

Electrifying the Heavyweights: BorgWarner Technologies at COMTRANS Moscow 2017

- Electrified charging technologies and waste heat recovery systems boost performance and fuel efficiency
- Superior air and coolant flow solutions improve thermal management
- Latest innovation in EGR coolers for commercial vehicles reduces emissions

Auburn Hills, Michigan, August 17, 2017 – BorgWarner's advanced electrification technologies for commercial vehicles will be presented in hall 15, booth 15-410, at COMTRANS 2017 in Moscow, Russia, from September 4 to 9. As part of the company's large portfolio of innovations, BorgWarner's cutting-edge electrified boosting technologies, advanced waste heat recovery systems, innovative airflow solutions and robust exhaust gas recirculation (EGR) coolers and valves all help automakers reduce emissions while improving performance and fuel efficiency.

"Electrification is highly effective in reducing emissions and improving fuel efficiency for both commercial and light vehicles. Some concepts, such as our Organic Rankine Cycle (ORC) waste heat recovery system, are ideally suited for heavy-duty, long-haul applications," said Scott Gallett, Vice President, Marketing, Public Relations and Government Affairs, BorgWarner. "As a product leader in clean and efficient technology solutions for combustion, hybrid and electric vehicles, BorgWarner applies its extensive know-how in developing innovative propulsion system technologies for the entire spectrum of vehicle types, supporting our customers on their way to a zero emissions future."

In addition to its leading conventional turbochargers for commercial vehicles, BorgWarner is continuously adding new innovative solutions to make combustion and hybrid vehicles even more efficient. The company's eBooster® electrically driven compressor, for example, works independently of exhaust gas flow. Powered by an integrated electric motor, the system provides improved transient behavior at low engine speeds and complements conventional turbocharging systems for increased fuel efficiency. Already looking into the future, BorgWarner is developing the next milestone in the evolution of engine boosting: the eTurboTM. This advanced turbocharger incorporates an electric motor that can be used to either add torque to the turbine shaft for

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enhanced performance or generate electrical energy from the exhaust gas flow. A purely thermal approach is utilized by BorgWarner's ORC system, which recovers fuel energy wasted in heat rejection via a heat exchanger.

Because good thermal management is another key factor in improving the efficiency of commercial vehicles, BorgWarner will also present its latest air and coolant flow solutions such as the Heavy-Duty Controlled Coolant Pump (HDCCP) and the latest electronically actuated Visctronic® fan drive. Both technologies enable precise and reliable thermal management of the engine and auxiliary components. The innovative design of the HDCCP integrates an electronic viscous coupling into a conventional coolant pump. Precise control of the impeller speed produces the desired coolant flow rate to improve fuel economy. BorgWarner's latest fan drive technology combines the robust modular design of its predecessor with an improved internal control system and new proprietary slip heat enhancement feature allowing it to operate under high loads and in tough environments. The fan drive responds directly to engine cooling needs, resulting in more available horsepower, improved fuel efficiency and lower emissions.

With its robust EGR valves and new economical and highly modular series of multiplatform EGR coolers, also displayed at this year's COMTRANS, BorgWarner helps customers meet increasingly challenging emissions regulations. The EGR cooler family is designed to resist high levels of thermal load and features a floating inner core. With four standard designs covering a wide range of engine sizes from 2.0- to 16.0-liter displacement, the advanced solution offers maximum flexibility. In addition, an integrated thermomechanical damper allows complete decoupling of the shell and inner core components to absorb differences in thermal expansion for improved durability.

About BorgWarner

BorgWarner Inc. (NYSE: BWA) is a global product leader in clean and efficient technology solutions for combustion, hybrid and electric vehicles. With manufacturing and technical facilities in 62 locations in 17 countries, the company employs approximately 27,000 worldwide. For more information, please visit <u>borgwarner.com</u>.

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BorgWarner's wide range of innovative solutions for commercial vehicles leverage the company's extensive know-how for delivering increased fuel efficiency, high durability and improved performance.

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