

# Wearable Sensors Market by Type (Accelerometers, Pressure & force sensors, Gyroscopes, Medical based sensors), Application (Wristwear, Eye-wear, Footwear, Neckwear, Bodywear), Vertical and Region - Global Forecast to 2028

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## Abstracts

The wearable sensors market is valued at USD 1.6 billion in 2023 and is projected to reach USD 4.2 billion by 2028, growing at a CAGR of 21.1% from 2023 to 2028. Increasing demand for smart devices, the growing importance of fitness and health monitoring devices, and the rising focus on innovation and development across industries such as consumer electronics and healthcare are among the key factors driving the growth of the wearable sensors market. Technical difficulties related to hardware and software may hamper the adoption of wearable sensors and are also one of the major challenges in the market.

“Market for pressure & force sensors to significant share during the forecast period.”

The pressure & force sensors held the largest share of the wearable sensors market in 2022 and are also expected to hold a significant share during the forecast period. Pressure sensors are used to measure force and determine the nature of an applied force, and force sensors are used to measure forces and torques. Smartwatches and fitness bands are the key application areas of pressure & force sensors.

“Market for the wristwear segment is expected to hold the largest share during the forecast period.”

The market for wristwear is expected to hold the largest share during the forecast period. The wristwear function is to monitor a customer’s health. The wristwear

segment includes various factors for it being the dominant segment, such as health and fitness tracking, convenience and comfort, fashion and style, among others. The Wrist-worn devices are generally comfortable to wear and are less intrusive than some other types of wearable sensors. Smartwatches and fitness trackers can track various metrics such as heart rate, steps taken, and sleep patterns making them highly user-friendly for health-conscious consumers.

“US is expected to have the largest market size in North America during the forecast period.”

The presence of some of the leading sensor manufacturers in North America (US) and the growing demand for consumer electronics such as wearable devices and gaming consoles also boost the use of sensors in different end-user industries such as entertainment and healthcare. The US offers an ideal environment for innovation, which has facilitated massive strides in wearable sensor technology. Moreover, the factors such as health and fitness monitoring, chronic disease management, sports and performance optimization, consumer electronics, and lifestyle are some of the major driving factors for demand in this region.

In the process of determining and verifying the market size for several segments and subsegments gathered through secondary research, extensive primary interviews have been conducted with key industry experts in the wearable sensors space. The break-up of primary participants for the report has been shown below:

By Company Type: Tier 1 – 52%, Tier 2 – 31%, and Tier 3 – 17%

By Designation: C-level Executives – 47%, Directors –31%, and Others – 22%

By Region: North America –36%, Europe – 29%, Asia Pacific– 30%, and RoW – 5%

The report profiles key players in the wearable sensors market with their respective market ranking analysis. Prominent players profiled in this report include STMicroelectronics (Switzerland); Infineon Technologies (Germany); Knowles Electronics (US); NXP Semiconductors (Netherlands); Texas Instruments (US); TE Connectivity (Switzerland); Broadcom (Switzerland); Analog Devices (US); Panasonic (Japan); Asahi Kasei (Japan). Apart from these, Robert Bosch (Germany), InvenSense (California), MCube (California), Sensirion AG (Switzerland), AMS AG (Austria); Arms

Holdings (UK); Empatica (US); Hexoskin (Montreal); Neofect (SouthKorea), Enflux (US); Hocoma (Switzerland); Actofit (India); Whoop (US); Motiv (US); Oura Health (Finland) are among a few emerging companies in the wearable sensors market.

## Report Coverage

The report defines, describes, and forecasts the wearable sensors market based on type, application, vertical, and region. It provides detailed information regarding drivers, restraints, opportunities, and challenges influencing the growth of the wearable sensors market. It also analyzes competitive developments such as product launches, acquisitions, expansions, contracts, partnerships, and actions carried out by the key players to grow the market.

## Reasons to Buy This Report

The report will help the market leaders/new entrants in the market with information on the closest approximations of the revenue for the overall wearable sensors market and the subsegments. The report will help stakeholders understand the competitive landscape and gain more insight to position their business better and plan suitable go-to-market strategies. The report also helps stakeholders understand the market's pulse and provides information on key drivers, restraints, opportunities, and challenges.

The report will provide insights into the following pointers:

Analysis of key drivers (Increasing trend towards smaller, smarter, and cheaper sensors), restraints (High cost of wearable sensors), opportunities (Increasing number of connected devices), and challenges (Technical difficulties related to hardware and software) of the wearable sensors market.

Product development /Innovation: Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the wearable sensors market.

Market Development: With comprehensive information about lucrative markets, the report analyses the wearable sensors market across various regions.

Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the wearable sensors market.

Competitive Assessment: In-depth assessment of market share, growth strategies, and services, offering of leading players like STMicroelectronics (Switzerland); Infineon Technologies (Germany); Knowles Electronics (US); NXP Semiconductors (Netherlands); Texas Instruments (US) among others in wearable sensors market.

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\*Business Overview, Products/Services/Solutions Offered, MnM View, Key Strengths and Right to Win, Strategic Choices Made, Weaknesses and Competitive Threats,

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## About

The term 'Wearable Electronics' refers to any electronic device or product which can be worn by a person, to integrate computing in his daily activity or work and use technology to avail advanced features and characteristics. In other words, wearable electronics helps to make routine things easier to perform, and also make life easy and comfortable by offering several computing features in various day-to-day applications, mainly due to integration of computing and communication devices. Today, several types of sensors in wearable electronics exist, with development of various types of wearable technologies and advancements in wearable computing.

Wearable computing/computers are small electronic devices worn by the user which enable mobile computing and wireless networking. Apart from these, the concept of electronic textiles (e-textiles)/smart textiles has recently emerged from the concept of integration of wearable computers in clothing and apparel. 'Smart textiles' are amalgamation with conventional textiles and computing as well as electronic components imparting additional functionalities such as sensing, monitoring, influencing and recording changes in the surroundings, and respond to them appropriately. This report mainly focuses on the complete global market for all types of sensors in wearable electronics which are available commercially and are yet to commercialize in the near future.

Apart from the novel concept of smart textiles, the field of wearable electronics also includes several other products such as smart glasses/goggles, ring/finger worn scanners, footwear such as athletic, fitness & sports shoes, wrist wear such as advanced electronic watches and wrist-bands and others (such as head-bands and neck-wear). Generally, any wearable electronic device may include few or all of the following – sensors & actuators, image and speech recognition technologies, positioning and networking chips, displays and optoelectronics and specialty monitoring devices. They emphasize on using the wearable devices for fitness, health monitoring, entertainment; enterprise and industrial applications has been increasing with advancements such as stretchable electronics, flexible circuits, conducting fabrics, long lasting batteries and smaller specialty wearable sensors.

The report deals with all the driving factors, restraints, and opportunities with respect to the global sensors in wearable electronics market, which are helpful in identifying trends and key success factors for the industry. The report also includes qualitative analysis of the market, by incorporating complete pricing and cost analysis of components and



products, and Porter's analysis. The report also profiles all the major companies active in this field. This report provides the competitive landscape of the key players, which covers all key growth strategies.

The report also formulates the entire value chain of the market, along with industry trends of sensors in wearable electronic devices with emphasis on market timelines and technology roadmaps, market and product life cycle analysis.

This report covers a sub-market in this field – the sensors in wearable electronic components market in detail, segmenting the market by power supply components, networking chipsets, sensors, actuators, controls and displays and optoelectronics. This report's market scope covers the market for sensors in wearable electronic products which includes, market for all wristbands for example: Nike+ fuel band, all smart goggles (with all display technologies along with HUD & HMD), and all wearable footwear (including special ones with activity tracking sensors), clothing & apparel (including smart textiles) and others (ring scanners & neck-wear) for different applications across all industry verticals.

The report also gives an overview of technologies in this field of computing, positioning (GPS, digital compass), networking (Bluetooth, NFC, ANT+), sensors (accelerometers, MEMS), displays (HUDs and HMDs) and image and speech recognition technologies. The report also gives detail on smart textile materials – Auxetic materials, electrically conductive fabrics and yarns, photovoltaic, piezoelectric and thermo-electric devices.

New and upcoming developments in this field such as sensors in wearable electronic devices with Multifunction capabilities, mobile and wireless health wearable applications are also considered along with fitness and sports, entertainment and multimedia, and enterprise and industrial applications. Lastly, the sensors in wearable electronics market is segmented by geography across the Americas, Europe, Asia-Pacific (APAC), and RoW (Rest of the World) and further sub-segmented by countries.

Major players in this field includes: Denso Corporation (Japan), Freescale Semiconductor Ltd. (U.S.), Infineon Technologies AG (Germany.), Microchip Technology (U.S.), NXP Semiconductors (The Netherlands), Robert Bosch (Germany), InvenSense (U.S.), Innovega Inc. (U.S.), Texas Instruments, Inc. (U.S.), and STMicroelectronics (Switzerland).

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