Massive Machine Type Communication - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

Market Report | 2024-02-17 | 120 pages | Mordor Intelligence

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Report description:

The Massive Machine Type Communication Market size is estimated at USD 2.58 billion in 2024, and is expected to reach USD 4.05 billion by 2029, growing at a CAGR of 9.42% during the forecast period (2024-2029).

Machine-type communication (MTC) is a fundamental technology to realize the concept of a fully connected world in the fifth-generation (5G) Internet of Things (IoT).

Key Highlights
-The development of the massive machine-type communication (mMTC) industry is being fueled by several key factors, such as the rising demand for fully automated processes, connected devices, wireless connectivity, rising investment in smart city projects, and investment and development in next-generation mobile network infrastructure. Smart cities are expanding globally as a result of urbanization, which is fueling market growth. According to UN forecasts, 404 million urban people in India, 212 million in Nigeria, and 292 million in China will be added to the current population by 2050.
-By 2023, the Japanese multinational holding corporation SoftBank planned to install 11,210 5G base stations. In addition, growing funding for smart city initiatives in this region, such as Asia-Pacific, contributes significantly to the expansion of mMTC implementation. The foundation of the smart city is massive machine-type communication, which permits machine-to-machine communication without requiring human input.
-Future 5G networks will likely be based on the heterogeneity of devices, technologies, and architectures, including IoT, UAVs, cloud and edge computing, etc. There would be a massive roll-out of IoT/MTCDs; these devices' simultaneous and unpredictable access will cause congestion and overload in 5G and beyond networks.
-However, the proliferation of MTC devices (MTCDs) propels serious challenges to the current cellular networks due to their huge number, particularly in ultra-dense scenarios like stadiums, concerts, hotspots, and flash crowds.

-The COVID-19 pandemic harmed the world economy. Lockdowns at the national level and social segregation standards in several nations severely impacted several businesses, including the mMTC sector. Since it was unclear how long the lockdowns would last, many 5G technology suppliers were under pressure, making it challenging for the major industry participants to predict when the mMTC market would recover.

Massive Machine Type Communication (MMTC) Market Trends

Energy Holds a Dominant Position in the Massive Machine Type Communication Market

- The characteristics of 5G wireless technology, such as massive machine type communication (MTC) and ultra-reliable and low-latency communication (URLLC), transform how energy utility companies operate. Distributed intelligence and control systems for substations to regular drone inspection of distribution and transmission lines utilizing 5G enhance smart grid projects to provide next-generation customer service.
- By the end of this decade, there will likely be 235 million tons of carbon emission annually, and electric energy consumption is expected to be 414TWh. A significant portion of global carbon emissions is from information and communication technology. Green communication is necessary for environmental protection to achieve energy efficiency in wireless networks.
- According to Global Carbon Project, In 2021, oil burning in the United States resulted in carbon dioxide emissions of 2.2 billion tons (GtCO2). China came second with 1.7 GtCO2, higher than any other nation that year. Oil emissions have decreased by more than 15% in the United States since 2005. In contrast, China's oil emissions have soared by more than 100%.
- It is one of the challenges of 5G networks to improve the energy efficiency of battery-constrained devices and should adopt techniques for environmental protection. Energy harvesting is a technique to enable the devices to power their services through energy harvested from renewable energy sources like wind and sun. Energy harvesting and green communication are essential for the MTCDs and BSs and aggregating devices like smartphones, drones, etc.
- There are several natural sources for energy harvesting. However, it is required to efficiently harvest the energy from these sources. Electromagnetic radiation, vibration, temperature, sunlight, wind, motion differences, RF, and the like can harvest energy into UAVs and wireless devices (smartphones and MTCDs).

North America Holds a Dominant Position in the Massive Machine Type Communication Market

- The Massive Machine Type communication growth in North America is driven majorly by the high demand for faster connectivity and better internet experience. Some of the most significant investments in deploying Massive Machine Type Communication growth network infrastructure are materializing in North America. For instance, in May 2022, one of Canada's leading telecom firms, Telus, pledged to invest USD 70 billion in mobile network infrastructure nationwide by 2026.
- Market expansion in the region is anticipated to be aided by significant government spending in the region's healthcare system. For instance, in October 2022, Xochitl Torres Small, the Under Secretary for Rural Development at the U.S. Department of Agriculture (USDA), stated that the USDA awarded funds totaling USD 110 million to upgrade healthcare facilities in rural areas. These awards will likely assist 208 rural healthcare groups in 43 states and Guam to expand vital services for nearly 5 million people.
- Additionally, the healthy development of the 5G-enabled Massive Machine Type Communication Market has been prompted by the rapidly rising demand for mobile phones that support faster data rates. For instance, according to Ericsson, North America will likely have approximately 411 million 5G subscriptions by 2027.
- Throughout the forecast period, it is anticipated that strong U.S. expenditures in developing smart cities, creating smart businesses, and building smart homes would help the North American regional market expand. The "Smart City Accelerator

Program" was introduced in October 2022 by Honeywell and Accelerator for America to assist towns in creating customized smart city plans. The strategy calls for developing a "Smart City Vision" that includes resilience-focused objectives, establishing an operational framework to assist each city in managing and supporting various projects, defining projects and business models to accomplish particular objectives, and figuring out governance structures for smart cities.
- Furthermore, in May 2022, the Biden administration encouraged governors and other officials to begin the application process as it prepares to disburse USD 45 billion to guarantee that every US citizen has high-speed internet by about 2028.

Massive Machine Type Communication (MMTC) Industry Overview

The Massive Machine Type Communication Market is moderately competitive and has several major players. In terms of market share, few of the major players currently dominate the market. The market is moderately fragmented, which is increasing the intensity of the market competition. As a result, it has become difficult for companies to survive in the market due to huge capital investments. Some prominent vendors in the market include Huawei Technologies Co., Ltd., Nokia Corporation, Cisco Systems, Inc., etc.

In September 2022, Standalone 5G is the "ultimate version of 5G," according to Orange. According to the operator, the technology was expected to increase the quality of service and network resilience control for commercial applications, maximizing the potential of 5G technology. With technologies like Ultra-Reliable Low Latency Communications (URLLC), Enhanced Mobile Broadband (eMBB), and Massive Machine-Type Communications (mMTC) services, the operator claimed Standalone 5G would likely also facilitate the future growth of value-added and on-demand offerings for Industry 4.0 and consumer markets.

In April 2022, The Tiger-3 satellite mission of OQ Technology, a 5G IoT connectivity firm situated in space, was launched from Space Launch Complex 40 on April 2022. (SLC-40). With ultra-reliable low latency communication (URLLC) and massive machine type communications (MTC), OQ's "cell tower within the satellite" technology sought to offer real-time worldwide connectivity for applications in remote and rural locations.

Additional Benefits:

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

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