Global Optical Fingerprint Sensor Market, by Component (Lens, Photodiode, Cover plate, CCD), Technology (Multispectral imaging, Electro optical imaging), Application (Telecom, Government Agencies, Healthcare, Smart Homes) - Forecast till 2023

Market Synopsis of the Global Optical Fingerprint Sensor Market

The optical fingerprint sensor market is expected to show a steady growth in the fingerprint sensor market. This growth can be attributed to the factors like growing consumer demand of bezel less displays in smartphones. Bezlel less displays restricts the companies to place a capacitive fingerprint sensor in the front thereby increasing the demand of optical fingerprint sensors that can be deployed under the display. Another factor that drives the growth of optical fingerprint sensor market is its ruggedness. Optical fingerprint sensors are widely used in commercial security, employee identification and at public places resulting in multiple and frequent usage in a single day and thus are prone to dust, oil and other pollutants. However, this also turns to be vulnerable as the optical fingerprint sensor can be easily spoofed by placing an image of the fingerprint on the fingerprint reader.

Segmentation

The global optical fingerprint sensor market is segmented into component, technology, application and region. On the basis of component, the market is further segmented into lens, photodiodes, cover plates, charged coupled device (CCD) and Complementary Metal - Oxide - Semiconductor (CMOS) optical imagers. Among these, the CMOS optical imagers and charged coupled device (CCD) perform a major role in fingerprint detection. The charged coupled device helps the photo diode to emit light, which gets reflected by the lens directed towards CMOS optical imagers, identifying the surface pattern. The photo diodes are the array of light emitting diodes that emit the light when a finger is placed on the cover plate (made of either glass or plastic) which is connected to the microcontroller that matches the pattern on the surface such as ridges, valleys or unique marks by analyzing the lightest and darkest areas of the image. These components work in integration with each other to store and identify the fingerprints.

On the basis of technology, the market is segmented into electro optical imaging and multi-spectral imaging. The electro optical imaging is a technique that enhances the optical sensors and improves their resistance against any fraudulent access. The electro-optical imaging induces a voltage across a light emitting polymer firm that creates a small current whenever a fingerprint ridge touches the polymer surface. This process produces an opposite high contrast image, where the fingerprint valley remains dark and ridges light up. On the other hand, multispectral imaging is an advanced technique designed to reduce the fingerprint spoof attacks. The multispectral imaging is however, independently used as an optical sensor. The advantage of the multispectral imaging is that it captures those features of the tissues that lie below the surface of the skin as well as on the surface of the fingers. The tissue feature represents the second layer of security in multispectral imaging. However, the most used technique is the electro optical imaging in optical fingerprint sensors.

On the basis of application, the market is sub segmented into consumer electronics (mobile devices, laptops, and tablets), military & defense, banking & finance, government agencies, telecom operators, healthcare, smart homes and commercial security. The trend of optical fingerprint sensors is degrading in the consumer electronics at present because of the vulnerabilities to spoof attacks. However, due to the growing trend of bezel less displays, the space for capacitive sensors is reducing, which encourage the usage of optical fingerprint sensors, because they can be deployed under the display. Telecom, banking & finance and commercial security is estimated to show a higher demand and thus fast market growth during the forecast period.

Regional Analysis

The regional analysis covers the geographical regions namely, North America, Europe, Asia Pacific and the rest of the world. Among these, Asia Pacific leads the market for optical fingerprint sensors. This growth can be attributed to the huge presence of semiconductor and electronic component manufacturing industry located in China, Taiwan, Japan and South Korea. Also the advancement in
smartphone technology is encouraging the smartphone manufacturers to adopt to the new technology. North America follows Asia Pacific, as this region is technologically advanced with presence of countries like the U.S. and Canada.

**Key Players**

Some of the key players in the optical fingerprint sensor market; Synaptics Incorporated (U.S.), BioEnable Technologies Pvt. Ltd. (India), Vkansee (China), Bayometric (U.S.), Shenazhen CAMA Biometrics Co.Ltd (China), SecuGen Corporation (U.S.), VocalZoom (Israel), Fingerprint Cards AB (Sweden), Bio Key International Inc (U.S.), Securlinx Integration Software (U.S.), Aware Inc (U.S.) among others.

The global optical fingerprint sensor market is expected to reach USD 1 billion with the CAGR of 12% during the forecasted period.

![Global Optical Fingerprint Sensor Market, USD Million](image)

**Intended Audience**

- Storage providers
- Optical lens providers
- Telecom operators
- Research firms
- Electronic component industries
- Healthcare firms
- retailers
- government agencies
- Military and defense
- IT enablers
- Database solutions providers

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