



Tenneco's Advanced Technology Portfolio Addressing Current Industry Trends, Driving Future Growth

January 16, 2018

DETROIT--(BUSINESS WIRE)-- Tenneco Inc. (NYSE:TEN) is showcasing its portfolio of advanced Ride Performance and Clean Air technologies at a private exhibit for customers and media during the 2018 North American International Auto Show in Detroit, Mich. The exhibit will include the global debut of the company's *Emissions Evolution* concept, showcasing a range of products and capabilities that address future trends in emission regulations, improved fuel economy, and increased vehicle hybridization. Also featured in the exhibit will be the Monroe® Intelligent Suspension family of products, including the latest CVSA2/Kinetic® system and DRiV™ digital adaptive damper.

"Tenneco is leveraging its capabilities to create products that support our customer's current needs while developing solutions that anticipate and respond to future industry trends," said Brian Kessler, chief executive officer, Tenneco. "Whether it is tightening global emissions regulations, the need for advanced suspensions, or electrification that presents NVH and acoustic challenges and additional content on hybrid vehicles, we have the solutions in development today to capture these opportunities."

Tenneco will display the following technologies during NAIAS:

Clean Air

Emissions Evolution: A display that showcases a range of components, systems and design capabilities to meet increasingly stringent emission regulations, customer demand for improved fuel economy, and the evolving powertrain trend toward vehicle hybridization. Beginning with today's production light-vehicle system, active E-valves and a Gasoline Particulate Filter (GPF) are added to help meet Euro 6C and 6D requirements, and enhance fuel economy and engine performance.

As customers move into hybrid powertrains, Tenneco's design and packaging expertise is showcased in a new **Compact Emissions Module Concept**, designed to meet the specific packaging constraints of hybrid powertrains, while exceeding all performance, durability and emissions targets.

Beyond Euro 6: Tenneco's innovative concept with a suite of technologies that enhance traditional emission control elements, designed to meet reduced NOx targets as well as the desire for higher efficiency in the combustion process. The Beyond Euro 6 concept includes three distinct technologies: *CleanEGR™*, which introduces a coated GPF into the EGR route to reduce criteria pollutants at mid and high-loads and during cold start to better enable RDE compliance; *Exhaust Gas Heat Recovery System*, which produces fuel economy improvement by harvesting lost heat for better engine warm-up and cabin heating; and *Smart Sound™*, a speaker-based system for exhaust tuning and active noise cancellation and sound generation. It also offers packaging benefits with a reduced muffler size.

Ride Performance

DRiV™: Part of the Monroe® Intelligent Suspension family of products, DRiV™ technology features a unique digital damper architecture with electronics, sensors and software controls located directly in the damper, allowing the system to read and react to road inputs quickly with the selection of discreet force settings. The DRiV™ system also incorporates a simplified gateway module, which provides cybersecurity and communication with the vehicle's existing Controller Area Network (CAN) bus. This distinctive construction makes the DRiV™ technology easy to integrate into the existing suspension without extensive re-engineering of the vehicle's mechanical and electrical systems.

CVSA2/Kinetic®: Tenneco's Continuously Variable Semi-Active (2 valve) with optional roll control technology or CVSA2/Kinetic® system, is a two-valve damping system featuring hydraulic roll control that eliminates the need for front and rear mechanical anti-roll bars, reducing overall vehicle weight and consuming no additional energy. Designed for use in high-performance sports cars and SUVs, the CVSA2/Kinetic technology allows drivers to choose from performance-oriented and comfort-oriented driving modes.

Lightweight Strut Concept: Tenneco's design features a steel base using variable wall thickness, a hollow rod, and plastic for several add-on and modular components. All of this enables weight reduction of up to 20-25 percent compared with traditional struts, without sacrificing strength or functionality.

CVSAe: Part of the Monroe® Intelligent Suspension portfolio, CVSAe is designed to adjust to changing road conditions in real time, continuously sensing the road and driving conditions and adjusting the damper within milliseconds, offering enhanced ride comfort with outstanding dynamic response. CVSAe utilizes an externally mounted electronic valve that independently adjusts the damper's compression performance in real time for a more comfortable and controlled ride.

Scalable Architecture: Tenneco's "Scalable Architecture" concept for advanced electronic suspension technologies uses intelligent actuator constructions to easily scale semi-active suspension systems up to advanced and fully-active applications. Using the Scalable Architecture concept, platforms already equipped with CVSA2 can be easily upgraded with Kinetic® as an option. The actuator constructions share components, production processes, sensors and ECUs.

Tenneco is an \$8.6 billion global manufacturing company with headquarters in Lake Forest, Illinois and approximately 31,000 employees worldwide. Tenneco is one of the world's largest designers, manufacturers and marketers of ride performance and clean air products and systems for automotive and commercial vehicle original equipment markets and the aftermarket. Tenneco's principal brand names are Monroe®, Walker®, XNOx® and Clevite®Elastomers.

View source version on businesswire.com: <http://www.businesswire.com/news/home/20180116006733/en/>

Media contact:

Tenneco Global Communications
Bill Dawson, 224.280.4308
Bdawson@tenneco.com

Source: Tenneco Inc.