Self-Driving Electric Vehicle Market to Surge to $5 Trillion by 2031, Growing at 36.3% CAGR | AMR

WILMINGTON, NEW CASTLE, DE, UNITED STATES, February 21, 2025 /EINPresswire.com/ -- According to a new report published by Allied Market Research, titled, "Self-Driving Electric Vehicle Market Size, Share, Competitive Landscape and Trend Analysis Report, by Level of Automation, by Vehicle Type, by Type : Global Opportunity Analysis and Industry Forecast, 2021-2031"

सेल्फ-ड्राइविंग इलेक्ट्रिक व्हीकल्स, बाजार :

The global self-driving electric vehicle market size was valued at $0.23 trillion in 2021 and is projected to reach $5 trillion in 2031, registering a CAGR of 36.3%.

North America includes the U.S., Canada, and Mexico. The increase in the launch of a new range of self-driving electric vehicles on roads to offer transportation services to passengers and government initiatives for the development of autonomous vehicles is anticipated to propel the growth of the self-driving electric vehicles market in North America. According to the National Highway Traffic Safety Administration (NHTSA), fatalities in road accidents increased by 10.5% from 2020 and reached 42,915 in 2021.

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NHTSA says 94% of accidents can be attributed to human errors. North America is increasingly adopting autonomous electric vehicles to improve transportation safety, increase the capacity of the transportation system, and enhance mobility. For instance, in November 2021, Apple announced its plans to launch a self-driving electric car under a 'Titan' project. The company aims to launch the car with fully autonomous capabilities on highways in 2026 for under $100,000. Therefore, the increase in the development of self-driving electric vehicles to reduce road accidents and increase safety is expected to drive the growth of the market.

Level 1 is the lowest level of automation in a self-driving electric vehicle. This level includes at least one driver assistance system that provides steering assistance or braking and acceleration assistance. In this level of automation, an active and engaged driver is required. The driver is responsible for driving the electric vehicle and must be prepared to regain control of the vehicle

at any time.

Features such as adaptive cruise control are part of Level 1 autonomous vehicles., However, a Level 1 autonomous vehicle may not have more than one driver support system. The adoption of vehicles with level 1 automation has increased as it improves drivers' awareness and reduces instances of accidents on the roads. Level 1 automation is available on most of the gasoline vehicle models. Moreover, level 1 automation is increasingly being installed in electric vehicles which is expected to drive the growth of the market. For instance, in November 2022, Tata Motors announced the launch of Tata Tigor electric vehicle. The company updated the vehicle by adding new color schemes and features such as adaptive cruise control. Such developments are expected to drive the growth of the segment in the market.

Level 2 driving automation applies to vehicles equipped with advanced driver assistance systems (ADAS) and can take over steering, accelerator, and braking in certain scenarios. But even if a Level 2 driver's assistance can take control of these key driving tasks, the driver must remain vigilant and actively monitor the technology. At this level, the vehicle can be controlled both laterally and longitudinally.

Level 2 driving automation involves human operator supervising the driving automation system. It includes features such as Highway Driving Assist. Various manufacturers are developing level 2 automation technologies for electric vehicles. For instance, BlueCruise is Ford's new hands-free semi-autonomous driving technology that is more advanced than Highway Driving Assist and allows drivers to take their hands off the wheel on certain legal highways in the U.S. and Canada. Moreover, in September 2022, Ford Motor Company launched BlueCruise 1.2 and Lincoln ActiveGlide 1.2 Advanced Driver Assist Systems (ADAS) with new features that include hands-free lane changing in its electric vehicle, Mustang Mach-E. Such developments to introduce level 2 autonomous technologies in electric vehicles are expected to propel the growth of the market.

Level 3 is also called conditional driving automation. It makes decisions depending on changing driving conditions surrounding the vehicle using a variety of driver assistance systems and artificial intelligence. A driver within the car can engage in other activities as the driver is not required to supervise the technology. However, a human driver must always be present, awake, and ready to take over at any moment, especially in the event of a malfunctioning of the system.

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The adoption of level 3 automation technology is expected to grow owing to the rise in government approval of the technology in various countries. For instance, in December 2021, Mercedes received German regulatory approval for Level 3 autonomous technology. Moreover, on May 17, 2022, the company announced to provide consumers with its DRIVE PILOT Level 3 self-driving assistant in Germany. The technology is expected to be available as an option on the

brand's flagship all-electric EQS sedan. Drive Pilot will cost the equivalent of $5300 on the S-Class, and $7900 on the EQS. In addition, governments of numerous countries allow level 3 testing and experiments to promote autonomous technologies, which is anticipated to accelerate the growth of the self-driving electric vehicle market.

On the basis of vehicle type, the global self-driving electric vehicle market has been segmented into passenger cars, and commercial vehicles. The commercial vehicles segment is expected to experience significant growth during the forecast period. The government of various countries across the globe aims to adopt zero-emission technology for heavy-duty commercial vehicles, which is expected to provide significant opportunities for the growth of the market. For instance, in November 2022, The California Air Resources Board agreed to move forward with plans to mandate a transition to zero-emission trucks, shuttle buses, and certain other buses beginning in 2024.

Moreover, manufacturers collaborate and form partnerships with research universities and transportation to design zero-emission and autonomous commercial vehicles. For instance, in March 2019, Volvo Buses and Nanyang Technological University (NTU), Singapore launched the world's first full-size, autonomous electric bus. The company partnered with Land Transport Authority (LTA) to develop and conduct autonomous vehicle bus trials. Such developments for the development and testing of self-driving electric commercial vehicles to achieve clean and safe public transportation are expected to propel the growth of the market.

Significant factors that impact the growth of the market comprise a rise in demand for low-emission, and safe transportation, the surge in the development of safety features, and supportive government initiatives. However, factors such as high manufacturing and maintenance cost, and privacy and security issues are expected to hamper the market growth during the forecast period. Furthermore, technological advancement and research and the growing use of self-driving electric vehicles for ride-hailing and delivery services are expected to create new growth opportunities for the market during the forecast period.

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The outbreak of COVID-19 led to the disruption of the entire global automotive supply chain, and plant closures impacting self-driving electric vehicle sales. However, post-pandemic, several manufacturers focused on the design and development of self-driving electric vehicles for the delivery and logistics industries. For instance, in December 2021, Udelv, a Silicon Valley venture-backed company announced to introduce an autonomous electric delivery vehicle for multi-stop delivery at Consumer Electronics Show 2022. Such developments to manufacture self-driving electric vehicles are expected to drive the growth of the market during the forecast period.

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By level of automation, the level 3 segment is anticipated to exhibit significant growth in the near

future.

By vehicle type, the commercial vehicles segment is anticipated to exhibit significant growth in the near future.

By type, the fuel cell electric vehicle segment is anticipated to exhibit significant growth in the near future.

By region, North America is anticipated to register the highest CAGR during the forecast period.

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Key players operating in the global self-driving electric vehicle market include Tesla, BMW AG, Volkswagen AG, Ford Motor Company, Volvo Group, Daimler AG, General Motors, TOYOTA MOTOR CORPORATION, HONDA MOTOR Co. LTD, and Hyundai Motor Company

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