



No Traffic Jams in the City: ZF Makes Local Public Transport Smart and Low on Emissions

- **ZF offers electric drive solutions for all vehicle classes, from e-bikes to articulated buses**
- **Smart and networked local public transport is the key to stress-free mobility**
- **The new generation of EcoLife reduces the emissions generated by buses**
- **Advanced sensors and powerful central computers for automated driving functions**

Friedrichshafen/Brussels. Congestion, lack of parking spaces, and driving bans for diesel cars; fearing gridlock and aiming to meet climate targets, many cities are expanding their public transport services. A network of different means of transport that is as seamlessly integrated as possible should offer people all the benefits of mobility. ZF supports this switch to low-emission, safe, and smart public transport with a diverse range of electric drives for all vehicle segments, plus sensors and control boxes for autonomous transport systems. As part of its exhibition at Busworld Europe, the technology company is showcasing its extensive portfolio, including the world premiere of the new generation of the EcoLife automatic transmission system and a retrofitting solution for the all-electric CeTrax bus drive.

To offer a more sustainable and attractive alternative to individual mobility, an increasing number of local public transport networks are providing broad and interconnected services that include traditional means of transport such as buses and trains alongside ride-sharing options or e-bike rental stations.

Electric solutions for the entire vehicle spectrum

For example, the technology company offers electric drive solutions for vehicles of all sizes – from the compact and powerful Sachs RS pedelec motor to two versatile e-drives for articulated buses. Firstly, the **CeTrax**



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electric central drive with its “plug-and-drive” approach makes it possible for bus manufacturers to electrify existing vehicle models without major changes to the chassis, axles, structural engineering, or differential gear. Alternatively, the **AxTrax AVE** electric portal axle, which has already undergone thousands of series tests throughout the world, is an attractive solution for bus manufacturers. Both products are also suitable for the retrofitting of existing fleets to electric drives. The retro-fitting solution for the electric drives is provided by the engineering company e-tro-Fit GmbH.

ZF supplies both CeTrax and AxTrax AVE as a coordinated overall system combined with an inverter and a drive control, therefore guaranteeing its customers maximum performance, efficiency, and service life. ZF is not only the systems supplier for the electric driven axle but also for the OPENMATICS Connectivity platform and, additionally, provides access to the worldwide garage network.

ZF also continues to attach great importance to making conventional drivers increasingly efficient and low-emission. The Group has achieved this with the new generation of the EcoLife automatic transmission system for buses. This system can reduce fuel consumption by up to three percent and will celebrate its launch at Busworld Europe in Brussels.

Digital systems make fleet management more efficient

Reliability and efficiency are decisive factors for transport associations. ZF relies on its broad expertise in smart digital solutions to avoid unplanned downtime and enable efficient fleet management. The Group offers a comprehensive tool for both all-electric and mixed bus fleets in the form of the Openmatics open connectivity platform. Openmatics captures all relevant parameters and diagnostic data from the electric driveline, allowing bus operators to get the most from the charging infrastructure and plan vehicle maintenance on an anticipatory basis. ZF has also developed a new, cloud-based predictive maintenance program for the EcoLife transmission system, which is used in city buses: **ZF-DriveLife** constantly, reliably, and comprehensively monitors



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and analyzes the status of the transmission. This allows operators and OEMs to maximize transmission life through predictive maintenance, while also minimizing operating costs and downtime. A similar predictive maintenance approach is used in tour buses with TraXon. With this new feature, ZF has prepared its successful TraXon transmission system for the digital future of the commercial vehicle industry.

Automated transport for enhanced quality of life

In the future, self-driving transport systems for ride-sharing services will make another major contribution to smart urban mobility. ZF has developed a comprehensive range of camera, radar, and lidar sensors to allow these robotic taxis to navigate through city traffic reliably and safely. The company offers the most powerful central computer currently available in the automotive industry in the form of the ZF ProAI RoboThink AI-enabled control box. In the **e.GO Moove GmbH** joint venture and together with Dutch mobility service provider **2getthere**, in which the Group acquired a majority shareholding last spring, ZF is working on various autonomous transport systems for future urban mobility. ZF will present its solutions in Hall 5, Stand 506 of Busworld Europe, which will be held in Brussels from October 18 to 23.

Captions:

1. Smart solutions for attractive local transport: ZF offers systems for all fields of networked and zero-emission urban mobility.
2. The CeTrax central drive for commercial vehicles can be integrated into existing vehicle platforms, e.g. city buses, without much effort.
3. Passed thousands of series tests: the AxTrax AVE electric portal axle can be operated not only using lithium-ion batteries, but also with a fuel cell or as a hybrid.
4. Making buses fitted with conventional drives more efficient and low-emission: the new generation of the EcoLife automatic transmission system.

Images: ZF



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#MobilityLifeBalance

Mobility originally meant personal, self-determined freedom for every individual. However, due to congestion, emissions, accidents, and lack of availability, it is now turning into an ever more present source of stress. It is becoming increasingly difficult to reconcile personal life with the range of mobility options currently available. ZF aims to highlight this imbalance with its #MobilityLifeBalance themed campaign. In addition, the technology company provides solutions that contribute to better and more sustainable mobility options. The objective is to enable clean, safe mobility that is automated, comfortable, and affordable. At all times, for everyone, and everywhere.

Find out more about the topic through the #MobilityLifeBalance hashtag in social media or online at <http://www.mobilitylifebalance.com>

ZF Friedrichshafen AG

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