

Autonomous Truck Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2025 - 2034

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Abstracts

The Global Autonomous Truck Market reached USD 356.9 billion in 2024 and is set to experience an impressive CAGR of 16.2% from 2025 to 2034. As industries seek to improve efficiency, reduce costs, and enhance safety, autonomous trucks are rapidly becoming a key solution. A major driving factor behind this growth is the increasing focus of governments worldwide on infrastructure upgrades to accommodate autonomous vehicles. Investments in smart infrastructure are pivotal, ensuring that roads, highways, and other critical transport networks can support these cutting-edge technologies. The combination of evolving regulatory frameworks and advanced technology is helping create a favorable environment for autonomous trucking. This trend is expected to revolutionize the logistics and transportation sectors, offering solutions to challenges such as driver shortages, traffic congestion, and high operational costs.

Segmented by truck class, the market includes Class 4, Class 5, Class 6, Class 7, and Class 8 vehicles. In 2024, the Class 8 segment accounted for a dominant 40% of the market share, expected to generate USD 600 billion by 2034. Class 8 autonomous trucks stand out due to their potential to drastically reduce operational expenses. These vehicles optimize fuel efficiency, reduce labor costs by eliminating the need for human drivers, and streamline maintenance practices. Furthermore, their ability to operate 24/7 without being constrained by service hour limitations enhances productivity, making them a compelling choice for businesses looking to cut down on operational costs while increasing output.

The market is also segmented by application, with key areas including construction, last-mile delivery, freight transport, mining, and others. In 2024, freight transport held a 30%

share of the market. The growing demand for efficient and cost-effective logistics solutions, driven by the rapid expansion of e-commerce, is fueling the growth of autonomous trucks in freight transport. These vehicles offer a reliable, faster, and more economical method of moving goods, meeting the increasing need for speed and reliability in the delivery process. As businesses seek to improve their logistics chains, autonomous trucks are emerging as an essential part of the solution.

In 2024, China dominated the autonomous truck market, accounting for 70% of the total share. The country's rapid market growth is largely driven by strong governmental support and a progressive regulatory environment. The Chinese government is actively pushing for the development and deployment of autonomous vehicle technologies as part of its broader "Made in China 2025" initiative, which focuses on enhancing AI and smart transportation technologies. This strategic direction not only supports the growth of autonomous trucks but also positions China as a global leader in the market for the foreseeable future.

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