

Distribution Automation Market by Offering (Field Devices, Software, Services), Communication Technology (Wired (Fiber Optic, Ethernet, Powerline Carrier, IP), Wireless), Utility (Public Utilities, Private Utilities) and Region - Global Forecast to 2029

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Report description:

The distribution automation market is estimated to grow from USD 19.3 billion in 2024 to USD 36.5 billion by 2029, at a CAGR of 13.6% during the forecast period. The market is primarily driven the need for the improved grid infrastructure and governmental initiatives to provide last mile connectivity of electricity.

"Field devices, by offering, expected to be second largest market from 2024 to 2029"

The distribution automation market, by offering, is bifurcated into field devices, software and services. The software segment is expected to second largest segment during the forecast period. Software assists grid operators in increasing the reliability and efficiency of grid operations. In the realm of Distribution Automation for electricity, software plays a vital role, offering diverse applications aimed at bolstering the operational efficiency of distribution power systems. These software solutions empower utility companies to gather, automate, scrutinize, and refine data, thereby enhancing the efficacy of their distribution networks. Specifically designed for distribution automation systems, these software components furnish real-time operational alerts concerning various grid elements, such as fault detectors, voltage regulators, capacitor controllers, and switches. This data is then shared with other intelligent field devices, and algorithms integrate it with transmission systems to optimize distribution system performance.

"Wireless, by communication technology expected to be second largest market from 2024 to 2029"

The distribution automation market, by communication technology, is segmented into wired and wireless. The wireless segment is expected to second largest segment during the forecast period. Wireless radio technologies like CDMA are employed in smart grids for distribution automation. These technologies offer cost-effectiveness and durability, rendering them ideal for small-scale

distribution automation systems (DAS), especially in areas where setting up a communication network is difficult. Wireless communication is well-suited for feeder reconfiguration, facilitating system monitoring and control from the substation to the customer's meter. This serves various purposes, including enhancing system reliability, minimizing power losses, and handling voltage fluctuations.

"Private utilities, by utility, expected to be fastest market from 2024 to 2029"

The distribution automation market, by utility, is bifurcated into public utilities and private utilities. The private utilities segment is expected to be the fastest market during the forecast period. Privatizing electricity generation and distribution has been discussed in a number of nations, with various techniques taken to increase competition and improve sector efficiency. Private utilities are investing in technologies like IoT and 5G, which enable more robust and real-time data sharing, allowing them to make data-driven decisions to meet rising energy demand.

"Asia Pacific is expected to be the largest region in the distribution automation market."

Asia Pacific is expected to have highest market during the forecast period. The demand for distribution automation in Asia Pacific is driven by the exponential increase in demand for the electricity especially from rural areas. Several reasons contribute to the Asia Pacific region's dominance in the Electricity Distribution Automation industry. First, the region's population rate are fast increasing, resulting in increased demand for electricity. Demand for distribution automation in Asia Pacific is driven by the exponential increase in demand for electricity especially from rural areas. Second, the region is seeing a major growth in the integration of renewable energy sources, such as solar and wind, into the electricity system. Distribution automation systems play an important role in seamlessly integrating these intermittent sources into the grid, generating demand for these technology in the region.

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- 65%, Tier 2- 24%, and Tier 3- 11%

By Designation: C-Level- 30%, Director Level- 25%, and Others- 45%

By Region: North America - 20%, Europe - 25%, Asia Pacific - 30%, South America - 10%, and Middle East & Africa - 15% Note: Other designations include sales managers, marketing managers, product managers, and product engineers.

The tier of the companies is defined based on their total revenue as of 2023. Tier 1: USD 1 billion and above, Tier 2: From USD 500 million to USD 1 billion, and Tier 3: <USD 500 million.

The Distribution automation market is dominated by a few major players that have a wide regional presence. The leading players in the distribution automation market are ABB (Switzerland), Schneider Electric (France), Siemens (Germany), Eaton (Ireland) and General Electric Company (US).

Research Coverage:

The report defines, describes, and forecasts the distribution automation market, by offering, communication technology, utility, 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, which include the analysis of the competitive landscape, market dynamics, market estimates in terms of value, and future trends in the distribution automation market.

Key Benefits of Buying the Report

- Governmental initiatives to provide last mile connectivity of electricity, and boost in Smart Grid Infrastructure are few of the key factors driving the distribution automation market. Factors such as high installation costs of distribution automation systems restrain the growth of the market. The need for greater flexibility and control in electricity supply is expected to present lucrative opportunities for the players operating in the distribution automation market. The threats posed by the lack of skilled personnel and the increasing threat of automated cyber-attacks pose a major challenge for the players, especially for emerging players operating in the distribution market.

- Product Development/ Innovation: The distribution automation market is witnessing significant product development and innovation, driven by the growing demand for smart grid infrastructure.

-[Market Development: Siemens and Areti have announced their collaboration on the RomeFlex project, aimed at addressing congestion and voltage fluctuations within the strained power grids of Italy's capital city. Areti, playing a pivotal role in Italy's energy transition, has devised an innovative local flexibility market architecture, which will be further enhanced by Siemens' expertise in the energy domain and specialized technology. Over the next decade, it's anticipated that peak electricity demand on Rome's DSO power grid will rise from 2,200 MW to 3,300 MW. To effectively manage this surge in energy demand and mitigate potential grid challenges such as blackouts or voltage issues, Areti is rapidly increasing its grid capacity, accelerating its digital transformation to usher in the next era of grid management.

-[Market Diversification: Siemens has unveiled its latest Gridscale X software. This product empowers Independent System Operators (ISOs) and Transmission System Operators (TSOs) to centrally oversee their network data using a Digital Twin of the power grid, enhancing efficiency in planning, development, and operations. The Gridscale X Network Model Manager adeptly manages various grid scenarios, including the integration of new or changing assets, streamlines project management, and encourages collaboration among utilities. Designed with cloud readiness and full accessibility via APIs, the software features a modular architecture and state-of-the-art user interface. Positioned as the next evolution in Siemens[] network model management offerings, the Gridscale X Network Model Manager is a component of Siemens Xcelerator, an open digital business platform facilitating customers' digital transformation journey.

- Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players, like include ABB (Switzerland), Schneider Electric (France), Siemens (Germany), Eaton (Ireland) and General Electric Company (US), among others in the distribution automation market.

Table of Contents:

1⊓INTRODUCTION∏45 1.1 STUDY OBJECTIVES 45 1.2 MARKET DEFINITION 45 1.3 STUDY SCOPE 46 1.3.1 INCLUSIONS AND EXCLUSIONS 46 1.3.2 MARKETS COVERED 47 FIGURE 1 DISTRIBUTION AUTOMATION MARKET: SEGMENTATION 47 1.3.3 REGIONAL SCOPE 47 1.3.4 YEARS CONSIDERED 48 1.4 CURRENCY CONSIDERED 48 1.5 UNITS CONSIDERED 48 1.6 LIMITATIONS 48 1.7 STAKEHOLDERS 49 1.8 SUMMARY OF CHANGES 49 1.9 RECESSION IMPACT 50 2 RESEARCH METHODOLOGY 51 2.1 RESEARCH APPROACH 51 FIGURE 2 DISTRIBUTION AUTOMATION MARKET: RESEARCH DESIGN 51 2.2 PRIMARY AND SECONDARY RESEARCH 52 2.2.1 SECONDARY DATA 52 2.2.1.1 List of major secondary sources 52 2.2.1.2 Key data from secondary sources 52 2.2.2 PRIMARY DATA 2.2.2.1 List of key primary interview participants 53 2.2.2.2 Key data from primary sources 53 2.2.3 Breakdown of primaries 54 2.3 DATA TRIANGULATION 55

FIGURE 3 DATA TRIANGULATION 55 2.4 MARKET SIZE ESTIMATION METHODOLOGY 55 2.4.1 BOTTOM-UP APPROACH 56 FIGURE 4 MARKET SIZE ESTIMATION METHODOLOGY: BOTTOM-UP APPROACH 56 2.4.2 TOP-DOWN APPROACH 56 FIGURE 5 MARKET SIZE ESTIMATION METHODOLOGY: TOP-DOWN APPROACH 57 2.5 DEMAND-SIDE ANALYSIS 58 2.5.1 DEMAND-SIDE METRICS 58 FIGURE 6[KEY METRICS CONSIDERED TO ANALYZE AND ASSESS DEMAND FOR DISTRIBUTION AUTOMATION DEVICES[58 2.5.1.1 Assumptions for demand-side analysis 58 2.5.1.2 Calculations for demand-side analysis 58 2.6 SUPPLY-SIDE ANALYSIS 59 2.6.1 SUPPLY-SIDE METRICS 59 FIGURE 7 KEY METRICS CONSIDERED TO ASSESS SUPPLY OF DISTRIBUTION AUTOMATION DEVICES 59 FIGURE 8 DISTRIBUTION AUTOMATION MARKET: SUPPLY-SIDE ANALYSIS 60 2.6.1.1∏Assumptions for supply-side analysis∏60 2.6.1.2 Calculations for supply-side analysis 60 2.7 FORECAST 60 2.8 RISK ASSESSMENT 61 2.9⊓IMPACT OF RECESSION⊓61 3 EXECUTIVE SUMMARY 62 TABLE 1 DISTRIBUTION AUTOMATION MARKET SNAPSHOT 62 FIGURE 9 FIELD DEVICES SEGMENT TO DOMINATE MARKET FROM 2024 TO 2029 63 FIGURE 10 WIRED SEGMENT TO HOLD LARGER MARKET SHARE IN 2024 63 FIGURE 11 PUBLIC UTILITIES SEGMENT TO DOMINATE MARKET FROM 2024 TO 2029 64 FIGURE 12 ASIA PACIFIC HELD LARGEST MARKET SHARE OF GLOBAL DISTRIBUTION AUTOMATION MARKET IN 2023 64 4 PREMIUM INSIGHTS 66 4.1∏ATTRACTIVE OPPORTUNITIES FOR PLAYERS IN DISTRIBUTION AUTOMATION MARKET∏66 FIGURE 13[NEED FOR IMPROVED GRID INFRASTRUCTURE TO DRIVE MARKET DURING FORECAST PERIOD[]66 4.2 DISTRIBUTION AUTOMATION MARKET, BY REGION 66 FIGURE 14 MIDDLE EAST & AFRICA TO RECORD HIGHEST CAGR DURING FORECAST PERIOD 66 4.3 DISTRIBUTION AUTOMATION MARKET, BY OFFERING 67 FIGURE 15 FIELD DEVICES SEGMENT TO DOMINATE MARKET IN 2029 67 4.4 DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY 67 FIGURE 16 WIRED SEGMENT TO LEAD MARKET IN 2029 67 4.5 DISTRIBUTION AUTOMATION MARKET, BY UTILITY 67 FIGURE 17 PUBLIC UTILITIES SEGMENT TO COMMAND MARKET IN 2029 67 4.6 DISTRIBUTION AUTOMATION MARKET IN ASIA PACIFIC, BY OFFERING AND COUNTRY FIGURE 18 FIELD DEVICES SEGMENT AND CHINA HELD LARGEST MARKET SHARES OF ASIA PACIFIC IN 2023 68 5⊓MARKET OVERVIEW∏69 5.1 INTRODUCTION 69 5.2 MARKET DYNAMICS 69 FIGURE 19 DISTRIBUTION AUTOMATION MARKET: DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES 69 5.2.1 || DRIVERS || 70 5.2.1.1 Reliance on smart grid networks to meet burgeoning energy demand 70 5.2.1.2 Government-led initiatives to ensure universal access to electricity 70 5.2.2 RESTRAINTS 71

5.2.2.1 High upfront and installation costs 71 5.2.2.2 Issues in existing switchgear modernization 71 5.2.3 OPPORTUNITIES 72 5.2.3.1 Rising electrification using renewable energy sources 72 5.2.3.2 Rapid advancement in AI and IoT technologies 73 5.2.4 CHALLENGES 73 5.2.4.1 Increased rate of false data injection attacks 73 5.2.4.2 Compatibility issues due to lack of standardized communication protocols 74 5.3 TRENDS/DISRUPTIONS IMPACTING CUSTOMERS' BUSINESSES 75 FIGURE 20 TRENDS/DISRUPTIONS IMPACTING CUSTOMERS' BUSINESSES 75 5.4 SUPPLY CHAIN ANALYSIS 75 FIGURE 21 DISTRIBUTION AUTOMATION MARKET: SUPPLY CHAIN ANALYSIS 75 5.4.1 FIELD DEVICE MANUFACTURERS 76 5.4.2 SOFTWARE SUPPLIERS 76 5.4.3 SERVICE PROVIDERS 76 5.4.4 COMMUNICATION NETWORK PROVIDERS 76 5.4.5 GRID OPERATORS 76 5.5 ECOSYSTEM ANALYSIS 77 FIGURE 22 DISTRIBUTION AUTOMATION MARKET: ECOSYSTEM ANALYSIS 77 TABLE 2 ROLES OF COMPANIES IN DISTRIBUTION AUTOMATION ECOSYSTEM 78 5.6 TECHNOLOGY ANALYSIS 78 5.6.1 KEY TECHNOLOGIES 78 5.6.1.1 Distribution automation controllers (DACs) 78 5.6.1.2 Advanced metering infrastructure (AMI) 79 5.6.1.3 Distribution management systems (DMSs) 79 5.6.2 COMPLEMENTARY TECHNOLOGIES 79 5.6.2.1 Internet of Things (IoT) sensors and devices 79 5.6.2.2 Cybersecurity solutions 80 5.7 CASE STUDY ANALYSIS 80 5.7.1∏US DOE GRANTS CHATTANOOGA ELECTRIC POWER BOARD CONTRACT TO DEPLOY SMART GRID TECHNOLOGIES FOR **TRANSFORMERS**[□]80 5.7.2 CHATTANOOGA ELECTRIC POWER BOARD IMPLEMENTS DISTRIBUTION AUTOMATION TECHNOLOGIES FOR RAPID FAULT DETECTION AND ISOLATION IN UNDERGROUND DISTRIBUTION SYSTEM 81 5.7.3 TATA POWER DELHI DISTRIBUTION LIMITED ADOPTS AUTOMATED SOLUTIONS TO IMPROVE EFFICIENCY AND REDUCE AGGREGATE TECHNICAL AND COMMERCIAL LOSSES[]82 5.8 PATENT ANALYSIS 83 FIGURE 23 NUMBER OF PATENTS APPLIED AND GRANTED, 2013-2023 83 5.8.1 LIST OF PATENTS 83 TABLE 3 LIST OF MAJOR PATENTS APPLIED/GRANTED, 2019-2023 83 5.9 TRADE ANALYSIS 84 5.9.1 HS CODE 853641 84 5.9.1.1 Export scenario 84 TABLE 4 EXPORT DATA FOR HS CODE 853641-COMPLIANT PRODUCTS, BY COUNTRY, 2019-2023 (USD) 85 FIGURE 24 EXPORT DATA FOR HS CODE 853641-COMPLIANT PRODUCTS, BY COUNTRY 2019-2023 (USD) 85 5.9.1.2 Import scenario 85 TABLE 5[]IMPORT DATA FOR HS CODE 853641-COMPLIANT PRODUCTS, BY COUNTRY, 2019-2023 (USD)[]86 FIGURE 25[IMPORT DATA FOR HS CODE 853641-COMPLIANT PRODUCTS, 2019-2023 (USD)[86

5.9.2 HS CODE 853649 87 5.9.2.1 Export scenario 87 TABLE 6[]EXPORT DATA FOR HS CODE 853649-COMPLIANT PRODUCTS, BY COUNTRY, 2019-2023 (USD)]87 FIGURE 26[]EXPORT DATA FOR HS CODE 853649-COMPLIANT PRODUCTS, 2019-2023 (USD)]88 5.9.2.2 Import scenario 88 TABLE 7 IMPORT DATA FOR HS CODE 853649-COMPLIANT PRODUCTS, BY COUNTRY, 2019-2023 (USD) 88 FIGURE 27 IMPORT DATA FOR HS CODE 853649-COMPLIANT PRODUCTS, 2019-2023 (USD) 89 5.9.3 HS CODE 853650 89 5.9.3.1 Export scenario 89 TABLE 8 EXPORT DATA FOR HS CODE 853650-COMPLIANT PRODUCTS, BY COUNTRY, 2019-2023 (USD) 89 FIGURE 28 EXPORT DATA FOR HS CODE 853650-COMPLIANT PRODUCTS, 2019-2023 (USD) 90 5.9.3.2∏Import scenario∏90 TABLE 9⊓IMPORT DATA FOR HS CODE 853650-COMPLIANT PRODUCTS, BY COUNTRY, 2019-2023 (USD)⊓90 FIGURE 29 IMPORT DATA FOR HS CODE 853650-COMPLIANT PRODUCTS, 2019-2023 (USD) 91 5.9.4 HS CODE 8532 91 5.9.4.1 □ Export scenario □ 91 TABLE 10 EXPORT DATA FOR HS CODE 8532-COMPLIANT PRODUCTS, BY COUNTRY, 2019-2023 (USD) 191 FIGURE 30 EXPORT DATA FOR HS CODE 8532-COMPLIANT PRODUCTS, 2019-2023 (USD) 92 5.9.4.2□Import scenario□92 TABLE 11 IMPORT DATA FOR HS CODE 8532-COMPLIANT PRODUCTS, BY COUNTRY, 2019-2023 92 FIGURE 31 IMPORT DATA FOR HS CODE 8532-COMPLIANT PRODUCTS, 2019-2023 (USD) 93 5.10 PRICING ANALYSIS 93 5.10.1 AVERAGE SELLING PRICE TREND, BY REGION 94 TABLE 12∏AVERAGE SELLING PRICE TREND OF DISTRIBUTION AUTOMATION FIELD DEVICES, BY REGION, 2019-2029 (USD)∏94 FIGURE 32 AVERAGE SELLING PRICE TREND OF DISTRIBUTION AUTOMATION FIELD DEVICES, BY REGION, 2019-2029 (USD) 94 5.10.2□INDICATIVE PRICING TREND, BY TYPE□94 TABLE 13⊓INDICATIVE PRICING TREND OF DISTRIBUTION AUTOMATION FIELD DEVICES, BY TYPE, 2019-2023 (USD)□94 FIGURE 33⊓INDICATIVE SELLING PRICE TREND OF DISTRIBUTION AUTOMATION FIELD DEVICES, BY TYPE, 2019-2029 (USD)[]95 5.11⊓KEY CONFERENCES AND EVENTS, 2024-2025⊓95 TABLE 14 DISTRIBUTION AUTOMATION MARKET: LIST OF KEY CONFERENCES AND EVENTS, 2024-2025 95 5.12 TARIFFS AND REGULATORY LANDSCAPE 96 5.12.1 REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS 96 TABLE 15 ASIA PACIFIC: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS 196 TABLE 16 NORTH AMERICA: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS 97 TABLE 17 UROPE: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS 97 TABLE 18 SOUTH AMERICA: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS 98 TABLE 19 MIDDLE EAST & AFRICA: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS 198 5.12.2 REGULATIONS 98 TABLE 20 DISTRIBUTION AUTOMATION MARKET: REGULATIONS 98 5.13 PORTER'S FIVE FORCES ANALYSIS 100 FIGURE 34 DISTRIBUTION AUTOMATION MARKET: PORTER'S FIVE FORCES ANALYSIS 100 TABLE 21 DISTRIBUTION AUTOMATION MARKET: PORTER'S FIVE FORCES ANALYSIS 100 5.13.1 THREAT OF SUBSTITUTES 101 5.13.2 BARGAINING POWER OF SUPPLIERS 101 5.13.3 BARGAINING POWER OF BUYERS 101 5.13.4 THREAT OF NEW ENTRANTS 101 5.13.5 INTENSITY OF COMPETITIVE RIVALRY 102

5.14 KEY STAKEHOLDERS AND BUYING CRITERIA 102 5.14.1 KEY STAKEHOLDERS IN BUYING PROCESS 102 FIGURE 35 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS, BY UTILITY 102 TABLE 22□INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS, BY UTILITY (%)□102 5.14.2 BUYING CRITERIA 103 FIGURE 36 KEY BUYING CRITERIA, BY UTILITY 103 TABLE 23 KEY BUYING CRITERIA, BY UTILITY 103 5.15 INVESTMENT AND FUNDING SCENARIO 104 FIGURE 37 INVESTMENT AND FUNDING SCENARIO 104 6 DISTRIBUTION AUTOMATION MARKET, BY OFFERING 105 6.1⊓INTRODUCTION⊓106 FIGURE 38 DISTRIBUTION AUTOMATION MARKET, BY OFFERING 106 TABLE 24⊓DISTRIBUTION AUTOMATION MARKET, BY OFFERING, 2019-2023 (USD MILLION)⊓106 TABLE 25∏DISTRIBUTION AUTOMATION MARKET, BY OFFERING, 2024-2029 (USD MILLION)∏106 6.2 FIELD DEVICES 107 TABLE 26 APPLICATION OF DIFFERENT FIELD DEVICES 107 TABLE 27 FIELD DEVICES: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION) 108 TABLE 28[FIELD DEVICES: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION)[]108 TABLE 29[FIELD DEVICES: DISTRIBUTION AUTOMATION MARKET, BY TYPE, 2019-2023 (USD MILLION)[108 TABLE 30[FIELD DEVICES: DISTRIBUTION AUTOMATION MARKET, BY TYPE, 2024-2029 (USD MILLION)[109 TABLE 31⊓FIELD DEVICES: DISTRIBUTION AUTOMATION MARKET, BY TYPE, 2019-2023 (THOUSAND UNITS)∏109 TABLE 32[]FIELD DEVICES: DISTRIBUTION AUTOMATION MARKET, BY TYPE, 2024-2029 (THOUSAND UNITS)[]110 6.2.1 REMOTE FAULT INDICATORS 110 6.2.1.1 Ability to offer continuous monitoring and fault diagnosis from main station to boost demand TABLE 33[REMOTE FAULT INDICATORS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION)[111 TABLE 34 REMOTE FAULT INDICATORS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION) 111 TABLE 35 REMOTE FAULT INDICATORS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (THOUSAND UNITS) 111 TABLE 36[REMOTE FAULT INDICATORS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (THOUSAND UNITS)]112 6.2.2 SMART RELAYS 112 6.2.2.1 Effective management of voltage and power distribution to drive market 112 TABLE 37∏SMART RELAYS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION)∏112 TABLE 38∏SMART RELAYS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION)∏113 TABLE 39⊓SMART RELAYS: DISTRIBUTION AUTOMATION MARKET, BY REGION. 2019-2023 (THOUSAND UNITS)⊓113 TABLE 40∏SMART RELAYS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (THOUSAND UNITS)∏113 6.2.3 AUTOMATED FEEDER SWITCHES/RECLOSERS 114 6.2.3.1 Ability to reduce outage time and enhance grid efficiency to fuel market growth 114 TABLE 41⊓AUTOMATED FEEDER SWITCHES/RECLOSERS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION) 114 TABLE 42∏AUTOMATED FEEDER SWITCHES/RECLOSERS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION)[]114 TABLE 43 AUTOMATED FEEDER SWITCHES/RECLOSERS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (THOUSAND UNITS)∏115 TABLE 44 AUTOMATED FEEDER SWITCHES/RECLOSERS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (THOUSAND UNITS)∏115 6.2.4 AUTOMATED CAPACITORS 115 6.2.4.1 Ease of installation to boost demand 115 TABLE 45∏AUTOMATED CAPACITORS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION)∏116

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TABLE 46[]AUTOMATED CAPACITORS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION)[]116 TABLE 47[]AUTOMATED CAPACITORS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (THOUSAND UNITS)[]116 TABLE 48[]AUTOMATED CAPACITORS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (THOUSAND UNITS)[]117 6.2.5[]AUTOMATED VOLTAGE REGULATORS[]117

6.2.5.1 Increasing need to control voltage levels and prevent disruptions in electricity flow to drive market growth 117 TABLE 49 AUTOMATED VOLTAGE REGULATORS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION) 118 TABLE 50 AUTOMATED VOLTAGE REGULATORS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION) 118 TABLE 51 AUTOMATED VOLTAGE REGULATORS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (THOUSAND UNITS) 118

TABLE 52[]AUTOMATED VOLTAGE REGULATORS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (THOUSAND UNITS)]]119

6.2.6 TRANSFORMER MONITORS 119

6.2.6.1 Growing need to safeguard and regulate transformers to boost demand 119

TABLE 53[]TRANSFORMER MONITORS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION)[]119 TABLE 54[]TRANSFORMER MONITORS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION)[]120 TABLE 55[]TRANSFORMER MONITORS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (THOUSAND UNITS)[]120 TABLE 56[]TRANSFORMER MONITORS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (THOUSAND UNITS)[]120 6.2.7[]FEEDER MONITORS[]121

6.2.7.1 Rising need to optimize electricity distribution to propel market growth 121

TABLE 57 FEEDER MONITORS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION) 121 TABLE 58 FEEDER MONITORS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION) 121 TABLE 59 FEEDER MONITORS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (THOUSAND UNITS) 122 TABLE 60 FEEDER MONITORS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (THOUSAND UNITS) 122 6.2.8 REMOTE TERMINAL UNITS 122

6.2.8.1 Growing implementation in substations for intelligent I/O collection and processing to drive demand 122 TABLE 61 REMOTE TERMINAL UNITS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION) 123 TABLE 62 REMOTE TERMINAL UNITS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION) 123 TABLE 63 REMOTE TERMINAL UNITS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (THOUSAND UNITS) 123 TABLE 64 REMOTE TERMINAL UNITS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (THOUSAND UNITS) 123 TABLE 64 REMOTE TERMINAL UNITS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (THOUSAND UNITS) 124 6.3 SOFTWARE 124

6.3.1 GROWING NEED TO INCREASE RELIABILITY AND EFFICIENCY OF GRID OPERATIONS TO BOOST MARKET 124 TABLE 65 SOFTWARE: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION) 125 TABLE 66 SOFTWARE: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION) 125 6.4 SERVICES 125

6.4.1 RISING NEED TO DEVELOP SYSTEM ARCHITECTURE AND HARDWARE AND SOFTWARE DESIGNS TO DRIVE MARKET 125 TABLE 67 SERVICES: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION) 126 TABLE 68 SERVICES: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION) 126 7 DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY 127

7.1 INTRODUCTION 128

FIGURE 39 DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2023 128

TABLE 69 DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2019-2023 (USD MILLION) 128 TABLE 70 DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2024-2029 (USD MILLION) 129 7.2 WIRED 129

TABLE 71 WIRED: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION) 129 TABLE 72 WIRED: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION) 130

TABLE 73[]WIRED: DISTRIBUTION AUTOMATION MARKET, BY TYPE, 2019-2023 (USD MILLION)[]130

TABLE 74[]WIRED: DISTRIBUTION AUTOMATION MARKET, BY TYPE, 2024-2029 (USD MILLION)[]130

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7.2.1 FIBER OPTICS 130

7.2.1.1 Growing implementation in long-distance and high-performance data networks to drive market 130 TABLE 75 FIBER OPTICS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION) 131 TABLE 76 FIBER OPTICS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION) 131 7.2.2 ETHERNET 131

7.2.2.1 Suitability for Home Area Networks (HANS) for easy communication between smart meters and home central systems to drive market 131

TABLE 77[]ETHERNET: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION)[]132 TABLE 78[]ETHERNET: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION)[]132 7.2.3[]POWERLINE CARRIER[]132

7.2.3.1 Ability to operate within low-voltage of electrical power distribution network to boost demand 132 TABLE 79 POWERLINE CARRIER: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION) 133 TABLE 80 POWERLINE CARRIER: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION) 133 7.2.4

7.2.4.1 Cost-effectiveness and security for data transfer to boost market 133

TABLE 81[]IP: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION)[]134

TABLE 82[]IP: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION)[]134 7.3[]WIRELESS[]134

TABLE 83[]WIRELESS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION)[]135 TABLE 84[]WIRELESS: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION)[]135 TABLE 85[]WIRELESS: DISTRIBUTION AUTOMATION MARKET, BY TYPE, 2019-2023 (USD MILLION)[]135 TABLE 86[]WIRELESS: DISTRIBUTION AUTOMATION MARKET SIZE, BY TYPE, 2024-2029 (USD MILLION)[]136 7.3.1[]RADIOFREQUENCY MESH[]136

7.3.1.1 Ability to offer efficient network management and high data security to support utility needs of smart grids to accelerate demand 136

TABLE 87 RADIO FREQUENCY MESH: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION) 136 TABLE 88 RADIO FREQUENCY MESH: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION) 137 7.3.2 CELLULAR NETWORK 137

7.3.2.1 Growing investments in 5G networks to drive market 137

TABLE 89]CELLULAR NETWORK: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION)[]137 TABLE 90]CELLULAR NETWORK: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION)[]138 7.3.3]WIMAX[]138

7.3.3.1 Ability to support high-speed data transfer over long distances to propel market 138

TABLE 91[]WIMAX: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION)[]138

TABLE 92[]WIMAX: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION)[]139

8DISTRIBUTION AUTOMATION MARKET, BY UTILITY1140

8.1 INTRODUCTION 141

FIGURE 40 DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2023 141

TABLE 93 DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2019-2023 (USD MILLION) 141

TABLE 94 DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2024-2029 (USD MILLION) 141

8.2 PUBLIC UTILITIES 142

8.2.1 GOVERNMENT-LED INITIATIVES TO ESTABLISH PUBLIC UTILITIES TO BOOST DEMAND 142

TABLE 95 PUBLIC UTILITIES: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION) 142

TABLE 96 PUBLIC UTILITIES: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION) 143

8.3 PRIVATE UTILITIES 143

8.3.1 INCREASING PRIVATE INVESTMENTS IN ADVANCED METERING INFRASTRUCTURE, AI, AND SMART GRID INFRASTRUCTURE TO DRIVE MARKET 143

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TABLE 97[PRIVATE UTILITIES: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION)[]143TABLE 98[PRIVATE UTILITIES: DISTRIBUTION AUTOMATION MARKET, BY REGION, 2024-2029 (USD MILLION)]]1449[DISTRIBUTION AUTOMATION MARKET, BY REGION]1459.1[INTRODUCTION]]146FIGURE 41[MIDDLE EAST & AFRICA TO GROW AT HIGHEST CAGR DURING FORECAST PERIOD]]146FIGURE 42[DISTRIBUTION AUTOMATION MARKET, BY REGION, 2023]]146TABLE 99[DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION)]]147TABLE 100[DISTRIBUTION AUTOMATION MARKET, BY REGION, 2019-2023 (USD MILLION)]]1479.2[NORTH AMERICA]]147FIGURE 43[NORTH AMERICA: DISTRIBUTION AUTOMATION MARKET SNAPSHOT]]1489.2.1]IMPACT OF RECESSION ON DISTRIBUTION AUTOMATION MARKET IN NORTH AMERICA]]148

TABLE 101[NORTH AMERICA: DISTRIBUTION AUTOMATION MARKET, BY OFFERING, 2019-2023 (USD MILLION)[]148 TABLE 102[NORTH AMERICA: DISTRIBUTION AUTOMATION MARKET, BY OFFERING, 2024-2029 (USD MILLION)[]149 TABLE 103[NORTH AMERICA: DISTRIBUTION AUTOMATION MARKET, BY FIELD DEVICES, 2019-2023 (USD MILLION)[]149 TABLE 104[NORTH AMERICA: DISTRIBUTION AUTOMATION MARKET, BY FIELD DEVICES, 2024-2029 (USD MILLION)[]149 TABLE 105[NORTH AMERICA: DISTRIBUTION AUTOMATION MARKET, BY FIELD DEVICES, 2019-2023 (THOUSAND UNITS)[]150 TABLE 106[NORTH AMERICA: DISTRIBUTION AUTOMATION MARKET, BY FIELD DEVICES, 2024-2029 (THOUSAND UNITS)[]150 TABLE 107[NORTH AMERICA: DISTRIBUTION AUTOMATION MARKET, BY FIELD DEVICES, 2024-2029 (THOUSAND UNITS)]150 TABLE 107[NORTH AMERICA: DISTRIBUTION AUTOMATION MARKET, BY FIELD DEVICES, 2024-2029 (THOUSAND UNITS)]150 TABLE 107]NORTH AMERICA: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2019-2023 (USD MILLION)]150

TABLE 108[]NORTH AMERICA: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2024-2029 (USD MILLION)]151

TABLE 109[NORTH AMERICA: DISTRIBUTION AUTOMATION MARKET, BY WIRED, 2019-2023 (USD MILLION)[]151 TABLE 110[NORTH AMERICA: DISTRIBUTION AUTOMATION MARKET, BY WIRED, 2024-2029 (USD MILLION)[]151 TABLE 111[NORTH AMERICA: DISTRIBUTION AUTOMATION MARKET, BY WIRELESS, 2019-2023 (USD MILLION)[]151 TABLE 112[NORTH AMERICA: DISTRIBUTION AUTOMATION MARKET, BY WIRELESS, 2024-2029 (USD MILLION)[]152 TABLE 113[NORTH AMERICA: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2019-2023 (USD MILLION)[]152 TABLE 114[NORTH AMERICA: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2024-2029 (USD MILLION)[]152 TABLE 114[NORTH AMERICA: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2024-2029 (USD MILLION)[]152 TABLE 115[NORTH AMERICA: DISTRIBUTION AUTOMATION MARKET, BY COUNTRY, 2019-2023 (USD MILLION)[]152 TABLE 116[NORTH AMERICA: DISTRIBUTION AUTOMATION MARKET, BY COUNTRY, 2024-2029 (USD MILLION)[]153 9.2.2[]US[]153

9.2.2.1 Government-led investments to boost electric grid reliability to drive market 153

TABLE 117 US: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2019-2023 (USD MILLION)[153 TABLE 118 US: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2024-2029 (USD MILLION)[153 TABLE 119 US: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2019-2023 (USD MILLION)[154 TABLE 120 US: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2024-2029 (USD MILLION)[154 9.2.3 CANADA][154

9.2.3.1 Growing electricity demand with rising population to fuel market growth 154

TABLE 121 CANADA: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2019-2023 (USD MILLION) 155 TABLE 122 CANADA: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2024-2029 (USD MILLION) 155 TABLE 123 CANADA: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2019-2023 (USD MILLION) 155 TABLE 124 CANADA: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2024-2029 (USD MILLION) 155 9.2.4 MEXICO 155

9.2.4.1 Increasing need for real-time monitoring of electricity usage to drive market 155

TABLE 125 MEXICO: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2019-2023 (USD MILLION) 156 TABLE 126 MEXICO: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2024-2029 (USD MILLION) 156 TABLE 127 MEXICO: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2019-2023 (USD MILLION) 156 TABLE 128 MEXICO: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2024-2029 (USD MILLION) 156

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9.3 ASIA PACIFIC 157

FIGURE 44[ASIA PACIFIC: DISTRIBUTION AUTOMATION MARKET SNAPSHOT]158 9.3.1 IMPACT OF RECESSION ON DISTRIBUTION AUTOMATION MARKET IN ASIA PACIFIC 158 TABLE 129∏ASIA PACIFIC: DISTRIBUTION AUTOMATION MARKET, BY OFFERING, 2019-2023 (USD MILLION)∏159 TABLE 130∏ASIA PACIFIC: DISTRIBUTION AUTOMATION MARKET, BY OFFERING, 2024-2029 (USD MILLION)∏159 TABLE 131⊓ASIA PACIFIC: DISTRIBUTION AUTOMATION MARKET, BY FIELD DEVICES, 2019-2023 (USD MILLION)⊓159 TABLE 132∏ASIA PACIFIC: DISTRIBUTION AUTOMATION MARKET, BY FIELD DEVICES, 2024-2029 (USD MILLION)∏160 TABLE 133 ASIA PACIFIC: DISTRIBUTION AUTOMATION MARKET, BY FIELD DEVICES, 2019-2023 (THOUSAND UNITS) 160 TABLE 134 ASIA PACIFIC: DISTRIBUTION AUTOMATION MARKET, BY FIELD DEVICES, 2024-2029 (THOUSAND UNITS) 161 TABLE 135 ASIA PACIFIC: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2019-2023 (USD MILLION) TABLE 136 ASIA PACIFIC: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2024-2029 (USD MILLION) TABLE 137 ASIA PACIFIC: DISTRIBUTION AUTOMATION MARKET, BY WIRED, 2019-2023 (USD MILLION) 162 TABLE 138 A PACIFIC: DISTRIBUTION AUTOMATION MARKET, BY WIRED, 2024-2029 (USD MILLION) 162 TABLE 139 ASIA PACIFIC: DISTRIBUTION AUTOMATION MARKET, BY WIRELESS, 2019-2023 (USD MILLION) 162 TABLE 140 ASIA PACIFIC: DISTRIBUTION AUTOMATION MARKET, BY WIRELESS, 2024-2029 (USD MILLION) 162 TABLE 141 ASIA PACIFIC: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2019-2023 (USD MILLION) 163 TABLE 142 ASIA PACIFIC: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2024-2029 (USD MILLION) 163 TABLE 143∏ASIA PACIFIC: DISTRIBUTION AUTOMATION MARKET, BY COUNTRY, 2019-2023 (USD MILLION)∏163 TABLE 144 ASIA PACIFIC: DISTRIBUTION AUTOMATION MARKET, BY COUNTRY, 2024-2029 (USD MILLION) 164 9.3.2 CHINA 164

9.3.2.1 Increasing investments in smart grid infrastructure projects to achieve carbon-neutral energy targets to boost demand 164 TABLE 145 CHINA: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2019-2023 (USD MILLION) 165 TABLE 146 CHINA: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2024-2029 (USD MILLION) 165 TABLE 147 CHINA: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2019-2023 (USD MILLION) 165 TABLE 148 CHINA: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2024-2029 (USD MILLION) 165 9.3.3 APAN 166

9.3.3.1 Rising emphasis on developing low-carbon society to drive market 166

TABLE 149]APAN: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2019-2023 (USD MILLION) 166 TABLE 150 APAN: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2024-2029 (USD MILLION) 166 TABLE 151 APAN: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2019-2023 (USD MILLION) 167 TABLE 152 APAN: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2024-2029 (USD MILLION) 167 9.3.4 NDIA 167

9.3.4.1 Growing focus on smart city initiatives to fuel market growth 167

TABLE 153[INDIA: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2019-2023 (USD MILLION)[]168 TABLE 154[INDIA: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2024-2029 (USD MILLION)[]168 TABLE 155[INDIA: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2019-2023 (USD MILLION)[]168 TABLE 156[INDIA: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2024-2029 (USD MILLION)[]168 9.3.5[]AUSTRALIA[]168

9.3.5.1 Increasing need to replace aging grid infrastructure to ensure high efficiency of power plants to boost market growth 168 TABLE 157 AUSTRALIA: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2019-2023 (USD MILLION) 169 TABLE 158 AUSTRALIA: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2024-2029 (USD MILLION) 169 TABLE 159 AUSTRALIA: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2019-2023 (USD MILLION) 169 TABLE 160 AUSTRALIA: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2024-2029 (USD MILLION) 170 9.3.6 SOUTH KOREA 170

9.3.6.1 Growing investment in renewable power generation to boost market growth 170

TABLE 161 SOUTH KOREA: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2019-2023 (USD MILLION) 170

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TABLE 162 SOUTH KOREA: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2024-2029 (USD MILLION)[]170 TABLE 163 SOUTH KOREA: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2019-2023 (USD MILLION) 170 TABLE 164 SOUTH KOREA: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2024-2029 (USD MILLION) 171 9.3.7 REST OF ASIA PACIFIC 171 TABLE 165 REST OF ASIA PACIFIC: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2019-2023 (USD MILLION) 172 TABLE 166 REST OF ASIA PACIFIC: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2024-2029 (USD MILLION)∏172 TABLE 167∏REST OF ASIA PACIFIC: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2019-2023 (USD MILLION)∏172 TABLE 168∏REST OF ASIA PACIFIC: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2024-2029 (USD MILLION)∏172 9.4⊓EUROPE⊓173 9.4.1 ⊓IMPACT OF RECESSION ON DISTRIBUTION AUTOMATION MARKET IN EUROPE 173 TABLE 169 EUROPE: DISTRIBUTION AUTOMATION MARKET, BY OFFERING, 2019-2023 (USD MILLION) 173 TABLE 170 EUROPE: DISTRIBUTION AUTOMATION MARKET, BY OFFERING, 2024-2029 (USD MILLION) 174 TABLE 171⊓EUROPE: DISTRIBUTION AUTOMATION MARKET, BY FIELD DEVICES, 2019-2023 (USD MILLION)⊓174 TABLE 172∏EUROPE: DISTRIBUTION AUTOMATION MARKET, BY FIELD DEVICES, 2024-2029 (USD MILLION)∏174 TABLE 173∏EUROPE: DISTRIBUTION AUTOMATION MARKET, BY FIELD DEVICES, 2019-2023 (THOUSAND UNITS)∏175 TABLE 174 EUROPE: DISTRIBUTION AUTOMATION MARKET, BY FIELD DEVICES, 2024-2029 (THOUSAND UNITS) 175 TABLE 175 EUROPE: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2019-2023 (USD MILLION) 175 TABLE 176[EUROPE: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2024-2029 (USD MILLION)[176 TABLE 177 EUROPE: DISTRIBUTION AUTOMATION MARKET, BY WIRED, 2019-2023 (USD MILLION) 176 TABLE 178 EUROPE: DISTRIBUTION AUTOMATION MARKET, BY WIRED, 2024-2029 (USD MILLION) TABLE 179 []EUROPE: DISTRIBUTION AUTOMATION MARKET, BY WIRELESS, 2019-2023 (USD MILLION) []176 TABLE 180 UROPE: DISTRIBUTION AUTOMATION MARKET, BY WIRELESS, 2024-2029 (USD MILLION) TABLE 181∏EUROPE: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2019-2023 (USD MILLION)∏177 TABLE 182∏EUROPE: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2024-2029 (USD MILLION)∏177 TABLE 183 []EUROPE: DISTRIBUTION AUTOMATION MARKET, BY COUNTRY, 2019-2023 (USD MILLION) []177 TABLE 184 EUROPE: DISTRIBUTION AUTOMATION MARKET, BY COUNTRY, 2024-2029 (USD MILLION) 178 9.4.2 GERMANY 178 9.4.2.1 Growing focus on modernizing grids to boost demand 178 TABLE 185∏GERMANY: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2019-2023 (USD MILLION)∏178 TABLE 186⊓GERMANY: DISTRIBUTION AUTOMATION MARKET. BY COMMUNICATION TECHNOLOGY, 2024-2029 (USD MILLION)⊓179 TABLE 187∏GERMANY: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2019-2023 (USD MILLION)∏179 TABLE 188∏GERMANY: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2024-2029 (USD MILLION)∏179

9.4.3 FRANCE 179

9.4.3.1 Increasing digitalization of electrical and smart grids to drive market 179

TABLE 189[FRANCE: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2019-2023 (USD MILLION)[]180 TABLE 190[FRANCE: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2024-2029 (USD MILLION)[]180 TABLE 191[FRANCE: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2019-2023 (USD MILLION)[]180 TABLE 192[FRANCE: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2024-2029 (USD MILLION)[]180 9.4.4[]ITALY[]181

9.4.4.1 Deployment of IoT and digital twins to support asset management to create lucrative opportunities for market players 181 TABLE 193 ITALY: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2019-2023 (USD MILLION) 181 TABLE 194 ITALY: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2024-2029 (USD MILLION) 181 TABLE 195 ITALY: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2019-2023 (USD MILLION) 182 TABLE 196 ITALY: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2024-2029 (USD MILLION) 182

9.4.5[]UK[]182

9.4.5.1 Growing collaborations between state-controlled utilities to enhance resilience of grid infrastructure to fuel market growth 182

TABLE 197 UK: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2019-2023 (USD MILLION) 182 TABLE 198 UK: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2024-2029 (USD MILLION) 183 TABLE 199 UK: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2019-2023 (USD MILLION) 183

TABLE 200[]UK: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2024-2029 (USD MILLION)[]183

9.4.6 REST OF EUROPE 183

TABLE 201 REST OF EUROPE: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2019-2023 (USD MILLION) 184

TABLE 202 REST OF EUROPE: DISTRIBUTION AUTOMATION MARKET, BY COMMUNICATION TECHNOLOGY, 2024-2029 (USD MILLION) 184

TABLE 203 REST OF EUROPE: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2019-2023 (USD MILLION) 184 TABLE 204 REST OF EUROPE: DISTRIBUTION AUTOMATION MARKET, BY UTILITY, 2024-2029 (USD MILLION) 185



Distribution Automation Market by Offering (Field Devices, Software, Services), Communication Technology (Wired (Fiber Optic, Ethernet, Powerline Carrier, IP), Wireless), Utility (Public Utilities, Private Utilities) and Region - Global Forecast to 2029

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