

Memristor Market Report by Type (Molecular and Ionic Film Memristor, Spin Based and Magnetic Memristor), Industry Vertical (Electronics, IT and Telecommunication, Industrial, Aerospace and Defense, Automotive, Healthcare), and Region 2024-2032

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Abstracts

The global memristor market size reached US\$ 287.2 Million in 2023. Looking forward, IMARC Group expects the market to reach US\$ 8,238.7 Million by 2032, exhibiting a growth rate (CAGR) of 44.3% during 2024-2032.

A memristor, also known as a ReRAM, is a non-volatile electronic memory device having a variable electrical resistance. It relies on cell resistance for storing information, which remains saved even if devices lose power. As it is stable, fast, and reliable, it is widely utilized to enable modern computing and memory device technologies, such as nanoelectronic memories and neuromorphic computing architectures. Presently, with advances in silicon technology, electronics based on memristors are finding applications in on-chip memory and storage, in-memory computing, and biologically inspired computing around the world.

Memristor Market Trends:

Due to the key advantages of memristors, including compact size, high retention, enhanced endurance, three-dimensional (3D) design capabilities, and fast reading and writing speed, they have emerged as highly reliable alternatives to flash memories. This, in confluence with the escalating demand for portable, miniature electronics, is influencing the market positively. Moreover, the emerging automation trend in industrial processes is promoting the adoption of robots, which, in turn, is driving the market.

Apart from this, the increasing utilization of data centers in the healthcare, information and technology (IT) and telecommunications, and banking, financial services, and insurance (BFSI) industries is impelling the growth of the market worldwide. In line with this, governments of several countries are investing in improving IT infrastructure, which is creating a favorable outlook for the market. Besides this, the increasing investment in research activities to develop innovative transparent electronics, which rely on memristors for storage purposes, is projected to strengthen the market growth in the coming years. Transparent electronics find extensive applications in transportation, energy sources, consumer electronics, and automobile windshields that can transmit visual information to the driver.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global memristor market report, along with forecasts at the global, regional and country levels from 2024-2032. Our report has categorized the market based on type and industry vertical.

Breakup by Type:

- Molecular and Ionic Film Memristor
- Titanium Dioxide Memristor
- Polymeric Memristor
- Others
- Spin Based and Magnetic Memristor
- Spintronic Memristor
- Spin Torque Transfer (STT) MRAM

Breakup by Industry Vertical:

- Electronics
- IT and Telecommunication
- Industrial
- Aerospace and Defense
- Automotive
- Healthcare

Breakup by Region:

- 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

Competitive Landscape:

The competitive landscape of the industry has also been examined along with the profiles of the key players being Avalanche Technology, Crossbar Inc., Everspin Technologies Inc., Fujitsu Semiconductor Memory Solution (Fujitsu Limited), Honeywell International Inc., Knowm Inc., Renesas Electronics Corporation, STMicroelectronics and Weebit Nano.

Key Questions Answered in This Report

1. How big is the global memristor market?
2. What is the expected growth rate of the global memristor market during 2024-2032?
3. What are the key factors driving the global memristor market?
4. What has been the impact of COVID-19 on the global memristor market?
5. What is the breakup of the global memristor market based on the type?
6. What is the breakup of the global memristor market based on the industry vertical?

7. What are the key regions in the global memristor market?
8. Who are the key players/companies in the global memristor market?

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