

Global X-Ray Detector Market: Analysis By Technology (Flat panel detector, Computed Radiography, Line Scan detector and CCD detector), By Application (Medical, Industrial, Security and Veterinary), By Region Size & Forecast with Impact Analysis of COVID-19 and Forecast up to 2027

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Abstracts

X-ray detectors measure various properties of X-rays, including flux, spatial distribution and spectrum. They are used in a wide range of applications such as medical, security, and nondestructive quality inspection in the manufacturing sector and astrophysics. These devices are known as scintillators, and when used in conjunction with a photomultiplier tube they can easily detect the burst of light from a single X-ray photon. In 2021, the global x-ray detector market was valued at US\$5.54 billion, and is probable to reach US\$7.86 billion by 2027.

Price reductions, improved image quality due to technological advancement, and strong support from venture capitalist firms for providing funds are also expected to drive market growth over the next coming years. The x-ray detector market is projected to grow at a CAGR of 6.01%, during the forecast period of 2022-2027.

Market Segmentation Analysis:

By Application: According to the report, the global x-ray detector market is segmented into four applications: Medical, Industrial, Security and Veterinary. Medical segment acquired majority of share in the market in 2021, due to the growing geriatric population, increasing number of orthopedic, mammography and cardiovascular procedures and technological advancements in x-ray devices. On the other hand, industrial segment is

expected to have the highest CAGR in the future due to the various computed radiography vendors who improved digital radiography scanners, phosphor imaging plates, and software programs.

By Technology: The report splits the global x-ray detector market into four technology: Flat panel detector, computed radiography, line scan detector and CCD detector. In 2021, Flat panel detector segment held the maximum share in the market, due to various benefits such as easier positioning during clinical studies, lack of geometric distortion and chemical processing, etc. However, CCD detector is predicted to have the highest CAGR in the future because these detectors are highly sensitive photon detector used in digital radiography for the indirect conversion of X-ray photons into an electric charge.

By Region: According to this report, the global x-ray detector market can be divided into five major regions: Asia Pacific (China, Japan, India, South Korea and Rest of Asia Pacific), North America (The US, Canada and Mexico), Europe (Germany, UK, France, Italy, Spain and Rest of Europe), Latin America and Middle East and Africa. The North America x-ray detector market enjoyed the highest market share in 2021, primarily owing to the presence of well-developed healthcare facilities, high R&D investment by major players, and rising medical imaging procedures leading to the growth of x-ray detector market in countries like the US and Canada.

While the US continues to be a prominent region of North America x-ray detector market, accounting for rapid technological development in the medical field has led to the development of advanced X-ray detectors. In addition, the focus is on improving health and combating the negative effects of chronic diseases.

Global X-Ray Detector Market Dynamics:

Growth Drivers: The rapid economic development and increasing healthcare expenditure in several emerging countries, such as China, India, Brazil, and Mexico, are expected to improve access to quality healthcare in these countries. This is considered a positive indicator for the X-ray detectors market. Further, the market is expected to increase due to growing geriatric population, surge in various diseases, uses of x-ray detectors in different industries, rise in demand for digital imaging technology, favorable reimbursement policies for x-ray diagnostics, etc.

Challenges: Many hospitals in developing countries cannot invest in X-ray detectors equipment (such as X-ray detectors units, high-end CT scanners) due to budget

constraints, high equipment costs, and poor reimbursement rates. The other challenge that x-ray detector market face is high cost of x-ray test equipment, health hazards of full body scanning, etc.

Trends: A major trend gaining pace in x-ray detector market is wireless x-ray detectors. The fantastic mobile X-ray test operates independently while taking x ray images on the spot. Furthermore, because it does not include any cables, this x-ray scanner simplifies the process of sterilizing the detector. More trends in the market are believed to augment the growth of x-ray detector market during the forecasted period include artificial intelligence in radiology for x-ray and CT scan image analysis, flexible x-ray detectors made from metal-organic frameworks, robotic x-ray imaging system (RTG), etc.

Impact Analysis of COVID-19 and Way Forward:

COVID-19 had a short-term impact on global x-ray detectors, but it is expected to have no long-term impact. In the short term, elective procedures were delayed because countries diverted their healthcare resources to combat the pandemic. The market's supply chain was disrupted as many countries went into lockdown, preventing manufacturers from transporting devices. However, the market recovered due to increased demand for x-ray detectors, and various trends were observed in markets such as security, industrial, and so on.

Competitive Landscape and Recent Developments:

The x-ray detectors market is fragmented with the presence of a large number of players majorly dominating worldwide. Key players of the x-ray detectors market are:

Varex Imaging Corporation

Agfa-Gevaert N.V. (Agfa)

Hamamatsu Photonics K.K

FUJIFILM Holdings America Corporation

Konica Minolta, Inc.

Teledyne Dalsa

Canon Medical Systems Corporation

Rayence Inc.

Vieworks Co., Ltd.

Carestream Health

Analogic Corporation

Careray Digital Medical Technology Co., Ltd.

iRay Technology Company Limited

Trixell Organization

The key players are constantly investing in strategic initiatives, such as new product launches, introducing their products to emerging markets and more, to maintain a competitive edge in this market. For instance, Thales Group launched Pixium 3040F at ECF 2021 in March'2021. The product offers optimized spatial resolution, high image quality, superior sensitivity and higher contrast at low doses. Also, in August 2020, Carestream launched a new DRX-L detector for long-length digital radiography, enabling imaging centers and hospitals specializing in long-length imaging to increase efficiency while decreasing dose and patient discomfort. This strengthened its X-ray detectors' portfolio.

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