

Automotive Engineering Exposition 2018 Yokohama

Continental Showcases Innovations in Automated Driving, Electrification and Connectivity

Yokohama (Japan), May 10, 2018. The technology company Continental will be at Automotive Engineering Exposition (AEE) 2018 in Yokohama from May 23 to 25, 2018, to present an exclusive exhibition showcasing solutions that contribute to mobility of the future under the slogan “Making Mobility A Great Place To Live”. Continental will demonstrate how its innovations in automated driving, electrification and connectivity can shape the transformation into mobility as a great place.

Automated Driving Innovation Stream

New sensors and the associated control units are ultimately paving the way for the next stage in automated driving. The ability to detect a vehicle's entire surroundings is a fundamental prerequisite for automated driving. A key component in this is **Hi-Res 3D Flash LIDAR**, which now fulfills automotive requirements for the first time. This Flash LIDAR has been developed for use at close range and generates a high-resolution 3D point cloud 30 times per second within its 120° field of vision. That means that a precise distance measurement is taken in real time for every pixel in the field of vision. This produces a list of objects that is then used to define the vehicle's driving strategy. One significant advantage of the Hi-Res 3D Flash LIDAR sensor technology is that it provides both real-time machine vision as well as environmental mapping functions. This technology will help to enable a significantly more detailed and accurate field of vision around the entire vehicle, independent of day or night time and robust in adverse weather conditions. Together with other sensors for monitoring surroundings, such as radar and cameras, Hi-Res 3D Flash LIDAR forms a powerful package for detecting everything around the vehicle at any time.

Electrification Innovation Stream

For drive systems, Continental sees a trend toward electrification in all vehicle classes. The technology company is developing battery charging systems to maximize the inherent advantages of electric vehicles. One example is the **AllCharge** innovative charging technology, which turns electric powertrain into a 'universal charger' catering to all types of cable-based charging station.

Cars of the future will feature electric drives. But the combustion engine is evolving, too, and still has its peak ahead of it. Continental does not expect to see a gradual decline in volumes for gasoline and diesel engines until after 2025. The importance of the internal combustion engine on the journey toward electrified mobility made Continental to develop a mix of drive technologies.

The **48-volt "people's hybrid"** is making highly efficient gasoline and diesel engines more environmentally friendly. This technology achieves proven fuel savings for a gasoline engine of around 21% in real-life urban traffic. In 2017 Continental presented the "Super Clean Electrified Diesel", which demonstrated how 48-volt hybridization and innovative catalytic converter solutions can be used to further increase the efficiency of a vehicle and reduce the NOx emissions of a diesel engine in real operation by about 60%.

The electric axle drive (**EMR3**) is highly integrated and particularly lightweight for a variety of vehicle concepts. The complete powertrain module can be quickly and easily integrated into new electric vehicle models. It combines power electronics with an inverter, electric motor and transmission gearing in a single, compact, weight-optimized unit. Continental offers vehicle manufacturers its complete electrical final drive in one module in performance classes up to 320 kW.

Key to efficient, environmentally-friendly mobility are low consumption, low emission and light weight design. Continental presents one light weight example that substitute polyamide for cast aluminum, stamped and welded steel, materials that are typically used for structural chassis parts. For OEMs, benefits of this **polyamide rear cradle** include reduced energy consumption and emission, as well as simplified assembly processes. End users can also benefit from reduced fuel consumption thanks to its design optimized for lightweight.

Connectivity Innovation Stream

Connectivity is becoming a key technology for an intelligent mobility of the future. Along its concept of holistic connectivity Continental will demonstrate its capability as system integrator with solutions that enable an intuitive human-machine dialogue, reliable and high-performance communication as well as sophisticated information management.

The latest **Curved Center Stack System** is a proof of the technology company's competence in the area of human-machine dialogue. This user-centric system combines two curved AMOLED 12.3-inch touch displays with haptic feedback, force sensing and a time of flight camera for gesture recognition, ensuring an intuitive, clearer dialogue between the driver and the vehicle and thus increasing driving safety with reduced driver distraction.

Connectivity will further enhance road safety. Therefore, Vehicle-to-Everything (V2X) communication is an application designed to directly connect vehicles among each other, with the infrastructure (e.g. traffic lights, roadside units etc.) and even other road users like pedestrians or cyclists. As a technology which enables vehicles to see around corners and communicate with each other, it has strong potential to become a key enabler for automated driving and intelligent mobility.

Millions of "computers on wheels" will drive on roads worldwide and communicate as part of the Internet of Everything in the future, when software updates to vehicle electronics are performed wirelessly. On the downside of this development, connected mobility is turning into a potential target for cyber-attacks. Together with Continental family companies Elektrobit and Argus Cyber Security, Continental is committed to making mobility as cyber-secure as possible by providing multilayered end-to-end automotive **cyber-security solutions**.

Japan is recognized as the home of the largest automotive manufacturer group, globally. For Continental as a technology company, this is a key market with direct access to our customers. Continental wants to contribute to the success of Japanese customers with comprehensive products and solutions shaping mobility of the future. Continental Japan currently employs more than 1,600 employees with 13 locations in Japan.



Continental develops pioneering technologies and services for sustainable and connected mobility of people and their goods. Founded in 1871, the technology company offers safe, efficient, intelligent and affordable solutions for vehicles, machines, traffic and transportation. In 2017, Continental generated sales of €44 billion and currently employs more than 240,000 people in 61 countries.

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