

ELECTRIFIED

All-in-one solution for commercial vehicle PTOs

The Eworx product family from ZF enables commercial vehicle power take-offs (PTOs) that are locally emission-free. Via CAN, the solution can be integrated into the vehicle's battery and energy management system.



According to the company with this solution, they support the commercial vehicle sector through its transformation to a more sustainable future (Source: ZF)

When it comes to the electrification of commercial vehicles, the focus will not be solely on the powertrain. In this segment, around fifty percent of vehicles are additionally equipped for use as municipal vehicles, on construction sites, in depots, etc. Currently, specialized vehicles, such as truck cranes, dump trucks, or cement mixers require suitably designed PTOs that are coupled to the engine or transmission of the combustion engine drivetrain, explained the company.

However, because the architecture of conventional drivelines differs fundamentally from electric drivelines, familiar interfaces are no longer used, future PTOs need to be redesigned. "This is where ZF, with its expertise as a systems supplier, can really support the industry towards its way to electrification," explained Kleber Vinhas, who has responsibility for the CV Powertrain Modules product line in ZF's Commercial Vehicle Technology

Division. "With Eworx, we have simplified the integration of equipment into new platforms and are providing the market with a new standard interface for the operation of work bodies. This is a smart solution that takes us one step closer to zero emissions. With this solution, we support vehicle and body manufacturers in optimally mastering the complex challenge of electrification."

All-in-one solution

The developed product family offers an all-in-one solution to electrify PTOs for operating work equipment – regardless of the architecture used for the drive. The advantages are locally emission-free operation with reduced noise, facilitating their use in cities and residential areas in particular, said the company.

The core of the system is the ZF Ecube which provides the link between the vehicle battery and the modular electric ZF Epto which in turn drives the equipment. The Ecube contains suitable power electronics, a control unit, and software packages tailored to the particular application. Due to connection to the CAN network, the solution can be integrated into the vehicle's battery and energy management system. Safety and assistance functions are also possible as well as the option to control the machines via smartphone or tablet from outside of the cab.

Test vehicle

ZF has built an experimental electrified, remote-controllable dump truck which can also operate independently of the tractor. The prototype is currently undergoing a test phase in real world conditions at the company's headquarter in Schweinfurt (Germany). In cooperation with various body manufacturers, further vehicles featuring solutions for electric auxiliary drives are already under construction, they explained. Real-world testing of these prototypes will also be carried out by the manufacturers involved. The first customers have already signaled their interest in the solution, the company summarized.

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