

Magnetic Materials Market to Grow at Aggressive CAGR of 9.6% to Reach USD 199.87 Billion By 2029

The magnetic materials market is being propelled by EV adoption, IoT growth, renewable energy demand, and an increase in electronics.

LUTON, BEDFORDSHIRE, UNITED KINGDOM, November 23, 2023 /EINPresswire.com/ -- The Magnetic Materials Market Is Expected to Grow At 9.6% CAGR From 2023 To 2029. It Is Expected to Reach Above USD 199.87 Billion By 2029 From USD 96.00 Billion In 2022.



Magnetic fields are typically generated by magnetic materials. They are made of a variety of materials and can be used for a variety of purposes. Magnetic materials play an important role in a variety of socioeconomic issues on a global scale because they are commonly used to



The magnetic materials market is surging with increased demand driven by advancements in electronics, renewable energy, and automotive sectors, fostering substantial growth opportunities."

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generate and distribute power. One of the primary drivers of magnetic material growth is the expansion of the automobile industry. Another factor is the increased use of electricity. Permanent magnetic generator, or PMG, systems have recently been added to wind turbines. PMG devices served as an alternative to gearboxes due to their ability to generate their own electricity.

Magnetic materials are in high demand in the automotive industry. During the forecast period, the automotive industry is expected to grow at the fastest rate and be the largest end-user market for magnetic materials. Because of the widespread use of spinning devices in automobiles,

such as motors, compressors, anti-lock brake systems, fuel injectors, and other rotating devices, the market for magnetic materials is expected to grow at a faster rate. Electric motors are used

in a variety of applications. Increased demand for electric motors in medical equipment and other equipment is expected to drive magnetic material demand and accelerate market expansion.

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Recent Developments:

- 2 March 2021: Arnold Magnetic Technologies Corporation ("Arnold"), a subsidiary of Compass Diversified (NYSE: CODI) and leading global manufacturer of high-performance magnets, magnetic assemblies, precision thin metals and highly loaded composites today announced that it has acquired Ramco Electric Motors, Inc. ("Ramco"), manufacturer of stators, rotors, and full electric motors. Financial terms of the transaction were not disclosed.
- 30 January 2023: VAC announced today a binding long-term supply agreement with GM for North America permanent magnet production another major step forward to create a strong, sustainable and scalable supply chain for electric vehicles. As a part of the agreement, VAC will build a facility in North America to manufacture permanent magnets for the electric motors used in a broad portfolio of EVs, including the Chevrolet Silverado EV, Blazer EV and Equinox EV, the Cadillac LYRIQ, the GMC Sierra EV, and the GMC HUMMER EV SUV and Pickup. The new facility will use locally sourced raw materials. The binding agreement finalizes a Memorandum of Understanding (MoU) VAC and GM announced in December 2021.

The region with the highest revenue share in 2022 more than 66.0% was Asia Pacific.

The region's need for magnetic materials is expected to increase due to the high-volume output of the automotive and electronics sectors in China, India, and Japan. For example, according to the International Association of Motor Vehicle Manufacturers (OICA), China manufactured 32.5% of the world's automobiles in 2021. The 54-MW solar project in Sano-shi, Tochigi Prefecture, Japan, is set to begin construction in October 2020, according to a statement from Pacifico Energy. Moreover, JERA Co. declared its intention to boost its investment in renewable energy to 5 GW of capacity by 2025. The expansion of such energy projects is anticipated to fuel the region's demand for magnetic materials in the upcoming years.

In the upcoming years, Europe is anticipated to have prosperous expansion. According to government statistics, Europe spent 41 billion euros in 2021 to add 25 GW of new generating capacity to the wind energy sector. Several types of wind turbines use neodymium magnets due to the efficiently generate power. Neodymium magnets are constructed of iron, boron, and neodym.

Key Aspects of The Magnetic Materials Market:

· Permanent Magnets Dominate:

Permanent magnets, particularly neodymium-iron-boron (NdFeB) magnets, have been dominant in the market due to their high magnetic strength. These magnets find extensive use in various applications, including electric motors, sensors, and consumer electronics.

Electronics and Consumer Goods:

The demand for magnetic materials in the electronics and consumer goods sectors has been steadily increasing. Magnets are crucial components in products such as smartphones, laptops, speakers, and other electronic devices.

Automotive Industry Growth:

The automotive industry has been a major driver for the magnetic materials market. The shift toward electric vehicles (EVs) and the increasing use of advanced technologies in traditional vehicles have boosted the demand for magnets in motors, sensors, and other applications.

Renewable Energy Applications:

Magnetic materials play a vital role in renewable energy technologies. Permanent magnets are used in generators for wind turbines, and magnetic components are integral to the functioning of solar power systems. The growing emphasis on renewable energy has positively impacted the magnetic materials market.

• Medical and Healthcare Applications:

Magnetic materials are used in various medical and healthcare applications, including magnetic resonance imaging (MRI) machines, magnetic therapy devices, and magnetic nanoparticles for drug delivery. The healthcare sector continues to drive demand for specialized magnetic materials.

Asia-Pacific Dominance:

The Asia-Pacific region, particularly China, has been a key player in the magnetic materials market. China is a major producer and consumer of magnetic materials, including rare earth magnets. The region's dominance is attributed to its role in electronics manufacturing, automotive production, and the overall growth of industrial sectors.

Concerns about Rare Earth Element Supply:

Rare earth elements, which are crucial for the production of high-performance magnets, have been a point of concern. China has been a major supplier of rare earth elements, leading to discussions about diversifying the supply chain to reduce dependence on a single source.

Research and Development:

Ongoing research and development activities are focused on improving the performance of magnetic materials, finding alternative materials, and exploring new applications. Innovations in manufacturing processes and the development of eco-friendly magnetic materials are areas of active exploration.

• Emerging Technologies:

The market is witnessing the emergence of technologies such as magnetic refrigeration, where magnetic materials are utilized for cooling applications. These technologies offer potential advantages in terms of energy efficiency and environmental impact.

Magnetic Materials Market Technological Trends

• Miniaturization and High-Performance Magnets:

The demand for smaller, lightweight electronic devices has driven the need for miniaturized and high-performance magnets. This trend is particularly relevant in industries such as electronics, where compact and efficient magnetic components are essential.

• Rare Earth Magnets Dominance:

Neodymium-iron-boron (NdFeB) magnets, which fall under the category of rare earth magnets, have been widely used due to their high magnetic strength. The market has seen efforts to reduce dependence on rare earth elements due to geopolitical concerns and environmental issues associated with their extraction.

• Permanent Magnet Motors in Automotive Applications:

The automotive industry has been increasingly incorporating permanent magnet motors in electric vehicles (EVs) and hybrid vehicles. This trend is expected to continue as the automotive sector continues its shift toward electrification.

• Magnetic Materials in Renewable Energy:

Magnetic materials play a crucial role in renewable energy technologies, particularly in the generation of wind and solar power. Permanent magnets are used in generators for wind turbines, and magnetic materials are essential in various components of solar power systems.

Advancements in Magnet Manufacturing Techniques:

Researchers and manufacturers have been exploring innovative techniques for producing magnets with enhanced properties. This includes advancements in powder metallurgy, sintering processes, and the development of new composite materials.

Magnetic Materials Market Player

- SG Technologies
- VACUUMSCHMELZE GmbH & Co. KG
- Steward Advanced Materials LLC
- MATE CO. LTD
- KN Powder Metallurgy
- Hitachi Metals Ltd
- Sintex
- Toshiba Materials Co Ltd
- AMES Daido Steel
- Fluxtrol Inc.
- FJ Industries A/S
- Arnold Magnetic

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Key Market Segments: Magnetic Materials Market

Magnetic Materials Market By Type, 2023-2029, (USD Billion), (Kilotons).

- Semi-Hard Magnet
- Soft Magnet
- Hard/Permanent Magnet

Magnetic Materials Market By Application, 2023-2029, (USD Billion), (Kilotons).

- Automotive
- Electronics
- Industrial
- Power Generation
- Others

Market Dynamics

Drivers:

- Technological Advancements: The demand for magnetic materials is often driven by advancements in technology, particularly in industries such as electronics, automotive, and renewable energy.
- Increasing Demand for Electric Vehicles (EVs): The growth of the electric vehicle market has a direct impact on the demand for magnetic materials, especially in the production of electric motors and other components.
- Rising Renewable Energy Sector: The push for renewable energy sources, such as wind and solar power, relies on magnetic materials for the manufacturing of generators and other key components.
- Electronics and Consumer Goods: The expanding electronics market, including smartphones, computers, and other consumer goods, continues to drive the demand for small, lightweight, and efficient magnetic components.

Restraints:

- Supply Chain Disruptions: Fluctuations in the availability and prices of raw materials, such as rare earth metals, can impact the magnetic materials market.
- Environmental Concerns: The extraction and processing of certain raw materials for magnetic materials, such as rare earth elements, may raise environmental concerns and regulatory challenges.
- Trade Tariffs and Geopolitical Tensions: Trade disputes and geopolitical tensions can affect the global supply chain and pricing of magnetic materials.

Opportunities:

- Energy Storage: The growth of renewable energy and electric vehicles creates opportunities for magnetic materials in energy storage applications, such as batteries.
- Medical Devices: The healthcare industry's increasing reliance on magnetic resonance imaging (MRI) and other technologies creates opportunities for magnetic materials in medical devices.
- Emerging Technologies: The development of new technologies, such as quantum computing, may open up new opportunities for magnetic materials.

Challenges:

- Cost Fluctuations: The prices of raw materials, such as rare earth elements, can be volatile, leading to cost challenges for manufacturers.
- Regulatory Changes: Evolving regulations related to environmental standards and mining practices can impact the magnetic materials industry.
- Intense Competition: The market for magnetic materials is competitive, and companies need to invest in research and development to stay ahead in terms of product innovation and efficiency.

Key Question Answered

- 1. What is the expected growth rate of the magnetic materials market over the next 7 years?
- 2. Who are the major players in the magnetic materials market and what is their market share?
- 3. What are the end-user industries driving demand for market and what is their outlook?
- 4. What are the opportunities for growth in emerging markets such as Asia-Pacific, Middle East, and Africa?
- 5. How is the economic environment affecting the magnetic materials market, including factors such as interest rates, inflation, and exchange rates?
- 6. What is the expected impact of government policies and regulations on the magnetic materials market?
- 7. What is the current and forecasted size and growth rate of the global magnetic materials market?
- 8. What are the key drivers of growth in the magnetic materials market?
- 9. What are the distribution channels and supply chain dynamics in the magnetic materials market?
- 10. What are the technological advancements and innovations in the magnetic materials market and their impact on form development and growth?

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