

# **Impact COVID-19 on Automotive Fuel Cell Market: Segmented; By Electrolyte Type (PEMFC, PAFC, AFC, and MFC), By Vehicle type (Passenger Vehicle and Commercial Vehicle), By Component (Fuel Processor, Power Conditioner, Fuel Stack and Other), And Region – Global Analysis of Market Size, Share & Trends For 2019–2020 And Forecasts To 2031**

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## **Abstracts**

[ 176 + Pages Research Report ] Impact COVID-19 on Automotive Fuel Cell Market to surpass the value at 2.1 billion in 2021 at a CAGR of 47.4%.

### **Product Overview**

In power automobiles, fuel cells are used, which are propelled by H<sub>2</sub> fuel. This sort of fuel is stored in a high-pressure tank and then supplied in a fuel cell stack, wherein oxygen and hydrogen from the air react to generate electricity. Unlike typical fuel cell vehicles, which usually run-on diesel/gasoline, fuel cell vehicles generate electricity using a combination of hydrogen and oxygen. For its operation, fuel cells typically consume oxygen from the atmosphere & compressed hydrogen. Because most fuel cells emit only water and heat, they are designated as zero-emission vehicles. For automakers, automotive technology is an appealing offer since it allows them to produce high-energy cells capable of powering vehicles.

### **Market Highlights**

Global Automotive Fuel Cell market is expected to project a notable CAGR of 47.4% in 2031.

The worldwide Automotive Fuel Cell industry is predicted to grow due to factors such as

government backing and policies, as well as increased consumer awareness. Furthermore, the Automotive Fuel Cell Market is being driven by new developments in fuel cell technology as well as tight emission regulations.

### Global Automotive Fuel Cell: Segments

PEMFC segment to grow with the highest CAGR during 2021-31

The global market is segmented based on electrolyte type into Proton Exchange Membrane Fuel Cell (PEMFC), Phosphoric Acid Fuel Cell (PAFC), Alkaline Fuel Cell (AFC), and Microbial Fuel Cell (MFC). The Proton Exchange MFC accounted for the majority of fuel cell technical advancements. Market expansion is being driven by rising demand for renewable energy generation & reliance on fuel cell-based public transport systems in developed nations. Furthermore, PEMFC's features, such as higher efficiency, low operating costs, quick maintenance, and improved dependability and operability, are expected to increase demand for the technology during the projection period.

Passenger Vehicles segment to grow with the highest CAGR during 2021-31

Based on Vehicle Type, the market is segmented into Passenger Vehicles, and Light Commercial vehicles (LCV). With an increasing adoption rate, rising amount of personal mobility, and multiple emission rules implemented by various governments, the passenger car sub-segment currently dominates the market. Furthermore, many customers and governments are choosing clean and low-emission vehicles, which has increased demand for the fuel cell-based passenger car segment. However, many governments are embracing fuel cell buses to minimize carbon emissions, and the Buses are likely to grow shortly as a result.

### Market Dynamics

#### Drivers

#### Rising Fuel Cell Vehicle Demand in Automotive & Transportation

Fuel-cell vehicles provide a long driving range, quick refilling, quiet operation, and no greenhouse gas or air pollution emissions. As a result, fuel cells are well suited to transportation & automotive applications. Fuel cells are a scalable and versatile source of electricity that can be used in a wide range of transportation applications, including material handling vehicles, busses, trains, autos, defense vehicles, and light commercial vehicles (LCVs). In advertising applications, fuel cells are additionally used as stationary

fuel sources. Fuel cells can be used as a major source of energy, a backup source of energy, and a source of heat and energy in combined heat and power systems. Furthermore, governments are taking steps to promote the use of fuel cells for transport, which could help the transportation and automotive segments of the fuel cell market grow even faster.

#### Increase R&D efforts and Investment

The majority of global R&D efforts are concentrated on the development and advancement of fuel cell-powered cars, which is likely to open up new market prospects. However, research and development activities relating to utilities & UAVs for the defense sector, as well as portable power production units, have expanded significantly in recent years. The increased attention of governments throughout the world on the use of sustainable energy sources has increased overall investments in fuel cell-based electricity generation. Result of which, the increased investment improves the future and current growth of the innovation in the fuel cells market.

#### Restraint

##### High cost of hydrogen fuel station

In comparison to petroleum, diesel, as well as other fuels, the cost of establishing a hydrogen fuel station & supporting infrastructure is extremely high. The development of hydrogen fueling infrastructures around the world has been hampered as a result of this. This is because hydrogen is a highly flammable fuel, which necessitates expensive equipment as well as appropriate safeguards and safety measures. As a result, car costs rise, putting a damper on the global adoption of automotive fuel cell vehicles.

#### Global Automotive Fuel Cell: Key Players

##### Ballard Power Systems

Company Overview, Business Strategy, Key Product Offerings, Financial Performance, Key Performance Indicators, Risk Analysis, Recent Development, Regional Presence, SWOT Analysis

##### ITM Power

##### AFCC

##### BorgWarner Inc.

##### Toyota Motor Corporation

##### Hyundai Motor Company

##### Nissan Motor Corporation

Honda Motor Company Inc.

Toshiba

Proton Motor Fuel Cell GmbH

Other Prominent Players

Global Automotive Fuel Cell: Regions

Global Automotive Fuel Cell market is segmented based on regional analysis into five major regions: North America, Latin America, Europe, Asia Pacific, and the Middle East and Africa. The North American area has the highest market share and is expected to grow at the fastest rate in the future years. The tremendous demand for cars associated with fuel cells increased R&D, and innovations coming to market are the reasons why North America is the largest market. The United States and Canada both have the most hydrogen fuel outlets and are home to the world's top fuel cell manufacturers. Even though demand for vehicle gasoline is predicted to rise in nearly every region.

Impact of Covid-19 on Automotive Fuel Cell Market

The impact of the pandemic on supply chains will influence hydrogen-based technologies, which require a well-coordinated supply chain and a large amount of cash to demonstrate. The COVID-19 epidemic has impacted the current hydrogen consumption of oil refining, steel production, and the chemicals sector, according to the IEA. According to the International Energy Agency, gasoline consumption demand for critical hydrogen-based chemicals (such as methanol) would fall due to pandemics. Sales of hydrogen-based transportation fuels increased in the forecast period. Overall, the global epidemic has had a significant influence on the fuel cell sector.

Global Automotive Fuel Cell is further segmented by region into:

North America Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – the United States and Canada

Latin America Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – Mexico, Argentina, Brazil and Rest of Latin America

Europe Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – United Kingdom, France, Germany, Italy, Spain, Belgium, Hungary, Luxembourg, Netherlands, Poland, NORDIC, Russia, Turkey and Rest of Europe

Asia Pacific Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – India, China, South Korea, Japan, Malaysia, Indonesia, New Zealand, Australia, and Rest of APAC

the Middle East and Africa Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – North Africa, Israel, GCC, South Africa and Rest of MENA

Global Automotive Fuel Cell report also contains analysis on:  
Automotive Fuel Cell Segments:

By Electrolyte Type

PEMFC

PAFC

AFC

MFC

By Vehicle type

Passenger Vehicle

Hatchback

Sedan

Utility Vehicles

Commercial Vehicle

Light Commercial Vehicle

Heavy Commercial Vehicle

By Component

Fuel Processor

Power Conditioner

Fuel Stack

Other

Automotive Fuel Cell Dynamics

Automotive Fuel Cell Size

Supply & Demand

Current Trends/Issues/Challenges

Competition & Companies Involved in the Market

Value Chain of the Market

Market Drivers and Restraints

Automotive Fuel Cell Market Report Scope and Segmentation

Report Attribute Details

The market size value in 2021 2.1 billion

The revenue forecast in 2031 99.6 billion

Growth Rate CAGR of 47.4% from 2021 to 2031

The base year for estimation 2020

Quantitative units Revenue in USD million and CAGR from 2021 to 2031

Report coverage Revenue forecast, company ranking, competitive landscape, growth factors, and trends

Segments covered Electrolyte Type, Vehicle Type, Component Application, and Region

Regional scope North America, Europe, Asia Pacific, Latin America, Middle East &

## Africa (MEA)

Key companies profiled Ballard Power Systems, ITM Power, AFCC, BorgWarner Inc., Toyota Motor Corporation, Hyundai Motor Company, Nissan Motor Corporation, Honda Motor Company Inc., Toshiba, Proton Motor Fuel Cell GmbH, and Other Prominent Players.

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**\*\*The above given segmentations and companies could be subjected to further modification based on in-depth feasibility studies conducted for the final deliverable.**

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