

## BorgWarner's Four-Fold R2S<sup>®</sup> System Takes Boosting to the Next Level

- Two-stage system features four high-performance turbochargers
- Outstanding performance and improved fuel efficiency by up to 4 percent
- Two smaller low-pressure turbochargers facilitate rapid transient response for excellent acceleration

Auburn Hills, Michigan, November 14, 2017 – BorgWarner's new, world's first regulated two-stage (R2S®) turbocharging system with four turbochargers for passenger cars debuts in the BMW Group's latest TwinPower Turbo diesel engine, available for different high-performance models. While a conventional R2S system features one turbocharger for the low- and high-pressure stage respectively, this unique application utilizes two turbochargers for each stage. It thus provides higher efficiency, which contributes to constant and fluid power delivery over the entire rev band, and helps improve fuel efficiency up to 4 percent compared with the engine's predecessor.

"BorgWarner's latest and most sophisticated R2S system features four turbochargers to take boosting to a whole new level and help our customer achieve the highest demands for power and efficiency for an exciting driving experience," said Frédéric Lissalde, President and General Manager, BorgWarner Turbo Systems. "We introduced our R2S turbocharging solution into the passenger car market in cooperation with the BMW Group and are pleased to take the next step together. This prestigious project helps reinforce our position as a market leader in turbocharging technologies."

Featuring four turbochargers, BorgWarner's advanced two-stage turbocharging system boosts the new 3.0-liter 6-cylinder inline diesel engine to achieve a power output of 294 kW (394 HP) and a maximum torque of 760 Nm. To meet these high requirements and provide outstanding performance, BorgWarner replaced the low-pressure turbocharger with two smaller ones to reduce inertia for faster response without increasing system weight. At low engine speeds, one high-pressure turbocharger quickly generates boost pressure for rapid acceleration

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without any noticeable turbo lag. At higher flow rates, both high-pressure turbines operate to increase the capacity.

## **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 64 locations in 17 countries, the company employs approximately 27,000 worldwide. For more information, please visit <a href="mailto:borgwarner.com">borgwarner.com</a>.



BorgWarner's efficient cutting-edge R2S<sup>®</sup> boosting system with four turbochargers delivers exceptional performance and contributes to improved fuel efficiency by up to 4 percent in the BMW Group's new high-end 3.0-liter diesel engine.

Statements contained in this news release may contain forward-looking statements as contemplated by the 1995 Private Securities Litigation Reform Act that are based on management's current outlook, expectations, estimates and projections. Words such as "anticipates," "believes," "continues," "could," "designed," "effect," "estimates," "evaluates," "expects," "forecasts," "goal," "initiative," "intends," "outlook," "plans," "potential," "project," "pursue," "seek," "should," "target," "when," "would," variations of such words and similar expressions are intended to identify such forward-looking statements. Forward-looking statements are subject to risks and uncertainties, many of which are difficult to predict and generally beyond our control, that could cause actual results to differ materially from those expressed, projected or implied in or by the forward-looking statements. Such risks and uncertainties include: fluctuations in domestic or foreign vehicle production, the continued use by original equipment manufacturers of outside suppliers, fluctuations in demand for vehicles containing our products, changes in general economic conditions, as well as other risks noted

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reports that we file with the Securities and Exchange Commission, including the Risk Factors identified in our most recently filed Annual Report on Form 10-K. We do not undertake any obligation to update or announce publicly any updates to or revision to any of the forward-looking statements.

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