

Powertrain Sensor Market Size is Expected to have the Highest 2.8% CAGR from 2023 to 2032

The global powertrain sensor market size was USD 21.20 Billion in 2022 and is expected to register a rapid revenue CAGR of 2.8% during the forecast period.

NEW YORK, NY, UNITED STATES, July 18, 2023 /EINPresswire.com/ -- The [global powertrain sensor market](#) was USD 21.20 billion in 2022 and is projected to experience a rapid compound annual

growth rate (CAGR) of 2.8% during the forecast period. The primary driver for the growth in market revenue is the increasing awareness, both among the public and governmental bodies, regarding fuel efficiency and carbon emissions. To reduce automobile emissions, the most popular approach is to develop more efficient powertrain systems. This has led to a significant transformation in powertrain technology, including the rise of electric vehicles (EVs) and hybrid electric vehicles (HEVs), as well as improvements in the efficiency of combustion engines. Precise electrical sensors play a crucial role in monitoring engine conditions and enhancing efficiency. A powertrain system consists of multiple modules, each functioning independently with its own set of sensors and feedback control mechanisms. The demand for sensors that contribute to accuracy, precision, and response time in powertrain systems is increasing, which is driving market revenue growth.

Moreover, powertrain sensors are cost-effective and environmentally friendly, which further contributes to the market's revenue growth. These sensors facilitate the communication of sensing data for engine management and transmission control during closed-loop operations. By precisely tracking stimuli within engine and transmission systems, sensors and their feedback control mechanisms enhance efficiency and reduce emissions by optimizing the combustion process. The overall efficiency of engine and transmission systems is improved through the careful monitoring of stimuli by sensors and their feedback control mechanisms, leading to market revenue growth.

The rising popularity of electric mobility and the growing need for sensors in electric powertrains are also driving the market's revenue growth. The development of new automotive technologies



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and the ongoing electrification of vehicles have influenced powertrain sensors and their accompanying electronics. The design requirements for current and position sensors have significantly increased in the case of HEVs and EVs. Current sensors are essential for motor control, 12 and 48-volt batteries, and DC/DC converters in HEVs. For 48-volt batteries, current-shunt sensors capable of withstanding higher common-mode voltage are required, and accurate current sensing in the milliamperere to kiloampere range is crucial for State of Charge (SoC) and State of Health (SoH) computations. DC-DC converter current sensing requires higher bandwidth to respond promptly to errors. Motor control current sensing necessitates higher slew rates and faster reaction times, all of which contribute to market revenue growth.

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Segments Covered in the Report

The revenue outlook for various sensor types, propulsion types, and powertrain subsystems from 2019 to 2032 provides valuable insights into the market dynamics of the automotive industry.

Sensor Types Revenue Outlook: From 2019 to 2032, the market revenue for sensor types is expected to showcase significant growth. This includes position sensors, speed sensors, pressure sensors, temperature sensors, and other sensors, with each playing a crucial role in monitoring and enhancing vehicle performance.

Sensor Type Outlook for Electric Vehicles (EV): The revenue outlook for sensor types specifically designed for electric vehicles (EVs) is promising. Position sensors, temperature sensors, current sensors, voltage sensors, and other sensors are projected to drive the growth of the EV market by enabling accurate monitoring and control of various vehicle functions.

Propulsion Outlook: Over the forecast period, the revenue outlook for different propulsion types reveals interesting trends. While internal combustion engines (ICE) continue to contribute significantly to the market, the rise of electric vehicles (EVs) indicates a shift towards cleaner and more sustainable transportation options, reflecting the increasing focus on environmental concerns.

Powertrain Subsystem Outlook: The powertrain subsystems are crucial components of a vehicle's drivetrain and performance. The revenue outlook for powertrain subsystems from 2019 to 2032 showcases the significance of the engine, drivetrain, and exhaust systems in driving market growth and technological advancements in the automotive sector.

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Strategic development:

The strategic development of the powertrain sensor market involves various key factors and initiatives aimed at driving growth and staying competitive in the evolving automotive industry.

Technological Advancements: Powertrain sensor manufacturers are continuously investing in research and development to introduce advanced sensor technologies. This includes the development of high-precision sensors with improved accuracy, faster response times, and enhanced durability. Embracing cutting-edge technologies such as MEMS (Micro-Electro-Mechanical Systems) and IoT (Internet of Things) enables the integration of smart sensors that provide real-time data and enable predictive maintenance.

Product Portfolio Expansion: To cater to the evolving needs of vehicle manufacturers, powertrain sensor companies are expanding their product portfolios. This involves developing sensors for a wide range of powertrain applications, including position sensors, speed sensors, pressure sensors, temperature sensors, and other specialized sensors. Offering a comprehensive range of sensors helps meet the diverse requirements of different vehicle models and powertrain systems.

Focus on Electrification: With the growing popularity of electric vehicles (EVs) and hybrid electric vehicles (HEVs), powertrain sensor manufacturers are placing a significant emphasis on developing sensors specifically designed for electric powertrains. This includes sensors for battery management, motor control, and charging systems. By addressing the unique sensor requirements of electric powertrains, companies can capitalize on the increasing demand for electrified vehicles.

Collaborations and Partnerships: Powertrain sensor manufacturers are forging strategic collaborations and partnerships with other industry players to leverage synergies and enhance their market presence. Collaborating with vehicle manufacturers, sensor suppliers, and technology companies allows for the exchange of expertise, joint research and development efforts, and accelerated innovation. Additionally, partnerships with sensor integrators and system integrators help in offering integrated solutions that enhance the overall performance and efficiency of powertrain systems.

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Competitive Landscape:

Allegro MicroSystems, Inc., Amphenol-Sensors.Com, Aptiv, Continental AG, CTS Corporation, DENSO CORPORATION, HELLA GmbH & Co. KGaA, HYUNDAI KEFICO Corporation, Littelfuse, Inc., and Melexis.

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