

Image Sensors Market by Technique (2D,3D), Type (CMOS, CCD, Hybrid), Imaging (Digital, Infrared), Array (Linear, Area Scan), Spectrum (Visible, Non-visible), Technology (Shutter, Time of Flight), Resolution (1.3-3, 5-10, 12-16) - Global Forecast to 2029

Market Report | 2024-11-08 | 284 pages | MarketsandMarkets

AVAILABLE LICENSES:

- Single User \$4950.00
- Multi User \$6650.00
- Corporate License \$8150.00
- Enterprise Site License \$10000.00

Report description:

The global image sensor market is expected to be valued at USD 20.66 billion in 2024 and is projected to reach USD 29.62 billion by 2029, growing at a CAGR of 7.5% from 2024-2029. High-quality performance, cost-effectiveness, and versatility across a broad range of applications are to make CMOS sensors claim the largest market share of image sensors in the forecast period. Compared with CCD sensors, CMOS technology has some significant advantages. It has lower power consumption, faster readout speed, and the possibility to integrate other functionalities directly into the sensor chip. The above integration helps for in-chip processing along with increased image quality. Hence, CMOS sensors are so attractive that they range from smartphone cameras to automotive systems and security cameras. Demand is further boosted because of high-resolution imaging demands in consumer electronics, a trend encouraged by enhanced smartphone cameras and digital photography. The smart home technology and IoT applications, which deploy efficient and compact imaging solutions where CMOS sensors excel, are another primary driver. Automotive is another critical driver, given that these sensors are increasingly employed in ADAS for object detection and lane keeping. That is, the continued innovation in enhancing CMOS sensors' capabilities will continue pushing the acceptance of these devices across industries such as healthcare, industrial automation, and entertainment, thus sustaining high growth and increasing market share for CMOS technology leaders.

"12 MP to 16 MP segment by reolution is projected to have highest CAGR during theforecast period."

CAGR in the image sensor market is expected to be maximum for the 12-16 MP resolution range. There seems to be a sweet spot that 12-16 MP achieves for many applications: high-quality images without excessive processing demands and costs. In consumer electronics, especially in smartphones and digital cameras, manufacturers are putting 12 MP to 16 MP sensors to fulfill the

expectation of consumers about clear, detailed images within manageable file sizes. Further, the rise in content creation and social media has increased demand for devices equipped with capable imaging technology. These sensors are also finding more inroads in newer applications such as security and surveillance, where high-resolution images help monitor and identify effectively. Industrial needs are required to enable detailed images for applications like quality control and machine vision. More importantly, better low-light performance and speedier processing speeds, among other advancements, are propelling the capabilities of 12 MP and 16 MP sensors. Consequently, this resolution segment is expected to see healthy growth, representing market trends and user needs evolving.

"Area scan image sensors by array type to have the highest market share in image sensor market during the forecast period." The area scan image sensors are expected to have the largest market share in the future for image sensors. The reason is that these types of sensors are versatile and applicable everywhere, regardless of the industry sector. Area scan image sensors capture an entire image at once. They can be highly used in various applications, such as industrial automation, medical imaging, and security surveillance. Recently, these area scan sensors have found use in many machine vision applications, such as enabling precision in inspection and quality assessment of the object detected through higher productivity. Industry 4.0 has increased the speed of smart manufacturing solutions and increased the requirement for area scan image sensors, which are more capable of delivering high-resolution images with consistent, therefore,under changing conditions. Moreover, improvements in sensor technology, such as higher frame rates and better sensitivity, have opened new fields of application for area scan sensors to be integrated into cutting-edge applications like robotics and autonomous systems. Increased emphasis on automation and quality control across industries will boost area scan image sensor demand considerably in the future. The increasing trend will place area scan sensors in an advantageous position in the market, where they will corner the biggest share of the market in the future.

"Commercial sector to account for second-highest CAGR in image sensor market during the forecast period." The commercial sector will be the second-highest contributor to the CAGR in the image sensor market, mainly due to the burgeoning demand for security and surveillance solutions. In light of the growing need for security and protection, businesses operating in various industries have resulted in the requirement to use advanced imaging technologies for facility, asset, and human resource monitoring. High-resolution video surveillance is made possible through image sensors, permitting real-time monitoring and improved response to incidents. In addition, growth in smart retail environments has increased the demand for image sensors. Retailers apply cameras for inventory management, customer behavior analysis, and loss prevention. These applications increase operational efficiency and enhance customer experience through personalized marketing strategies. Integration with AI and image sensors provides advanced analytics such as facial recognition and demographic analysis, which are of great value in targeted advertising and enhancing customer engagement. Commercial space digital transformation requires high-quality imaging solutions to create a trend; all these factors put the commercial sector on the pathway of major expansion in image sensor markets and show that the industry as shifting towards more intelligent, data-driven operations. "North American region growing at a high CAGR during the forecast period."

North America is expected to grow significantly with a high compound annual growth rate over the forecast period. This is attributed to the importance of the region in the adoption of technological innovation and research and development. North America is home to major technology firms and startups, making it a front-liner for the developments made in imaging technologies, thereby driving the demand for high-performance sensors across applications. Further growth adoption is observed in automotive, healthcare, and consumer electronics. Advanced imaging solutions in the automotive industry are required for safety and navigation purposes with advanced driver assistance systems and autonomous vehicles. Advanced sensors in medical devices with high-resolution imaging in diagnostics drive the need of the healthcare sector. In addition, demand for smart home technologies and security systems is also propelling image sensors in residential applications.. With increased usage of AI and machine learning with imaging solutions that improve functionality and performance, growth in the market continues to increase. In the coming years, North America is going to be one of the primary drivers in the image sensor market with many prospects in terms of high growth.

The study contains insights from various industry experts, from component suppliers to Tier 1 companies and OEMs. The

break-up of the primaries is as follows:

-[]By Company Type: Tier 1 - 55%, Tier 2 - 25%, and Tier 3 - 20%

-[]By Designation: Directors - 50%, Managers - 30%, and Others - 20%

- By Region: North America - 40%, Europe - 35%, Asia Pacific - 20%, and RoW - 5%

The key players operating in the image sensor market are Sony Corporation (Japan), Samsung. (South Korea), Omnivision (US), Semiconductor Components Industries, LLC (US) and STMicroelectronics (Switzerland), and others.

Research Coverage: The research reports the image sensor market has been segmented based on type, by processing technique, by spectrum, by imaging type, by array type, by resolution, by end user and by region. Based on type the market has been segmented into CMOS, CCD and other which further includes hybrid and infrared. The market for processing technique has been segmented into 2D and 3D image sensors. The market by spectrum has been segmented into visible spectrum and infrared spectrum. By imaging type the market has been segmented into digital and IR imaging, which is further divided into infrared, thermal and hyperspectral. By array type the market has been divided into Linear and Area. By resolution the market has been segmented by VGA, 1.3 MP to 3 MP, 5 MP to 10 MP, 12 MP to 16 MP, and more than 16 MP. The market by end user has been segmented into automotive, consumer electronics, medical and life sciences, industrial, commercial, security and surveillance, and aerospace and defence. The market by region has been segmented into North America, Europe, Asia Pacific, and RoW. The scope of the report covers detailed information regarding the major factors, such as drivers, restraints, challenges, and opportunities, influencing the growth of the retail automation market. A detailed analysis of the key industry players has been done to provide insights into their business overviews, products, key strategies, contracts, partnerships, and agreements. New product & and service launches, mergers and acquisitions, and recent developments associated with the image sensor market have been covered in the report. This report covers a competitive analysis of upcoming startups in the image sensor market ecosystem.

Key Benefits of Buying the Report

?[Analysis of key drivers (Adoption of ADAS in automotive, RRise of IoT), restraints (High Manufacturing Costs, Size and Weight Constraints), opportunities (Integration with Other Technologies, Emerging Markets), and challenges (Optical and Performance Constraints of Pixel Miniaturization, Supply Chain Disruptions) influencing the growth of the image sensor market.

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

- Market Development: Comprehensive information about lucrative markets - the report analyses the image sensor market across varied regions.

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

- Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players like Sony Corporation (Japan), Samsung. (South Korea), Omnivision (US), Semiconductor Components Industries, LLC (US) and STMicroelectronics (Switzerland), and others etc.

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[28 1.3.2]INCLUSIONS AND EXCLUSIONS[29 1.3.3]YEARS CONSIDERED[30 1.4]CURRENCY CONSIDERED[30 1.5]UNIT CONSIDERED[31 1.6]LIMITATIONS[31

1.7 STAKEHOLDERS 31 1.8 SUMMARY OF CHANGES 31 2 RESEARCH METHODOLOGY 33 2.1 RESEARCH DATA 33 2.1.1 SECONDARY AND PRIMARY RESEARCH 35 2.1.2 SECONDARY DATA 36 2.1.2.1 Major secondary sources 36 2.1.2.2 Key data from secondary sources 36 2.1.3 PRIMARY DATA 37 2.1.3.1 Intended participants in primary interviews 37 2.1.3.2 Key primary interview participants 37 2.1.3.3 Breakdown of primaries 37 2.1.3.4 Key data from primary sources 38 2.1.3.5 Key industry insights 39 2.2 MARKET SIZE ESTIMATION METHODOLOGY 40 2.2.1 BOTTOM-UP APPROACH 40 2.2.1.1 Approach to arrive at market size using bottom-up analysis (demand side)[]41 2.2.2 TOP-DOWN APPROACH 41 2.2.2.1 Approach to arrive at market size using top-down analysis (supply side)[]42 2.3 DATA TRIANGULATION 43 2.4 RESEARCH ASSUMPTIONS 44 2.5 RESEARCH LIMITATIONS 44 2.6 RISK ASSESSMENT 44 3 EXECUTIVE SUMMARY 45 4 PREMIUM INSIGHTS 49 4.1 ATTRACTIVE OPPORTUNITIES FOR PLAYERS IN IMAGE SENSOR MARKET 49 4.2 IMAGE SENSOR MARKET, BY REGION 49 4.3⊓IMAGE SENSOR MARKET, BY RESOLUTION⊓50 4.4⊓IMAGE SENSOR MARKET, BY SPECTRUM□50 4.5 ⊓IMAGE SENSOR MARKET IN ASIA PACIFIC, BY APPLICATION AND COUNTRY 151 4.6⊓IMAGE SENSOR MARKET, BY COUNTRY∏51 5⊓MARKET OVERVIEW∏52 5.1 INTRODUCTION 52 5.2 MARKET DYNAMICS 52 5.2.1 DRIVERS 53 5.2.1.1 Growing integration of ADAS technologies to enhance vehicle safety, comfort, and automation 53 5.2.1.2 Surging use of IoT devices in industrial, agriculture, and healthcare applications 54 5.2.1.3 Advancements in smartphone photography 54 5.2.2 RESTRAINTS 55 5.2.2.1 Substantial costs associated with image sensor manufacturing 55 5.2.2.2 || High power consumption by image sensors || 56 5.2.3 OPPORTUNITIES 57 5.2.3.1 Growth and diversification of emerging markets 57 5.2.3.2 Integration of image sensors with advanced technologies 58

5.2.3.3 Emergence of newer applications of image sensors with technological advancements 58

5.2.4 CHALLENGES 59

5.2.4.1 Balancing pixel size with optical performance during miniaturization 59

5.2.4.2 Supply chain disruptions due to geopolitical tensions 59

5.3 VALUE CHAIN ANALYSIS 60

5.4 ECOSYSTEM ANALYSIS 62

5.5 TRENDS/DISRUPTIONS IMPACTING CUSTOMER BUSINESS 63

5.6 PRICING ANALYSIS 64

5.6.1 INDICATIVE PRICING OF IMAGE SENSORS PROVIDED BY KEY PLAYERS,

BY TYPE, 2023[]65

5.6.2 AVERAGE SELLING PRICE TREND OF IMAGE SENSORS, BY TYPE, 2020-2023 66

5.6.3 AVERAGE SELLING PRICE TREND OF CMOS IMAGE SENSORS, BY REGION, 2020-2023 67

5.7 TECHNOLOGY ANALYSIS 68

5.7.1 KEY TECHNOLOGIES 68

5.7.1.1 Stacked CMOS image sensors with Cu-Cu connections 68

5.7.2 COMPLEMENTARY TECHNOLOGIES 68

5.7.2.1 CMOS sensors with column A/D converter 68

?

5.7.3 ADJACENT TECHNOLOGIES 68

5.7.3.1 Back-illuminated CMOS sensors 68

5.8 PORTER'S FIVE FORCES ANALYSIS 69

5.8.1 THREAT OF NEW ENTRANTS 70

5.8.2 THREAT OF SUBSTITUTES 70

5.8.3 BARGAINING POWER OF SUPPLIERS 70

5.8.4 BARGAINING POWER OF BUYERS 70

5.8.5 INTENSITY OF COMPETITIVE RIVALRY 70

5.9 KEY STAKEHOLDERS AND BUYING CRITERIA

5.9.1 KEY STAKEHOLDERS IN BUYING PROCESS 71

5.9.2 BUYING CRITERIA 72

5.10 CASE STUDY ANALYSIS 73

5.10.1 VIVAMOS OFFERS CMOS SENSOR TO CARRY OUT SURGERY AND CONE-BEAM COMPUTED TOMOGRAPHY IN MEDICAL FIELD 73 5.10.2 JRCS PROVIDES AI-BASED OBJECT RECOGNITION SYSTEM FOR MARITIME NAVIGATION 73

5.10.3 LILIN, IN COLLABORATION WITH SONY, OFFERS TOF SENSOR-EQUIPPED MONITORING CAMERA TO IMPROVE SAFETY AND MAINTAIN PRIVACY OF NURSING HOME RESIDENTS 74

5.10.4 SONY PROVIDES ADVANCED IMAGE-SENSING CAMERA FOR DRONE APPLICATIONS TO CAPTURE HIGH-RESOLUTION IMAGES AND MAINTAIN LONGER FLIGHT TIMES 74

5.11 INVESTMENT AND FUNDING SCENARIO 75

5.12[]TRADE ANALYSIS[]76

5.12.1 IMPORT SCENARIO (HS CODE 854140) 76

5.12.2 EXPORT SCENARIO (HS CODE 854140) 77

5.13 PATENT ANALYSIS 78

5.14 KEY CONFERENCES AND EVENTS, 2024-2025 81

5.15 REGULATORY LANDSCAPE 82

5.15.1 REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS 82

5.15.2 STANDARDS AND REGULATIONS 84

5.16 IMPACT OF ARTIFICIAL INTELLIGENCE ON IMAGE SENSOR MARKET 86

5.16.1 TOP USE CASES 86

5.16.2 AI SENSOR USE CASE BY SONY SEMICONDUCTOR SOLUTIONS CORPORATION 88

5.16.3 INTEGRATION OF AI AND ML TECHNOLOGIES INTO IMAGE SENSORS 88 6 ANALOG AND DIGITAL OUTPUT OF IMAGE SENSORS 89 6.1 INTRODUCTION 89 6.2 ANALOG 89 6.3 DIGITAL 89 ? 7 IMAGE SENSORS BASED ON DIFFERENT TECHNOLOGIES 90 7.1 || INTRODUCTION || 90 7.2 ROLLING SHUTTER SENSOR 90 7.3 GLOBAL RESET RELEASE (GRR) SENSOR 91 7.4 GLOBAL SHUTTER SENSOR 91 7.5 POLARIZATION SENSOR 92 7.6 ULTRAVIOLET (UV) SENSOR 93 7.7 SHORT-WAVE INFRARED (SWIR) SENSOR 93 7.8 TIME-OF-FLIGHT (TOF) SENSOR 94 7.9 EVENT-BASED VISION (EVS) SENSOR 95 7.10 MULTISPECTRAL SENSOR 95 8 IMAGE SENSOR MARKET, BY TYPE 97 8.1 INTRODUCTION 98 8.2 CMOS 100 8.2.1 COST-EFFECTIVENESS AND FLEXIBILITY ATTRIBUTES TO BOOST DEMAND 100 8.3 CCD 101 8.3.1 HIGH POWER CONSUMPTION AND SLOW READOUT SPEED TO LIMIT ADOPTION 101 8.4 OTHER TYPES 102 9 IMAGE SENSOR MARKET, BY PROCESSING TECHNIQUE 104 9.1 INTRODUCTION 105 9.201106 9.2.1 INCREASING USE OF HIGH-RESOLUTION CAMERAS IN SMARTPHONES AND SURVEILLANCE SYSTEMS TO DRIVE MARKET 106 9.3[]3D[]107 9.3.1 SURGING DEMAND FOR HIGH-QUALITY IMAGING TO SUPPORT MARKET GROWTH 107 10⊓IMAGE SENSOR MARKET, BY SPECTRUM⊓108 10.1⊓INTRODUCTION⊓109 10.2 VISIBLE 110 10.2.1 GROWING ADOPTION IN APPLICATIONS WHERE COLOR INFORMATION IS LESS IMPORTANT THAN HIGH SENSITIVITY AND DETAIL TO ACCELERATE MARKET GROWTH 110 10.2.2 MONOCHROME (MONO) IMAGE SENSOR 111 10.2.3 COLOR IMAGE SENSOR 10.3 NON-VISIBLE 112 10.3.1 ∏INCREASING USE IN HEALTHCARE, AUTOMOTIVE, AND SECURITY APPLICATIONS TO DETECT AND ANALYZE INVISIBLE INFORMATION TO DRIVE MARKET 112 10.3.2 NIR & SWIR IMAGE SENSOR 113 10.3.3 MWIR IMAGE SENSOR 10.3.4 LWIR IMAGE SENSOR 10.3.5 X-RAY IMAGE SENSOR 114 11 IMAGE SENSOR MARKET, BY IMAGING TYPE 115 11.1 INTRODUCTION 116 11.2 DIGITAL IMAGING 117

11.2.1 [RISING DEMAND FOR SMARTPHONES, DIGITAL CAMERAS, AND MEDICAL SCANNERS TO FUEL SEGMENTAL GROWTH 11.3⊓INFRARED IMAGING⊓117 11.3.1 INCREASING DEMAND FOR IR IMAGING TECHNOLOGY FROM SECURITY & SURVEILLANCE TO DRIVE MARKET 117 11.3.2 IR IMAGE SENSOR 117 11.3.3 THERMAL IMAGE SENSOR 118 11.3.4 HYPERSPECTRAL IMAGE SENSOR 118 12 IMAGE SENSOR MARKET, BY ARRAY TYPE 119 12.1⊓INTRODUCTION⊓120 12.2 LINE SCAN 121 12.2.1 RISING NEED FOR PRECISE INSPECTION OF MOVING OBJECTS TO BOOST SEGMENTAL GROWTH 121 12.3 AREA SCAN 122 12.3.1 SCIENTIFIC RESEARCH AND MEDICAL IMAGING APPLICATIONS TO CONTRIBUTE MOST TO SEGMENTAL GROWTH 122 13⊓IMAGE SENSOR MARKET, BY RESOLUTION⊓123 13.1 INTRODUCTION 124 13.200.3 MP0125 13.2.1 SIMPLICITY, EFFICIENCY, AND COMPACT DESIGN TO SUPPORT SEGMENTAL GROWTH 125 13.3[]1.3 TO 3 MP[]126 13.3.1 INCREASING DEMAND FOR COST-EFFECTIVE AND LOW-POWER SENSORS TO CONTRIBUTE TO SEGMENTAL GROWTH 126 13.405 TO 10 MP0126 13.4.1 TELEVATING ADOPTION OF MACHINE VISION SYSTEMS AND ADAS TO FOSTER SEGMENTAL GROWTH 126 13.5 12 TO 16 MP 127 13.5.1 SURGING DEPLOYMENT OF HIGH-QUALITY VIDEO SURVEILLANCE AND AR/VR SYSTEMS TO ACCELERATE SEGMENTAL GROWTH 127 13.6 MORE THAN 16 MP 127 13.6.1 GROWING FOCUS OF ELECTRONICS, AUTOMOTIVE, AND MANUFACTURING COMPANIES ON DEFECT DETECTION AND HIGH PRODUCT QUALITY TO DRIVE MARKET[]127 ? 14 IMAGE SENSOR MARKET, BY APPLICATION 128 14.1 INTRODUCTION 129 14.2 AUTOMOTIVE 131 14.2.1 INCREASING DEMAND FOR ADAS AND AUTONOMOUS VEHICLES TO DRIVE MARKET 131 14.2.2 REAR- AND SIDE-VIEW CAMERAS 134 14.2.3 FORWARD-LOOKING ADAS 135 14.2.4 IN-CABIN ADAS 135 14.2.5 CAMERA MIRROR SYSTEMS 135 14.3 CONSUMER ELECTRONICS 136 14.3.1 SMARTPHONES & TABLETS 141 14.3.1.1 Surging demand for sleek and lightweight smartphones and tablets to accelerate market growth 14.3.2 DESKTOPS & LAPTOPS 141 14.3.2.1 Growing trend of virtual meetings and video conferencing to boost demand 14.3.3 COMMERCIAL COPIER MACHINES & SCANNERS 142 14.3.3.1 Rising use of shutter technology-based image sensors to achieve cleaner copies to drive market 142 14.3.4 PHOTOGRAPHY & VIDEOGRAPHY CAMERAS 142 14.3.4.1 Ability of advanced sensors to reduce noise and enhance color accuracy to increase adoption in professional filmmaking cameras[]142 14.3.5 WEARABLES 142 14.3.5.1 Thriving gaming industry to create lucrative opportunities 142

14.3.6 COMMERCIAL DRONES 143 14.3.6.1 Elevating use of drones to monitor crop health and identify irrigation needs to foster market growth 14.3.7 ROBOTS 144 14.3.7.1 Rising demand for robotic vacuum cleaners to fuel market growth 144 14.3.8 SMART HOME DEVICES 144 14.3.8.1 Development of smarter, safer, and more efficient homes to increase demand for advanced image sensors 14.4 MEDICAL & LIFE SCIENCES 145 14.4.1 GROWING DEMAND FOR ADVANCED IMAGING IN MICROSCOPY AND DIGITAL PATHOLOGY TO SUPPORT MARKET GROWTH 14.4.2 X-RAY 149 14.4.3 ENDOSCOPY 149 14.5 INDUSTRIAL 149 14.5.1 INCREASING FOCUS ON AUTOMATION AND QUALITY CONTROL TO AUGMENT MARKET GROWTH 149 14.5.2 MACHINE VISION 153 14.5.3 ROBOTIC VISION 153 ? 14.6 COMMERCIAL 153 14.6.1 SURGING AUTOMATION IN RETAIL SECTOR TO SPIKE DEMAND FOR IMAGE SENSORS 14.7 SECURITY & SURVEILLANCE 157 14.7.1 GROWING DEPLOYMENT OF SECURITY CAMERAS FOR FACIAL RECOGNITION, LICENSE PLATE READING, AND OTHER FORENSIC APPLICATIONS TO PROPEL MARKET 157 14.8 AEROSPACE & DEFENSE 161 14.8.1 INCREASING REQUIREMENT FOR SURVEILLANCE AND RECONNAISSANCE SOLUTIONS FOR EFFECTIVE SITUATIONAL AWARENESS TO SPUR DEMAND FOR IMAGE SENSORS [161 15□IMAGE SENSOR MARKET, BY REGION□165 15.1 INTRODUCTION 166 15.2 NORTH AMERICA 168 15.2.1 MACROECONOMIC OUTLOOK FOR NORTH AMERICA 168 15.2.2 US 171 15.2.2.1 Thriving consumer electronics industry to drive market 171 15.2.3 CANADA 172 15.2.3.1 Government-led funding for infrastructure development to contribute to market growth 172 15.2.4 MEXICO 173 15.2.4.1 Thriving automotive sector to fuel market growth 173 15.3 UROPE 175 15.3.1 MACROECONOMIC OUTLOOK FOR EUROPE 175 15.3.2 UK 178 15.3.2.1 Prominent presence of premium vehicle companies to foster market growth 178 15.3.3 GERMANY 179 15.3.3.1 [Increasing adoption of high-resolution cameras in automotive, medical, and industrial sectors to accelerate market growth∏179 15.3.4 || FRANCE || 181 15.3.4.1 [Rising demand for electric and autonomous vehicles to contribute to market growth]181 15.3.5 REST OF EUROPE 182 15.4 ASIA PACIFIC 183 15.4.1 MACROECONOMIC OUTLOOK FOR ASIA PACIFIC 183 15.4.2 CHINA 186 15.4.2.1 Government-led investments in infrastructure and public security projects to fuel market growth 186

15.4.3 JAPAN 187 15.4.3.1 Surging deployment of security solutions to drive market 187 15.4.4 INDIA 189 15.4.4.1 Introduction of smart city initiatives to contribute to market growth 189 15.4.5 REST OF ASIA PACIFIC 190 15.5 ROW 191 15.5.1 MACROECONOMIC OUTLOOK FOR ROW 191 15.5.2 MIDDLE EAST 194 15.5.2.1 Ongoing smart city projects to fuel market growth 194 15.5.2.2 GCC countries 196 15.5.2.3 Rest of Middle East 196 15.5.3 AFRICA 196 15.5.3.1 Increasing focus on surveillance initiatives to drive market 196 15.5.4 SOUTH AMERICA 197 15.5.4.1 Growing consumer electronics industry to create opportunities 197 16 COMPETITIVE LANDSCAPE 199 16.1 OVERVIEW 199 16.2 KEY PLAYER STRATEGIES/RIGHT TO WIN, 2020-2024 199 16.3 MARKET SHARE ANALYSIS, 2023 201 16.4 REVENUE ANALYSIS, 2019-2023 202 16.5 COMPANY VALUATION AND FINANCIAL METRICS, 2024 204 16.6 BRAND/PRODUCT COMPARISON 206 16.7 COMPANY EVALUATION MATRIX: KEY PLAYERS, 2023 207 16.7.1 STARS 207 16.7.2 EMERGING LEADERS 207 16.7.3 PERVASIVE PLAYERS 207 16.7.4 PARTICIPANTS 207 16.7.5 COMPANY FOOTPRINT: KEY PLAYERS, 2023 209 16.7.5.1 Company footprint 209 16.7.5.2 Region footprint 210 16.7.5.3 Type footprint 211 16.7.5.4 Spectrum footprint 212 16.7.5.5 Application footprint 213 16.8 COMPANY EVALUATION MATRIX: STARTUPS/SMES, 2023 214 16.8.1 PROGRESSIVE COMPANIES 214 16.8.2 RESPONSIVE COMPANIES 214 16.8.3 DYNAMIC COMPANIES 214 16.8.4 STARTING BLOCKS 214 16.8.5 COMPETITIVE BENCHMARKING: STARTUPS/SMES, 2023 216 16.8.5.1 Detailed list of key startups/SMEs 216 16.8.5.2 Competitive benchmarking of key startups/SMEs 217 16.9 COMPETITIVE SCENARIO 218 16.9.1 ⊓PRODUCT LAUNCHES □218 16.9.2 DEALS 219 ? 17 COMPANY PROFILES 221 17.1 KEY PLAYERS 221

17.1.1 SONY CORPORATION 221 17.1.1.1 Business overview 221 17.1.1.2 Products/Solutions/Services offered 222 17.1.1.3 Recent developments 225 17.1.1.3.1 Product launches 225 17.1.1.3.2 Deals 226 17.1.1.4 MnM view 226 17.1.1.4.1 Key strengths/Right to win 226 17.1.1.4.2 Strategic choices 226 17.1.1.4.3 Weaknesses/Competitive threats 226 17.1.2 SAMSUNG 227 17.1.2.1 Business overview 227 17.1.2.2 Products/Solutions/Services offered 229 17.1.2.3 Recent developments 230 17.1.2.3.1 Product launches 230 17.1.2.3.2 Deals 231 17.1.2.4 MnM view 231 17.1.2.4.1 Key strengths/Right to win 231 17.1.2.4.2 Strategic choices 231 17.1.2.4.3 Weaknesses/Competitive threats 231 17.1.3 OMNIVISION 232 17.1.3.1 Business overview 232 17.1.3.2 Products/Solutions/Services offered 233 17.1.3.3 Recent developments 237 17.1.3.3.1 Product launches 237 17.1.3.3.2 Deals 238 17.1.3.4 MnM view 239 17.1.3.4.1 Key strengths/Right to win 239 17.1.3.4.2 Strategic choices 239 17.1.3.4.3 Weaknesses/Competitive threats 239 17.1.4 STMICROELECTRONICS 240 17.1.4.1 Business overview 240 17.1.4.2 Products/Solutions/Services offered 242 17.1.4.3 Recent developments 242 17.1.4.3.1 Product launches 242 17.1.4.3.2 Deals 243 17.1.4.4 MnM view 244 17.1.4.4.1 Key strengths/Right to win 244 17.1.4.4.2 Strategic choices 244 17.1.4.4.3 Weaknesses/Competitive threats 244 17.1.5 GALAXYCORE SHANGHAI LIMITED CORPORATION 245 17.1.5.1 Business overview 245 17.1.5.2 Products/Solutions/Services offered 245 17.1.5.3 Recent developments 246 17.1.5.3.1 Product launches 246 17.1.5.3.2 Deals 246

17.1.5.4[]MnM view[]247

17.1.5.4.1 Key strengths/Right to win 247 17.1.5.4.2 Strategic choices 247 17.1.5.4.3 Weaknesses/Competitive threats 247 17.1.6 SEMICONDUCTOR COMPONENTS INDUSTRIES, LLC 248 17.1.6.1 Business overview 248 17.1.6.2 Products/Solutions/Services offered 249 17.1.6.3 Recent developments 251 17.1.6.3.1 Product launches 251 17.1.6.3.2 Deals 251 17.1.6.4 MnM view 252 17.1.6.4.1 Strategic choices 252 17.1.6.4.2 Weaknesses/Competitive threats 252 17.1.7 HAMAMATSU PHOTONICS K.K. 253 17.1.7.1 Business overview 253 17.1.7.2 Products/Solutions/Services offered 254 17.1.7.3 Recent developments 255 17.1.7.3.1 Deals 255 17.1.8 PANASONIC HOLDINGS CORPORATION 256 17.1.8.1 Business overview 256 17.1.8.2 Products/Solutions/Services offered 257 17.1.8.3 Recent developments 258 17.1.8.3.1 Product launches 258 17.1.9 SK HYNIX INC. 259 17.1.9.1 Business overview 259 17.1.9.2 Products/Solutions/Services offered 260 17.1.9.3 Recent developments 261 17.1.9.3.1 Product launches 261 17.1.10 CANON INC. 262 17.1.10.1 Business overview 262 17.1.10.2 Products/Solutions/Services offered 263 17.1.10.3 Recent developments 264 17.1.10.3.1 Product launches 264 ? 17.2 OTHER PLAYERS 265 17.2.1 PIXART IMAGING INC. 265 17.2.2 PIXELPLUS 266 17.2.3 HIMAX TECHNOLOGIES, INC. 267 17.2.4 TELEDYNE TECHNOLOGIES INCORPORATED 268 17.2.5 SHARP CORPORATION 269 17.2.6 GPIXEL INC. 270 17.2.7 NUVOTON TECHNOLOGY CORPORATION 271 17.2.8 DIODES INCORPORATED 272 17.2.9 ISDI LIMITED 272 17.2.10 ANDANTA GMBH 273 17.2.11 PHOTONFOCUS AG 273 17.2.12 NEW IMAGING TECHNOLOGIES (NIT) 274 17.2.13 RUIXIN MICROELECTRONICS CO., LTD. 274

17.2.14[]AMS-OSRAM AG[]275 17.2.15[]IMASENIC ADVANCED IMAGING S.L.[]275 18[]APPENDIX[]276 18.1[]INSIGHTS FROM INDUSTRY EXPERTS[]276 18.2[]DISCUSSION GUIDE[]277 18.3[]KNOWLEDGESTORE: MARKETSANDMARKETS' SUBSCRIPTION PORTAL[]280 18.4[]CUSTOMIZATION OPTIONS[]282 18.5[]RELATED REPORTS[]282 18.6[]AUTHOR DETAILS[]283



Image Sensors Market by Technique (2D,3D), Type (CMOS, CCD, Hybrid), Imaging (Digital, Infrared), Array (Linear, Area Scan), Spectrum (Visible, Non-visible), Technology (Shutter, Time of Flight), Resolution (1.3-3, 5-10, 12-16) - Global Forecast to 2029

Market Report | 2024-11-08 | 284 pages | MarketsandMarkets

To place an Order with Scotts International:

- Print this form
- Complete the relevant blank fields and sign
- Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User	\$4950.00
	Multi User	\$6650.00
	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*	

Zip	Code*
- 10	Couc

Country*

Date

Signature

2025-05-19