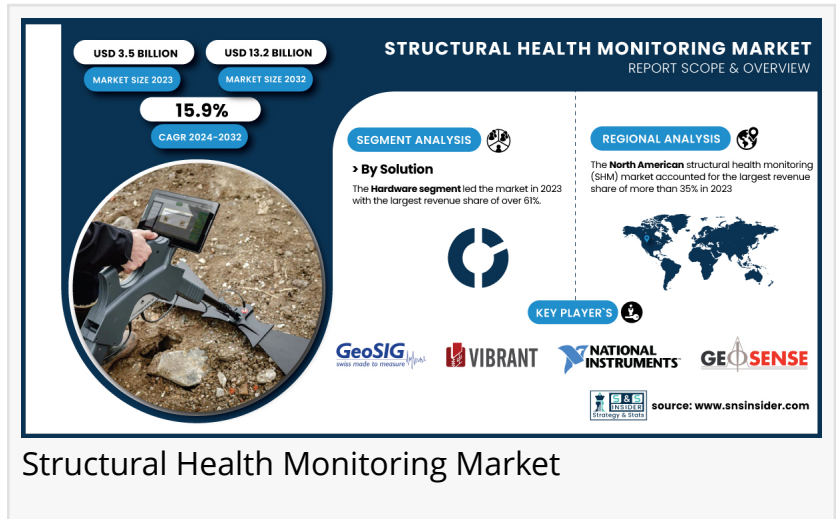


# Structural Health Monitoring Market Poised for Growth, Projected to Hit USD 13.2 Billion by 2032 | SNS Insider

*Structural Health Monitoring Market Grows as Governments Prioritize Infrastructure Safety and Smart Urbanization.*

AUSTIN, TX, UNITED STATES, February 4, 2025 /EINPresswire.com/ -- The [Structural Health Monitoring Market](#) Size was valued at USD 3.5 billion in 2023 and is expected to reach USD 13.2 billion by 2032 and grow at a CAGR of 15.9% over the forecast period 2024-2032.



Structural Health Monitoring Market

Structural Health Monitoring Market Expands with Advancements in Sensor Technology and Increased Adoption Across Key Sectors.

Advancements in sensor technology and increased adoption across construction, transportation, and aerospace sectors are driving growth in the market for structural health monitoring. Structural Health Monitoring systems can monitor structures such as bridges, dams, buildings, and pipelines in real-time to detect early signs of damage before costly failures. Drivers in the market are growing demand for smart cities, critical infrastructure requiring predictive maintenance, and government investment in infrastructure modernization U.S. Structural Health Monitoring in highway systems is integrated by the Department of Transportation and Structural Health Monitoring funding in railroads by the European Union. Furthermore, with the development of wireless Structural Health Monitoring systems and the integration of AI for further data analysis, the prospects for the market are also expected to improve. According to the International Society for Structural Health Monitoring of Intelligent Infrastructure, the global Structural Health Monitoring market will grow at a faster pace across Europe and North America.

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## Key Players:

- Geosense (GeoTDR, GeoRadar)
- National Instruments (NI CompactRIO, NI LabVIEW)
- Vibrant Technology, Inc. (VibraMAT, VibraMEASURE)
- GeoSIG (GeoLite, GeoDAS)
- Kinemetrics, Inc. (Strong Motion Seismic Sensors, K2 Seismic Accelerometer)
- HBK (Hottinger Brüel & Kjær) (VibroFlex, HBM QuantumX)
- RST Instruments Ltd. (Vibrating Wire Strain Gauges, Multi-Channel Data Logger)
- Sisgeo Srl (Vibrating Wire Piezometer, Data Acquisition System)
- MSI-GeoSolutions (GeoSENSE, GeoLOG)
- FOSSA Systems (Smart Sensors, SHM System)

In 2023, the hardware segment dominated the structural health monitoring market with a 61% revenue share

This is driven by the demand for sensors, data acquisition systems, and advanced monitoring components. Increased government investments and the need for timely infrastructure assessments, particularly for bridges and highways, have significantly contributed to this growth.

The wired structural health monitoring segment gained 58% of the market in 2023

This is primarily due to reliability along with cost-effectiveness for long-term monitoring. With government funding being provided for bridge safety initiatives in the U.S. and Europe coupled with the accuracy of wire systems, especially in largescale infrastructure, this technology is gaining momentum.

Bridges and Dams Lead Structural Health Monitoring Applications with Over 33% Market Share

In 2023, bridges and dams contributed to over 33% of the structural health monitoring market as they play such significant roles in transportation and water management. Multibillion-dollar investments by governments, such as the U.S. Federal Highway Administration in bridge monitoring amounting to \$2 billion, signify the need for Structural Health Monitoring to improve infrastructural safety and resilience.

Market Segmentation and Sub-Segmentation Included are:

### By Solution

- Hardware
- Software & Services

## By Technology

- Wired SHM
- Wireless SHM

## By Application

- Bridges & Dams
- Buildings & Stadiums
- Vessels & Platforms
- Airframes & Wind Turbines
- Large Machines & Equipment

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## Government Spending on Infrastructure in the Structural Health Monitoring Market

- S. Infrastructure Investment and Jobs Act (IIJA) -Allocated \$550 billion to improve infrastructure with an emphasis on integrating Structural Health Monitoring into highways and bridges.
- Horizon 2020 Program, European Union - Spent about €80 billion on research that focuses on Structural Health Monitoring systems for railways and bridges to make them more resilient.
- Earthquake Resilience Initiatives, Japan - Spent over \$300 million to integrate Structural Health Monitoring technologies in critical infrastructure for better seismic monitoring.
- China's Belt and Road Initiative – More than \$1 trillion invested in infrastructural development, which includes Structural Health Monitoring solutions in roads and railways for safety.
- India's Smart Cities Mission - \$1.5 billion is allocated to develop smart cities incorporating Structural Health Monitoring technologies to monitor urban infrastructure's safety.

## North America's Structural Health Monitoring Market Leadership in 2023

North America held over 35% of the structural health monitoring market in 2023. It was fueled by substantial infrastructure spending in the region, and especially in the U.S. These investments included a \$2 billion bridge repair program from the Department of Transportation. Advanced sensor technologies in the region also saw developments, for example, fiber optics and wireless networks. North America is going through the same process now. The government does not stop to invest in first-hand infrastructures. SHM has been adopted for bridge and pipeline monitoring projects across Canada. Acellent Technologies, Geocomp, and top innovators in the United States.

## Recent Developments

- May 2024: AZoSensors reported new developments in Structural Health Monitoring sensor systems for safety in infrastructure through early detection of failures and lessened maintenance.

- February 2024: At Intertraffic 2024, Kistler launched its solutions in Structural Health Monitoring and Weigh-in-Motion that allow real-time structural monitoring for determination of stress and performance and efficiently increase safety.

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