

Automotive Fuel Cell Vehicle Market Growth from USD 1.03 Billion in 2023 to USD 37.60 Billion by 2030 | CAGR of 49.14%

According to a research report published by Exactitude Consultancy, Companies covered: Volvo AB, General Motors, BMW AG, Audi AG, General Motors, Honda Motors

LUTON, BEDFORDSHIRE, UNITED KINGDOM, September 3, 2024 /EINPresswire.com/ -- The [automotive fuel cell vehicle](#) (FCVs) market is poised for growth as the global focus shifts towards sustainable and clean energy solutions for transportation. Fuel cell vehicles use hydrogen as a primary energy source, combining it with oxygen



from the air to produce electricity that powers the vehicle, emitting only water vapor as a byproduct. This zero-emission feature makes FCVs an attractive alternative to traditional internal combustion engine vehicles, especially as concerns over air quality and carbon emissions intensify. The market's expansion is being driven by advancements in fuel cell technology, the

development of hydrogen infrastructure, and supportive government policies and incentives aimed at reducing carbon footprints. Major automakers and technology companies are increasingly investing in research and development to enhance fuel cell efficiency, reduce costs, and make these vehicles more accessible to consumers.

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Rising demand for zero-emission transport, government incentives, and advancements in hydrogen infrastructure boost the fuel cell vehicle market.”

Exactitude Consultancy

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Several carbon reduction targets and regulations, along with a growing awareness among consumers and governments to support zero-emission vehicles (ZEVs), will drive the industry. To lessen reliance on fossil fuels, several nations are consistently concentrating on the development and implementation of effective, clean fuel-powered cars across several industries. Water and heat are the primary discharges from Automotive fuel cell electric vehicles (FCEVs), which drive cars using direct hydrogen fuel. To create electricity to run the motors with various power ratings, these cars take in oxygen from the air and react with compressed hydrogen. Bulk emissions from fuel cell stacks substantially worsen air quality because they are integrated into a variety of vehicle types, such as trucks and buses.

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Daimler AG, Honda Motors Co. Ltd., Nikola Corporation, Toyota Motor Corporation, Hyundai Motor Group, Ballard Power System Inc., Volvo AB, General Motors, BMW AG, Audi AG, General Motors Company, Man Se, American Honda Motor Co., Toshiba

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In August 2022, Toyota announced a hydrogen fuel-cell truck joint venture with Isuzu and Hino Motors. These trucks were designed for the mass market and help address the challenges faced by the transportation industry and contribute to achieving a carbon-neutral society.

In March 2022, Toyota launched a green hydrogen-based advanced (FCEV) fuel cell electric vehicle, Toyota Mirai. Powered by a hydrogen fuel cell battery, this vehicle offers a range of up to 650 KM on a single charge.

In December 2018, the Hyundai Motor Company declared its new visionary plan for the manufacturing and deployment of fuel cell electric vehicles, namely 'FCEV Vision 2030'. The company targets to manufacture 700,000 FC systems per annum by 2030, out of which 500,000 units are projected to be integrated into FCEVs annually.

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Many businesses worldwide are working to do R&D to bring forth cutting-edge developments in fuel cell car technologies. Many players are currently integrating technology throughout their fleets to improve their cars' power output efficiency.

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When it comes to FCEV placement on roadways, hydrogen infrastructure is essential for meeting their refueling requirements. In addition, a lot of businesses are focussing on creating clean

hydrogen fuel and developing new hydrogen filling stations to facilitate the growth of FCEVs. Global demand for vehicle fuel cells is expected to rise significantly as a result of legislation and incentives that promote consumers' affordability in adopting FCEVs. Due to the established manufacturing infrastructure that major FCEV producers have created around the region, Asia Pacific is expected to hold a significant portion of the market.

Along with complete FC stack modules, several smaller manufacturers are also present in the region to support the production of various fuel cell components, such as catalysts and bipolar plates, among many others. In addition, several countries have set new goals and regulations to support hydrogen-powered cars to attain carbon-free economies through the deployment of large fleets of fuel-cell vehicles.

Automotive Fuel cell electric vehicles and other zero-emission vehicles are becoming more and more popular as a result of rising greenhouse gas emissions and running out of fossil fuels. The extended driving range of FCEVs over their non-zero emission alternative, battery-based electric vehicles, is motivating various research and development efforts to expedite the adoption of FCEVs. Fuel cell electric vehicles (FCEVs) use hydrogen fuel cells to produce energy, with the sole byproduct being water vapor. This helps to mitigate the issues of air pollution and climate change. Additionally, in order to fulfill sustainability standards, governments throughout the world have tightened laws on car emissions, which has fuelled the expansion of fuel cell electric vehicles.

An increase in R&D expenditures to bring forth more effective fuel cell devices while lowering production costs is anticipated to change the dynamics of the business. For a variety of medium- and heavy-duty applications with affordable installations, R&D is expected to support the adoption of FC systems. Regional administrations have also put up encouraging legislation to advance the infrastructure for hydrogen and encourage the adoption of FCEVs through targets and incentives.

The expansion of the automotive fuel cell market may be hampered by the battery electric vehicle (BEV) firms' extensive large-scale production capability and simplicity of availability. Furthermore, fuel cell vehicles' high production costs could be a barrier to their widespread acceptance in various nations. Nonetheless, a great deal of governmental and private businesses is always working to close the gap between these deficiencies.

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Report Title: <https://exactitudeconsultancy.com/reports/21370/automotive-fuel-cell-vehicle-market/>

Executive Summary

Asia Pacific dominated the market and accounted for the largest revenue share of 66.3% in 2022. This domination is the result of significant expenditures made by nations like China, South Korea, Japan, and others that are actively encouraging the development of hydrogen infrastructure and providing incentives for the adoption of fuel cell vehicles. With its aggressive aspirations for a society powered by hydrogen and strong backing for hydrogen fuel cell technology, Japan has been a leader in this regard. The proliferating sales of cars in countries such as South Korea and Japan are the primary factors for the growth of the passenger cars market in this region. Additionally, the growth of this industry is being driven by government attempts in Japan to use fuel cell vehicles and to encourage consumers by offering incentives for the purchase of the vehicles.

Market Segments

PEMFC Type FC Stacks is Predictable to Lead Market Through Forecast Timeframe

Phosphoric acid fuel cells (PAFC), proton exchange membrane fuel cells (PEMFC), and other fuel cell types make up the majority of the automotive fuel cell market. According to volume and revenue projections, the PEMFC sector is expected to hold the largest share of the automotive fuel cell market. The need for this market will be further increased by increased funding from various governments and organizations, as well as by ongoing research and development to enable mass manufacture of the stacks. Some of the characteristics that allow PEMFC to be successfully integrated with transport applications are low operating temperature, high power density, short startup times, and small size. The market for phosphoric acid fuel cells is anticipated to develop significantly because of their capacity to produce large power outputs while maintaining stability and a higher impurity tolerance.

Market Segments

Passenger Vehicles Are Anticipated to Dominate Global Market Size and Volume

Passenger vehicles, light commercial vehicles (LCVs), bus, and Hcvs. Passenger vehicles are projected to account for the lion's share in terms of volume as well as revenue. Large government initiatives to encourage FCEVs on the road will be used in conjunction with the wide range of services provided by automakers to support the adoption of FC passenger cars. The increasing propensity of various conglomerate firms and commercial infrastructures to use hydrogen-powered automobiles for many daily activities is expected to drive the dynamics of the light commercial vehicles market. Due to growing concerns about reducing harmful emissions from public transport and a

promising future for FC alternatives to replace freshly sold units, the fuel cell buses category is expected to provide significant income for the automotive fuel cell market. Fuel cell truck demand will be positively impacted by significant goals and regulations to introduce new lines of mid- and long-range clean fuel vehicles as well as the quickly expanding hydrogen infrastructure to support far-off FCEVs.

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Proton Exchange Membrane Fuel Cell

Phosphoric Acid Fuel Cell

Polymer Electrolyte Membrane Fuel Cell (PEMFC)

Others

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Short Range

Long Range

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Passenger Vehicles

Commercial Vehicles

Lcvs

Hcvs

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Asia Pacific

South America

Middle East and Africa

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What guidelines are followed by key performers to contest this COVID-19 condition?

What are the important matters drivers, opportunities, challenges, and dangers of the market?

will face surviving?

Which are the essential market players in the Automotive fuel cell vehicle industry?

What is the forecast compound annual growth rate (CAGR) of the global market for the duration of the forecast period (2024-2030)?

What could be the anticipated value of the Automotive fuel cell vehicle marketplace during the forecast period?

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The global trailer hitch market was valued at 771.27 million in 2023 and is projected to reach 942.14 million by 2030, growing at a CAGR of 2.10% from 2024 to 2030.

<https://exactitudeconsultancy.com/reports/23095/trailer-hitch-market/>

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The vehicle camera module market is expected to grow at 21.5% CAGR from 2024 to 2030. It is

expected to reach above USD 8.08 billion by 2030 from USD 1.4 billion in 2023.

<https://exactitudeconsultancy.com/reports/21975/vehicle-camera-module-market/>

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The automotive daytime running lights market is expected to grow at 7% CAGR from 2024 to 2030. It is expected to reach above USD 2.57 billion by 2030 from USD 1.5 billion in 2023.

<https://exactitudeconsultancy.com/reports/24223/automotive-daytime-running-lights-market/>

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The automated guided vehicles market is expected to grow at 7.9 % CAGR from 2024 to 2030. It is expected to reach above USD 3.8 billion by 2030 from USD 2.0 billion in 2023.

<https://exactitudeconsultancy.com/reports/25120/automated-guided-vehicles-market/>

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The Automotive Tyre Market is expected to grow at 5.03 % CAGR from 2024 to 2030. It is expected to reach above USD 165.54 billion by 2030 from USD 118.1 billion in 2023.

<https://exactitudeconsultancy.com/reports/26985/automotive-tyre-market/>

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The global autonomous delivery robots market is expected to grow at 38.70 % CAGR from 2024 to 2030. It is expected to reach above USD 3001.55 Million by 2030 from USD 158 Million in 2023.

<https://exactitudeconsultancy.com/reports/27021/autonomous-delivery-robots-market/>

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Car dashcam market is expected to grow at 16.2% CAGR from 2024 to 2030. It was valued 2.50 billion at 2023. It is expected to reach above USD 9.66 billion by 2030.

<https://exactitudeconsultancy.com/reports/27151/car-dashcam-market/>

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The vehicle-to-grid (V2G) market is expected to grow at 21.4% CAGR from 2024 to 2030. It is

expected to reach above USD 13.17 Billion by 2030 from USD 2.3 Billion in 2023.

<https://exactitudeconsultancy.com/reports/27283/vehicle-to-grid-v2g-market/>

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The global wearable robot exoskeleton market is expected to grow at 44% CAGR from 2024 to 2030. It is expected to reach above USD 11995.7 million by 2030 from USD 952.5 million in 2023.

<https://exactitudeconsultancy.com/reports/27380/wearable-robots-and-exoskeletons-market/>

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The global Windshield washer fluids market is expected to grow at 4.5% CAGR from 2024 to 2030. It was valued 1.30 billion at 2023. It is expected to reach above USD 1.93 billion by 2030.

<https://exactitudeconsultancy.com/reports/27470/windshield-washer-fluids-market/>

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sales@exactitudeconsultancy.com

<https://bulletin.exactitudeconsultancy.com/>

Irfan T
Exactitude Consultancy
+1 704-266-3234
[email us here](#)

Visit us on social media:

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