

# **Robotic Vision Market by Type (2D Vision, 3D Vision Systems), Hardware (Cameras, Lighting, Optics, Processors & Controllers, Frame Grabbers), Software (Traditional software, Deep Learning Software), Application, Industry, Region - Global Forecast to 2028**

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## **Abstracts**

The global Robotic Vision market is expected to grow from USD 2.6 billion in 2023 to USD 4.0 billion by 2028, registering a CAGR of 9.1%. Robotic vision is experiencing rapid growth due to technological advancements, increasing automation, demand for quality control, object recognition, safety enhancement, and improved cost efficiency. These factors collectively drive the adoption and development of robotic vision systems, enabling robots to perceive and interact with their environment more precisely and efficiently.

“2D Vision Systems segment accounted for the largest share of the Robotic Vision market in 2022.”

The 2D Vision Systems segment is experiencing robust growth in the market. The demand for 2D robotic vision systems is surging as industries increasingly prioritize automation, quality control, object recognition, safety, and cost-effectiveness. These systems empower robots to perceive their surroundings, detect defects, track objects, and leverage advanced camera technology and artificial intelligence. Their ability to enhance operational efficiency, accuracy, and adaptability propels the growing adoption of 2D robotic vision systems across various sectors.

“Hardware segment accounted for the largest share of the Robotic Vision market in

2022.”

The demand for robotic vision hardware is experiencing a significant upswing driven by multiple factors. Industries are increasingly adopting automation, spurring the need for advanced hardware components such as cameras, sensors, and processors. Technological advancements have led to enhanced performance, cost-effectiveness, and miniaturization of robotic vision hardware. The diverse applications across industries, integration with cutting-edge technologies like AI and machine learning, and the crucial role in achieving accurate perception and ensuring safety contribute to the escalating demand for innovative robotic vision hardware solutions.

“Electrical & Electronics Industry to account for the largest market size in 2022”

Robotic vision is rapidly expanding in the electric and electronics industry, finding increasing applications in various areas. Its growth in the industry is driven by factors such as improved quality control, automated assembly and manufacturing processes, efficient testing and validation, optimized packaging and logistics, and enhanced product customization. Robotic vision systems bring advantages like heightened productivity, superior product quality, reduced errors, and increased efficiency to the industry. As technology advances further, the adoption of robotic vision is set to continue growing, fostering innovation and transformation within the electric and electronics sector.

“Asia Pacific to account for the largest market size in 2022”

The robotic vision market in the Asia Pacific region is experiencing substantial growth, driven by increasing industrial automation, rising labor costs, technological advancements, a strong manufacturing sector, and government support. This technology, which combines robotics and computer vision, is being widely adopted in countries like China, Japan, South Korea, and India across various industries. Robotic vision enables robots to perform complex tasks based on visual perception and interpretation, enhancing productivity and efficiency. As the region continues to embrace automation and robotics, the demand for robotic vision systems is expected to rise further.

The break-up of the profiles of primary participants:

By Company Type – Tier 1 – 35%, Tier 2 – 30%, and Tier 3 – 35%

By Designation – C-level Executives – 45%, Directors – 35%, and Others – 20%

By Region – North America - 35%, Asia Pacific – 30%, Europe – 25%, RoW- 10%

The major players in the market are Cognex Corporation (US), Basler AG (Germany), OMRON Corporation (Japan), National Instruments Corporation (US), Keyence Corporation (Japan)

#### Research Coverage:

The Robotic Vision market has been segmented into type, component, industry, and region. The Robotic Vision market was studied in North America, Europe, Asia Pacific, and the Rest of the World (RoW). The report describes the major drivers, restraints, challenges, and opportunities of the Robotic Vision market and forecasts the same till 2028. Apart from these, the report also consists of leadership mapping and analysis of all the companies included in the Robotic Vision ecosystem.

#### Key Benefits of Buying the Report:

The report will help market leaders/new entrants with information on the closest approximations of the revenue numbers for the Robotic Vision market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and plan suitable go-to-market strategies. The report also helps stakeholders understand the market pulse and provides information on key market drivers, restraints, challenges, and opportunities.

Analysis of Key Drivers (Growing need for quality inspection with automated robotic vision, Rapid adoption of 3D vision systems in industrial robotics, Increasing demand for safety as well as quality products in the industrial sector, Increase in use of smart cameras in robotic vision), restraints (High initial cost of installation, Varying applications of industrial and end-user industries, Limited awareness of robotic vision systems), Opportunities (Government initiatives boosting industrial automation, AI and deep learning driving advancement of robotic vision, Increasing customization of robotic vision systems), Challenges (Difficulties in manufacturing of overall robotic vision systems, Programming of complex inspection tasks).

**Product Development/Innovation:** Detailed insights on research & development activities and new product launches in the Robotic Vision market.

**Market Development:** Comprehensive information about lucrative markets – the report analyses the Robotic Vision market across varied regions.

**Market Diversification:** Exhaustive information about new products, untapped geographies, recent developments, and investments in the Robotic Vision market.

**Competitive Assessment:** In-depth assessment of market shares, growth strategies, and product offerings of leading players like Cognex Corporation (US), Basler AG (Germany), OMRON Corporation (Japan), National Instruments Corporation (US), Keyence Corporation (Japan), Teledyne DALSA (Canada), Sick AG (Germany), Torvidel AS (Norway), Hexagon AB (Sweden), Advantech (Taiwan), Yaskawa America, Inc. (Japan), ISRA VISION (Germany), FANUC CORPORATION (Japan), ABB (Switzerland), Qualcomm Incorporated (US) among others in the Robotic Vision market.

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\*Details on Business Overview, Products/Solutions/Services Offered, Recent Developments, and MnM View (Key strengths/Right to Win, Strategic Choices Made, and Weaknesses and Competitive Threats) might not be captured in case of unlisted companies.

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