

## **BORGWARNER WINS**

### **2013 AUTOMOTIVE NEWS PACE INNOVATION PARTNERSHIP AWARD**

*BorgWarner's Regulated Three-Stage Turbocharging System  
also Receives a 2013 PACE Award*

*Auburn Hills, Michigan, April 17, 2013* – During a ceremony held in Detroit, BorgWarner received a 2013 Automotive News PACE Innovation Partnership Award for its collaboration with BMW on the first regulated three-stage (R3S) turbocharging system for diesel engines. The innovative technology achieves a V8's powerful output with the fuel economy of an inline-6 engine. BorgWarner worked closely with BMW to develop the three-stage technology, which debuted on the BMW M Performance diesel engine, the most powerful 6-cylinder in-line diesel engine in the world. BorgWarner's innovation also earned a 2013 Automotive News PACE Award, the company's seventh award in nine years.

"BorgWarner's successful partnership with BMW was forged more than a decade ago with the development and introduction of regulated two-stage turbocharging. Our mutual drive to push the limits of performance and fuel economy led to close collaboration beginning in the earliest development stages of the R3S turbocharging system. Engineers in both companies were dedicated to achieving ambitious targets, developing a benchmark diesel engine technology and bringing the innovation to market first," said Frederic Lissalde, President and General Manager, BorgWarner Turbo Systems Passenger Car Products. "We are very proud to receive these awards. They symbolize the entrepreneurial spirit and dedication of the many employees at BorgWarner and BMW who helped develop and produce this important innovation."

Designed with many new components for fuel-efficient turbocharging, BorgWarner's R3S turbocharging system consists of two small high-pressure variable turbine geometry turbochargers integrated with one larger low-pressure turbocharger. The three

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turbochargers are activated successively at different engine speeds. The first high-pressure turbocharger starts at engine speeds just above idle. With increasing revs, the larger low-pressure turbocharger comes into play. At higher speeds, the second high-pressure turbocharger also comes on line with all three turbochargers working in harmony. For effective and efficient boost pressure, the exhaust flow and supply of fresh air are precisely regulated.

Recognized around the world as a symbol of excellence, the annual Automotive News PACE Awards acknowledge automotive suppliers for superior innovation, technological advancement and business performance. PACE stands for Premier Automotive Suppliers' Contribution to Excellence. The awards were presented by *Automotive News* with Ernst & Young and the Transportation Research Center Inc. The 19<sup>th</sup> annual PACE Award winners were chosen based on a comprehensive written application, site visit and extensive review by industry, academic and business leaders. BorgWarner's R3S turbocharging system was named a winner in the Product category, which recognizes innovations in new products, services or their development that have significant market impact and act as "game changers" in the automotive industry.

With seven PACE Awards, four PACE Innovation Partnership Awards and one PACE Environmental Award since 2005, BorgWarner has become one of the most decorated companies in the history of the awards competition. Three BorgWarner innovations were named as finalists for this year's PACE Awards.

### **About BorgWarner**

Auburn Hills, Michigan-based BorgWarner Inc. (NYSE: BWA) is a technology leader in highly engineered components and systems for powertrain applications worldwide. Operating manufacturing and technical facilities in 57 locations in 19 countries, the company develops products to improve fuel economy, reduce emissions and enhance performance. Customers include VW/Audi, Ford, Toyota, Renault/Nissan, General Motors, Hyundai/Kia, Daimler, Chrysler, Fiat, BMW, Honda, John Deere, PSA, and MAN. For more information, please visit [borgwarner.com](http://borgwarner.com).

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Accepting 2013 Automotive News PACE Innovation Partnership Award were (left to right) Gerald Gruber, BMW Manufacturing Co., LLC; Arno Schwartz, Vice President, Manufacturing Strategy and Quality, BorgWarner Turbo Systems; and J. Ferron, Director of Judging for PACE

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