

# Superconductor Market by Type (Low Temperature Superconductors, High Temperature Superconductors), Application (Medical, Electronics, Defense and Military, and Others), and Region 2023-2028

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## Abstracts

### Market Overview:

The global superconductor market size reached US\$ 6.78 Billion in 2022. Looking forward, IMARC Group expects the market to reach US\$ 11.84 Billion by 2028, exhibiting a growth rate (CAGR) of 9.4% during 2023-2028. The growing demand for energy transmission and storage, the rising government initiatives to promote clean energy and advanced technology initiatives, and the increasing awareness of climate represent some of the key factors driving the market.

A superconductor is a material that exhibits minimum electrical resistance when cooled below a certain temperature. It exhibits perfect conductivity for direct current (DC) and alternating current (AC) without any energy loss. It has the ability to generate strong magnetic fields, which led to the development of powerful superconducting magnets utilized in magnetic resonance imaging machines and particle accelerators. Compared to regular conductors, which encounter resistance and lose energy as electric currents pass through them, superconductors allow the flow of electrons with almost no loss. It is employed in sensitive detectors for measuring minute magnetic fields, enhancing the performance of devices such as magnetometers and quantum computers. Additionally, it aids in improving the performance of electric power generators, including wind turbines and hydroelectric generators. It also has potential applications in high-speed computing, advanced electronics, and communication systems.

### Superconductor Market Trends:

The rising demand for energy transmission and storage is driving the global market. Furthermore, the growing demand for advanced healthcare facilities and imaging technologies is catalyzing the demand for superconducting materials used in MRI systems. Along with this, rapid expansion in the transportation industry is supporting the demand for superconductors as trains utilize superconducting magnets that help in achieving high speeds, low energy consumption, and reduced friction, further offering a greener and more efficient mode of transportation. Besides, several leading players are heavily investing in extensive research and development (R&D) activities to develop new superconducting materials, improve their critical temperatures, and enhance their performance, thus propelling the overall market. In line with this, ongoing advancements in material science, such as the discovery of high-temperature superconductors, are acting as another growth-inducing factor. Apart from this, the governments of several countries are offering financial support and grants and are collaborating with academia and several industries to promote clean energy and advanced technology initiatives, thus creating a positive market outlook. Additionally, the increasing awareness of climate change and the need to transition to low-carbon technologies are impacting the market favorably as they improve energy efficiency, reduce greenhouse gas emissions, and enable renewable energy integration to align with global efforts to combat climate change. The growing need for advanced infrastructure, such as high-speed railways, advanced energy systems, and smart cities, is also impelling the market as superconductors exhibit the ability to improve energy efficiency, reduce emissions, and enhance transportation systems positions.

### Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each segment of the global superconductor market, along with forecasts at the global, regional, and country levels from 2023-2028. Our report has categorized the market based on type and application.

### Type Insights:

Low Temperature Superconductors

High Temperature Superconductors

The report types provided a detailed breakup and analysis of the superconductor market based on the type. This includes low temperature superconductors, and high temperature superconductors. According to the report, low temperature superconductors exhibited a clear dominance in the market.

### Application Insights:

- Medical
- Electronics
- Defense and Military
- Others

A detailed breakup and analysis of the superconductor market based on the application has also been provided in the report. This includes medical, electronics, defense and military, and others. According to the report, medical application exhibited a clear dominance in the market.

### Regional Insights:

- North America
  - United States
  - Canada
- Asia Pacific
  - China
  - Japan
  - India
  - South Korea
  - Australia
  - Indonesia
  - Others
- Europe
  - Germany
  - France
  - United Kingdom
  - Italy
  - Spain
  - Russia
  - Others
- Latin America
  - Brazil
  - Mexico
  - Others
- Middle East and Africa

The report has also provided a comprehensive analysis of all the major regional markets, which include North America (the United States and Canada); Asia Pacific (China, Japan, India, South Korea, Australia, Indonesia, and others); Europe (Germany, France, the United Kingdom, Italy, Spain, Russia, and others); Latin America (Brazil, Mexico, and others); and the Middle East and Africa. According to the report, Asia Pacific exhibited a clear dominance in the market. Some of the factors driving the Asia Pacific superconductor market included expanding aerospace and defense industry, the rising demand for consumer electronics and high-speed data transfer, and increasing need to reduce carbon footprint.

#### Competitive Landscape:

The report has also provided a comprehensive analysis of the competitive landscape in the global superconductor market. Detailed profiles of all major companies have been provided. Some of the companies covered include Bruker Corporation, Fujikura Ltd., Furukawa Electric Co. Ltd., Hyper Tech Research Inc., Japan Superconductor Technology Inc. (Kobe Steel Ltd.), Luvata Oy (Mitsubishi Materials Corporation), Sumitomo Electric Industries Ltd, Supercon Inc., Theva Dünnschichttechnik GmbH, Western Superconducting Technologies Co. Ltd. etc. Kindly note that this only represents a partial list of companies, and the complete list has been provided in the report.

#### Key Questions Answered in This Report:

- How has the global superconductor market performed so far, and how will it perform in the coming years?
- What are the drivers, restraints, and opportunities in the global superconductor market?
- What is the impact of each driver, restraint, and opportunity on the global superconductor market?
- What are the key regional markets?
- Which countries represent the most attractive superconductor market?
- What is the breakup of the market based on the type?
- Which is the most attractive type in the superconductor market?
- What is the breakup of the market based on the application?
- Which is the most attractive application in the superconductor market?
- What is the competitive structure of the global superconductor market?
- Who are the key players/companies in the global superconductor market?

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