

How Does Space Propulsion System Work, and Why Does it Matter?

Rising emphasis on decreasing costs associated with space missions is a significant factor driving global market revenue growth

VANCOUVER, BC, CANADA, April 1, 2022 /EINPresswire.com/ -- The global <u>space propulsion system market</u> size is expected to reach 19.97 billion in 2028 and register a revenue CAGR of 14.6% in 2028, according to latest analysis by Emergen Research. Market revenue growth can be attributed to increasing



emphasis on decreasing costs associated with space missions. Space propulsion system, particularly non-chemical propulsion, enables mass reduction of satellites and other spacecraft, resulting in reduced cost of launching a specific mission or launch of more advanced and efficient spacecraft for a particular mass. Airbus Defense and Space is utilizing electric space propulsion systems for the purpose of orbital station keeping for over a decade and is focusing on construction of large satellites, deploying only electric space propulsion systems for initial orbit raising. Space propulsion systems provide reliable solutions to keep total system cost low and decrease orbit raising duration.

Rising emphasis on decreasing costs associated with space missions is a significant factor driving global space propulsion system market revenue growth

Increasing investments in space exploration and rising number of space exploration missions are driving growth of the space propulsion market. For instance, in 2019, the institution of US Air Force's separate branch of armed services, the Space Force, announced that global space economy will generate USD 1.0 trillion to USD 1.5 trillion by 2040. Also, increasing investment by China and Russia in space missions in the near future is projected to drive demand for space propulsion systems.

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Major companies profiled in the market report include Space Exploration Technologies Corporation, Safran SA, Lockheed Martin Corporation, Aerojet Rocketdyne Holdings Inc., Thales Alenia Space, Moog Inc., IHI Corporation, OHB SE, Northrop Grumman Corporation, and Sierra Nevada Corporation.

Some Key Highlights From the Report

In October 2021, NASA made an announcement about signing contracts with MagniX USA Inc. of Redmond and GE Aviation (GE) of Cincinnati for supporting Electric Powertrain Flight Demonstration (EPFD). It will mature Electrified Aircraft Propulsion (EAP) technologies at a fast pace through ground and flight demonstrations. NASA is aiming to introduce EAP technologies to U.S. aviation fleets by 2035.

By spacecraft type, rovers segment is expected to register significantly steady revenue CAGR over the forecast period. Rovers can examine more terrain, progress knowledge about performance of remote robotic vehicle control, and are capable of automatically placing themselves in areas where there is sunlight. For missions associated with finding past water activity on Mars through examination of minerals and rocks, rovers are particularly equipped with instruments/tools to examine a diverse soil and rock collection that may have clues about the planet's past water activity.

Nuclear propulsion technology delivers two-fold propellant efficiency and high thrust, compared to chemical propellants. This system functions by transferring heat from reactor to a liquid propellant and coverts it into gas. The gas then expands through a nozzle to deliver thrust for propelling spacecraft. Unlike chemical propellants, a nuclear propulsion system can deploy propellants very efficiently, but thrust is low.

Among the end-use segments, government and defense segment is expected to register faster revenue growth rate over the forecast period. Satellites play a significant role in the U.S. military, and are used to identify enemy sites and movements, track weather patterns, guide navigational systems, communicate throughout battle-zones, and execute precision strikes. Increasing usage of satellites in the defense sector is expected to continue to drive revenue growth of this segment. The US Space Force, for instance, acts as a conduit for space-related expertise and intelligence to get to the rest of the military. It ensures that commanders in battlefield have real-time access to reconnaissance through satellites.

Space propulsion market in North America accounted for largest revenue share in 2020, attributed to ongoing space exploration missions executed by NASA, increasing investment by private players and government organizations in space exploration and earth observation activities, and launch of satellites by the US department of Defense (DoD).

In June 2019, NASA, for instance, selected six research & development projects as part of its

Small Business Innovation Research Program Phase II funding. NASA is aiming to develop innovative high-impulse spacecraft thrusters and other technologies.

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Emergen Research has segmented global space propulsion system market on the basis of component, spacecraft type, propulsion type, orbital path, end-use, and region:

Component Outlook (Revenue, USD Billion; 2018–2028)

Non-Chemical Propulsion

Solar Propulsion
Electric Propulsion
Tether Propulsion
Laser Propulsion
Nuclear Propulsion
Orbital Path Outlook (Revenue, USD Billion; 2018–2028)
LEO
MEO
GEO
Others
End-use Outlook (Revenue, USD Billion; 2018–2028)
Government & Defense
Commercial
Regional Outlook: (Revenue, USD Billion; 2018-2028)
North America (U.S.) (Canada) (Mexico)
Europe (Germany) (UK) (France) (BENELUX) (Rest of Europe)
Asia Pacific (China) (Japan) (South Korea) (Rest of APAC)
Latin America (Brazil) (Rest of LATAM)

The study explores in details about the recent trend fast gaining momentum in the Space Propulsion System industry due to factors including but not limited to growing customer preference and a sudden rise in their spending capacity. Aspects attributed to the gross margin, profit, supply chain management and product value and their considerable impact on the development of the Space Propulsion System market during the forecast period, 2020 – 2027 is carefully scrutinized during the research. Click here to Get customization:<u>https://www.emergenresearch.com/purchase-enquiry/837</u>

Key questions addressed in the report:

What market size is the global Space Propulsion System market expected to reach over the forecast period?

Which leading players are operating in the global Space Propulsion System market?

Which factors are expected to hamper global market growth throughout the forecast period?

Which key factors are expected to driver global Space Propulsion System market during the forecast period?

Which application segment is expected to register fastest revenue CAGR over the forecast period?

Which region is expected to register fastest revenue CAGR between 2021 and 2028?

What are the key outcomes of Porter's Five Forces analysis and SWOT analysis?

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as well as new entrants in the market. It focuses on the recent mergers & acquisitions, joint ventures, collaborations, partnerships, licensing agreements, brand promotions, and product launches, among others. The report also provides details about the company overview, business expansion plans, product portfolio, manufacturing and production capacity, global market position, financial status, and consumer base.

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