

Microelectromechanical Systems (MEMS) Technology: Current and Future Markets

Market Research Report | 2023-09-20 | 186 pages | BCC Research

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Report description:

Description

Report Scope:

In this report, the MEMS market was segmented by device type, application and region. The report provides an overview of the global MEMS market and analyzes market trends. Using 2022 as the base year, the report provides estimated market data for the forecast period, 2023 through 2028.

Revenue forecasts for this period are segmented into -

- Device Type: sensors and actuators.
- Application: automotive, consumer electronics, defense/aerospace, industrial, life science, telecom/communications and others.
- Region: North America is segmented into the U.S., Canada and Mexico; Europe is segmented into the UK, France, Germany and Rest of Europe; Asia-Pacific (APAC) is segmented into China, Japan, India and Rest of Asia-Pacific; Rest of the World is segmented into Middle East, Africa and Latin America.

This report was prepared in a simple, easy-to-understand format, with a number of tables and charts/figures. The scope of the report includes a detailed study of global and regional markets for MEMS, with reasons given for variations in the growth of the industry in certain regions. The report examines each component of MEMS technology, determines current market size and estimates its future market. The report also analyzes the market from the manufacturers' viewpoint, as well as that of the final consumer. A number of technical issues arising from MEMS technologies are discussed and solutions are indicated.

Report Includes:

- 37 data tables and 28 additional tables

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- An overview of the current and future global market for microelectromechanical systems (MEMS) technology
- An estimate of the market size and analyses of market trends, with data from 2022, estimates for 2023 and projection of CAGRs through 2028
- A discussion of the market potential for MEMS technology based on device type, application and region
- An analysis of the market dynamics, including growth drivers, inhibitors and opportunities, and insights into the regulatory environments impacting the market
- Examinations of ESG developments; a patent activity; mergers and acquisitions (M&A) and venture fundings; and emerging MEMS technologies
- Profile descriptions of the leading market players in the market of the industry, including Amphenol Corp., GoerTek Inc., Knowles Corp., NXP Semiconductors N.V. and Sensata Technologies Inc.

Executive Summary

Summary:

The last decades have seen an ever-increasing use of silicon for the fabrication of miniaturized systems, this development is driven by road maps in the microelectronics industry, but during the last few years the focus of the field is shifting toward the use of silicon for fabrication of MEMS, due to its versatility, mechanical properties, wealth of potential silicon-based novel applications and its cost. It is one of the most abundant elements on earth, compatible with most batch-processed integrated circuit (IC) technologies.

MEMS are key, enabling technologies for developments in transportation, telecommunications and healthcare, but the range of MEMS applications covers nearly every sector. The most significant advantage of MEMS is the ability to communicate easily with semiconductor chips. Other advantages include MEMS' compact size, reduced power consumption, lower cost and increased reliability. The growth in the use of MEMS has also led to the creation of supporting industries in areas such as MEMS design software, design services, specialty fabrication equipment and fabrication facilities.

This report segments the global MEMS market based on device type, application and region. Based on device type, the market is segmented into sensors and actuators. Sensors are further segmented into inertial sensors, pressure sensors, microphones, environmental sensors, optical sensors and others. Actuators are further categorized into optical actuators, microfluidics, radio frequency and others. The sensors segment held the largest market share and it is expected to register the highest CAGR (REDACTED%), during the forecast period.

The market for MEMS, by application, is segmented into automotive, consumer electronics, defense and aerospace, industrial, life science, telecom/communications and others. The consumer electronics segment dominated the market, holding REDACTED% of market share in 2022.

In terms of geographic regions, Asia-Pacific held the highest revenue share (REDACTED%) in 2022 and this is expected to continue to dominate revenue share with a value of \$REDACTED billion in 2028. In terms of volume, Asia-Pacific accounted for REDACTED% of MEMS volume share in 2022, followed by North America, holding REDACTED% of MEMS volume share.

The major manufacturers of MEMS include Robert Bosch, Broadcom, TDK, Analog Devices, STMicroelectronics, Qorvo, Amphenol, Texas Instruments and others. The trend towards strategic approaches (partnerships and collaborations) are expected to continue during the forecast period. Overall, the MEMS market is experiencing strong growth, which is expected to continue to expand rapidly in the coming years as more businesses adopt MEMS to improve product capabilities.

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