

# Infrared Detector Market Will Reach **USD 912.9 Million** By 2030



In 2023, the revenue generated by the worldwide infrared detector market amounted to USD 563.8 million. Projections anticipate growth to **USD 912.9 million by 2030**, with a compound annual growth rate (CAGR) of 7.2% during the period from 2024 to 2030.

This growth of the market can be credited to the increasing requirement for manufacturing processes, industrial automation, security and surveillance applications such as fire smock detection at public places, temp measurement, consumer electronics like smart-watches & tablets, smartphones, scientific research, healthcare solutions, and various industrial applications.

On the basis of type, the need for pyroelectric infrared (PIR)-based thermal sensors is increasing significantly. This is mainly because PIR sensors provide a dependable and lucrative solution for an extensive variety of industries and have been established to be extremely effective in numerous applications.

Pyroelectric detectors find widespread use in various applications such as security systems, automatic lighting, energy management, robotics, wildlife monitoring, and non-contact switching. These detectors are adept at recognizing alterations in infrared radiation resulting from the motion of warm entities like humans or animals.

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Consequently, their proficiency in motion detection and presence sensing renders them invaluable in scenarios demanding applications like motion sensing, occupancy detection, or energy optimization.

On the basis of wavelength, the short-wave infrared category generates the largest revenue share in the industry. This is mainly because of its growing usage through varied industries like agriculture, pharmaceuticals, residential, food and beverages, automotive, and commercial. In such sectors, SWIR detectors are very helpful for tasks like quality control, product inspection, sorting, and process monitoring. By using unique spectral signatures of materials, such detectors can precisely characterize and recognize substances, allowing effective analysis in an intensive range of industrial processes.

The market is predominantly led by the category of people and motion sensing, primarily due to the extensive deployment of infrared detectors in diverse settings such as retail establishments, airports, playgrounds, museums, and libraries.

In these environments, infrared detectors play a crucial role in tasks like people counting and motion detection. For instance, in retail shops, they contribute to monitoring customer traffic, analyzing behavior, and streamlining store operations. Similarly, at airports, these detectors assist in the management of passenger flow, bolstering security measures, and optimizing staff allocation.

North America holds a prominent position as a global leader in the infrared detector market. This is attributed to factors such as the presence of major industry players, advancements in technology, and substantial demand from sectors including aerospace, military and defense, healthcare, industrial manufacturing, and automotive within the region.

The research offers the size of the infrared detector market for the period 2017–2030.

### **Market Segmentation by Type**

- Mercury–Cadmium Telluride (MCT)
- Indium–Gallium Arsenide (InGaAs)
- Pyroelectric
- Thermopile
- Microbolometer
- Pir Motion Sensor
- IR Photodiode Sensor
- IR Imaging Sensor
- Others

### **Market Segmentation by Technology**

- Cooled
- Uncooled

### **Market Segmentation by Wavelength**

- Short-Wave
- Mid-Wave
- Long-Wave

### **Market Segmentation by Application**

- People & Motion Sensing
- Temperature Measurement
- Security & Surveillance
- Gas & Fire Detection
- Spectroscopy & Biomedical Imaging
- Others

### **Market Segmentation by Vertical**

- Automotive
- Aerospace
- Semiconductor & Electronics
- Oil & Gas
- Military & Defense
- Residential & Commercial
- Medical
- Scientific Research

- Others

## Market Segmentation by Region

- North America Infrared Detector Market
  - By type
  - By technology
  - By wavelength
  - By application
  - By vertical
  - By country – U.S. and Canada
- Europe Infrared Detector Market
  - By type
  - By technology
  - By wavelength
  - By application
  - By vertical
  - By country – Germany, U.K., France, Italy, Spain, and Rest of Europe
- Asia-Pacific (APAC) Infrared Detector Market
  - By type
  - By technology
  - By wavelength
  - By application
  - By vertical
  - By country – Japan, China, India, South Korea, Australia, and Rest of APAC
- Latin America (LATAM) Infrared Detector Market
  - By type
  - By technology
  - By wavelength
  - By application
  - By vertical
  - By country – Brazil, Mexico, and Rest of LATAM
- Middle East and Africa (MEA) Infrared Detector Market
  - By type
  - By technology
  - By wavelength
  - By application
  - By vertical
  - By country – Saudi Arabia, South Africa, U.A.E., and Rest of MEA

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