

Shortwave Infrared Market: Poised to Double to \$410 Million by 2034

SWIR Market Poised for Significant Growth Driven by Technological Advancements and Expanding Applications, States Fact.MR

ROCKVILLE, MD, UNITED STATES, January 8, 2025 /EINPresswire.com/ -- The [shortwave infrared market](#) is anticipated to grow at a compound annual growth rate (CAGR) of 7.1% from 2024 to 2034, from a projected valuation of US\$ 206.5 million in 2024 to US\$ 410.0 million by 2034.



The Shortwave Infrared market is growing steadily due to its growing use in industrial inspection, semiconductor manufacturing, surveillance, and defense. The advancement in technology also is playing a major role in the improvement of sensor material such as InGaAs, MCT, which again enhances the performance of SWIR, increases its reach, and reduces the cost.

Innovations such as uncooled SWIR sensors that reduce technology costs and improve power efficiency are further accelerating the pace of adoption. These innovations have diversified use in emerging areas such as chemical analysis, autonomous vehicles, and healthcare. Because of this, the market is expected to witness faster growth through quicker integrations in key sectors.

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Its quality in low light and otherwise adverse conditions has made SWIR one of the top technologies in target acquisition, camouflage detection, and surveillance, hence driving a lot of demand in the world. Industrial sectors adopt SWIR solutions in non-destructive testing and quality control to enhance efficiency in processes.

Regionally, the United States and China are growing rapidly due to the rise in investments in

defense, building industrial infrastructure, and also R&D activities. All these factors, along with advancements within multi-spectral and hyper-spectral imaging, will drive the market forward and unleash new opportunities regarding strategic partnerships and expanded commercial applications.

Key Takeaways from the Market Study

During 2024-2034, the market will expand with a CAGR of 7.1%. Among regions, East Asia exhibits the fastest growth with a CAGR of 7.8%.

Indium Gallium Arsenide holds about 36.8% of the share in the material type segment. In the industry vertical, military & defence holds about 42.6% of the market in 2024.

The global shortwave infrared market growth was about 5.8% during the historic period (2019-2023).

“The SWIR Market Is Set For Robust Growth, Driven by Advancements in Sensor Technology and Expanding Defense, Industrial, And Surveillance Applications,” says a Fact.MR analyst.

Market Growth Strategies

Recent developments indicate a shift towards cost-effective and compact SWIR solutions, integrating advanced imaging capabilities for tactical, industrial, and machine vision applications. Companies are adopting innovative technologies like quantum dots and event-based imaging to enhance performance, reduce costs, and target broader market segments, including mass-market applications and emerging verticals. For instance,

In April 2023, SCD launched the SWIFT-EI, a new SWIR detector featuring event-based imaging capabilities. This low-cost, compact, and advanced SWIR detector offers dual imaging channels, enabling tactical laser spot detection, hostile fire indication, and machine vision applications with a frame rate of over 1200 Hz.

In 2023, Onsemi acquired SWIR Vision Systems, a pioneer in quantum-dots-based SWIR imaging technology. This acquisition aligns with industry trends of adopting cost-effective SWIR solutions compatible with CMOS manufacturing, expanding Onsemi's capabilities in the SWIR market and targeting mass-market applications in industrial and defense sectors.

Increasing Need for Improved Security and Surveillance Apps

The market for shortwave infrared is primarily driven by the rising demand for sophisticated security and surveillance systems. Because shortwave infrared cameras and sensors can take high-quality pictures in low light and at night, their uses are expanding across a number of industries, including border security, the military, and the protection of vital infrastructure.

The technique is among the best for long-range photography and object recognition since it can penetrate haze, fog, and other challenging conditions. SWIR systems are widely used in security and monitoring applications across the world because they also provide superior visibility and target recognition when compared to traditional thermal imaging. Government expenditures in surveillance infrastructure and expanding defense budgets further bolster this.

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Growing Uptake in the Industrial, Defense, and Scientific Research Domains

Due to growing usage in the military, industrial, and scientific research sectors, the US SWIR market is growing dramatically. Therefore, the primary motivators are the growing need for superior imaging technologies to strengthen surveillance capabilities and national security. Superior visibility is provided by SWIR technology in situations like smoke, fog, and low light.

It has strong military and defense uses in areas including target acquisition, surveillance, and night vision. To further advance market demand, SWIR systems are also utilized in the U.S. industrial sector for quality inspection, material sorting, and process monitoring.

The market for SWIR in the United States is anticipated to be driven by ongoing advancements in sensor technology and rising use of SWIR imaging in commercial applications.

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[Infrared Detector Market](#) Currently, the global market for infrared detectors is estimated to be worth \$463 million USD. By 2031, infrared detector sensor sales are expected to reach US\$ 968 million at a high compound annual growth rate (CAGR) of 7.7%.

[Infrared Sensors Market](#) The global market for infrared sensors is expected to reach US\$ 3.4 billion by the end of 2033, up from its 2023 valuation of US\$ 1.2 billion, according to a recent Fact.MR analysis. Over the following ten years (2023 to 2033), infrared sensor sales are expected to grow at a compound annual growth rate (CAGR) of 11% worldwide.

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