

Plasma Rocket Propulsion Market to Reach US \$2.16 Billion by 2029

*The Business Research Company's
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What Is The Estimated Industry Size Of Plasma Rocket Propulsion Market?

The market size for plasma rocket propulsion has seen a robust increase in recent years. The

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It will grow to \$2.16 billion in
2029 at a compound annual
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Company*

figures are projected to rise from \$1.42 billion in 2024 to an estimate of \$1.55 billion in 2025, boasting a compound annual growth rate (CAGR) of 9.0%. This significant growth in the historical period is credited to surges in demand for satellite launches, increasing investment into space study, elevating government support for space agendas, heightened interest in deep space expeditions, and the widening acceptance of electric propulsion systems.

The market for plasma rocket propulsion is predicted to experience substantial expansion in the coming years, reaching a market value of \$2.16 billion by 2029, with a compound annual growth rate (CAGR) of 8.6%. This projected growth during the forecast period can be linked to factors like the escalating demand for deep space exploration endeavors, growing enthusiasm in cost-effective or affordable satellite launch options, mounting acceptance of electric propulsion in satellites, the surging need for station-keeping and attitude control, and the increased necessity for extended-duration space missions. Some major trends for the forecast period include breakthroughs in highly efficient plasma thruster technology, reusable propulsion system development, the inception of compact electric propulsion units, advances in scalability of space missions, and the evolution of artificial intelligence-integrated propulsion control systems.

Download a free sample of the plasma rocket propulsion market report:

What Are The Major Factors Driving The Plasma Rocket Propulsion Global Market Growth?

The plasma rocket propulsion market is poised for growth, fueled by the escalating number of satellite launches. These launches, which involve the deployment of artificial satellites into space via the use of launch vehicles or rockets, are seeing an increased demand due to the world's growing desire for connectivity. Many regions are in pursuit of dependable internet access provided by satellite-based broadband services. Plasma rocket propulsion proves advantageous for these launches as it offers high-efficiency thrust systems, facilitating extended mission timescales and accurate orbital modifications. It also lessens fuel consumption while enhancing performance, making space operations more advanced and sustainable. As an example, in September 2022, the US Government Accountability Office, a governmental agency, reported nearly 5,500 active satellites in orbit, with the forecast suggesting an added 58,000 by the year 2030. Consequently, the escalating number of satellite launches is stimulating the growth of the plasma rocket propulsion market.

Who Are The Leading Companies In The Plasma Rocket Propulsion Market?

Major players in the Plasma Rocket Propulsion Global Market Report 2025 include:

- Lockheed Martin Corporation
- Northrop Grumman Corporation
- Blue Origin LLC
- Moog Inc.
- Thales Alenia Space SAS
- Airbus Defence and Space GmbH
- OHB System AG
- Sitael SpA
- Phase Four Inc.
- ExoTerra Resource LLC

What Are The Prominent Trends In The Plasma Rocket Propulsion Market?

Key players in the plasma rocket propulsion market are driving their focus towards the advancement of inventive solutions such as magnetic plasma accelerator-based electric thrusters. The goal is to improve propulsion efficiency and make long-term space missions feasible. These thrusters utilize magnetic fields to create plasma thrust and ameliorate plasma rocket propulsion with their high efficiency and long-term performance capabilities. In a practical demonstration of such innovation, the Russia-based nuclear energy company, State Atomic Energy Corporation Rosatom, introduced a lab prototype of a plasma electric rocket engine in February 2025. This engine is designed for deep-space expeditions, including potential voyages to Mars. It leverages a magnetic plasma accelerator capable of producing a minimum of 6 Newtons of thrust and a specific impulse surpassing 100 kilometers per second. It operates at an average power of 300 kilowatts in a pulsed-periodic mode. The progressive propulsion system enables spacecraft to reach extraordinary speeds compared to traditional engines and can cut fuel usage by up to ten times. This could potentially decrease the travel time to Mars to a mere

30-60 days.

What Are The Primary Segments Covered In The Global Plasma Rocket Propulsion Market Report?

The plasma rocket propulsion market covered in this report is segmented –

- 1) By Type: Electrothermal, Electromagnetic, Electrostatic
- 2) By Application: Spacecraft, Satellites, Space Probes, Other Applications
- 3) By End-User: Commercial, Military, Scientific Research

Subsegments:

- 1) By Electrothermal: Resistojet, Arcjet
- 2) By Electromagnetic: Magnetoplasmadynamic (MPD) Thrusters, Pulsed Inductive Thrusters (PIT), Helicon Double Layer Thrusters
- 3) By Electrostatic: Hall Effect Thrusters, Ion Thrusters, Gridded Ion Engines

View the full plasma rocket propulsion market report:

<https://www.thebusinessresearchcompany.com/report/plasma-rocket-propulsion-global-market-report>

Which Region Is Forecasted To Grow The Fastest In The Plasma Rocket Propulsion Industry?

In 2024, North America dominated the global market for plasma rocket propulsion and is expected to continue growing. The Plasma Rocket Propulsion Global Market Report 2025 encapsulates analysis of different regions including Asia-Pacific, Western Europe, Eastern Europe, North America, South America, the Middle East, and Africa.

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