

US Rocket Hybrid Propulsion Market Size study, by Type (Rocket Motor, Rocket Engine) by Orbit (Low Earth Orbit (LEO), Medium Earth Orbit (MEO), Geostationary Earth Orbit (GEO), Beyond Geosynchronous Orbit (BGEO)), by Component (Motor Casing, Nozzle, Igniter Hardware, Turbo Pump, Propellant, Others) by Vehicle Type (Manned, Unmanned), by End User (Military and Government, Commercial) Forecasts 2022-2032

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Abstracts

US Rocket Hybrid Propulsion Market is valued at approximately USD 2.19 billion in 2023 and is anticipated to grow with a healthy growth rate of more than 6.27% over the forecast period 2024-2032. Rocket hybrid propulsion uses propellants in two different states of matter, one as a solid and the other as a gas or liquid and is designed for use with rockets. Several disadvantages of solid and liquid rockets are reduced by hybrid rockets, such as the dangers related to fuel management and mechanical complexity. In addition, hybrid rocket motors also have simple shutdown procedures and a throttleable thrust in comparison to liquid rocket engines. A pressure vessel (tank) containing liquid propellant, a valve dividing the two, and a combustion chamber filled with solid propellant are the usual components of a hybrid rocket. When thrust is intended, the valve is opened and the combustion chamber is filled with the proper ignition. Following its vaporization and subsequent reaction with the solid propellant, the liquid propellant enters the combustion chamber. In addition, a boundary layer diffusion flame that is situated next to the solid propellant's surface is where combustion takes place. Furthermore, trend such as growing emphasis on developing environmentally friendly propellants, Researchers are focusing on using non-toxic, sustainable materials for both

fuel and oxidizers and innovations in fuel formulations and oxidizer combinations are improving the efficiency and performance of hybrid propulsion systems. Thus, these trends expected to further drive demand for the US Rocket Hybrid Propulsion Market during the forecast period 2024-2032.

The rise in commercial applications within the space industry is a key driver for the high demand of US Rocket Hybrid Propulsion Market. With the rapid expansion of the commercial space sector, driven by companies like SpaceX, Blue Origin, and Rocket Lab, there is a growing need for cost-effective and reliable launch solutions. Hybrid propulsion systems offer several advantages that cater to the requirements of commercial space ventures. Their inherent safety features, coupled with the ability to throttle and restart engines, make them well-suited for deploying small satellites, conducting suborbital flights for research or tourism, and supporting other commercial space activities. Additionally, the cost efficiency of hybrid propulsion systems aligns with the business models of commercial space companies, enabling them to offer competitive pricing for launch services. As the commercial space industry continues to flourish, the demand for rocket hybrid propulsion technology in the US market is expected to rise steadily. However, performance limitations and integration complexity in rockets can stifle market growth during forecast period 2024-2032.

Major market player included in this report are:

Northrop Grumman Corporation

Raytheon Technologies Corporation

Environmental Aeroscience Corporation

Virgin Galactic Holdings, Inc.

Firehawk Aerospace Inc.

Company 6

Company 7

Company 8

Company 9

Company 10

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

By Type

Rocket Motor

Rocket Engine

By Orbit

Low Earth Orbit (LEO)

Medium Earth Orbit (MEO)

Geostationary Earth Orbit (GEO)

Beyond Geosynchronous Orbit (BGEO)

By Component

Motor Casing

Nozzle

Igniter Hardware

Turbo Pump

Propellant

Others

By Vehicle Type

Manned

Unmanned

By End User

Military and Government

Commercial

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 Country 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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