

Two-Stage Turbocharger Market is projected to experience a robust CAGR of 3.72%

The two-stage turbocharger market is expected to grow at a CAGR of 3.72% during the forecast period.

NOIDA, UTTAR PARDESH, INDIA, December 7, 2023 /EINPresswire.com/ -- According to a new study published by Knowledge Sourcing

Intelligence, the [two-stage turbocharger market](#) is projected to grow at a CAGR of 3.72% between 2021 and 2028.



The major factors primarily linked to the market's expansion are increasing interest in high-performance sports cars and a rise in demand from Original Equipment Manufacturers (OEMs).

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*Knowledge Sourcing
Intelligence*

A two-stage turbocharger, also known as a twin-turbo or twin-scroll turbocharger, is a device employed in [internal combustion engines](#) to enhance their power output through forced induction. This innovative system is designed to address the limitations of a single turbocharger by providing a broader powerband. It

operates on a dual-functional approach, leveraging the quick response of a smaller first-stage turbocharger to minimize Turbo lag. As the engine speed increases, the larger second-stage turbocharger comes into play, delivering higher boost pressures that result in increased power production at elevated engine speeds. This technology aims to optimize performance and responsiveness across a wider range of operating conditions, contributing to enhanced efficiency and power delivery in internal combustion engines.

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Segmented based on materials such as aluminium alloy and steel alloy, the market differentiates itself in terms of material composition. Two-stage turbochargers, while more advanced and expensive than their single-stage counterparts, entail a higher requirement for components and controls. The complexity of the system increases due to the integration of multiple turbochargers, intercoolers, and associated pipework, thereby elevating the overall

manufacturing costs of the system. The production costs of two-stage turbochargers are subject to fluctuations influenced by factors like the prices of raw materials, specifically steel alloys, potentially posing constraints on market growth.

In terms of fuel type, the diesel sector is anticipated to secure a substantial portion of the two-stage [turbocharger market](#). Two-stage turbocharging is commonly employed in heavy-duty diesel engines found in trucks, buses, and various industrial applications. Notably, Cummins Turbo Technologies supplies two-stage turbocharger solutions for heavy-duty diesel engines, emphasizing its utility in demanding applications. Additionally, IHI Corporation, a renowned Japanese engineering company with expertise in turbocharger technology, provides two-stage turbochargers tailored for diesel engines in commercial vehicles. The two-stage configuration proves advantageous by delivering enhanced low-end torque, improved fuel efficiency, and mitigating the inherent turbo lag associated with large diesel engines.

The passenger vehicle segment is poised for substantial expansion, driven by the prevalent use of turbochargers in passenger cars, particularly in sporty and luxurious models where enhanced performance is a key priority. Consumers often opt for aftermarket two-stage turbocharger upgrades for passenger cars to augment performance beyond factory specifications. These aftermarket enhancements provide a personalized and distinctive driving experience by significantly boosting power and torque. This trend is expected to contribute to the growth of the passenger automobile segment. Additionally, the surge in global population and disposable income is driving an increase in the sales and market presence of passenger cars. Moreover, the escalating demand for fuel-efficient vehicles has compelled manufacturers to promote and advance turbocharger technologies, ensuring the delivery of clean air to batteries. This, in turn, enhances and sustains the performance and power generation of passenger vehicles.

The Asia Pacific region is projected to emerge as the predominant market, driven by improving socio-economic conditions in emerging economies like China, India, Indonesia, and Thailand. The automotive turbocharger market is expected to benefit from increased vehicle production and forthcoming stringent emission regulations in China and India. Companies are actively investing in establishing production facilities in Asian nations, capitalizing on government initiatives such as China's Industry 4.0 and India's "Make in India." The production of two-stage turbochargers has witnessed a significant upswing in tandem with the growth of the automotive sector.

Yanmar Holdings Co., Ltd, Garrett Motion Inc., ABB, Cummins Inc., BorgWarner Inc, MAN Energy Solutions, and PBST are some of the key players in the two-stage turbocharger market.

On February 15, 2022, ABB announced that its Turbocharging division (PA), a prominent global leader in heavy-duty turbocharging for diesel and gas engines, introduced its new brand name "Accelleron." Accelleron, formerly known as ABB Turbocharging Division (PA), held a global leadership position in turbocharging technologies and optimization solutions for engines ranging from 0.5 to 80+ MW. The company played a crucial role in delivering sustainable and reliable power to the marine, energy, rail, and off-highway sectors. With an installed base of around

180,000 turbochargers and a network of over 100 service stations across the globe, Accelleron's innovative technologies and digital solutions empowered its customers to achieve greater efficiency in their operations.

The market analytics report segments the two-stage turbocharger market using the following criteria:

- BY MATERIAL

- o Aluminium Alloy
- o Stainless Steel Alloy
- o Others

- BY FUEL TYPE

- o Diesel
- o Gasoline

- BY VEHICLE TYPE

- o Passenger Vehicle
- o Light Commercial Vehicle
- o Heavy Commercial Vehicle

- BY GEOGRAPHY

- o North America

- USA
- Canada
- Mexico

- o South America

- Brazil
- Argentina
- Others

- o Europe

- Germany
- UK
- France

- Spain
- Others

o Middle East and Africa

- Saudi Arabia
- UAE
- Others

o Asia Pacific

- China
- Japan
- South Korea
- India
- Australia
- Others

Companies Profiled:

- ABB
- GARRETT MOTION INC.
- YANMAR HOLDINGS CO., LTD
- Cummins Inc.
- BorgWarner Inc
- MAN Energy Solutions
- PBST

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