

Global Hydrogen Aircraft Market Size Study, by Passenger Capacity (Less than 100, 101 to 200, More than 200), by Range (Short Haul, Medium Haul, Long Haul), by Application (Passenger Aircraft, Cargo Aircraft), by Power Source (Liquid Hydrogen Aircraft, Fully Hydrogen Powered Aircraft, Hybrid Electric Aircraft, Hydrogen Fuel Cell Aircraft), by Power Output (0 to 100 KW, 100 KW to 1 MW, 1 MW and Above) and Regional Forecasts 2022-2032

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Abstracts

Global Hydrogen Aircraft Market is valued at approximately USD 10.16 Billion in 2023 and is anticipated to grow with a healthy growth rate of more than 15.4% over the forecast period 2024-2032. A hydrogen airplane is an aircraft that utilizes hydrogen as its primary fuel source instead of conventional jet fuel. Hydrogen-powered aircraft are expected to be a solution to decarbonize the aviation sector, aligning with global initiatives to combat climate change and reduce greenhouse gas emissions. The two main models of hydrogen aircraft are combustion hydrogen planes and fuel cell hydrogen planes. Research on hydrogen as a potential fuel to power zero-emission aircraft has been on the rise in recent years. The aviation sector is working to develop technologies to tackle challenges associated with hydrogen storage, public perceptions of safety, and cost.

The hydrogen aircraft market is significantly influenced by the increase in air passenger traffic, rising environmental awareness, and stringent zero-emission targets. Global air passenger numbers have been on a steady rise, with the International Air Transport Association (IATA) forecasting a doubling from 4.5 billion in 2019 to over 8 billion by

2037. This surge in air travel necessitates more sustainable aviation solutions to mitigate environmental impact. Moreover, the development of a green hydrogen ecosystem and increasing R&D investments present various lucrative opportunities over the forecast years. However, the high costs associated with the production and handling of hydrogen, technical challenges related to aircraft design, and hydrogen storage are challenging the market growth throughout the forecast period of 2024-2032.

The key regions considered for the Global Hydrogen Aircraft Market study include Asia Pacific, North America, Europe, Latin America, and Rest of the World. Europe is a dominating region in the Global Hydrogen Aircraft Market in terms of revenue. The market growth in the region is being attributed to factors including technological development and implementation of sustainable aviation practices. This dominance is fueled by strong governmental support, including the European Union's Green Deal, which aims to achieve climate neutrality by 2050. Whereas, the market in Asia Pacific is anticipated to grow at the fastest rate over the forecast period fueled by rising middle-class populations and increasing demand for air travel, further accelerating the adoption of hydrogen aircraft in Asia-Pacific.

Major market player included in this report are:

Thales

AeroVironment, Inc.

GKN Aerospace

Pipistrel

Urban Aeronautics Ltd

Alaka'l

Airbus

AeroDelft

HES Energy Systems

ZeroAvia, Inc.

Boeing Company

Universal Hydrogen Co.

Rolls-Royce Holdings plc

Honeywell Aerospace

Hydrogen Aviation Ltd. (H2Avia)

The detailed segments and sub-segment of the market are explained below:

By Passenger Capacity:

Less than 100

101 to 200

More than 200

By Range:

Short Haul (less than 1000 Km)

Medium Haul (1000 to 2000 Km)

Long Haul (above 2000 Km)

By Application:

Passenger Aircraft

Cargo Aircraft

By Power Source:

Liquid Hydrogen Aircraft

Fully Hydrogen Powered Aircraft

Hybrid Electric Aircraft

Hydrogen Fuel Cell Aircraft

By Power Output:

0 to 100 KW

100 KW to 1 MW

1 MW and Above

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

ROE

Asia Pacific

China

India

Japan

Australia
South Korea
RoAPAC

Latin America
Brazil
Mexico
Rest of Latin America

Middle East & Africa
Saudi Arabia
South Africa
RoMEA

Years considered for the study are as follows:

Historical year – 2022

Base year – 2023

Forecast period – 2024 to 2032

Key Takeaways:

Market Estimates & Forecast for 10 years from 2022 to 2032.

Annualized revenues and regional level analysis for each market segment.

Detailed analysis of geographical landscape with Country level analysis of major regions.

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market approach.

Analysis of competitive structure of the market.

Demand side and supply side analysis of the market.

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