



ZF develops Dual Lens Camera for commercial vehicles; launches in 2020 with integrated ADAS technologies

- Features ZF's longitudinal and lateral vehicle control expertise combined with Mobileye's advanced EyeQ4 processor
- Much smaller than most commercial vehicle cameras on the market due to flexible and compact mechanical design
- Suits a wide range of vehicle types and windscreen angles – part of a suite of ADAS products to launch in 2020
- Second lens enables redundancy for Level2+ functions and offers wide angle field of view for near pedestrian detection – if one lens becomes blinded second lens helps ensure camera operation

Friedrichshafen, Germany / Farmington Hills, Michigan – June 13, 2019 – ZF, the world's leading supplier of automotive cameras, has developed the Dual-cam two lens camera specifically designed for the commercial truck market and to be used in concert with other ZF ADAS technologies.

Part of ZF's S-Cam4 family of automotive grade cameras, the Dual-cam is designed to help meet varying global regulatory requirements and delivers advanced functions such as Traffic Sign Recognition, Lane Keeping Assist and Centering and object and pedestrian detection to enable Automatic Emergency Braking (AEB).

"To help ensure these technologies work effectively on commercial trucks a second lens is necessary for some of these advanced functions," said Dan Williams, head of ADAS and autonomy for ZF Commercial truck applications. "For example, for pedestrian AEB in some instances a standard mono-camera with a 52-degree field can limit the ability to detect pedestrians or other vulnerable road users with enough time to actuate the brakes and help avoid or mitigate accidents for larger trucks in complex environments."



PRESSE-INFORMATION
PRESS RELEASE

Page 2/3, 2019-06-13

Having a second lens also enables redundancy for Level2+ functions – if one lens becomes blinded or non-functional the second lens helps ensure the camera can still operate due to multiple optical paths.

ZF's camera technologies feature best-in-class optical performance and an enhanced fusion envelope. When combined with a full suite of the company's ADAS technologies such as forward looking and corner radar, automated functions such as lane change assist, and traffic jam assist are enabled. These functions can form the basis for technologies such as truck platooning to make long haul trucking safer and more efficient.

ZF has a long history of commercial truck ADAS supply for major European truck makers, and will launch an advanced ADAS system for a major Japanese manufacturer in 2020. The launch will include ZF's first application for its Image Processing Module where camera images will be processed in a separate unit from the camera housing.

With its SEE-THINK-ACT approach ZF is shaping advanced safety and autonomous driving in the commercial truck market with environmental sensor technologies that can "see" the surroundings, powerful processing units employing Artificial Intelligence such as ZF's ProAI family of super computers that can "think" for the system and intelligent mechanical systems that can "act" to provide enhanced levels of vehicle control.

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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



PRESSE-INFORMATION
PRESS RELEASE

Page 3/3, 2019-06-13

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