

NA Structural Health Monitoring Market - Industry Trends and Forecast to 2030

Market Report | 2023-03-01 | 384 pages | Data Bridge Market Research

AVAILABLE LICENSES:

- Single User License \$3500.00
- Corporate Users License \$4200.00

Report description:

North America structural health monitoring market is projected to register a CAGR of 18.0% in the forecast period of 2023 to 2030. The new market report contains data for historic year 2021, the base year of calculation is 2022 and the forecast period is 2023 to 2030.

Market Segmentation:

North America Structural Health Monitoring Market, By Type (Hardware, Software, Services), Connectivity (Wired and Wireless), Installation Type (New installation and Retrofit), Method (Visual Inspection and Non-Destructive Evaluation), Application (Damage Detection, Crack Detection, Strain Monitoring, Wire Break Monitoring, Leakage Detection, Multimodal Sensing, Corrosion Detection, Hotspot Monitoring, Impact Monitoring, Deflection Monitoring), End User (Civil, Aerospace, Energy, Mining, Marine, Industrial, Offshore Platform, Defense, School, Public park and recreation, Automotive and Others), Country (U.S., Canada, Mexico) Industry Trends and Forecast to 2030

Some of the major factors contributing to the growth of the North America structural health monitoring market are:

- Rise in the technological advancement.
- Increase in the improved safety, and maintainability of critical structures

Market Players

Some of the major players operating in the North America structural health monitoring market are:

- Acellent Technologies Inc.
- Campbell Scientific, Inc.
- COWI A/S
- Digitex
- Digitexx Data Systems, Inc.
- FEAC Engineering
- First Sensor AG
- GEOKON

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- Geomotion Singapore
- GeoSIG Ltd
- HBK
- James Fischer and Sons plc
- Kinometrics
- NATIONAL INSTRUMENTS CORP.
- Nova Ventures
- OSMOS Group SA
- Sisgeo S.r.l.
- SIXENSE Systems
- SODIS Lab
- STRUCTURAL MONITORING STSTEMS PLC.
- Xylem Inc.

Table of Contents:

TABLE OF CONTENTS

1 INTRODUCTION	91
1.1 OBJECTIVES OF THE STUDY	91
1.2 MARKET DEFINITION	91
1.3 OVERVIEW OF THE NORTH AMERICA STRUCTURAL HEALTH MONITORING MARKET	91
1.4 CURRENCY AND PRICING	93
1.5 LIMITATIONS	93
1.6 MARKETS COVERED	94
2 MARKET SEGMENTATION	98
2.1 MARKETS COVERED	98
2.2 GEOGRAPHICAL SCOPE	99
2.3 YEARS CONSIDERED FOR THE STUDY	100
2.4 DBMR TRIPOD DATA VALIDATION MODEL	101
2.5 PRIMARY INTERVIEWS WITH KEY OPINION LEADERS	104
2.6 DBMR MARKET POSITION GRID	105
2.7 VENDOR SHARE ANALYSIS	107
2.8 MULTIVARIATE MODELING	108
2.9 TYPE TIMELINE CURVE	108
2.10 MARKET APPLICATION COVERAGE GRID	109
2.11 SECONDARY SOURCES	110
2.12 ASSUMPTIONS	110
3 EXECUTIVE SUMMARY	111
4 PREMIUM INSIGHTS	113
4.1 POTER'S FIVE FORCES	114
4.2 NORTH AMERICA STRUCTURAL HEALTH MONITORING MARKET, REGULATIONS	115
4.3 TECHNOLOGICAL TRENDS	117
4.4 PATENT ANALYSIS	119
4.5 NORTH AMERICA STRUCTURAL HEALTH MONITORING MARKET, VALUE CHAIN ANALYSIS	122
4.6 CASE STUDIES	125
5 MARKET OVERVIEW	126
5.1 DRIVERS	128

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

5.1.1 GROWING INFRASTRUCTURAL DEVELOPMENT ACROSS THE GLOBE	128
5.1.2 INCREASING AUTOMATION, AND STANDARDIZATION IN THE MAINTENANCE & REPAIR OF CIVIL INFRASTRUCTURE	129
5.1.3 GROWING ADVANCEMENT IN SENSOR TECHNOLOGIES	130
5.1.4 IMPROVED SAFETY, AND MAINTAINABILITY OF CRITICAL STRUCTURES	130
5.2 RESTRAINTS	131
5.2.1 HIGH INSTALLATION AND MONITORING COSTS	131
5.2.2 INACCURATE RESULTS DUE TO CALIBRATION ERRORS	132
5.2.3 FLUCTUATING PRICES OF RAW MATERIALS	132
5.3 OPPORTUNITIES	133
5.3.1 INTEGRATION OF TECHNOLOGICALLY ADVANCED SOLUTIONS FOR STRUCTURAL HEALTH MONITORING	133
5.3.2 GROWTH IN INVESTMENTS IN INFRASTRUCTURE AND ADVANCES IN WIRELESS SENSOR NETWORKS	133
5.3.3 INCREASE IN VARIOUS STRATEGIC DECISIONS, SUCH AS PARTNERSHIP AND ACQUISITION	134
5.4 CHALLENGES	135
5.4.1 REQUIREMENT OF SKILLED OPERATORS FOR INSTALLATION AND CALIBRATION OF STRUCTURAL HEALTH MONITORING INSTRUMENTS	135
5.4.2 LACK OF STANDARDIZATION IN MANAGING LARGE VOLUMES OF DATA	135
5.4.3 TECHNICAL CHALLENGES AND OPERATIONAL FACTORS	135
6 NORTH AMERICA STRUCTURAL HEALTH MONITORING MARKET, BY TYPE	137
6.1 OVERVIEW	138
6.2 HARDWARE	141
6.2.1 SENSORS	142
6.2.1.1 ACCELEROMETERS	143
6.2.1.2 ULTRASONIC SENSORS	143
6.2.1.3 TEMPERATURE SENSORS	143
6.2.1.4 STRAIN GAUGES	143
6.2.1.5 CORROSION SENSORS	143
6.2.1.6 DISPLACEMENT SENSOR	143
6.2.1.7 INCLINOMETERS AND TILT METERS	143
6.2.1.8 SEISMOMETERS	143
6.2.1.9 OTHERS	143
6.2.2 DATA ACQUISITION UNITS	144
6.2.3 AMPLIFIERS	144
6.2.4 CAMERA	144
6.2.5 OTHERS	144
6.3 SOFTWARE	144
6.4 SERVICES	145
6.4.1 INSTALLATION	146
6.4.1.1 PRE INSTALLATION	146
6.4.1.2 POST INSTALLATION	146
6.4.2 DESIGNING AND CONSULTING	146
6.4.3 MAINTENANCE	146
7 NORTH AMERICA STRUCTURAL HEALTH MONITORING MARKET, BY CONNECTIVITY	147
7.1 OVERVIEW	148
7.2 WIRED	151
7.3 WIRELESS	152
8 NORTH AMERICA STRUCTURAL HEALTH MONITORING MARKET, BY INSTALLATION TYPE	153
8.1 OVERVIEW	154

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

8.2 NEW INSTALLATION	157
8.3 RETROFIT	158
9 NORTH AMERICA STRUCTURAL HEALTH MONITORING MARKET, BY METHOD	159
1.1. OVERVIEW	160
9.1 VISUAL INSPECTION	163
9.1.1 DATA-BASED TECHNIQUES	163
9.1.2 MODEL BASED TECHNIQUES	163
9.2 NON-DESTRUCTIVE EVALUATION (NDE)	164
10 NORTH AMERICA STRUCTURAL HEALTH MONITORING MARKET, BY APPLICATION	165
10.1 OVERVIEW	166
10.2 DAMAGE DETECTION	169
10.3 CRACK DETECTION	169
10.4 STRAIN MONITORING	170
10.5 WIRE BREAK MONITORING	171
10.5.1 IN POST TENSION CONCRETE STRUCTURE	172
10.5.2 SUSPENSION AND CABLE STAY BRIDGES	172
10.6 LEAKAGE DETECTION	172
10.7 MULTIMODAL SENSING	173
10.8 CORROSION MONITORING	174
10.9 HOTSPOT MONITORING	175
10.10 IMPACT MONITORING	176
10.11 DEFLECTION MONITORING	176
11 NORTH AMERICA STRUCTURAL HEALTH MONITORING MARKET, BY END USER	178
11.1 OVERVIEW	179
11.2 CIVIL	182
11.2.1 BUILDING	183
11.2.1.1 DAMAGE DETECTION	184
11.2.1.2 CRACK DETECTION	184
11.2.1.3 STRAIN MONITORING	184
11.2.1.4 WIRE BREAK MONITORING	184
11.2.1.5 LEAKAGE DETECTION	184
11.2.1.6 MULTIMODAL SENSING	184
11.2.1.7 CORROSION MONITORING	184
11.2.1.8 HOTSPOT MONITORING	184
11.2.1.9 IMPACT MONITORING	184
11.2.1.10 DEFLECTION MONITORING	185
11.2.2 BRIDGES	185
11.2.2.1 DAMAGE DETECTION	185
11.2.2.2 CRACK DETECTION	185
11.2.2.3 STRAIN MONITORING	186
11.2.2.4 WIRE BREAK MONITORING	186
11.2.2.5 LEAKAGE DETECTION	186
11.2.2.6 MULTIMODAL SENSING	186
11.2.2.7 CORROSION MONITORING	186
11.2.2.8 HOTSPOT MONITORING	186
11.2.2.9 IMPACT MONITORING	186
11.2.2.10 DEFLECTION MONITORING	186

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

11.2.3 TUNNELS	187
11.2.3.1 DAMAGE DETECTION	187
11.2.3.2 CRACK DETECTION	187
11.2.3.3 STRAIN MONITORING	187
11.2.3.4 HOTSPOT MONITORING	187
11.2.3.5 LEAKAGE DETECTION	188
11.2.3.6 WIRE BREAK MONITORING	188
11.2.3.7 CORROSION MONITORING	188
11.2.3.8 MULTIMODAL SENSING	188
11.2.3.9 IMPACT MONITORING	188
11.2.3.10 DEFLECTION MONITORING	188
11.2.4 DAMS	189
11.2.4.1 DAMAGE DETECTION	189
11.2.4.2 CRACK DETECTION	189
11.2.4.3 STRAIN MONITORING	189
11.2.4.4 IMPACT MONITORING	190
11.2.4.5 LEAKAGE DETECTION	190
11.2.4.6 MULTIMODAL SENSING	190
11.2.4.7 CORROSION MONITORING	190
11.2.4.8 HOTSPOT MONITORING	190
11.2.4.9 IMPACT MONITORING	190
11.2.4.10 DEFLECTION MONITORING	190
11.2.5 ROADS	191
11.2.5.1 DAMAGE DETECTION	191
11.2.5.2 CRACK DETECTION	191
11.2.5.3 STRAIN MONITORING	191
11.2.5.4 IMPACT MONITORING	191
11.2.5.5 HOTSPOT MONITORING	192
11.2.5.6 LEAKAGE DETECTION	192
11.2.5.7 MULTIMODAL SENSING	192
11.2.5.8 DEFLECTION MONITORING	192
11.2.5.9 WIRE BREAK MONITORING	192
11.2.5.10 CORROSION MONITORING	192
11.2.6 STADIUM	193
11.2.6.1 DAMAGE DETECTION	193
11.2.6.2 CRACK DETECTION	193
11.2.6.3 STRAIN MONITORING	193
11.2.6.4 CORROSION MONITORING	194
11.2.6.5 LEAKAGE DETECTION	194
11.2.6.6 WIRE BREAK MONITORING	194
11.2.6.7 MULTIMODAL SENSING	194
11.2.6.8 HOTSPOT MONITORING	194
11.2.6.9 IMPACT MONITORING	194
11.2.6.10 DEFLECTION MONITORING	194
11.2.7 OTHERS	194
11.3 AEROSPACE	195
11.3.1 DAMAGE DETECTION	196

11.3.2 IMPACT MONITORING	196
11.3.3 CORROSION MONITORING	196
11.3.4 CRACK DETECTION	196
11.3.5 STRAIN MONITORING	196
11.3.6 WIRE BREAK MONITORING	197
11.3.7 LEAKAGE DETECTION	197
11.3.8 MULTIMODAL SENSING	197
11.3.9 HOTSPOT MONITORING	197
11.3.10 DEFLECTION MONITORING	197
11.4 ENERGY	197
11.4.1 DAMAGE DETECTION	198
11.4.2 IMPACT MONITORING	198
11.4.3 CORROSION MONITORING	199
11.4.4 CRACK DETECTION	199
11.4.5 STRAIN MONITORING	199
11.4.6 WIRE BREAK MONITORING	199
11.4.7 LEAKAGE DETECTION	199
11.4.8 MULTIMODAL SENSING	199
11.4.9 HOTSPOT MONITORING	199
11.4.10 DEFLECTION MONITORING	200
11.4.10.1 WIND TURBINE	200
11.4.10.1.1 DAMAGE DETECTION	201
11.4.10.1.2 CRACK DETECTION	201
11.4.10.1.3 STRAIN MONITORING	201
11.4.10.1.4 WIRE BREAK MONITORING	201
11.4.10.1.5 CORROSION MONITORING	201
11.4.10.1.6 MULTIMODAL SENSING	201
11.4.10.1.7 LEAKAGE DETECTION	201
11.4.10.1.8 HOTSPOT MONITORING	201
11.4.10.1.9 IMPACT MONITORING	201
11.4.10.1.10 DEFLECTION MONITORING	202
11.4.10.2 OTHERS	202
11.5 MINING	202
11.5.1 LEAKAGE DETECTION	203
11.5.2 DAMAGE DETECTION	203
11.5.3 CRACK DETECTION	203
11.5.4 WIRE BREAK MONITORING	203
11.5.5 IMPACT MONITORING	204
11.5.6 CORROSION MONITORING	204
11.5.7 STRAIN MONITORING	204
11.5.8 MULTIMODAL SENSING	204
11.5.9 HOTSPOT MONITORING	204
11.5.10 DEFLECTION MONITORING	204
11.6 MARINE	205
11.6.1 DAMAGE DETECTION	206
11.6.2 CRACK DETECTION	206
11.6.3 LEAKAGE DETECTION	206

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

11.6.4 STRAIN MONITORING	206
11.6.5 CORROSION MONITORING	206
11.6.6 IMPACT MONITORING	207
11.6.7 HOTSPOT MONITORING	207
11.6.8 MULTIMODAL SENSING	207
11.6.9 DEFLECTION MONITORING	207
11.6.10 WIRE BREAK MONITORING	207
11.7 INDUSTRIAL	208
11.7.1 DAMAGE DETECTION	209
11.7.2 CRACK DETECTION	209
11.7.3 STRAIN MONITORING	209
11.7.4 CORROSION MONITORING	209
11.7.5 LEAKAGE DETECTION	210
11.7.6 WIRE BREAK MONITORING	210
11.7.7 MULTIMODAL SENSING	210
11.7.8 HOTSPOT MONITORING	210
11.7.9 IMPACT MONITORING	210
11.7.10 DEFLECTION MONITORING	210
11.8 OFFSHORE PLATFORM	211
11.8.1 CORROSION MONITORING	212
11.8.2 LEAKAGE DETECTION	212
11.8.3 DAMAGE DETECTION	212
11.8.4 CRACK DETECTION	212
11.8.5 STRAIN MONITORING	212
11.8.6 WIRE BREAK MONITORING	213
11.8.7 LEAKAGE DETECTION	213
11.8.8 MULTIMODAL SENSING	213
11.8.9 HOTSPOT MONITORING	213
11.8.10 DEFLECTION MONITORING	213
11.9 DEFENSE	214
11.9.1 DAMAGE DETECTION	215
11.9.2 CORROSION MONITORING	215
11.9.3 CRACK DETECTION	215
11.9.4 STRAIN MONITORING	215
11.9.5 WIRE BREAK MONITORING	216
11.9.6 IMPACT MONITORING	216

NA Structural Health Monitoring Market - Industry Trends and Forecast to 2030

Market Report | 2023-03-01 | 384 pages | Data Bridge Market Research

To place an Order with Scotts International:

- ☐ - Print this form
- ☐ - Complete the relevant blank fields and sign
- ☐ - Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User License	\$3500.00
	Corporate Users License	\$4200.00
		VAT
		Total

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*		Phone*	
First Name*		Last Name*	
Job title*			
Company Name*		EU Vat / Tax ID / NIP number*	
Address*		City*	
Zip Code*		Country*	
		Date	2026-03-10
		Signature	

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com