

Metamaterials Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 150 pages | Mordor Intelligence

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Report description:

The metamaterials market is anticipated to register a CAGR of over 24% during the forecast period 2022-2027.

The impact of the COVID-19 pandemic on the market was negligible. The market has been growing at a healthy rate in the past few years.

□ One of the major factors driving the use of metamaterials is increasing R&D activities for various applications in the aerospace and defense, telecommunication, and consumer electronics end-user industries, among others.

□ Among the applications of metamaterials, the antenna and radar segment is estimated to occupy the largest share.

□ Among the end-user industries, the aerospace and defense segment is estimated to account for the largest share.

□ North America dominated the market globally, with the highest consumption in 2020.

Metamaterials Market Trends

Increasing Usage of Antennas for Communication

□ Antenna is one of the most important applications of metamaterials. The unique property of metamaterials is used to improve the performance characteristics of the antenna.

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□ Metamaterial coatings are applied to improve the radiation and electrically coordinate the properties of little electric and attractive dipole reception apparatuses. These antennas have 95% of information radio signs originating at 350 MHz. Patch reception devices with metamaterial spread have expanded directivity.

□ Metamaterial Surface Antenna Technology (MSA-T) is another class of reception apparatus innovation. It can electronically control a radiofrequency bar, rapidly and unequivocally over wide points, without the requirement for moving parts or costly stage moving segments.

□ Metamaterials can improve the addition and decrease the arrival loss of a patch radio wire. The first metamaterial-based absorber utilizes three layers, of which two are metallic layers, and one is a dielectric layer, which provides simulated absorptivity of 99% at 11.48 GHz.

□ Owing to the abovementioned factors, the demand for metamaterials in antennas is expected to grow during the forecast period.

Asia-Pacific to be the Fastest-growing Market

□ Although North America dominates the global market, followed by Europe, Asia-Pacific is the fastest-growing market and is expected to overtake North America by 2024.

□ This growth is majorly due to increasing investments in Asian countries' defense sectors.

□ In countries, like China, India, South Korea, Pakistan, etc., governments have been increasing the national defense budget regularly.

□ China's recent increase in defense spending sends a clear signal that the country remains committed to completing the modernization of the People's Liberation Army (PLA) by 2035 and transforming the PLA into a "world-class" military by 2049, thus creating opportunities in the military technology sector.

□ As the number of digital cellular subscribers is witnessing high growth in China, service providers are increasingly concerned with the limited capacities of the existing infrastructure. This has resulted in more deployment of smart antenna systems in China.

□ China is expected to strengthen its position among the globally leading consumers of metamaterials over the forecast period.

Metamaterials Market Competitor Analysis

The metamaterial market is partially fragmented, with no player having a significant enough share to influence the market. Kymeta Corporation, Metamaterial Technologies Inc., NKT Photonics, Echodyne Corp., and TeraView Ltd, among others, are some of the prominent players in the market.

Additional Benefits:

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

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