



## Garrett Motion to Showcase Next-Generation E-Boosting Technologies for Hybrid and Fuel Cell Vehicles at Auto Shanghai 2021

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***Diverse portfolio of electrification products as well as automotive software solutions to be on display at one of the world's largest auto shows***

SHANGHAI--(BUSINESS WIRE)-- Garrett Motion Inc., a leading differentiated technology provider for the automotive industry, today announced plans to showcase its next-generation electric-boosting (E-Boosting) technologies for use in electrified powertrains, primarily for hybrid and fuel cell vehicles, at the 19<sup>th</sup> Shanghai International Automobile Industry Exhibition.

This press release features multimedia. View the full release here: <https://www.businesswire.com/news/home/20210419005483/en/>

Garrett's highly engineered E-Boosting products enhance vehicle performance while increasing fuel economy and reducing exhaust emissions, enabling automakers to meet strict environmental regulations, including China VI. Among the technologies to be highlighted include the company's 48-volt electric turbo (E-Turbo), which is in the final stages of industrialization for an initial mass-market launch in 2021 with a major European automaker. Garrett also intends to display its automotive software solutions that support the growing connected vehicle market, including the company's proprietary predictive maintenance and diagnostics, cybersecurity, and advanced control tools.

"We are excited to showcase our next-generation E-Boosting technologies and advanced software solutions in Shanghai," said Olivier Rabiller, Garrett President and CEO. "Demand across China – the world's largest auto market – has rebounded significantly as our net sales in the country increased 32% during 2020 despite the impact of a global pandemic. In support of our robust performance combined with the positive industry fundamentals, we are currently expanding our production facility in Wuhan and preparing new production lines for E-Boosting products in Shanghai for new energy vehicles. Our focus remains on delivering value-added products and services to our global customers and meeting the needs of a rapidly evolving industry. We look forward to previewing our latest cutting-edge technologies for electrified powertrains and connected vehicles, and more, in a safe and compliant manner at Auto Shanghai 2021."

The broad portfolio of technologies in turbochargers, electrification and connected vehicle software to be featured by Garrett at one of the world's largest auto shows include:

- **Electric Turbo (E-Turbo):** Garrett's 48-volt and 400-volt E-Turbo integrates a high-speed electric motor directly on the turbo shaft to provide electrically assisted boosting for both mild and full hybrid vehicles. The complex motor system with power electronics runs at more than 200,000 rpm and significantly improves transient response from idle speed and across the entire engine speed range. Rooted in Formula 1 technology and transferrable to the masses, Garrett's E-Turbo also provides energy recuperation to the vehicle's electrical system. Garrett expects to be first-to-market with the E-Turbo, paving the way for additional growth opportunities in electrification.
- **Electric Compressor (E-Compressor):** Garrett's E-Compressor is paired with a turbocharger to deliver electrically assisted boosting for mild hybrids and full hybrids. Like the E-Turbo, the E-Compressor contains a high-speed electric motor that spools the compressor wheel more rapidly to improve transient engine response and eliminate lag with greater engine torque. Garrett's next-generation E-Compressor provides more power even though it is smaller and lighter than previous generations, further enabling engine downsizing.
- **E-Compressor for Fuel Cells :** Garrett's E-Compressor for use in hydrogen-powered passenger vehicles and commercial vehicles serves as a key technology of the fuel cell vehicle system, providing boost by regulating the air volume into the fuel cell stack. The electric motor-driven compressor helps to optimize the power density, efficiency and life cycle of the fuel cell stack and offers a new expander design enabling greater energy recuperation and lower operating costs. Garrett's 400-volt E-Compressor for fuel cell passenger vehicles and high-powered 700-volt E-Compressor for fuel cell commercial vehicles also feature oil-less foil air bearings required for fuel cell applications.
- **Variable Nozzle Turbine (VNT) Technology:** Garrett's VNT technology controls the exhaust flow against the turbine wheel by using inlet vanes that adjust to match the exact boost requirements of the engine at different speeds, delivering greater environmental efficiencies and transient performance, in particular for modern gasoline engines in combination with Miller-cycle combustion. Over the years, Garrett has continuously evolved this core technology through new base materials and designs to operate in extreme temperatures up to 1020 degrees Celsius, extending its capabilities beyond traditional diesel engines and into more mainstream gasoline applications. Garrett plans to rollout the first high-speed production line in China with VNT technology for gasoline engines upon completion of its Wuhan plant expansion in early 2022.

- **Connected Vehicle Software** : Garrett has leveraged its Aerospace heritage and close partnership with customers to develop a wide range of connected technologies:
  - **Advanced Diagnostics & Prognostics.** Garrett's solutions analyze intermittent faults and anomalies within complex vehicle systems to provide a more thorough understanding of the real-time health of a vehicle system, enabling customers to fix issues prior to a breakdown and reduce costs associated with unexpected downtime.
  - **Advanced Controls & System Optimization.** Garrett provides advanced model-based predictive control (MPC) technologies by integrating its own boost control and health management algorithms within an existing electronic control unit (ECU) to optimize performance, fuel economy, and lower emissions.
  - **Cybersecurity.** Garrett's solutions detect real-time malicious activity on the vehicle network and run forensic analysis to fix vulnerabilities and keep vehicles on the road.

To learn more, visit Garrett in Hall 1.2, Booth BF121 at Auto Shanghai 2021, April 21-28.



#### About Garrett Motion Inc.

Garrett Motion is a differentiated technology leader, serving customers worldwide for more than 65 years with passenger vehicle, commercial vehicle, aftermarket replacement and performance enhancement solutions. Garrett's cutting-edge technology enables vehicles to become safer, more connected, efficient and environmentally friendly. Our portfolio of turbocharging, electric boosting and automotive software solutions empowers the transportation industry to redefine and further advance motion. For more information, please visit [www.garrettmotion.com](http://www.garrettmotion.com).

#### Forward-Looking Statements

*This press release contains "forward-looking statements" within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended. All statements, other than statements of fact, that address activities, events or developments that we or our management intend, expect, project, believe or anticipate will or may occur in the future are forward-looking statements including without limitation our statements regarding and our Chapter 11 process. Although we believe forward-looking statements are based upon reasonable assumptions, such statements involve known and unknown risks, uncertainties, and other factors, which may cause the actual results or performance of Garrett to be materially different from any future results or performance expressed or implied by such forward-looking statements. Such risks and uncertainties include but are not limited to those described in our annual report on Form 10-K for the year ended December 31, 2020, as well as our other filings with the Securities and Exchange Commission, under the headings "Risk Factors" and "Cautionary Note Regarding Forward-Looking Statements." You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this document. Forward-looking statements are not guarantees of future performance, and actual results, developments and business decisions may differ from those envisaged by our forward-looking statements.*



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