

Mars Entry Descent And Landing System Market Trends and Analysis by Application, Vertical, Region, Segment Forecast

The Business Research Company's Mars Entry Descent And Landing System Global Market Report 2025 – Market Size, Trends, And Forecast 2025-2034

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to this growth in the historical period include heightened worldwide enthusiasm for Mars exploration, escalating government funding for planetary missions, an increase in collaborations globally for space programs, a surge in robotic exploration missions, and notable progress in spacecraft design and propulsion technology.

In the coming years, the market size for the Mars entry descent and landing (EDL) system is anticipated to experience expeditious growth, reaching an estimated \$4.01 billion by 2029 with a CAGR of 13.4%. The notable

expansion during the forecast period can be traced back to amplified involvement of the private sector in Mars expeditions, a growing emphasis on Martian exploration by humans, escalating funds for revolutionary EDL technologies, increasing utilization of reusable space systems, and a rising demand for high-accuracy landing technologies. Significant trends projected for the forecast period encompass improvements in autonomous navigation and guidance systems, escalated use of artificial intelligence and machine learning in EDL, creation of reusable EDL systems, advancements in thermal protection and heat shield substances, and the fabrication of lightweight and compact EDL components.

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What Are The Major Factors Driving [The Mars Entry Descent And Landing System Global Market Growth?](#)

The surge in space exploration missions is anticipated to boost the expansion of the mars entry descent and landing system market in the forthcoming period. Space exploration missions are organized undertakings that combine scientific and technological efforts to explore the cosmos, compile information, evaluate technologies, and extend human comprehension beyond our planet. The escalation in space exploration missions is attributed to the rise in investments from both the government and the private sectors in the development of space technologies. The mars entry, descent, and landing system plays a crucial role in space exploration missions by assuring that spacecraft can safely penetrate the atmosphere, decelerate, and securely land on the planet's surface, thereby enabling scientific instruments and rovers to function effectively. To illustrate, in January 2025, as reported by the Space Foundation, a nonprofit entity based in the US, global launch activities reached a record peak for the third year in a row, with 223 attempts and 212 succeeding missions, while commercial launch activities experienced a 50% increase in contrast to 2022. Consequently, the surge in space exploration missions is propelling the expansion of the mars entry descent and landing system market.

Who Are The Leading Companies In The Mars Entry Descent And Landing System Market?

Major players in the Mars Entry Descent And Landing System Global Market Report 2025 include:

- Airbus Defence and Space
- Lockheed Martin Space
- China Aerospace Science and Technology Corporation (CASC)
- Northrop Grumman Corporation
- Honeywell Aerospace
- L3Harris Technologies
- Leonardo S.p.A.
- Teledyne Technologies
- Israel Aerospace Industries (IAI)
- Moog Inc.

What Are The Main Trends, Positively Impacting The Growth Of Mars Entry Descent And Landing System Market?

Leading corporations in the Mars entry, descent, and landing system market are concentrating on introducing innovations such as inflatable decelerator systems, designed to enhance the safety and efficiency of spacecraft landings on Mars. These systems, characterized by their light weight and expandable heat shields, are engineered to increase drag and decelerate the spacecraft during atmospheric penetration. As a case in point, in November 2022, NASA, the American government space agency, initiated the low-earth orbit flight trial of an inflatable

decelerator called LOFTID. Not only does LOFTID have a greater payload capacity, it also minimizes landing hazards, aids in budget-friendly missions and creates opportunities for future manned and robotic expeditions to Mars. The accomplishment of this demonstration establishes the potential of utilizing inflatable heat shield technology for atmospheric entry. This progress symbolizes a crucial stride in ensuring the safe delivery of larger payloads, a requirement for sustainable Mars missions.

What Are The Primary Segments Covered In The Global Mars Entry Descent And Landing System Market Report?

The mars entry descent and landing system market covered in this report is segmented

- 1) By Component: Parachutes, Heat Shields, Landing Legs, Propulsion Systems, Sensors, Other Components
- 2) By Technology: Powered Descent, Parachute Descent, Airbag Landing, Sky Crane, Other Technologies
- 3) By Application: Manned Missions, Unmanned Missions
- 4) By End-User: Government Space Agencies, Commercial Space Companies, Research Institutes, Other End-Users

Subsegment:

- 1) By Parachutes: Disk-Gap-Band (DGB) Parachutes, Supersonic Parachutes, Subsonic Parachutes
- 2) By Heat Shields: Rigid Heat Shields, Flexible Heat Shields, Inflatable Heat Shields
- 3) By Landing Legs: Fixed Landing Legs, Retractable Landing Legs, Shock-Absorbing Landing Legs
- 4) By Propulsion Systems: Retrorockets, Thrusters, Descent Engines
- 5) By Sensors: Radar Altimeters, LIDAR Systems, Inertial Measurement Units (IMU), Cameras Or Optical Sensors
- 6) By Other Components: Airbag Systems, Sky Crane Systems, Guidance And Navigation Systems

View the full mars entry descent and landing system market report:

<https://www.thebusinessresearchcompany.com/report/mars-entry-descent-and-landing-system-global-market-report>

Which Region Is Forecasted To Grow The Fastest In The Mars Entry Descent And Landing System Industry?

For the year specified in Mars Entry Descent And Landing System Global Market Report 2025, North America was the market leader. Anticipated fastest growth is projected for the Asia-Pacific region. The report encompasses the following regions: Asia-Pacific, Western Europe, Eastern Europe, North America, South America, Middle East, and Africa.

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