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5G Non Terrestrial Network (NTN) Market Forecasts to 2034 – Global Analysis By Component (Hardware, Solutions and Services), By Platform (Low-Earth Orbit (LEO) satellites, Medium-Earth Orbit (MEO) satellites, Geostationary Orbit (GEO) satellites and High-Altitude Platforms (HAPs)), Location, Application, End User and By Geography

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Abstracts

According to Stratistics MRC, the Global 5G Non Terrestrial Network (NTN) Market is accounted for $11.7 billion in 2026 and is expected to reach $160.6 billion by 2034 growing at a CAGR of 38.6% during the forecast period. The 5G Non-Terrestrial Network (NTN) employs satellite or high-altitude platforms to extend 5G connectivity beyond terrestrial limitations. It utilizes satellite constellations, drones or stratospheric balloons to provide broader coverage, especially in remote or underserved areas. NTN enhances global connectivity by offering high-speed internet, low-latency communication, supporting various applications, including IoT and critical communications and bridging the digital divide in regions lacking terrestrial infrastructure.

According to market statistics by industrial organizations such as GSMA, in 2020, wireless communications technologies covered more than 80% of the world's population but less than 40% of the Earth's land mass.

Market Dynamics:

Driver:

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Offers high-speed connectivity

High-speed connectivity stands as a pivotal driver in the non-terrestrial network (NTN) market due to its ability to provide unparalleled data transmission rates and low-latency connections. NTN, leveraging satellites or high-altitude platforms, ensures rapid and consistent connectivity, which is crucial for emerging technologies like IoT, autonomous vehicles and remote operations. This capability facilitates seamless data transfer, enabling real-time applications, high-resolution content streaming, and mission-critical communications even in remote or underserved regions where traditional terrestrial networks struggle to deliver such high-speed and reliable connections.

Restraint:

Rapid changes in technology and standards

The rapid evolution of technology and standards presents a significant restraint in the non-terrestrial network market. As 5G technology progresses and new innovations emerge, there's a constant evolution in standards and protocols. This dynamic environment poses challenges for NTN infrastructure development and implementation. Investments made in early technologies might quickly become outdated or incompatible with newer standards, leading to potential obsolescence or the need for costly upgrades.

Opportunity:

IoT expansion

NTN extends 5G connectivity to remote areas enabling IoT proliferation in industries such as agriculture, mining and logistics. These sectors often operate in locations with limited terrestrial coverage. NTN facilitates real-time data gathering, precision monitoring and control, optimizing operations and efficiency. By providing ubiquitous connectivity to previously underserved regions, NTN unlocks the potential for transformative IoT applications, fostering innovation and growth in various sectors.

Threat:

Competition from terrestrial networks

Terrestrial networks, continually enhancing their capabilities, offer widespread coverage

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and improved technologies. As they evolve to provide faster speeds and lower latency, they encroach upon the unique selling points of NTN, challenging its market position. The competition intensifies as terrestrial networks expand their reach, potentially limiting the perceived necessity or competitiveness of NTN solutions and compelling NTN providers to demonstrate superior advantages to sustain relevance in the market.

Covid-19 Impact:

The COVID-19 pandemic affected the 5G non-terrestrial network market in several ways. It highlighted the importance of reliable and resilient connectivity, especially in remote areas where terrestrial infrastructure is lacking. However, the pandemic also led to delays in the deployment and testing of 5G NTN technologies due to restrictions, supply chain disruptions, and budget constraints. The increased demand for remote connectivity and IoT solutions during the pandemic underscored the potential value of NTN, accelerating its development despite initial setbacks.

The low-earth orbit (LEO) satellites segment is expected to be the largest during the forecast period

The Low Earth Orbit (LEO) satellite segment is projected to dominate due to its distinct advantages. LEO satellites offer lower latency, enhancing real-time communication critical for applications like IoT and autonomous vehicles. They enable extensive coverage and higher data transfer rates compared to other satellite types. Additionally, ongoing investments by key players and governments in LEO satellite constellations for global internet coverage bolster this segment's growth prospects. These factors position LEO satellites as the leading choice for enhancing connectivity and expanding 5G non-terrestrial network capabilities.

The telecommunications and IT segment is expected to have the highest CAGR during the forecast period

The telecommunications and IT segment is anticipated to exhibit a lucrative growth rate owing to escalating demand for advanced connectivity solutions. Industries reliant on seamless, high-speed communication, such as telecommunication service providers and IT enterprises, seek to leverage 5G non-terrestrial networks for expanded coverage and enhanced performance. The integration of these networks supports diverse applications like IoT, cloud services and data-intensive operations. This increased adoption across telecommunications and IT sectors drives the segment's rapid growth during the forecast period.

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Region with largest share:

North America is poised to lead in market share due to significant investments in 5G non-terrestrial networks, driven by tech giants and government initiatives. Advanced infrastructure, coupled with robust R&D, supports the deployment of NTN solutions. Additionally, a high demand for reliable connectivity across industries like telecommunications, IoT and aerospace fosters market growth. Moreover, strategic collaborations among key industry players and favourable regulatory frameworks further solidify North America's dominance in driving the adoption of 5G NTN technologies.

Region with highest CAGR:

The Asia Pacific region is positioned for significant growth in the market due to its growing population and emerging economies. There's a growing demand for expanded connectivity. Governments are actively investing in telecommunications infrastructure, including NTN technologies, to bridge digital divides and support technological advancements. Moreover, the region's inclination towards innovative technologies, coupled with increasing investments from telecom companies and tech startups, creates fertile ground for substantial growth in 5G NTN adoption and deployment.

Key players in the market

Some of the key players in 5G Non Terrestrial Network (NTN) market include Airbus Defence and Space, AST & Science, Boeing, Eutelsat S.A., Globalstar Inc., HAPSMobile Inc., Intelsat S.A., Iridium Communications, Kuiper Systems LLC, LeoSat Enterprises, Lockheed Martin, Loon LLC, SES S.A., SpaceX, Telesat, Thales Alenia Space, Viasat, Qualcomm Technologies, Inc. and Rohde & Schwarz.

Key Developments:

In September 2023, Rohde & Schwarz and Skylo Technologies are collaborating to establish a device acceptance program for Skylo's non-terrestrial network (NTN). Leveraging Rohde & Schwarz's established device test framework, they will conduct tests on NTN chipsets, modules, and devices to ensure their compatibility with Skylo's test specifications.

In April 2023, NTT and SES partnership to leverage NTT’s expertise in networking and enterprise-managed services and SES’s unique O3b mPOWER satellites system to

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develop a new offering that will deliver reliable connectivity to enterprises.

In January 2023, Qualcomm Technologies, Inc. and Keysight Technologies, Inc. built a comprehensive 5G non-terrestrial network (NTN) link. The cooperation seeks to hasten the development of 5G NTN technology by successfully demonstrating call signaling and data transfer using orbit trajectory emulation. This will enable affordable broadband connectivity in remote areas. Through this partnership, Keysight and Qualcomm Technologies are demonstrating their dedication to the global telecommunications sector’s advancements in innovation, connection and security.

Components Covered:

- Hardware
- Solutions
- Services

Platforms Covered:

- Low-Earth Orbit (LEO) satellites
- Medium-Earth Orbit (MEO) satellites
- Geostationary Orbit (GEO) satellites
- High-Altitude Platforms (HAPs)

Locations Covered:

- Urban
- Rural
- Remote
- Isolated

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Applications Covered:

- Enhanced Mobile Broadband (EMBB)
- Massive Machine-type Communication (MMTC)
- Ultra-Reliable Low-Latency Communication (URLLC)

End Users Covered:

- Aerospace and Defense
- Energy and Utilities
- Maritime
- Mining
- Telecommunications and IT
- Other End Users

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany

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- UK
- Italy
- France
- Spain
- Rest of Europe

Asia Pacific

- Japan
- China
- India
- Australia
- New Zealand
- South Korea
- Rest of Asia Pacific

South America

- Argentina
- Brazil
- Chile
- Rest of South America

Middle East & Africa

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Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:
- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

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Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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