

Short-Wave Infrared Cameras & Sensors Market Size, Share & Trends Analysis Report By Technology, By Product (SWIR Cameras, SWIR FPAs), By Application, By Interface, By Region, And Segment Forecasts, 2025 - 2030

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Abstracts

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Market Size & Trends

The global short-wave infrared cameras & sensors market size was estimated at USD 328.4 million in 2024 and is projected to grow at a CAGR of 11.3% from 2025 to 2030. The growth is driven by rising demand for high-precision imaging technologies across industries such as defense, semiconductors, food inspection, and industrial automation. The increasing adoption of short-wave infrared (SWIR) technology for quality control, material sorting, and surveillance applications is a major contributor to market expansion.

In addition, advancements in SWIR sensor designs, such as lower power consumption, miniaturization, and improved sensitivity, are making these solutions more accessible for broader industrial use.

SWIR cameras & sensors, specifically those based on focal plane array (FPA) technology, are emerging as vital components in a wide range of imaging applications. Operating in the 0.9 to 1.7-micron wavelength range, SWIR imaging offers capabilities that surpass traditional visible and thermal imaging systems, enabling the detection of hidden features, material differences, and moisture levels. These advantages make SWIR FPAs valuable in fields such as industrial inspection, surveillance, defense, and

scientific research. Their ability to operate in low-light or obscured environments also enhances their utility in applications where clarity and detail are required.

The market for SWIR cameras & sensors is witnessing robust growth, driven by increasing demand across both commercial and military sectors. Defense applications have historically led the adoption curve due to SWIR's ability to see through smoke, fog, and camouflage. However, recent advancements in sensor miniaturization, cost reductions, and innovations in InGaAs (Indium Gallium Arsenide) technology are expanding use cases into agriculture, machine vision, semiconductor inspection, and medical diagnostics. As industries pursue higher accuracy and automation in imaging processes, SWIR systems are becoming indispensable for enabling non-destructive testing and quality control.

Global Short-Wave Infrared Cameras & Sensors Market Report Segmentation

This report forecasts revenue growth at the global, regional, and country levels and provides an analysis of the latest industry trends in each of the sub-segments from 2018 to 2030. For this study, Grand View Research has segmented the global Short-wave Infrared cameras & sensors market report based on technology, product, application, interface, and region.

Technology Outlook (Revenue, USD Million, 2018 - 2030)

Cooled SWIR Cameras/Sensors

Uncooled SWIR Cameras/Sensors

Product Outlook (Revenue, USD Million, 2018 - 2030)

SWIR Cameras

Area Scan Cameras

Line Scan Cameras

SWIR FPAs

InGaAs-based FPAs

HgCdTe-based FPAs

Quantum Dot-based FPAs

Others

Application Outlook (Revenue, USD Million, 2018 - 2030)

Defense & Military

Industrial

Security & Surveillance

Healthcare & Research

Automotive

Agriculture & Food

Others

Interface Outlook (Revenue, USD Million, 2018 - 2030)

Camera Link

CoaXPress (CXP)

GigE

HDMI

USB

Other

Regional Outlook (Revenue, USD Million, 2018 - 2030)

North America

U.S.

Canada

Mexico

Europe

UK

Germany

France

Asia Pacific

China

Japan

India

South Korea

Australia

Latin America

Brazil

Middle East and Africa (MEA)

KSA

UAE

South Africa

Companies Mentioned

Teledyne Technologies Incorporated.
Hamamatsu Photonics
Xenics (Exosens)
Allied Vision Technologies
Sensors Unlimited (Collins Aerospace)
New Imaging Technologies (NIT)
Princeton Infrared Technologies Inc.
Raptor Photonics
TriEye
Chunghwa Leading Photonics Tech (CLPT)
Active Silicon
BitFlow, Inc.

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