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PRESS RELEASE

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Advancing City Safety: ZF Presents New Collision Mitigation System for City Bus Applications

- **Taking its systems and components expertise to the next level, ZF has developed its first Collision Mitigation System specifically designed for city buses**
- **Offering active braking to help avoid frontal collisions, the system is designed to simultaneously safeguard bus passengers from the adverse effects of sudden braking**
- **New CMS underlines ZF's capabilities, building on its systems development capabilities as well as its extensive software and hardware expertise**

Friedrichshafen, Germany. ZF today announced that it is set to launch a pioneering Collision Mitigation System (CMS) for city buses. Offering active braking to help avoid frontal collisions with other road users, including vehicles, bicycles and pedestrians, the system also helps counter the adverse impact of braking momentum on passengers. Helping reduce the risk of accidents and injuries both inside and outside of the bus, the solution is the industry's first Original Equipment Manufacturer (OEM) independent CMS specifically engineered for city bus applications. The system is compatible with both electric and internal combustion engines. Having already secured business wins from leading bus OEMs, ZF will initially launch its City Bus CMS in Europe and, ultimately, plans to roll the system out worldwide.

"Leveraging ZF's wide-ranging competencies to develop a pioneering solution connecting radar and camera with a central processing unit and braking system, City Bus CMS represents a clear proof point of the Group's Next Generation Mobility strategy," said Philipp Helmich, Head of Vehicle Dynamics Product Lines with ZF's Commercial Vehicle Solutions division. "The system addresses the clear and pressing demand from manufacturers and their customers for ever-higher levels of safety in city traffic."

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“In addition to providing advanced, integrated safety for road users as well as the driver and passengers of both electric and traditionally fueled buses, we are extending ZF’s Advanced Driver Assistance Systems leadership in trucks and coaches to the important city bus market segment. Utilizing advanced braking system technology is fundamentally important for safety and autonomous driving, with complex city bus applications providing an interesting and valuable use case,” added Helmich.

Offering significant value for OEMs and fleet customers, ZF’s city bus CMS represents a major step in enhancing bus safety for passengers and road users alike. Helping mitigate hazardous traffic situations in the complexity of an urban environment requires sophisticated situational analysis, including advanced object detection and classification. Building on ZF’s extensive safety systems expertise, ZF’s City Bus CMS draws on its latest OnGuardMAX technology for heavy trucks – with specific features and functionalities that are tailored to city bus applications. Combining the data from its state-of-the-art camera and radar provides continuous analysis of the traffic situation. If an impending collision is detected, the system can issue a Forward Collision Warning (FCW) and automatically apply the brakes to help mitigate or avoid an accident.

Combined with ZF’s advanced braking capabilities that are precisely calibrated with the vehicle’s speed and weight, the adverse effects of sudden braking on passengers can also be minimized. With seamless interaction between ZF’s ADAS and braking system, brake pressure is carefully applied across the braking cascade making passengers less likely to be jolted and put off-balance.

Launched on January 1, 2022, ZF’s Commercial Vehicle Solutions (CVS) division has a mission to help shape the future of commercial transportation systems by being the preferred global technology partner to the commercial vehicle industry. Employing approximately 25,000 people across 28 countries, the division powerfully combines ZF’s commercial vehicle systems expertise, extensive technology portfolio



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and global operations, to innovate and supply components and advanced control systems for increasingly autonomous, connected, and electrified (ACE) vehicles. ZF CVS division unites ZF's former Commercial Vehicle Technology and Commercial Vehicle Control Systems divisions, the latter being formed following ZF's acquisition of WABCO in Spring 2020.

Caption:

ZF's pioneering Collision Mitigation System specifically engineered for city bus applications offers active braking to help avoid frontal collisions while simultaneously helping to safeguard bus passengers from the adverse impact of emergency braking.

Image: ZF

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About ZF

ZF is a global technology company supplying 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 of 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 a wide range of vehicle types. With its products, the company contributes to reducing emissions, protecting the climate and enhancing safe mobility.



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With some 157,500 employees worldwide, ZF reported sales of €38.3 billion in fiscal 2021. The company operates 188 production locations in 31 countries.

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

About CVS Division

ZF's Commercial Vehicle Solutions (CVS) division is helping shape the future of commercial transportation ecosystems. Our mission is to be the preferred global technology partner to the commercial vehicle industry. Powerfully combining ZF's commercial vehicle systems expertise, extensive technology portfolio and global operations, the division serves the full commercial vehicle industry value chain. As the automotive industry progresses towards an increasingly autonomous, connected, and electrified (ACE) future, ZF's CVS division innovates, integrates, and supplies components and advanced control systems that help make commercial vehicles and fleets operate more safely and sustainably. CVS unites ZF's former Commercial Vehicle Technology and Commercial Vehicle Control Systems divisions, the latter being formed following ZF's acquisition of WABCO in Spring 2020.