

# Planetary Defense Market to Expand at a 9.2% CAGR by 2029, Reaching US \$8.2 Billion

*The Business Research Company's Planetary Defense Market to Expand at a 9.2% CAGR by 2029, Reaching US \$8.2 Billion*

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## How Much Is The Planetary Defense Market Worth?

The market size for planetary defense has seen a substantial increase in recent times. It is forecasted to expand from \$5.26 billion in 2024 to \$5.76 billion in 2025, boasting a compound annual growth rate (CAGR) of 9.6%. The previous growth can be linked to factors such as an increase in the sightings of near-earth objects (NEOs), escalated international investment in space missions, greater support from governments and defense agencies, the enhanced involvement of private space firms, and improved knowledge about potential threats to our planet.

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It will grow to \$8.20 billion in 2029 at a compound annual growth rate (CAGR) of 9.2%.”

*The Business Research Company*

The market size for planetary defense is projected to experience significant expansion in the coming years, reaching \$8.20 billion by 2029, displaying a compound annual growth rate (CAGR) of 9.2%. This anticipated growth can be credited to progress in detection and deflection system technologies, an increase in deploying satellites for surveillance and preliminary alerts, collaboration growth in international planetary defense programs, a surge in space missions focused on planetary defense, and broadening use of AI and big data in space monitoring. Key trends predicted during this forecast period encompass progress in asteroid identification technologies, the assimilation of artificial intelligence in danger evaluation, innovation in kinetic impactor technologies, progress in the infrastructure of space-based surveillance, and improvements in systems for early warnings and collision predictions.

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### What Are The Factors Driving The Planetary Defense Market?

As space endeavors continue to expand, the Planetary Defense market is set to experience significant growth. Organized ventures or missions beyond Earth's atmosphere—be it for scientific discoveries, commercial use, defense, or exploration—are referred to as space missions. Thanks to technological advancements such as reusable rockets and miniaturized satellites, these missions have become more affordable and efficient, thereby increasing in number. Planetary defense plays a crucial role in these missions by enhancing the detection, tracking, and potential deflection of hazardous Near Earth Objects (NEOs), thereby safeguarding Earth and operating spacecraft. For example, the Space Foundation, a non-profit organization based in the U.S., recorded in 2024 that global space launch activity had surpassed records for the third consecutive year. The data showed 223 launch attempts, 212 of which were successful, spurred by a 50% increase in commercial launches, a 33% hike in U.S. launch attempts, and over 2,800 satellite launches, a jump of 23% from 2022. Consequently, the rise in space missions is fuelling the growth of the planetary defense market.

### Who Are The Major Players In The Planetary Defense Market?

Major players in the Planetary Defense Global Market Report 2025 include:

- RTX Corporation
- The Boeing Company
- Lockheed Martin Corporation
- Airbus S.A.S.
- Northrop Grumman Corporation
- BAE Systems plc
- L3Harris Technologies Inc.
- Leonardo S.p.A.
- Leidos Holdings Inc.
- Space Exploration Technologies Corp.

### What Are The Key Trends And Market Opportunities In The Planetary Defense Sector?

Leading businesses in the planetary defense market are putting their focus on the creation of novel ideas such as planetary defense probes for the identification, monitoring, and neutralization of possible threats from near-Earth objects (NEOs). These probes, which are specialized spacecraft, are engineered to study, monitor and engage with potentially dangerous comets or asteroids to keep them from colliding into Earth. For example, in October 2024, the US-based company, Space Exploration Technologies Corp., launched the Hera planetary defense probe from the European Space Agency at Cape Canaveral Space Force Station in Florida. Accompanying the Hera probe were two cubesats, Milani and Juventas, tasked with the close-range studies of Dimorphos, including taking mineralogical surveys, and carrying out the first subsurface radar probe of an asteroid. Hera's main mission is to thoroughly understand the results of this impact, measure the crater, inspect the momentum transfer, and appraise both

surface and inner properties of Dimorphos to authenticate and enhance the kinetic impactor technique as a strategy for planetary defense. This mission signifies a crucial move in international endeavours to devise planetary defense strategies against potentially threatening asteroids.

Which Segment Accounted For The Largest Planetary Defense Market Share?

The planetary defense market covered in this report is segmented –

- 1) By Technology: Kinetic Impact, Nuclear Detonation, Gravity Tractor, Laser Ablation, Other Technologies
- 2) By Application: Asteroid Detection, Asteroid Deflection, Space Missions, Other Applications
- 3) By End-User: Government, Space Agencies, Research Institutions, Other End-Users

Subsegments:

- 1) By Kinetic Impact: Direct Collision Mission, High-Velocity Impact Vehicle, Interceptor Spacecraft, Autonomous Guidance Systems
- 2) By Nuclear Detonation: Surface Nuclear Blast, Subsurface Nuclear Explosion, Standoff Nuclear Detonation, Radiation Shielding Systems
- 3) By Gravity Tractor: Mass Accumulation Tractor, Station-Keeping Propulsion System, Long-Duration Trajectory Alteration, Autonomous Navigation And Control
- 4) By Laser Ablation: Space-Based Laser Platforms, Ground-Based Laser Systems, High-Energy Laser Modules, Targeting And Thermal Tracking Systems
- 5) By Other Technologies: Ion Beam Deflection, Electromagnetic Rail Systems, Solar Sails For Deflection, Artificial Intelligence-Based Threat Modeling

View the full planetary defense market report:

<https://www.thebusinessresearchcompany.com/report/planetary-defense-global-market-report>

What Are The Regional Trends In The Planetary Defense Market?

In 2024, North America dominated the global planetary defense market. The Planetary Defense Global Market Report 2025 forecasts a substantial growth in this region. The comprehensive report encompasses every major region, namely North America, Asia-Pacific, Western Europe, Eastern Europe, South America, the Middle East, and Africa.

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