

5G Infrastructure Market, Opportunity, Growth Drivers, Industry Trend Analysis and Forecast, 2024-2032

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Report description:

The global 5G infrastructure market was valued at USD 6,654.0 million in 2023 and is projected to grow at a CAGR of over 45% from 2024 to 2032. The rise of IoT applications, smart cities, and autonomous vehicles drives the need for faster, more reliable communication networks. For example, in August 2024, Vital launched comprehensive 4G and 5G infrastructure services in Brazil. Government and private sector investments in 5G deployment are significant growth drivers. Globally, countries recognize 5G's role in economic growth and technological innovation. Governments allocate spectrum, offer subsidies, and implement policies to expedite 5G rollout. Telecom operators and tech companies invest heavily in infrastructure upgrades, anticipating new revenue from enhanced mobile broadband, ultra-reliable low-latency communication, and massive machine-type communications. The overall 5G infrastructure industry is classified based on the component, network architecture, deployment mode, spectrum, end-use, and region.

The market is segmented by components into hardware, software, and services. The hardware segment is expected to exceed USD 100 billion by 2032. 5G network deployment requires substantial investment in hardware, including antennas, base stations, and network routers. The complexity of 5G infrastructure, with its advanced antennas and dense small-cell networks, drives significant hardware expenditures. As the operators in telecom enhance their existing networks and extend coverage into new areas, there is a rising demand for advanced 5G hardware. This demand encompasses both initial installations and continuous upgrades necessary to align with advancing technology standards and performance benchmarks.

By spectrum, the market is divided into sub-6 GHz and mmWave, with the mmWave segment growing fastest at a CAGR of over 50% from 2024 to 2032. Advancements in mmWave technology, such as improved antenna designs and signal processing, have made mmWave networks more feasible. These improvements reduce costs and expand practical applications of mmWave frequencies. New use cases requiring high-speed, low-latency connectivity drive demand for mmWave technology. Applications like autonomous vehicles, smart cities, and advanced industrial automation benefit from mmWave capabilities.

North America dominated the global 5G infrastructure market in 2023, accounting for over 30% of the share. The region is home to leading technology firms and early adopters of the latest innovations. North American telecom operators and service providers are at the forefront of adopting and deploying emerging technologies, such as 5G, which fuels substantial investment and

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infrastructure development. The U.S. 5G infrastructure market has demonstrated strong growth, underpinned by considerable investment and innovation. Major telecom players, including AT&T, Verizon, and T-Mobile, are pivotal in maintaining the leadership of the country in 5G deployment through their significant capital investments.

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