

Innovations in Motor Control & Power Electronics to Boost Electric Commercial Vehicle Traction Motor Market; by TNR

Global Electric Commercial Vehicle Traction Motor Market to Reach US\$ 11.3 Bn by 2034; Anticipated to Experience CAGR of 31.1% during 2024 – 2034

WILMINGTON, DELAWARE, UNITED STATES, May 24, 2024 /EINPresswire.com/ -- Electric commercial vehicle traction motors are a critical component of electric vehicles (EVs) designed specifically for



commercial applications such as trucks, buses, vans, and delivery vehicles. These motors are responsible for converting electrical energy from the vehicle's battery into mechanical power to drive the wheels and propel the vehicle. Growing awareness of environmental sustainability, coupled with the need to reduce operating costs and improve fleet efficiency, is driving demand for electric commercial vehicles across various sectors such as logistics, transportation, and urban delivery. Fleet operators are increasingly investing in electric vehicles to meet sustainability goals, comply with regulatory requirements, and capitalize on the operational benefits of electric propulsion, driving the adoption of traction motors.

Electric Commercial Vehicle Traction Motor Market: Key Growth Drivers

Industry Collaboration and Partnerships: Collaboration among automotive manufacturers, technology companies, and suppliers is accelerating innovation and market penetration of electric commercial vehicles. Strategic partnerships, joint ventures, and technology alliances are facilitating the development of integrated electric propulsion systems and modular platforms that offer scalability, flexibility, and cost-effectiveness, driving market growth and diversification.

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Infrastructure Development: The expansion of charging infrastructure is essential for the widespread adoption of electric commercial vehicles. Governments, utilities, and private

companies are investing in the deployment of charging stations along key transportation routes, at logistics hubs, and in urban areas to support the electrification of commercial fleets. The availability of fast-charging infrastructure reduces range anxiety and accelerates the adoption of electric vehicles, driving demand for electric traction motors.

Based on the Motor Type, which is the Fastest Growing Segment in the Electric Commercial Vehicle Traction Motor Market During the Forecast Period?

AC Motor segment is projected as the fastest growing segment in the Electric Commercial Vehicle Traction Motor market in 2023. AC traction motors offer higher efficiency and performance compared to DC (Direct Current) motors. AC motors can operate at higher speeds and provide better torque characteristics, resulting in improved overall vehicle performance, acceleration, and towing capacity. The superior efficiency of AC motors translates to longer driving range and reduced energy consumption, making them attractive for commercial fleet operators seeking to optimize operational costs and vehicle productivity. AC traction motors are capable of regenerative braking, a feature that allows them to recover and convert kinetic energy during braking into electrical energy. This regenerative braking capability improves overall energy efficiency and extends the driving range of electric commercial vehicles by harnessing energy that would otherwise be wasted during braking maneuvers. Regenerative braking also reduces mechanical wear on braking components, contributing to lower maintenance costs and increased vehicle reliability.

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Based on the Design, which is the Fastest Growing Segment in the Electric Commercial Vehicle Traction Motor Market During the Forecast Period?

Axial Flux segment is projected as the fastest growing segment by usage in the Electric Commercial Vehicle Traction Motor market during the forecasted period. Axial Flux motors typically offer higher torque density compared to other motor configurations. This means they can generate more torque per unit of volume, making them well-suited for heavy-duty commercial vehicles such as trucks, buses, and construction equipment. The ability to deliver high torque enables efficient propulsion and towing capabilities, meeting the demanding performance requirements of commercial fleet operators. Axial Flux motors feature a compact and lightweight design, making them ideal for integration into the drivetrain of electric commercial vehicles. Their compact form factor allows for efficient use of space within the vehicle's chassis, enabling manufacturers to optimize vehicle design and maximize cargo capacity. Additionally, the smaller size of Axial Flux motors contributes to reduced vehicle weight, which can improve energy efficiency and extend driving range.

Based on the Axel Segment, which is the Fastest Growing Segment in the Electric Commercial Vehicle Traction Motor Market During the Forecast Period?

Integrated Axel Segment is anticipated to be the fastest growing segment in the Electric Commercial Vehicle Traction Motor market during the forecast period. Integrated Axle motors offer high efficiency and performance, providing improved torque delivery and power transmission compared to traditional drivetrain setups. This enhanced efficiency translates into better acceleration, higher top speeds, and improved overall vehicle performance, making Integrated Axle motors highly desirable for electric commercial vehicles. Integrated Axle motors combine multiple drivetrain components, including the motor, gearbox, and differential, into a single integrated unit. This compact design optimizes space utilization within the vehicle chassis, allowing for more efficient packaging of other vehicle components and maximizing cargo or passenger space. As electric commercial vehicles often operate in urban environments with limited space, the ability to optimize space utilization is a significant demand driver for Integrated Axle motors.

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Based on Region Segment, which is the Fastest Growing Region in the Electric Commercial Vehicle Traction Motor Market in 2023?

North America region is projected as the fastest growing region in the Electric Commercial Vehicle Traction Motor market in 2023. Government initiatives aimed at reducing greenhouse gas emissions and promoting the adoption of electric vehicles (EVs) play a significant role in driving demand for ECV traction motors. In North America, various federal, state, and local incentives, such as tax credits, rebates, grants, and subsidies, encourage fleet operators and businesses to transition to electric commercial vehicles. Additionally, stringent emissions regulations and fuel economy standards incentivize the deployment of electric propulsion systems, including traction motors, in commercial vehicles. The demand for Electric Commercial Vehicle Traction Motors in North America is propelled by government incentives and regulations, rising fuel costs, advancements in battery technology, economic viability considerations, fleet electrification initiatives, and ongoing technological innovation in the electric vehicle sector. These factors collectively contribute to the growth of the electric commercial vehicle market and drive the adoption of ECV traction motors across various commercial transportation segments in the region.

A few of the key companies operating in the global electric commercial vehicle traction motor market are listed below:

- o Allison Transmission, Inc.
- o American axle & manufacturing, inc.
- o Borwarner inc.
- o Dana limited
- o Magna International Inc.
- o Robert Bosch Gmbh
- o Schaeffler AG

- o Zf friedrichshafen AG
- o Others Industry Participants

Global Electric Commercial Vehicle Traction Motor Market

By Power Output

- o Less Than 100kW
- o 100-200kW
- o 201-400 kW
- o Above 401 kW

By Motor Type

- o Permanent Magnet Synchronous Motor (PMSM)
- o AC Induction Motor
- o DC Traction Motor

By Design

- o Radial Flux
- o Axial Flux

By Transmission

- o Single Speed Drive
- o Multi-speed Drive

By Axel

- o Integrated Axle
- o Central Drive Unit

By Vehicle Type

- o Pickup Trucks
- o Medium-Duty and Heavy-Duty Trucks
- o Vans
- o Buses & Coaches

By Region

- o North America (U.S., Canada, Mexico, Rest of North America)
- o Europe (France, The UK, Spain, Germany, Italy, Nordic Countries (Denmark, Finland, Iceland, Sweden, Norway), Benelux Union (Belgium, The Netherlands, Luxembourg), Rest of Europe)
- o Asia Pacific (China, Japan, India, New Zealand, Australia, South Korea, Southeast Asia (Indonesia, Thailand, Malaysia, Singapore, Rest of Southeast Asia), Rest of Asia Pacific)
- o Middle East & Africa (Saudi Arabia, UAE, Egypt, Kuwait, South Africa, Rest of Middle East & Africa)
- o Latin America (Brazil, Argentina, Rest of Latin America)

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