

# Machine Vision Market by Component (Camera, Frame Grabbers, Optics, LED Lighting, Processors, Al-based Machine Vision Software), Type (PC based, Smart Camera-based), Deployment (General, Robotic Cell), Vision Type (1D, 2D, 3D) -Global Forecast to 2030

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## **Report description:**

With a CAGR of 8.3%, the worldwide machine vision market is expected to rise from USD 15.83 billion in 2025 to USD 23.63 billion by 2030. The manufacturing sector is witnessing a new wave of technological revolution, boosting the adoption of artificial intelligence (AI) in manufacturing and non-manufacturing applications. Al-based solutions are being adopted in manufacturing facilities to improve productivity by maximizing asset utilization, minimizing downtime, and improving machine efficiency. "Optics segment to secure significant market share during forecast period"

A camera lens is an optical lens, or an assembly of lenses used in conjunction with a camera body, with a mechanism to capture images of objects. The images can be captured on a photographic film or other media capable of storing an image chemically or electronically. The lens delivers the captured image through the image sensor present in the camera to the end user. The two main types of lenses used in machine vision systems are fixed and interchangeable lenses. As part of a standalone vision system, the fixed lens could be a mechanical or liquid lens, which can focus automatically. Typically, autofocus lenses have a fixed field of view. Except for the detailed design and construction of lenses, there are no major differences between a lens used for a still camera, a video camera, a telescope, a microscope, or other apparatus.

"Automotive segment to account for third-largest market share during forecast period"

The automotive industry plays a vital role in the manufacturing sector. Machine vision technology has a range of applications in the automotive industry, such as gauging and inspecting sealant beads, error-proofing thread presence, verifying piston assembly, inspecting rivet staking heights, inspecting dashboard graphics, verifying airbag assembly, color sorting door handles,

identifying tires and wheels, error-proofing component assembly, reading 2D matrix codes, as well as for robotic guidance and assembly. Machine vision systems are used to detect defects and align and assemble parts. These systems are also used for painting and robotics guidance. They improve accuracy in critical activities, including bin picking and positioning parts, such as doors and panels, for assembly. Due to the shortage of skilled laborers, automobile companies focus more on automation in their production processes. The automotive industry is an early adopter of machine vision technology in production.

"North America to account for second-largest market share during forecast period"

North America is estimated to account for the second-largest share of the global machine vision market, primarily due to its strong presence of the healthcare sector, where machine vision systems are widely adopted. The healthcare sector in the region is characterized by stringent regulatory mandates, standard protocols, and comprehensive quality controls. There is an increasing integration of machine vision with artificial intelligence (AI) and edge computing in the region, which enables real-time decision-making in production floors. This development helps manufacturers to cope with labor shortages by simplifying quality control.

## Breakdown of primaries

A variety of executives from key organizations operating in the machine vision market were interviewed in-depth, including CEOs, marketing directors, and innovation and technology directors.

-[]By Company Type: Tier 1 -40%, Tier 2 - 25%, and Tier 3 - 35%

-[]By Designation: C-level Executives - 48%, Directors - 33%, and Others - 19%

- By Region: North America - 35%, Europe - 18%, Asia Pacific - 40%, and RoW - 7%

Major players profiled in this report include Cognex Corporation (US), KEYENCE CORPORATION (Japan), Teledyne Technologies Inc. (US), Basler AG (Germany), Omron Corporation (Japan), and others. These leading companies possess a wide portfolio of products, ensuring a prominent presence in established as well as emerging markets.

The study provides a detailed competitive analysis of these key players in the machine vision market, presenting their company profiles, most recent developments, and key market strategies.

**Key Market Players** Key players operating in the machine vision market are as follows: 1. Cognex Corporation (US) 2. □Basler AG (Germany) 3. ||KEYENCE CORPORATION (Japan) 4. Teledyne Technologies Inc. (US) 5.□ TKH (Netherlands) 6. Omron Corporation (Japan) 7. SICK AG (Germany) 8. Sony Group Corporation (Japan) 9. Texas Instruments Incorporated (US) 10. Atlas Copco AB (Sweden) 11. AMETEK. Inc. (US) 12. Emerson Electric Co. (US) 13. Canon Inc. (Japan) 14. Zebra Technologies Corp. (US) 15. □Qualitas Technologies (India) 16. Baumer (Switzerland) 17. Tordivel AS (Norway) 18. MVTec Software GmbH (Germany) 19. [] AI A/S (Denmark)

20. [Industrial Vision Systems (UK)
21. [IVISYS (Sweden)
22. [USS Vision LLC (US)
23. [Optotune (Switzerland)
24. [IDS Imaging Development Systems GmbH (Germany)
25. [Intelgic Inc. (India)

#### Study Coverage

In this report, the machine vision market has been segmented based on application, vision type, deployment, component, system type, industry, and region. Application segments include quality assurance and inspection, positioning and guidance, measurement, identification, and predictive maintenance. Vision type segments include 1D vision system, 2D vision system, and 3D vision system. Deployment segments include general and robotic cell. Component segments include cameras, optics, frame grabbers, LED lighting, processors, other hardware components, and software. System type segments include PC based and smart camera-based machine vision systems. Industry segments include automotive, consumer products, electronics & semiconductors, printing, metals, food & beverages, logistics, healthcare, rubber & plastics, machinery, solar panel manufacturing, and other industries. The market has been segmented into four regions: North America, Asia Pacific, Europe, and RoW.

#### Key Benefits of Buying the Report

-[Analysis of key drivers (Increasing demand for quality assurance and automated inspection in the manufacturing industry, rising adoption of vision-guided robotic systems across multiple industries, growing emphasis on safety and improved product quality in the industrial sector), restraints (Cyber vulnerabilities in industrial robotic systems, lack of skilled workforce to operate machine vision systems in the manufacturing industry), opportunities (Rising implementation of machine vision systems in the food and beverage industry, government-backed initiatives aimed to support industrial automation, growing adoption of AI-powered systems across manufacturing and non-manufacturing sectors, emergence of compact smart cameras and processors, surging market demand for hybrid and EVs), and challenges (Complexities in integrating diverse machine vision components across application sites, lack of awareness and high cost associated with machine vision systems) influencing the growth of the machine vision market.

- Product Development/Innovation: Detailed insights on upcoming technologies, research and development activities, and new product launches in the machine vision market.

- Market Development: Comprehensive information about lucrative markets-the report analyses the machine vision market across various regions.

- Market Diversification: Exhaustive information about new products/services, untapped geographies, recent developments, and investments in the machine vision market.

- Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players such as Cognex Corporation (US), KEYENCE CORPORATION (Japan), Teledyne Technologies Inc. (US), Basler AG (Germany), Omron Corporation (Japan), and others.

## **Table of Contents:**

1[INTRODUCTION[27 1.1]STUDY OBJECTIVES[27 1.2]MARKET DEFINITION[27 1.3]STUDY SCOPE[28

1.3.1 MARKETS COVERED AND REGIONAL SCOPE 28 1.3.2 INCLUSIONS AND EXCLUSIONS 29 1.3.3 YEARS CONSIDERED 29 1.4 CURRENCY CONSIDERED 30 1.5 LIMITATIONS 30 1.6 STAKEHOLDERS 30 1.7 SUMMARY OF CHANGES 30 2 RESEARCH METHODOLOGY 32 2.1 RESEARCH DATA 32 2.1.1 SECONDARY AND PRIMARY RESEARCH 2.1.2 SECONDARY DATA 34 2.1.2.1 List of key secondary sources 34 2.1.2.2 Key data from secondary sources 35 2.1.3 PRIMARY DATA 35 2.1.3.1 List of primary interview participants 36 2.1.3.2 Key data from primary sources 36 2.1.3.3 Key industry insights 37 2.1.3.4 Breakdown of primaries 37 2.2 MARKET SIZE ESTIMATION METHODOLOGY 38 2.2.1 BOTTOM-UP APPROACH 38 2.2.1.1 Approach to derive market size using bottom-up analysis (demand side)[]38 2.2.2 TOP-DOWN APPROACH 39 2.2.2.1 Approach to derive market size using top-down analysis (supply side) 39 2.3 MARKET BREAKDOWN AND DATA TRIANGULATION 41 2.4 RESEARCH ASSUMPTIONS 42 2.5 RESEARCH LIMITATIONS 42 3 EXECUTIVE SUMMARY 44 4 PREMIUM INSIGHTS 49 4.1 ATTRACTIVE OPPORTUNITIES FOR PLAYERS IN MACHINE VISION MARKET 49 4.2 MACHINE VISION MARKET, BY COMPONENT 50 4.3 MACHINE VISION MARKET, BY INDUSTRY 4.4⊓MACHINE VISION MARKET IN NORTH AMERICA, BY INDUSTRY AND COUNTRY⊓52 4.5 MACHINE VISION MARKET, BY COUNTRY 52 5 MARKET OVERVIEW 53 5.1 INTRODUCTION 53 5.2 MARKET DYNAMICS 54 5.2.1 DRIVERS 54 5.2.1.1 [Increasing demand for quality assurance and automated inspection in manufacturing industry [54 5.2.1.2 Rising adoption of vision-guided robotic systems across multiple industries 55 5.2.1.3 Growing emphasis on safety and improved product guality 55 5.2.1.4 Growing adoption of Al-powered systems across industries 56 5.2.2 RESTRAINTS 57 5.2.2.1 Lack of awareness and high cost associated with machine vision systems 57 5.2.3 OPPORTUNITIES 57 5.2.3.1 Rising adoption in food & beverage industry 57 5.2.3.2 Government-backed initiatives to support industrial automation 58

5.2.3.3 Emergence of compact smart cameras and processors 58 5.2.3.4 Surging demand for hybrid and EVs 58 5.2.4 CHALLENGES 59 5.2.4.1 Complexities in integrating diverse machine vision components with traditional systems 59 5.2.4.2 Cyber vulnerabilities in industrial robotic systems 60 5.2.4.3 Lack of skilled workforce to operate machine vision systems 60 5.3 TRENDS/DISRUPTIONS IMPACTING CUSTOMER BUSINESS 61 5.4 PRICING ANALYSIS 62 5.4.1 INDICATIVE PRICING OF MACHINE VISION KEY COMPONENT (CAMERA), BY KEY PLAYERS, 2024∏62 5.4.2∏AVERAGE SELLING PRICE TREND OF MACHINE VISION HARDWARE COMPONENT, 2021-2024∏63 5.4.3 AVERAGE SELLING PRICE TREND OF MACHINE VISION HARDWARE COMPONENT, BY REGION, 2021-2024 64 5.5 VALUE CHAIN ANALYSIS 65 5.6 ECOSYSTEM ANALYSIS 66 5.7 INVESTMENT AND FUNDING SCENARIO 69 5.8 TECHNOLOGY ANALYSIS 69 5.8.1 KEY TECHNOLOGIES 69 5.8.1.1 Robotic vision 69 5.8.1.2 Al in machine vision 69 5.8.2 COMPLEMENTARY TECHNOLOGIES 70 5.8.2.1[5G]70 5.8.2.2 Edge computing 70 5.8.3 ADJACENT TECHNOLOGIES 70 5.8.3.1 Cloud computing 70 5.9 PATENT ANALYSIS 71 5.10 TRADE ANALYSIS 75 5.10.1 IMPORT SCENARIO (HS CODE 852580) 75 5.10.2 EXPORT SCENARIO (HS CODE 852580) 76 5.11 KEY CONFERENCES AND EVENTS, 2025-2026 77 5.12 CASE STUDY 78 5.12.1 □ PANPASS TECHNOLOGY CO., LTD. AND COGNEX CORPORATION TRANSFORM YUNMEN WINE GROUP'S TRACEABILITY THROUGH MACHINE VISION AND AI-BASED OCR∏78 5.12.2 IPRESCRIPTIVE DATA USES TELEDYNE FLIR'S MACHINE VISION SENSORS TO DELIVER ACCURATE OCCUPANCY DATA FOR SMART BUILDINGS 78 5.12.3 □ LEADING AUTOMOTIVE SUPPLIER IMPROVES INSPECTION EFFICIENCY WITH FUJIFILM'S 4D HIGH RESOLUTION MACHINE VISION LENSES[79 5.12.4 ADVANCED DIMENSIONAL AND QUALITY CONTROL WITH 3D MACHINE VISION AT SIDENOR STEEL MILL 79 5.13 REGULATORY LANDSCAPE 80 5.13.1 REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS 80 5.13.2 STANDARDS 82 5.14 PORTER'S FIVE FORCES ANALYSIS 84 5.14.1 THREAT OF NEW ENTRANTS 85 5.14.2 THREAT OF SUBSTITUTES 85 5.14.3 BARGAINING POWER OF SUPPLIERS 85 5.14.4 BARGAINING POWER OF BUYERS 86 5.14.5 INTENSITY OF COMPETITIVE RIVALRY 86 5.15 KEY STAKEHOLDERS AND BUYING CRITERIA

5.15.1 KEY STAKEHOLDERS IN BUYING PROCESS 87 5.15.2 BUYING CRITERIA 88 5.16 IMPACT OF AI/GEN AI ON MACHINE VISION MARKET 89 5.16.1 INTRODUCTION 89 5.16.2 IMPACT OF AI/GEN AI ON KEY END-USE INDUSTRIES 89 5.16.2.1 Electronics & semiconductors 89 5.16.2.2 Food & beverages 89 5.16.3 AI USE CASES 90 5.16.4 FUTURE OF AI/GEN AI IN MACHINE VISION ECOSYSTEM 90 5.17 IMPACT OF 2025 US TARIFF ON MACHINE VISION MARKET 90 5.17.1 || INTRODUCTION || 90 5.17.2 KEY TARIFF RATES 91 5.17.3 PRICE IMPACT ANALYSIS 92 5.17.4 IMPACT ON COUNTRIES/REGIONS 93 5.17.4.1 US 93 5.17.4.2 Europe 94 5.17.4.3 Asia Pacific 94 5.17.5 IMPACT ON END-USE INDUSTRIES 95 6 APPLICATIONS OF MACHINE VISION 97 6.1⊓INTRODUCTION⊓97 6.2 QUALITY ASSURANCE AND INSPECTION 98 6.3 POSITIONING AND GUIDANCE 98 6.4 || MEASUREMENT || 99 6.5 IDENTIFICATION 99 6.6 PREDICTIVE MAINTENANCE 100 7 MACHINE VISION MARKET, BY COMPONENT 101 7.1 INTRODUCTION 102 7.2 CAMERAS 105 7.2.1 EMERGENCE OF 3D CAMERAS WITH HIGH-PRECISION VISION TO DRIVE MARKET 105 7.2.2 INTERFACE STANDARDS 106 7.2.2.1 USB 2.0 106 7.2.2.2 USB 3.0 106 7.2.2.3 Camera Link 106 7.2.2.4 Camera Link HS 106 7.2.2.5 GigE 107 7.2.2.6 10 GigE & 25 GigE bandwidth over GigE Vision 107 7.2.2.7 Others 107 7.2.3 IMAGING SPECTRUM 107 7.2.3.1 Visible light 108 7.2.3.2 Visible + IR/IR 108 7.2.4 FRAME RATE 109 7.2.4.1 Less than 25 frames per second 109 7.2.4.2 25-125 frames per second 109 7.2.4.3 More than 125 frames per second 109 7.2.5 FORMAT 110 7.2.5.1[Line scan]]110 7.2.5.2 Area scan 110

7.2.6[SENSOR]111 7.2.6.1 Complementary Metal Oxide Semiconductor (CMOS) 111 7.2.6.2 Charged-Coupled Device (CCD) 111 7.3 FRAME GRABBERS 112 7.3.1 INCREASING ADOPTION IN HIGH-SPEED AND LARGE-SCALE MACHINE VISION SYSTEMS TO DRIVE MARKET 112 7.4 LED LIGHTING 113 7.4.1 INCREASING ADOPTION OF STRUCTURED LIGHTING SOLUTIONS TO FUEL DEMAND 7.5 OPTICS 114 7.5.1 GROWING INTEGRATION WITH CAMERA BODIES FOR OBJECT IMAGE CAPTURE TO FUEL DEMAND 7.6 PROCESSORS 115 7.6.1 ADOPTION OF ADVANCED VISION SYSTEMS FUELING DEMAND FOR HIGH-PERFORMANCE PROCESSORS 115 7.6.2 FIELD-PROGRAMMABLE GATE ARRAY (FPGA) 116 7.6.3 DIGITAL SIGNAL PROCESSOR (DSP) 116 7.6.4 MICROCONTROLLER AND MICROPROCESSOR 116 7.6.5 VISION PROCESSING UNIT 116 7.7 OTHER HARDWARE COMPONENTS 116 7.7.1 NEED TO ENHANCE SYSTEM RELIABILITY AND PERFORMANCE TO FUEL SEGMENTAL GROWTH 116 7.8 SOFTWARE 117 7.8.1 AI-BASED MACHINE VISION SOFTWARE 118 8 MACHINE VISION MARKET, BY VISION TYPE 120 8.1 INTRODUCTION 120 8.2 1D VISION SYSTEMS 120 8.2.1⊓APPLICATION IN PRECISE LINEAR INSPECTION IN MANUFACTURING TO DRIVE DEMAND∏120 8.3 DVISION SYSTEMS 121 8.3.1 ADVANCEMENTS IN EMBEDDED VISION AND SMART CAMERA TECHNOLOGIES TO SUPPORT MARKET GROWTH 121 8.4 3D VISION SYSTEMS 121 8.4.1 RISING ADOPTION IN DEPTH ANALYSIS AND SURFACE INSPECTION TO FUEL DEMAND 9 MACHINE VISION MARKET, BY DEPLOYMENT 122 9.1 INTRODUCTION 122 9.2 GENERAL 122 9.2.1 RISING DEMAND FOR AUTOMATED INSPECTIONS TO DRIVE MARKET GROWTH 122 9.3 ROBOTIC CELL 123 9.3.1 TRISING AUTOMATION AND TECHNOLOGICAL ADVANCEMENTS TO PROPEL MACHINE VISION ADOPTION 123 10 MACHINE VISION MARKET, BY SYSTEM TYPE 124 10.1 INTRODUCTION 125 10.2 PC-BASED 126 10.2.1 ADVANCED PROCESSING WITH MULTI-CAMERA SUPPORT TO DRIVE ADOPTION OF PC-BASED VISION SYSTEMS 126 10.3 SMART CAMERA-BASED 128 10.3.1 RISING ADOPTION OF SMART CAMERA IN IMAGING AND SECURITY APPLICATIONS TO DRIVE MARKET 128 11 MACHINE VISION MARKET, BY INDUSTRY 130 11.1 INTRODUCTION 131 11.2 AUTOMOTIVE 134 11.2.1 NEED FOR ENHANCING ACCURACY AND PRODUCTIVITY TO INCREASE ADOPTION 134 11.3 ELECTRONICS & SEMICONDUCTORS 135 11.3.1 □ RISING NEED TO IMPROVE ELECTRONIC MANUFACTURING BY IDENTIFYING DEFECTS AND ENHANCING SEMICONDUCTOR PRODUCTION[]135

11.4 CONSUMER PRODUCTS 137

11.4.1 GROWING DEMAND FOR AUTOMATED INSPECTION TO IMPROVE ELECTRONIC ASSEMBLY TO DRIVE MARKET 137 11.5[[METALS[]139 11.5.1 SHORTAGE OF SKILLED LABOR FUELING ADOPTION OF MACHINE VISION SYSTEMS TO BOOST PRODUCT QUALITY 139 11.6 HEALTHCARE 140 11.6.1 STRINGENT GOVERNMENT REGULATION AND GROWING NEED TO COMBAT COUNTERFEIT PRODUCTS TO DRIVE MARKET 140 11.7⊓FOOD & BEVERAGES⊓142 11.7.1 FOOD 142 11.7.1.1 Need to reduce labor cost and enhance food processing fueling adoption 142 11.7.2 BEVERAGES 143 11.7.2.1 Need to ensure guality and hygiene in beverage production to fuel market growth 143 11.8 RUBBER & PLASTICS 144 11.8.1 [INCREASING CONSUMPTION OF PLASTICS IN VARIOUS INDUSTRIAL SECTORS TO SUPPORT MARKET GROWTH [144 11.9 PRINTING 146 11.9.1 MACHINE VISION SYSTEMS INCREASINGLY USED TO MAINTAIN QUALITY IN PRINTING OPERATIONS 146 11.10 MACHINERY 147 11.10.1 GROWING NEED TO ENHANCE MACHINERY PERFORMANCE AND SAFETY TO FUEL DEMAND 11.11 SOLAR PANEL MANUFACTURING 148 11.11.1 INEED FOR INCREASED PRODUCTION AND QUALITY OF SOLAR PANELS TO BOOST MARKET GROWTH 148 11.12 LOGISTICS 150 11.12.1 GROWING DEMAND FOR AUTOMATED SORTING AND TRACKING TO DRIVE MARKET 150 11.13 OTHER INDUSTRIES 151 11.13.1 INCREASING ADOPTION OF MACHINE VISION FOR DEFECT DETECTION AND QUALITY CONTROL TO SUPPORT MARKET GROWTH[]151 ? 12 MACHINE VISION MARKET, BY REGION 153 12.1 INTRODUCTION 154 12.2 NORTH AMERICA 156 12.2.1 MACROECONOMIC OUTLOOK FOR NORTH AMERICA 156 12.2.2 US 162 12.2.2.1 Expanding role of machine vision in healthcare and automotive applications to drive market 162 12.2.3 CANADA 163 12.2.3.1 [Increasing adoption in automotive, electronics, and healthcare industries to boost demand [163] 12.2.4 MEXICO 165 12.2.4.1 Growing emphasis on high-guality standards and operational efficiency to fuel adoption 165 12.3 EUROPE 166 12.3.1 MACROECONOMIC OUTLOOK FOR EUROPE 167 12.3.2 GERMANY 172 12.3.2.1 [Increasing adoption to enhance operational efficiency and precision in industrial applications to drive market [172 12.3.3 UK 174 12.3.3.1 [Rising adoption in automotive and manufacturing sectors to fuel market growth]174 12.3.4 FRANCE 175 12.3.4.1 Growth in electric vehicle market and portable electronics driving machine vision adoption 175 12.3.5 || ITALY || 177 12.3.5.1 Government initiatives driving adoption of advanced manufacturing technologies 12.3.6 SPAIN 178 12.3.6.1 Growth of consumer electronics and pharmaceutical industries fueling machine vision adoption 12.3.7 NETHERLANDS 180

12.3.7.1 Rising adoption in logistics, food processing, and electronics sectors to drive market 180 12.3.8 SWITZERLAND 181 12.3.8.1 [Increased integration of machine vision in precision manufacturing and pharmaceutical automation to boost market [181 12.3.9 NORDICS 183 12.3.9.1 Strong push for industrial automation fueling demand across manufacturing and energy sectors 183 12.3.10 REST OF EUROPE 184 12.4 ASIA PACIFIC 186 12.4.1 MACROECONOMIC OUTLOOK FOR ASIA PACIFIC 186 12.4.2[CHINA]191 12.4.2.1 Expanding deployment of machine vision systems for higher productivity and guality enhancement 191 12.4.3 || APAN || 192 12.4.3.1 Increasing adoption in consumer electronics sector to boost market growth 192 12.4.4 SOUTH KOREA 194 12.4.4.1 Adoption of machine vision systems expanding in key sectors to ensure quality compliance 194 12.4.5 INDIA 195 12.4.5.1 Government initiatives driving factory automation growth 195 12.4.6 INDONESIA 197 12.4.6.1 [Emerging industrial base and rising automation needs driving machine vision adoption]]197 12.4.7 SINGAPORE 198 12.4.7.1 [Technological leadership and advanced infrastructure supporting market growth] 198 12.4.8 AUSTRALIA 200 12.4.8.1 Expanding applications in food & beverages and electronics industries to drive demand 200 12.4.9 REST OF ASIA PACIFIC 201 12.5[ROW]203 12.5.1 MACROECONOMIC OUTLOOK FOR ROW 203 12.5.2 MIDDLE EAST 207 12.5.2.1 Saudi Arabia 209 12.5.2.1.1 Vision 2030 reforms fueling demand for industrial automation and machine vision systems 209 12.5.2.2 UAE 210 12.5.2.2.1 Rapid digital transformation and smart factory initiatives to fuel market growth 210 12.5.2.3 Bahrain 210 12.5.2.3.1 Increasing investment in smart manufacturing technologies to drive machine vision adoption 210 12.5.2.4 Kuwait 210 12.5.2.4.1 Rising implementation of smart factories accelerating demand for machine vision technologies 210 12.5.2.5 Oman 210 12.5.2.5.1 Strategic focus on industrial modernization fostering machine vision system adoption 210 12.5.2.6 Qatar 211 12.5.2.6.1 Strategic focus on automation and vision technologies to enhance industrial capabilities 211 12.5.2.7 Rest of Middle East 211 12.5.3 SOUTH AMERICA 211 12.5.3.1 || Brazil || 213 12.5.3.1.1 Booming automotive, food & beverages, and manufacturing industries driving machine vision adoption 213 ? 12.5.3.2 Argentina 214 12.5.3.2.1 Growing focus on modernizing manufacturing facilities to boost machine vision market 214

12.5.3.3 Other South American countries 214

12.5.4[]AFRICA[]214

12.5.4.1 South Africa 216 12.5.4.1.1 [Increasing focus on automated visual inspection and quality assurance to drive adoption [216 12.5.4.2 Other African countries 217 13 COMPETITIVE LANDSCAPE 218 13.1 INTRODUCTION 218 13.2 KEY PLAYER STRATEGIES/RIGHT TO WIN, JANUARY 2021-MARCH 2025 218 13.3 REVENUE ANALYSIS, 2020-2024 220 13.4 MARKET SHARE ANALYSIS OF TOP FIVE PLAYERS, 2024 221 13.5 PRODUCT COMPARISON 223 13.6 COMPANY VALUATION AND FINANCIAL METRICS 223 13.7 COMPANY EVALUATION MATRIX: KEY PLAYERS, 2024 224 13.7.1 STARS 224 13.7.2 EMERGING LEADERS 224 13.7.3 PERVASIVE PLAYERS 224 13.7.4 PARTICIPANTS 225 13.7.5 COMPANY FOOTPRINT: KEY PLAYERS, 2024 226 13.7.5.1 Company footprint 226 13.7.5.2 Region footprint 227 13.7.5.3 System type footprint 228 13.7.5.4 Component footprint 229 13.7.5.5 Industry footprint 230 13.8 COMPANY EVALUATION MATRIX: STARTUPS/SMES, 2024 231 13.8.1 PROGRESSIVE COMPANIES 231 13.8.2 RESPONSIVE COMPANIES 231 13.8.3 DYNAMIC COMPANIES 231 13.8.4 STARTING BLOCKS 231 13.8.5 COMPETITIVE BENCHMARKING: STARTUPS/SMES, 2024 233 13.8.5.1 Detailed list of key startups/SMEs 233 13.8.5.2 Competitive benchmarking of key startups/SMEs 233 13.9 COMPETITIVE SCENARIO 234 13.9.1 PRODUCT LAUNCHES 234 13.9.2 DEALS 239 ? 14 COMPANY PROFILES 241 14.1 KEY PLAYERS 241 14.1.1 COGNEX CORPORATION 241 14.1.1.1 Business overview 241 14.1.1.2 Products/Solutions/Services offered 242 14.1.1.3 Recent developments 243 14.1.1.3.1 Product launches 243 14.1.1.4 MnM view 245 14.1.1.4.1 Key strengths 245 14.1.1.4.2 Strategic choices 245 14.1.1.4.3 Weaknesses and competitive threats 245 14.1.2 BASLER AG 246 14.1.2.1 Business overview 246 14.1.2.2 Products/Solutions/Services offered 247

14.1.2.3 Recent developments 249 14.1.2.3.1 Product launches 249 14.1.2.3.2 Deals 249 14.1.2.4 MnM view 250 14.1.2.4.1 Key strengths 250 14.1.2.4.2 Strategic choices 250 14.1.2.4.3 Weaknesses and competitive threats 250 14.1.3 KEYENCE CORPORATION 251 14.1.3.1 Business overview 251 14.1.3.2 Products/Solutions/Services offered 252 14.1.3.3 Recent developments 254 14.1.3.3.1 Product launches 254 14.1.3.4 MnM view 254 14.1.3.4.1 Key strengths 254 14.1.3.4.2 Strategic choices 254 14.1.3.4.3 Weaknesses and competitive threats 254 14.1.4 TELEDYNE TECHNOLOGIES INC. 255 14.1.4.1 Business overview 255 14.1.4.2 Products/Solutions/Services offered 256 14.1.4.3 Recent developments 258 14.1.4.3.1 Product launches 258 14.1.4.4 MnM view 259 14.1.4.4.1 Key strengths 259 14.1.4.4.2 Strategic choices 259 14.1.4.4.3 Weaknesses and competitive threats 259 ? 14.1.5 OMRON CORPORATION 260 14.1.5.1 Business overview 260 14.1.5.2 Products/Solutions/Services offered 261 14.1.5.3 Recent developments 262 14.1.5.3.1 Product launches 262 14.1.5.3.2 Deals 263 14.1.5.4 MnM view 264 14.1.5.4.1 Key strengths 264 14.1.5.4.2 Strategic choices 264 14.1.5.4.3 Weaknesses and competitive threats 264 14.1.6 TKH 265 14.1.6.1 Business overview 265 14.1.6.2 Products/Solutions/Services offered 266 14.1.6.3 Recent developments 267 14.1.6.3.1 Product launches 267 14.1.6.3.2 Deals 267 14.1.6.4 MnM view 268 14.1.6.4.1 Key strengths 268 14.1.6.4.2 Strategic choices 268 14.1.6.4.3 Weaknesses and competitive threats 268 14.1.7 SICK AG 269

14.1.7.1 Business overview 269 14.1.7.2 Products/Solutions/Services offered 270 14.1.7.3 Recent developments 271 14.1.7.3.1 Product launches 271 14.1.7.3.2 Deals 272 14.1.8 SONY GROUP CORPORATION 273 14.1.8.1 Business overview 273 14.1.8.2 Products/Solutions/Services offered 274 14.1.8.3 Recent developments 275 14.1.8.3.1 Product launches 275 14.1.9 TEXAS INSTRUMENTS INCORPORATED 276 14.1.9.1 Business overview 276 14.1.9.2 Products/Solutions/Services offered 277 14.1.9.3 Recent developments 278 14.1.9.3.1 Product launches 278 14.1.10 ATLAS COPCO AB 279 14.1.10.1 Business overview 279 14.1.10.2 Products/Solutions/Services offered 280 14.1.11 AMETEK.INC. 282 14.1.11.1 Business overview 282 14.1.11.2 Products/Solutions/Services offered 283 14.1.12 EMERSON ELECTRIC CO. 284 14.1.12.1 Business overview 284 14.1.12.2 Products/Solutions/Services offered 285 14.1.12.3 Recent developments 286 14.1.12.3.1 Deals 286 14.1.13 CANON INC. 287 14.1.13.1 Business overview 287 14.1.13.2 Products/Solutions/Services offered 288 14.1.14 ZEBRA TECHNOLOGIES CORP. 289 14.1.14.1 Business overview 289 14.1.14.2 Products/Solutions/Services offered 290 14.1.14.3 Recent developments 291 14.1.14.3.1 Product launches 291 14.1.14.3.2 Deals 291 14.2 OTHER PLAYERS 292 14.2.1 QUALITAS TECHNOLOGIES 292 14.2.2[|BAUMER[]293 14.2.3 TORDIVEL AS 294 14.2.4 MVTEC SOFTWARE GMBH 295 14.2.5 JAI A/S 296 14.2.6 INDUSTRIAL VISION SYSTEMS 297 14.2.7 || VISYS || 298 14.2.8 USS VISION LLC 298 14.2.9 OPTOTUNE 299 14.2.10 IDS IMAGING DEVELOPMENT SYSTEMS GMBH 300 14.2.11 INTELGIC INC. 301

15[]APPENDIX[]302 15.1[]INSIGHTS FROM INDUSTRY EXPERTS[]302 15.2[]DISCUSSION GUIDE[]303 15.3[]KNOWLEDGESTORE: MARKETSANDMARKETS? SUBSCRIPTION PORTAL[]306 15.4[]CUSTOMIZATION OPTIONS[]308 15.5[]RELATED REPORTS[]308 15.6[]AUTHOR DETAILS[]309



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	Corporate License	\$8150.00
	Enterprise Site License	\$10000.00
	VAT	
	Total	

\*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346. []\*\* VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*	Phone*	
First Name*	Last Name*	
Job title*		
Company Name*	EU Vat / Tax ID / NIF	number*
Address*	City*	

7in	Code*
Zip	Coue

Country\*

Date

Signature

2025-06-08