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Satellite Iot Communication Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 120 pages | Mordor Intelligence

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Report description:

Global satellite IoT communications market is expected to expand at a CAGR of 39.2% during the forecast period. Similarly, the number of Satellite IoT connectivity subscribers crossed 5 million in the current year and is projected to reach 21 million over the next five years. Satellite communication complements terrestrial cellular and non-cellular networks in remote locations, which is especially useful for various industrial applications. 5G ecosystems would be a key trend in seamlessly integrating satellite and terrestrial networks.

Key Highlights
The drive for satellite communications stems from the pressing need for global connectivity for the Internet of Things (IoT) devices. Several businesses in this sector are investing in broadening the applications for satellite communication, most notably with the introduction of SmallSat constellations. Technological advancements predict the global satellite IoT communication market to increase rapidly. Several businesses use satellite IoT services to monitor and track equipment for intelligent data transfers.
The Global satellite Internet of Things communication market is driven by the development and growth of 5G wireless connectivity. The demand for more interaction between open and standardized ecosystems on both sides is emerging as a result of the growing number of efforts to expand 5G connection via LEO satellites, such as SAT 5G (a 5GPPP project supported by the European Union) and Metro Ethernet Forum (MEF). Building a safe, heterogeneous satellite and terrestrial 5G network would aid telecom operators and LEO satellite providers better integrating their services.
Considerable Investments in the LEO Satellite Market are a significant factor driving the growth of the satellite IoT Communication Market. The investments have been fueled by adaptability, cheap cost, cutting-edge mechanics, simplicity of assembly and launch, mass production, and short life cycles, which would drive market growth in the coming years.
Extreme Space temperature is a critical factor that could restrain the market. Satellites are exposed to the harsh environment of

space which makes the electronic components housed inside the satellites threatened by the extreme temperatures. Hence satellites must maintain operational temperatures to avoid system failures so that communication is not affected.
The COVID-19 pandemic caused shockwaves across every industry worldwide. It had a significant effect on the satellite IoT communication sector. The industry may be protected from some of the more severe effects of the global pandemic due to its reliance on government contracts in several areas, including the highly dependable and durable nature of satellite communications services that are essential for disaster communications and backup services. However, there has been an increasing rise in access to terrestrial connectivity services after the pandemic, which leaves a massive opportunity for satellite IoT communications.

Satellite IoT Communication Market Trends

Low Earth Orbit (LEO) drives the Growth of the Satellite IoT Communication

Low-Earth Orbit (LEO) satellite constellations, which orbit between 160 and 2000 kilometres above the Earth, are potentially an attractive solution for expanding 5G connectivity to isolated, underserved, and remote geographies where terrestrial coverage is absent. Only about 10 per cent of the Earth's surface has access to terrestrial connectivity services, which leaves a massive opportunity for satellite IoT communications on the LEO constellations. According to Bryce Space and Technology, roughly 14 Low Earth Orbit (LEO) missions were planned by the International Space Station (ISS) last year.
LEO are better suited to low-power communications and lower signal propagation losses, reducing the user equipment's power requirements and making it ideal for contact with low-power IoT devices. Today, most LEO satellites for IoT are built leveraging CubeSat technology, allowing companies to mass-produce components and offer commercial off-the-shelf parts, drastically reducing the cost and time to design and develop satellites. It has become the preferred option for incumbent satellite operators and NewSpace start-ups launching satellite IoT communication services.
LEO satellites attract significant investment from major players due to their adaptability, affordability, cutting-edge mechanics, and ease of assembly and launch. The satellites have a short lifecycle and are mass-produced. There is a significant demand for low-cost, high-speed internet in the government and commercial sectors like retail, banking, oil, and gas. Also, the need for internet access in rural areas among individual consumers in emerging countries is driving investments in LEO constellations.
LEO-based connectivity is a new frontier. Tech giants are developing LEO constellations for broadband internet connectivity to take advantage of this possibility. For example, Connected farms Pty Ltd, an Australian licensed telecommunications carrier, would launch a pilot project using Starlink's backhaul service to provide communication fences to fences on farms for technologies connecting robotics, agriculture IoT, mobile phones, and home offices. Similarly, SpaceX acquired Swarm, whose target market is those requiring low-cost IoT communication and connectivity services.
The application of LEO satellites in space optical communications has expanded owing to the quick advancements in laser beam technology. Communicating effectively in deep space, including on Mars and the moon, as well as between Earth and its orbit, is feasible. The technique can share communication across satellites because of the constellation. In the upcoming years, this will accelerate the growth of the LEO satellite market. The required power for high-rate data transmission is provided through alternative power-sharing using wireless optical technology.

North America is Expected to Hold Largest Share

North America dominated the Satellite IoT Communication market last year. The growth is attributed to the rising government spending on military and communication networks. The presence of key players, such as L3Harris Technologies Corporation, General Dynamics Corporation, Honeywell International, Inc., and others, would drive market growth across the region.

5G networks play a critical role in assisting governments and policymakers in transforming cities into smart cities, allowing inhabitants to participate and realize socioeconomic benefits from an advanced, digital, data-intensive economy. As a result, authorities would be required to build and upgrade passive assets, such as fibre networks and data centres which strive to meet the demand for the satellite IoT Communication Market.
The growth in demand from end-user industries, such as Government, Agriculture, Mining, Energy, Maritime, and Aviation, is boosting the market growth in the region. Moreover, the region has improved network connectivity and advanced foothold technological infrastructure. For instance, In August 2022, Inmarsat and hiSky created a new scalable IoT solution to provide a cost-efficient offering to IoT adopters while improving connectivity.
Satellite IoT communication will play an increasingly important role in the future of IoT owing to the growing demand for IoT solutions. However, satellite IoT will remain a niche service in the coming years compared to the entire IoT market in the region. Sometimes, IoT technology can be powered by satellites for geographically separated networks. For instance, Globalstar satellites and Traksat's satellites enable humanitarian staff to report emergency incidents to request assistance immediately. GPS information is directly recorded and sent to headquarters for rescue preparations. Such IoT advancements drive the need for Satellite IoT in the region.

Satellite IoT Communication Market Competitor Analysis

The satellite IoT communication market is highly competitive and consists of several major players, such as Astrocast, Inmarsat Technologies, Kepler Communications, Ligado Networks, Galaxy Space, Geely, and many more. Only some significant players currently dominate the market in terms of market share. With a prominent market share, these major players focus on expanding their customer base across foreign countries. These companies leverage strategic collaborative initiatives to increase their market share and profitability. Some of the key developments are:-

In November 2022, Ground control joined the Inmarsat Elevate program to focus on satellite IoT opportunities. Inmarsat launched a new IoT service plan to drive growth and generate long-term business for its distribution partners, who had signed up for the Elevate program with a remote connectivity solutions provider, Ground Control, the first business to benefit from the offering.
In September 2022, Marlink, a global satellite and terrestrial network solution provider, and OQ Technology, the low Earth orbit (LEO) 5G IoT satellite communications company, signed an MoU for a global distribution partnership towards the distribution of Satellite 5G connectivity and hardware that is compatible with an existing cellular network and based on the 3gpp 5g non-terrestrial network cellular standard.
In August 2022, T-Mobile US and Starlink announced a technology partnership to develop a direct satellite-to-device proposition, which is expected to launch by 2024. Similarly, US-based Omnispace collaborated with the Philippines' mobile operator Smart, a subsidiary of PLDT, to explore interoperability between Smart's 5G network and Omnispace's LEO satellites, using 3GPP-compliant 5G NTN standards.

Additional Benefits:

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

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