Shortwave Infrared (SWIR) Market by Camera, Lenses, Spectral Imaging, Area & Line Scan, Active & Passive Thermal Imaging, Pushbroom, Snapshot, Security & Surveillance, Monitoring & Inspection, Technology, Vertical and Region - Global Forecast to 2029

Market Report | 2024-08-27 | 250 pages | MarketsandMarkets

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Report description:

The global SWIR market is expected to be valued at USD 631 million in 2024 and is projected to reach USD 1,068 million by 2029 and grow at a CAGR of 11.1% from 2024 to 2029. In automotive, aerospace & defense, industrial, etc., the demand for SWIR imagers is fuelling market demand. Excellent in low-light conditions, SWIR reveals characteristics, such as moisture levels and material properties, that allow for detail-rich inspections and monitoring to take place. With the ability to capture accurate 3D images, this provides support to further advanced applications in robotics and automation, hence underlining the necessity of SWIR technology in any industry demanding high-quality, reliable data.

"Non-industrial to account for the highest market share by vertical in the SWIR market."

Industries like automotive and aerospace rely on calculated, precise quality control and inspection. With increased manufacturing and varied demands of the market, higher levels of precision are demanded, which can be catered by SWIR. These SWIR imagers provide the capabilities needed to meet the market requirements. Furthermore, increased automation in manufacturing is further set to fuel the growth of the SWIR market. SWIR allows quality control and the detecting of defects in electronics and semiconductors. For oil and gas applications, it monitors equipment and detects leaks. These features and performances make it strategic for such high-tech and safety-oriented industries.

"Security & surveillance by use case to account for second-highest CAGR in SWIR during the forecast period."

SWIR imagers are utilized by a few businesses like aviation, defense, investigative research facilities, and scientific research. They are highly regarded for identifying little disturbances in separations with high accuracy, vital to maintaining required levels. Businesses are progressively keeping up with the high benchmarks and quality control. Advanced imaging devices such as SWIR

imagers are anticipated to drive market growth. SWIR cameras ensure superior imaging under low-light conditions and in adverse conditions. Therefore, they are highly effective in night-time or obscured surveillance applications. Growing security concerns automatically increase the demand for advanced surveillance solutions. SWIR technology enables detecting and identifying an object or a person in any setting-critical in security applications.

"Uncooled by technology to account second highest market share in SWIR market during the forecast period."

Businesses progressively are embracing SWIR in fabricating forms such as semiconductor creation and automotive building. SWIR offer higher quality control and inspection in measuring disturbances in separations, and positions, which are vital for fabricating forms keeping up quality benchmarks and compliances. As businesses work towards higher benchmarks and least resistances, demand for advanced imaging solutions is anticipated to rise booting showcase development.

"North American region growing at second highest CAGR in SWIR market."

The SWIR market in North America is projected to experience the second-highest CAGR mainly because of substantial investments in manufacturing technologies, particularly in the aerospace, defense, and automotive industries. The involvement of technology firms and research organizations also promotes the use of precise, advanced imaging tools. Moreover, the region's emphasis on automation and quality assurance contributes to the growing need for SWIR to maintain product precision and effectiveness.

The study contains insights from various industry experts, from component suppliers to Tier 1 companies and OEMs. The break-up of the primaries is as follows:

- By Company Type: Tier 1 - 38%, Tier 2 - 28%, and Tier 3 - 34%
- By Designation: C-level Executives - 40%, Directors - 30%, and Others - 30%
- By Region: North America - 35%, Europe -35%, Asia Pacific - 20%, and RoW - 10%

The key players operating in the SWIR market are Collins Aerospace (US), Corning Incorporated (US), Allied Vision Technologies GmbH (Germany), Teledyne FLIR LLC (US), and Leonardo DRS (US), and others.

Research Coverage:

The research reports the SWIR market has been segmented based on imaging type, by offering, by technology, by use-case, by vertical, and by region. Based on imaging type, the market has been segmented into spectral, thermal, and hyperspectral imaging. Based on offering, the market has been segmented into modules, cameras, and others. Based on technology, the market has been segmented into cooled and uncooled. Based on the case, the market has been segmented into security & surveillance, monitoring & inspection, and detection. Based on vertical, the market has been segmented into industrial and non-industrial. The market by region has been segmented into North America, Europe, Asia Pacific, and RoW.

The scope of the report covers detailed information regarding the major factors, such as drivers, restraints, challenges, and opportunities, influencing the growth of the retail automation market. A detailed analysis of the key industry players has been done to provide insights into their business overviews, products, key strategies, contracts, partnerships, and agreements. New product & and service launches, mergers and acquisitions, and recent developments associated with the SWIR market have been covered in the report. This report covers a competitive analysis of upcoming startups in the SWIR market ecosystem.

Key Benefits of Buying the Report

- Analysis of key drivers (Enhanced vision and 3D sensing by SWIR in automotive vertical, Rising security concerns), restraints (Less signal-to-noise ratio of SWIR Cameras, temperature influence on image quality), opportunities (Use in disaster management and response, Potential of SWIR in smartphones), and challenges (Lower resolution and pixel count of SWIR imagers, Fundamental limits in FOV) influencing the growth of the SWIR market.
- Product Development/Innovation: Detailed insights on upcoming technologies, research and development activities, and new product launches in the SWIR market.
- Market Development: Comprehensive information about lucrative markets - the report analyses the SWIR market across varied regions.
- Market Diversification: Exhaustive information about new products/services, untapped geographies, recent developments, and investments in the SWIR market.
- Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players like Collins Aerospace (US), Teledyne FLIR LLC (US), Leonardo DRS (US), Allied Vision Technologies (Germany), and Corning

Incorporated (US), etc.

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