

Distributed Temperature Sensing Market – Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028F Segmented By Operating Principle (Optical Time Domain Reflectometry and Optical Frequency Domain Reflectometry), By Fiber Type (Single-Mode Fiber and Multi-Mode Fiber), By Application (Oil & Gas, Power Cable Monitoring, Process & Pipeline Monitoring, Fire Detection and Environmental Monitoring), By Region

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Abstracts

Global Distributed Temperature Sensing Market is driven by the rising demand for safety and security in the oil & gas sectors. This growth is on account of the new technological advancements with the rapid development in detection of very small changes in the temperature in the forecast years. The Distributed Temperature Sensing (DTS) is basically used for the measurement of temperature across several fiber optic applications using optical fiber cables. Numerous advantages of DTS system include resistance to ionizing radiation, compact size, and insusceptibility to electromagnetic interference. These advantages have boosted their usage for sensing and measuring temperature across different applications, such as oil & gas, power & utility, and others.

Distributed temperature sensing is an emergent technology; therefore, its implementation across water-based applications has increased in the past years. A wide range of geophysical methods are being considered for monitoring hydrologic processes at large scales and the catchment. The demand for various geophysical methods is rising rapidly, in order to quantify the instabilities between surface water and groundwater. All these factors are projected to contribute to the rising adoption of DTS.

By directing a laser light along the fiber-optic cable, the DTS through fiber optics is transmitted. The incident light scatters as a result of photons' interactions with the chemical structures of the fiber. Temperature is measured using the variation in optical powers that has been observed. In hydrologic processes, the distributed temperature sensing is employed in a variety of applications, including determining transmissive fractures in bedrock boreholes and evaluating the interaction of a stream and an estuary in the aquifer.

Increasingly, groundwater discharge zones are being identified by the use of distributed temperature sensing to track temperature variations in the stream bed. Additionally, downhole temperature can be monitored with distributed temperature sensing to examine hydrogeological processes with high spatial and temporal frequency. The use of these sensors in passive mode for on-site groundwater flow, in-well flow, and subsurface thermal property assessment is also becoming more common. Such factors are significantly boosting the utilization of distributed temperature sensors, which is fuelling market expansion.

Need for Enhanced Safety at any Industrial Workplace is Fuelling the Market Growth

The petroleum industry has been witnessing consistent growth for the past few decades. Over a period, advanced technological instruments are introduced in various industries such as oil & gas, power monitoring, etc., to increase production, which has created a huge demand for safety and security at the workplace. Moreover, due to this increased demand for sensing in harsh environments with high pressure and temperature, the distributed temperature sensing market is expected to witness continuous growth in the coming years.

Increasing Proliferation of Optic Fiber Sensing Cable is Driving the Market Growth

Rising demand for temperature sensing with high accuracy and very high response time is going to increase the need for optic fiber-based temperature sensing systems. The high production of fiber cables for sensing applications is going to increase the distributed temperature sensing market in the forthcoming years. These fiber optic sensors are appropriate for rough conditions including high vibrations, noise, extreme heat, unstable and wet environments.

High Productivity in the Ever-growing Applications is Driving the Market Growth

The demand for high productivity of fiber optic-based sensors is increasing due to the rise in the requirement for temperature sensing over longer distances with larger surface areas. Many industries like subsea, marines etc., are still growing that increases the need for more accurate detection of even the small change in temperature. This increase in the applications of temperature sensing is going to boost the global distributed temperature sensing market in the forecast years.

Market Segmentation

Based on Operating Principle, the market is fragmented into Optical Time Domain Reflectometry and Optical Frequency Domain Reflectometry. Based on Fiber Type, the market is segmented into Single-Mode Fiber and Multi-Mode Fiber. Based on Application, the market is separated into Oil & Gas, Power Cable Monitoring, Process & Pipeline Monitoring, Fire Detection and Environmental Monitoring.

Company Profiles

Baker Hughes Company, Schlumberger Limited, LIOS Technology GMBH, Halliburton Company Corporation, Yokogawa Electric Corporation, AP Sensing GmbH, Bandweaver Technologies Pvt. Ltd., Sensornet Limited, Sumitomo Electric Industries, Ltd., Weatherford International plc are among the major market players in the global platform that lead the market growth of the global Distributed Temperature Sensing market.

Report Scope:

In this report, the Global Distributed Temperature Sensing Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Distributed Temperature Sensing Market, By Operating Principle:

Optical Time Domain Reflectometry

Optical Frequency Domain Reflectometry

Distributed Temperature Sensing Market, By Fiber Type:

Single-Mode Fiber

Multi-Mode Fiber

Distributed Temperature Sensing Market, By Application:

Oil & Gas

Power Cable Monitoring

Process & Pipeline Monitoring

Fire Detection

Environmental Monitoring

Distributed Temperature Sensing Market, By Region:

North America

United States

Canada

Mexico

Europe

Germany

United Kingdom

France

Russia

Spain

Asia-Pacific

China

India

Japan

South Korea

Australia

Middle East & Africa

UAE

Saudi Arabia

South Africa

South America

Brazil

Argentina

Colombia

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Distributed Temperature Sensing market.

Available Customizations:

With the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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