

Asia-Pacific Space Propulsion - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2017 - 2029

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Report description:

The Asia-Pacific Space Propulsion Market size is estimated at USD 51.82 billion in 2024, and is expected to reach USD 88.17 billion by 2029, growing at a CAGR of 11.22% during the forecast period (2024-2029).

The utilization of electric propulsion is expected to surge during the forecast period

- A satellite's propulsion system is commonly used to propel a spacecraft and coordinate its position into orbit. Gas-based propulsion systems, such as cold gas thrusters and green propellants, have applications in the Asia-Pacific satellite market. Cold gas thrusters use compressed gas, typically nitrogen, as a propellant. While relatively simple and reliable, these systems provide low thrust and are mainly used for attitude control and minor orbit adjustments. Countries like Japan and India are actively researching and developing green propellant technologies for satellite propulsion to enhance operational efficiency and reduce the risks associated with toxic propellants.

- On the other hand, electric propulsion is commonly used to hold stations for commercial communication satellites. It is the primary propulsion of some space science missions due to its high specific impulses. Thales, IHI Corporation, and Ariane Group are some of the significant providers of propulsion systems in the region. The new launch of satellites in the region is expected to accelerate market growth over the forecast period.

- Liquid propulsion systems continue to be widely used in the Asia-Pacific for primary propulsion and larger orbit maneuvers. These systems typically employ liquid rocket engines that use liquid propellants such as liquid oxygen and liquid hydrogen. Liquid propulsion offers high thrust capabilities, enabling rapid orbital insertion and major trajectory changes. Between 2023 and 2029, the market is expected to surge by 96% during the forecast period. Gas-based propulsion systems are expected to dominate the market.

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Increasing investments in space startups

- A satellite's propulsion system is commonly used to propel a spacecraft into orbit and coordinate the position of the spacecraft in orbit. Gas propellants can also be used but are not common due to their low density and difficulty in applying conventional pumping methods. Liquids are desirable because they have a fairly high density and high specific impulse.
- The propulsion systems that enabled movements have been proven very efficient and reliable. These include hydrazine systems, other single or twin propulsion systems, hybrid systems, and cold/hot air systems, and these systems are used when strong thrust or rapid maneuvering is required. Therefore, chemical systems continue to be the space propulsion technology of choice when their total impulse capacity is sufficient to meet the mission requirements. In May 2021, Bellatrix Aerospace announced that it tested the country's first privately built Hall Thruster, an electric propulsion system for satellites.
- The application of electric propulsion is commonly used to hold stations for commercial communication satellites and is the main propulsion of some space science missions due to its high specific impulses. The new launch of satellites in the region is expected to accelerate market growth during the forecast period.

Asia-Pacific Space Propulsion Market Trends

Increased spending by China, India, Japan, and South Korea are the growth drivers

- The demand for satellite propulsion systems is driven by increased spending on satellite programs by various countries, such as the manufacture and launch of national satellite internet constellation of up to 13,000 satellites. China's SatNet has been engaging with commercial companies as it develops a blueprint for constructing the "Guowang" constellation. Notably, these and other small satellites require onboard propulsion to reduce the chances of collision and mitigate the issue of debris in low Earth orbit. Several companies in the region are developing space propulsion technologies. In May 2022, a Chinese satellite electric propulsion company named Kongtian Dongli announced that it secured a multi-million yuan angel round financing amid a proliferation of Chinese satellite constellation plans. The company's main products are Hall thrusters and microwave electric propulsion systems, with an on-orbit test of the latter planned before December this year.
- Likewise, in February 2023, the Indian government announced that ISRO is expected to receive USD 2 billion for various space-related activities, including the development of the Liquid Propulsion Systems Centre (LPSC) and the ISRO Propulsion Complex. In March 2021, Japan announced spending USD 4.14 billion on space-related activities. The country mentioned having allocated JPY 18.9 billion for the H3 rocket development. In January 2020, JAXA mentioned that JPY 3.6 billion was allocated to fund the research and development of core engine technologies that significantly improve fuel consumption and reduce environmental burden, as well as the research and development of the silent supersonic aeroplane and emission-free aircraft (electric-powered propulsion systems).

Asia-Pacific Space Propulsion Industry Overview

The Asia-Pacific Space Propulsion Market is fragmented, with the top five companies occupying 15.08%. The major players in this market are Ariane Group, Honeywell International Inc., Moog Inc., Northrop Grumman Corporation and Safran SA (sorted alphabetically).

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Additional Benefits:

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

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