

Press Release

Schaeffler presents new products from its electrification range at the CTI in Berlin

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- Schaeffler's E-Mobility division will showcase its wide-ranging product portfolio for powertrain electrification to a high-caliber audience of industry professionals
- One of the highlights will be Schaeffler's universal, highly integrated and compact generator solution for range extender vehicles
- The company will also present its high-performance master control units for software-defined vehicles and its work on thermal management solutions for PFAS-free refrigerants

Schaeffler will underline its innovative strength and capabilities for the e-mobility segment at the CTI Symposium in Berlin, which is set to take place on December 2-3. The Schaeffler product range for electrification includes components, modules, systems and the associated software for all powertrain topographies with an electrification component. Modular in design throughout, this product range comprises mechanical, electronic and mechatronic components as well as a fully-electric axle drive EMR4 (Electronics Motor Reducer, 4th generation). As a result, Schaeffler is successfully meeting a wide range of requirements and providing comprehensive solutions for electrified powertrains worldwide. The exhibits on display include a very special product: The new range extender module for REEVs (range extender electric vehicles) covers all requirements for power generation in these kinds of vehicles, which are rapidly gaining ground in both China and the USA. Despite its extensive capabilities, the range extender module is extremely compact with simple interfaces, making it easy to integrate.

"Thanks to its product range and innovative strength, Schaeffler is carving out a defining role in the e-mobility segment, because we really do cover everything, from mechanical components, modules and complete systems to solutions for modern vehicle electrical architectures with centralized software for the software-defined vehicle," says Thomas Stierle, CEO E-Mobility at Schaeffler AG.

The company's exhibition at the CTI Symposium provides an overview of products and solutions for all possible vehicle topographies with electrification components. As well as battery-electric vehicles (BEVs), these encompass all types of hybrids, including range extender electric vehicles. Schaeffler products are designed so

that they flexibly meet the requirements in all types of electric vehicles. Alongside “traditional” components like electric motors, power electronics, control units and software, the product range also includes highly specific solutions in keeping with the principle “minor cause, major effect”: For example, the VoltShield-P insulation bearing for electric motors on display in Berlin prevents bearing damage caused by high-frequency circulating currents. And because thermal management in electric vehicles is important so they can be used in winter, Schaeffler is working on solutions for systems with PFAS-free (per- and polyfluoroalkyl substances) refrigerants like propane and CO₂.

Innovative hardware and software for the vehicle control of the future

For software-defined vehicles, Schaeffler supplies both application software and hardware in the form of zone controllers and the High Performance Master Control Unit (HP MCU). This main control unit serves as a central, cross-domain integration platform for all functions in the powertrain. The HP MCU, which is equipped with the high-performance Aurix T4x micro-controller family and optionally with the S32 SoC (system-on-chip), has a modular and scalable design. Schaeffler uses this integration platform as a hardware basis to efficiently orchestrate the interaction of all components in the powertrain.

Compact range extender provides added range

The range extender technology offers new growth prospects for Schaeffler. The highly integrated range extender module has been integrated into the first customer vehicles. The especially compact unit, consisting of electric motor plus power electronics for power generation including cooling system with oil pump, water connection and oil filter, delivers up to 300 kW of continuous charging power in the more powerful Power Class 2 version, which can be supplied directly to the battery. This power is sufficient to tow pickup trucks including trailers. The range extender module is available for either 400V or 800V architectures. It is activated whenever the battery capacity of the vehicle falls below a certain threshold. In this way, a REEV can manage long journeys without stopping for charging, while short journeys can be done in fully electric mode – achieving the best of both worlds. In China, this is one of the drivers for the popularity of REEVs, whereas in the USA the appeal lies in the possibility of driving pickups over long distances with trailer and load. With the Schaeffler range extender module, it has been possible to meet all requirements for this kind of generator unit while at the same developing a module in a power class of up to 80 kW with an axial length of less than 200 mm. This is a key factor in being able to additionally accommodate an internal combustion engine and the generator unit in an electric vehicle.

Schaeffler Group – We pioneer motion: The Schaeffler Group has been driving forward groundbreaking inventions and developments in the field of motion technology for 80 years. With innovative technologies, products, and services for electric mobility, CO₂-efficient drives, chassis solutions and renewable energies, the company is a reliable partner for making motion more efficient, intelligent, and sustainable – over the entire life cycle. Schaeffler describes its comprehensive range of products and services by means of eight product families: From bearing solutions and all types of linear guidance systems through to repair and monitoring services. Schaeffler is with around 110,000 employees and more than 250 locations in 55 countries, one of the world's largest family-owned companies and one of Germany's most innovative companies.

Schaeffler's compact range extender provides added range. (Photo: Schaeffler)

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Schaeffler's modular and scalable Master Control Unit. (Photo: Schaeffler)

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