

Robotic Vision Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Hardware(Single-Lens Robotic Visions, Multi-Lens Robotic Visions, 360-Degree Robotic Visions), By Technology (2D vision, 3D vision), By Application (Virtual Reality (VR), Content Creation, Surveillance and Security, Automotive, Others), By Region & Competition, 2021-2031F

<https://marketpublishers.com/r/RC6FE9FBC1E5EN.html>

Date: January 2026

Pages: 181

Price: US\$ 4,500.00 (Single User License)

ID: RC6FE9FBC1E5EN

Abstracts

The Global Robotic Vision Market is projected to expand from USD 5.46 Billion in 2025 to USD 9.24 Billion by 2031, reflecting a CAGR of 9.16%. This field encompasses the combination of camera hardware and sophisticated image processing algorithms, allowing robots to interpret and adjust to their environment for duties such as inspection, guidance, and identification. Primary growth drivers include the rising need for high-precision quality control and the necessity to alleviate acute labor shortages within the manufacturing sector. Additionally, the demand for adaptable production capabilities to facilitate mass customization is fueling the uptake of these intelligent perception systems, enabling autonomous robot operation in unstructured settings.

However, widespread market expansion faces significant hurdles due to the heavy initial capital outlay required for deployment and the technical intricacies of merging these systems with existing infrastructure. Data from the International Federation of Robotics indicates that 542,000 industrial robots were installed globally during the year preceding 2025. Although this number highlights the massive scale of automation adoption, the associated financial and technical challenges of upgrading these units with advanced vision capabilities remain a substantial barrier for numerous small and medium-sized

enterprises.

Market Driver

The incorporation of artificial intelligence and deep learning algorithms is fundamentally transforming the robotic vision landscape by empowering systems to navigate complex, unstructured environments with adaptability comparable to humans. In contrast to conventional rule-based programming, these learning-centric methods enable machines to identify varying object shapes, adjust for fluctuating lighting, and perform quality inspections on irregular surfaces without significant reprogramming. This flexibility is vital for manufacturers seeking to reduce automation rigidity and handle high-mix production schedules. According to Rockwell Automation's '9th Annual State of Smart Manufacturing Report' from March 2024, 85% of surveyed manufacturers have invested or intend to invest in AI and machine learning technologies in 2024, highlighting a strong industrial shift toward these cognitive capabilities.

Concurrently, the growth of applications within logistics and warehouse automation serves as a major accelerator for the market, spurred by the need to expedite e-commerce order fulfillment. Vision-guided robots are increasingly being utilized for dynamic picking, sorting, and palletizing operations where the identification of various stock-keeping units is crucial. The demand for such automated mobility solutions is evident in deployment statistics; the International Federation of Robotics reported in its 'World Robotics 2024 Service Robots' publication in September 2024 that sales of professional service robots for transportation and logistics surged by 35% in 2023. This momentum is drawing significant investment into vision-focused robotics companies, as demonstrated when Figure AI raised \$675 million in Series B funding in February 2024 to speed up the commercial launch of its general-purpose autonomous humanoids.

Market Challenge

Significant financial outlays and the technical sophistication required to deploy robotic vision systems act as substantial constraints on market growth. Implementing these advanced perception abilities necessitates not only purchasing costly camera hardware and processing units but also incurring significant expenses to integrate them with legacy infrastructure. This high entry barrier particularly impacts small and medium-sized enterprises, which frequently lack the financial buffer to handle such upfront costs or the specialized engineering expertise required for complex setups. As a result, the market faces difficulties penetrating cost-sensitive sectors, limiting adoption largely to major manufacturers with substantial automation budgets.

This financial pressure directly reduces market momentum, especially during times of economic uncertainty when capital expenditures undergo rigorous scrutiny. The effect of these economic and technical obstacles is reflected in recent industrial performance metrics, which show a contraction in demand. According to VDMA Machine Vision, the European machine vision sector projected a 10% nominal decrease in sales in 2024 compared to the prior year. This downturn underscores how budget limitations and integration difficulties compel manufacturers to postpone investments, thereby impeding the immediate growth trajectory of the global robotic vision market.

Market Trends

The merging of vision systems with collaborative robots is extending automation capabilities beyond basic pick-and-place tasks into heavy-duty functions necessitating dynamic perception, such as palletizing and welding. Unlike conventional blind automation, these advanced cobots employ integrated vision to adjust to changing part positions and unstructured settings, enabling them to handle complex industrial duties formerly limited to heavy industrial robots. This movement toward high-performance, vision-equipped collaborative units is quickly gaining traction in the market. As noted by Universal Robots in their 'Universal Robots Reports Strong End to 2023' announcement in January 2024, the company's new heavy-payload UR20 and UR30 cobots, engineered for such vision-intensive uses, already represented 30% of fourth-quarter revenue, indicating a clear industrial shift toward flexible, high-capacity perception platforms.

Simultaneously, the widespread adoption of smart cameras featuring embedded processing is reshaping quality assurance strategies as manufacturers focus on digital transformation to improve production visibility. Instead of depending on centralized PC-based processing, the market is shifting toward decentralized architectures where intelligent cameras perform inspection algorithms directly at the edge, which significantly lowers latency and infrastructure complexity. This trend is fueled by a strategic need to update legacy manufacturing lines with scalable visual data tools. According to the '2024 Manufacturing Vision Study' by Zebra Technologies released in June 2024, 66% of manufacturing leaders intend to deploy machine vision solutions within the next five years, highlighting the vital role these embedded technologies play in protecting industrial operations against future quality and labor-related challenges.

Key Market Players

Cognex Corporation

Omron Corporation

Keyence Corporation

National Instruments Corporation

Texas Instruments Incorporated

Teledyne Technologies Inc

Mitsubishi Electric Corporation

Intel Corporation

Isra Vision AG

Sick AG

Report Scope

In this report, the Global Robotic Vision Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Robotic Vision Market, By Hardware

Single-Lens Robotic Visions

Multi-Lens Robotic Visions

360-Degree Robotic Visions

Robotic Vision Market, By Technology

2D vision

3D vision

Robotic Vision Market, By Application

Virtual Reality (VR)

Content Creation

Surveillance and Security

Automotive

Others

Robotic Vision Market, By Region

North America

United States

Canada

Mexico

Europe

France

United Kingdom

Italy

Germany

Spain

Asia Pacific

China

India

Japan

Australia

South Korea

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Robotic Vision Market.

Available Customizations:

Global Robotic Vision Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

Contents

1. PRODUCT OVERVIEW

- 1.1. Market Definition
- 1.2. Scope of the Market
 - 1.2.1. Markets Covered
 - 1.2.2. Years Considered for Study
 - 1.2.3. Key Market Segmentations

2. RESEARCH METHODOLOGY

- 2.1. Objective of the Study
- 2.2. Baseline Methodology
- 2.3. Key Industry Partners
- 2.4. Major Association and Secondary Sources
- 2.5. Forecasting Methodology
- 2.6. Data Triangulation & Validation
- 2.7. Assumptions and Limitations

3. EXECUTIVE SUMMARY

- 3.1. Overview of the Market
- 3.2. Overview of Key Market Segmentations
- 3.3. Overview of Key Market Players
- 3.4. Overview of Key Regions/Countries
- 3.5. Overview of Market Drivers, Challenges, Trends

4. VOICE OF CUSTOMER

5. GLOBAL ROBOTIC VISION MARKET OUTLOOK

- 5.1. Market Size & Forecast
 - 5.1.1. By Value
- 5.2. Market Share & Forecast
 - 5.2.1. By Hardware (Single-Lens Robotic Visions, Multi-Lens Robotic Visions, 360-Degree Robotic Visions)
 - 5.2.2. By Technology (2D vision, 3D vision)
 - 5.2.3. By Application (Virtual Reality (VR), Content Creation, Surveillance and

Security, Automotive, Others)

5.2.4. By Region

5.2.5. By Company (2025)

5.3. Market Map

6. NORTH AMERICA ROBOTIC VISION MARKET OUTLOOK

6.1. Market Size & Forecast

6.1.1. By Value

6.2. Market Share & Forecast

6.2.1. By Hardware

6.2.2. By Technology

6.2.3. By Application

6.2.4. By Country

6.3. North America: Country Analysis

6.3.1. United States Robotic Vision Market Outlook

6.3.1.1. Market Size & Forecast

6.3.1.1.1. By Value

6.3.1.2. Market Share & Forecast

6.3.1.2.1. By Hardware

6.3.1.2.2. By Technology

6.3.1.2.3. By Application

6.3.2. Canada Robotic Vision Market Outlook

6.3.2.1. Market Size & Forecast

6.3.2.1.1. By Value

6.3.2.2. Market Share & Forecast

6.3.2.2.1. By Hardware

6.3.2.2.2. By Technology

6.3.2.2.3. By Application

6.3.3. Mexico Robotic Vision Market Outlook

6.3.3.1. Market Size & Forecast

6.3.3.1.1. By Value

6.3.3.2. Market Share & Forecast

6.3.3.2.1. By Hardware

6.3.3.2.2. By Technology

6.3.3.2.3. By Application

7. EUROPE ROBOTIC VISION MARKET OUTLOOK

- 7.1. Market Size & Forecast
 - 7.1.1. By Value
- 7.2. Market Share & Forecast
 - 7.2.1. By Hardware
 - 7.2.2. By Technology
 - 7.2.3. By Application
 - 7.2.4. By Country
- 7.3. Europe: Country Analysis
 - 7.3.1. Germany Robotic Vision Market Outlook
 - 7.3.1.1. Market Size & Forecast
 - 7.3.1.1.1. By Value
 - 7.3.1.2. Market Share & Forecast
 - 7.3.1.2.1. By Hardware
 - 7.3.1.2.2. By Technology
 - 7.3.1.2.3. By Application
 - 7.3.2. France Robotic Vision Market Outlook
 - 7.3.2.1. Market Size & Forecast
 - 7.3.2.1.1. By Value
 - 7.3.2.2. Market Share & Forecast
 - 7.3.2.2.1. By Hardware
 - 7.3.2.2.2. By Technology
 - 7.3.2.2.3. By Application
 - 7.3.3. United Kingdom Robotic Vision Market Outlook
 - 7.3.3.1. Market Size & Forecast
 - 7.3.3.1.1. By Value
 - 7.3.3.2. Market Share & Forecast
 - 7.3.3.2.1. By Hardware
 - 7.3.3.2.2. By Technology
 - 7.3.3.2.3. By Application
 - 7.3.4. Italy Robotic Vision Market Outlook
 - 7.3.4.1. Market Size & Forecast
 - 7.3.4.1.1. By Value
 - 7.3.4.2. Market Share & Forecast
 - 7.3.4.2.1. By Hardware
 - 7.3.4.2.2. By Technology
 - 7.3.4.2.3. By Application
 - 7.3.5. Spain Robotic Vision Market Outlook
 - 7.3.5.1. Market Size & Forecast
 - 7.3.5.1.1. By Value

7.3.5.2. Market Share & Forecast

- 7.3.5.2.1. By Hardware
- 7.3.5.2.2. By Technology
- 7.3.5.2.3. By Application

8. ASIA PACIFIC ROBOTIC VISION MARKET OUTLOOK

8.1. Market Size & Forecast

- 8.1.1. By Value

8.2. Market Share & Forecast

- 8.2.1. By Hardware
- 8.2.2. By Technology
- 8.2.3. By Application
- 8.2.4. By Country

8.3. Asia Pacific: Country Analysis

8.3.1. China Robotic Vision Market Outlook

- 8.3.1.1. Market Size & Forecast
 - 8.3.1.1.1. By Value
- 8.3.1.2. Market Share & Forecast
 - 8.3.1.2.1. By Hardware
 - 8.3.1.2.2. By Technology
 - 8.3.1.2.3. By Application

8.3.2. India Robotic Vision Market Outlook

- 8.3.2.1. Market Size & Forecast
 - 8.3.2.1.1. By Value
- 8.3.2.2. Market Share & Forecast
 - 8.3.2.2.1. By Hardware
 - 8.3.2.2.2. By Technology
 - 8.3.2.2.3. By Application

8.3.3. Japan Robotic Vision Market Outlook

- 8.3.3.1. Market Size & Forecast
 - 8.3.3.1.1. By Value
- 8.3.3.2. Market Share & Forecast
 - 8.3.3.2.1. By Hardware
 - 8.3.3.2.2. By Technology
 - 8.3.3.2.3. By Application

8.3.4. South Korea Robotic Vision Market Outlook

- 8.3.4.1. Market Size & Forecast
 - 8.3.4.1.1. By Value

8.3.4.2. Market Share & Forecast

8.3.4.2.1. By Hardware

8.3.4.2.2. By Technology

8.3.4.2.3. By Application

8.3.5. Australia Robotic Vision Market Outlook

8.3.5.1. Market Size & Forecast

8.3.5.1.1. By Value

8.3.5.2. Market Share & Forecast

8.3.5.2.1. By Hardware

8.3.5.2.2. By Technology

8.3.5.2.3. By Application

9. MIDDLE EAST & AFRICA ROBOTIC VISION MARKET OUTLOOK

9.1. Market Size & Forecast

9.1.1. By Value

9.2. Market Share & Forecast

9.2.1. By Hardware

9.2.2. By Technology

9.2.3. By Application

9.2.4. By Country

9.3. Middle East & Africa: Country Analysis

9.3.1. Saudi Arabia Robotic Vision Market Outlook

9.3.1.1. Market Size & Forecast

9.3.1.1.1. By Value

9.3.1.2. Market Share & Forecast

9.3.1.2.1. By Hardware

9.3.1.2.2. By Technology

9.3.1.2.3. By Application

9.3.2. UAE Robotic Vision Market Outlook

9.3.2.1. Market Size & Forecast

9.3.2.1.1. By Value

9.3.2.2. Market Share & Forecast

9.3.2.2.1. By Hardware

9.3.2.2.2. By Technology

9.3.2.2.3. By Application

9.3.3. South Africa Robotic Vision Market Outlook

9.3.3.1. Market Size & Forecast

9.3.3.1.1. By Value

9.3.3.2. Market Share & Forecast

9.3.3.2.1. By Hardware

9.3.3.2.2. By Technology

9.3.3.2.3. By Application

10. SOUTH AMERICA ROBOTIC VISION MARKET OUTLOOK

10.1. Market Size & Forecast

10.1.1. By Value

10.2. Market Share & Forecast

10.2.1. By Hardware

10.2.2. By Technology

10.2.3. By Application

10.2.4. By Country

10.3. South America: Country Analysis

10.3.1. Brazil Robotic Vision Market Outlook

10.3.1.1. Market Size & Forecast

10.3.1.1.1. By Value

10.3.1.2. Market Share & Forecast

10.3.1.2.1. By Hardware

10.3.1.2.2. By Technology

10.3.1.2.3. By Application

10.3.2. Colombia Robotic Vision Market Outlook

10.3.2.1. Market Size & Forecast

10.3.2.1.1. By Value

10.3.2.2. Market Share & Forecast

10.3.2.2.1. By Hardware

10.3.2.2.2. By Technology

10.3.2.2.3. By Application

10.3.3. Argentina Robotic Vision Market Outlook

10.3.3.1. Market Size & Forecast

10.3.3.1.1. By Value

10.3.3.2. Market Share & Forecast

10.3.3.2.1. By Hardware

10.3.3.2.2. By Technology

10.3.3.2.3. By Application

11. MARKET DYNAMICS

- 11.1. Drivers
- 11.2. Challenges

12. MARKET TRENDS & DEVELOPMENTS

- 12.1. Merger & Acquisition (If Any)
- 12.2. Product Launches (If Any)
- 12.3. Recent Developments

13. GLOBAL ROBOTIC VISION MARKET: SWOT ANALYSIS

14. PORTER'S FIVE FORCES ANALYSIS

- 14.1. Competition in the Industry
- 14.2. Potential of New Entrants
- 14.3. Power of Suppliers
- 14.4. Power of Customers
- 14.5. Threat of Substitute Products

15. COMPETITIVE LANDSCAPE

- 15.1. Cognex Corporation
 - 15.1.1. Business Overview
 - 15.1.2. Products & Services
 - 15.1.3. Recent Developments
 - 15.1.4. Key Personnel
 - 15.1.5. SWOT Analysis
- 15.2. Omron Corporation
- 15.3. Keyence Corporation
- 15.4. National Instruments Corporation
- 15.5. Texas Instruments Incorporated
- 15.6. Teledyne Technologies Inc
- 15.7. Mitsubishi Electric Corporation
- 15.8. Intel Corporation
- 15.9. Isra Vision AG
- 15.10. Sick AG

16. STRATEGIC RECOMMENDATIONS

17. ABOUT US & DISCLAIMER

I would like to order

Product name: Robotic Vision Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Hardware(Single-Lens Robotic Visions, Multi-Lens Robotic Visions, 360-Degree Robotic Visions), By Technology (2D vision, 3D vision), By Application (Virtual Reality (VR), Content Creation, Surveillance and Security, Automotive, Others), By Region & Competition, 2021-2031F

Product link: <https://marketpublishers.com/r/RC6FE9FBC1E5EN.html>

Price: US\$ 4,500.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/RC6FE9FBC1E5EN.html>