



ZF Enables Intelligent Mobility with Innovative, Scalable Cloud-based Platform

- **Microsoft Azure powers ZF's scalable, intelligent IoT platform**
- **Networked and integrated solutions for new mobility concepts**
- **Initial application examples unveiled at CES**

Friedrichshafen/Las Vegas. ZF is unveiling its cloud-based platform for innovative mobility services at the Consumer Electronics Show (CES) in Las Vegas. This cloud solution will make it possible to integrate different functions – ranging from fleet management and ride-sharing to innovative delivery services – into one shared intelligent platform, regardless of service provider. When developing its initial application samples, ZF has closely collaborated with start-ups and innovative mobility suppliers.

As part of its mission to enable vehicles to see, think and act, ZF continues its pursuit of Vision Zero by helping to create a future in which autonomous or driverless vehicles generate zero emissions and cause zero accidents on the road. However, ZF believes that not only individual vehicles will be intelligent. "To shape the mobility of tomorrow, we need to integrate products and services into a completely unified, intelligent system that is an open platform," said Mamatha Chamarthi, Chief Digital Officer at ZF Friedrichshafen AG. At CES in Las Vegas, the company will present a cloud-based Internet of Things (IoT) solution built on Microsoft Azure.

"Microsoft Azure offers not only a multitude of interesting and intelligent algorithms, but also the largest portfolio of security certificates industry wide," explains Dr. Malgorzata Wiklinska, head of Digital Ecosystem and Global Innovation Hubs at ZF. "The digital platform stands out due to its flexibility and scalability across industries. All business partners can decide which functions they want to use."



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Stefan Andre Raschke, Senior Director Automotive, Microsoft Germany, adds: "By building secure and sustainable mobility solutions based on Microsoft Azure, ZF empowers tomorrow's connected society."

ZF will present its first sample application options for the platform at the CES trade show. These options were developed with various partners and will demonstrate many diverse areas of use.

Fleet management for any situation

ZF has connected its own telematics platform Openmatics with the cloud. It can be used to manage conventional vehicle fleets as well as wind farms or even micromobility solutions such as e-bike fleets, including the charging stations. Operators can track the location and status of their vehicles in real time and conduct assessments based on various factors. In addition, the cloud solution offers intelligent analysis tools such as predictive maintenance, which uses data to monitor wear and tear on individual vehicle components. The system can set up service appointments in good time, thus minimizing any downtime costs. "These functions will make Openmatics even more intelligent than before," said Wiklinska.

Autonomous ride sharing system for passengers and goods

ZF has developed a ride sharing app in cooperation with the Berlin mobility start-up, door2door. With this, autonomous vehicle fleets can be deployed in urban areas. The fleets can allow both passengers and goods to be optimally and carefully transported to a destination using the routing and intelligent algorithms of door2door's platform. The app combines the transportation of users and goods in vehicles with minimum detours. When transporting people, the app offers a further feature. If users are in a foreign city and are looking for a pizzeria, for example, they can receive recommendations which are personalized and take into account potential online reviews and the journey time. The app communicates directly with the user via speech recognition. When a vehicle is booked, the user is identified via facial recognition through taking a selfie of the passenger. CES visitors can experience the app live at ZF's stand.



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Over-the-Air updates keep fleets current, with greater security

Electronic control units in fleet vehicles must be regularly updated in order to rule out malfunctions. At the same time, the networking of fleets in a cloud-based system sets high demands on data security. Operators must ensure that unauthorized parties are not able to access the vehicle and manipulate it. That is why ZF integrated the eSync system developed by the California-based networking specialist Excelfore into the platform. It keeps the fleet software up to date at all times using the Over-the-Air updates. The updates are transmitted directly from the cloud into the vehicle – while the vehicle is mobile via a data connection and with no waiting time. In addition, the system works as a shield against threats from outside the vehicle. If it detects an intruder, it warns the fleet operator and provides the appropriate update to close the security gap.

Caption:

ZF's cloud solution will make it possible to integrate different functions – ranging from fleet management and ride-sharing to innovative delivery services – into one shared intelligent platform.

Photo: ZF

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ZF is a global leader in driveline and chassis technology as well as active and passive safety technology. The company has a global workforce of around 137,000 with approximately 230 locations in some 40 countries. In 2016, ZF achieved sales of €35.2 billion. ZF annually invests about six percent of its sales in research & development – ensuring continued success through the design and engineering of innovative technologies. ZF is one of the largest automotive suppliers worldwide.

ZF allows vehicles to see, think and act. With its technologies, the company is striving for Vision Zero – a world of mobility without accidents and emissions. With its broad portfolio, ZF is advancing mobility and services in the automobile, truck and industrial technology sectors.

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