

The Global Market for 6G Communications Devices and Materials 2024-2044

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Abstracts

The 6G market is poised for massive growth over the next decade, driven by the need for ultra-fast and high-capacity wireless connectivity. 6G networks are expected to succeed the current 5G technology by 2030, bringing theoretical peak speeds of 1 Tbps compared to 20 Gbps for 5G. Since the deployment of 1G networks in the 1980s, each generation of wireless communication has brought massive leaps in speed, latency and connectivity. 6G is anticipated to continue this progression with peak data rates up to 1 Terabit per second (1 Tbps), sub 1-millisecond latency and the ability to simultaneously connect over 100 billion devices. Compared to 5G, 6G aims to provide:

10 to 50 times higher data rates

10 to 100 times more connected devices

99.999% reliability

100% coverage everywhere

Key drivers for 6G include connecting the Internet of Everything, enabling high-fidelity immersive extended reality, vehicle-to-everything (V2X) communication for autonomous driving, and extremely dense wireless connectivity for smart cities.

The Global Market for 6G Communications Devices and Materials 2024-2044 provides a comprehensive analysis of 6G wireless communication technologies and markets. The report analyzes 6G's transformative impact across telecom, automotive, manufacturing, healthcare and other sectors. In-depth technology assessment covers

6G spectrum, network architectures, hardware, materials like graphene and reconfigurable intelligent surfaces, security, artificial intelligence and other innovations. 38 company profiles analyze the 6G development, partnerships and IP landscape.

Report contents include:

- Evolution from 1G to 6G
- 5G limitations and 6G benefits
- 6G advanced materials and recent hardware
- 6G market outlook, drivers and challenges
- 6G applications, key geographies, players
- 6G government initiatives, roadmap, sustainability
- 6G spectrum, devices, services
- THz communication technologies
- 6G network architectures
- Global 6G architecture concepts
- 6G radio system, non-terrestrial networks
- Internet of Things, edge computing, AI/ML
- Materials and Technologies
- Phase array antennas and modules
- Packaging, inorganic compounds, elements
- Organic compounds, semiconductor materials
- CMOS, SiGe, GaAs, InP for 6G

Reconfigurable intelligent surfaces

Metamaterials, low-loss materials

Cell-free Massive MIMO, graphene

Thermal management, photoactive materials

Market Forecasts 2024-2040

6G market revenue forecasts

Base station and RIS tile forecasts

Pricing forecasts for RIS tiles

38 Company Profiles. Companies profiled include Apple, Ericsson, LG Electronics, META, Nokia, NTT Corporation, Samsung, and SK Telecom.

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