

All around the truck

Complex machines like trucks are constantly being remade from the inside out thanks to innovative components made by the many manufacturers in the supply chain. One of the most diversified of these, Bosch, is promoting technology to automate, connect, and electrify commercial vehicles

Bosch (Hall 16, A01) is showing an eCity Truck concept, part of its range of LGV electrification options from 2.0-7.5t gvw apparently intended to be sold to truck OEMs. Bosch has two offerings: a modular eAxle drive system (5-300kW) and an electric drive powertrain. The former offers up to 300kW of power and 6,000Nm torque. In the latter, an electric motor with permanently connected power electronics mounts to a transmission and then to a driveshaft. It also offers an electric trailer axle that stores energy in a high-voltage battery during braking. The battery can feed systems such as cooling compressors for trailers or engine starters in construction vehicles. It claims fuel savings of up to 9,000 litres per year compared with conventional diesel powertrains.

The German component maker is also advertising its connectivity solutions. A new platform (unnamed in the press release) provides the technological foundation for such cloud-based services as predictive diagnostics and over-the-air software updates. It has two physical components: a software module providing a secure communication interface between the vehicle, cloud and services, and a data management module for OEMs. Other whizzy electronics include: a re-engineered predictive cruise system that automatically updates stored data



about road conditions as new information comes in; a transport freight data logger; a data gateway to encrypt truck data on its way to the cloud; and a digital mirror system developed by Bosch and Mekra Lang for 2019 production (pictured above).

Also being promoted are four driver assistance systems using radar and/or cameras: turn warning for manoeuvres in complex situations; blind-spot recognition; predictive emergency braking; and lane-keeping systems.

Steering technology also has a place on the stand. The Bosch Servotwin electrohydraulic steering system (above) offers speed-dependent steering support, as well as other driver aids such as cross-wind compensation.

The electric rear-axle steering system (eRAS) steers the leading and trailing axles of commercial vehicles with three or more axles, to improve turning radius.

Powertrain developments are also being highlighted, such as the Bosch Denoxtronic AdBlue dosing systems. There's also a modular common-rail fuel injection system for commercial vehicles. Third, Bosch has developed a variable displacement oil pump to supply the engine with "exactly the right amount of oil in any situation". As certain stages of operation require less torque, it uses up to 1% less fuel. That multi-vane pump is available in three designs: with oil pan, in a compact front design, and as an engine cover. Fourth, Bosch presents supporting components for natural gas drivelines, including ECU, components for fuel injection and air management, and a number of related sensors. [TE](#)