Bosch Mobility pursues a vision of mobility that is safe, sustainable, and exciting. For its customers, the outcome is integrated mobility solutions. The business sector's main areas of activity are electrification, software and services, semiconductors and sensors, vehicle computers, advanced driver assistance systems, systems for vehicle dynamics control, repair-shop concepts, as well as technology and services for the automotive aftermarket. Bosch is synonymous with important automotive innovations, such as electronic engine management, the ESP anti-skid system, and common-rail diesel technology.

The Bosch Group is a leading global supplier of technology and services. It employs roughly 429,000 associates worldwide (as of December 31, 2023). 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. 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 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. Bosch's innovative strength is key to the company's further development. At 136 locations across the globe, Bosch employs some 90,000 associates in research and development, of which nearly 48,000 are software engineers.

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