

Image Sensors Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The Global Image Sensors Market is expected to register a CAGR of 9.2% over the forecast period. The image sensors are used primarily in many imaging devices and digital cameras to enhance the image's quality of picturization and storage with its applications in industrial, media, medical, and consumer applications. The integration of video surveillance in the transportation industry is one of the significant trends observed in these regions. For instance, to enhance security for the Canadian Public Transportation System, with the country having 1.7 million daily traffic, the government deployed a unified surveillance System with integrated cameras. This is further expected to surge the market across the regions.

Key Highlights

Due to the growing demand for smartphones, security cameras, high-definition cameras, and camcorders, the image sensors market is expected to record a high growth rate during the forecast period. Manufacturers worldwide have been striving to improve major parameters, such as resolution, performance, and pixel size.

In consumer electronics, the smartphone has become the primary camera device, dominating still cameras and DSLRs. Heavy competition in the smartphone segment has driven manufacturers to provide better cameras to have the edge over the competition, resulting in high investments in technology innovations in this field.

Furthermore, the companies have been looking for new smartphone camera innovations to enable high-resolution, feature-rich cameras in systems. For example, Samsung's new 5G smartphone consists of five cameras, including a rear-facing, wide-angle camera based on a 108-megapixel image sensor; this equates to over 100 million pixels on a small die size. A front-facing camera for selfies incorporates a 48MP image sensor based on the world's smallest pixel pitch-0.7µm. The Galaxy S10 from Samsung, introduced recently, has four cameras, three rear cameras and one front camera.

Moreover, in February 2022, Realme announced the launch of the 9 Pro Series across Europe, which features a Sony IMX766 image sensor. The sensor enables the smartphone to capture extraordinary images with a super large 1/1.56" sensor size, a large

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pixel area, and OIS. In addition, the sensor has an f/1.88 aperture that helps the user to capture clear pictures at a distance. Also, the companies are recognized for their product innovation in the studied market. For instance, in February 2022, STMicroelectronics introduced the VD55H1 3D image sensor for smartphones and other devices. The sensor enables the mapping of three-dimensional surfaces by measuring the distance to over half a million points. Objects can be detected up to five meters from the sensor, even with patterned illumination.

COVID-19 has negatively impacted the market as the supply chain has experienced a massive disruption due to restrictions in the movement of goods and personnel. The lockdown in most global economies has resulted in deliveries limited to essentials and companies revising their revenue targets.

Image Sensors Market Trends

CMOS Image Sensor in Smartphone Witnesses a Significant Growth

CMOS image sensor technology, which several vendors are ramping, is sustaining its vigorous move into low-cost camera designs. Although often disparagingly compared to charge-coupled device (CCD) sensors with superior image quality at the same price, CMOS sensors are establishing a foothold at the low-cost end of the consumer market by offering more functions on-chip that simplify camera design.?

Consumer electronics, automotive, security, and surveillance are all growing markets for CMOS image sensors. The rise of the consumer electronics sector has been spurred by the increasing popularity of smartphones with built-in front and rear cameras. The expansion of the automotive application has been spurred by the innovation of self-driving automobiles and advancements in driver safety with the help of ADAS. The capacity of CMOS image sensors to work in various lighting conditions, including dim light, darkness, and low light, has raised the use of CMOS image sensors for security applications, bolstering the CMOS image sensor market for security and surveillance.

The CMOS image sensor industry is dominated by Sony Corporation (Japan). It has invested USD 895 million (105 billion JPY) to boost production capacity for stacked CMOS image sensors and commercialized the CMOS image sensor for automotive cameras as part of its efforts to develop CMOS image sensors for various applications.

Furthermore, in March 2022, SmartSens, an advanced CMOS image sensor supplier, launched its first 50MP ultra-high-resolution 1.0µm pixel size image sensor product - SC550XS. The new product adopts the advanced 22nm HKMG Stack process and SmartSens' multiple proprietary technologies, including SmartClarity-2 technology, SFCPixel technology, and PixGain HDR technology, to enable excellent imaging performance.

Many global start-ups also focus on product innovation for the studied market. For instance, in February 2022, Metalenz, a meta-optics lens technology start-up, unveiled a new polarization technology that enables polarization sensing to be integrated into consumer and mobile devices and leads to better healthcare management features on smartphones.

Asia Pacific to Witness Significant Market Growth

China reflects a significant growth rate due to its growing economy and global electronics market share. China is one of the Significant electronics producers and consumers. According to the National Bureau of Statistics China, computer, communication, and other electronic equipment manufacturing increased. It produced around 682.85 million tons output of grain in 2021.

Furthermore, in December 2021 - The company Samsung launched a 64 MP ISOCELL GWB image sensor. It created the new camera sensor in partnership with China's Tecno. Samsung has touted the camera sensor as the most "human eye-like" image sensor that can take photos with improved color accuracy and brightness.

Moreover, India is one of the largest and fastest-growing economies in the world; the growing purchasing power and the rising

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influence of social media are expected to drive the market for electronic goods. According to IBEF, Exports of electronic goods grew by 49% to USD 11 billion from April to December 2021, compared to USD 7.4 billion the previous year.

The country is also seeing growth in smart cities due to government initiatives. Smart cities are anticipated to incorporate electronic solutions for various purposes, such as monitoring, surveillance, maintenance, etc. Further, according to smartcities.gov.in, the central government allotted USD 977 million to develop 60 such intelligent cities. ?

Further, South Korea has been made secure with various surveillance systems installed. The country's government has been installing CCTV cameras yearly, in public places, for safety purposes. According to the Ministry of the Interior and Safety (South Korea), in 2021, there were 187,883 new CCTVs installed in public places in the country. With the growing adoption of surveillance camera systems, the demand for image sensors is expected to rise.?

Moreover, in the smartphone sector, In India, Samsung launched its premium Galaxy S22 smartphone series in March 2022. The Galaxy S22 series includes three phones: the Galaxy S22 Ultra, Galaxy S22+, and Galaxy S22. The Samsung Galaxy S22+ has a triple camera system with a 50MP primary sensor with f/1.8 aperture, a 12MP ultra-wide sensor with f/2.2 aperture, and a 10MP telephoto lens with f/2.4 aperture on the back.

Image Sensors Market Competitor Analysis

The Image Sensors Market is fragmented in nature due to intense competitive rivalry. Levels of market penetration are not massive for any of the prevailing players in the market. Due to the high market growth rate, it is a significant investment opportunity; therefore, new entrants are entering the market.? Key players are Canon Inc.?, Samsung Electronics Co. Ltd.?, Sony, Omnivision Technologies Inc., Omnivision Technologies Inc., etc.

March 2022 - Sony Group Corporation ("Sony") announced the signing of a memorandum of agreement (the "Memorandum of Understanding") with Honda Motor Co., Ltd. ("Honda") for a strategic alliance in the field of mobility.

January 2022 - OmniVision announced the next addition to its pioneering Nyxel near-infrared (NIR) technology family. The OX05B1S is the first 5 megapixels (MP) RGB-IR BSI global shutter sensor for in-cabin monitoring systems (IMS) in the automotive industry.

Additional Benefits:

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

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