

Structural Health Monitoring Market Report by Component (Hardware, Software, Services), Technology (Wired, Wireless), Implementation Method (New Construction, Retrofitting), Vertical (Civil Infrastructure, Aerospace and Defense, Energy, Mining, and Others), and Region 2023-2028

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Abstracts

The global structural health monitoring market size reached US\$ 1.9 Billion in 2022. Looking forward, IMARC Group expects the market to reach US\$ 4.0 Billion by 2028, exhibiting a growth rate (CAGR) of 13.21% during 2022-2028.

Structural health monitoring (SHM) refers to the process of observing and scanning 3D, aerospace, civil, mechanical and infrastructural structures to detect faults and abnormalities. The information is collected through multiple sensors that transmit continuous data throughout the service life of the structure. It involves the use of non-destructive acoustic emission, ultrasonic and thermal imaging technologies to prevent any anomalies caused by deterioration, incorrect construction, lack of quality control or excessive accidental or environmental load. SHM is widely used for bridges, power and wind energy plants, water, gas and oil pipelines, tunnels, rigs and pavements. It is also utilized for detecting internal or external wear and malfunction in marine vessels, aircraft and heavy commercial automobiles.

Structural Health Monitoring Market Trends:

The increasing requirement for standardization and automation for the repair and maintenance of civil and infrastructural constructions is one of the key factors driving the market growth. Due to rapid digitization and the advent of smart sensors, SHM is widely used for the design, analysis, and maintenance of modern civil engineering structures

and systems. Contractors are also able to utilize SHM solutions for remote monitoring of construction processes to exercise control over quality. Additionally, various technological advancements, such as the integration of innovative communication modules and data acquisition systems for the processing and analysis of information, are acting as other growth-inducing factors. These solutions enable the consumers to include electrical, magnetic, thermal, physical and chemical variables for improved analysis of the structural health. Other factors, including the implementation of favorable government policies to promote public safety, along with extensive infrastructural development, especially in the emerging economies, are anticipated to drive the market toward growth.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global structural health monitoring market report, along with forecasts at the global, regional and country level from 2023-2028. Our report has categorized the market based on component, technology, implementation method and vertical.

Breakup by Component:

- Hardware
- Software
- Services

Breakup by Technology:

- Wired
- Wireless

Breakup by Implementation Method:

- New Construction
- Retrofitting

Breakup by Vertical:

- Civil Infrastructure
- Aerospace and Defense
- Energy
- Mining

Others

Breakup by Region:

North America

United States

Canada

Asia-Pacific

China

Japan

India

South Korea

Australia

Indonesia

Others

Europe

Germany

France

United Kingdom

Italy

Spain

Russia

Others

Latin America

Brazil

Mexico

Others

Middle East and Africa

Competitive Landscape:

The competitive landscape of the industry has also been examined along with the profiles of the key players being Acellent Technologies Inc., Bridge Diagnostics Inc., Campbell Scientific Inc., COWI A/S, Digitexx Data Systems Inc., FEAC Engineering, HBK – Hottinger Br?el & Kj?r (Spectris plc), James Fisher and Sons plc, National Instruments Corporation, RST Instruments Ltd., Sisgeo S.r.l. and Sixense Enterprises Inc.

Key Questions Answered in This Report

1. What was the size of the global structural health monitoring market in 2022?

2. What is the expected growth rate of the global structural health monitoring market during 2023-2028?
3. What are the key factors driving the global structural health monitoring market?
4. What has been the impact of COVID-19 on the global structural health monitoring market?
5. What is the breakup of the global structural health monitoring market based on the component?
6. What is the breakup of the global structural health monitoring market based on the technology?
7. What is the breakup of the global structural health monitoring market based on the vertical?
8. What are the key regions in the global structural health monitoring market?
9. Who are the key players/companies in the global structural health monitoring market?

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