



Digital Plus on the Tracks: ZF and DB Systemtechnik Agree on Cooperation

- **Companies agree on infrastructure monitoring cooperation**
- **Condition monitoring system precisely locates potential deficiencies in the rail network**
- **New connect@rail project combines ZF sensor technology with DB Systemtechnik analysis expertise**

Friedrichshafen (Germany). In a new joint project, ZF and DB Systemtechnik combine existing competencies to increase efficiency in the monitoring of critical infrastructure. Their digital monitoring solution detects potential rail deficiencies at an early stage. This enables predictive and flexible planning of maintenance work, thus reducing unnecessary expenses, preventing delays and breakdowns, and offering a real added value in terms of safety and comfort. A test vehicle will try out the system during an extensive real use application in the fall.

Weather fluctuations, peak utilization and everyday wear: The German rail network is under a lot of pressure, which is why it nowadays is highly important to monitor the condition of the tracks precisely and effectively. This is the only way to maintain railway infrastructure safely and within reliability standards. Even more importantly, this is the only way to improve these standards.

This is the goal of a current partnership between ZF and DB Systemtechnik. The Continuous Track and Vehicle Monitoring project, CTVM for short, is meant to set a new benchmark in the area of infrastructure monitoring. Markus Gross, Head of the Rail Drive Systems Product Line at ZF affirms: "This project combines our Group's vehicle condition monitoring competencies with the infrastructure analysis expertise of DB Systemtechnik." The concluded agreement also clearly illustrates the advantages ZF can offer potential mobility partners. "Our system is a turnkey solution. We not only deliver the matching hardware, but also offer the required software and the associated platforms. All our customers need to do is connect their system to ours," says Alan Dittrich, Head of Digital Solutions for Rail Drive Systems at ZF. Since existing vehicles can also be retrofitted with the required ZF components, every single train used for normal line service could also take over a monitoring function.



Sharing expertise for a smart project

ZF just recently implemented a condition monitoring system for the public transport company in Graz that identifies flat spots on the vehicle wheels. For ZF's cooperation with DB Systemtechnik, the system has now been further developed to allow the analysis the condition of the rail track.

The first contribution by ZF falls into the hardware category: Battery-powered Bluetooth sensors, the so-called Heavy Duty TAGs, are mounted on the vehicle wheels, where they continuously record a variety of data such as acceleration, vibration and more. This data is recorded and processed in the VCU Pro Onboard Unit – a telematics gateway – and forwarded to the ZF cloud via WiFi or 4G. The information can then be visualized and read out via a dashboard.

The highlight of the new partnership is the link to the DB Systemtechnik Continuous Track Monitoring or CTM analysis tool. This tool evaluates the data obtained to detect noticeable problems on the tracks and to precisely locate them using GPS. Maintenance work can be carried out early on and in an anticipatory manner, thus preventing delays, breakdowns, and overloading of the rail network, as well as simplifying and automating operating processes.

Digital and modular, reliable and flexible

ZF's design for "connect@rail" is modular. If requested by the customer, more sensors, evaluations and monitoring functions can be added. This means that the system can be widely installed in a significant range of rail vehicles, in short and long-distance traffic. It is developed for independent and maintenance-free operation and uses its digital potential effectively: Thanks to the connection to the ZF cloud, data can be recorded, transmitted and evaluated on a permanent basis. With corresponding user rights, the respective reports can be accessed from anywhere. Thus, ZF places maximum emphasis on individual customer value while providing the operator with a basis for digital maintenance and workshop management.

The DB Systemtechnik test vehicle – a 612 model range railcar – will carry out test drives on an open line in the fall of 2021. It is equipped with two ZF gateways and a total of 14 Heavy Duty TAGs. Initial results are expected by October of this year.



PRESSE-INFORMATION
PRESS RELEASE

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ZF showcases the Condition Monitoring System and other technologies for rail vehicles at the Railway Forum trade fair at the Estrel Congress Center in Berlin on September 7 and 8, 2021. ZF is present at booth B04.

Caption:

On tour in the fall: The ZF and DB Systemtechnik test vehicle will be trying out the monitoring system developed by the two partners under real use conditions.

Photo: DB Systemtechnik

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About ZF

ZF is a global technology company and supplies systems for passenger cars, commercial vehicles and industrial technology, enabling the next generation of mobility. ZF allows vehicles to see, think and act. In the four technology domains Vehicle Motion Control, Integrated Safety, Automated Driving and Electric Mobility, ZF offers comprehensive product and software solutions for established vehicle manufacturers and newly emerging transport and mobility service providers. ZF electrifies different kinds of vehicles. With its products, the company contributes to reducing emissions, protecting the climate and making mobility safer.

The company has more than 150,000 employees at approximately 270 locations in 42 countries. In 2020, ZF achieved sales of €32.6 billion.

For further press information and photos, please visit: www.zf.com