Global Image Sensor for Security Application - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 100 pages | Mordor Intelligence

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Report description:

The Global Image Sensor Market for Security Application Industry is expected to register a CAGR of 8.83% during the forecast period.

Government agencies and military forces have long employed high-speed imagery for better surveillance. The significant growth in the crime rates across the regions is also one of the primary factors contributing to the market growth rate.

The rapid penetration of multiple-CIS cameras, artificial intelligence (AI), and 3D sensing is improving the value of camera products. Access control, smart door locks, face payments, people counting, and anti-tailgating features have all benefited from security imaging. Smaller lithographic features are required on the processing and computing sides to provide appropriate calculation power at tolerable power consumption. The significant rise in product innovations are further set to boost the demand for image sensors in security applications.

For instance, Omnivison Technologies, Inc., a prominent manufacturer of advanced digital imaging technologies, has launched the OS02G10 security image sensor, which provides products for mainstream, high-volume security cameras that require 1080p resolution and exceptional low-light pixel performance. The OS02G10 contains a 2.8-micron pixel built on the OmniPixel 3-HS architecture, which features high quantum efficiency and an excellent signal-to-noise ratio for best-in-class low-light images. It boasts a 60% higher SNR1 and a 40% lower power consumption than OmniVision's previous-generation mainstream security sensor. This image sensor is made with 12" wafers, rather than the 8" wafers that are in short supply but are generally used for 2MP, 1080p sensors. This enables the firm to better ensure the efficiency of this resolution, which continues to be the most popular in the constantly developing market for consumer-grade IoT security cameras and low-end industrial and commercial surveillance systems.

With the disruption in the global supply chains due to COVID-19, the manufacturing sector has had a negative impact, which has subsequently impacted the consumer electronics and industrial sectors. The COVID-19 scenario had little impact on the CIS industry, and in some cases, such as security and computing, it even benefited. The COVID-19 pandemic has spurred demand for touchless access control solutions, such as 2.5D and 3D imaging systems, resulting in strong growth in smart buildings and even a growing interest in smart door locks in both commercial and consumer sectors.

Image Sensor for Security Application Market Trends

Growing Demand From Smart Cities

Cameras and processing platforms are continually improving to provide dependable and cost-effective embedded vision solutions in a variety of industries. To improve automation, imaging solutions are used in a variety of applications. Smart cities or smart surveillance are two of the main uses. In smart cities, cameras are used to monitor track and tunnel conditions, monitor parking lots, detect burglars, control traffic, and monitor people and cars. For instance, Envision's three smart city trials in Rome are powered by Sony AI-based image sensors.

The Internet of Things (IoT) platforms are being used by technologically advanced cities to monitor city infrastructures and manage everything from traffic flows and parking to water and air quality. These cities are tackling longer-term planning decisions centered on environmental sustainability using the smart data generated as a result. As the world moves toward urbanization, many smart city initiatives and projects will emerge in the near future.

As a result of increasing urbanization and the necessity to manage infrastructure and assets, countries all over the world are investing in smart city projects. The Smart Cities Mission in India has been granted USD 868 million in the Union Budget 2021-22, up from USD 457 million in FY21.

Additionally, Edge analytics is a useful addition to server and cloud-based analytics. While analytics in the camera deploying image sensors improves speed and accuracy by analyzing images rapidly after they are captured, it also generates useful metadata. Numerous new insights can be discovered when this is integrated with image data and evaluated in a data center or the cloud.

Asia-Pacific Region is Expected to Register the Fastest Growth Rate

Asia-Pacific is the fastest-growing area in the global image sensor market for security applications due to the presence of a large manufacturing sector. China, Japan, Taiwan, and South Korea are among a few countries that dominate the semiconductor manufacturing industry, thereby impacting the market. China has the fastest growth rate among Asia-Pacific countries, owing to its expanding economy and global electronics market share. China is a major producer and consumer of electronic goods.

As a result of government initiatives, India is also seeing an increase in the number of smart cities. Electronic solutions for surveillance, maintenance, monitoring, and other reasons are projected to be included in smart cities. According to smartcities.gov.in, the central government has allocated USD 977 million to the development of 60 such smart cities.

According to IoT news, the Asia-Pacific area will account for more than 25% of worldwide smart homes by 2030, with sales reaching USD 120 billion. Currently, Japan is one of the region's market leaders. The region's need for CMOS image sensors is projected to be driven by the deployment of smart homes.

South Korea has also been rendered secure through the installation of a range of monitoring devices. Every year, the country's

government installs CCTV cameras in public locations for safety reasons. According to the Ministry of Interior and Safety (South Korea), 187,883 new CCTV cameras were installed in public places in the country in 2021. The need for image sensors is expected to rise as surveillance camera systems become more prominent.

Image Sensor for Security Application Industry Overview

The image sensors market for security applications is competitive due to the existence of numerous companies in the industry who supply their products in both domestic and international markets. To remain ahead of the competition and expand their market reach, prominent businesses are implementing strategies such as product innovation, expansions, and partnerships. Omnivision, STMicroelectronics NV, Sony Corporation, SK Hynix, Ltd, and ON Semiconductor Corporation are among the major participants. The following are some recent market developments:

January 2022-SK Hynix began mass-production of 0.7 image sensors, putting it in rivalry with Sony and Samsung Electronics in the global image sensor industry. The company has recently started mass production of 0.7 50-million-pixel image sensors, which are similar to Sony goods.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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