

Rocket Engine Turbo Pump Market to Grow at 7% CAGR from 2025-2029

The Business Research Company's Rocket Engine Turbo Pump Global Market Report 2025 – Market Size, Trends, And Global Forecast 2025-2034

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/EINPresswire.com/ -- What Is The [Rocket Engine Turbo Pump Market](#) Size And Growth?

The [rocket engine turbo pumps market size](#) has witnessed significant expansion in recent times and is projected to proliferate from \$1.43 billion in 2024 to \$1.54 billion in 2025, demonstrating a compound annual growth rate (CAGR) of 7.4%. This notable growth in the historic period is a



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result of the expansion of government space agencies, a heightened utilization of cryogenic propellants, advancements in material science, the emergence of commercial spaceflight, and the growth of satellite constellations.

Projections for the rocket engine turbo pump market suggest a robust expansion in the approaching years with a predicted worth of \$2.02 billion by 2029, garnering a compound annual growth rate (CAGR) of 7.1%. This forecasted expansion is due to several factors, such as the

increased need for more powerful engines, a surge in space programs, the emergence of unmanned smallsat missions, increased adoption of staged combustion and expander cycles, and an increase in satellite launches. Key trends that are expected during this forecast period include the integration of digital technology and the Internet of Things (IoT), the utilization of 3D-printed turbopump parts, advancements in multi-stage pumps, machine learning for turbopump health tracking and predictive maintenance, and collaborations among private firms.

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What Are The Current Leading Growth Drivers For Rocket Engine Turbo Pump Market?

The burgeoning number of space operations is predicted to boost the rocket engine turbo pump market expansively. Space operations refer to planned activities beyond our planet's atmosphere, utilizing spacecraft or satellites for exploration, research, communication, observation, or defense. There's a mounting number of these operations due to the escalating requirements for satellite-assisted communication services, as the global thirst for high-speed internet, distant connectivity, and data transmission proliferates. Rocket engine turbo pumps elevate space operations by providing high-pressure propellant flow, resulting in powerful and efficient engine efficacy. They decentralize system weight and intricacy by incorporating compact, high-speed pumps, thus enhancing mission dependability and propulsion efficiency. For example, according to the Government Accountability Office, a governmental agency based in the United States reported that in September 2022, there were almost 5,500 active satellites in orbit. It is anticipated that an additional 58,000 would be launched by 2030. Hence, the burgeoning number of space operations is propelling the expansion of the rocket engine turbo pump market.

Which Companies Are Currently Leading In The Rocket Engine Turbo Pump Market?

Major players in the Rocket Engine Turbo Pump Global Market Report 2025 include:

- Mitsubishi Heavy Industries Ltd.
- L3Harris Technologies Inc.
- IHI Corporation
- Reaction Engines Limited
- Ebara Corporation
- Space Exploration Technologies Corp.
- Blue Origin LLC
- GKN Aerospace Services Limited
- German Aerospace Center (DLR)
- Pfeiffer Vacuum Technology AG

What Are The Main Trends, Positively Impacting The Growth Of Rocket Engine Turbo Pump Market?

Leading firms in the rocket engine turbo pump market are placing emphasis on the creation of advanced solutions including rocket engine turbopump testing procedures. These are designed to enhance reliable performance, verify design parameters and guarantee safe operation in harsh launch conditions. The testing of rocket engine turbopumps entails assessing and authenticating the performance, durability, and reliability of turbopumps used in rocket engines under mimicked operational conditions. For example, the U.S. aerospace firm Launcher Inc. triumphantly tested the turbopump for its E-2 rocket engine made via additive manufacturing in October 2022, setting a new record for a kerosene rocket engine turbopump's performance. The 3D-printed turbopump, characterized by an efficient, streamlined design (with 72% efficiency), operates using RP-1 kerosene and liquid oxygen, assisting the E-2's high-pressure, closed-cycle combustion system. This landmark signifies the strides Launcher has made in producing high-performance, cost-effective rocket engines for small-sized launch vehicles, with forthcoming

developmental stages centered on pre-burner and comprehensive engine testing.

How Is The Rocket Engine Turbo Pump Market Segmented?

The rocket engine turbo pump market covered in this report is segmented –

- 1) By Type: Liquid Rocket Engine Turbo Pump, Solid Rocket Engine Turbo Pump
- 2) By Application: Space Launch Vehicles, Missiles, Satellites, Other Applications
- 3) By End-User: Commercial, Military, Government, Other End Users

Subsegments:

- 1) By Liquid Rocket Engine Turbo Pump: Cryogenic Turbo Pump, Storable Propellant Turbo Pump
- 2) By Solid Rocket Engine Turbo Pump: Single-Stage Turbo Pump, Multi-Stage Turbo Pump

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Which Is The Dominating Region For The Rocket Engine Turbo Pump Market?

In 2024, North America held the largest share in the global rocket engine turbo pump market. The market report for 2025 predicts steady growth in this region. The report includes an in-depth analysis of various regions including Asia-Pacific, Western Europe, Eastern Europe, North America, South America, Middle East, and Africa.

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