

Distributed Fiber Optic Sensor Market with recession Impact Analysis by Fiber Type (Single-Mode, Multimode), Scattering Process, Operating Principle (OTDR, OFDR), Application (Temperature, Acoustic, Strain), Vertical and Region - Global Forecast to 2028

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Abstracts

The distributed fiber optic sensor market is projected to grow from USD 1.2 billion in 2023 to reach USD 1.9 billion by 2028; it is expected to grow at a CAGR of 9.4% during the forecast period. Distributed fiber optic sensors provide critical data in various applications and are cost-effective for monitoring physical parameter sensing at multiple points in difficult operating conditions. They enable the high accuracy of detection over long distances.

“Oil & gas vertical is expected to have largest market size in vertical during the forecast period”

The oil & gas vertical is estimated to lead the distributed fiber optic sensors market, in terms of size, during the forecast period. Distributed sensors have applications like real-time downhole monitoring to increase operational efficiency in oil & gas. Temperature sensing is the largest application in the oil & gas vertical, based on market size, which drives the market for the oil & gas vertical. Rising oil & gas production and transmission/distribution projects provide opportunities for sensors in upstream, midstream, & downstream processes.

“Distributed strain sensing to grow with highest CAGR during the forecast period”

Distributed fiber optic sensors can measure strain along the length of the optical fiber. Brillouin and Rayleigh are the most suitable scattering methods to measure strain.

Distributed sensors, especially for the strain sensing application, are rapidly gaining prominence in the civil engineering vertical, having a major application for structural health monitoring purposes. Within the structural health monitoring application, geotechnical monitoring, dams, tunnels, roads, bridges, and historical structures are the primary areas where distributed sensing systems to measure strain are used. FBG-based sensors used for strain sensing application are also considered under this segment.

“OTDR is expected to have largest segment of the distributed fiber optic sensor market, by operating principle”

The OTDR-based distributed fiber optic sensors market is expected to secure the largest market share during the forecast period. Most of the companies engaged in the manufacturing of distributed fiber optic sensors produce the sensors based on the OTDR operating principle. OTDR is a robust technology and can provide accurate measurements with a high resolution. This technology has been in use since the inception of distributed fiber optic sensors.

“Asia Pacific region to grow with highest CAGR during the forecast period”

The Asia Pacific is expected to be the fastest-growing market for distributed fiber optic sensors. It includes India, China, Japan, Indonesia, and the Rest of Asia Pacific (RoAPAC). This region has become a global focal point for investments and business expansion. The Asia Pacific market shows significant growth in all sectors, including oil & gas, building & construction, and power. Technological and economic advancements in India and China are also supporting market growth. Other important factors include the growth of the oil & gas (such as greenfield projects) and power & utility verticals.

In the process of determining and verifying the market size for several segments and subsegments gathered through secondary research, extensive primary interviews have been conducted with key officials in the distributed fiber optic sensors market. Following is the breakup of the profiles of the primary participants for the report.

By Company Type: Tier 1 – 27%, Tier 2 – 35%, and Tier 3 – 38%

By Designation: C-level Executives – 32%, Directors – 44%, and Others – 24%

By Region: North America – 33%, Europe – 30%, APAC – 27%, and RoW – 10%

The report profiles key players in the global distributed fiber optic sensor market with their respective market share analysis. Prominent players profiled in this report are Schlumberger (US), Halliburton (US), Yokogawa Electric (Japan), Weatherford International (US), Luna Innovations (US), OFS (US.), Bandweaver (UK), Omnisens (Switzerland), AP Sensing (Germany) and DarkPulse (US). The other key market players include AFL (US), Aragon Photonics (Spain), Fotech (UK), Hifi Engineering (Canada), Hawk Measurement (Australia), NKT Photonics (Denmark), Corning (US), Optromix (US), OZ Optics (Canada), Sensornet (UK), Sensuron (US), Silixa (UK), Solifos (Switzerland), VIAVI Solutions (US) and Ziebel (US).

Research Coverage:

The report defines, describes, and forecasts the distributed fiber optic sensors market based on equipment, component, service, end user industry and geography. It provides detailed information regarding factors such as drivers, restraints, opportunities, and challenges influencing the growth of the distributed fiber optic sensors market. It also analyzes competitive developments such as product launches, acquisitions, expansions, contracts, partnerships, and developments carried out by the key players to grow in the market.

Reasons to Buy This Report

The report will help leaders/new entrants in the distributed fiber optic sensors market in the following ways:

1. The report segments the distributed fiber optic sensors market comprehensively and provides the closest market size estimation for all subsegments across regions.
2. The report will help stakeholders understand the pulse of the market and provide them with information on key drivers, restraints, challenges, and opportunities in the distributed fiber optic sensors market.
3. The report will help stakeholders understand their competitors better and gain insights to improve their position in the distributed fiber optic sensors market. The competitive landscape section describes the competitor ecosystem.
4. Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the distributed fiber optic sensors market
5. In-depth assessment of market shares, growth strategies and product offerings of leading players like Schlumberger (US), Halliburton (US), Yokogawa Electric (Japan), Weatherford International (US), Luna Innovations (US) among others.

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*Details on Business Overview, Products Offered, Recent Developments, and MnM View (Key strengths/Right to Win, Strategic Choices Made, and Weaknesses and Competitive Threats) might not be captured in case of unlisted companies.

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