

# Distributed Temperature Sensing Market by Operating Principle (OTDR, OFDR), Fiber Type (Single-mode Fibers, Multimode Fibers), Scattering Method (Rayleigh Effect, Raman Effect, Brillouin Effect), Application, and Geography - Global Forecast to 2025

https://marketpublishers.com/r/DC887A129A4EN.html

Date: March 2020 Pages: 155 Price: US\$ 5,650.00 (Single User License) ID: DC887A129A4EN

# Abstracts

"Distributed temperature sensing market to grow at 5.5% CAGR from 2020 to 2025"

The overall distributed temperature sensing market is expected to grow from USD 734 million in 2020 to USD 958 million by 2025, at a CAGR of 5.5%. Growing demand for labor safety at workplaces, reliability of DTS systems/sensors for sensing and monitoring applications in harsh environments, and increasing applications in the oil & gas industry are driving the growth of this market. However, optical cables are prone to physical damage; this factor restrains the market growth.

"Oil & gas application to hold largest share of distributed temperature sensing market until 2025"

The oil & gas application is expected to hold the largest market size during the forecast period. DTS technology has become an integral part of the oil & gas industry. DTS systems help in continuous, real-time downhole monitoring to optimize the operational and economic performance of assets. This enables reservoir engineers to gain a better understanding of the injection and production dynamics, and accordingly optimizing the production and improving recovery, subsequently leading to improved profits. Hence, there is an increasing focus on adopting the technology for improving the productivity of brownfield operations.

"Rest of the World (RoW) to be largest market for distributed temperature sensing until



2025"

Rest of the World (RoW) is expected to hold the largest share of the distributed temperature sensing market during the forecast period. The Middle East is expected to offer a huge platform for the potential growth of the distributed temperature sensing market. Countries in the Middle East are the largest producers of crude oil in the world; the increasing use of DTS systems for various oil and gas applications is driving the growth of the DTS market in this region. With the increasing global demand for energy, the oil & gas industry in this region is also going through changes and is increasingly incorporating innovative technologies in its processes and operations.

Breakdown of Profiles of Primary Participants:

By Company Type: Tier 1 - 45%, Tier 2 - 30%, and Tier 3 - 25%

By Designation: C-level Executives - 30%, Directors - 25%, and Others - 45%

By Region: North America - 45%, Europe - 30%, APAC - 20%, and RoW - 5%

Major Players Profiled:

Schlumberger Limited (US)

Halliburton Company (US)

Yokogawa Electric Corporation (Japan)

Weatherford International PLC (Switzerland)

Sumitomo Electric Industries (Japan)

OFS Fitel (US)

AP Sensing GmbH (Germany)

Bandweaver Technologies (China)

NKT Photonics (Germany)



GESO GmbH & Co. (Germany)

#### **Research Coverage**

This report offers detailed insights into the distributed temperature sensing market by operating principle, which is further classified into optical time domain reflectometry (OTDR) and optical frequency domain reflectometry (OFDR). Based on fiber type, the market is segmented into single-mode fibers and multimode fibers. By scattering method, the market is segmented into Rayleigh scattering effect, Raman scattering effect, and Brillouin scattering effect. By application, the market is segmented into oil & gas, power cable monitoring, fire detection, process & pipeline monitoring, and environmental monitoring. The study also forecasts the size of the market for four regions—North America, Europe, APAC, and RoW.

#### Reasons to Buy the Report

The report would help market leaders/new entrants in the following ways:

1. This report segments the distributed temperature sensing market comprehensively and provides the closest approximations of the overall and segment-based market sizes across different operating principles, scattering methods, fiber types, applications, and regions.

2. The report would help stakeholders understand the pulse of the market and provide them with information on key drivers, restraints, challenges, and opportunities influencing the market growth.

3. This report would help stakeholders understand their competitors better and gain more insights to enhance their market position. The competitive landscape section includes the competitive analysis of top players, as well as strategies such as product launches and developments, acquisitions, contracts, collaborations, agreements, partnerships, and expansions adopted by the major market players.



# Contents

#### **1 INTRODUCTION**

- 1.1 STUDY OBJECTIVES
- **1.2 MARKET DEFINITION AND SCOPE**
- 1.3 STUDY SCOPE
- 1.3.1 MARKET COVERED
- 1.3.2 GEOGRAPHIC SCOPE
- 1.3.3 YEARS CONSIDERED
- 1.4 CURRENCY
- **1.5 LIMITATIONS**
- **1.6 STAKEHOLDERS**

#### 2 RESEARCH METHODOLOGY

- 2.1 RESEARCH DATA
  - 2.1.1 SECONDARY DATA
    - 2.1.1.1 Major secondary sources
  - 2.1.1.2 Secondary sources
  - 2.1.2 PRIMARY DATA
    - 2.1.2.1 Primary interviews with experts
    - 2.1.2.2 Key data from primary sources
    - 2.1.2.3 Key industry insights
    - 2.1.2.4 Breakdown of primaries
- 2.1.3 SECONDARY AND PRIMARY RESEARCH
- 2.2 MARKET SIZE ESTIMATION
  - 2.2.1 BOTTOM-UP APPROACH

2.2.1.1 Approach for capturing market share by bottom-up approach (demand side) 2.2.2 TOP-DOWN APPROACH

2.2.2.1 Approach for capturing market share by top-down approach

(supply side)

2.3 MARKET BREAKDOWN AND DATA TRIANGULATION

2.4 RESEARCH ASSUMPTIONS

# **3 EXECUTIVE SUMMARY**

#### **4 PREMIUM INSIGHTS**



4.1 ATTRACTIVE OPPORTUNITIES IN DISTRIBUTED TEMPERATURE SENSING MARKET

4.2 DISTRIBUTED TEMPERATURE SENSING MARKET, BY SCATTERING METHOD4.3 DISTRIBUTED TEMPERATURE SENSING MARKET, BY APPLICATION4.4 DISTRIBUTED TEMPERATURE SENSING MARKET IN NORTH AMERICA, BY

APPLICATION AND COUNTRY

4.5 DISTRIBUTED TEMPERATURE SENSING MARKET, BY COUNTRY

# **5 MARKET OVERVIEW**

- 5.1 INTRODUCTION
- 5.2 MARKET DYNAMICS
- 5.2.1 DRIVERS
  - 5.2.1.1 Increasing demand for labor safety at working sites
- 5.2.1.2 Reliability of DTS systems/sensors for sensing and monitoring applications in

harsh environments

5.2.1.3 Increasing applications in the oil & gas industry

5.2.2 RESTRAINTS

- 5.2.2.1 Optical cables are prone to physical damage
- **5.2.3 OPPORTUNITIES**
- 5.2.3.1 Increasing safety norms and supportive government policies related to
- leakage detection
  - 5.2.3.2 Increasing adoption of data-based analytics
  - 5.2.4 CHALLENGES
  - 5.2.4.1 High costs associated with DTS systems
- 5.3 VALUE CHAIN ANALYSIS

5.4 PORTER'S FIVE FORCES ANALYSIS

- 5.4.1 THREAT OF NEW ENTRANTS
- 5.4.2 THREAT OF SUBSTITUTES
- 5.4.3 BARGAINING POWER OF SUPPLIERS
- 5.4.4 BARGAINING POWER OF BUYERS
- 5.4.5 INTENSITY OF COMPETITIVE RIVALRY

# 6 DISTRIBUTED TEMPERATURE SENSING MARKET, BY OPERATING PRINCIPLE

- 6.1 INTRODUCTION
- 6.2 OPTICAL TIME DOMAIN REFLECTOMETRY (OTDR)
- 6.2.1 OTDR PRINCIPLE HELD LARGER MARKET SHARE IN 2019
- 6.3 OPTICAL FREQUENCY DOMAIN REFLECTOMETRY (OFDR)



6.3.1 OFDR PRINCIPLE TO HOLD SMALLER MARKET SIZE DURING FORECAST PERIOD DUE TO LIMITED CHARACTERISTICS OF OFDR-BASED DTS SYSTEMS

### 7 DISTRIBUTED TEMPERATURE SENSING MARKET, BY FIBER TYPE

7.1 INTRODUCTION

7.2 SINGLE-MODE FIBER

7.2.1 SINGLE-MODE FIBER HELD SMALLER SIZE OF DTS MARKET IN 2019 7.3 MULTIMODE FIBER

7.3.1 MULTIMODE FIBER-BASED DTS SYSTEMS ARE USED IN APPLICATIONS THAT DEMAND SHORTER DISTANCE COVERAGE

#### **8 DISTRIBUTED TEMPERATURE SENSING MARKET, BY SCATTERING METHOD**

8.1 INTRODUCTION

8.2 RAYLEIGH SCATTERING EFFECT

8.2.1 RAYLEIGH SCATTERING EFFECT TO WITNESS HIGHEST GROWTH RATE DURING FORECAST PERIOD

8.3 RAMAN SCATTERING EFFECT

8.3.1 RAMAN SCATTERING EFFECT IS WITNESSING INCREASING DEMAND FOR USE IN DTS SYSTEMS FOR SAFETY AND SECURITY APPLICATIONS 8.4 BRILLOUIN SCATTERING EFFECT

8.4.1 INCREASING USE IN DOWNHOLE OIL MONITORING WOULD DRIVE MARKET FOR BRILLOUIN SCATTERING DURING FORECAST PERIOD

#### 9 DISTRIBUTED TEMPERATURE SENSING MARKET, BY APPLICATION

9.1 INTRODUCTION

9.2 OIL & GAS

9.2.1 UPSTREAM

9.2.1.1 Downhole monitoring

9.2.1.1.1 Rising demand for downhole monitoring in oil & gas plants to propel growth of market for oil & gas application

9.2.1.2 Slickline and wireline interventions monitoring

9.2.1.2.1 High implementation of DTS systems for wellbore monitoring in oil and gas plants

9.2.2 DOWNSTREAM

9.3 POWER CABLE MONITORING

9.3.1 DTS SENSORS ARE USED FOR DETECTING HOTSPOTS IN POWER



#### CABLES TO PREVENT UNTOWARD INCIDENTS

9.4 FIRE DETECTION

9.4.1 INDUSTRIAL CONVEYORS MONITORING

9.4.1.1 Monitoring heat detection through DTS systems propel its demand in industrial conveyors monitoring

9.4.2 SPECIAL HAZARD ENVIRONMENTS FIRE MONITORING

9.4.2.1 Increasing awareness regarding fire protection in hazardous environments to drive DTS market growth for fire detection application

9.5 PROCESS & PIPELINE MONITORING

9.5.1 LEAKAGE DETECTION

9.5.1.1 DTS market for leakage detection application to witness steady growth during forecast period

9.6 ENVIRONMENTAL MONITORING

9.6.1 GROWING FOCUS ON ECOLOGICAL AND SEWER MONITORING TO PROPEL USE OF DTS SYSTEMS

#### **10 GEOGRAPHIC ANALYSIS**

**10.1 INTRODUCTION** 

**10.2 NORTH AMERICA** 

10.2.1 US

10.2.1.1 US to remain largest market for DTS in North America

during forecast period

10.2.2 CANADA

10.2.2.1 Extensive oil production activities fuel demand for

DTS systems in Canada

10.2.3 MEXICO

10.2.3.1 Growing need for fire detection in warehouses in Mexico drives demand for DTS systems

10.3 EUROPE

10.3.1 UK

10.3.1.1 Increasing need for fire protection measures in infrastructures to drive DTS market in UK

10.3.2 GERMANY

10.3.2.1 DTS market in Germany expected to witness highest growth among all European countries during forecast period

10.3.3 FRANCE

10.3.3.1 Growth of DTS market in France primarily depends on power cable monitoring and fire detection applications



10.3.4 RUSSIA

10.3.4.1 Russia expected to lead European DTS market during forecast period 10.3.5 REST OF EUROPE

10.4 APAC

10.4.1 CHINA

10.4.1.1 China held largest share of DTS market in APAC in 2019

10.4.2 JAPAN

10.4.2.1 Growing need for power cable monitoring to boost

DTS market in Japan

10.4.3 INDIA

10.4.3.1 Strong oil & gas sector and rapid expansion of power transmission network drive DTS market in India

10.4.4 SOUTH KOREA

10.4.4.1 Need to comply with fire safety norms DTS market in South Korea

10.4.5 REST OF APAC

10.5 ROW

10.5.1 MIDDLE EAST

10.5.1.1 Middle East expected to lead RoW DTS market throughout

forecast period

10.5.2 AFRICA

10.5.2.1 Government initiatives to enhance industrial sector are likely to drive DTS market in Africa

**10.6 SOUTH AMERICA** 

10.6.1 BRAZIL

10.6.1.1 Brazil expected to register highest growth rate in South America during forecast period

10.6.2 ARGENTINA

10.6.2.1 Economic and regulatory changes in energy & power sector will boost DTS market in Argentina

10.6.3 VENEZUELA

10.6.3.1 DTS systems are used for safe production and transportation of petrochemical products in Venezuela

10.6.4 REST OF SOUTH AMERICA

# **11 COMPETITIVE LANDSCAPE**

11.1 INTRODUCTION

11.2 MARKET PLAYER RANKING ANALYSIS

**11.3 COMPETITIVE LEADERSHIP MAPPING** 

Distributed Temperature Sensing Market by Operating Principle (OTDR, OFDR), Fiber Type (Single-mode Fibers, Mu...



11.3.1 VISIONARY LEADERS
11.3.2 INNOVATORS
11.3.3 DYNAMIC DIFFERENTIATORS
11.3.4 EMERGING COMPANIES
11.4 STRENGTH OF PRODUCT PORTFOLIO (25 COMPANIES)
11.5 BUSINESS STRATEGY EXCELLENCE (25 COMPANIES)
11.6 COMPETITIVE SCENARIO
11.7 COMPETITIVE SITUATIONS & TRENDS
11.7.1 CONTRACTS/COLLABORATIONS/AGREEMENTS/JOINT
VENTURES/PARTNERSHIPS
11.7.2 DRODUCT LAUNCHES

- 11.7.2 PRODUCT LAUNCHES
- 11.7.3 ACQUISITIONS
- 11.7.4 EXPANSIONS

# **12 COMPANY PROFILES**

12.1 KEY PLAYERS

(Business Overview, Products Offered, Recent Developments, SWOT Analysis, and MnM View)\*

- 12.1.1 SCHLUMBERGER LIMITED
- 12.1.2 HALLIBURTON COMPANY
- 12.1.3 YOKOGAWA ELECTRIC CORPORATION
- 12.1.4 WEATHERFORD INTERNATIONAL PLC
- 12.1.5 SUMITOMO ELECTRIC INDUSTRIES, LTD.
- 12.1.6 OFS FITEL, LLC
- 12.1.7 AP SENSING GMBH
- 12.1.8 BANDWEAVER TECHNOLOGIES
- 12.1.9 GESO GMBH & CO.
- 12.1.10 NKT PHOTONICS

\* Business Overview, Products Offered, Recent Developments, SWOT Analysis, and MnM View might not be captured in case of unlisted companies.

12.2 OTHER COMPANIES

12.2.1 OMICRON ELECTRONICS GMBH

12.2.2 AFL

- 12.2.3 MICRON OPTICS, INC.
- 12.2.4 AVENCOM
- 12.2.5 SENSORNET LIMITED
- 12.2.6 OMNISENS SA
- 12.2.7 OPTROMIX, INC.

Distributed Temperature Sensing Market by Operating Principle (OTDR, OFDR), Fiber Type (Single-mode Fibers, Mu...



12.2.8 ZIEBEL AS 12.2.9 SILIXA LTD. 12.2.10 TENDEKA

#### **13 APPENDIX**

13.1 DISCUSSION GUIDE
13.2 KNOWLEDGE STORE: MARKETSANDMARKETS' SUBSCRIPTION PORTAL
13.3 AVAILABLE CUSTOMIZATIONS
13.4 RELATED REPORTS
13.5 AUTHOR DETAILS





# **List Of Tables**

#### LIST OF TABLES

TABLE 1 PORTER'S FIVE FORCES ANALYSIS (2019): BARGAINING POWER OF SUPPLIERS HAD A HIGH IMPACT ON DISTRIBUTED TEMPERATURE SENSING MARKET

TABLE 2 DTS MARKET, BY OPERATING PRINCIPLE, 2017–2025 (USD MILLION) TABLE 3 DTS MARKET FOR OTDR-BASED SYSTEMS, BY APPLICATION, 2017–2025 (USD MILLION)

TABLE 4 DTS MARKET FOR OFDR-BASED SYSTEMS, BY APPLICATION, 2017–2025 (USD MILLION)

TABLE 5 DISTRIBUTED TEMPERATURE SENSING MARKET, BY FIBER TYPE, 2017–2025 (USD MILLION)

TABLE 6 DISTRIBUTED TEMPERATURE SENSING MARKET FOR SINGLE-MODE FIBER, BY APPLICATION, 2017–2025 (USD MILLION)

TABLE 7 DISTRIBUTED TEMPERATURE SENSING MARKET FOR MULTIMODE FIBER, BY APPLICATION, 2017–2025 (USD MILLION)

TABLE 8 DISTRIBUTED TEMPERATURE SENSING MARKET, BY SCATTERING METHOD, 2017–2025 (USD MILLION)

TABLE 9 DISTRIBUTED TEMPERATURE SENSING MARKET, BY APPLICATION, 2017–2025 (USD MILLION)

TABLE 10 DISTRIBUTED TEMPERATURE SENSING MARKET FOR OIL & GAS, BY FIBER TYPE, 2017–2025 (USD MILLION)

TABLE 11 DISTRIBUTED TEMPERATURE SENSING MARKET FOR OIL & GAS, BY OPERATING PRINCIPLE, 2017–2025 (USD MILLION)

TABLE 12 DISTRIBUTED TEMPERATURE SENSING MARKET FOR OIL & GAS, BY REGION, 2017–2025 (USD MILLION)

TABLE 13 DISTRIBUTED TEMPERATURE SENSING MARKET FOR OIL & GAS IN NORTH AMERICA, BY COUNTRY, 2017–2025 (USD MILLION)

TABLE 14 DISTRIBUTED TEMPERATURE SENSING MARKET FOR OIL & GAS IN EUROPE, BY COUNTRY, 2017–2025 (USD THOUSAND)

TABLE 15 DISTRIBUTED TEMPERATURE SENSING MARKET FOR OIL & GAS IN APAC, BY COUNTRY, 2017–2025 (USD MILLION)

TABLE 16 DISTRIBUTED TEMPERATURE SENSING MARKET FOR OIL & GAS IN ROW, BY REGION, 2017–2025 (USD MILLION)

TABLE 17 DISTRIBUTED TEMPERATURE SENSING MARKET FOR POWER CABLE MONITORING, BY FIBER TYPE, 2017–2025 (USD MILLION)

TABLE 18 DISTRIBUTED TEMPERATURE SENSING MARKET FOR POWER CABLE



MONITORING, BY OPERATING PRINCIPLE, 2017–2025 (USD MILLION) TABLE 19 DISTRIBUTED TEMPERATURE SENSING MARKET FOR POWER CABLE MONITORING, BY REGION, 2017–2025 (USD MILLION) TABLE 20 DISTRIBUTED TEMPERATURE SENSING MARKET FOR POWER CABLE MONITORING IN NORTH AMERICA, BY COUNTRY, 2017–2025 (USD MILLION) TABLE 21 DISTRIBUTED TEMPERATURE SENSING MARKET FOR POWER CABLE MONITORING IN EUROPE, BY COUNTRY, 2017–2025 (USD MILLION) TABLE 22 DISTRIBUTED TEMPERATURE SENSING MARKET FOR POWER CABLE MONITORING IN APAC, BY COUNTRY, 2017-2025 (USD MILLION) TABLE 23 DISTRIBUTED TEMPERATURE SENSING MARKET FOR POWER CABLE MONITORING IN ROW, BY REGION, 2017–2025 (USD MILLION) TABLE 24 DISTRIBUTED TEMPERATURE SENSING MARKET FOR FIRE DETECTION, BY FIBER TYPE, 2017–2025 (USD MILLION) TABLE 25 DISTRIBUTED TEMPERATURE SENSING MARKET FOR FIRE DETECTION, BY OPERATING PRINCIPLE, 2017–2025 (USD MILLION) TABLE 26 DISTRIBUTED TEMPERATURE SENSING MARKET FOR FIRE DETECTION, BY REGION, 2017–2025 (USD MILLION) TABLE 27 DISTRIBUTED TEMPERATURE SENSING MARKET FOR FIRE **DETECTION IN** NORTH AMERICA, BY COUNTRY, 2017–2025 (USD MILLION) TABLE 28 DISTRIBUTED TEMPERATURE SENSING MARKET FOR FIRE DETECTION IN EUROPE, BY COUNTRY, 2017–2025 (USD MILLION) TABLE 29 DISTRIBUTED TEMPERATURE SENSING MARKET FOR FIRE DETECTION IN APAC, BY COUNTRY, 2017–2025 (USD MILLION) TABLE 30 DISTRIBUTED TEMPERATURE SENSING MARKET FOR FIRE DETECTION IN ROW, BY REGION, 2017–2025 (USD THOUSAND) TABLE 31 DISTRIBUTED TEMPERATURE SENSING MARKET FOR PROCESS & PIPELINE MONITORING, BY FIBER TYPE, 2017–2025 (USD MILLION) TABLE 32 DISTRIBUTED TEMPERATURE SENSING MARKET FOR PROCESS & PIPELINE MONITORING, BY OPERATING PRINCIPLE, 2017–2025 (USD MILLION) TABLE 33 DISTRIBUTED TEMPERATURE SENSING MARKET FOR PROCESS & PIPELINE MONITORING, BY REGION, 2017–2025 (USD MILLION) TABLE 34 DISTRIBUTED TEMPERATURE SENSING MARKET FOR PROCESS & PIPELINE MONITORING IN NORTH AMERICA, BY COUNTRY, 2017–2025 (USD MILLION)

TABLE 35 DISTRIBUTED TEMPERATURE SENSING MARKET FOR PROCESS & PIPELINE MONITORING IN EUROPE, BY COUNTRY, 2017–2025 (USD THOUSAND) TABLE 36 DISTRIBUTED TEMPERATURE SENSING MARKET FOR PROCESS & PIPELINE MONITORING IN APAC, BY COUNTRY, 2017–2025 (USD MILLION)



TABLE 37 DISTRIBUTED TEMPERATURE SENSING MARKET FOR PROCESS & PIPELINE MONITORING IN ROW, BY REGION, 2017–2025 (USD MILLION) TABLE 38 DISTRIBUTED TEMPERATURE SENSING MARKET FOR ENVIRONMENTAL MONITORING, BY FIBER TYPE, 2017–2025 (USD MILLION) TABLE 39 DISTRIBUTED TEMPERATURE SENSING MARKET FOR ENVIRONMENTAL MONITORING, BY OPERATING PRINCIPLE, 2017–2025 (USD MILLION)

TABLE 40 DISTRIBUTED TEMPERATURE SENSING MARKET FOR ENVIRONMENTAL MONITORING, BY REGION, 2017–2025 (USD MILLION) TABLE 41 DISTRIBUTED TEMPERATURE SENSING MARKET FOR ENVIRONMENTAL MONITORING IN NORTH AMERICA, BY COUNTRY, 2017–2025 (USD THOUSAND)

TABLE 42 DISTRIBUTED TEMPERATURE SENSING MARKET FOR ENVIRONMENTAL MONITORING IN EUROPE, BY COUNTRY, 2017–2025 (USD THOUSAND)

TABLE 43 DISTRIBUTED TEMPERATURE SENSING MARKET FOR ENVIRONMENTAL MONITORING IN APAC, BY COUNTRY, 2017–2025 (USD THOUSAND)

TABLE 44 DISTRIBUTED TEMPERATURE SENSING MARKET FOR ENVIRONMENTAL MONITORING IN ROW, BY REGION, 2017–2025 (USD THOUSAND)

TABLE 45 DISTRIBUTED TEMPERATURE SENSING MARKET, BY REGION,2017–2025 (USD MILLION)

TABLE 46 DISTRIBUTED TEMPERATURE SENSING MARKET IN NORTH AMERICA, BY APPLICATION, 2017–2025 (USD MILLION)

TABLE 47 DISTRIBUTED TEMPERATURE SENSING MARKET IN NORTH AMERICA, BY COUNTRY, 2017–2025 (USD MILLION)

TABLE 48 DISTRIBUTED TEMPERATURE SENSING MARKET IN US, BY APPLICATION, 2017–2025 (USD MILLION)

TABLE 49 DISTRIBUTED TEMPERATURE SENSING MARKET IN CANADA, BY APPLICATION, 2017–2025 (USD MILLION)

TABLE 50 DISTRIBUTED TEMPERATURE SENSING MARKET IN MEXICO, BY APPLICATION, 2017–2025 (USD THOUSAND)

TABLE 51 DISTRIBUTED TEMPERATURE SENSING MARKET IN EUROPE, BY APPLICATION, 2017–2025 (USD MILLION)

TABLE 52 DISTRIBUTED TEMPERATURE SENSING MARKET IN EUROPE, BY COUNTRY, 2017–2025 (USD MILLION)

TABLE 53 DISTRIBUTED TEMPERATURE SENSING MARKET IN UK, BY APPLICATION, 2017–2025 (USD THOUSAND)



TABLE 54 DISTRIBUTED TEMPERATURE SENSING MARKET IN GERMANY, BY APPLICATION, 2017–2025 (USD THOUSAND)

TABLE 55 DISTRIBUTED TEMPERATURE SENSING MARKET IN FRANCE, BY APPLICATION, 2017–2025 (USD THOUSAND)

TABLE 56 DISTRIBUTED TEMPERATURE SENSING MARKET IN RUSSIA, BY APPLICATION, 2017–2025 (USD MILLION)

TABLE 57 DISTRIBUTED TEMPERATURE SENSING MARKET IN REST OF EUROPE, BY APPLICATION, 2017–2025 (USD MILLION)

TABLE 58 DISTRIBUTED TEMPERATURE SENSING MARKET IN APAC, BY APPLICATION, 2017–2025 (USD MILLION)

TABLE 59 DISTRIBUTED TEMPERATURE SENSING MARKET IN APAC, BY COUNTRY, 2017–2025 (USD MILLION)

TABLE 60 DISTRIBUTED TEMPERATURE SENSING MARKET IN CHINA, BY APPLICATION, 2017–2025 (USD MILLION)

TABLE 61 DISTRIBUTED TEMPERATURE SENSING MARKET IN JAPAN, BY APPLICATION, 2017–2025 (USD THOUSAND)

TABLE 62 DISTRIBUTED TEMPERATURE SENSING MARKET IN INDIA, BY APPLICATION, 2017–2025 (USD MILLION)

TABLE 63 DISTRIBUTED TEMPERATURE SENSING MARKET IN SOUTH KOREA, BY APPLICATION, 2017–2025 (USD MILLION)

TABLE 64 DISTRIBUTED TEMPERATURE SENSING MARKET IN REST OF APAC, BY APPLICATION, 2017–2025 (USD MILLION)

TABLE 65 DISTRIBUTED TEMPERATURE SENSING MARKET IN ROW, BY APPLICATION, 2017–2025 (USD MILLION)

TABLE 66 DISTRIBUTED TEMPERATURE SENSING MARKET IN ROW, BY REGION, 2017–2025 (USD MILLION)

TABLE 67 DISTRIBUTED TEMPERATURE SENSING MARKET IN MIDDLE EAST, BY APPLICATION, 2017–2025 (USD MILLION)

TABLE 68 DISTRIBUTED TEMPERATURE SENSING MARKET IN AFRICA, BY APPLICATION, 2017–2025 (USD MILLION)

TABLE 69 DISTRIBUTED TEMPERATURE SENSING MARKET IN SOUTH AMERICA, BY APPLICATION, 2017–2025 (USD THOUSAND)

TABLE 70 DISTRIBUTED TEMPERATURE SENSING MARKET IN SOUTH AMERICA, BY COUNTRY, 2017–2025 (USD MILLION)

TABLE 71 DISTRIBUTED TEMPERATURE SENSING MARKET IN BRAZIL, BY APPLICATION, 2017–2025 (USD THOUSAND)

TABLE 72 DISTRIBUTED TEMPERATURE SENSING MARKET IN ARGENTINA, BY APPLICATION, 2017–2025 (USD THOUSAND)

TABLE 73 DISTRIBUTED TEMPERATURE SENSING MARKET IN VENEZUELA, BY



APPLICATION, 2017–2025 (USD THOUSAND)

TABLE 74 DISTRIBUTED TEMPERATURE SENSING MARKET IN REST OF SOUTH AMERICA, BY APPLICATION, 2017–2025 (USD THOUSAND)

TABLE 75 CONTRACTS/COLLABORATIONS/AGREEMENTS/JOINT VENTURES/ PARTNERSHIPS (2017–2020)

TABLE 76 PRODUCT LAUNCHES (2017–2020)

TABLE 77 ACQUISITIONS (2017-2020)

TABLE 78 EXPANSIONS (2017-2020)



# **List Of Figures**

# LIST OF FIGURES

FIGURE 1 DISTRIBUTED TEMPERATURE SENSING (DTS) MARKET SEGMENTATION FIGURE 2 DISTRIBUTED TEMPERATURE SENSING MARKET: RESEARCH DESIGN FIGURE 3 MARKET SIZE ESTIMATION METHODOLOGY: BOTTOM-UP APPROACH FIGURE 4 MARKET SIZE ESTIMATION METHODOLOGY: TOP-DOWN APPROACH FIGURE 5 DATA TRIANGULATION FIGURE 6 ASSUMPTION FOR THE STUDY FIGURE 7 DISTRIBUTED TEMPERATURE SENSING MARKET, 2017–2025 (USD MILLION) FIGURE 8 DISTRIBUTED TEMPERATURE SENSING MARKET, BY FIBER TYPE (2020 VS. 2025) FIGURE 9 OTDR TO HOLD LARGEST SHARE OF DISTRIBUTED TEMPERATURE SENSING MARKET, BY OPERATING PRINCIPLE, IN 2020 FIGURE 10 DISTRIBUTED TEMPERATURE SENSING MARKET FOR FIRE DETECTION TO GROW AT HIGHEST CAGR FROM 2020 TO 2025 FIGURE 11 MIDDLE EAST & AFRICA TO HOLD LARGEST SHARE OF **DISTRIBUTED TEMPERATURE SENSING MARKET IN 2020** FIGURE 12 INCREASING APPLICATIONS IN THE OIL & GAS INDUSTRY TO BOOST DTS MARKET DURING FORECAST PERIOD FIGURE 13 DISTRIBUTED TEMPERATURE SENSING MARKET FOR RAYLEIGH SCATTERING EFFECT TO GROW AT HIGHEST CAGR FROM 2020 TO 2025 FIGURE 14 OIL & GAS TO HOLD LARGEST SIZE OF DISTRIBUTED TEMPERATURE SENSING MARKET THROUGH TO 2025 FIGURE 15 OIL & GAS AND US WERE LARGEST SHAREHOLDERS OF DTS MARKET IN NORTH AMERICA IN 2019 FIGURE 16 DISTRIBUTED TEMPERATURE SENSING MARKET IN INDIA TO GROW AT HIGHEST CAGR FROM 2020 TO 2025 FIGURE 17 IMPACT OF DRIVERS AND OPPORTUNITIES ON DISTRIBUTED TEMPERATURE SENSING MARKET FIGURE 18 IMPACT OF CHALLENGES AND RESTRAINTS ON DISTRIBUTED TEMPERATURE SENSING MARKET FIGURE 19 TOTAL RECORDED INCIDENCE RATE FROM 2015 TO 2018 FIGURE 20 MAJOR VALUE ADDED DURING IMPLEMENTATION AND INSTALLATION PHASE



FIGURE 21 OVERVIEW OF PORTER'S FIVE FORCES ANALYSIS OF DISTRIBUTED TEMPERATURE SENSING MARKET (2019)

FIGURE 22 DISTRIBUTED TEMPERATURE SENSING MARKET: PORTER'S FIVE FORCES ANALYSIS (2019)

FIGURE 23 THREAT OF NEW ENTRANTS HAD A MEDIUM IMPACT IN 2019 FIGURE 24 THREAT OF SUBSTITUTES HAD A LOW IMPACT IN 2019

FIGURE 25 BARGAINING POWER OF SUPPLIERS HAD A HIGH IMPACT IN 2019 FIGURE 26 BARGAINING POWER OF BUYERS HAD A MEDIUM IMPACT IN 2019 FIGURE 27 INTENSITY OF COMPETITIVE RIVALRY HAD A MEDIUM IMPACT IN 2019

FIGURE 28 OTDR DTS MARKET EXPECTED TO GROW AT A HIGHER CAGR FROM 2020 TO 2025

FIGURE 29 MULTIMODE FIBER TYPE EXPECTED TO GROW AT A HIGHER RATE THAN

SINGLE-MODE FIBER TYPE DURING FORECAST PERIOD

FIGURE 30 DISTRIBUTED TEMPERATURE SENSING MARKET FOR RAYLEIGH SCATTERING EFFECT TO GROW AT HIGHEST CAGR FROM 2020 TO 2025 FIGURE 31 DISTRIBUTED TEMPERATURE SENSING MARKET FOR FIRE DETECTION TO GROW AT HIGHEST CAGR FROM 2020 TO 2025 FIGURE 32 DTS MARKET FOR OIL & GAS TO GROW AT HIGHEST CAGR IN

MIDDLE EAST AMONG REGIONS IN ROW

FIGURE 33 DISTRIBUTED TEMPERATURE SENSING MARKET FOR FIRE DETECTION EXPECTED TO GROW AT HIGHEST RATE IN APAC DURING FORECAST PERIOD

FIGURE 34 DISTRIBUTED TEMPERATURE SENSING MARKET FOR ENVIRONMENTAL MONITORING EXPECTED TO GROW AT HIGHEST RATE IN APAC DURING

FORECAST PERIOD

FIGURE 35 GEOGRAPHIC SNAPSHOT: DTS MARKET IN APAC TO WITNESS HIGHEST GROWTH FROM 2020 TO 2025

FIGURE 36 APAC TO LEAD DISTRIBUTED TEMPERATURE SENSING MARKET DURING

FORECAST PERIOD

FIGURE 37 NORTH AMERICA: DISTRIBUTED TEMPERATURE SENSING MARKET SNAPSHOT

FIGURE 38 EUROPE: DISTRIBUTED TEMPERATURE SENSING MARKET SNAPSHOT

FIGURE 39 APAC: DISTRIBUTED TEMPERATURE SENSING MARKET SNAPSHOT FIGURE 40 COMPANIES ADOPTED



CONTRACTS/COLLABORATIONS/AGREEMENTS/ JOINT VENTURES/PARTNERSHIPS AS KEY GROWTH STRATEGIES DURING 2017–2020 FIGURE 41 SCHLUMBERGER LIMITED (US) LED DTS MARKET IN 2019 FIGURE 42 DTS MARKET (GLOBAL) COMPETITIVE LEADERSHIP MAPPING, 2019 FIGURE 43 PRODUCT PORTFOLIO ANALYSIS OF TOP PLAYERS IN DISTRIBUTED TEMPERATURE SENSING (DTS) MARKET FIGURE 44 BUSINESS STRATEGY EXCELLENCE OF TOP PLAYERS IN DISTRIBUTED TEMPERATURE SENSING (DTS) MARKET FIGURE 45 EVALUATION FRAMEWORK: DTS MARKET FIGURE 46 SCHLUMBERGER LIMITED: COMPANY SNAPSHOT FIGURE 47 HALLIBURTON COMPANY: COMPANY SNAPSHOT FIGURE 48 YOKOGAWA ELECTRIC CORPORATION: COMPANY SNAPSHOT FIGURE 49 WEATHERFORD INTERNATIONAL PLC: COMPANY SNAPSHOT FIGURE 50 SUMITOMO ELECTRIC INDUSTRIES, LTD.: COMPANY SNAPSHOT



### I would like to order

Product name: Distributed Temperature Sensing Market by Operating Principle (OTDR, OFDR), Fiber Type (Single-mode Fibers, Multimode Fibers), Scattering Method (Rayleigh Effect, Raman Effect, Brillouin Effect), Application, and Geography - Global Forecast to 2025

Product link: https://marketpublishers.com/r/DC887A129A4EN.html

Price: US\$ 5,650.00 (Single User License / Electronic Delivery) If you want to order Corporate License or Hard Copy, please, contact our Customer Service: info@marketpublishers.com

# Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <u>https://marketpublishers.com/r/DC887A129A4EN.html</u>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name: Last name: Email: Company: Address: City: Zip code: Country: Tel: Fax: Your message:

\*\*All fields are required

Custumer signature \_

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <u>https://marketpublishers.com/docs/terms.html</u>

To place an order via fax simply print this form, fill in the information below



and fax the completed form to +44 20 7900 3970