

Global Satellite Docking System Market 2023

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Abstracts

A satellite docking system refers to a set of technologies and equipment designed to enable the docking or berthing of satellites in space. It involves the physical connection and integration of two or more satellites to perform various tasks such as refueling, maintenance, repair, payload exchange, or formation flying. The docking system typically consists of mechanical and electrical interfaces, guidance and control systems, and communication protocols to facilitate the docking process.

The global satellite docking system market size is projected to grow by USD 499.0 million from 2023 to 2029, registering a CAGR of 24.27 percent, according to the latest market data. The increasing interest in space exploration and commercial utilization of space has led to the need for satellite docking systems. These systems enable the assembly, maintenance, and upgrading of space infrastructure, such as space stations, satellite constellations, and deep space exploration missions.

The report covers market size and growth, segmentation, regional breakdowns, competitive landscape, trends and strategies for global satellite docking system market. It presents a quantitative analysis of the market to enable stakeholders to capitalize on the prevailing market opportunities. The report also identifies top segments for opportunities and strategies based on market trends and leading competitors' approaches.

Market Segmentation

Service type: deorbiting, inspection, repair and replacement, refueling

Spacecraft type: service satellites, target satellites

Target satellite by component: docking plate, sensor unit, refueling port, on-board computer, others

Service satellites by component: robotic arm unit, refueling port, on-board computer, electromagnet, attachment mechanism, rotational alignment, guides, sensor unit, others

End user: commercial, government/civil, military
Region: Europe, North America, RoW (Rest of World)

This industry report offers market estimates and forecasts of the global market, followed by a detailed analysis of the service type, spacecraft type, end user, and region. The global market for satellite docking system can be segmented by service type: deorbiting, inspection, repair and replacement, refueling. In 2022, the deorbiting segment made up the largest share of revenue generated by the satellite docking system market. Given the increasing number of satellites deployed in orbit, there is a growing concern regarding space debris and its potential hazards. Space debris refers to defunct satellites, spent rocket stages, and other fragments that remain in space. To mitigate the risks associated with space debris, it is imperative to safely remove satellites from orbit at the end of their operational lives or when they become non-functional. Deorbiting services offered by satellite docking systems play a crucial role in facilitating the controlled reentry of satellites into the Earth's atmosphere, ensuring their safe disposal. The significant demand for deorbiting services drives the growth of the deorbiting segment in the satellite docking system market.

Satellite docking system market is further segmented by spacecraft type: service satellites, target satellites. The target satellites segment was the largest contributor to the global satellite docking system market in 2022. Target satellites play a pivotal role in various space operations and missions. These satellites are specifically designed to serve as docking targets for other spacecraft, allowing them to dock, rendezvous, or perform maintenance activities. Target satellites are essential for testing docking mechanisms, validating docking procedures, conducting space experiments, and facilitating the transfer of crew or supplies between spacecraft. The significant demand for target satellites drives the growth of the target satellites segment in the satellite docking system market.

The increasing number of space missions and activities requiring the use of target satellites contributes to the segment's market share. Space agencies, private space companies, and research institutions worldwide engage in various space exploration, scientific research, and technology development projects. Many of these missions involve multiple spacecraft working in conjunction with target satellites. The demand for effective docking systems for these missions propels the growth of the target satellites segment.

The target satellite by component market is further segmented into docking plate, sensor unit, refueling port, on-board computer, others. Furthermore, the service

satellites by component market has been categorized into robotic arm unit, refueling port, on-board computer, electromagnet, attachment mechanism, rotational alignment, guides, sensor unit, others.

Based on end user, the satellite docking system market is segmented into: commercial, government/civil, military. The commercial segment is estimated to account for the largest share of the global satellite docking system market. The commercial sector encompasses a wide range of industries that heavily rely on satellite-based services. This includes telecommunications, broadcasting, navigation, Earth observation, and remote sensing, among others. Commercial entities utilize satellites for various applications such as communication networks, data transmission, TV broadcasting, and location-based services. For smooth and efficient functioning of their satellite operations, commercial companies require reliable satellite docking systems. The demand from this diverse range of industries drives the growth of the commercial segment in the satellite docking system market. The commercial sector has witnessed significant growth and expansion in recent years. With the increasing demand for connectivity, digital services, and global communications, there has been a surge in commercial satellite deployments. These satellites need to be launched, maintained, and serviced efficiently. Satellite docking systems enable the successful docking, repositioning, and servicing of commercial satellites, ensuring uninterrupted operations and maximizing their lifespan. The growing number of commercial satellite launches and the need for effective docking systems contribute to the significant market share of the commercial segment.

On the basis of region, the satellite docking system market also can be divided into: Europe, North America, RoW (Rest of World). North America held the largest share of the global satellite docking system market in 2022 and is anticipated to hold its share during the forecast period. North America houses prominent space agencies such as NASA (National Aeronautics and Space Administration) and private space companies like SpaceX. These entities actively engage in space exploration, satellite deployment, and maintenance activities, driving the demand for satellite docking systems in the region. The extensive involvement of North American organizations in space missions and their technological advancements contribute to the region's leadership in the satellite docking system market. Furthermore, North America possesses advanced infrastructure and capabilities for space operations. The region is equipped with sophisticated spaceports, research facilities, and communication networks that support satellite operations and docking processes. The presence of these infrastructural facilities provides a conducive environment for the development and deployment of satellite docking systems, establishing North America as a leading hub for satellite-

related activities.

Major Companies and Competitive Landscape

The report explores the recent developments and profiles of key vendors in the Global Satellite Docking System Market, including Astroscale Holdings Inc., ClearSpace SA, D-Orbit S.p.A., High Earth Orbit Robotics Pty Ltd., Lift Me Off Ltd., Maxar Technologies, Inc., Momentus Inc., Northrop Grumman Corporation, Obruta Space Solutions Corp., Orbit Fab, Inc., Rogue Space Systems Corporation, Starfish Space, Inc., Tethers Unlimited, Inc., The Lockheed Martin Corporation, Voyager Space Holdings, Inc., among others. In this report, key players and their strategies are thoroughly analyzed to understand the competitive outlook of the market.

Scope of the Report

To analyze and forecast the market size of the global satellite docking system market.

To classify and forecast the global satellite docking system market based on service type, spacecraft type, end user, region.

To identify drivers and challenges for the global satellite docking system market.

To examine competitive developments such as mergers & acquisitions, agreements, collaborations and partnerships, etc., in the global satellite docking system market.

To identify and analyze the profile of leading players operating in the global satellite docking system market.

Why Choose This Report

Gain a reliable outlook of the global satellite docking system market forecasts from 2023 to 2029 across scenarios.

Identify growth segments for investment.

Stay ahead of competitors through company profiles and market data.

The market estimate for ease of analysis across scenarios in Excel format.

Strategy consulting and research support for three months.

Print authentication provided for the single-user license.

Contents

PART 1. INTRODUCTION

- 1.1 Description
- 1.2 Objectives of The Study
- 1.3 Market Segment
- 1.4 Years Considered for The Report
- 1.5 Currency
- 1.6 Key Target Audience

PART 2. RESEARCH METHODOLOGY

- 2.1 Primary Research
- 2.2 Secondary Research

PART 3. EXECUTIVE SUMMARY

PART 4. MARKET OVERVIEW

- 4.1 Introduction
- 4.2 Drivers
- 4.3 Restraints

PART 5. GLOBAL SATELLITE DOCKING SYSTEM MARKET BY SERVICE TYPE

- 5.1 Deorbiting
- 5.2 Inspection, repair and replacement
- 5.3 Refueling

PART 6. GLOBAL SATELLITE DOCKING SYSTEM MARKET BY SPACECRAFT TYPE

- 6.1 Service satellites
- 6.2 Target satellites

PART 7. GLOBAL SATELLITE DOCKING SYSTEM MARKET BY END USER

- 7.1 Commercial

7.2 Government/civil

7.3 Military

PART 8. GLOBAL SATELLITE DOCKING SYSTEM MARKET BY REGION

8.1 Europe

8.2 North America

8.3 RoW (Rest of World)

PART 9. COMPANY PROFILES

9.1 Astroscale Holdings Inc.

9.2 ClearSpace SA

9.3 D-Orbit S.p.A.

9.4 High Earth Orbit Robotics Pty Ltd.

9.5 Lift Me Off Ltd.

9.6 Maxar Technologies, Inc.

9.7 Momentus Inc.

9.8 Northrop Grumman Corporation

9.9 Obruta Space Solutions Corp.

9.10 Orbit Fab, Inc.

9.11 Rogue Space Systems Corporation

9.12 Starfish Space, Inc.

9.13 Tethers Unlimited, Inc.

9.14 The Lockheed Martin Corporation

9.15 Voyager Space Holdings, Inc.

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