

MEO Satellite - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2017 - 2029

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Report description:

The MEO Satellite Market size is estimated at USD 47.44 billion in 2024, and is expected to reach USD 80.15 billion by 2029, growing at a CAGR of 11.06% during the forecast period (2024-2029).

The liquid fuel propulsion system segment leads the market's growth

- A satellite's propulsion system is commonly used to propel a spacecraft into orbit and to coordinate the position of the spacecraft in orbit. Liquid propellants or liquid rockets use rocket engines that use liquid propellants. Gas propellants can also be used but are not common due to their low density and difficulty in applying conventional pumping methods. The liquid fuel propulsion system is the most adopted one of the three propulsion types because of its high density and specific impulse. It is expected to occupy a market share of 73.3% in 2023, which is anticipated to reach 69.5% in 2029.
- Electric propulsion is the second most adopted type of propulsion system, and it is commonly used to hold stations for commercial communication satellites. It is the main propulsion of some space science missions due to its high specific impulses. Northrop Grumman Corporation, Moog Inc., Sierra Nevada Corporation, SpaceX, and Blue Origin are some of the major providers of propulsion systems. The new launch of satellites is expected to accelerate market growth over the forecast period.
- Gas-based propulsion systems that enable movements have been proven efficient and reliable. These include hydrazine systems, other single or twin propulsion systems, hybrid systems, cold/hot air systems, and solid propellants. Typically, these systems are used when strong thrust or rapid maneuvering is required. Therefore, in some cases, gas-based systems continue to be the space propulsion technology of choice when their total impulse capacity is sufficient to meet the mission requirements. Cold gas thrusters are suitable for small satellites because of their low cost and complexity, but they are not ideal for large satellites.

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Europe is expected to open new scope of opportunities with significant new product developments in the region

- R&D expenditure on medium Earth orbit (MEO) satellites is an important factor in driving innovation and technology development in the satellite industry. MEO satellites are often used for specialized applications, such as providing global positioning system (GPS) services. As these applications become more critical to society, there may be more R&D investment to improve MEO satellite performance and capabilities.
- The Russian satellite industry is one of the most active and advanced in the world. ISS Reshetnev dominates the MEO satellite market in Russia. ISS Reshetnev is a leading Russian satellite manufacturer responsible for developing and producing most of the country's MEO satellites. ISS Reshetnev's most notable contribution to the MEO satellite market in Russia is its GLONASS series. The GLONASS system is a Russian counterpart to the American GPS system and provides global positioning services to users worldwide. All of these satellites are of the GLONASS series and were manufactured and launched by ISS Reshetnev.
- China has already launched a number of MEO satellites as part of this initiative and is expected to launch many more in the coming years. For instance, during 2017-2022*, 24 navigation and global positioning satellites weighing 800 kg each were placed in MEO for government and military purposes. These satellites were launched by China's Space Technology Research Institute (part of CASC) as part of China's BeiDou Navigation Satellite System (BDS), China's global navigation system. The Asia-Pacific region is expected to dominate during the forecast period.

Global MEO Satellite Market Trends

Satellite miniaturization for better fuel and operational efficiency witnessed in the market

- MEO satellites are located between LEO and GEO, typically at an altitude of about 2,000 to 36,000 kilometers (1,242 to 22,369 miles). MEO is commonly used for satellite navigation systems such as the Global Positioning System (GPS). The mass of MEO satellites can also vary depending on their specific applications, but they are generally lighter than GEO satellites due to their lower altitude.
- The mass of a satellite has a significant impact on its launch. This is because the heavier the satellite, the more fuel and energy will be required to launch it into space. The launch of a satellite involves accelerating it to a very high speed, typically around 28,000 kilometers per hour, in order to place it in orbit around the Earth. The amount of energy required to achieve this speed is proportional to the mass of the satellite.
- The mass of a satellite has a significant impact on its launch. Indeed, the heavier the satellite, the more fuel and energy it will need to be launched into space. The amount of energy required to achieve this speed is proportional to the mass of the satellite. Advancements in materials, manufacturing techniques, and technology have enabled the development of lighter and more efficient satellite components. This has resulted in a reduction in satellite mass while maintaining or even improving performance. During 2017-2022, around 55 satellites were launched into MEO globally.

Increasing expenditure by different space agencies is expected to positively impact the MEO satellites segment

- The global trend in R&D expenditure on MEO satellites is not as well-defined as that for LEO or GEO satellites. This is because MEO satellites are not as widely used as LEO or GEO satellites, and their applications are somewhat limited in Europe. The UK

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Space Agency announced that it would be funding EUR 6.5 million to support 18 projects to boost its space industry. The funding aims to stimulate growth in the UK space industry by supporting high-impact, locally-led schemes and space cluster development managers. The 18 projects will pioneer various innovative space technologies to combat local issues, such as utilizing Earth observation (EO) data to enhance public services. In November 2022, the Government of Spain announced that it would allocate EUR 1.5 billion to the ESA over the next five years, which will reinforce Spain's leadership in space.

- In North America, government expenditure for space programs hit a record of approximately USD 22 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 globally. In the United States, federal agencies receive funds worth USD 32.33 billion from the government every year.

- R&D spending on MEO satellites can be somewhat irregular depending on specific applications and available funding. However, as with other satellite technologies, continued investment in R&D will likely lead to the development of new and improved MEO satellite technologies that can support different applications and promote industry growth over the forecast period.

MEO Satellite Industry Overview

The MEO Satellite Market is fairly consolidated, with the top five companies occupying 100%. The major players in this market are China Aerospace Science and Technology Corporation (CASC), Information Satellite Systems Reshetnev, Lockheed Martin Corporation, OHB SE and Thales (sorted alphabetically).

Additional Benefits:

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

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