



ZF coPILOT Enables Enhanced Safety and Driving Comfort

- **Integrated and intuitive system for next-generation advanced driver assistance powered by ZF ProAI and NVIDIA DRIVE**
- **New driving experience with semi-automated driving: ZF coPILOT takes over various driving maneuvers**
- **Improved reliability and safety capabilities for passenger car semi-automated driving**
- **ZF ProAI central computer features powerful AI capabilities, NVIDIA DRIVE Xavier processor and Level 2+ software stack**
- **Available from 2021**

Friedrichshafen/Shanghai. ZF today announced the debut of ZF coPILOT, an intelligent advanced driver assistance system (ADAS) leading to enhanced safety and driving comfort opportunities. Leveraging the power of AI and equipped with a comprehensive sensor set, vehicles can perform various automated driving functions, especially on freeways. In addition, ZF coPILOT can be operated with voice commands and is designed to recognize traffic conditions, sense vehicle handling and monitor the driver, helping to pre-empt hazardous situations through active control intervention. ZF coPILOT is powered by the ZF ProAI central computer and the NVIDIA DRIVE platform. It is designed for volume production and will be available from 2021.

Just three months after ZF and NVIDIA announced that ZF ProAI is the first system to run NVIDIA's DRIVE software, ZF coPILOT debuts at the Shanghai International Automobile Industry Exhibition. Together, the high-tech companies present an attractive "Level 2+" system leading to enhanced safety and driving comfort opportunities in passenger cars. "The ZF coPILOT is equipped with artificial intelligence, a 360° sensor set, the powerful ZF ProAI central computer and NVIDIAs DRIVE platform, thus offering driving and safety functions that surpass the performance of a regular Level 2 system for semi-automated driving.



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This enables us to achieve an improved quality in semi-automated driving," said Torsten Gollewski, Head of Autonomous Mobility Solutions at ZF.

The ZF coPILOT demonstration vehicle, which will be presented for the first time at Auto Shanghai, clearly demonstrates the functional scope and relative comfort and safety benefits for drivers: The vehicle can perform specific driving maneuvers autonomously, for example entering and leaving highways under the appropriate conditions. For more relaxed highway driving, the ZF coPILOT combines an advanced cruise control with active steering assistance and lane keeping assist. In addition, the ZF coPILOT can proactively change lanes, pass, and merge. Furthermore, the system can continuously analyze vehicle surroundings, recognizing pedestrians, oncoming traffic, and intersections.

The ZF coPILOT is also equipped with sensors and functions that monitor the driver and can trigger warnings in the event of potentially dangerous situations. For example, were the driver to become distracted, their focus too far removed from traffic on the road or show signs of drowsiness. In addition to intelligent route guidance including "MyRoute" – a map function that recognizes repeat routes – the ZF coPILOT is also equipped with voice recognition so that the driver can conveniently enable, operate and disable driver assistance functions via voice commands, if they wish to drive manually.

The ZF sensor set in the demonstration vehicle consists of a front radar, four corner radars, and a total of eight cameras. Two cameras are directed forwards and one backwards, two are integrated into each side mirror and one monitors the driver.

In order to evaluate the massive amount of data collected in real-time by the comprehensive sensor set, high performance processing power is required. That is the job of the ZF ProAI Gen2 central computer that powers ZF coPILOT: With the high-performance, energy efficient computation of the NVIDIA DRIVE Xavier processor at its core, ZF ProAI



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can integrate and completely control the pre-trained algorithms for all driver assistance functions. The system is flexible, scalable, and seamlessly updateable. If desired, automotive manufacturers can add additional features and functions of their own or those developed by ZF.

With a product family comprising four models from Level 0 to Level 5, ZF ProAI covers the entire automotive operating range. The top model, ZF ProAI RoboThink, features up to 600 trillion operations per second (600 teraOPS), making it the most powerful AI-enabled supercomputer currently available in the mobility industry.

Advanced Driver Assistance – Whenever and However You Need It

Since highly automated driving at SAE Level 3 is not permitted in many countries, the ZF coPILOT is based on semi-automated driving at SAE Level 2, which requires the driver to continuously monitor traffic conditions. But the enhanced Level 2+ technologies from ZF and NVIDIA provide reliable and convenient assistance, performing like a “co-pilot” to support the driver.

“We are convinced that an extended Level 2+ system like the ZF coPILOT is very attractive for manufacturers: Due to its wide range of functions, it offers consumers significant added value in terms of safety and driving comfort – and at a competitive price,” said Torsten Gollewski.

A clip on copilot is available under <https://youtu.be/IRw04o8w9G8>

Captions photos (Images 1-7):

Introducing ZF coPILOT, the integrated Level 2+ system for next-generation advanced driver assistance. Powered by ZF ProAI and NVIDIA DRIVE.

Images: ZF



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Captions illustration sensor set (Images 8-9):

The sensor set of the ZF coPILOT consists of a front radar, four corner radars, and a total of eight cameras. The heart of the system is the ZF ProAI Gen2.

Images: ZF

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ZF is a global technology company and supplies systems for passenger cars, commercial vehicles and industrial technology, enabling the next generation of mobility. With its comprehensive technology portfolio, the company offers integrated solutions for established vehicle manufacturers, mobility providers and start-up companies in the fields of transportation and mobility. ZF continually enhances its systems in the areas of digital connectivity and automation in order to allow vehicles to see, think and act.

In 2018, ZF achieved sales of €36.9 billion. The company has a global workforce of 149,000 with approximately 230 locations in 40 countries. ZF invests over six percent of its sales in research and development annually.

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