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Thermal Scanners Market Forecasts to 2032 – Global Analysis By Product Type (Handheld Thermal Scanners, Fixed/Mounted Thermal Scanners and Wearable Thermal Scanners), Wavelength, Technology, Application, End User and By Geography

https://marketpublishers.com/r/T337D8F538BAEN.html
Date: September 2025
Pages: 200
Price: US$ 4,150.00 (Single User License)
ID: T337D8F538BAEN

Abstracts

According to Stratistics MRC, the Global Thermal Scanners Market is accounted for $6.13 billion in 2025 and is expected to reach $11.43 billion by 2032 growing at a CAGR of 9.3% during the forecast period. Thermal scanners are sophisticated instruments that capture infrared radiation from objects and translate it into temperature readings, creating detailed thermal images. They are extensively applied in medical screening, security monitoring, and industrial inspections, enabling precise, non-contact temperature measurement. These devices are particularly valuable for detecting fevers, monitoring machinery, and identifying areas of heat loss. Their ability to operate effectively in darkness or through visual obstructions makes them highly reliable. Increasingly, thermal scanners play a critical role in health safety and operational management, especially during disease outbreaks. When combined with AI and connected technologies, they offer advanced real-time monitoring and predictive insights, improving efficiency and response times.

According to data from NASA's Jet Propulsion Laboratory, thermal imaging instruments like ASTER have been used to collect global surface temperature data with a resolution of 90 meters, aiding in volcanic activity monitoring and land surface temperature mapping. This demonstrates the precision and scale of thermal imaging technology.

Market Dynamics:

Driver:

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Rising healthcare awareness

Increasing attention toward health and safety has notably boosted thermal scanner usage. These scanners enable fast, non-contact temperature measurement, making them ideal for hospitals, public spaces, and airports. Emphasis on early detection of illnesses, infection prevention, and proactive healthcare has prompted authorities and businesses to implement thermal scanning systems. Workplace safety initiatives and monitoring employee health further drive market expansion. Growing investments in healthcare facilities, along with a preference for non-invasive diagnostic solutions, continue to propel the adoption of thermal scanners globally. As awareness of personal and public health rises, the reliance on these devices is expected to expand steadily, supporting long-term market growth.

Restraint:

High initial investment

A significant challenge in the thermal scanners market is the considerable upfront cost of acquiring and installing advanced thermal imaging equipment. These devices, featuring sophisticated sensors and integrated software, can be expensive for small and medium businesses. Additional expenses, such as regular maintenance, calibration, and system upgrades, further increase the financial load. Consequently, organizations with limited budgets may delay or avoid adopting thermal scanning solutions despite their advantages. High initial investment can impede market growth, especially in emerging economies with restricted infrastructure spending. This financial barrier remains a major restraint, limiting the widespread deployment of thermal scanners across various sectors worldwide.

Opportunity:

Integration with AI and IoT

Connecting thermal scanners with artificial intelligence (AI) and the Internet of Things (IoT) offers substantial growth potential. AI-enabled scanners can evaluate temperature trends, identify abnormalities, and deliver predictive analysis, improving efficiency in healthcare, industrial, and security applications. IoT integration provides real-time data access and remote monitoring, enabling quicker decision-making and enhanced safety measures. This combination supports automated alerts, comprehensive analytics, and

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smooth integration with existing operational systems. As organizations continue to embrace smart technology solutions, thermal scanners equipped with AI and IoT functionalities are expected to play a critical role, expanding their applications and significantly contributing to global market growth.

Threat:

Regulatory and privacy concerns

Privacy and regulatory challenges pose a considerable threat to the thermal scanners market. Using thermal scanners to monitor people in public areas or workplaces can raise privacy concerns and attract regulatory attention. Diverse regulations across countries regarding data collection, storage, and processing create compliance hurdles for both manufacturers and end-users. Failure to comply can result in legal consequences, reduced adoption, and damage to brand reputation. Public skepticism or opposition to surveillance technology may also limit market growth. To mitigate these risks, companies must implement responsible deployment practices, ensure adherence to laws, and address ethical concerns while maintaining trust and enabling sustainable expansion of the thermal scanners market.

Covid-19 Impact:

The COVID-19 outbreak dramatically boosted the global demand for thermal scanners, accelerating market expansion. Non-contact temperature screening became critical in hospitals, airports, offices, schools, and other public spaces to detect potential infections and curb virus transmission. Governments and institutions adopted strict fever detection measures, driving the need for fast, precise, and dependable thermal imaging solutions. The pandemic underscored the value of health and safety technologies, encouraging investments in thermal scanners across various sectors. This increased focus on preventive health measures has established enduring market opportunities, as organizations continue to prioritize employee and public safety, ensuring sustained adoption of thermal scanning technologies beyond the immediate crisis.

The handheld thermal scanners segment is expected to be the largest during the forecast period

The handheld thermal scanners segment is expected to account for the largest market share during the forecast period because of their portability, user-friendliness, and broad applicability across healthcare, industrial, and security sectors. They enable fast,

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non-contact temperature measurements, making them ideal for scanning people, machinery, and facilities without permanent installation. The flexibility of handheld devices allows professionals to use them in diverse operational settings, while their lower cost compared to fixed or wearable scanners promotes higher adoption rates. Their convenience, adaptability, and affordability collectively position handheld thermal scanners as the most favored option among end-users. These factors have secured their status as the leading segment in the global thermal scanners market, reflecting widespread preference for versatile and practical solutions.

The bi-spectrum thermal imaging segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the bi-spectrum thermal imaging segment is predicted to witness the highest growth rate because of its superior ability to capture and interpret thermal data across multiple wavelengths. By combining infrared and visible or other spectral bands, these scanners offer improved accuracy, enhanced target identification, and greater situational awareness. They are increasingly utilized in defense, security, healthcare, and industrial monitoring applications where precision is essential. The rising need for advanced imaging technologies capable of functioning effectively in varied conditions is fueling market expansion. With their capacity to provide reliable thermal data while minimizing errors, bi-spectrum thermal scanners are emerging as one of the fastest-growing segments worldwide.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share. This prominence is attributed to the region's advanced healthcare facilities, early adoption of thermal scanning technologies, and heightened public health awareness following the COVID-19 pandemic. Thermal scanners have become essential tools for non-contact temperature screening in airports, hospitals, and public spaces. The escalating demand for enhanced security and surveillance systems has further fueled the adoption of thermal scanners in critical infrastructure and public safety applications. The presence of leading market players and ongoing technological advancements has also bolstered North America's leading position in the market.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR. This robust growth is attributed to substantial investments in defense and

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military sectors, expanding infrastructure projects, and the increasing implementation of thermal imaging technologies across industrial automation, surveillance, and public safety domains. Nations like China and India are spearheading this growth, utilizing thermal scanning solutions to bolster security measures and facilitate industrial progress. The region's evolving economic environment and technological innovations play a pivotal role in its dominance in the global thermal scanners market.

Key players in the market

Some of the key players in Thermal Scanners Market include FLIR Systems, Fluke Corporation, Leonardo, L3Harris Technologies, Opgal, Axis Communications, Optotherm, Seek Thermal, Thermoteknix Systems, Ametek Land, HGH Infrared Systems, Leonardo DRS, Teledyne FLIR, Zhejiang Dahua Technology and Infrared Cameras Inc.

Key Developments:

In September 2025, L3Harris Technologies has received a contract valued up to $292 million to continue its role producing propulsion for the Javelin weapon system. The award is the largest propulsion production contract received to date for the Javelin program, representing a production extension for five years.

In September 2025, Fluke Corporation has launched the Fluke GFL-1500 Ground Fault Locator, an innovative tool designed to help solar technicians quickly and safely identify ground faults in utility-scale solar systems. Ground faults can lead to significant workplace hazards and reduced energy output, making it crucial for technicians to address these issues efficiently.

In March 2025, Teledyne FLIR Defense has won a contract valued at $7.8 million with Middle East Task Company (METCO) to provide its next-generation LVSS (Lightweight Vehicle Surveillance System) to a high-profile military entity in Saudi Arabia. The agreement also includes mission support equipment and training.

Product Types Covered:

Handheld Thermal Scanners

Fixed/Mounted Thermal Scanners

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Wearable Thermal Scanners

Wavelengths Covered:

Long-Wave Infrared (LWIR)

Mid-Wave Infrared (MWIR)

Short-Wave Infrared (SWIR)

Technologies Covered:

Uncooled Thermal Scanners

Cooled Thermal Scanners

Infrared Thermal Imaging

Bi-Spectrum Thermal Imaging

Multi-Spectrum Thermal Imaging

Hyperspectral Thermal Imaging

Applications Covered:

Human Temperature Screening

Predictive Maintenance

Process Control

Crowd Monitoring

Perimeter Security

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- Night Vision Navigation
- Fire Detection
- Equipment Diagnostics

End Users Covered:

- Healthcare & Life Sciences
- Aerospace & Defense
- Energy & Utilities
- Manufacturing
- Transportation & Logistics
- Smart Buildings & Infrastructure
- Law Enforcement & Border Control

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany
  - UK

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- Italy
- France
- Spain
- Rest of Europe

Asia Pacific

- Japan
- China
- India
- Australia
- New Zealand
- South Korea
- Rest of Asia Pacific

South America

- Argentina
- Brazil
- Chile
- Rest of South America

Middle East & Africa

- Saudi Arabia

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UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:
- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2024, 2025, 2026, 2028, and 2032
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

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Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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