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## ALLISON 9 SPEED



Allison Transmission has announced its first nine-speed model at the North American Commercial Vehicle Show in Atlanta.

The innovative, fully automatic transmission, for medium- and heavy-duty vehicles, will be available globally and is targeted for release in 2020. With its deep first gear ratio and industry-leading ratio coverage, the Allison nine-speed transmission provides significant fuel savings as the highly-efficient gear train allows the torque converter to lock up early in first gear. Additionally, the nine-speed includes an integral engine stop-start system that provides immediate transmission engagement and vehicle hold while the engine is restarted.

Providing value for a variety of applications, the nine-speed model is ideal for distribution trucks, rental and lease trucks, and school buses.

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## ZF CENTRAL DRIVE

The manufacturer of Friedrichshafen is testing a city bus equipped with the Ce-Trax electric central drive, presented for the first time at the 2016 IAA in Hannover.



With a maximum output of 300 kW and a maximum torque of 4,400 Nm, Cetrax is suitable for buses of all sizes, both low-floor and high-floor.

With CeTrax, the bus accelerates from standing without any interruption of the torque and comfort is ensured by much lower chassis vibrations and a quieter ride than conventional engines.

«CeTrax», points out Jochen Witzig, responsible at ZF for bus transmission system development, «can be mounted on existing platforms without any modifications to the chassis, axles or differentials. Vehicle manufacturers thus save on development and installation costs».

## CHARGING SYSTEMS



For charging electric buses in depots, ABB offers a solution that incorporates smart charging features with a future-proof and modular design, safe and reliable

operation, and remote service and data management as part of the ABB Ability™ portfolio of solutions. The new HVC-Overnight Charger is a compact power cabinet paired with three charge boxes. This means that after the first vehicle has finished charging, the next will start charging automatically, maximizing vehicle availability and reducing the initial investment and subsequent operational costs.

The power cabinets of ABB's HVC-Overnight Charger can be upgraded from 50kW to 100kW or 150kW at any time. Additionally, the advanced services from ABB Ability™ provide customers with various connectivity features including remote monitoring, remote management, remote diagnostics and remote power upgrades.

## FOR ELECTRIC BUSES

Thermo King Athenia™ MkII Heat Pump range is designed for hybrid and electric buses. Thanks to its reversible refrigeration circuit, passenger comfort is ensured not only during the



summer months when cooling is required, but also during the winter months when heating is required instead. In addition to this, the system can operate in ambient temperatures of down to minus 7 degrees Celsius.

In heating mode, the Athenia MkII Heat Pump is able to transfer heat from outside air into the inside passenger area with a coefficient of performance level (COP) of up to 4. This means for each 1kW of electricity consumed from batteries the heat pump generates up to 4kW of heating. The system can also be equipped with a battery cooler, which can recover the energy emitted by the batteries and use it for heating the passenger area.

In order to lower total power consumption the units use electric variable speed compressor with a cooling and heating capacity modulation range of up to 60 percent, even when the bus is at the bus station.