Press Release

**Continental Launches Series Production of Highly Integrated Drive**

* **With the electric EMR3 powertrain, Continental is launching the series production of a highly integrated platform solution for electric vehicles.**
* **Small size, low weight and high performance with minimal integration work could help to drive mass-market electrification.**
* **Series production of this compact, mid-range powertrain is to be launched in China.**

Hanover, June 2017. The technology company Continental is further strengthening its global position in the field of electric mobility. Following the start of series production over the past few years of numerous electrification solutions for high-voltage drives and 48-V hybrids, Continental is now also setting its sights on the mass-market electrification of mid-range vehicles. The highly integrated electric EMR3 powertrain has been specially developed as a platform solution for this market segment. It combines power electronics with an inverter, electric motor and transmission gearing in a single, compact, weight-optimized unit. This complete powertrain module can be quickly and easily integrated in a new electric vehicle model. To begin with, the mid-range EMR3 platform is expected to enter series production in 2019. This electric powertrain version has been specially developed for vehicles weighing up to around two metric tons. This solution also fulfills the stringent economic requirements for this segment.

“With this innovative electric drive, we have taken on and successfully tackled yet another challenge on the road toward electrification,” said Rudolf Stark, who heads the Hybrid Electric Vehicle Business Unit in Continental’s Powertrain Division. “To drive the electrification of mass-market mid-range vehicles, the powertrain has to fulfill a number of requirements simultaneously – including the fact that it has to be quick and easy to integrate and also have a high power-to-size ratio. And that’s exactly what we’re offering with this new module.”

With an electrical power that – depending on the scaling – is between 100 kW and 150 kW, the mid-range EMR3 module is just 400 x 500 x 320 mm in size, not much bigger than on-board luggage on an airplane, and weighs just around 75 kg.

**Complete axle drive in a single module**The EMR3 powertrain is expected to come in three performance levels. The smallest version – 50 kW to 100 kW – is designed for compact cars; the mid-range version is designed for what is commonly known as the “Golf”-class segment, that is, cars weighing up to two metric tons; and the most powerful version – 150 kW to 250 kW – is designed for larger cars. “It’s no coincidence that we’re starting with the mid-range platform level,” said Rudolf Stark. “The requirements here are especially challenging because not only is high performance a must, but also the cost and weight requirements are particularly stringent.” Thanks to the high level of integration of the typical components of an electric powertrain in a single module, Continental has succeeded in achieving these targets. While electric drives in cars are currently made of multiple individual vehicle components, the EMR3 is a ready-to-install module that can be integrated in the car as a complete axle drive. Only a few model-specific details such as the position of the coolant connections have to be adapted beforehand. “This degree of integration was possible only because we already had the core technology available at series level in-house and because we teamed up with the transmission specialist Oerlikon,” continued Stark.

The vehicle is propelled by means of a highly efficient, permanently excited synchronous motor (PSM), which is controlled by an ultra-compact power electronics system (with a volume of just 7 l) along with an integrated inverter. The electrical torque is converted in the transmission system, which was specially developed for this powertrain, to a torque of between 2500 and 3000 Nm on the axle. The space-saving arrangement of the original individual components around the electric motor’s drive axle reduces the required installation space compared with individual integration plus cabling. “In terms of its power-to-size ratio alone, the EMR3 module is a technologically and financially attractive electrification solution. And the decision to launch initial series production of the powertrain in China was quite deliberate as well because this is not only the world’s biggest market for e-mobility, but also the most highly sought-after,” says Stark.

**Continental** develops pioneering technologies and services for the 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 transport. In 2016, Continental generated sales of €40.5 billion and currently employs more than 227,000 people in 56 countries.

**The Powertrain division** develops and produces efficient system solutions for vehicle powertrains to optimize fuel consumption. The comprehensive range of products includes gasoline and diesel injection systems, engine management and transmission control, including sensors and actuators, exhaust aftertreatment technologies, fuel supply systems, and components and systems for hybrid and electric drives. Powertrain employs more than 37,500 people worldwide and, in 2016, recorded sales of around €7.3 billion.  
  
  
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