Global MEMS and Sensors Market Research Report, Material (Silicon, Polymer, Metal, Ceramic), Type (Inertial, Pressure, Microphone, Environmental, Optical), Application (Consumer Electronics, Healthcare, Aerospace & Defense, Automotive)— Forecast till 2023

Market Scenario
The micro-electro-mechanical systems (MEMS) is a technology that consists of both electronic and mechanical components. It consists of various components, such as sensors, actuators, miniaturized structures, and microelectronics. In most of the countries such as Japan & Europe , these are also known as micromachines & microsystems technology(MST).

The MEMS & Sensors market is increasing due to growth in the demand of IoT technology and increasing adoption of connected devices. These sensors are widely used in wearable devices and consumer electronics such as smartphones, tablets, laptops, digital cameras, portable media players, and navigation devices.

In the recent years, the MEMS are used in various verticals including healthcare sector, for diagnostic and treatment equipment positioning applications, imaging applications, and medical devices such as bionic limbs and other artificial body parts.

The MEMS sensors including pressure sensors, inertial sensors, and flow sensors are widely used in the automotive industry to improve the safety and comfort of automobiles. MEMS pressure sensors are used for measurement of manifold air pressure (MAP), fuel tank, and engine oil. The deployment of MEMS accelerometers has eliminated the use of g-switches in the automotive industry for air bag control; this is due to its low cost and vigorous self-testing capability.

The increase in the adoption of smart connected devices including connected cars, smart homes, smart wearable devices, and huge growth in the automotive industry are some of the drivers that are impacting the growth of this market.

However, complex manufacturing and packaging process of MEMS to prevent electrical and other device components from air and water contamination may hamper the growth of MEMS & sensors market.

The global MEMS & sensors market is expected to reach approximately USD 26.1 billion by 2023 growing at ~10.2% CAGR over the forecast period 2018—2023.

The Global MEMS & Sensors Market,2018—2023 (USD Billion)

Source: MRFR Analysis

Key Players
Some of the key players of global MEMS & sensors market includes STMicroelectronics (Europe), Robert Bosch GmbH (Germany), NXP Semiconductors (Netherlands), Texas Instruments (US), Panasonic (Japan), Murata Manufacturing Co (Japan), InvenSense (US), Hewlett Packard (US), Honeywell (US), Qualcomm (US), Infineon (Germany), Allegro Microsystems (US), Mega Chips Corporation (Japan), Denso Corporation (Japan), Hitachi Ltd
Segmentation
The global MEMS & sensors market is segmented on the basis of material, types, and application. By application, the market is segmented into consumer electronics, healthcare, industrial, aerospace & defense, and automotive among others. The MEMS accelerometer sensors are widely used in electronic devices such as laptops and smartphones. The accelerometer is integrated in laptops as it detects the sudden free fall and immediately turn off the hard drive to prevent its damage. The accelerometers are integrated in smartphones to provide various features such as image stability, shock detection, menu navigation, text scroll, gaming control, silent mode activation, and motion dialing, and others. Moreover, the capability to accurately track the motion using sensors based on MEMS technology has led to the adoption of MEMS sensors in the health and fitness devices. By type, the market is segmented into inertial, pressure, microphone, environmental, and optical. By materials, the market is segmented into silicon, polymer, metal, and ceramic.

Regional Analysis
The geographical analysis of the global MEMS & sensors market is studied for North America, Europe, Asia-Pacific, and the rest of the world. North America is one of the early adopters of technology and holds a significant market share among other regions due to the presence of leading market players such as Texas instruments, InvenSense, Qualcomm, Honeywell, Allegro microsystems, and Bosch. The other factors which are impacting the growth of MEMS & sensors market in this region are increasing adoption of smart devices such as smartphones, smart wearables, PDAs, and computing devices. Whereas, Asia-Pacific holds the largest market among other regions due to the proliferating Chinese market owing to the growing number of smart consumer electronics devices and the presence of major key players such as Mega Chips Corporation, Panasonic, Denso Corporation, and Hitachi Ltd. This region is expected to witness a consistent growth rate throughout the forecast period (2018–2023).

Target Audience
- Raw material and manufacturing equipment suppliers
- Electronic design automation (EDA) and design tool vendors
- Original equipment manufacturers (OEMs)
- Integrated device manufacturers (IDMs)
- Original design manufacturers (ODMs)
- ODM and OEM technology solution providers
- Assembly, testing, and packaging vendors
- Technology, service, and solution providers
- Intellectual property (IP) core and licensing providers
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