Space Propulsion Systems Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The space propulsion systems market is expected to witness a CAGR of more than 4% during the forecast period (2022-2027).

The COVID-19 pandemic had a mild impact on the space propulsion systems market. Although several space launches were delayed in 2020 due to the pandemic, no major cancellations of the space launches were witnessed. Furthermore, the governments of various countries have not reduced the funding for their space-related activities, which is expected to help the market growth during the forecast period.

In the last fifteen years, the space exploration business changed substantially, with space startups and private corporations joining governments in creating and launching satellites and other spacecraft with the launch vehicles. Thus, the demand for space propulsion systems has increased.

The shift from traditional propulsion (chemical propulsion system) in spacecraft to the new generation propulsion systems (electric propulsion system) is expected to open new market opportunities.

Space Propulsion Systems Market Trends

The Launch Vehicle Segment is Expected to Dominate the Market

The launch vehicle segment is the leading segment in the space propulsion systems market. The large market share is primarily due to the higher cost of the propulsion systems in the launch vehicle compared to the propulsion systems in the spacecraft. The amount of thrust, which needs to be generated to take a spacecraft or a satellite to orbit, is a thousand times more than the thrust required to deliver small and precise impulses to accurately control the position or attitude of the satellite in the orbits. International partnerships for launch vehicle systems have been witnessed over the past. These collaborations are expected to drive the market.

For instance, in June 2022, NASA and the European Space Agency (ESA) partnered to launch a pathfinder data relay satellite to support missions on the polar regions and the far side of the moon. The ESA's satellite is expected to be launched on a United States commercial rocket launch system, deepening trans-Atlantic ties on the Artemis lunar program. Several young startups also successfully developed capable rocket launch and propulsion systems, further driving the market demand. For instance, in May 2022, India's Skyroot Aerospace built India's first space launch vehicle and propulsion system and announced the successful completion of a full-duration test-firing of the Vikram-1 rocket stage. Many such developments in the pipeline globally are expected to drive the demand for space propulsion systems by significant margins during the forecast period.

North America Held the Largest Market Share in 2021

North America held the largest market share in geography in 2021, especially owing to the intense space exploration and development activity in the United States. The growth of the space propulsion systems market in the United States is majorly driven by the current space exploration missions carried out by NASA and the increasing satellite launches by the US Department of Defense. In 2021, the United States SpaceX launched a total of 31 rockets for both satellite launch and general testing.

NASA is investing in startup companies to develop advanced propulsion systems for small satellites. In June 2019, NASA selected six R&D projects under its Small Business Innovation Research (SBIR) Program Phase II funding to develop new high-impulse thrusters and communication technologies for spacecraft. As part of this initiative, in May 2021, NASA invested a total of USD 105 Million of additional funding to offer to smaller-scale space technology startups, further increasing the opportunities for space propulsion systems in the future. NASA is also working on the Solar Electric Propulsion (SEP) project, which aims to extend the length and capabilities of ambitious new exploration and science missions.

Furthermore, Canada, on the other hand, has been making progress in space explorations and investments. In June 2022, SpaceRyde has o?cially opened Canada's ?rst orbital-class rocket factory. The 25,000ft? facility is expected to undertake the research and development and rocket manufacturing of the country's future rockets. Owing to several such investments and technological developments, North America is expected to dominate the market during the forecast period.

Space Propulsion Systems Market Competitor Analysis

Some prominent space propulsion systems market players are Safran SA, Blue Origin, Moog Inc., Aerojet Rocketdyne Holdings Inc., and SPACE EXPLORATION TECHNOLOGIES CORP. The market of space propulsion systems is highly fragmented, with many players providing a wide range of products from small components of propulsion systems to complete propulsion systems. The investment support by various government and space agencies for the startups is expected to ease the entry of new players into the market. Players in the industry are acquiring smaller technology companies to increase their capabilities. For instance, Aerojet Rocketdyne acquired 3D Material Technologies (3DMT) to increase its capabilities in additive manufacturing technologies to reduce costs and improve the efficiency of proven rocket engines. Strategic acquisitions like these are expected to make the market further competitive.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

Table of Contents:

1 INTRODUCTION
1.1 Study Assumptions and Market Definition
1.2 Scope of the Study

2 RESEARCH METHODOLOGY

3 EXECUTIVE SUMMARY

4 MARKET DYNAMICS
4.1 Market Overview
4.2 Market Drivers
4.3 Market Restraints
4.4 Industry Attractiveness - Porter's Five Forces Analysis
4.4.1 Threat of New Entrants
4.4.2 Bargaining Power of Buyers/Consumers
4.4.3 Bargaining Power of Suppliers
4.4.4 Threat of Substitute Products
4.4.5 Intensity of Competitive Rivalry

5 MARKET SEGMENTATION (Market Size and Forecasts in Value - USD million, 2022 - 2027)
5.1 By Type
5.1.1 Spacecraft
5.1.2 Launch Vehicle
5.2 By Geography
5.2.1 North America
5.2.2 Europe
5.2.3 Asia-Pacific
5.2.4 Rest of the World

6 COMPETITIVE LANDSCAPE
6.1 Vendor Market Share
6.2 Company Profiles
6.2.1 SPACE EXPLORATION TECHNOLOGIES CORP.
6.2.2 Accion Systems Inc.
6.2.3 Blue Origin
6.2.4 Moog Inc.
6.2.5 Aerojet Rocketdyne Holdings Inc.
6.2.6 Avio SpA
6.2.7 Yuzhnoye SDO
6.2.8 OHB SE
6.2.9 IHI Corp
6.2.10 Sierra Nevada Corporation
6.2.11 Safran SA
6.2.12 Northrop Grumman Corporation

7 MARKET OPPORTUNITIES AND FUTURE TRENDS

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