Vision Guided Robotics Market Report by Type (2D-Vision System Robots, 3D-Vision System Robots), Component (Hardware, Software, Services), Industry Vertical (Automobile, Electrical and Electronics, Aerospace and Defense, Foods and Beverages, Healthcare and Pharmaceutical, Metal Processing), and Region 2025-2033

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Report description:

The global vision guided robotics market size reached USD 8.9 Billion in 2024. Looking forward, IMARC Group expects the market to reach USD 24.5 Billion by 2033, exhibiting a growth rate (CAGR) of 11.28% during 2025-2033.

A vision guided robotics (VGR) is an automation technology embedded with cameras, special-purpose lighting, software, and robots. It is also integrated with machine vision (MV) and image processing technologies to provide a second feedback signal to the robot controller and navigate to a variable target position. It offers a higher level of accuracy and precision in operations and enables flexible manufacturing and production lines to accommodate product changes compared to conventional robots readily. Besides this, as it assists in eliminating time-consuming work and improving the overall productivity, the demand for VGR is escalating around the world.

Vision Guided Robotics Market Trends:
At present, there is a rise in the adoption of VGR systems in the industrial, manufacturing, and transit sectors on account of rapid industrialization across the globe. This represents one of the key factors propelling the growth of the market. Apart from this, there is an increase in the demand for automation and safety across numerous industry verticals. This, in confluence with several benefits of VGR systems over conventional robots in terms of applicability and flexibility of adaptation, is positively influencing their overall sales. Furthermore, leading market players are continuously funding research and development (R&D) activities to

introduce advanced robots with high-definition (HD) cameras and accurate sensors that involve obstacle detection and avoidance skills in vision systems. These advanced robots aid in performing flexible jobs, such as driving, flying, and mobile activities. Moreover, key players are focusing on fast-expanding computing power, improving high-level software libraries, making progress in imaging hardware, and lowering the cost of computer memory, which is creating a favorable market outlook. Besides this, the rising utilization of VGR systems in pharmaceuticals, semiconductors, automobiles, cosmetics, food and drinks, and medical devices, is driving the market.

Key Market Segmentation:
IMARC Group provides an analysis of the key trends in each sub-segment of the global vision guided robotics market report, along with forecasts at the global, regional and country level from 2025-2033. Our report has categorized the market based on type, component, and industry vertical.
Breakup by Type:
-2D-Vision System Robots
-3D-Vision System Robots

Breakup by Component:
-Hardware
-Software
-Services

Breakup by Industry Vertical:
-Automobile
-Electrical and Electronics
-Aerospace and Defense
-Foods and Beverages
-Healthcare and Pharmaceutical
-Metal Processing

Breakup by Region:
-North America
o United States
o Canada
-Asia-Pacific
o China
o Japan
o India
o South Korea
o Australia
o Indonesia
o Others
-Europe
o Germany
o France
o United Kingdom
o Italy
o Spain
o Russia

o Others
- Latin America
o Brazil
o Mexico
o Others
- Middle East and Africa

Competitive Landscape:
The competitive landscape of the industry has also been examined along with the profiles of the key players being ABB Ltd., Allied Vision Technologies GmbH, Basler AG, Bastian Solutions LLC (Toyota Industries Corporation), Cognex Corporation, DENSO Corporation, FANUC Corporation, ISRA Vision AG (Atlas Copco), Kawasaki Heavy Industries Ltd., OMRON Corporation, Universal Robots A/S (Teradyne Inc.), and Yaskawa Electric Corporation.

Key Questions Answered in This Report:
- How has the global vision guided robotics market performed so far and how will it perform in the coming years?
- What has been the impact of COVID-19 on the global vision guided robotics market?
- What are the key regional markets?
- What is the breakup of the market based on the type?
- What is the breakup of the market based on the component?
- What is the breakup of the market based on the industry vertical?
- What are the various stages in the value chain of the industry?
- What are the key driving factors and challenges in the industry?
- What is the structure of the global vision guided robotics market and who are the key players?
- What is the degree of competition in the industry?

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