Satellite Attitude and Orbit Control System - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2017 - 2029

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Report description:

The Satellite Attitude and Orbit Control System Market size is estimated at USD 2.59 billion in 2024, and is expected to reach USD 5.25 billion by 2029, growing at a CAGR of 15.18% during the forecast period (2024-2029).

Rapid or increased deployment of LEO satellites driving the adoption rate of AOCS

- The satellite AOCS market is experiencing strong growth, driven by the increasing demand for LEO satellites, which are used for communication, navigation, Earth observation, military surveillance, and scientific missions. The LEO segment is the largest and most widely used among the three orbit classes. It occupies the majority of the share when compared to the other two orbit classes. Between 2017 and 2022, more than 4,100 LEO satellites were manufactured and launched across all the regions, primarily for communication purposes. In addition, the demand for AOCS is increasing because of the increasing adoption of communication satellites for high-speed internet access, particularly in rural and remote areas. This has led companies such as SpaceX, OneWeb, and Amazon to plan the launch of thousands of satellites into LEO.
- MEO satellites constitute the second largest share. The usage of these satellites in the military has increased because of their added advantages, such as increased signal strength, improved communications and data transfer capabilities, and greater coverage area.
- In addition, though the requirement of AOCS for GEO satellites is less, it plays an important role in ensuring the proper functioning of GEO satellites by performing a range of tasks, including controlling the satellite's orientation, stabilizing its position, and correcting any disturbances caused by external factors like solar wind, magnetic fields, and gravity. AOCS system manufacturers provide advanced products for GEO satellite platforms, including innovative star trackers, reaction wheels, gyroscopes, and magnetic torques.

Development and launch of large number of satellites drives the growth of the market

- Satellite AOCS play a vital role in maintaining satellites' precise positioning, stability, and orientation in space. These systems are crucial for ensuring the success of satellite missions, enabling accurate data collection, communication, and Earth observation. The global AOCS market is witnessing significant growth, with North America, Europe, and Asia-Pacific emerging as key regions driving advancements in this industry.
- North America is a leading player in the global AOCS market, with the United States at the forefront of technological advancements. The region boasts a robust space industry comprising established aerospace companies, research institutions, and government agencies. The North American AOCS market is driven by strong demand for satellite-based communication, defense, and scientific missions.
- The European AOCS market benefits from strong collaborations between ESA member states and the European Union. Leading European countries such as France, Germany, and the United Kingdom have a strong presence in satellite manufacturing, contributing to the growth of the AOCS market. The region emphasizes the development of advanced AOCS technologies, including star trackers, reaction wheels, and thruster systems.
- The Asia-Pacific region has emerged as a key player in the global AOCS market, driven by the rapid expansion of its space industry. Countries like China, India, and Japan have invested substantially in space exploration, satellite technology, and indigenous manufacturing capabilities. The growing demand for communication, remote sensing, and navigation services fuels the adoption of AOCS systems.

Global Satellite Attitude and Orbit Control System Market Trends

Small satellites are poised to create demand in the market

- The classification of spacecraft by mass is one of the main metrics for determining the launch vehicle size and cost of launching satellites into orbit. In North America, during 2017-2022, over 45 large satellites (owned by North American organizations), more than 80 medium-sized satellites (operated by North American organizations), and over 2,900 small satellites (manufactured in the region) were launched.
- Europe has witnessed significant growth in recent years, primarily driven by the increasing demand for different satellite masses. Satellite mass is one of the most critical factors influencing the European satellite manufacturing market. This is because different types of satellites require different masses, which, in turn, affects the launch vehicle market. During 2017-2022, a total of 569 satellites were deployed in orbit. Of that, minisatellites accounted for the largest share, with 451, followed by nanosatellites (44), large satellites (37), medium-sized satellites (16), and microsatellites (7).
- Satellite manufacturing has become an increasingly important industry in the Asia-Pacific region in recent years, driven by the need to meet the growing demand for advanced satellite capabilities. The range of satellite mass manufactured in the Asia-Pacific region varies significantly, which affects the growth of the market. During 2017-2022, a total of 370 satellites were launched in the region, including 130 microsatellites, 75 large satellites, 63 nanosatellites, 60 medium-sized satellites, and 42 minisatellites.

Investment opportunities in the market driving growth

- In North America, government expenditure for space programs hit a record of approximately USD 103 billion in 2021. The region is the epicenter of space innovation and research, with the presence of the world's biggest space agency, NASA. In 2022, the US government spent nearly USD 62 billion on its space programs, making it the highest spender on space programs in the world. For instance, till February 2023, NASA distributed USD 333 million as research grants. In 2022, the US government spent nearly USD 62 billion on its space programs, making it the highest spender in the space industry in the world.
- European countries are recognizing the importance of investments in the space domain and are increasing their spending on space activities and innovation to stay competitive in the global space industry. In November 2022, ESA announced that it had proposed a 25% boost in space funding over the next three years to maintain Europe's lead in Earth observation, expand navigation services, and remain a partner in exploration with the United States. ESA asked its 22 nations to back a budget of around EUR 18.5 billion for the period of 2023-2025. Germany, France, and Italy are the major contributors.
- There has been an increase in space-related activities in the Asia-Pacific region. In 2022, according to the draft budget for Japan, the space budget amounted to over USD 1.4 billion, which included the development of the H3 rocket, Engineering Test Satellite-9, and the nation's Information Gathering Satellite (IGS) program. The proposed budget for India's space programs in FY22 was USD 1.83 billion. In 2022, South Korea's Ministry of Science and ICT announced a space budget of USD 619 million for manufacturing satellites, rockets, and other key space equipment.

Satellite Attitude and Orbit Control System Industry Overview

The Satellite Attitude and Orbit Control System Market is fairly consolidated, with the top five companies occupying 98.09%. The major players in this market are Bradford Engineering BV, Jena-Optronik, OHB SE, SENER Group and Sitael S.p.A. (sorted alphabetically).

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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