

Global Industrial Machine Vision Camera Market: Analysis By Type (Area Scan, Line Scan), By End User (Manufacturing, Automotive, Healthcare And Others), By Region Size And Trends With Impact Of COVID-19 And Forecast Up To 2028

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Abstracts

The global industrial machine vision camera market in 2022 was valued at US\$2.84 billion. The market value is anticipated to grow to US\$4.26 billion by 2028. Industrial machine vision cameras are specialized cameras designed for use in industrial automation and quality control applications. These cameras are typically used in manufacturing plants, warehouses, and other industrial settings to capture images of products, components, and other objects.

The market value is expected to grow at a CAGR of 7.05% during the forecast period of 2023-2028. Inspection is the key driver to machine vision camera adoption, given the labor-saving opportunity with 35 million product inspectors worldwide. Inspection can include search for defects, contaminants, functional flaws, and other irregularities in the manufacturing process.

Market Segmentation Analysis:

By Type: The report provides the bifurcation of the market into two segments based on the type: area scan and line scan. In 2022, in terms of value, area scan segment held the major share in the market, followed by line scan. The development of new camera technologies such as high-resolution sensors, faster frame rates, and improved image processing capabilities, is driving the growth of the area scan industrial machine vision camera market.

By End User: The report provides the bifurcation of the market into four segments based on the end user: automotive, healthcare, manufacturing and others. In 2022, manufacturing segment held the major share in the market, followed by automotive. Machine vision cameras are used to inspect and ensure the quality of products at various stages of the manufacturing process. The cameras can identify defects such as cracks, scratches, and other imperfections that may affect the performance or safety of the product. Given the wide applications of industrial machine vision cameras in the manufacturing sector, the manufacturing industrial machine vision camera market is expected to propel during forecasted years.

By Region: The report provides insight into the industrial machine vision camera market based on the geographical operations, namely North America, Europe, Asia Pacific and Rest of the world. North America held the major share in the market, owing to the factors such as presence of several key industries such as automotive, electronics, and pharmaceuticals. Besides, North America is the origin region for many companies offering industrial machine vision.

Within North America, the US is leading the market, The US is an early adopter of advanced technologies, helping market vendors offer customized and advanced technology-enabled business analytics solutions for consumers. In addition, the need for vision-guided robotic systems across the automotive, food and beverage, pharmaceutical and chemical, and packaging segments is expected to fuel the market growth.

China is rapidly becoming one of the significant markets for machine vision owing to automation and robotics. In China's machine vision industry, new terminology standards have been adopted. Manufacturing firms across the country realize the benefits of industrial machine vision cameras, mainly where redundant tasks, like inspection, should be performed with precision. These play an essential role in high-speed production lines and hazardous environments.

Market Dynamics:

Growth Drivers: One of the most important factors impacting the global industrial machine vision camera market is the surge in adoption of industrial robots. Industrial robots can perform repetitive and dangerous tasks with high accuracy and speed, which helps to improve the overall efficiency and productivity of industrial processes. By using machine vision cameras, industrial robots can "see" and accurately identify objects, which is essential for performing tasks such as pick-and-place, sorting, and assembly.

Furthermore, the market has been growing over the past few years, due to factors such as growing adoption of artificial intelligence, growing adoption of industry 4.0, use of 3D machine vision, increasing adoption of industrial machine vision cameras in various industries and many other factors.

Challenges: However, the market has been confronted with some challenges specifically, high cost of industrial machine vision camera and difficulty in maintenance of industrial machine vision camera, etc.

Trends: The market is projected to grow at a fast pace during the forecast period, due to various latest trends such as growth in edge computing, embedded machine vision, high resolution industrial machine vision cameras, availability of varied industrial machine vision cameras lenses and customization, etc. Embedded machine vision is becoming increasingly popular in the industrial machine vision camera market as it offers a compact and cost-effective solution for many industrial applications. Embedded machine vision cameras are designed to be integrated into other devices or systems, such as drones, mobile robots, and wearable devices, making them more versatile and flexible. Furthermore, Edge computing is gaining traction in the industrial machine vision camera market as it offers several benefits over traditional cloud-based solutions.

Impact Analysis of COVID-19 and Way Forward:

The COVID-19 pandemic has had a significant impact on the global industrial machine vision camera market. The pandemic has disrupted the global supply chain and led to the closure of manufacturing plants and factories, which has affected the demand for machine vision cameras. The pandemic has led to a decrease in demand for industrial machine vision cameras as companies have cut back on capital expenditures due to economic uncertainty. Many companies have postponed or canceled projects that would have required machine vision cameras.

Competitive Landscape:

Global industrial machine vision camera market is concentrated market with top 3 players- Keyence, Teledyne Technologies Incorporated and Cognex hold around 47% of market share. Furthermore, top 5 companies, incorporating TKH and Basler account for more than 60% of the market. Technological advancements in the market are also bringing sustainable competitive advantage to companies, and the market is witnessing multiple partnerships and mergers.

The key players in the global industrial machine vision camera market are:

Keyence Corporation

Teledyne Technologies Incorporated

Cognex Corporation

TKH Group

Basler AG

IDS Imaging Development Systems GmbH

Toshiba Corporation

Omron Corporation

Baumer Holding AG

Sony Corporation

Jai A/S

Hikrobot

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