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Automotive Turbocharger Market ? Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Vehicle (Passenger Car, LCV and HCV), By Engine (Gasoline and Diesel), By Technology (VGT/VNT, Wastegate and Electric Turbocharger), By Operation (Conventional Turbocharger and e-turbocharger), By Region & Competition, 2021-2031F

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Abstracts

The Global Automotive Turbocharger Market is projected to grow from USD 16.98 billion in 2025 to USD 27.46 billion by 2031, achieving a compound annual growth rate of 8.34%. These forced induction devices, which utilize exhaust gases to compress intake air, are essential for increasing oxygen density in the combustion chamber to enhance both power and efficiency. The market is primarily driven by strict government emission mandates requiring engine downsizing and the sustained consumer demand for vehicles that offer better fuel economy without sacrificing performance.

However, the rapid global shift toward full electrification poses a major obstacle to market expansion, as battery-electric powertrains remove the need for internal combustion engines and their associated boosting systems. Data from the European Automobile Manufacturers? Association indicates that battery-electric cars secured a 13.6% market share in the European Union in 2024, signaling a competitive transformation that could limit the long-term growth prospects for traditional turbocharging technologies.

Market Driver

The enforcement of rigorous global emission standards and fuel economy regulations

serves as a primary driver for the market, forcing automakers to deploy advanced forced induction technologies to ensure compliance while maintaining performance. As CO2 limits tighten, manufacturers are increasingly incorporating turbochargers into hybrid vehicle architectures to optimize the thermal efficiency of downsized internal combustion engines, bridging the gap between traditional powertrains and electrification. This trend is highlighted by the Society of Motor Manufacturers and Traders, which reported that hybrid electric vehicles accounted for 15.3% of UK deliveries in September 2025, underscoring the importance of turbo-assisted hybridization.

Furthermore, market growth is supported by rising commercial vehicle production fueled by logistics and industrial needs, where forced induction is vital for heavy-duty applications requiring high torque and fuel efficiency. Unlike passenger cars, the commercial sector relies heavily on turbocharged diesel engines for long-haul durability, a fact reflected in the European Automobile Manufacturers? Association?s report of an 8.3% increase in EU van sales in 2024. Despite economic challenges, suppliers like Garrett Motion continue to generate substantial revenue, reporting $3.475 billion in net sales for 2024, demonstrating the enduring reliance on turbocharging across various segments.

Market Challenge

The accelerating transition toward full electrification creates a fundamental structural barrier to the automotive turbocharger market, as these components rely entirely on exhaust gas flow from internal combustion engines to function. Replacing conventional powertrains with battery-electric systems effectively eliminates the need for forced induction, thereby shrinking the addressable market since electric drivetrains generate power without boosting hardware. As the production of zero-emission vehicles increases, the foundational demand for mechanical air compression devices faces an inevitable decline.

This shift is clearly visible in the falling sales of traditional engine categories that have historically depended on turbocharging, such as diesel passenger cars, which saw their market share in the European Union drop to 10.4% in September 2024 according to the European Automobile Manufacturers? Association. This contraction in the internal combustion engine segment forces turbocharger suppliers to compete for a diminishing share of total automotive production, constraining revenue potential despite the efficiency improvements provided by modern boosting systems.

Market Trends

The mainstream adoption of electric turbocharging, particularly within 48-volt mild hybrid architectures, represents a significant technological advancement by using integrated motors to decouple airflow from exhaust pressure. This innovation eliminates turbo lag and optimizes low-speed combustion, effectively bridging the gap between strict emission compliance and high performance for downsized engines. The strong demand for such electrified boosting components is evidenced by BorgWarner?s July 2025 report, which noted a 31% year-over-year increase in sales for their light vehicle eProducts, highlighting the rapid industrial uptake of this technology.

Simultaneously, the heavy-duty sector is prioritizing the development of specialized turbochargers for hydrogen internal combustion engines, which require higher airflow rates than diesel variants. Manufacturers are engineering units with distinct aerodynamics and materials resistant to hydrogen embrittlement, enabling commercial fleets to meet zero-emission targets using existing engine infrastructure rather than fully switching to battery-electric alternatives. The commercial viability of this innovation was confirmed when Cummins secured a contract to supply these specialized units to a major European OEM, as reported by Electric Cars Report in January 2025.

Key Market Players

- Garrett
- BorgWarner
- IHI
- Mitsubishi Heavy Industries
- Honeywell
- Cummins Turbo Technologies
- Holset
- Rotomotive
- Continental Turbo Systems

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Denso

Report Scope

In this report, the Global Automotive Turbocharger Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Automotive Turbocharger Market, By Vehicle

Passenger Car

LCV

HCV

Automotive Turbocharger Market, By Engine

Gasoline

Diesel

Automotive Turbocharger Market, By Technology

VGT/VNT

Wastegate

Electric Turbocharger

Automotive Turbocharger Market, By Operation

Conventional Turbocharger

e-turbocharger

Automotive Turbocharger Market, By Region

- North America
  - United States
  - Canada
  - Mexico
- Europe
  - France
  - United Kingdom
  - Italy
  - Germany
  - Spain
- Asia Pacific
  - China
  - India
  - Japan
  - Australia
  - South Korea
- South America
  - Brazil
  - Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Automotive Turbocharger Market.

Available Customizations:

Global Automotive Turbocharger Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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