

Asia-Pacific Image Sensors Market by Technology (CMOS Image Sensor and CCD Image Sensor), Application (Consumer Electronics, Defense & Aerospace, Medical, Industrial, Automotive, and Security & Surveillance) - Opportunity Analysis and Industry Forecasts, 2014 - 2022

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Abstracts

Image sensor is used in devices such as digital cameras & varied camera modules that converts the optical image projected by the lens into electrical signals. CMOS is the latest technology that designs advanced image sensors. At first, photon flux is converted into charge, which is further converted to voltage, conversion then analog to digital conversion. This technology uses two types of mechanisms to design image sensors, namely, front-side illuminated (FSI) and back-side illuminated (BSI) techniques. As per FSI technique, in-chip lens is placed at the front and photodiode at back. Moreover, when light enters through lens, it reaches the metal wiring, which reflects a part of light and the remaining light reaches the photodiode. Hence, photodiode receive less incoming light and produces low-resolution image. In BSI technique, metal wire grid is placed below the photodiode, allowing the complete incoming light reach the photodiode without any obstruction, which results into the conversion of photons to electrons.

Increase in proliferation of smartphones, rise in investment in automotive sector by automotive companies and growth in demand for security & surveillance in public places drive the growth of Asia-Pacific image sensors market. The leading automotive companies are investing heavily to increase the comfort and safety levels of driver by implementing the advanced technology through association with technological companies. Japan-based car manufactures such as Toyota Motor Corporation and Nissan Motor Company Ltd are implementing the advanced driver assistance systems

(ADAS), which offer parking assistance, collision avoidance systems, automatic headlight dimming, and lane departure warning. Decline in adoption of CCD image sensor and high manufacturing cost of image sensors are the factors that restrain the market growth. However, government rule on implementation of driver assistance system on vehicles is expected to provide opportunities for the key market players.

The market is segmented on the basis of technology, application, and country. Based on technology, the market is bifurcated into charge-coupled device (CCD) and complementary metal–oxide–semiconductor (CMOS). CMOS is the leading segment, which is further divided into front-side illuminated (FSI) and back-side illuminated (BSI). By application, the market is segmented into consumer electronics, defense & aerospace, medical, industrial, automotive, and security & surveillance. The countries analyzed in the report include China, Japan, India, Taiwan, South Korea, and rest of Asia-Pacific.

KEY BENEFITS

The report includes an extensive analysis of the factors that drive as well as restrain the Asia-Pacific image sensors market.

The market projections from 2014 to 2022 are included along with factors affecting the same.

The report also provides quantitative as well as qualitative trends to assist the stakeholders understand the situations prevailing in the market.

Competitive intelligence highlights the business practices followed by leading market players across various geographies.

IMAGE SENSORS SEGMENTATION BY TECHNOLOGY

CMOS Image Sensor

FSI

BSI

CCD Image Sensor

BY APPLICATION

Consumer Electronics

Defense & Aerospace

Medical

Industrial

Automotive

Security & Surveillance

BY GEOGRAPHY

Asia-Pacific

China

Japan

India

Taiwan

South Korea

Rest of Asia-Pacific

KEY PLAYERS

Sony Corporation

Samsung Electronics Co. Ltd.

Himax Technologies, Inc.

OmniVision Technologies, Inc.

GalaxyCore Shanghai Corporation Ltd.

ON Semiconductor Corporation

SK Hynix, Inc.

Toshiba Corporation

Panasonic Corporation

SuperPix Micro Technology Co., Ltd.

Other players in the value chain include (profiles not included in the report)

Canon Inc.

Nikon Corporation

Semiconductor Manufacturing International Corporation (SMIC)

Taiwan Semiconductor Manufacturing Company (TSMC)

Sharp Corporation

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