

Transformer Monitoring Market by Component (Hardware Solutions, Software Solutions), Type (Oil-Immersed, Cast-Resin), Services (Oil Monitoring, Bushing Monitoring, Partial Discharge Monitoring, OLTC Monitoring), Voltage & Region - Global Forecast to 2028

<https://marketpublishers.com/r/T44857F4856EN.html>

Date: December 2023

Pages: 226

Price: US\$ 4,950.00 (Single User License)

ID: T44857F4856EN

Abstracts

The Transformer Monitoring market is estimated to grow from USD 2.4 Billion in 2023 to USD 3.7 Billion by 2028; it is expected to record a CAGR of 9.1% during the forecast period. The Transformer Monitoring market is witnessing rapid growth due to the need for stable power supply, aging infrastructure, and the advancement of smart grid technologies are driving rising demand for transformer monitoring.

“High & Extra High Voltage is the largest segment of the Transformer Monitoring market, by voltage”

Based on voltage, the Transformer Monitoring market has been split into three types: Low voltage, medium voltage and high & extra high voltage. The high and extra high voltage segment dominates the transformers market due to its vital role in power transmission across large distances. Rising electricity demand, grid expansion projects, and the incorporation of renewable energy sources all increase the demand for high and extra high voltage transformers. These transformers serve an important role in efficient power distribution, making them an important component in handling the changing energy landscape and maintaining reliable electrical grids.

“Oil Monitoring segment is expected to emerge as the fastest-growing segment based on services”

Based on services, the Transformer Monitoring market has been segmented into oil monitoring, bushing monitoring, partial discharge monitoring, OLTC monitoring and others. Due to its vital role as a diagnostic medium, transformer oil accounts for the greatest portion of the transformer monitoring market. Monitoring its state provides insights into the transformer's health, allowing for preventative maintenance, minimizing downtime, and optimising performance, all of which are important elements in assuring transformer reliability and lifetime.

“North America is expected to emerge as the second-largest region based on Transformer Monitoring market”

By region, the Transformer Monitoring market has been segmented into Asia Pacific, North America, South America, Europe, and Middle East & Africa. In the region, the transformer monitoring market is expanding in North America as a result of a push for power infrastructure modernization, a concentration on energy efficiency, and rigorous environmental requirements. Monitoring solutions are in high demand due to the integration of renewable energy sources and the requirement to optimize existing transformer assets to meet changing energy demands. Furthermore, a focus on smart grid projects, as well as increased knowledge of the economic and operational benefits of real-time monitoring, contribute to the increased implementation of transformer monitoring technology in the North America region.

Cast resin is expected to be the second-fastest segment based on the type

Retrofit is expected to be the second-fastest segment in the Transformer Monitoring market between 2023–2028 due to their eco-friendly and fire-resistant properties. As environmental concerns grow and safety becomes a priority, industries opt for cast resin transformers. The need for reliable monitoring solutions to ensure their efficient performance further contributes to the increasing demand.

Breakdown of Primaries:

In-depth interviews have been conducted with various key industry participants, subject-matter experts, C-level executives of key market players, and industry consultants, among other experts, to obtain and verify critical qualitative and quantitative information, as well as to assess future market prospects. The distribution of primary interviews is as follows:

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

By Designation: C-Level- 35%, Director Levels- 25%, and Others- 40%

By Region: North America- 27%, Europe- 20%, Asia Pacific- 33%, the Middle East & Africa- 12%, and South America- 8%

Note: Others include product engineers, product specialists, and engineering leads.

Note: The tiers of the companies are defined on the basis of their total revenues as of 2021. Tier 1: > USD 1 billion, Tier 2: From USD 500 million to USD 1 billion, and Tier 3: The Transformer Monitoring market is dominated by a few major players that have a wide regional presence. The leading players in the Transformer Monitoring market are GE (US), ABB (Switzerland), Siemens Energy AG (Germany), Schneider Electric (France), and Eaton (Ireland).

Research Coverage:

The report defines, describes, and forecasts the Transformer Monitoring market, by component, type, services, voltage, application, and region. It also offers a detailed qualitative and quantitative analysis of the market. The report provides a comprehensive review of the major market drivers, restraints, opportunities, and challenges. It also covers various important aspects of the market. These include an analysis of the competitive landscape, market dynamics, market estimates, in terms of value, and future trends in the Transformer Monitoring market.

Key Benefits of Buying the Report

Growing emphasis on ensuring a reliable and continuous power supply and need for monitoring to address the challenges of aging transformer infrastructure is likely to drive the demand. Factors such as cost barrier is hindering the growth of power transformers. Growth of big data analytic is creating opportunities in this market. Acceptance level among end users are major challenges faced by countries in this market.

Product Development/ Innovation: The trends such as launching of continuous online monitors for transformers that uses UHF Partial Discharge monitoring, trending and classification technology.

Market Development: The global scenario of transformer monitoring has developed due to digitalization of the utilities promoting use of power transformers, increased investments in renewable energy, and increased electricity consumption throughout the world.

Market Diversification: ABB launched ABB Ability condition monitoring for belts which offers a complete overview of the assets' condition through continuous monitoring of belt health, generating alarms and warnings in the event of deterioration. By moving from preventative to predictive maintenance, it enables operators to avoid the costly failures that can occur between physical inspections and personnel can be removed from dangerous areas.

Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players like GE (US), ABB (Switzerland), Siemens Energy AG (Germany), Schneider Electric (France), and Eaton (Ireland) among others in the Transformer Monitoring market

Contents

1 INTRODUCTION

1.1 STUDY OBJECTIVES

1.2 MARKET DEFINITION

1.3 INCLUSIONS AND EXCLUSIONS

1.3.1 TRANSFORMER MONITORING SYSTEM MARKET, BY COMPONENT:
INCLUSIONS AND EXCLUSIONS

1.3.2 TRANSFORMER MONITORING SYSTEM MARKET, BY TYPE: INCLUSIONS
AND EXCLUSIONS

1.3.3 TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES:
INCLUSIONS AND EXCLUSIONS

1.3.4 TRANSFORMER MONITORING SYSTEM MARKET, BY VOLTAGE:
INCLUSIONS AND EXCLUSIONS

1.3.5 TRANSFORMER MONITORING SYSTEM MARKET, BY APPLICATION:
INCLUSIONS AND EXCLUSIONS

1.4 MARKET SCOPE

1.4.1 MARKETS COVERED

1.4.2 REGIONAL SCOPE

1.4.3 YEARS CONSIDERED

1.4.4 CURRENCY CONSIDERED

1.5 LIMITATIONS

1.6 STAKEHOLDERS

1.7 SUMMARY OF CHANGES

1.8 RECESSION IMPACT

2 RESEARCH METHODOLOGY

2.1 RESEARCH DATA

FIGURE 1 TRANSFORMER MONITORING SYSTEM MARKET: RESEARCH DESIGN

2.2 MARKET BREAKDOWN AND DATA TRIANGULATION

FIGURE 2 DATA TRIANGULATION

2.2.1 SECONDARY DATA

2.2.1.1 Key data from secondary sources

2.2.2 PRIMARY DATA

2.2.2.1 Key industry insights

2.2.2.2 Breakdown of primaries

2.3 SCOPE

FIGURE 3 MAIN METRICS CONSIDERED TO ANALYZE AND ASSESS DEMAND FOR TRANSFORMER MONITORING SYSTEMS

2.4 MARKET SIZE ESTIMATION

2.4.1 BOTTOM-UP APPROACH

FIGURE 4 MARKET SIZE ESTIMATION METHODOLOGY: BOTTOM-UP APPROACH

2.4.2 TOP-DOWN APPROACH

FIGURE 5 MARKET SIZE ESTIMATION METHODOLOGY: TOP-DOWN APPROACH

2.4.3 DEMAND-SIDE ANALYSIS

2.4.3.1 Regional analysis

2.4.3.2 Country-level analysis

2.4.3.3 Assumptions for demand-side analysis

2.4.3.4 Calculations for demand-side analysis

2.4.4 SUPPLY-SIDE ANALYSIS

FIGURE 6 KEY STEPS CONSIDERED TO ASSESS SUPPLY OF TRANSFORMER MONITORING SYSTEMS

FIGURE 7 TRANSFORMER MONITORING SYSTEM MARKET: SUPPLY-SIDE ANALYSIS

2.4.4.1 Calculations for supply-side analysis

2.4.4.2 Assumptions for supply-side analysis

FIGURE 8 INDUSTRY CONCENTRATION, 2022

2.4.5 FORECAST

2.5 RISK ASSESSMENT

2.6 IMPACT OF RECESSION

3 EXECUTIVE SUMMARY

TABLE 1 TRANSFORMER MONITORING SYSTEM MARKET SNAPSHOT

FIGURE 9 ASIA PACIFIC TO REGISTER HIGHEST CAGR IN TRANSFORMER MONITORING SYSTEM MARKET DURING FORECAST PERIOD

FIGURE 10 HARDWARE SOLUTIONS SEGMENT TO LEAD TRANSFORMER MONITORING SYSTEM MARKET DURING FORECAST PERIOD

FIGURE 11 OIL-IMMERSED SEGMENT TO DOMINATE TRANSFORMER MONITORING SYSTEM MARKET DURING FORECAST PERIOD

FIGURE 12 POWER TRANSFORMERS SEGMENT TO LEAD TRANSFORMER MONITORING SYSTEM MARKET DURING FORECAST PERIOD

FIGURE 13 HIGH AND EXTRA HIGH VOLTAGE SEGMENT TO LEAD TRANSFORMER MONITORING SYSTEM MARKET DURING FORECAST PERIOD

FIGURE 14 OIL MONITORING SEGMENT TO LEAD TRANSFORMER MONITORING SYSTEM MARKET DURING FORECAST PERIOD

4 PREMIUM INSIGHTS

4.1 ATTRACTIVE OPPORTUNITIES FOR PLAYERS IN TRANSFORMER MONITORING SYSTEM MARKET

FIGURE 15 RISING ADOPTION OF EFFICIENT POWER DISTRIBUTION SYSTEMS

4.2 TRANSFORMER MONITORING SYSTEM MARKET, BY REGION

FIGURE 16 ASIA PACIFIC TO REGISTER HIGHEST CAGR DURING FORECAST PERIOD

4.3 ASIA PACIFIC TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES AND COUNTRY, 2022

FIGURE 17 OIL MONITORING SEGMENT AND CHINA HELD LARGEST SHARES OF ASIA PACIFIC TRANSFORMER MONITORING SYSTEM MARKET IN 2022

4.4 TRANSFORMER MONITORING SYSTEM MARKET, BY COMPONENT

FIGURE 18 HARDWARE SOLUTIONS SEGMENT TO DOMINATE TRANSFORMER MONITORING SYSTEM MARKET IN 2028

4.5 TRANSFORMER MONITORING SYSTEM MARKET, BY TYPE

FIGURE 19 OIL-IMMERSED SEGMENT TO ACCOUNT FOR LARGEST SHARE OF TRANSFORMER MONITORING SYSTEM MARKET IN 2028

4.6 TRANSFORMER MONITORING SYSTEM MARKET, BY APPLICATION

FIGURE 20 POWER TRANSFORMERS SEGMENT TO ACCOUNT FOR LARGEST SHARE OF TRANSFORMER MONITORING SYSTEM MARKET IN 2028

4.7 TRANSFORMER MONITORING SYSTEM MARKET, BY VOLTAGE

FIGURE 21 HIGH AND EXTRA HIGH VOLTAGE SEGMENT TO ACCOUNT FOR LARGEST SHARE OF TRANSFORMER MONITORING SYSTEM MARKET IN 2028

4.8 TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES

FIGURE 22 OIL MONITORING SEGMENT TO ACCOUNT FOR LARGEST SHARE OF TRANSFORMER MONITORING SYSTEM MARKET IN 2028

5 MARKET OVERVIEW

5.1 INTRODUCTION

5.2 MARKET DYNAMICS

FIGURE 23 TRANSFORMER MONITORING SYSTEM MARKET: DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES

5.2.1 DRIVERS

5.2.1.1 Increasing focus on digitalization of utilities

TABLE 2 PROJECTS BY DIFFERENT COUNTRIES FOR ENERGY TRANSITION

FIGURE 24 INVESTMENTS IN DIGITALIZATION OF TRANSFORMERS, 2015–2022

(USD BILLION)

5.2.1.2 Increased investments in renewable and clean energy generation

FIGURE 25 GLOBAL CLEAN ENERGY INVESTMENTS, 2015–2023 (USD BILLION)

FIGURE 26 ENERGY TRANSITION INVESTMENTS, BY TOP 10 COUNTRIES, 2021 (%)

FIGURE 27 ENERGY TRANSITION INVESTMENTS, BY SECTOR, 2021 (USD BILLION)

5.2.1.3 Growing use of monitoring systems for transformers

FIGURE 28 ELECTRICITY CONSUMPTION, BY COUNTRY, 2022 (TWH)

5.2.2 RESTRAINTS

5.2.2.1 High hardware, software, and installation costs

5.2.3 OPPORTUNITIES

5.2.3.1 Growing use of big data analytics in energy industry

5.2.3.2 Increased investments in offshore wind farms

FIGURE 29 NEW OFFSHORE INSTALLATIONS, 2016–2022 (MW)

5.2.4 CHALLENGES

5.2.4.1 Low acceptance among end users

5.3 TRENDS/DISRUPTIONS IMPACTING CUSTOMERS' BUSINESSES

FIGURE 30 TRENDS/DISRUPTIONS IMPACTING CUSTOMERS' BUSINESSES

5.4 ECOSYSTEM MAPPING

TABLE 3 COMPANIES AND THEIR ROLE IN TRANSFORMER MONITORING ECOSYSTEM

FIGURE 31 TRANSFORMER MONITORING SYSTEM MARKET: ECOSYSTEM MAPPING

5.5 VALUE CHAIN ANALYSIS

FIGURE 32 TRANSFORMER MONITORING SYSTEM MARKET: VALUE CHAIN ANALYSIS

5.5.1 RAW MATERIAL PROVIDERS/SUPPLIERS/COMPONENT MANUFACTURERS

5.5.2 TRANSFORMER MONITORING SYSTEM MANUFACTURERS/ASSEMBLERS

5.5.3 DISTRIBUTORS/RESELLERS

5.5.4 END USERS

5.5.5 MAINTENANCE/SERVICE PROVIDERS

5.6 TECHNOLOGY ANALYSIS

5.6.1 SENSORS AND INTERNET OF THINGS (IOT)

5.6.2 DATA ANALYTICS AND ARTIFICIAL INTELLIGENCE (AI)

5.6.3 DIGITAL TWINS AND SIMULATION

5.6.4 CLOUD-BASED AND MOBILE SOLUTIONS

5.7 PATENT ANALYSIS

FIGURE 33 TRANSFORMER MONITORING SYSTEM MARKET: PATENT

REGISTRATIONS, 2012–2022

TABLE 4 TRANSFORMER MONITORING SYSTEM MARKET: INNOVATIONS AND PATENT REGISTRATIONS, 2019–2023

5.8 TRADE ANALYSIS

5.8.1 IMPORT SCENARIO FOR HS CODE 850423-COMPLIANT PRODUCTS

TABLE 5 IMPORT DATA FOR HS CODE 850423-COMPLIANT PRODUCTS, BY COUNTRY, 2020–2022 (USD THOUSAND)

FIGURE 34 IMPORT DATA FOR HS CODE 850423-COMPLIANT PRODUCTS, BY TOP FIVE COUNTRIES, 2020–2022 (USD THOUSAND)

5.8.2 EXPORT SCENARIO FOR HS CODE 850423-COMPLIANT PRODUCTS

TABLE 6 EXPORT DATA FOR HS CODE 850423-COMPLIANT PRODUCTS, BY COUNTRY, 2020–2022 (USD THOUSAND)

FIGURE 35 EXPORT DATA FOR HS CODE 850423-COMPLIANT PRODUCTS, BY TOP FIVE COUNTRIES, 2020–2022 (USD THOUSAND)

5.8.3 IMPORT SCENARIO FOR HS CODE 850421-COMPLIANT PRODUCTS

TABLE 7 IMPORT DATA FOR HS CODE 850421-COMPLIANT PRODUCTS, BY COUNTRY, 2020–2022 (USD THOUSAND)

FIGURE 36 IMPORT SCENARIO FOR HS CODE 850421-COMPLIANT PRODUCTS, BY TOP FIVE COUNTRIES, 2020–2022 (USD THOUSAND)

5.8.4 EXPORT SCENARIO FOR HS CODE 850421-COMPLIANT PRODUCTS

TABLE 8 EXPORT DATA FOR HS CODE 850421-COMPLIANT PRODUCTS, BY COUNTRY, 2020–2022 (USD THOUSAND)

FIGURE 37 EXPORT DATA FOR HS CODE 850421-COMPLIANT PRODUCTS, BY TOP FIVE COUNTRIES, 2020–2022 (USD THOUSAND)

5.9 PRICING ANALYSIS

FIGURE 38 AVERAGE SELLING PRICE (ASP) OF TRANSFORMER MONITORING SYSTEMS, BY APPLICATION, 2021, 2022, 2023, AND 2028 (USD/UNIT)

TABLE 9 AVERAGE SELLING PRICE (ASP) OF TRANSFORMER MONITORING SYSTEMS, BY APPLICATION, 2021, 2022, 2023, AND 2028 (USD/UNIT)

TABLE 10 AVERAGE SELLING PRICE (ASP) TREND, BY REGION, 2020, 2021, 2022, AND 2030 (USD/UNIT)

FIGURE 39 AVERAGE SELLING PRICE (ASP) TREND, BY REGION, 2020, 2021, 2022, AND 2030 (USD/UNIT)

5.10 TARIFF ANALYSIS

TABLE 11 TARIFF LEVIED ON TRANSFORMER MONITORING SYSTEMS (HS CODE 850423), 2022

TABLE 12 TARIFF LEVIED ON TRANSFORMER MONITORING SYSTEMS (HS CODE 850421), 2022

5.11 STANDARDS AND REGULATORY LANDSCAPE

5.11.1 STANDARDS RELATED TO TRANSFORMER MONITORING SYSTEMS

TABLE 13 TRANSFORMER MONITORING SYSTEM MARKET: NORTH AMERICAN STANDARDS

TABLE 14 TRANSFORMER MONITORING SYSTEM MARKET: EUROPEAN STANDARDS

TABLE 15 TRANSFORMER MONITORING SYSTEM MARKET: ASIA PACIFIC STANDARDS

TABLE 16 TRANSFORMER MONITORING SYSTEM MARKET: INTERNATIONAL STANDARDS

5.11.2 REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 17 NORTH AMERICA: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 18 EUROPE: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 19 ASIA PACIFIC: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 20 ROW: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

5.12 PORTER'S FIVE FORCES ANALYSIS

FIGURE 40 TRANSFORMER MONITORING SYSTEM MARKET: PORTER'S FIVE FORCES ANALYSIS

TABLE 21 TRANSFORMER MONITORING SYSTEM MARKET: PORTER'S FIVE FORCES ANALYSIS

5.12.1 THREAT OF SUBSTITUTES

5.12.2 BARGAINING POWER OF SUPPLIERS

5.12.3 BARGAINING POWER OF BUYERS

5.12.4 THREAT OF NEW ENTRANTS

5.12.5 INTENSITY OF COMPETITIVE RIVALRY

5.13 CASE STUDY ANALYSIS

5.13.1 EARLY DETECTION OF TEMPERATURE, OIL QUALITY, GAS LEVELS, AND ELECTRICAL CHARACTERISTICS IN TRANSFORMERS BY CONDITION MONITORING

5.13.1.1 Problem statement

5.13.1.2 Solution

5.13.2 GUJARAT POWER RESEARCH & DEVELOPMENT (GPRD) DEPLOYED SYSTEM LEVEL SOLUTIONS (SLS)'S REAL-TIME TRANSFORMER MONITORING SYSTEM (TMS) FOR REAL-TIME TRANSFORMER MONITORING

5.13.2.1 Problem statement

5.13.2.2 Solution

5.13.3 OMICRON ELECTRONICS GMBH WAS CONTRACTED BY SUBSTATION BASED IN AUSTRIA TO RECTIFY PARTIAL DISCHARGE AND ENSURE OPERATIONAL SAFETY AND RELIABILITY

5.13.3.1 Problem statement

5.13.3.2 Solution

5.14 KEY STAKEHOLDERS AND BUYING CRITERIA

5.14.1 KEY STAKEHOLDERS IN BUYING PROCESS

FIGURE 41 INFLUENCE OF KEY STAKEHOLDERS ON BUYING PROCESS FOR TOP THREE SERVICES

TABLE 22 INFLUENCE OF KEY STAKEHOLDERS ON BUYING PROCESS FOR TOP THREE SERVICES

5.14.2 BUYING CRITERIA

FIGURE 42 KEY BUYING CRITERIA FOR TOP THREE SERVICES

TABLE 23 KEY BUYING CRITERIA FOR TOP THREE SERVICES

5.15 KEY CONFERENCES AND EVENTS, 2023–2024

TABLE 24 TRANSFORMER MONITORING SYSTEM MARKET: LIST OF KEY CONFERENCES AND EVENTS, 2023–2024

6 TRANSFORMER MONITORING SYSTEM MARKET, BY VOLTAGE

6.1 INTRODUCTION

FIGURE 43 TRANSFORMER MONITORING SYSTEM MARKET, BY VOLTAGE, 2022

TABLE 25 TRANSFORMER MONITORING SYSTEM MARKET, BY VOLTAGE, 2021–2028 (USD MILLION)

6.2 LOW VOLTAGE

6.2.1 HIGHLY USED TO POWER DEVICES AND SYSTEMS REQUIRING LOWER VOLTAGE

TABLE 26 LOW VOLTAGE: TRANSFORMER MONITORING SYSTEM MARKET, BY REGION, 2021–2028 (USD MILLION)

6.3 MEDIUM VOLTAGE

6.3.1 USED TO STEP DOWN HIGHER VOLTAGES SUPPLIED BY GRID TO LEVELS APPROPRIATE FOR INDUSTRIAL OPERATIONS, ENSURING SAFE AND MANAGEABLE ELECTRICITY DISTRIBUTION

TABLE 27 MEDIUM VOLTAGE: TRANSFORMER MONITORING SYSTEM MARKET, BY REGION, 2021–2028 (USD MILLION)

6.4 HIGH AND EXTRA HIGH VOLTAGE

6.4.1 FACILITATES EARLY FAULT DETECTION, COMPLIANCE ADHERENCE, AND REMOTE OVERSIGHT

TABLE 28 HIGH VOLTAGE: TRANSFORMER MONITORING SYSTEM MARKET, BY REGION, 2021–2028 (USD MILLION)

7 TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES

7.1 INTRODUCTION

FIGURE 44 TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2022

TABLE 29 TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

7.2 OIL MONITORING

7.2.1 HELPS DETECT ISSUES EARLY AND EXTEND OPERATIONAL LIFE OF TRANSFORMERS

TABLE 30 OIL MONITORING: TRANSFORMER MONITORING SYSTEM MARKET, BY REGION, 2021–2028 (USD MILLION)

7.3 BUSHING MONITORING

7.3.1 ENSURES INTEGRITY AND PREVENTS CRIPPLING OF TRANSFORMER, CIRCUIT BREAKER, OR SHUNT REACTOR BUSHING FAILURE

TABLE 31 BUSHING MONITORING: TRANSFORMER MONITORING SYSTEM MARKET, BY REGION, 2021–2028 (USD MILLION)

7.4 PARTIAL DISCHARGE (PD) MONITORING

7.4.1 ENABLES EARLY PROBLEM IDENTIFICATION AND PREVENTATIVE MAINTENANCE

TABLE 32 PARTIAL DISCHARGE (PD) MONITORING: TRANSFORMER MONITORING SYSTEM MARKET, BY REGION, 2021–2028 (USD MILLION)

7.5 ON-LOAD TAP CHANGER (OLTC) MONITORING

7.5.1 ENSURES PROPER FUNCTIONING BY MODIFYING TURN RATIO OF TRANSFORMERS AND ADJUSTING VOLTAGE UNDER VARIOUS LOAD SITUATIONS

TABLE 33 ON-LOAD TAP CHANGER (OLTC) MONITORING: TRANSFORMER MONITORING SYSTEM MARKET, BY REGION, 2021–2028 (USD MILLION)

7.6 OTHER SERVICES

TABLE 34 OTHER SERVICES: TRANSFORMER MONITORING SYSTEM MARKET, BY REGION, 2021–2028 (USD MILLION)

8 TRANSFORMER MONITORING SYSTEM MARKET, BY COMPONENT

8.1 INTRODUCTION

FIGURE 45 TRANSFORMER MONITORING SYSTEM MARKET, BY COMPONENT, 2022

TABLE 35 TRANSFORMER MONITORING SYSTEM MARKET, BY COMPONENT, 2021–2028 (USD MILLION)

8.2 HARDWARE SOLUTIONS

8.2.1 INCREASED EFFORTS TO IMPROVE EFFICIENCY, RELIABILITY, AND LONGEVITY OF POWER TRANSFORMERS TO DRIVE DEMAND

TABLE 36 HARDWARE SOLUTIONS: TRANSFORMER MONITORING SYSTEM MARKET, BY REGION, 2021–2028 (USD MILLION)

8.3 SOFTWARE SOLUTIONS

8.3.1 GROWING ADOPTION FOR PREVENTATIVE MAINTENANCE, IMPROVING POWER TRANSFORMER PERFORMANCE, AND TRANSFORMING RAW DATA INTO USABLE INSIGHTS TO DRIVE MARKET

TABLE 37 SOFTWARE SOLUTIONS: TRANSFORMER MONITORING SYSTEM MARKET, BY REGION, 2021–2028 (USD MILLION)

9 TRANSFORMER MONITORING SYSTEM MARKET, BY APPLICATION

9.1 INTRODUCTION

FIGURE 46 TRANSFORMER MONITORING SYSTEM MARKET, BY APPLICATION, 2022

TABLE 38 TRANSFORMER MONITORING SYSTEM MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

TABLE 39 TRANSFORMER MONITORING SYSTEM MARKET, BY APPLICATION, 2021–2028 (UNITS)

9.2 POWER TRANSFORMERS

9.2.1 CAPABILITY TO DETECT ANOMALIES FOR INFORMED DECISION-MAKING TO DRIVE DEMAND

TABLE 40 POWER TRANSFORMERS: TRANSFORMER MONITORING SYSTEM MARKET, BY REGION, 2021–2028 (USD MILLION)

TABLE 41 POWER TRANSFORMERS: TRANSFORMER MONITORING SYSTEM MARKET, BY REGION, 2021–2028 (UNITS)

9.3 DISTRIBUTION TRANSFORMERS

9.3.1 ABILITY TO REMOTELY MONITOR AND CONTROL POWER DISTRIBUTION TO FUEL DEMAND

TABLE 42 DISTRIBUTION TRANSFORMERS: TRANSFORMER MONITORING SYSTEM MARKET, BY REGION, 2021–2028 (USD MILLION)

TABLE 43 DISTRIBUTION TRANSFORMERS: TRANSFORMER MONITORING SYSTEM MARKET, BY REGION, 2021–2028 (UNITS)

9.4 OTHER APPLICATIONS

TABLE 44 OTHER APPLICATIONS: TRANSFORMER MONITORING SYSTEM

MARKET, BY REGION, 2021–2028 (USD MILLION)

TABLE 45 OTHER APPLICATIONS: TRANSFORMER MONITORING SYSTEM

MARKET, BY REGION, 2021–2028 (UNITS)

10 TRANSFORMER MONITORING SYSTEM MARKET, BY TYPE

10.1 INTRODUCTION

FIGURE 47 TRANSFORMER MONITORING SYSTEM MARKET, BY TYPE, 2022

TABLE 46 TRANSFORMER MONITORING SYSTEM MARKET, BY TYPE, 2021–2028 (USD MILLION)

10.2 OIL-IMMERSED

10.2.1 USED IN UTILITIES TO HANDLE POSSIBLE FAULTS, REDUCE UNPLANNED OUTAGES, AND OPTIMIZE TRANSFORMER PERFORMANCE

TABLE 47 OIL-IMMERSED: TRANSFORMER MONITORING SYSTEM MARKET, BY REGION, 2021–2028 (USD MILLION)

10.3 CAST-RESIN

10.3.1 IDEAL FOR REAL-TIME ASSESSMENT OF SOLID INSULATION CONDITION

TABLE 48 CAST-RESIN: TRANSFORMER MONITORING SYSTEM MARKET, BY REGION, 2021–2028 (USD MILLION)

10.4 OTHER TYPES

TABLE 49 OTHER TYPES: TRANSFORMER MONITORING SYSTEM MARKET, BY REGION, 2021–2028 (USD MILLION)

11 TRANSFORMER MONITORING SYSTEM MARKET, BY REGION

11.1 INTRODUCTION

FIGURE 48 TRANSFORMER MONITORING SYSTEM MARKET, BY REGION, 2022 (%)

FIGURE 49 ASIA PACIFIC TO REGISTER HIGHEST CAGR DURING FORECAST PERIOD

TABLE 50 TRANSFORMER MONITORING SYSTEM MARKET, BY REGION, 2021–2028 (USD MILLION)

TABLE 51 TRANSFORMER MONITORING SYSTEM MARKET, BY COMPONENT, 2021–2028 (USD MILLION)

TABLE 52 TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

TABLE 53 TRANSFORMER MONITORING SYSTEM MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 54 TRANSFORMER MONITORING SYSTEM MARKET, BY VOLTAGE,

2021–2028 (USD MILLION)

TABLE 55 TRANSFORMER MONITORING SYSTEM MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

11.2 NORTH AMERICA

11.2.1 NORTH AMERICAN TRANSFORMER MONITORING SYSTEM MARKET: RECESSION IMPACT

FIGURE 50 NORTH AMERICA: TRANSFORMER MONITORING SYSTEM MARKET SNAPSHOT

TABLE 56 NORTH AMERICA: TRANSFORMER MONITORING SYSTEM MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 57 NORTH AMERICA: TRANSFORMER MONITORING SYSTEM MARKET, BY COMPONENT, 2021–2028 (USD MILLION)

TABLE 58 NORTH AMERICA: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

TABLE 59 NORTH AMERICA: TRANSFORMER MONITORING SYSTEM MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 60 NORTH AMERICA: TRANSFORMER MONITORING SYSTEM MARKET, BY VOLTAGE, 2021–2028 (USD MILLION)

TABLE 61 NORTH AMERICA: TRANSFORMER MONITORING SYSTEM MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

11.2.2 US

11.2.2.1 Growing electricity demand and need for reliable and efficient operation of power utilities

TABLE 62 US: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.2.3 CANADA

11.2.3.1 Rising use to reduce operational risks and ensure reliability of power transformers in technologically evolving landscape

TABLE 63 CANADA: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.2.4 MEXICO

11.2.4.1 Increasing use of renewable energy and growing emphasis on sustainability and grid resilience

TABLE 64 MEXICO: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.3 EUROPE

FIGURE 51 EUROPE: TRANSFORMER MONITORING SYSTEM MARKET SNAPSHOT

11.3.1 EUROPEAN TRANSFORMER MONITORING SYSTEM MARKET:

RECESSION IMPACT

TABLE 65 EUROPE: TRANSFORMER MONITORING SYSTEM MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 66 EUROPE: TRANSFORMER MONITORING SYSTEM MARKET, BY COMPONENT, 2021–2028 (USD MILLION)

TABLE 67 EUROPE: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

TABLE 68 EUROPE: TRANSFORMER MONITORING SYSTEM MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 69 EUROPE: TRANSFORMER MONITORING SYSTEM MARKET, BY VOLTAGE, 2021–2028 (USD MILLION)

TABLE 70 EUROPE: TRANSFORMER MONITORING SYSTEM MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

11.3.2 UK

11.3.2.1 Growing adoption of innovative monitoring systems

TABLE 71 UK: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.3.3 GERMANY

11.3.3.1 Expansion of T&D network with shift from nuclear and fossil fuels to renewable energy

TABLE 72 GERMANY: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.3.4 FRANCE

11.3.4.1 Decommissioning of aging nuclear plants and growing importance of reliable and efficient power infrastructure

TABLE 73 FRANCE: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.3.5 ITALY

11.3.5.1 Increased power consumption and use of renewable energy sources

TABLE 74 ITALY: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.3.6 RUSSIA

11.3.6.1 Rising government-led investments in modernization of power grids

TABLE 75 RUSSIA: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.3.7 REST OF EUROPE

TABLE 76 REST OF EUROPE: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.4 ASIA PACIFIC

FIGURE 52 ASIA PACIFIC: TRANSFORMER MONITORING SYSTEM MARKET SNAPSHOT

11.4.1 ASIA PACIFIC TRANSFORMER MONITORING SYSTEM MARKET: RECESSION IMPACT

TABLE 77 ASIA PACIFIC: TRANSFORMER MONITORING SYSTEM MARKET , BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 78 ASIA PACIFIC: TRANSFORMER MONITORING SYSTEM MARKET, BY COMPONENT, 2021–2028 (USD MILLION)

TABLE 79 ASIA PACIFIC: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

TABLE 80 ASIA PACIFIC: TRANSFORMER MONITORING SYSTEM MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 81 ASIA PACIFIC: TRANSFORMER MONITORING SYSTEM MARKET, BY VOLTAGE, 2021–2028 (USD MILLION)

TABLE 82 ASIA PACIFIC: TRANSFORMER MONITORING SYSTEM MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

11.4.2 CHINA

11.4.2.1 Rising focus on grid stability and sustainability

TABLE 83 CHINA: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.4.3 JAPAN

11.4.3.1 Increasing need for modernized and resilient power grids

TABLE 84 JAPAN: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.4.4 INDIA

11.4.4.1 Growing need for dependable and efficient power supply and aging transformer infrastructure

TABLE 85 INDIA: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.4.5 SOUTH KOREA

11.4.5.1 Increased power consumption and adoption of renewable sources for electricity production

TABLE 86 SOUTH KOREA: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.4.6 AUSTRALIA

11.4.6.1 Increasing electricity demand, growing share of renewable energy sources, and rising adoption of distributed generation

TABLE 87 AUSTRALIA: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.4.7 REST OF ASIA PACIFIC

TABLE 88 REST OF ASIA PACIFIC: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.5 SOUTH AMERICA

11.5.1 SOUTH AMERICAN TRANSFORMER MONITORING SYSTEM MARKET: RECESSION IMPACT

TABLE 89 SOUTH AMERICA: TRANSFORMER MONITORING SYSTEM MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 90 SOUTH AMERICA: TRANSFORMER MONITORING SYSTEM MARKET, BY COMPONENT, 2021–2028 (USD MILLION)

TABLE 91 SOUTH AMERICA: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

TABLE 92 SOUTH AMERICA: TRANSFORMER MONITORING SYSTEM MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 93 SOUTH AMERICA: TRANSFORMER MONITORING SYSTEM MARKET, BY VOLTAGE, 2021–2028 (USD MILLION)

TABLE 94 SOUTH AMERICA: TRANSFORMER MONITORING SYSTEM MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

11.5.2 BRAZIL

11.5.2.1 Growing solar power generation

TABLE 95 BRAZIL: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.5.3 ARGENTINA

11.5.3.1 Increased hydroelectricity generation

TABLE 96 ARGENTINA: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.5.4 VENEZUELA

11.5.4.1 Presence of aging and underinvested power grids

TABLE 97 VENEZUELA: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.5.5 REST OF SOUTH AMERICA

TABLE 98 REST OF SOUTH AMERICA: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.6 MIDDLE EAST & AFRICA

11.6.1 MIDDLE EASTERN & AFRICAN TRANSFORMER MONITORING SYSTEM MARKET: RECESSION IMPACT

TABLE 99 MIDDLE EAST & AFRICA: TRANSFORMER MONITORING SYSTEM MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 100 MIDDLE EAST & AFRICA: TRANSFORMER MONITORING SYSTEM

MARKET, BY COMPONENT, 2021–2028 (USD MILLION)

TABLE 101 MIDDLE EAST & AFRICA: TRANSFORMER MONITORING SYSTEM

MARKET, BY SERVICES, 2021–2028 (USD MILLION)

TABLE 102 MIDDLE EAST & AFRICA: TRANSFORMER MONITORING SYSTEM

MARKET, BY TYPE, 2021–2028 (USD MILLION)

TABLE 103 MIDDLE EAST & AFRICA: TRANSFORMER MONITORING SYSTEM

MARKET, BY VOLTAGE, 2021–2028 (USD MILLION)

TABLE 104 MIDDLE EAST & AFRICA: TRANSFORMER MONITORING SYSTEM

MARKET, BY APPLICATION, 2021–2028 (USD MILLION)

11.6.2 GCC COUNTRIES

11.6.2.1 High electricity demand in residential sector

TABLE 105 UAE: TRANSFORMER MONITORING SYSTEM MARKET, BY COUNTRY, 2021–2028 (USD MILLION)

TABLE 106 UAE: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.6.2.2 UAE

11.6.2.2.1 Rising investments in solar energy generation

TABLE 107 UAE: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.6.2.3 SAUDI ARABIA

11.6.2.3.1 Expansion of grids and energy diversification

TABLE 108 SAUDI ARABIA: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.6.2.4 QATAR

11.6.2.4.1 Increased electricity generation capacity year-on-year

TABLE 109 QATAR: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.6.2.5 REST OF GCC COUNTRIES

TABLE 110 REST OF GCC COUNTRIES: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.6.3 IRAN

11.6.3.1 Growing use of renewable energy sources and aging transformer infrastructure

TABLE 111 IRAN: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.6.4 ALGERIA

11.6.4.1 Growing deployment in power grids and oil & gas fields

TABLE 112 ALGERIA: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.6.5 SOUTH AFRICA

11.6.5.1 Increased power generation using coal and growing use to improve transformer dependability and longevity by giving real-time data on performance and potential defects

TABLE 113 SOUTH AFRICA: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

11.6.6 REST OF MIDDLE EAST & AFRICA

TABLE 114 REST OF MIDDLE EAST & AFRICA: TRANSFORMER MONITORING SYSTEM MARKET, BY SERVICES, 2021–2028 (USD MILLION)

12 COMPETITIVE LANDSCAPE

12.1 OVERVIEW

12.2 MAJOR STRATEGIES ADOPTED BY KEY PLAYERS

FIGURE 53 TRANSFORMER MONITORING SYSTEM MARKET: MAJOR STRATEGIES ADOPTED BY KEY PLAYERS, 2018–2023

12.3 MARKET SHARE ANALYSIS, 2022

FIGURE 54 TRANSFORMER MONITORING SYSTEM MARKET SHARE ANALYSIS, 2022

12.4 REVENUE ANALYSIS OF FIVE KEY PLAYERS, 2018–2022

FIGURE 55 TRANSFORMER MONITORING SYSTEM MARKET: ANNUAL REVENUE ANALYSIS OF FIVE KEY PLAYERS, 2018–2022

12.5 COMPETITIVE SCENARIOS AND TRENDS

12.5.1 DEALS

TABLE 116 TRANSFORMER MONITORING SYSTEM MARKET: DEALS, 2018–2023

12.5.2 OTHERS

TABLE 117 TRANSFORMER MONITORING SYSTEM MARKET: OTHERS, 2018–2023

12.6 COMPANY EVALUATION MATRIX, 2022

FIGURE 56 TRANSFORMER MONITORING SYSTEM MARKET: COMPANY EVALUATION MATRIX, 2022

12.6.1 STARS

12.6.2 EMERGING LEADERS

12.6.3 PERVASIVE PLAYERS

12.6.4 PARTICIPANTS

12.6.5 COMPANY FOOTPRINT

TABLE 118 COMPONENT: COMPANY FOOTPRINT

TABLE 119 TYPE: COMPANY FOOTPRINT

TABLE 120 SERVICES: COMPANY FOOTPRINT

TABLE 121 VOLTAGE: COMPANY FOOTPRINT

TABLE 122 APPLICATION: COMPANY FOOTPRINT
TABLE 123 REGION: COMPANY FOOTPRINT
TABLE 124 COMPANY OVERALL FOOTPRINT
12.7 STARTUPS/SMALL AND MEDIUM-SIZED ENTERPRISES (SMES) EVALUATION MATRIX, 2022
FIGURE 57 TRANSFORMER MONITORING SYSTEM MARKET: STARTUPS/SMALL AND MEDIUM-SIZED ENTERPRISES (SMES) EVALUATION MATRIX, 2022
12.7.1 PROGRESSIVE COMPANIES
12.7.2 RESPONSIVE COMPANIES
12.7.3 DYNAMIC COMPANIES
12.7.4 STARTING BLOCKS
12.7.5 COMPETITIVE BENCHMARKING
TABLE 125 TRANSFORMER MONITORING SYSTEM MARKET: LIST OF KEY STARTUPS/SMES
TABLE 126 COMPETITIVE BENCHMARKING OF KEY STARTUPS/SMES, BY COMPONENT
TABLE 127 COMPETITIVE BENCHMARKING OF KEY STARTUPS/SMES, BY TYPE
TABLE 128 COMPETITIVE BENCHMARKING OF KEY STARTUPS/SMES, BY SERVICES
TABLE 129 COMPETITIVE BENCHMARKING OF KEY STARTUPS/SMES, BY VOLTAGE
TABLE 130 COMPETITIVE BENCHMARKING OF KEY STARTUPS/SMES, BY REGION
TABLE 131 KEY STARTUPS/SMES OVERALL FOOTPRINT

13 COMPANY PROFILES

(Business overview, Products/Services/Solutions offered, Recent Developments, MNM view)*

13.1 KEY PLAYERS

13.1.1 SIEMENS ENERGY AG

TABLE 132 SIEMENS ENERGY AG: COMPANY OVERVIEW

FIGURE 58 SIEMENS ENERGY AG: COMPANY SNAPSHOT

TABLE 133 SIEMENS ENERGY AG: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 134 SIEMENS ENERGY AG: PRODUCT LAUNCHES

13.1.2 ABB

TABLE 135 ABB: COMPANY OVERVIEW

FIGURE 59 ABB: COMPANY SNAPSHOT

TABLE 136 ABB: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 137 ABB: PRODUCT LAUNCHES

13.1.3 GE

TABLE 138 GE: COMPANY OVERVIEW

FIGURE 60 GE: COMPANY SNAPSHOT

TABLE 139 GE: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 140 GE: DEALS

13.1.4 SCHNEIDER ELECTRIC

TABLE 141 SCHNEIDER ELECTRIC: COMPANY OVERVIEW

FIGURE 61 SCHNEIDER ELECTRIC: COMPANY SNAPSHOT

TABLE 142 SCHNEIDER ELECTRIC: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 143 SCHNEIDER ELECTRIC: PRODUCT LAUNCHES

TABLE 144 SCHNEIDER ELECTRIC: DEALS

TABLE 145 SCHNEIDER ELECTRIC: OTHERS

13.1.5 EATON

TABLE 146 EATON: COMPANY OVERVIEW

FIGURE 62 EATON: COMPANY SNAPSHOT

TABLE 147 EATON: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 148 EATON: OTHERS

13.1.6 MISTRAS GROUP

TABLE 149 MISTRAS GROUP: COMPANY OVERVIEW

FIGURE 63 MISTRAS GROUP: COMPANY SNAPSHOT

TABLE 150 MISTRAS GROUP: PRODUCTS/SOLUTIONS/SERVICES OFFERED

13.1.7 MITSUBISHI ELECTRIC CORPORATION

TABLE 151 MITSUBISHI ELECTRICAL CORPORATION: COMPANY OVERVIEW

FIGURE 64 MITSUBISHI ELECTRICAL CORPORATION: COMPANY SNAPSHOT

TABLE 152 MITSUBISHI ELECTRICAL CORPORATION:
PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 153 MITSUBISHI ELECTRICAL CORPORATION: DEALS

13.1.8 VAISALA

TABLE 154 VAISALA: COMPANY OVERVIEW

FIGURE 65 VAISALA: COMPANY SNAPSHOT

TABLE 155 VAISALA: PRODUCTS/SOLUTIONS/SERVICES OFFERED

13.1.9 HITACHI ENERGY LTD

TABLE 156 HITACHI ENERGY LTD: COMPANY OVERVIEW

TABLE 157 HITACHI ENERGY LTD: PRODUCTS/SOLUTIONS/SERVICES OFFERED

13.1.10 KJ DYNATECH, INC.

TABLE 158 KJ DYNATECH, INC.: COMPANY OVERVIEW

TABLE 159 KJ DYNATECH, INC.: PRODUCTS/SOLUTIONS/SERVICES OFFERED

13.1.11 MASCHINENFABRIK REINHAUSEN GMBH

TABLE 160 MASCHINENFABRIK REINHAUSEN GMBH: COMPANY OVERVIEW

TABLE 161 MASCHINENFABRIK REINHAUSEN GMBH:
PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 162 MASCHINENFABRIK REINHAUSEN GMBH: DEALS

TABLE 163 MASCHINENFABRIK REINHAUSEN GMBH: OTHERS

13.1.12 QUALITROL

TABLE 164 QUALITROL: COMPANY OVERVIEW

TABLE 165 QUALITROL: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 166 QUALITROL: PRODUCT LAUNCHES

13.1.13 GASERA

TABLE 167 GASERA: COMPANY OVERVIEW

TABLE 168 GASERA: PRODUCTS/SOLUTIONS/SERVICES OFFERED

13.1.14 DOBLE ENGINEERING COMPANY

TABLE 169 DOBLE ENGINEERING COMPANY: COMPANY OVERVIEW

TABLE 170 DOBLE ENGINEERING COMPANY: PRODUCTS/SOLUTIONS/SERVICES
OFFERED

TABLE 171 DOBLE ENGINEERING COMPANY: PRODUCT LAUNCHES

TABLE 172 DOBLE ENGINEERING COMPANY: DEALS

13.1.15 WILSON TRANSFORMERS

TABLE 173 WILSON TRANSFORMERS: COMPANY OVERVIEW

TABLE 174 WILSON TRANSFORMERS: PRODUCTS/SOLUTIONS/SERVICES
OFFERED

13.2 OTHER PLAYERS

13.2.1 SAIELECTRICAL

13.2.2 CAMLIN LTD

13.2.3 TREETECH

13.2.4 EMCO ELECTRONICS

13.2.5 ADVANCED POWER TECHNOLOGIES LLC

13.2.6 KONCAR - ELECTRICAL ENGINEERING INSTITUTE LTD.

13.2.7 CMSGP

13.2.8 UBICQUIA, INC

13.2.9 AVL INDIA PRIVATE LTD

*Details on Business overview, Products/Services/Solutions offered, Recent Developments, MNM view might not be captured in case of unlisted companies.

14 APPENDIX

14.1 INSIGHTS FROM INDUSTRY EXPERTS

14.2 DISCUSSION GUIDE

14.3 KNOWLEDGESTORE: MARKETSANDMARKETS' SUBSCRIPTION PORTAL

14.4 CUSTOMIZATION OPTIONS

14.5 RELATED REPORTS

14.6 AUTHOR DETAILS

I would like to order

Product name: Transformer Monitoring Market by Component (Hardware Solutions, Software Solutions), Type (Oil-Immersed, Cast-Resin), Services (Oil Monitoring, Bushing Monitoring, Partial Discharge Monitoring, OLTC Monitoring), Voltage & Region - Global Forecast to 2028

Product link: <https://marketpublishers.com/r/T44857F4856EN.html>

Price: US\$ 4,950.00 (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 <https://marketpublishers.com/r/T44857F4856EN.html>

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**

Customer signature _____

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

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