

In-Orbit Servicing Robotics Market Trends and Analysis by Application, Vertical, Region, and Segment Forecast to 2029

The Business Research Company's In-Orbit Servicing Robotics Global Market Report 2025 – Market Size, Trends, And Global Forecast 2025-2034

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/EINPresswire.com/ -- What Is The Estimated Industry Size Of In-Orbit Servicing Robotics Market?

The size of the [in-orbit servicing robotics market](#) has experienced a significant surge in the past few years. It is projected to expand from \$1.90 billion in 2024 to \$2.16 billion in 2025, at a compound annual growth rate (CAGR) of 13.5%. This expansion in the historical phase has been

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driven by factors such as higher demand for prolonging the life of satellites, an increase in government funds allocated for space sustainability, a spike in satellite launches, enhanced cooperation between governmental and non-governmental space agencies, and a growing necessity for remedying orbital debris.

Expect a steep incline in the market size of in-orbit servicing robotics in the upcoming years, aiming at \$3.54 billion in 2029 with a compound annual growth rate (CAGR) of 13.2%. The surge predicted in this time frame traces back to the escalated deployment of satellite mega

constellations, a heightened interest in sustainable space procedures, an increment in commercial space exploration endeavors, stringent regulation towards space debris removal, and a climbing demand for on-orbit asset conservancy. Significant trends in this time bracket are likely to be cutting edge developments in autonomous servicing systems, breakthroughs in modular satellite configurations, evolution of sophisticated sensor and imaging technologies, investment in on-orbit synthesis and manufacturing proficiencies, and progression in compact propulsion systems for servicing missions.

Download a free sample of the in-orbit servicing robotics market report:

<https://www.thebusinessresearchcompany.com/sample.aspx?id=28681&type=smp>

What Are The Major Factors Driving The In-Orbit Servicing Robotics Global Market Growth?

The escalation in the need for services to eliminate space debris is predicted to fuel the expansion of the in-orbit servicing robotics market. This refers to the procedures and technologies used in space to locate, grasp and securely remove or reposition obsolete satellites, expended rocket stages, and other orbital junk. This rising need for debris removal is a result of the swift proliferation of space activities, which escalates orbital congestion and the likelihood of collisions. In-orbit servicing robotics meet this demand by providing cost-efficient and effective debris removal or repositioning, thus ensuring safer and more sustainable operations in space. In July 2024, as per the Office of Space Commerce, a principal US entity responsible for the policy activities related to space commerce under the Department of Commerce, the United States Department of Defense is presently overseeing more than 45,200 space objects. This includes around 10,200 active satellites and 18,800 debris pieces, and experts predict that over one million additional fragments are too minuscule to be tracked using current technology. Consequently, the escalating need for debris removal services is catalyzing the in-orbit servicing robotics market.

Who Are The Leading Companies In The In-Orbit Servicing Robotics Market?

Major players in the In-Orbit Servicing Robotics Global Market Report 2025 include:

- Airbus SE
- Northrop Grumman Corporation
- Blue Origin
- Thales Alenia Space
- MDA Space Ltd.
- Sierra Space
- Redwire Corporation
- Voyager Space Holdings, Inc.
- D-Orbit S.p.A.
- ClearSpace SA

What Are The Prominent Trends In The In-Orbit Servicing Robotics Market?

Predominant enterprises in the in-orbit servicing robotics domain are concentrating on the creation of innovative solutions like autonomous in-orbit servicing vehicles. These can establish and approve superior robotic servicing capabilities that boost the lifespan, functionality, and sustainability of orbiting satellites. Essentially, an autonomous in-orbit servicing vehicle is a spacecraft fitted with robotic systems capable of performing maintenance, refuelling, upgradations, relocation, or de-orbiting of existing satellites in space independently. For example, Thales Alenia Space, a French-based space systems corporation and a partnership between Thales and Leonardo focusing on satellite systems and space infrastructure, was

awarded a contract worth \$273 million (€235 million) by the Italian Space Agency in May 2023. The contract was for designing, developing, and qualifying an autonomous robotic vehicle for an in-orbit servicing demonstration mission. This vehicle combines an advanced spacecraft platform with a skillful robotic arm to conduct intricate activities like refuelling, components repair or replacement, orbital transfers, and controlled re-entry of satellites. This initiative constitutes a crucial progression in Europe's autonomous space robotics capabilities, paving the way for more sustainable, adaptable, and economically efficient satellite operations.

What Are The Primary Segments Covered In The [Global In-Orbit Servicing Robotics Market Report](#)?

The in-orbit servicing robotics market covered in this report is segmented as

- 1) By Service Type: Life Extension, Refueling, Repair And Maintenance, Assembly, Debris Removal, Other Services
- 2) By Robot Type: Remotely Operated, Autonomous
- 3) By Application: Commercial, Defense, Scientific Research, Other Applications
- 4) By End-User: Satellite Operators, Space Agencies, Defense Organizations, Other End-Users

Subsegments:

- 1) By Life Extension: Station Keeping, Orbit Raising, Attitude Control Adjustment, Component Replacement, Satellite Upgrading
- 2) By Refueling: Fuel Transfer, Pressurant Transfer, Fuel Tank Augmentation, Cryogenic Propellant Transfer, On-Orbit Fuel Storage
- 3) By Repair And Maintenance: Component Repair, System Diagnostics, Hardware Replacement, Software Updates, Structure Reinforcement
- 4) By Assembly: Modular Component Integration, Large Structure Construction, Antenna Deployment, Solar Array Installation, Spacecraft Reconfiguration
- 5) By Debris Removal: Active Debris Capture, Deorbiting Services, Collision Avoidance Support, Disposal Of Defunct Satellites, Tethered Removal Systems
- 6) By Other Services: Inspection Services, Testing And Calibration, Payload Transfer, Orbit Optimization, End Of Life Decommissioning

View the full in-orbit servicing robotics market report:

<https://www.thebusinessresearchcompany.com/report/in-orbit-servicing-robotics-global-market-report>

Which Region Is Forecasted To Grow The Fastest In The In-Orbit Servicing Robotics Industry? In 2024, North America dominated the in-orbit servicing robotics market with the largest share. However, Asia-Pacific is predicted to register the quickest growth in the upcoming forecast period. The report presents data on several regions including Asia-Pacific, Western Europe, Eastern Europe, North America, South America, the Middle East, and Africa.

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Speak With Our Expert:

Saumya Sahay

Americas +1 310-496-7795

Asia +44 7882 955267 & +91 8897263534

Europe +44 7882 955267

Email: saumyas@tbrc.info

The Business Research Company - www.thebusinessresearchcompany.com

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Oliver Guirdham

The Business Research Company

+44 7882 955267

info@tbrc.info

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