**Magna | 48-V Transfer Case**

Magna, the automotive supplier, has developed a new 48-V transfer case and a range of other 48-V products to support automotive manufacturers in the fulfilment of increasingly stringent CO₂ reduction regulations. The 48-V eletelligentDrive eDS system is one of the first mild-hybrid transfer cases on the market. It is also the first transfer case system for all-wheel drive systems to offer improved fuel efficiency and CO₂ emissions reduced by up to 10% compared to a two-wheel drive system. The transfer case can be easily integrated into existing drivetrain layouts, said Swamy Kotagiri, Magna CTO and President of Magna Powertrain. Magna’s electrification strategy aims to boost powertrain efficiency while also improving driving dynamics and safety for the end customer.

**Niu | Electric Scooter with More Power**

Niu, the Chinese manufacturer, has launched two new scooters with performance and comfort specifically designed for the European market. Both vehicles offer increased range and higher top speeds: The N-GT achieves a top speed of 70 km/h and has a range of 130 km. The two removable lithium-ion batteries have a capacity of 35 Ah and can be fully charged in 3.5 h. The 3-kW electric motor is supplied by Bosch. The M+ is a further development of the M series first launched into the German market in the Summer of 2017. It has a 1.2-kW electric motor from Bosch and the accumulator with 42 Ah capacity is reported to have a range of over 100 km. All scooters have an integrated pre-paid SIM card from Vodafone that enables a round-the-clock connection to the Niu app. The app offers users GPS, anti-theft tracking, analysis options and a help center.
Canatu | Continental | 3-D Touch Surface

Suppliers Canatu and Continental have developed a 3-D touch surface for a vehicle’s passenger cabin. The concept of three-dimensionally formed, seamless and touch-sensitive surface allows instinctive access to the information functions of the display. The approach has already been awarded the Best of Innovation Award in the category “in-vehicle audio/video” at the CES in Las Vegas, USA, in January 2018. The use of touch sensors in 3-D surfaces that provide tactile feedback instead of sliders, buttons and switches, makes operating them intuitive and simultaneously increases the driver’s capacity to concentrate on the traffic situation. Continental has implemented the concept in the center console. The transparent 3-D structures are possible thanks to Canatu’s CNB films and sensors.

Isabellenhütte | Electricity from Waste Heat

Together with a number of partners, over the past 15 years the German company Isabellenhütte has developed a new type of thermoelectric material to the stage of market readiness. At its site in Dillenburg, Germany, 10 kg of half Heusler compound is smelted during each production run and made into functional components such as Thermoelectric Generators (11EUs). These can be used to generate electricity from waste heat. Between 60 and 70 g of the material can convert engine waste heat into electrical energy with an efficiency level of up to 5 %. The electricity is fed into the vehicular electrical system which results in lower fuel consumption and a reduction of up to 4 % in CO₂ emissions.

EngineSens | Transmitter for Nitrogen Oxide Probes

EngineSens Motorsensor GmbH and Kleinknecht Automotive GmbH have jointly developed a new transmitter for nitrogen oxide probes. Communication between the two components is achieved via CAN bus signals, whereby the transmitter converts the ppm signal into a 4-20 mA signal that can be transmitted independently of the line length. These current signals can be subsequently easily processed by any PLC controller. The complete system consists of a 24 V nitrogen oxide probe with a measurement range of 0 to 1500 ppm, a cable connector between probe and transmitter, and the transmitter itself. According to EngineSens, this means that existing systems with SCR (Selective Catalytic Reduction) can also be retrofitted.

TE Connectivity | High-voltage Contactor

TE Connectivity (TE) has introduced a new EVC 80 high-voltage contactor for hybrid and electric vehicles. Featuring a continuous current of up to 80 A and a voltage rating of up to 450 V, the contactor can be used in low current applications or for pre-charge or auxiliary for higher power batteries. A compact, hermetically sealed nitrogen gas contact chamber provides safety, performance and a long lifetime. The compact housing enables a more efficient layout of the battery disconnect unit, improved thermal conduction and better EMC characteristics. It has been tested to IEC 61649 standards.
BMW i is now offering an ex-works, fully integrated solution for the inductive charging of a plug-in hybrid model. The BMW wireless charging consists of an inductive charging station that can be installed either in a garage or outside and a component installed on the underside of the vehicle. The contactless transmission of energy works over a distance of 8 cm and has a charging capacity of 3.2 kW. This allows the high-voltage batteries in the BMW 530e iPerformance to be fully charged in approximately 3.5 h. The efficiency of the system is said to be around 85% and is close to the 92% of cables. A WiFi connection allows the vehicle to communicate with the charging station, the monitor shows a top view of the vehicle and its surroundings with colored outlines that support the driver in positioning the vehicle correctly. The parking position can deviate from the ideal position by up to 7 cm longitudinally and 14 cm laterally.

Kyocera I

Connectors for Infotainment and Assistance Systems

Insensitive to vibration and heat: Kyocera has announced board-to-board connectors for new application areas in automotive electronics. They have a contact separation of 0.5 mm and are heat resistant up to 125 °C. The connectors have been equipped with a patented tolerance compensation mechanism that guarantees a connection tolerance of ± 1.0 mm in both x and y directions. This value is 2.2 times higher than standard connections and makes the components particularly robust.

Porsche I

Start of Charging Service

The Porsche Charging Service is aimed at simplifying the charging procedure for electric and plug-in hybrid vehicles. The platform has a service that searches for suitable charging stations and handles the payment process using centrally stored payment data across countries and currencies. This eliminates the need for registration with operators. An app provides real-time information regarding location and availability of the charging stations as well as the cost of charging a vehicle. The users identify themselves at the charging station using a QR code via the app or with the “Porsche ID card” that the user can receive free of charge after registering for the service, which costs 2.5 euros per month.
Volvo Trucks has developed new driver assistance systems to help drivers avoid several of the most frequent accident scenarios. Volvo Dynamic Steering with lane-keeping assist uses cameras to monitor when the vehicle is about to cross over lane markings. A slight rotation of the steering wheel in the corresponding opposite direction coupled with a light vibration calls the driver’s attention to the situation. The second system, Volvo Dynamic Steering with stability assist, detects a skid using sensors mounted on the frame. The smallest tendency to skid results in the system stepping in to support the driver in countersteering in order to stabilize the vehicle. The Volvo Dynamic Steering system also lets the driver set the steering resistance that suits their preferences.

Kia has released the first technical details of its new electric vehicle, the Niro EV. The front-wheel drive crossover boasts a 150-kW electric motor with a maximum torque of 395 Nm. Two lithium-ion batteries with different capacities are available. The 64-kWh battery is reported to provide a range of 450 km. A 100-kW fast-charging connection charges the battery in 54 min to 80% capacity. The smaller 39.2-kWh battery system is still good to give the Niro a range of 300 km. It is worth noting that the Niro EV will have a VDA level 2 traffic jam assistant on-board. The system recognizes lane markings and keeps the vehicle in its lane. Over and above this, the traffic jam assistant orients itself on the preceding traffic and assumes control of acceleration, braking and steering while the driver monitors the surroundings. The system does this by measuring the safe distance to the preceding vehicle using sensors. It functions from 0 to 130 km/h. The Niro EV will be launched in Korea in the second half of this year and will be available to German dealers before the year is out.