



GLOBAL STRUCTURAL HEALTH MONITORING MARKET RESEARCH REPORT

Forecast Till 2032

GLOBAL STRUCTURAL HEALTH MONITORING MARKET RESEARCH REPORT



MARKET SEGMENTS

Offering

- Hardware
- Software
- Services

Technology

- Wired SHM
- Wireless SHM

Application

- Buildings
- Dams
- Bridges
- Tunnels
- Stadiums

REGIONS

- North America
- Europe
- Asia Pacific
- Middle East & Africa



COMPANY PROFILES & MRFR BENCHMARKING

- Acellent Technologies, Inc.
- Campbell Scientific, Inc.
- COWI A/S
- DIGI-TEXX



- Geocomp, Inc.
- GEOKON
- GeoSIG Ltd
- HBK
- James Fisher and Sons plc.
- Kinemetrics
- NATIONAL INSTRUMENTS CORP.
- Nova Ventures Group

OVERALL RESEARCH DESIGN

Primary Research

DEMAND-SIDE INFORMATION

Customer Interviews



PRIMARY RESEARCH

Performance

- Segmentation
- Market Shares
- Technology Trends
- Market Trends
- Customer Trends

Performance Diagnosis

- Competitive Structure
- Competitive Trends
- Market Threats
- Market Opportunities

Scenario Analysis

- Current Giants
- Restructuring
- Market Testing



Existing Market Information



Competitor & Channel Interviews

SUPPLY-SIDE INFORMATION

RESEARCH METHODOLOGY

RESEARCH PROCESS



FILTER PARAMETERS

To understand the various factors that can influence the market outlook in terms of preference via:

- Global Production
- Market Drivers
- Price Trends
- Realizations

- Web Search: Information has been collected from secondary domains, journals, news articles, and published white papers.
- Experts and Consultants: Industry experts and relevant consultants have been contacted to provide market intelligence information and to validate the findings.

Report Execution

The final report has been prepared based on the analysis of the data collected and interaction with primary experts.

TABLE OF CONTENTS



1. EXECUTIVE SUMMARY

- 1.1 Market Attractiveness Analysis
 - 1.1.1 Global Structural Health Monitoring Market, by Offering
 - 1.1.2 Global Structural Health Monitoring Market, by Technology
 - 1.1.3 Global Structural Health Monitoring Market, by Application
 - 1.1.4 Global Structural Health Monitoring Market, by Region

2 MARKET INTRODUCTION

- 2.1 Definition
- 2.2 Scope of the study
- 2.3 Research objective
- 2.4 Market structure
- 2.5 Assumptions & limitations

3 RESEARCH METHODOLOGY

4 MARKET DYNAMICS

- 4.1 Overview
- 4.2 DRIVERS
 - 4.2.1 Increased importance of automated maintenance and repair of critical infrastructures
 - 4.2.2 Cascading effects of structural failures such as loss of lives and capital
 - 4.2.3 Significant investments in infrastructure sector
 - 4.2.4 Stringent government regulations to build sustainable structures
- 4.3 RESTRAINTS
 - 4.3.1 High installation and monitoring costs
 - 4.3.2 Inaccurate results owing to errors in readings
 - 4.3.3 Slow adoption of structural health monitoring systems in developing countries
- 4.4 OPPORTUNITY
 - 4.4.1 Growing focus on integrating advanced solutions in structural health monitoring
 - 4.4.2 Increasing market growth opportunities in Asia Pacific and GCC countries
 - 4.4.3 Ongoing advancements in sensor technologies
 - 4.4.4 Rising investments in oil & gas and energy projects
- 4.5 Challenges
 - 4.5.1 Dearth of skilled operators to install and calibrate instruments
 - 4.5.2 Poor site conditions
 - 4.5.3 Technical challenges and operational factors
- 4.6 COVID-19 IMPACT ANALYSIS
 - 4.6.1 Market Impact Analysis
 - 4.6.2 Impact On Supply Chain
- 4.7 Trends
 - 4.5.5 Health Monitoring Of Bridges With Autonomous Unmanned Aerial Vehicle (Uav) Sensing Systems
 - 4.5.6 With 3D-Digital Image Correlation (Dic)
 - 4.5.7 Use Of Wireless Smart Sensor Networks To Capture Cost Benefits And Reduce Monitoring Time
 - 4.5.8 Distribution Of Processed Data Over Internet Using Remote Access Software

5 MARKET FACTOR ANALYSIS

- 5.1 Value Chain Analysis/Supply Chain Analysis
- 5.2 Porters Five Forces Model
 - 5.2.1 Bargaining Power Of Suppliers
 - 5.2.2 Bargaining Power Of Buyers
 - 5.2.3 Threat Of New Entrants
 - 5.2.4 Threat Of Substitutes
 - 5.2.5 Intensity Of Rivalry
- 5.3 Market SWOT Analysis



6. GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY OFFERING

6.1 INTRODUCTION

6.2 Hardware

6.2.1 Data Acquisition Systems

6.2.2 Sensors

- Inclinator
- Strain Gauges
- Load Cells
- Linear Variable Differential Transformer (LVDT)
- Vibrating Wire Transducers
- Accelerometers
- Fiber Optic Sensors
- Acoustic Emission Sensor
- Temperature Sensors
- Tiltmeter

6.2.3 Others

6.3 Software

6.4 Services

7. GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY TECHNOLOGY

7.1 INTRODUCTION

7.2 Wired SHM

7.3 Wireless SHM

8. GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY APPLICATION

8.1 INTRODUCTION

8.2 Buildings

8.3 Dams

8.4 Bridges

8.5 Tunnels

8.6 Stadiums

8.7 Others

9 GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY REGION

9.1 INTRODUCTION

9.2 NORTH AMERICA

- Market Estimates & Forecast, by Country, 2019-2032
- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.2.1 US

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.2.2 Canada

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.2.3 Mexico



- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.3 Europe

- Market Estimates & Forecast, by Country, 2019-2032
- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.3.1 Germany

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.3.2 UK

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.3.3 France

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.3.4 Italy

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.3.5 Spain

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.3.6 Sweden

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.3.7 Netherland

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.3.8 Norway

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.3.9 Rest of Europe



- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.4 Asia Pacific

- Market Estimates & Forecast, by Country, 2019-2032
- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.4.1 China

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.4.2 India

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.4.3 Japan

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.4.4 Australia

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.4.5 South Korea

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.4.6 Malaysia

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.4.7 Singapore

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.4.8 Rest of Asia Pacific

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.5 Middle East & Africa

- Market Estimates & Forecast, by Country, 2019-2032



- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.5.1 Saudia Arabia

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.5.2 Qatar

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.5.3 South Africa

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.5.4 Rest of Middle East & Africa

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.6 South America

- Market Estimates & Forecast, by Country, 2019-2032
- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.6.1 Colombia

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.6.2 Brazil

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.6.3 Argentina

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

9.6.4 Rest of South America

- Market Estimates & Forecast, by Offering, 2019-2032
- Market Estimates & Forecast, by Technology, 2019-2032
- Market Estimates & Forecast, by Application, 2019-2032

10 COMPETITIVE LANDSCAPE

10.1 Introduction



- 10.2 Vendor share analysis
- 10.3 Competitive benchmarking
- 10.4 Competitor dashboard
- 10.5 Key developments & growth strategies
 - 10.5.1 Product launches/service
 - 10.5.2 Mergers & acquisitions
 - 10.5.3 Contracts & agreements
 - 10.5.4 Expansions & investments

11 COMPANY PROFILES

11.1 Xylem

- 11.1.1 Company Overview
- 11.1.2 Financial Overview
- 11.1.3 Products/Solutions/Services Offered
- 11.1.4 Key Developments
- 11.1.5 Swot Analysis
- 11.1.6 Key Strategies

11.2 Acellent Technologies, Inc.

- 11.2.1 Company Overview
- 11.2.2 Financial Overview
- 11.2.3 Products Offered
- 11.2.4 Key Developments
- 11.2.5 SWOT Analysis
- 11.2.6 Key Strategies

11.3 Campbell Scientific, Inc.

- 11.3.1 Company Overview
- 11.3.2 Financial Overview
- 11.3.3 Products Offered
- 11.3.4 Key Developments
- 11.3.5 SWOT Analysis
- 11.3.6 Key Strategies

11.4 COWI A/S

- 11.4.1 Company Overview
- 11.4.2 Financial Overview
- 11.4.3 Products Offered
- 11.4.4 Key Developments
- 11.4.5 SWOT Analysis
- 11.4.6 Key Strategies

11.5 DIGI-TEXX

- 11.5.1 Company Overview
- 11.5.2 Financial Overview
- 11.5.3 Products Offered
- 11.5.4 Key Developments
- 11.5.5 SWOT Analysis
- 11.5.6 Key Strategies

11.6 Geocomp, Inc.

- 11.6.1 Company Overview
- 11.6.2 Financial Overview
- 11.6.3 Products Offered
- 11.6.4 Key Developments
- 11.6.5 SWOT Analysis
- 11.6.6 Key Strategies

11.7 GEOKON

- 11.7.1 Company Overview
- 11.7.2 Financial Overview



- 11.7.3 Products Offered
- 11.7.4 Key Developments
- 11.7.5 SWOT Analysis
- 11.7.6 Key Strategies
- 11.8 GeoSIG Ltd
 - 11.8.1 Company Overview
 - 11.8.2 Financial Overview
 - 11.8.3 Products Offered
 - 11.8.4 Key Developments
 - 11.8.5 SWOT Analysis
 - 11.8.6 Key Strategies
- 11.9 HBK
 - 11.9.1 Company Overview
 - 11.9.2 Financial Overview
 - 11.9.3 Products Offered
 - 11.9.4 Key Developments
 - 11.9.5 SWOT Analysis
 - 11.9.6 Key Strategies
- 11.10 James Fisher and Sons plc.
 - 11.10.1 Company Overview
 - 11.10.2 Financial Overview
 - 11.10.3 Products Offered
 - 11.10.4 Key Developments
 - 11.10.5 SWOT Analysis
 - 11.10.6 Key Strategies
- 11.11 Kinometrics
 - 11.11.1 Company Overview
 - 11.11.2 Financial Overview
 - 11.11.3 Products Offered
 - 11.11.4 Key Developments
 - 11.11.5 SWOT Analysis
 - 11.11.6 Key Strategies
- 11.12 NATIONAL INSTRUMENTS CORP.
 - 11.12.1 Company Overview
 - 11.12.2 Financial Overview
 - 11.12.3 Products Offered
 - 11.12.4 Key Developments
 - 11.12.5 SWOT Analysis
 - 11.12.6 Key Strategies

NOTE:

- a. This table of content is tentative and subject to change as the research progresses.
- b. In section Company Profiles, only the top 15 companies will be profiled. Each company will be profiled based on the Market Overview, Financials, Product Portfolio, Business Strategies, and Recent Developments parameters.
- c. Please note: The financial details of the company cannot be provided if the information is not available in the public domain and or from reliable sources.

1. EXECUTIVE SUMMARY



Global Structural Health Monitoring market is expected to grow at ~ XX% CAGR during the forecast period, 2023-2032.

TABLE: 1 MARKET SYNOPSIS

Market Size	<ul style="list-style-type: none"> • 2022: USD Million • 2032: USD Million
CAGR (2023-2032)	XX%
Key Market Driver	<ul style="list-style-type: none"> • Increased importance of automated maintenance and repair of critical infrastructures • Cascading effects of structural failures such as loss of lives and capital • Significant investments in infrastructure sector • Stringent government regulations to build sustainable structures
Key Market Opportunities	<ul style="list-style-type: none"> • Growing focus on integrating advanced solutions in structural health monitoring • Increasing market growth opportunities in Asia Pacific and GCC countries • Ongoing advancements in sensor technologies • Rising investments in oil & gas and energy projects
Key Vendor	<ul style="list-style-type: none"> • Acellent Technologies, Inc. • Campbell Scientific, Inc. • COWI A/S • DIGI-TEXX • Geocomp, Inc. • GEOKON • GeoSIG Ltd • HBK • James Fisher and Sons plc. • Kinometrics • NATIONAL INSTRUMENTS CORP. • Nova Ventures Group • Sixense



2 MARKET INTRODUCTION



2.1 DEFINITION

Structural health monitoring is a technology used by civil engineers to reduce maintenance costs and improve the safety of critical architectural structures. SHM systems serve fundamental services such as testing and monitoring the operation and health of huge equipment, airframes, turbines, and structures such as buildings, bridges, dams, and stadiums.

2.2 SCOPE OF THE STUDY

The scope of the Global Structural Health Monitoring market study includes the market size analysis and a detailed analysis of the manufacturers products and strategies. The market has been segmented based on Offering, Technology, Application, and region.

2.3 RESEARCH OBJECTIVE

- To provide a comprehensive analysis of the Structural Health Monitoring and its sub-segments in the Global market, thereby providing a detailed structure of the industry
- To provide detailed insights into factors driving and restraining the growth of the Global Structural Health Monitoring market
- To estimate the market size of the Global Structural Health Monitoring Market where 2019-2021 would be the historical period, 2022 shall be the base year, and 2023 to 2032 will be forecast period for the study.
- To analyze the Global Structural Health Monitoring market in main geographies, namely, the North America, Europe, Asia Pacific, Middle East & Africa, South America,
- To provide country level analysis of the market for segments by Offering, Technology, Application, and region
- To provide strategic profiling of key companies (manufacturers and distributors) present across the globe, and comprehensively analyze their competitiveness/competitive landscape in this market
- To provide a distribution chain analysis/value chain for the Structural Health Monitoring market



2.4 MARKET STRUCTURE

Offering

- Hardware
- Software
- Services

Technology

- Wired SHM
- Wireless SHM

Application

- Buildings
- Dams
- Bridges
- Tunnels
- Stadiums
- Others

REGIONS

- North America
- Europe
- Asia Pacific
- Middle East & Africa
- South America



2.5 ASSUMPTIONS & LIMITATIONS

TABLE: LIST OF ASSUMPTIONS

Parameter	Assumption & Limitations
Currency value	All the forecasts are done with the revenue and volume calculated under the standard assumption that the globally accepted currency - the U.S. Dollar's value remains constant over the next five years.
Exchange rates and currency conversion	For conversion of various currencies to USD, average historical exchange rates were used according to the year specified. For all historical and current exchange rates required for calculations & currency conversions - OANDA - was used in this research study
Niche market segments	For niche market segments where accurate data of the respective timeline was not available, the data was calculated using trend line analysis. In some instances, where mathematical and statistical models could not be applied to arrive at the number, generalization of specific related trends to that market was done
Qualitative analysis	The qualitative analysis done from the quantitative data arrived at is solely based on the understanding of the market and its trends by the team of experts involved in making this report.
Average Selling Prices (ASP)	The ASPs, wherever applied, are calculated using all kinds of suitable statistical and mathematical methods and considering external qualitative factors affecting the prices. All the calculations interconnected between the tables are done considering the finalized ASPs.



3 RESEARCH METHODOLOGY

The research starts with the extensive procurement process of data/information and statistics from company annual reports, government websites, statistics agencies, and paid databases. This information creates a base for the study. The information also helps to define the scope and to narrow down the area for study for the market. This raw information is processed and analyzed to extract crisp data points which currently affect or are likely to affect the industry during the forecast period. After analyzing the information, a proprietary statistical tool is used for market estimation and forecast, which generates the quantitative figures/sizes of the market/sub-segments in the current scenario as well as for the forecast period.

After estimating the market sizes and estimates, the numbers are verified with industry participants and key opinion leaders. The wide network of industry participants add value to the research and verify the numbers and estimates provided in the study. At the last stage of the research process, a final report is prepared, which is then published on different websites as well as distributed through various channels. The below figures contains the different stages of the research process to produce the report.



DATA MINING

Data mining is an extensive part of our research process. It involves the procurement of market data and related information from different verified and credible sources. This step helps to obtain raw information about the components of the industry and their deployment, the monetary process for different end uses, the pool of market participants, and the nature of the industry and scope of the study. The data mining stage comprises both primary and secondary sources of information.



SECONDARY RESEARCH

In the secondary research process, various sources are used to identify and gather industry trends and information for the research process. We at MRFR have access to some of the most diversified and extensive paid databases, which give us the most accurate data/information on markets sizes, components, and pricing. Mentioned below is a detailed list of sources that have been used for this study. Please note that this list is not limited to the names as mentioned; we also access other data sources depending on the need.

Market Sizing & Revenue	Qualitative Information & Trends
Company Websites	<ul style="list-style-type: none"> • Magazines • Company Websites • Annual Reports • Press Releases • Investor Presentations • Paid Databases • Authenticated Directories • Independent Studies • Internal Audit Reports & Archives • Government and Regulatory Published Material
Annual Reports	
Investor Presentations	
Authenticated Directories	
Hoover's, Factiva, Bloomberg	

PRIMARY RESEARCH

In the primary research process, in-depth primary interviews are conducted with the CXOs to understand the market share, customer base, pricing strategies, channel partners, and other necessary information. Besides, in-depth primary interviews are conducted with the CXOs of vendors, channel partners, and others to validate the supply-side information. In addition, various key industry participants from both the supply and demand side are interviewed to obtain qualitative and quantitative information on the market. In-depth interviews with key primary respondents, including industry professionals, subject matter experts (SMEs), industry consultants, and C-level executives of major companies, are conducted to obtain critical qualitative and quantitative information pertaining to the market, as well as to assess the prospects for market growth during the forecast period. Detailed information on these primary respondents is mentioned below.

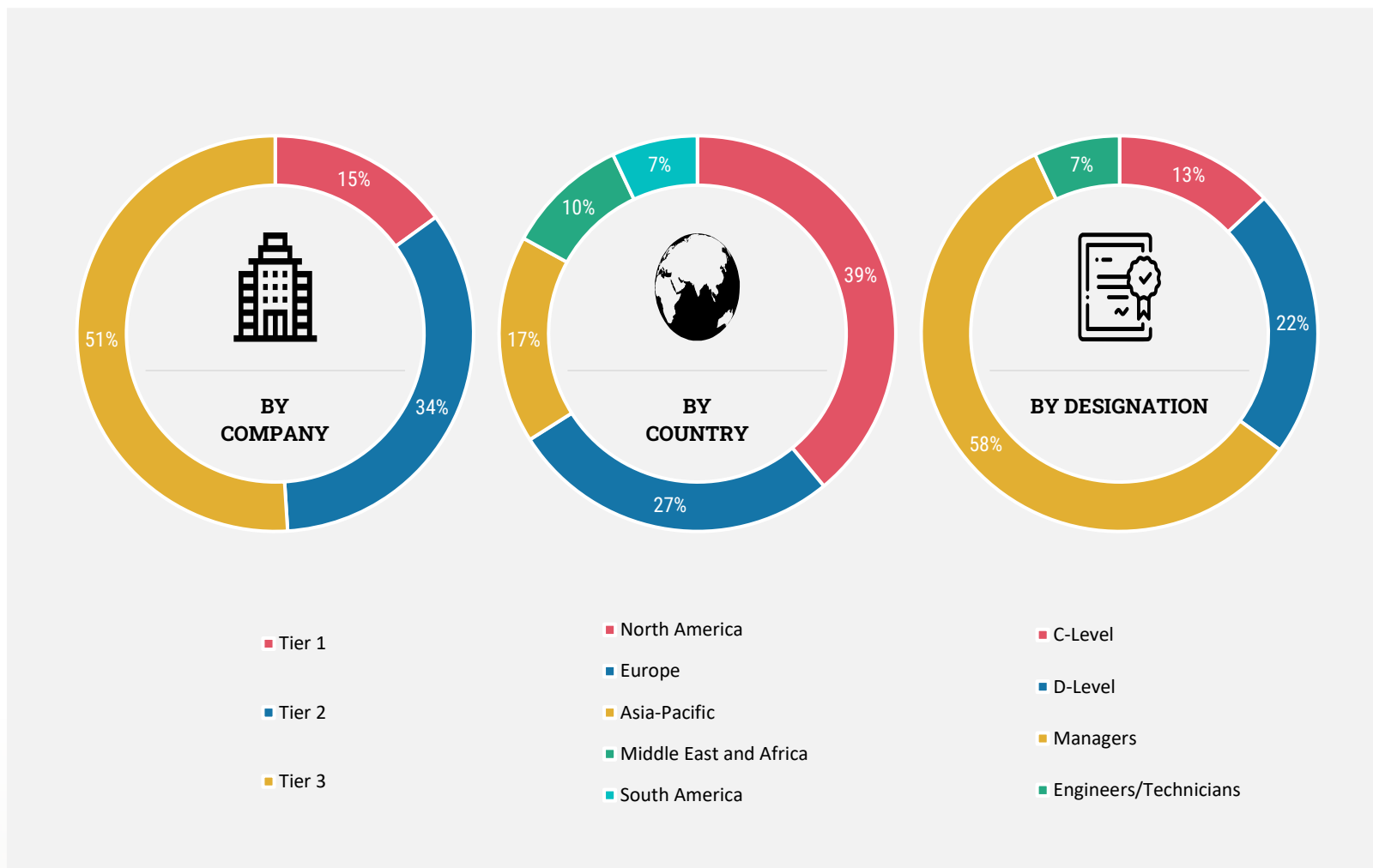
Primary Source	Product Development Side Subject Matter Experts, Top Management, and CXOs
	Technical Persons of Organizations Operating in the Market
	Marketing and Business Development Managers, VPs, and Marketing Directors
	Various Partner Consultants from the Demand and Supply Sides



PRIMARY INTERVIEWS AND INFORMATION GATHERING PROCESS

Respondents	Data Points Received
Software Solutions Developers and Distributors	<ul style="list-style-type: none"> • Market Size • Top of the Mind Key Market Players • Direct Competitors • Company Market Shares • Growth Rate (%) • Market Trends and Prominent Market Drivers • Major Products/Software/Systems • Product/Solution Cost • Commercial Availability • Regional Scenario (North America, Europe, Asia-Pacific, and Middle East & Africa) • Data Protection Policies and Other Regulatory Norms • Upcoming Technologies
End Users	<ul style="list-style-type: none"> • Adoption of New End-User • Acceptance Ratio • Product Costs • Commonly Used Products/Platforms/Software • Preferred Service Methods

BREAKDOWN OF PRIMARY RESPONDENTS



FORECASTING TECHNIQUES

We at MRFMR follow an extensive process for arriving at market estimations, which involves the use of multiple forecasting techniques as mentioned below.

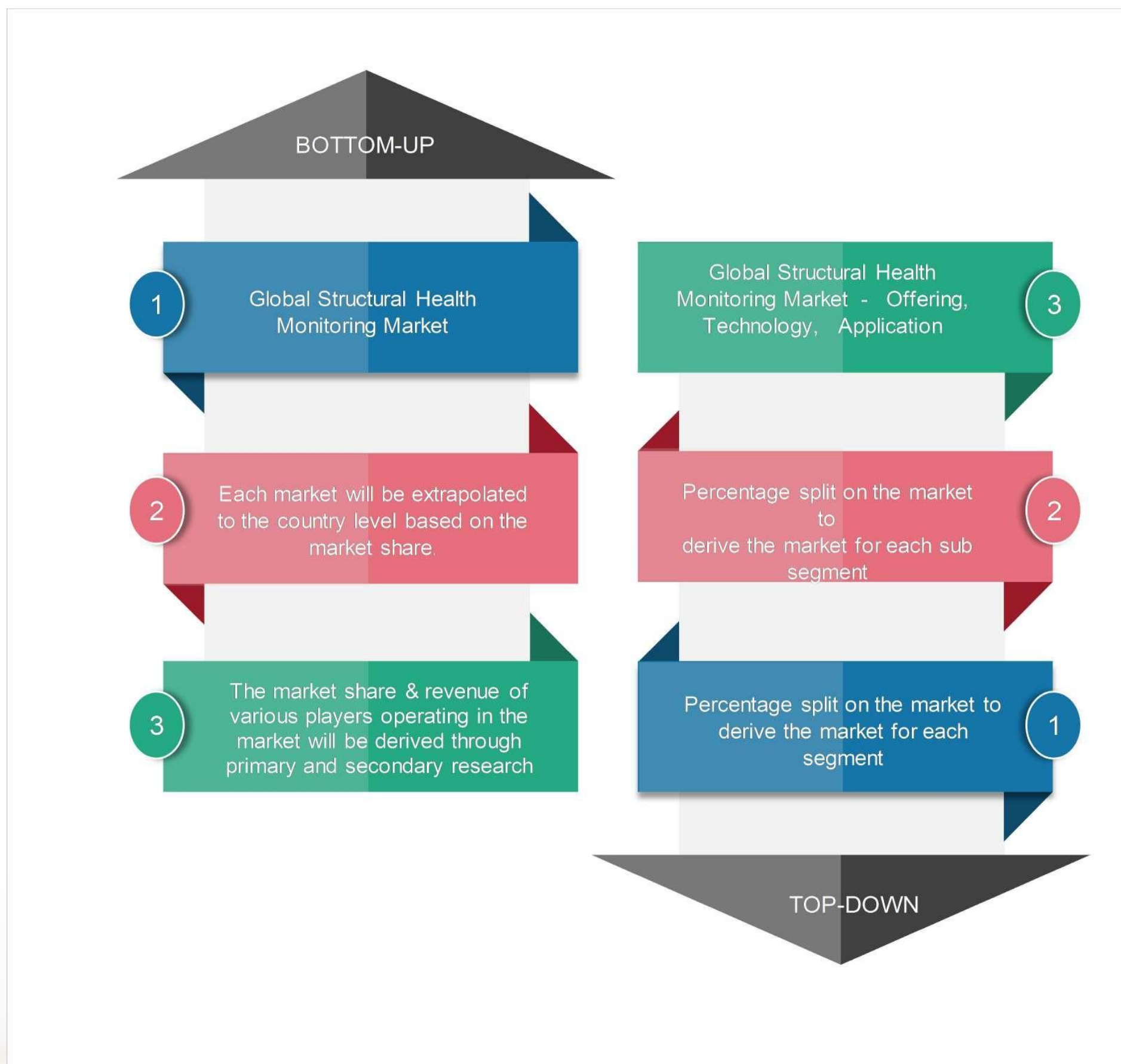
Forecasting Techniques	Description
Qualitative and Quantitative Analysis	A combination of qualitative approach, i.e., primary interviews with industry experts to understand the interviewees' opinions and judgments, more commonly known as the Delphi method, and quantitative analysis to forecast future data based on historical and current data.
Weighted Average Approach	Via this approach, future data is calculated based on the mean of the past data under the assumption that some factors affecting the market in the past will continue to have a similar impact in the future.
Drift Method	This approach is used to vary the forecast, that is increase or decrease market factor over time depending on various parameters affecting the change in the trends of the market.
Time Series Methods	Integration of several time series methods such as moving average, moving weighted average, linear prediction, and trend estimation are applied while determining the year-on-year growth rate and the compound annual growth rate of the market being studied.
Causal/Econometric Forecasting Methods	Various economic factors such as inflation rate, fiscal policies, changes in government regulations, taxes, labor costs, and interest rates are taken into consideration while determining the current market size and predicting the future market growth rate.
Judgmental Methods	This involves collection of intuitive judgment, opinions, and probability estimates from industry experts in the case of new or upcoming markets/technologies for which no prior data is available.
Regression Analysis	This type of statistical modelling is carried out for predicting and forecasting dependent and independent variables that will directly or indirectly impact the market.
Probabilistic Forecasting	This forecasting method is carried out to assign a probability to every possible outcome ranging from the least optimistic to highly optimistic, which helps in gauging the market under stable conditions.
PESTLE Analysis	Political, economic, social, technological, legal, and environmental factors are taken into consideration while deriving the fluctuations in the growth rate of the market.
Porter's Five Forces Analysis	By understanding the supplier-side and demand-side factors, the current market scenario can be estimated, and future market scenario predicted, which aid in deriving the growth rate of the market



RESEARCH METHODOLOGY FOR MARKET SIZE ESTIMATION

Understanding the market in terms of valuation is a crucial task. This becomes significantly important while investing in and choosing the correct business opportunities. In this regard, we at MRFR undertake two market sizing approaches simultaneously, namely, the top-down and bottom-up approaches. In this step, we assess different data points, numeric attributes, information, and industry trends to arrive at the estimates and forecast values for the coming years. We use different mathematical models to estimate the market sizes of different economies and segments, each of which is further summed up to define the total market. We at MRFR employ a proprietary statistical tool for market estimations, which helps us to arrive at market size estimates and forecasts for different markets and industries.

FIGURE: BOTTOM-UP AND TOP-DOWN APPROACHES



MRFR Analysis Overview

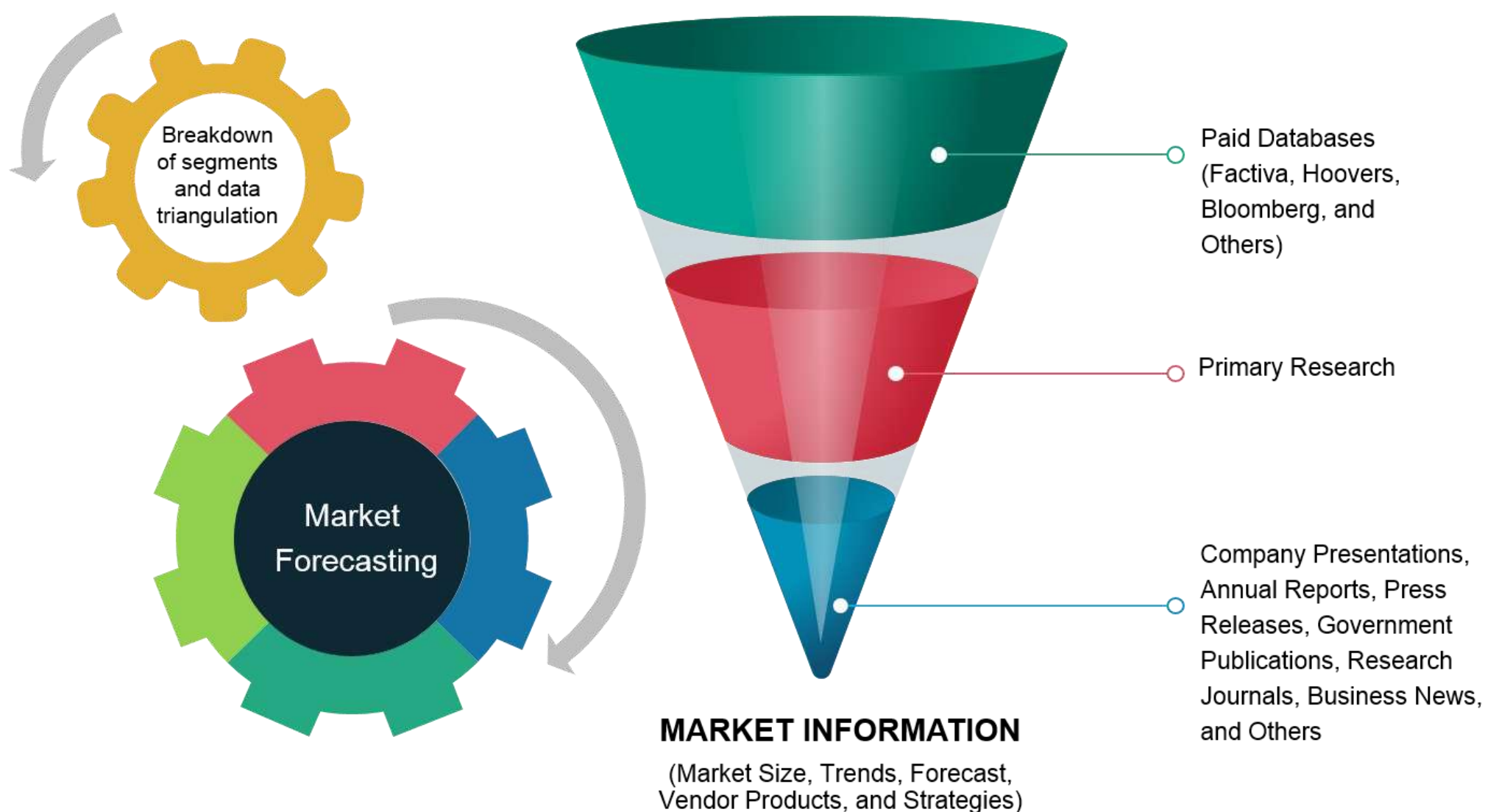
BOTTOM-UP APPROACH

In the bottom-up approach, the revenue of key companies and their shares in the market are assessed to deduce the market size. Major key players operating in the Structural Health Monitoring market are studied. The segmental revenue of each player is analyzed and the size for the Structural Health Monitoring market is extracted from the segmental/product revenue with the help of secondary and primary research. The extracted size for the market is then validated with industry experts and partner consultants. This derived market size contributes to around 65%-70% of the total Global market share in terms of revenue for the Structural Health Monitoring market. Using the data triangulation method, the overall Global market size is estimated.

TOP-DOWN APPROACH

The overall market size is then used in the top-down procedure to estimate the size of the other sub-markets with the help of percentage splits of the market segments from secondary and primary research. The demand-side analysis is conducted, in which the expenditure of major industry players in each region is studied.

The Figure: below depicts the process of market estimation using independent tools employed by our analysts to arrive at the sizing of the market.



MRFR Analysis Overview

As a part of the market engineering, the both top-down and bottom-up approaches are utilized along with data triangulation models to derive and verify the market sizes and forecast over the coming years.

DATA TRIANGULATION

After arriving at the overall market sizes, the total market is divided into several segments and sub-segments. Again, the market breakdown and data triangulation procedures are implemented, wherever applicable, to complete the overall market engineering process and gather the exact statistics for all segments and sub-segments. The data is triangulated by studying various factors and trends from the demand and supply sides. Along with this, the market size is validated using the top-down and bottom-up approaches.

VALIDATION

Validation is the most important stage of the report making process. Validation via an intricately designed feedback process helps us finalize the sizing estimates and forecast for the final collation. Extensive primary research is done to verify the information. This includes telephonic and personal interviews, e-mails, feedback forms, questionnaires, and polling options/answers with a group of relevant industry participants. Validation helps to duly check the authenticity of the key industry trends, market dynamics, company market share, different business models, and conclusions.

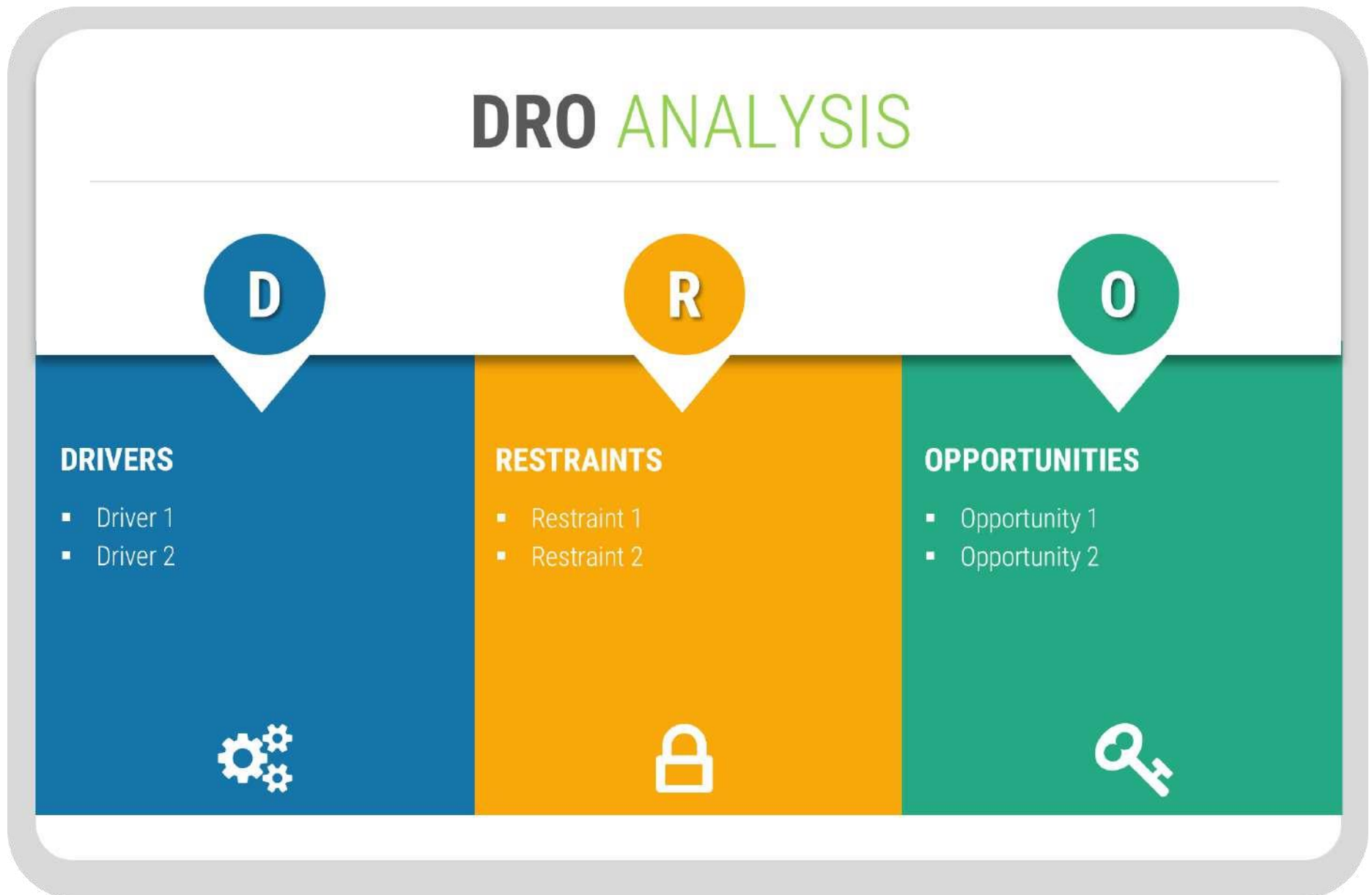
4 MARKET DYNAMICS



4.1 Overview

XXXXXX

FIGURE: MARKET DYNAMIC ANALYSIS OF THE GLOBAL STRUCTURAL HEALTH MONITORING MARKET



MRFR Analysis



4.2 DRIVERS

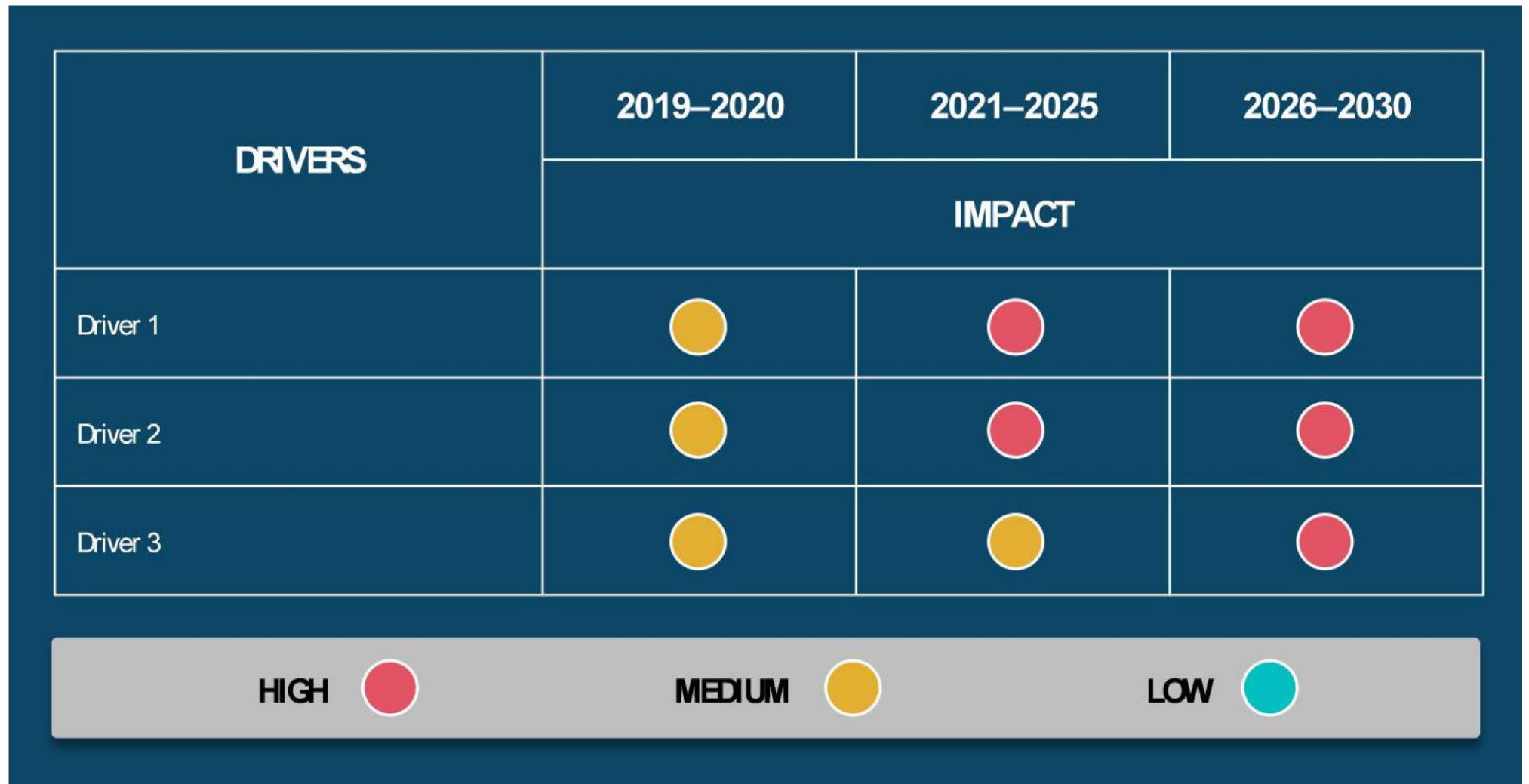
4.2.1 Increased importance of automated maintenance and repair of critical infrastructures

4.2.2 Cascading effects of structural failures such as loss of lives and capital

4.2.3 Significant investments in infrastructure sector

4.2.4 Stringent government regulations to build sustainable structures

FIGURE: DRIVER IMPACT ANALYSIS



4.3 RESTRAINTS

4.3.1 High installation and monitoring costs

4.3.2 Inaccurate results owing to errors in readings

4.3.3 Slow adoption of structural health monitoring systems in developing countries

FIGURE: RESTRAINT IMPACT ANALYSIS

RESTRAINTS	2019–2020	2021–2025	2026–2030
	IMPACT		
Restraint 1	●	●	●
Restraint 2	●	●	●

Legend: HIGH ● MEDIUM ● LOW ●



4.4 OPPORTUNITY

4.4.1 Growing focus on integrating advanced solutions in structural health monitoring

4.4.2 Increasing market growth opportunities in Asia Pacific and GCC countries

4.4.3 Ongoing advancements in sensor technologies

4.4.4 Rising investments in oil & gas and energy projects

4.4.5 Challenges

4.4.6 Dearth of skilled operators to install and calibrate instruments

4.4.7 Poor site conditions

4.4.8 Technical challenges and operational factors

4.5 COVID-19 IMPACT ANALYSIS

4.5.1 Market Impact Analysis

4.5.2 Impact On Supply Chain

4.6 Trends

4.5.5 Health Monitoring Of Bridges With Autonomous Unmanned Aerial Vehicle (Uav) Sensing Systems

4.5.6 With 3D-Digital Image Correlation (Dic)

4.5.7 Use Of Wireless Smart Sensor Networks To Capture Cost Benefits And Reduce Monitoring Time

4.5.8 Distribution Of Processed Data Over Internet Using Remote Access Software



5 MARKET FACTOR ANALYSIS



5.1 VALUE CHAIN ANALYSIS/SUPPLY CHAIN ANALYSIS

XXXX

FIGURE: VALUE CHAIN ANALYSIS/SUPPLY CHAIN ANALYSIS: GLOBAL STRUCTURAL HEALTH MONITORING MARKET



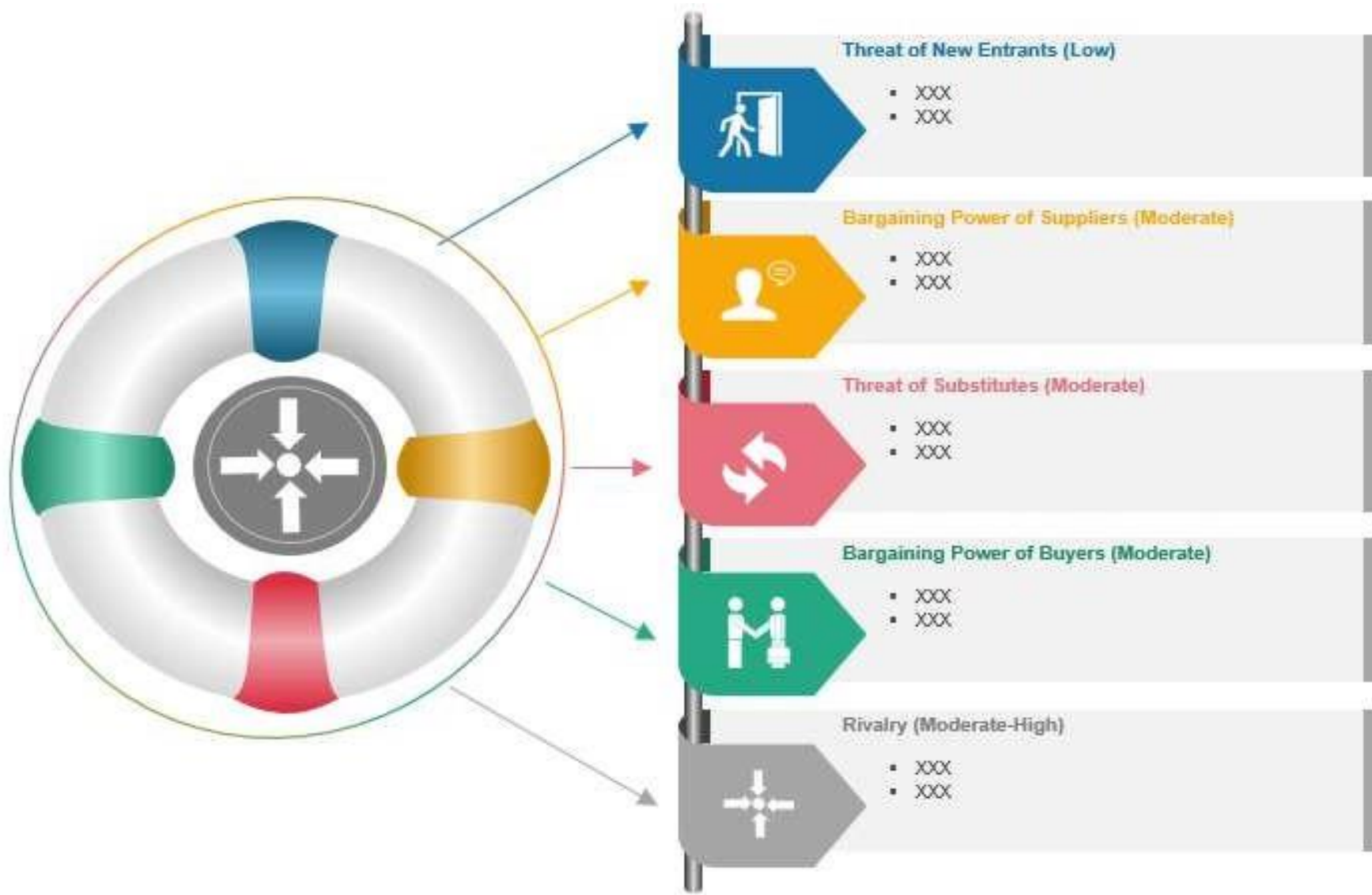
MRFR Analysis



5.2 PORTERS FIVE FORCES MODEL

XXXX

FIGURE: PORTERS FIVE FORCES MODEL: GLOBAL STRUCTURAL HEALTH MONITORING MARKET



MRFR Analysis

5.2.1 BARGAINING POWER OF SUPPLIERS

XXXX

5.2.2 BARGAINING POWER OF BUYERS

XXXX

5.2.3 THREAT OF NEW ENTRANTS

XXXX

5.2.4 THREAT OF SUBSTITUTES

XXXX

5.2.5 INTENSITY OF RIVALRY

XXXX

5.3 MARKET SWOT ANALYSIS

XXXX

5.4 MARKET PESTEL ANALYSIS

XXXX

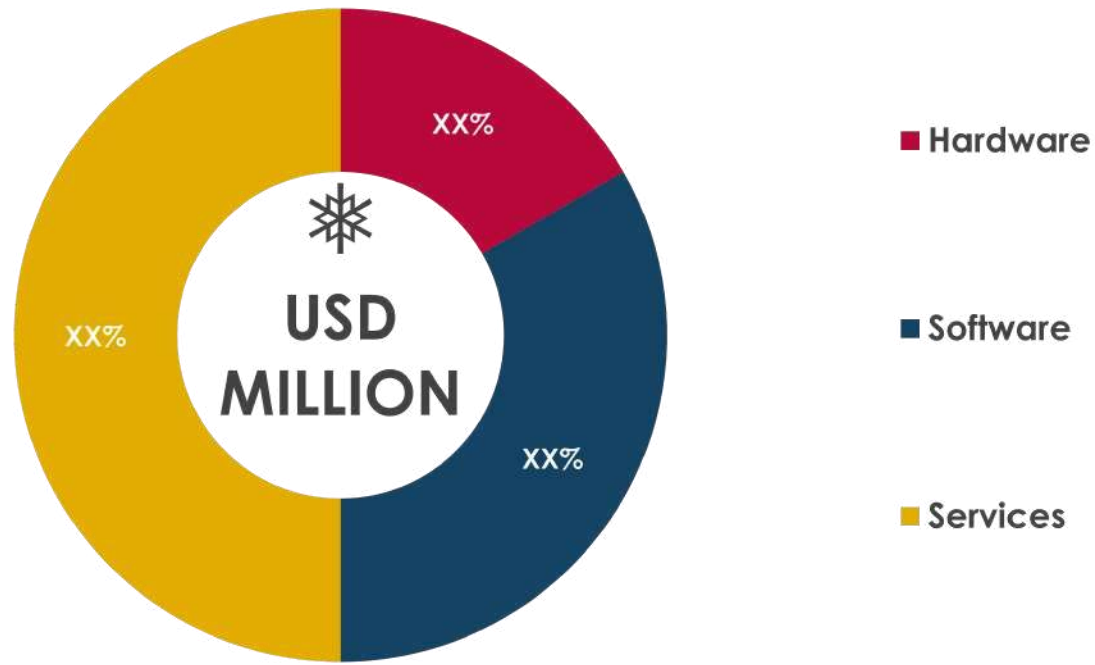
6. GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY OFFERING



6.1 INTRODUCTION

XXXX

FIGURE: GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY OFFERING, 2022 (% SHARE)



Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis

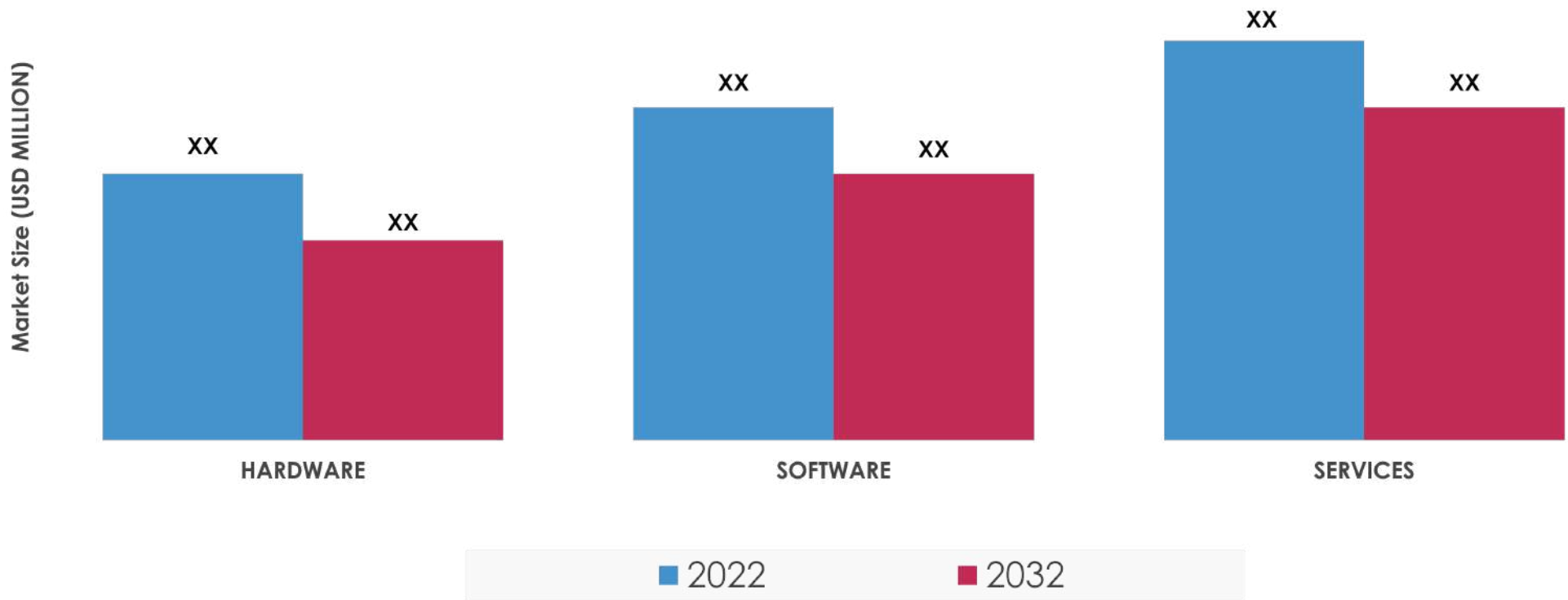
TABLE: GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY OFFERING, 2019-2032 (USD MILLION)

Offering	2019	2021	2022	2023	2032	CAGR% (2023-2032)
Hardware	XX	XX	XX	XX	XX	XX%
Software	XX	XX	XX	XX	XX	XX%
Services	XX	XX	XX	XX	XX	XX%
Total	XX	XX	XX	XX	XX	XX%

Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis



FIGURE: GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY OFFERING, 2022 vs 2032 (USD MILLION)



Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis

6.2 Hardware

XXXX

6.2.1 Data Acquisition Systems

XXXXXX

6.2.2 Sensors

XXXXXX

- Inclinometer

XXXXXX

- Strain Gauges

XXXXXX

- Load Cells
- Linear Variable Differential Transformer (LVDT)

XXXX

- Vibrating Wire Transducers

XXXXXX

- Accelerometers

XXXXXX

- Fiber Optic Sensors

XXXXXX

- Acoustic Emission Sensor

XXXXX

- Temperature Sensors

XXXXX

- Tiltmeter

XXXXX

6.2.3 Others

XXXX

6.3 Software

XXX

6.4 Services

XXXX

TABLE: GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY HARDWARE, 2019-2032 (USD MILLION)

Hardware	2019	2021	2022	2023	2032	CAGR% (2023-2032)
Data Acquisition Systems	XX	XX	XX	XX	XX	XX%
Sensors	XX	XX	XX	XX	XX	XX%
Others	XX	XX	XX	XX	XX	XX%
Total	XX	XX	XX	XX	XX	XX%

Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis

TABLE: GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY SENSOR, 2019-2032 (USD MILLION)

Sensor	2019	2021	2022	2023	2032	CAGR% (2023-2032)
Inclinometer	XX	XX	XX	XX	XX	XX%
Strain Gauges	XX	XX	XX	XX	XX	XX%
Load Cells	XX	XX	XX	XX	XX	XX%
Linear Variable Differential Transformer (LVDT)	XX	XX	XX	XX	XX	XX%
Vibrating Wire Traducers	XX	XX	XX	XX	XX	XX%
Accelerometers	XX	XX	XX	XX	XX	XX%
Fiber Optic Sensors	XX	XX	XX	XX	XX	XX%
Acoustic Emission Sensor	XX	XX	XX	XX	XX	XX%
Temperature Sensors	XX	XX	XX	XX	XX	XX%
Tiltmeter	XX	XX	XX	XX	XX	XX%
Total	XX	XX	XX	XX	XX	XX%

Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis

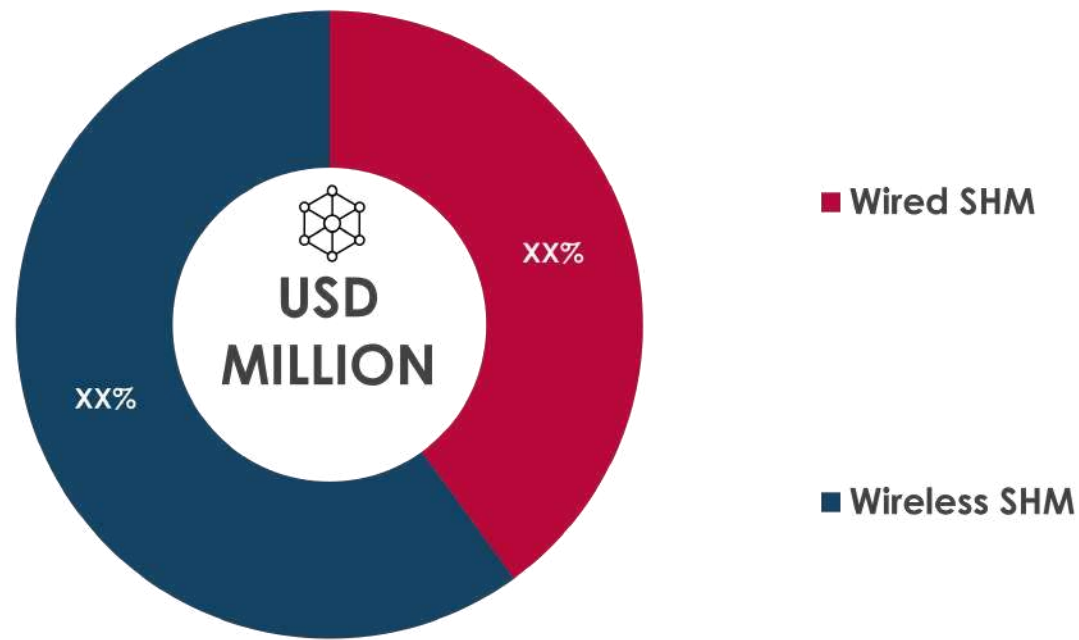
7. GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY TECHNOLOGY



7.1 INTRODUCTION

XXXX

FIGURE: GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY TECHNOLOGY, 2022 (% SHARE)



Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis

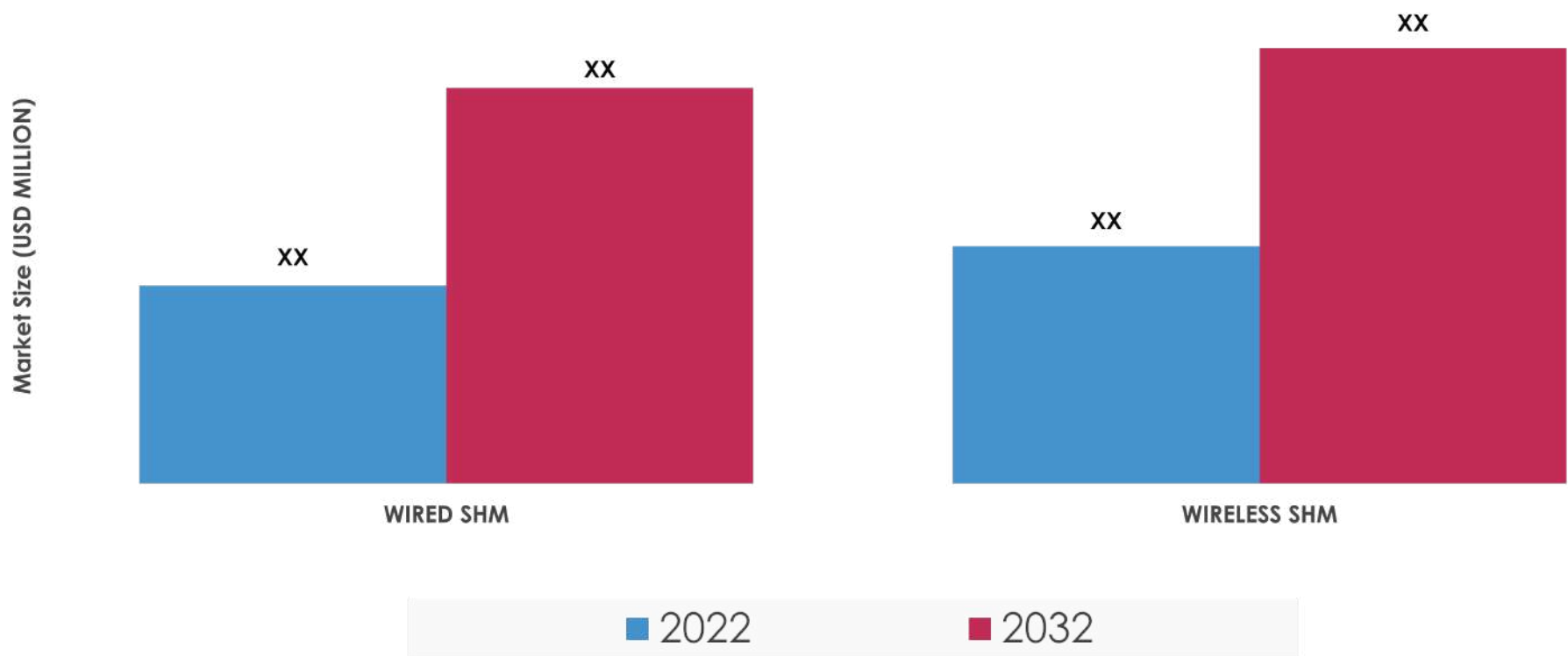
TABLE: GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY TECHNOLOGY, 2019-2032 (USD MILLION)

Technology	2019	2021	2022	2023	2032	CAGR% (2023-2032)
Wired SHM	XX	XX	XX	XX	XX	XX%
Wireless SHM	XX	XX	XX	XX	XX	XX%
Total	XX	XX	XX	XX	XX	XX%

Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis



FIGURE: GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY TECHNOLOGY, 2022 vs 2032 (USD MILLION)



Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis

7.2 Wired SHM

XXXX

7.3 Wireless SHM

XXXX



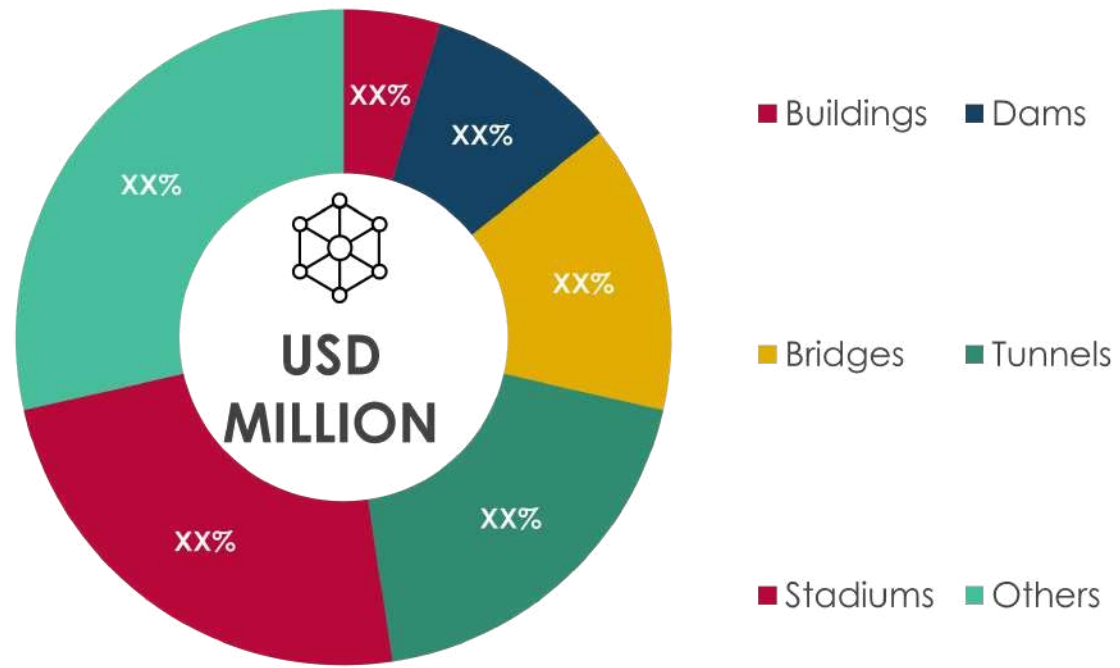
8. GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY APPLICATION



8.1 INTRODUCTION

XXXX

FIGURE: GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY APPLICATION, 2022 (% SHARE)



Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis

TABLE: GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY APPLICATION, 2019-2032 (USD MILLION)

Application	2019	2021	2022	2023	2032	CAGR% (2023-2032)
Buildings	XX	XX	XX	XX	XX	XX%
Dams	XX	XX	XX	XX	XX	XX%
Bridges	XX	XX	XX	XX	XX	XX%
Tunnels	XX	XX	XX	XX	XX	XX%
Stadiums	XX	XX	XX	XX	XX	XX%
Others	XX	XX	XX	XX	XX	XX%
Total	XX	XX	XX	XX	XX	XX%

Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis

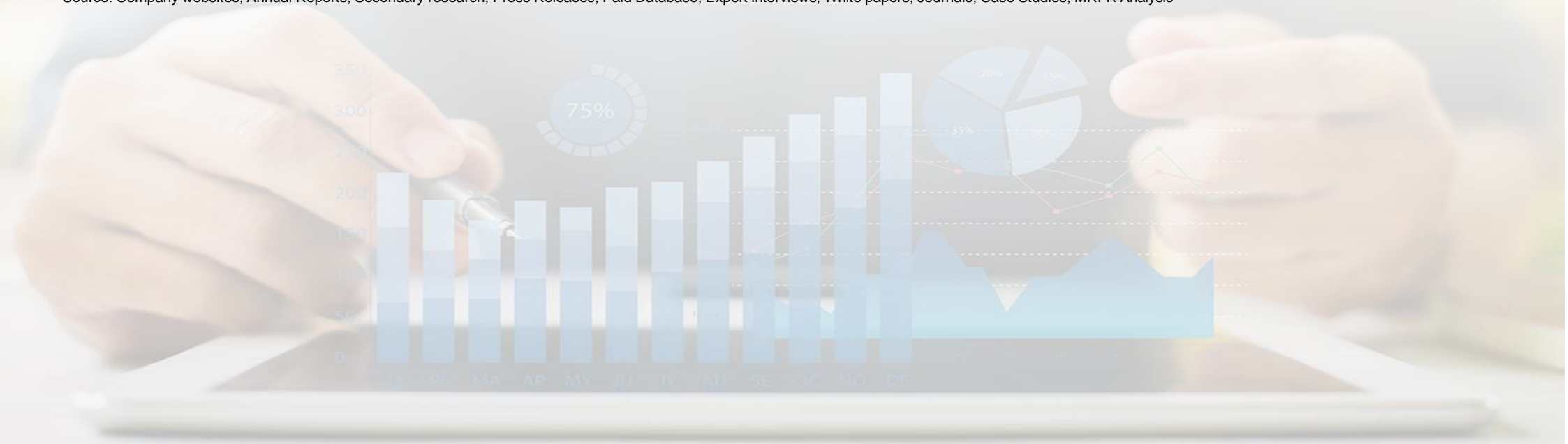
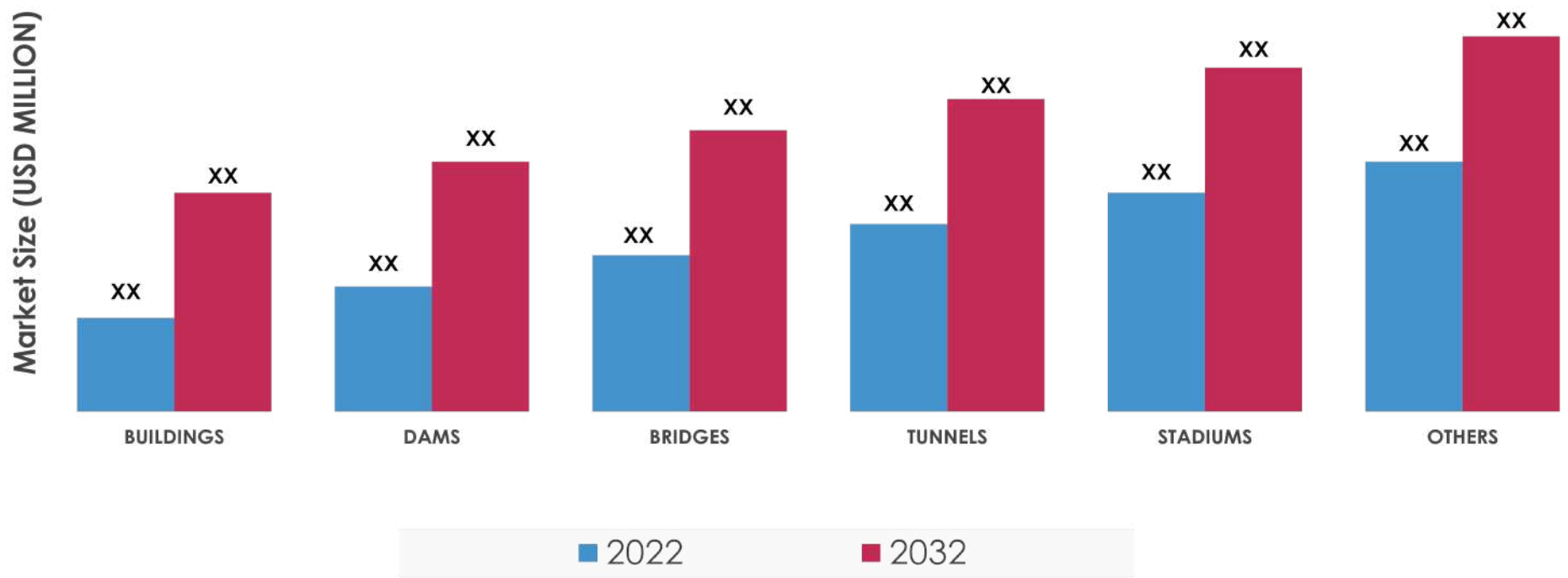


FIGURE: GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY APPLICATION, 2022 vs 2032 (USD MILLION)



Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis

8.2 Buildings

XXXX

8.3 Dams

XXXX

8.4 Bridges

XXXX

8.5 Tunnels

XXXX

8.6 Stadiums

XXXX

8.7 Others

XXXX



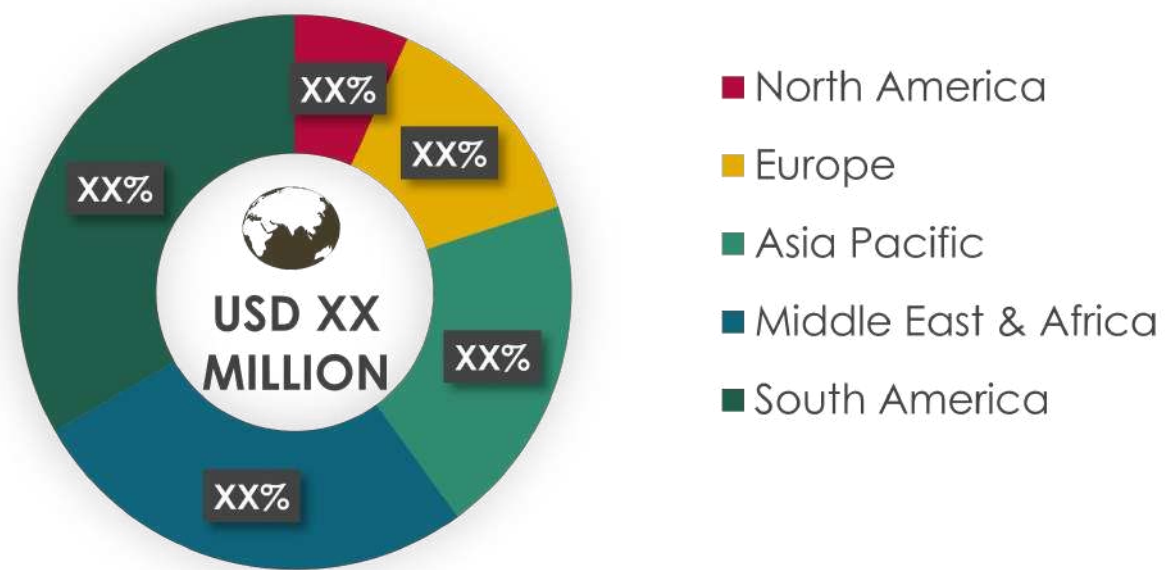
9 GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY REGION



9.1 INTRODUCTION

- North America
- Europe
- Asia Pacific
- Middle East & Africa
- South America

FIGURE: GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY REGION, 2022 (% SHARE)



Source: Industry Expert, Secondary Research, and MRFR Analysis

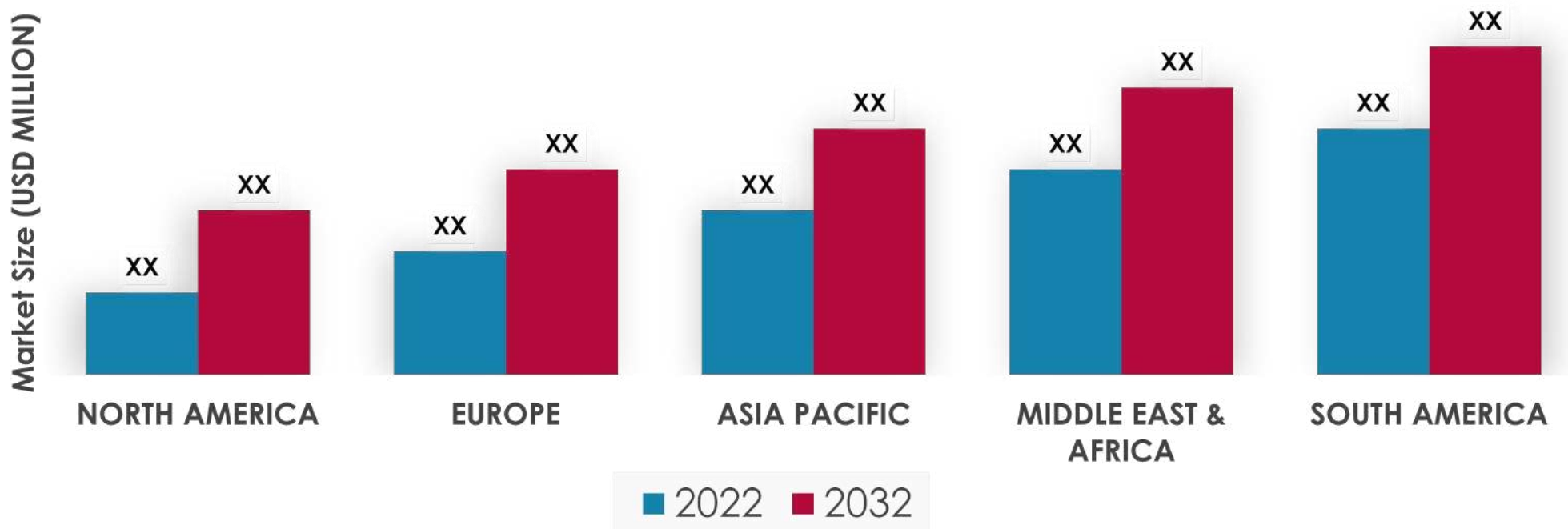
TABLE: GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY REGION, 2019-2032 (USD MILLION)

Region	2019	2021	2022	2023	2032	CAGR% (2023-2032)
North America	XX	XX	XX	XX	XX	XX%
Europe	XX	XX	XX	XX	XX	XX%
Asia Pacific	XX	XX	XX	XX	XX	XX%
Middle East & Africa	XX	XX	XX	XX	XX	XX%
South America	XX	XX	XX	XX	XX	XX%
Total	XX	XX	XX	XX	XX	XX%

Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis



FIGURE: GLOBAL STRUCTURAL HEALTH MONITORING MARKET, BY REGION, 2019-2032 (USD MILLION)

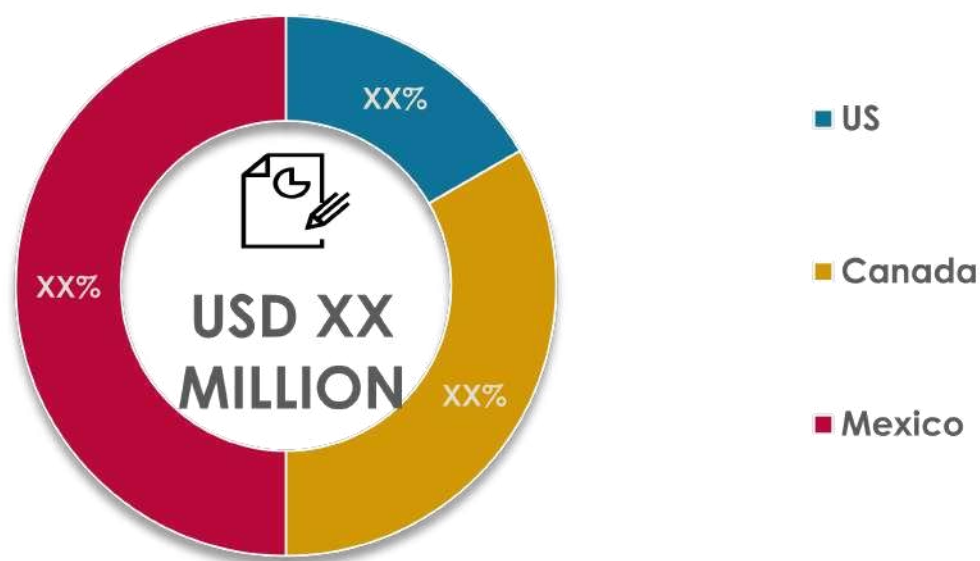


Source: Industry Expert, Secondary Research, and MRFR Analysis

9.2 NORTH AMERICA

XXXXXXXXXXXX

TABLE: NORTH AMERICA STRUCTURAL HEALTH MONITORING MARKET, BY COUNTRY, 2022 (% SHARE)



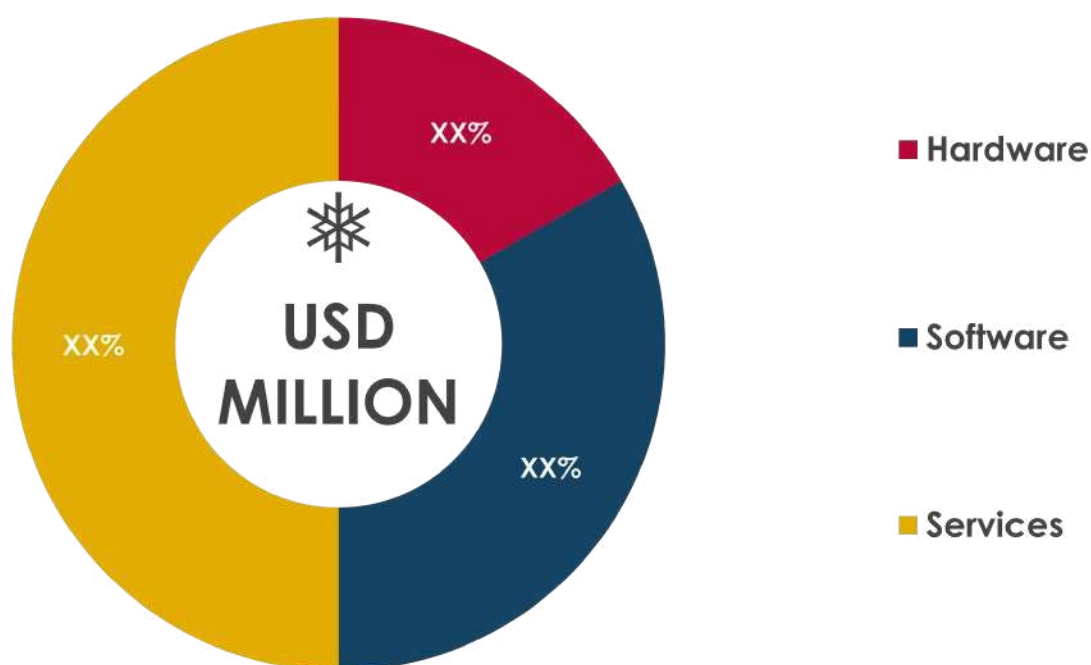
Source: Industry Expert, Secondary Research, and MRFR Analysis

TABLE: NORTH AMERICA STRUCTURAL HEALTH MONITORING MARKET, BY COUNTRY, 2019-2032 (USD MILLION)

North America	2019	2021	2022	2023	2032	CAGR% (2023-2032)
US	XX	XX	XX	XX	XX	XX%
Canada	XX	XX	XX	XX	XX	XX%
Mexico	XX	XX	XX	XX	XX	XX%
Total	XX	XX	XX	XX	XX	XX%

Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis

FIGURE: NORTH AMERICA STRUCTURAL HEALTH MONITORING MARKET, BY OFFERING, 2022 (% SHARE)



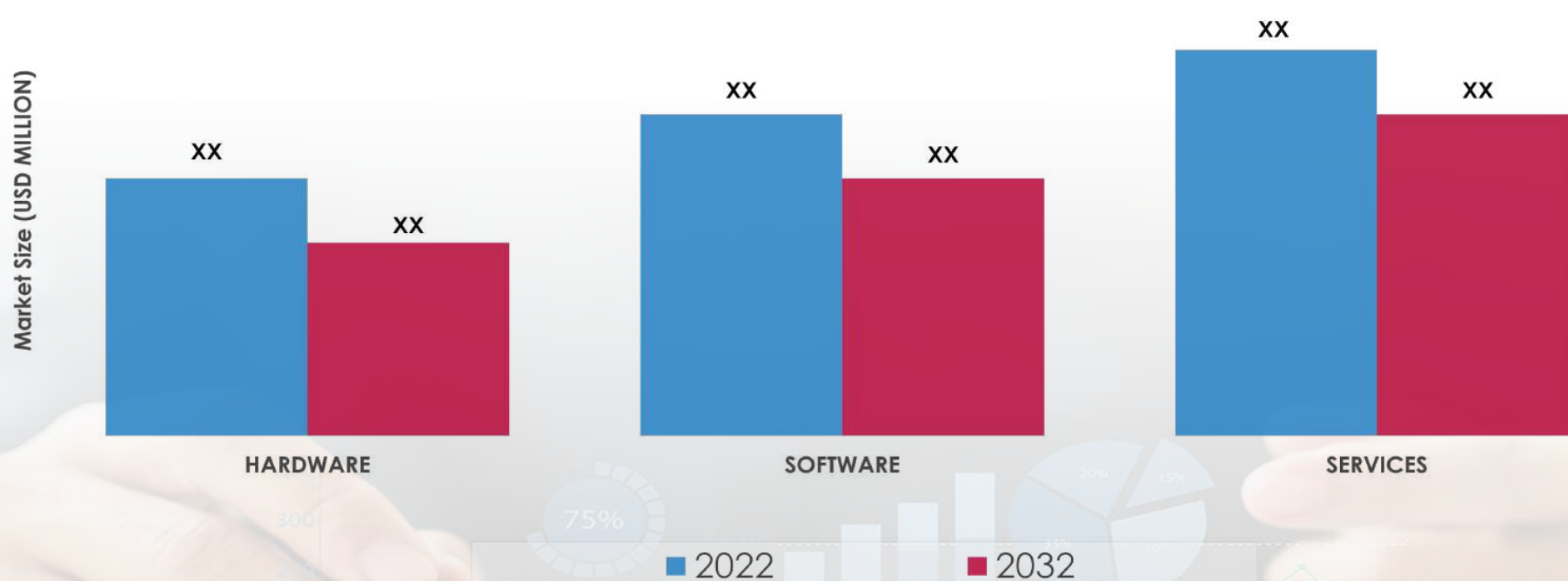
Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis

TABLE: NORTH AMERICA: STRUCTURAL HEALTH MONITORING MARKET, BY OFFERING, 2019-2032 (USD MILLION)

Offering	2019	2021	2022	2023	2032	CAGR% (2023-2032)
Hardware	XX	XX	XX	XX	XX	XX%
Software	XX	XX	XX	XX	XX	XX%
Services	XX	XX	XX	XX	XX	XX%
Total	XX	XX	XX	XX	XX	XX%

Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis

FIGURE: NORTH AMERICA STRUCTURAL HEALTH MONITORING MARKET, BY OFFERING, 2022 VS 2032 (USD MILLION)



Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis

TABLE: NORTH AMERICA STRUCTURAL HEALTH MONITORING MARKET, BY HARDWARE, 2019-2032 (USD MILLION)

Hardware	2019	2021	2022	2023	2032	CAGR% (2023-2032)
Data Acquisition Systems	XX	XX	XX	XX	XX	XX%
Sensors	XX	XX	XX	XX	XX	XX%
Others	XX	XX	XX	XX	XX	XX%
Total	XX	XX	XX	XX	XX	XX%

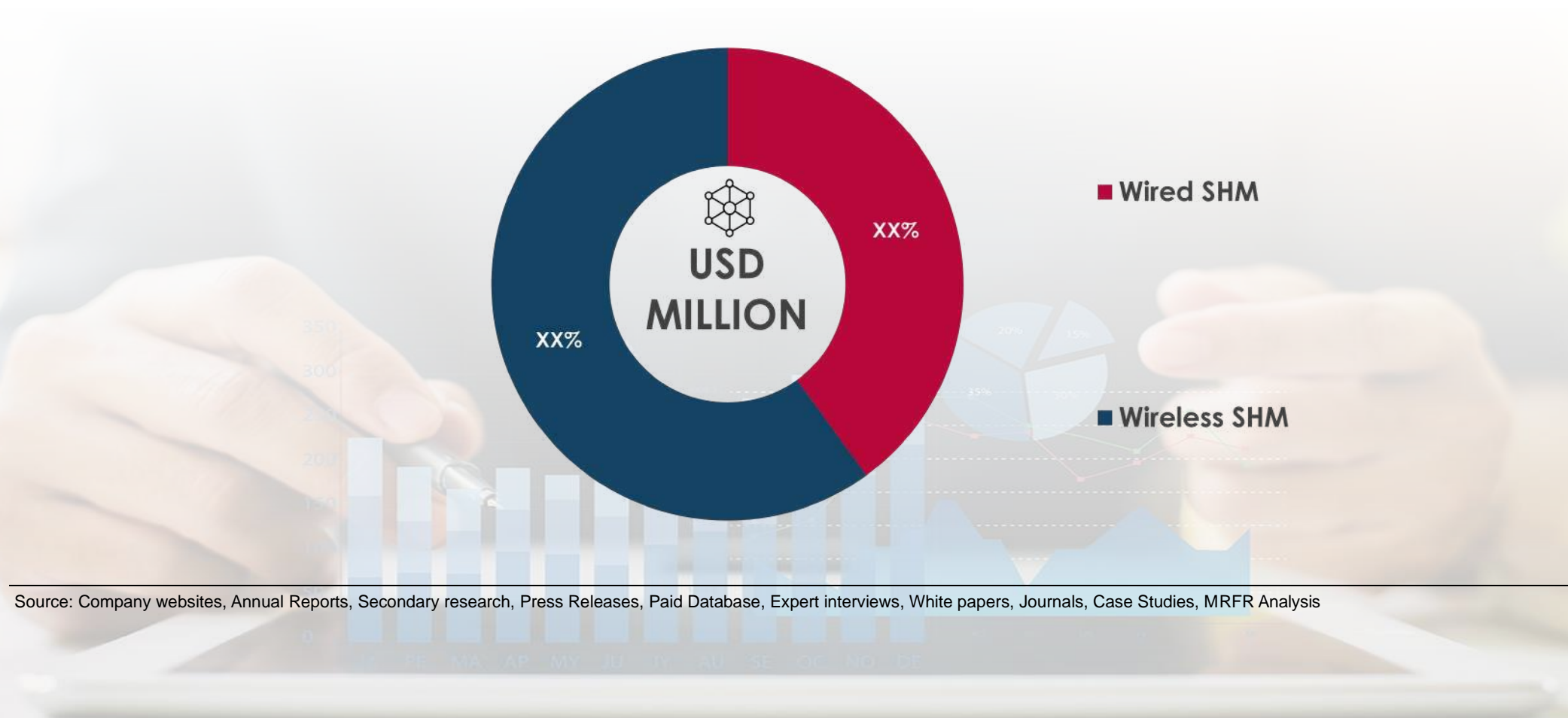
Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis

TABLE: NORTH AMERICA STRUCTURAL HEALTH MONITORING MARKET, BY SENSOR, 2019-2032 (USD MILLION)

Sensor	2019	2021	2022	2023	2032	CAGR% (2023-2032)
Inclinometer	XX	XX	XX	XX	XX	XX%
Strain Gauges	XX	XX	XX	XX	XX	XX%
Load Cells	XX	XX	XX	XX	XX	XX%
Linear Variable Differential Transformer (LVDT)	XX	XX	XX	XX	XX	XX%
Vibrating Wire Traducers	XX	XX	XX	XX	XX	XX%
Accelerometers	XX	XX	XX	XX	XX	XX%
Fiber Optic Sensors	XX	XX	XX	XX	XX	XX%
Acoustic Emission Sensor	XX	XX	XX	XX	XX	XX%
Temperature Sensors	XX	XX	XX	XX	XX	XX%
Tiltmeter	XX	XX	XX	XX	XX	XX%
Total	XX	XX	XX	XX	XX	XX%

Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis

FIGURE: NORTH AMERICA STRUCTURAL HEALTH MONITORING MARKET, BY TECHNOLOGY, 2022 (% SHARE)



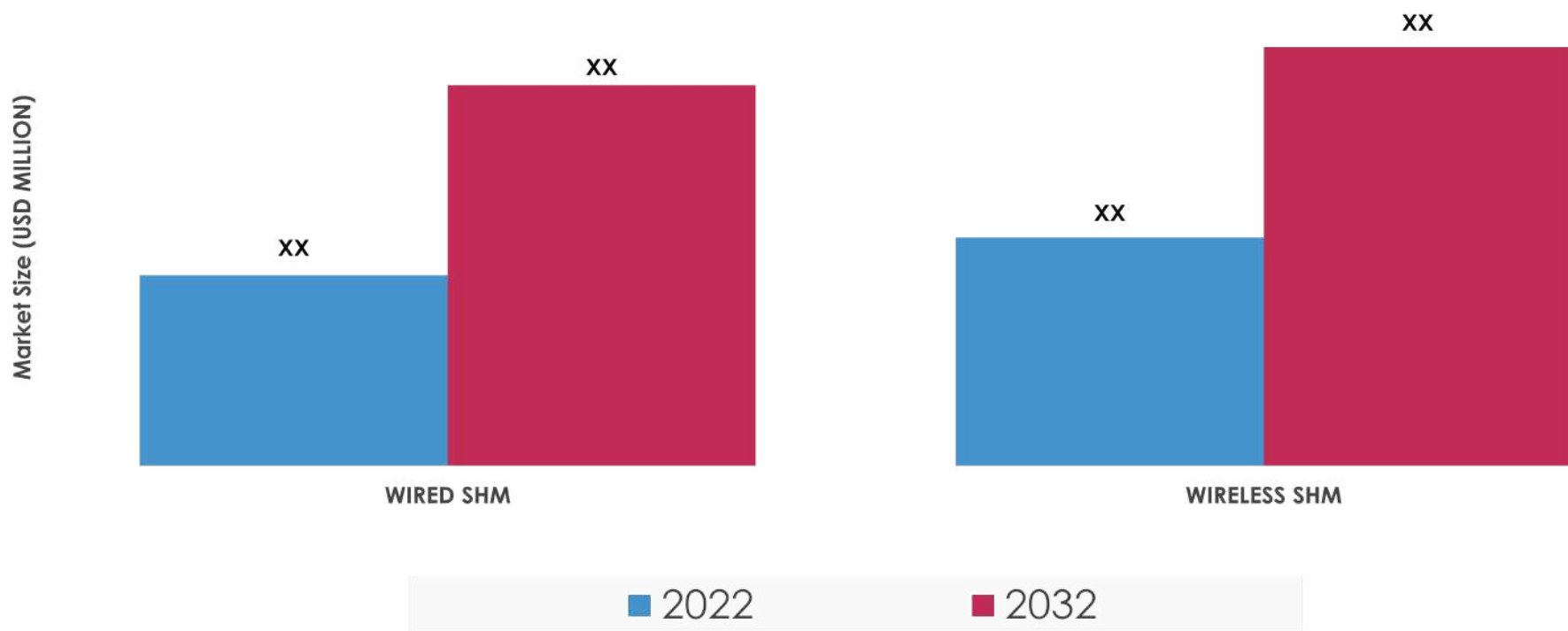
Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis

TABLE: NORTH AMERICA: STRUCTURAL HEALTH MONITORING MARKET, BY TECHNOLOGY, 2019-2032 (USD MILLION)

Technology	2019	2021	2022	2023	2032	CAGR% (2023-2032)
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Wireless SHM	XX	XX	XX	XX	XX	XX%
Total	XX	XX	XX	XX	XX	XX%

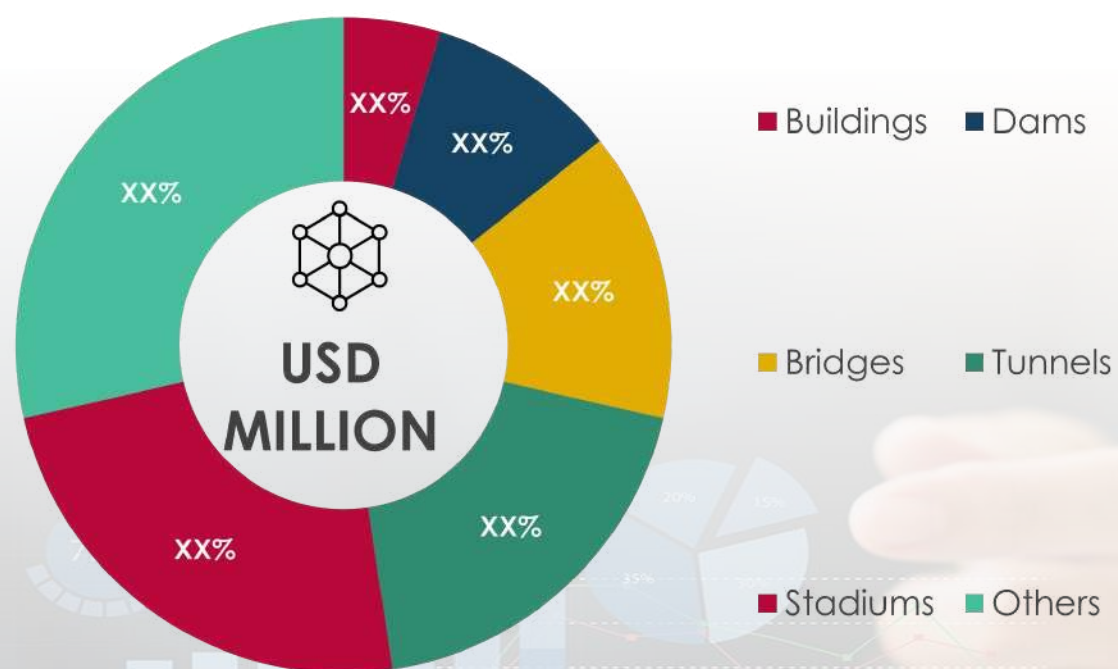
Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis

FIGURE: NORTH AMERICA STRUCTURAL HEALTH MONITORING MARKET, BY TECHNOLOGY, 2022 VS 2032 (USD MILLION)



Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis

FIGURE: NORTH AMERICA STRUCTURAL HEALTH MONITORING MARKET, BY APPLICATION, 2022 (% SHARE)



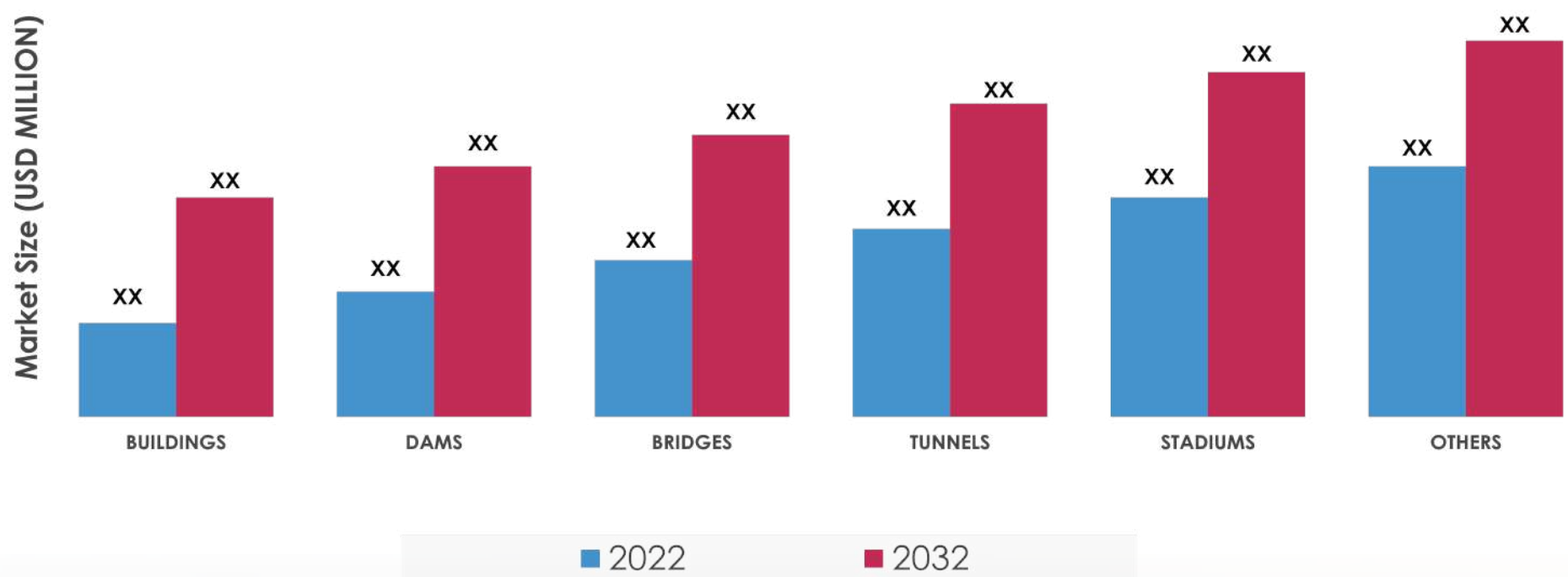
Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis

TABLE: NORTH AMERICA: STRUCTURAL HEALTH MONITORING MARKET, BY APPLICATION, 2019-2032 (USD MILLION)

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Dams	XX	XX	XX	XX	XX	XX%
Bridges	XX	XX	XX	XX	XX	XX%
Tunnels	XX	XX	XX	XX	XX	XX%
Stadiums	XX	XX	XX	XX	XX	XX%
Others	XX	XX	XX	XX	XX	XX%
Total	XX	XX	XX	XX	XX	XX%

Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis

FIGURE: NORTH AMERICA STRUCTURAL HEALTH MONITORING MARKET, BY APPLICATION, 2022 VS 2032 (USD MILLION)



Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis

9.2.1 US

XXXX

9.2.2 Canada

XXXX

9.2.3 Mexico

XXXX

*NOTE: The other regional/country segments mentioned in the ToC will be covered in the same format.

10 COMPETITIVE LANDSCAPE



10.1 INTRODUCTION

The Global Structural Health Monitoring market is characterized by the presence of many global and local vendors.....

10.2 VENDOR SHARE ANALYSIS

FIGURE: GLOBAL STRUCTURAL HEALTH MONITORING MARKET: MAJOR PLAYERS MARKET SHARE ANALYSIS, 2022 (%)

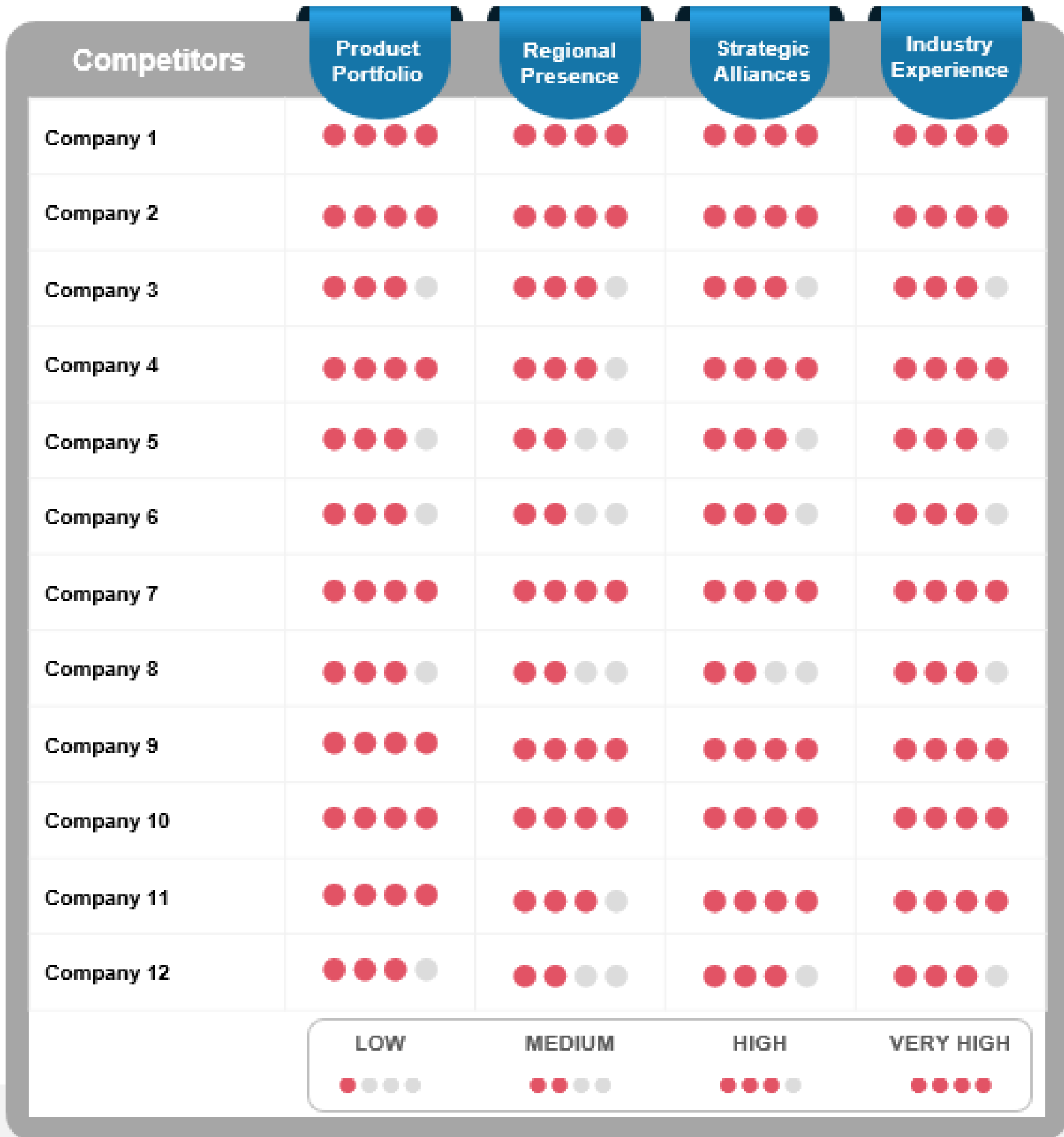


Source: MRFR Analysis, Annual Report, Press Releases



10.3 COMPETITIVE BENCHMARKING

FIGURE: BENCHMARKING OF MAJOR COMPETITORS



Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis



10.4 COMPETITOR DASHBOARD

TABLE: COMPETITOR DASHBOARD: GLOBAL STRUCTURAL HEALTH MONITORING MARKET

Total Market	REGIONS	Offering	Technology	Application
Acellent Technologies, Inc.	XX	XX	XX	XX
Campbell Scientific, Inc.	XX	XX	XX	XX
COWI A/S	XX	XX	XX	XX
DIGI-TEXX	XX	XX	XX	XX
Geocomp, Inc.	XX	XX	XX	XX
GEOKON	XX	XX	XX	XX
GeoSIG Ltd	XX	XX	XX	XX
HBK	XX	XX	XX	XX
James Fisher and Sons plc.	XX	XX	XX	XX
Kinematics	XX	XX	XX	XX
NATIONAL INSTRUMENTS CORP.	XX	XX	XX	XX
Nova Ventures Group	XX	XX	XX	XX
Sixense	XX	XX	XX	XX

Source: Company websites, Annual Reports, Secondary research, Press Releases, Paid Database, Expert interviews, White papers, Journals, Case Studies, MRFR Analysis



11 COMPANY PROFILES



(FOR REFERENCE ONLY)

11.1 ORACLE

11.1.1 COMPANY OVERVIEW

Company Headquarters:US

Founded:1977

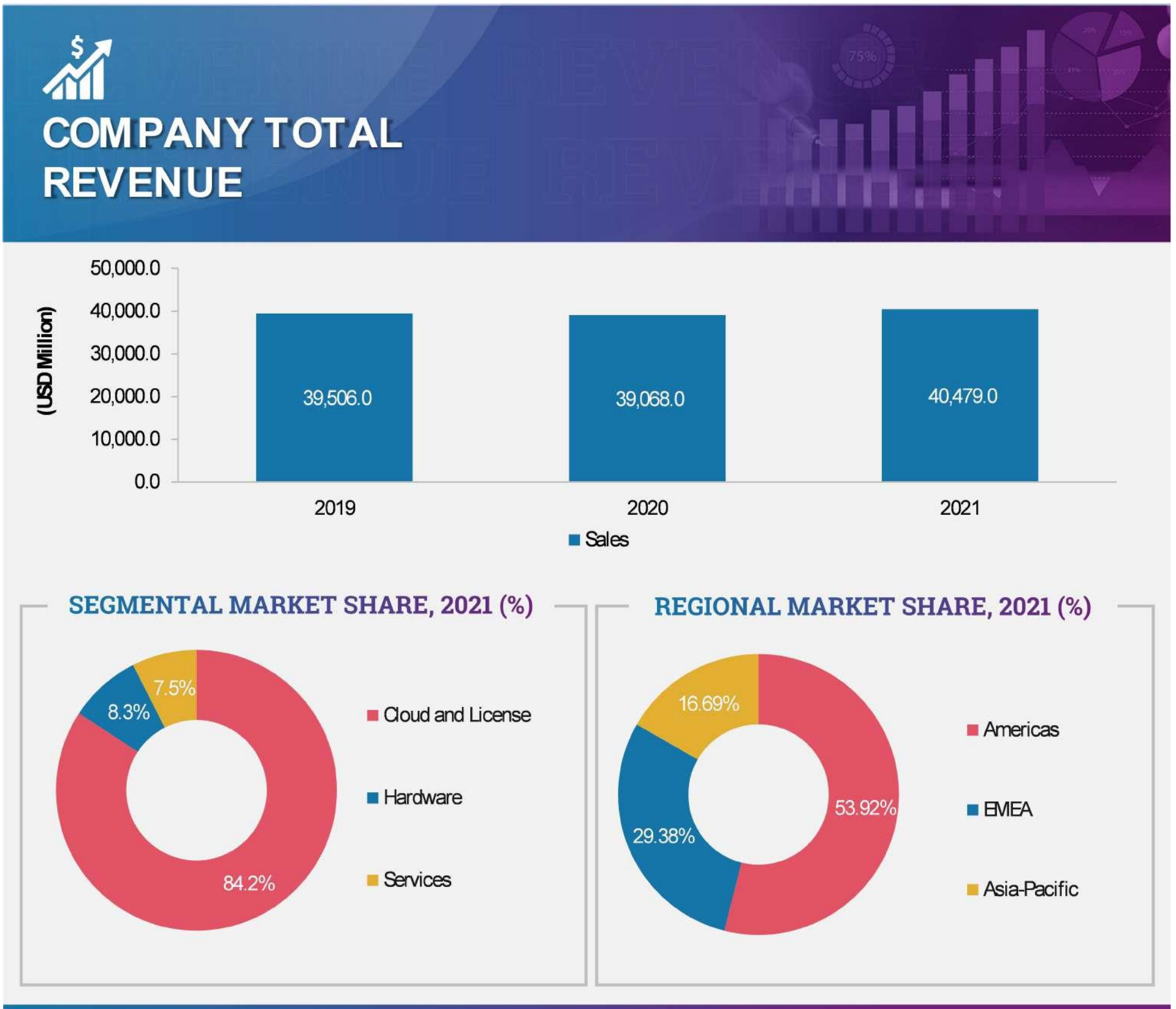
Workforce:~138,000

Company Working:Oracle specializes in developing and marketing database software and technology, cloud-engineered systems, and enterprise software products. It provides products and services in the field of information technology. The company operates through the cloud and on-premise software, hardware, and services segments. The cloud and on-premise software segment markets and delivers applications, platforms, and infrastructure technologies. The hardware segment comprises hardware products and hardware-related software products such as Oracle engineered systems, servers, storage, industry-specific hardware, virtualization software, operating systems, management software, and related hardware services, including hardware support. The services segment comprises consulting services, advanced support services, and education services. Oracle has a wide presence across the Americas, EMEA, and Asia-Pacific.



11.1.2 FINANCIAL OVERVIEW

FIGURE: ORACLE: FINANCIAL OVERVIEW SNAPSHOT



11.1.3 PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE: ORACLE: PRODUCTS/SOLUTIONS/SERVICES OFFERED

Category	Product/Solution/Service
Predictive Maintenance	<ul style="list-style-type: none"> IoT Asset Monitoring Cloud

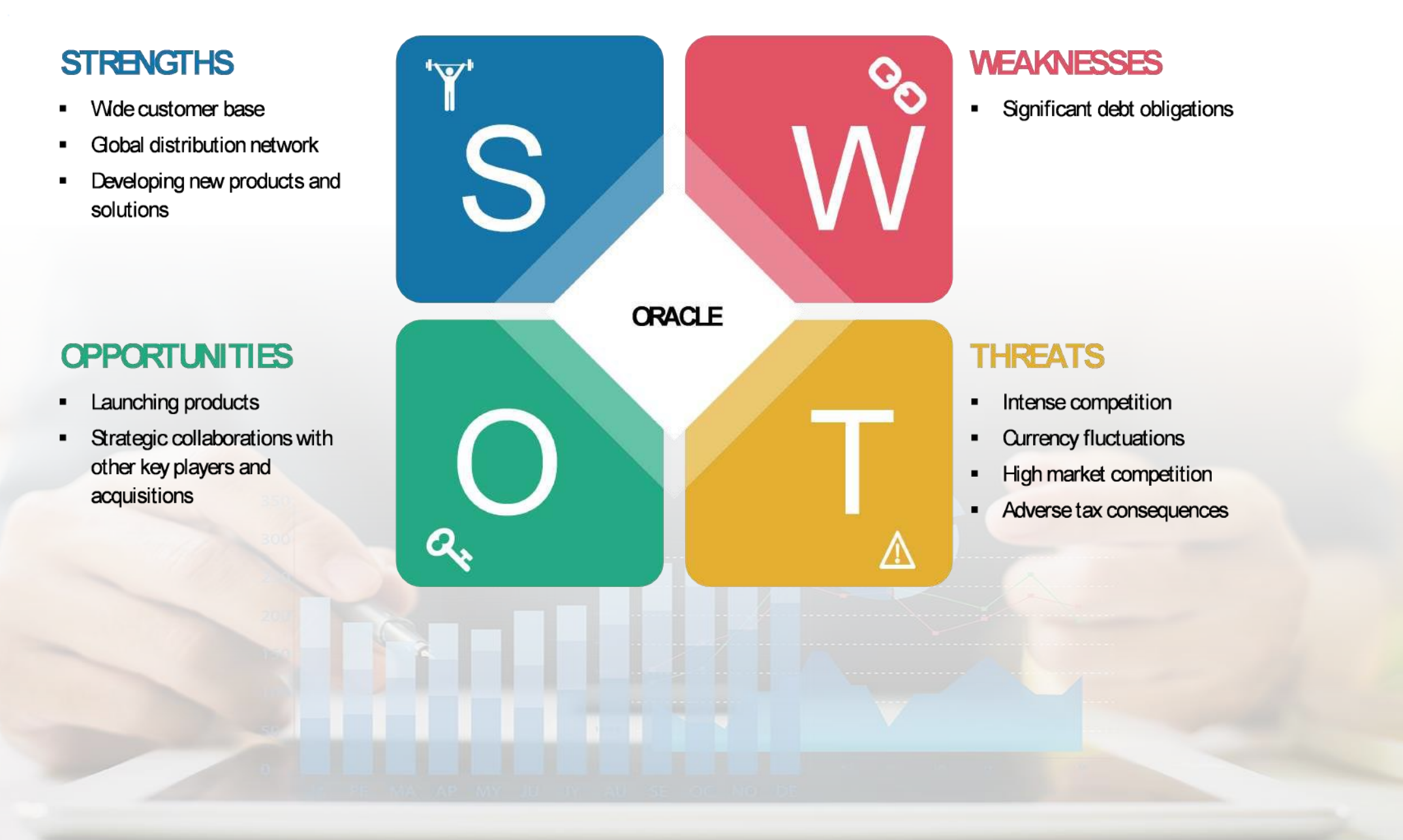
11.1.4 KEY DEVELOPMENTS

TABLE: ORACLE: KEY DEVELOPMENTS

Date	Approach	Development
March 2019	Product Launch	Oracle announced the launch of Oracle IoT Asset Monitoring Cloud Service Release 19.1.5. This version brings in a built-in digital twin simulator that can create asset sensor simulations. The simulator can be used to create and simulate data patterns for sensors associated with an asset
January 2019	Product Launch	Oracle announced the launch of Oracle IoT Asset Monitoring Cloud Service Release 19.1.1. This version brings in a new Design Center. This tool can be used to create and manage groups, asset types, asset inventory, and all the associated entities.

11.1.5 SWOT ANALYSIS

FIGURE: ORACLE: SWOT ANALYSIS



11.1.6 KEY STRATEGIES

Oracle follows both organic and inorganic growth approaches and focuses on enhancing its application, platform, and infrastructure segments. Oracle also considers strategic acquisition as one of the important elements of its corporate strategy for enabling innovation, increasing its customer base, and deploying products and services. For instance, in November 2016, the company acquired NetSuite to expand its cloud offerings and related cloud SaaS offerings.



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