

LEO Satellite Market by Satellite Type (Small, Medium, Large Satellites, and Cubesats), Application (Communication, Earth Observation & Remote Sensing, Scientific Research, Technology), Subsystem, End Use, Frequency and Region - Global Forecast to 2029

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Report description:

The LEO satellite market is projected to grow from USD 12.6 billion in 2024 to USD 23.2 Billion by 2029, at a CAGR of 13.0% from 2024 to 2029. Rising launches of LEO satellite for commercial and government and Defense applications to drive the LEO satellite market growth during the forecast period.

The LEO satellite market holds a huge potential for data service providers, satellite service providers, remote sensing service providers, technical service providers, and investors. Versatility, low cost, advanced mechanics, ease of assembly and launch, mass production, and short lifecycles have driven investments in LEO satellites. The amount of satellite data and range of applications for data will continue to grow in the future as new technologies develop and more satellites become operational. The adoption of off-the-shelf CubeSats and reusable rocket technology is also expected to fuel market growth. The market is growing due to the demand for higher bandwidth internet. If the current satellite internet proposals become a reality, as many as 50,000 satellites will be orbiting in LEO within 10 years. However, space debris caused by LEO satellites and some regulatory challenges are expected to hinder market growth.

The LEO satellite market report includes small satellites (1-500 kg), medium satellites (501-1,000 kg), and large satellites (more than 1,000 kg). These satellites are used for communication, earth observation & remote sensing, mapping & navigation, scientific research & exploration, surveillance & security, space observation, and various other applications by defense, intelligence, civil, commercial, and government users. The continuous miniaturization of satellites through technological advancements in electronics, low mission costs, and increasing use of satellite constellations (containerization) are major drivers for the growth of this market. LEO satellites are also considered disruptive technology by several space organizations.

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Based on subsystem, the payload segment to grow at highest CAGR during forecast period

The market has been categorized into different types based on subsystem, including satellite buses, payloads, solar panels, satellite antennas, and others. The payload segment is anticipated to witness significant growth during forecast period. Payloads are complicated in comparison to other subsystems. They contain specific technology for each mission. For example, weather monitoring small satellites have components that can measure wind speed and direction, changes in temperature, the amount of oxygen available, and the effect of UV rays. A different component is used for each application. Space observation LEO satellites have microelectromechanical system-based oxygen detectors and graphene field-effect transistors to measure the effect of radiation on components, optical cameras for imaging, solar cells to charge the battery, and a Geiger counter to measure the amount of radiation reaching the satellite. The payloads segment has been further segmented into traditional payloads and software-defined payloads.

Based on end use, dual use segment witness strong growth in market during the forecast period

The LEO satellite market is segmented into commercial, government and military, and dual use categories, based on end use segment.

North America is projected to lead the LEO satellite market for dual use due to the increasing public-private partnerships in this region. For example, in 2020, NASA partnered with SpaceX and Boeing to develop a US commercial crew space transportation capability to achieve cost-effective, reliable, and safe access to and from space stations and other destinations in LEO.

Additionally, in November 2023, Tata Advanced Systems Limited (India), collaborated with Satellogic Inc. (India) for the design and development of advanced LEO satellites. These satellites will have multiple payloads to generate a diverse range of data over India and it can be used for both commercial and defense application.

The North America regions held largest market share in 2023

The US holds the greatest market share in North America since it has a robust and rapidly expanding space sector. Numerous technological innovators are present in Canada, a market that is rapidly increasing. For uses including Earth observation, communications, and entertainment, both nations have made significant investments in the launch of several CubeSats as well as small, medium, and large satellites into low-Earth orbit (LEO). The United States holds a significant market share in this application and is among the world's biggest investors in military space technology.

The growth of the LEO satellite market in North America is due to the increase in demand for LEO satellite deployments, along with advancements in digital satellites carried out by the US Department of Defense, and private players such as SpaceX (US), Lucix Corporation (US), Sierra Nevada Corporation (US), and NASA. The successful execution of flexible satellites in space has led to an increase in the number of space expeditions. Technological breakthroughs in LEO satellites and resourceful insights obtained from past satellite missions have inspired new players to invest in this niche market.

The break-up of the profiles of primary participants in the LEO satellite market is as follows:

-□By Company Type: Tier 1-35%; Tier 2-35%; and Tier 3-20%

-□By Designation: C Level Executives-35%; Directors-25%; and Others-40%

-□By Region: North America-40%; Europe-25%; Asia Pacific-15%; Latin America-10%; and Middle East & Africa-10%;

Major players in the LEO satellite market are L3Harris Technologies (US), Lockheed Martin Corporation (US), Northrop Grumman Corporation (US), Airbus Defence and Space (Netherlands), and SpaceX (US).

Research Coverage

This research report classifies the LEO satellite market into various segments based on several criteria. These segments include segments namely by satellite mass, by application, by subsystem, by end user, by frequency and by geographies.

By Satellite Mass: small satellites, cubesats, medium satellites, and large satellites, By Application: Communication, earth observation & remote sensing, scientific research, technology, and others, By Subsystem: Satellite buses, payloads, solar panels, satellite antennas, and others, By End Use: Commercial, government & military, and dual use, By Frequency: L-band, S-band, C-band, X-band, Ku-band, Ka-band, Q/V-band, HF/VHF/UHF-band, and Laser/Optical, By Geographic Regions: North America, Europe, Asia Pacific, the Middle East & Africa, and Latin America

The report's scope encompasses comprehensive details regarding key factors influencing the growth of the LEO satellite market, including drivers, restraints, challenges, and opportunities. Additionally, the report conducts a thorough analysis of major industry

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players, providing insights into their business profiles, offered solutions and services, key strategies, as well as their involvement in contracts, joint ventures, partnerships, agreements, acquisitions, and new product launches related to the LEO satellite market. Furthermore, the report includes a competitive analysis of emerging startups within the LEO satellite market ecosystem.

Reasons to Buy this Report

This report is expected to help market leaders/new entrants with information on the closest approximations of the revenue numbers for the overall LEO satellite market and its segments. This study is also expected to provide region wise information about the end-use industrial sectors, wherein LEO satellite is used. This report aims at helping the stakeholders understand the competitive landscape of the market, gain insights to improve the position of their businesses, and plan suitable go-to-market strategies. This report is also expected to help them understand the pulse of the market and provide them with information on key drivers, restraints, challenges, and opportunities influencing the growth of the market.

The report provides insights on the following pointers:

- Market Penetration: Comprehensive information on LEO satellite offered by the top players in the market
- Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product launches in the LEO satellite market
- Market Development: Comprehensive information about lucrative markets - the report analyzes the LEO satellite market across varied regions
- Market Diversification: Exhaustive information about new products, untapped geographies, recent developments, and investments in the LEO satellite market
- Market Growth: Supportive government regulations and initiatives to drive the market growth in near future
- Competitive Assessment: In-depth assessment of market shares, growth strategies, products, and manufacturing capabilities of leading players in the LEO satellite market

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LEO Satellite Market by Satellite Type (Small, Medium, Large Satellites, and Cubesats), Application (Communication, Earth Observation & Remote Sensing, Scientific Research, Technology), Subsystem, End Use, Frequency and Region - Global Forecast to 2029

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