

Hydrogen Aircraft Market by Power Source (Hydrogen Combustion, Hydrogen Fuel Cell), Platform (Unmanned Aerial Vehicles, Air Taxis, and Business Jets), Range, Passenger Capacity, Technology, and Region - Global Forecast to 2030

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Abstracts

The hydrogen aircraft market is estimated to be USD 143 billion in 2020 and is projected to grow from USD 1,411 million in 2025 to USD 7,427 million by 2030, at a CAGR of 28.9% from 2025 to 2030. The aviation industry contributes significantly towards carbon emissions with approximately 2.5% of the global CO₂ emissions. Since the massive reduction of air traffic due to COVID-19, industry stakeholders are making efforts in the decarbonization of the aviation industry. This is of concern for governments in the European Union (EU) particularly Germany, UK, and France. Governments of these nations have formulated their own National Hydrogen Strategies with a focus on the decarbonization of transportation and aviation.

Based on power source, hydrogen fuel cell segment is projected to lead hydrogen aircraft market during the forecast period

Based on power source, the hydrogen aircraft market is segmented into hydrogen combustion based and hydrogen fuel cell based. The hydrogen fuel cell segment is expected to dominate the market as hydrogen fuel cells are widely commercialized and can be easily sourced.

Based on passenger capacity, up to 4 passengers segment projected to dominate hydrogen aircraft market during the forecast period

Based on passenger capacity, the hydrogen aircraft market has been segmented into

up to 4 passengers, 5 to 10 passengers, and more than 10 passengers. The up to 4 passengers segment leads the market. It is because the unmanned hydrogen aircraft lead the market currently which means that the aircraft carries no passengers.

Based on range, the up to 20 km segment accounts for the largest market size during the forecast period

Based on range, the hydrogen aircraft market is segmented into up to 20 km, 20 km to 100 km, and more than 100 km. the up to 20 km segment dominates the market. This is because the hydrogen aircraft market is dominated by UAVs, surveillance drones, etc. that do not need to travel long distances.

Based on platform, the unmanned aerial vehicles segment accounts for the largest market size during the forecast period

Based on the platform, the hydrogen aircraft market has been segmented into unmanned aerial vehicles, air taxis, and business jets. The unmanned aerial vehicles segment is expected to dominate the market. This is since the hydrogen aircraft market is still in the developing stage and unmanned aircraft like drones and other unmanned military and surveillance aircraft make an overwhelmingly large proportion of the market.

Based on technology, the hybrid electric aircraft segment accounts for the largest market size during the forecast period

Based on technology, the hydrogen aircraft market is segmented into fully hydrogen powered aircraft and hybrid electric aircraft. The fully hydrogen powered aircraft uses hydrogen fuel as the sole power source while the hybrid electric aircraft uses both, hydrogen, and batteries as power source. The market is currently dominated by hybrid electric aircraft. This is because the fully hydrogen powered aircrafts are in the developing stage and hydrogen fuel cells are already commercialized in automotive sector which makes their adoption in Aerospace and Defense feasible.

North America accounted for the largest share in 2020.

The hydrogen aircraft market has been studied for North America, Europe, Asia Pacific, and Rest of the World. North America is estimated to account for the largest share of the global market in 2020. Major developments and start-ups in unmanned hydrogen aircraft like UAVs and surveillance drones has enabled the North America to stay at the top of the share. Further developments expected in the fields of passenger and

commercial hydrogen aircrafts will propel the growth of hydrogen aircraft market and North America is expected to retain its top position throughout the forecast period.

Break-up of profile of primary participants in the Hydrogen aircraft Market:

By Company Type: Tier 1 – 25%, Tier 2 – 20%, and Tier 3 – 55%

By Designation: Others – 25%, C Level – 50 %, and Director Level – 25 %

By Region: North America – 60 %, Europe – 20 %, Asia Pacific – 10 %, South America – 5%, Middle East & Africa – 5%

Key Players in the hydrogen aircraft market are Airbus SE (Netherlands), GKN Aerospace (UK), Urban Aeronautics Ltd. (Israel), HES Energy Systems (Singapore) and, ZeroAvia Inc. (US).

Research Coverage:

The scope of the report covers detailed information regarding the major factors, such as drivers, restraints, challenges, and opportunities, influencing the growth of the hydrogen aircraft market. A detailed analysis of the key industry players has been done to provide insights into their business overviews; solutions and services; key strategies; new product launches; mergers; and partnerships, agreements, and collaborations; and recent developments associated with the hydrogen aircraft market. Competitive analysis of upcoming startups in hydrogen aircraft market ecosystem is covered in this report.

Reasons to buy this report:

The report will help the market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall hydrogen aircraft market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and to plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, challenges, and opportunities.

The report provides insights on the following pointers:

Market Penetration: Comprehensive information on hydrogen aircraft market offered by top players in the market

Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product launches in the hydrogen aircraft market

Market Development: Comprehensive information about lucrative markets – the report analyzes the hydrogen aircraft market across varied regions

Market Diversification: Exhaustive information about new products, untapped geographies, recent developments, and investments in the hydrogen aircraft market

Competitive Assessment: In-depth assessment of market shares, growth strategies, products, and manufacturing capabilities of leading players in hydrogen aircraft market

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