

High-Thrust Upper Stage Engine Market 2025-2029: Unveiling Growth Developments with the Latest Updates

The Business Research Company's High-Thrust Upper Stage Engine Global Market Report 2025 – Market Size, Trends, And Global Forecast 2025-2034

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[/EINPresswire.com/](#) -- What Is The Expected Cagr For The High-Thrust Upper Stage Engine Market Through 2025?

The market size for high-thrust upper stage engines has seen substantial growth lately. Its value will rise from \$5.46 billion in 2024 to \$5.93 billion in 2025, representing a compound annual growth rate (CAGR) of 8.7%. The surge in growth witnessed in the historic period is tied to a greater need for satellite launches, enhanced government space initiatives, augmented commercial activities in space, defense application expansion, and a rise in capital allocation into aerospace manufacturing.

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In the upcoming years, robust growth is anticipated in the high-thrust upper stage engine market, with its value expected to reach \$8.17 billion in 2029, expanding at a compound annual growth rate (CAGR) of 8.3%. This upscaling is credited to an escalating focus on sustainable propulsion, an increasing demand for cost-effective upper-stage engines, burgeoning private space exploration

initiatives, the proliferation of small satellite placements, and a rise in global partnerships in space missions. Fresh trends within this period incorporate progress in propulsion system technology, advancements in cryogenic engine technology, research and development investment for improving engine efficiency, novelties in fuel mixture proportions, and cutting-edge developments in additive manufacturing for engine components.

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What Are The Driving Factors Impacting The High-Thrust Upper Stage Engine Market?

The escalating need for satellite launches is projected to drive the expansion of the high-thrust upper stage engine market. Artificial satellites are dispatched into space through a procedure known as satellite launches which utilizes rockets or launch vehicles. This growing need stems from the increasing demand for global connectivity, as more geographical regions require stable internet access provided through satellite-operated broadband services. High-thrust upper stage engines bolster satellite launches by supplying potent and precise propulsion, making them perfectly suited for maneuvering payloads into elevated orbits and deep-space pathways. They enhance mission effectiveness by offering high thrust and specific impulse, guaranteeing precise orbital placement and dependable satellite deployment. For instance, as reported by the Government Accountability Office, a US-based government entity, in September 2022, there were around 5,500 operational satellites in orbit, with forecasts indicating the possibility of an additional 58,000 launches by the year 2030. As a result, the burgeoning demand for satellite launches is fuelling the development of the high-thrust upper stage engine market.

Which Players Dominate The High-Thrust Upper Stage Engine Industry Landscape?

Major players in the [High-Thrust Upper Stage Engine Global Market Report 2025](#) include:

- China Aerospace Science and Technology Corporation
- Northrop Grumman Corporation
- Safran Aircraft Engines S.A.
- L3Harris Technologies Inc.
- Space Exploration Technologies Corp.
- Blue Origin LLC
- RUAG Space AG
- Sierra Space Corporation
- Japan Aerospace Exploration Agency
- Relativity Space Inc.

What Are The Major Trends That Will Shape The High-Thrust Upper Stage Engine Market In The Future?

Leading businesses in the high-thrust upper stage engine market are prioritizing the creation of sophisticated propulsion systems, like liquid oxygen and liquid hydrogen (LOX/LH2) propellants, to enhance performance, payload ability, and reach to deep space. LOX/LH2 propellants are a type of cryogenic fuel mixture frequently applied in efficient rocket engines, where liquid hydrogen performs as the fuel and liquid oxygen operates as the oxidizer, providing a high specific impulse suitable for upper-stage propulsion. For example, in July 2023, the US-based aerospace company, Sierra Space Corporation, announced that it had successfully completed the VR35K-A test drive, signifying a significant advancement in the development of the upper-stage engine. The VR35K-A is a high-performance LOX/LH2 engine that employs a fuel-rich staged combustion cycle, a pioneering turbopump structure, and a VORTEX combustion chamber to generate 35,000 lbf of thrust, outperforming any other engine. The successful test drive verifies

its preparedness for functional upper-stage missions, and positions the engine as a competitive resource for both governmental and commercial launch initiatives.

Global High-Thrust Upper Stage Engine Market Segmentation By Type, Application, And Region
The high-thrust upper stage engine market covered in this report is segmented

- 1) By Engine Type: Liquid Propellant Engines, Solid Propellant Engines, Hybrid Propellant Engines
- 2) By Thrust Class: Up To 100 Kilonewton (kN), 100–200 Kilonewton (kN), Above 200 Kilonewton (kN)
- 3) By Application: Satellite Launch Vehicles, Deep Space Probes, Manned Spacecraft, Other Applications
- 4) By End-User: Government And Defense, Commercial, Research Organizations

Subsegments:

- 1) By Liquid Propellant Engines: Cryogenic Engines, Hypergolic Engines, Kerosene (RP-1) Engines, Methalox (Methane + LOX) Engines
- 2) By Solid Propellant Engines: Composite Propellant Engines, Double-Base Propellant Engines, High-Energy Solid Propellant Engines
- 3) By Hybrid Propellant Engines: Liquid Oxidizer + Solid Fuel Engines, Paraffin-Based Hybrid Engines, Polymer-Based Hybrid Engines

View the full high-thrust upper stage engine market report:

<https://www.thebusinessresearchcompany.com/report/high-thrust-upper-stage-engine-global-market-report>

Which Region Holds The Largest Market Share In The High-Thrust Upper Stage Engine Market?
In the High-Thrust Upper Stage Engine Global Market Report 2025, North America was 2024's leading region. A projected surge in growth is anticipated for Asia-Pacific in the following period. The report encompasses regions including Asia-Pacific, Western Europe, Eastern Europe, North America, South America, Middle East, and Africa.

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