The urban construction site of the future: ZF electrifies drum drive units for truck mixers

A growing world population coupled with the continued trend toward urbanization has motivated the construction industry to focus on infrastructure and housing projects in urban areas across the globe. As a result, mixers have developed into an essential part of the supply chain for concrete transport on our cities’ construction sites worldwide. The demand for lower gas and noise emissions sees manufacturers of off-highway applications operating in an increasingly challenging environment. Legislative changes and new guidelines for improving air quality mean that driving restrictions in cities will continue to increase, particularly for diesel engine vehicles. To that end, ZF is developing low-emission solutions for mixer applications.

‘Next Generation Mobility’ is ZF’s strategic answer to the latest legal, social and technological changes. It is designed to offer safe, automated, comfortable, and economical systems, with zero emissions, for all applications. The aim is to use innovative technology to bring the mega trend of electrification to the off-highway sector, thereby setting a new benchmark in the market for truck mixer drives. The CMe ECOMIX Electric Mixer Drive enables ZF to bring mixers with zero emissions to downtown construction sites.

Structure of the electric mixer drive system
ZF offers an electric drum mixer drive teamed with a battery as an energy source for truck mixer parts. This guarantees customers security when investing in and planning the procurement of new truck mixers. Traditional mixer drum drives operate via high pressure hydraulics that make the truck’s combustion engine dependent on a PTO to drive the hydraulic pump. The new plug-in hybrid concept replaces the hydraulic motor in the mixer drive with a pre-connected electric motor and the hydraulic pump with a generator. The truck’s engine can, therefore, be turned off while on the construction site and at the mixer system,
allowing the drum to move autonomously and with no emissions, thanks to the electric motor. The battery can be charged on the mixer system by cable and by a built-in generator when being driven.

Some of the benefits of this plug-in hybrid system for truck mixers with electromechanical drum drive include compactness, low weight, and durability even for strenuous construction applications. The system satisfies all the expectations for performance and productivity found in traditional truck mixers and combines them with the extensive benefits and opportunities that electromechanical systems have to offer. The ZF CMe drum drive is the first electric product for truck mixers to go into production.

**Key advantages of the new electric mixer system**

In addition to zero emissions on site, the new drive solution offers the same advantages as the ZF Ecomix II series that has already successfully established itself on the market. The CMe also improves fuel consumption and noise levels which in turn has a positive effect on factors such as savings, freedom of movement and comfort. The new mixer system raises the bar for efficiency, productivity and noise without neglecting the total cost of ownership.

The energy source for the drive system is a powerful battery that has been fitted to the trailer. During operation, the vehicle can access 60 kW continuous power and a peak power of 125 kW for a shorter period.

The 650 V used by the high voltage system was specially selected for reduced power loss. Further, this is emerging as the standard in the electric commercial vehicles sector.

**Clean air, less noise, more comfort**

The interplay between ZF technology products makes the truck mixer an efficient vehicle, ready to meet future market demands. The first step toward zero emissions and quieter construction sites in urban areas.
Caption:
3) ZF electrifies mixer applications thus making them ready for the zero-emission construction site of the future
4) The new electric mixer system ECOMIX CMe sets the benchmark in the fields of efficiency, productivity and low noise emission

Images: ZF

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**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 images, see: [www.zf.com](http://www.zf.com)