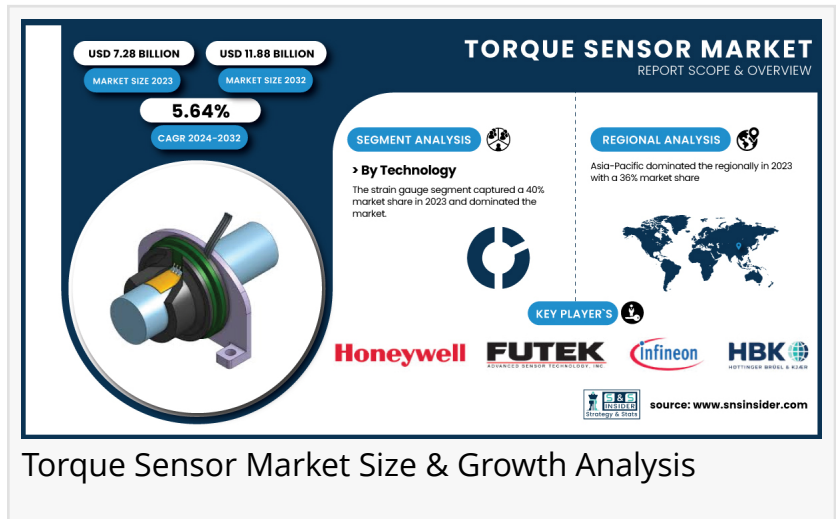


Torque Sensor Market to Grow USD 11.88 Billion by 2032, at 5.64% CAGR | SNS Insider

The Torque Sensor Market is growing with demand for precision measurement in automotive, industrial, and aerospace applications.

AUSTIN, TX, UNITED STATES, February 13, 2025 /EINPresswire.com/ -- Market Size & Industry Insights

As Per the SNS Insider, "The [Torque Sensor Market](#) size is expected to be valued at USD 7.28 Billion in 2023 and expected to reach USD 11.88 Billion by 2032, growing at a CAGR of 5.64% during 2024-2032."



The Torque Sensor Market is projected to grow from USD 7.28 billion in 2023 to USD 11.88 billion by 2032, registering a CAGR of 5.64% from 2024 to 2032. These sensors offer significant advantages over traditional strain gauge technology, making them ideal for various niche applications. The report aims to define, describe, and forecast the industry based on type, technology, application, and regional demand. Key insights include an analysis of leading vendors and their competitive features in 2023, performance benchmarks highlighting efficiency and accuracy, and integration capabilities categorized by software compatibility. Additionally, comprehensive usage statistics for 2023 provide a detailed understanding of market adoption trends. This data-driven approach helps stakeholders evaluate industry dynamics and make informed investment decisions. The market's steady growth is driven by advancements in sensor technology, increasing automation in industrial applications, and the rising demand for precision measurement solutions across automotive, aerospace, and manufacturing sectors.

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SWOT Analysis of Key Players as follows:

- Hottinger Baldwin
- Messtechnik

- Infineon Technologies
- FUTEK Advanced Sensor Technology
- Honeywell International
- Applied Measurements
- Sensor Technology
- Crane Electronics
- Norbar Torque Tools
- Kistler Holding
- ABB

Key Market Segmentation

By Type, rotary torque Dominating and Reaction Torque Sensor Fastest Growing

In 2023, rotary torque sensors held over 54% of the market share, due to their extensive use in automotive, aerospace, and industrial machinery industries. The aforementioned sensors allow for accurate measurement of torque in rotational systems, like motors, gear reducers, and crankshafts, and even provide real-time monitoring - the latter being particularly useful for active applications, like electric vehicles and powertrain testing. Their ability to provide uninterrupted data makes them indispensable for performance optimization and safety assurance, with companies like Honeywell and HBM integrating them into automotive and aerospace testing solutions.

The Reaction Torque Sensor Segment is projected to grow at a faster rate during the forecast period, due to their usage in static and semi-static systems which include engine mounts, pumps, and conveyor systems. Widely utilized in industrial automation, robotics, and medical devices, reaction sensors are known for their durability, simplicity, and cost-effectiveness. Companies like TE Connectivity and Kistler Group incorporate these sensors to enhance operational efficiency and safety.

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By Technology, strain gauge segment dominating and optical torque sensor Fastest Growing

In 2023, the strain gauge segment led the torque sensor market with a 40% share, Measuring torque in rotating components such as engines and driveshafts is most commonly done using strain gauge technology because of its lower cost, high precision and reliability. Companies such as HBM and Kistler integrate strain gauge-based sensors into automotive testing, powertrain development, and precision engineering applications, reinforcing its market leadership.

The optical torque sensor segment is poised for rapid growth between 2024 and 2032 due to their non-contact measurement method, electromagnetic interference immunity, and unrivaled measurements. These sensors are being adopted rapidly across high-tech industries such as

robotics, medical devices and aerospace, where precision is critical. Utilizing light waves for torque measurement, optical sensors overcome the limitations of traditional technologies.

By Application, automotive Dominating and Aerospace Defence Fastest Growing

In 2023, the automotive segment led the torque sensor market with over 35% share, owing to surge in production of electric and hybrid vehicles that require effective measurement of their engine torque to control their powertrain efficiently. Torque sensors are vital in engine and transmission testing, vehicle dynamics simulation, and steering control. The demand for accurate torque measurement is continually growing due to increasing requirements for fuel efficiency and reduced emissions by automotive manufacturers. Companies like Honeywell and TE Connectivity provide advanced torque sensors for engine dynamometers, chassis dynamometers, and electric power steering systems.

The aerospace and defense sectors are expected to witness the highest growth rate during the forecast period, fueled by the need for accurate torque measurement in aircraft control systems, missile guidance, and space exploration. The aerospace industry increasingly demands lightweight, high-performance torque sensors to enhance safety and efficiency.

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Asia-Pacific Leads, While North America Emerges as a High-Growth Market

In 2023, Asia-Pacific dominated the torque sensor market with a 36% share, owing to rapid industrial expansion, the large manufacturing sectors in China and India, and high investments in infrastructure. Torque sensors find applications in machinery, automotive, and consumer electronics, and prominent players such as Panasonic Corporation and Vishay Precision Group provide a wide range of torque sensor solutions. The region's thriving automotive industry further strengthens its leadership.

North America is expected to witness the fastest CAGR from 2024 to 2032, owing to advancements in technology, industrial automation and rising demand for precision measurement. Countries including the United States are developing torque sensor solution, while the rise of electric vehicles and smart manufacturing propels market growth in the region.

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