

Machine Vision-2D and 3D MV Systems: Technologies and Markets

Market Research Report | 2023-03-10 | 156 pages | BCC Research

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Report description:

Description

Report Scope:

This report provides an overview of the global market for machine vision systems and analyzes market trends. Using 2021 as the base year, the report provides estimated market data for the forecast period 2022 through 2027. Revenue forecasts for this period are segmented based on component, type, vertical, application, and region.

The report also focuses on the major trends and challenges that affect the market and the competitive landscape. It explains the current market trends and provides detailed profiles of the major players and the strategies they adopt to enhance their market presence. The report estimates the size of the global machine vision systems market in 2021 and provides projections of the expected market size through 2027.

Report Includes:

- 30 data tables and 46 additional tables
- A comprehensive overview and up-to-date analysis of the global and regional markets for machine vision systems with emphasis on 2D and 3D MV system technologies market
- Analyses of the global market trends with market revenue (sales figures) for 2021, estimates for 2022, forecasts for 2023, and projections of compound annual growth rates (CAGRs) through 2027
- Estimation of the actual market size and revenue forecast for the global machine vision systems market in USD million values, and their corresponding market share analysis based on component, technology type, application, end use vertical, and region
- Discussion of the major market drivers and opportunities in the market for machine vision systems, key shifts and regulations, industry specific challenges, and other macroeconomic factors influencing the market demand in the coming years (2022-2027)

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- Highlights of the recent advances made in the research, development, design, and manufacture of MV components and systems, their varied industrial and non-industrial applications, industry outlook, and value chain analysis providing systematic study of all key intermediaries involved
- Review of patents and new developments in the machine vision systems industry, and the number of recent patent grants for innovations in MV technologies and processes by each major category
- Insight into the company competitive landscape and market share analysis of the major companies operating within the industry
- Company profiles of major players within the industry, including Basler AG, Cognex Corp., National Instruments Corp., and Omron Corp.

Executive Summary

Summary:

Machine vision systems and components are the next-generation intelligent systems mainly used in industrial sector for detection, identification, measurement, and inspection. These systems play major roles in robotics; they are used to guide autonomous robots, also known as "self-navigating" robots. Industries such as automotive, food and beverage, and pharmaceuticals are concerned about reducing labor-intensive processes while increasing accuracy and speed; machine vision systems are in demand to overcome these concerns.

Machine vision systems can perform complex repetitive tasks with higher accuracy and consistency than human workers. Machine vision systems include components such as image sensors, processors, programmable logic controllers (PLC), frame grabbers, and cameras, which are driven by software packages to execute user-defined applications. Machine vision systems are also employed in noninspection applications, such as guiding robots, picking and placing the parts, and dispensing liquids.

According to BCC Research, the global machine vision systems market was valued at \$REDACTED billion in 2021 to reach \$REDACTED billion by 2027. The compound annual growth rate (CAGR) of the market is estimated to grow by REDACTED% over the forecast period 2022-2027. Machine vision (MV) markets have been rapidly changing in recent years. The sector is driven by both long-term and short-term changes. Longterm changes include technological factors, which can increase the value provided by MV products and thereby stimulate and increase demand. The increasing requirements for quality control, productivity, and cost-effectiveness in manufacturing in all sectors of the economy have increased the long-term demand for MV products. Markets change as customer preferences for various product features shift. Emerging MV applications can expand the size of the MV components and systems markets.

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