Global Radiation Detection Market is Expected to Reach $2,649.2 million by 2030 – Astute Analytica

CHICAGO, UNITED STATES, October 26, 2022 /EINPresswire.com/ -- The global radiation detection market size was US$ 1,703.0 million in 2021, which is expected to grow to US$ 2,649.2 million by 2030. The global radiation detection market is expected to grow at a compound annual growth rate (CAGR) of 5% during the forecast period, i.e.,2022-2030.

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Radioactive materials find applications in power production, medical research, industrial processes, defense, and medical imaging industries. The wide range of applications of radioactive materials will pave the path to a new future in the global radiative detection market. Radioactive materials are used to analyze the presence of radiation in the spaces. Further, the fact that radiation can lead to disasters like the Three Mile Island accident (1979) and the Chornobyl Disaster (1986), will significantly drive the demand for radiation detection technologies. Steadily growing measures taken by government bodies to enhance the security of workers will drive the market for radiation detection. Safety concerns related to post-nuclear disasters and the steadily increasing prevalence of cancer due to extreme exposure to radiation will necessitate the use of radiation detectors. On the flip side, the rising use of nuclear energy alternatives, including renewable resources, may limit the demand for radiation detection technologies during the study period.

Factors Influencing the Market

The first-ever usage of radiation detection devices is dated back to 1896 when Henri Becquerel used it to verify the presence of radiation. Since then, radiation detection has gained vital importance. The 2021 edition (WEO 2021) states that the IEA's 'Stated Policies Scenario' foresees installed nuclear capacity to reach nearly 525 GWeby 2050 by growing over 26% during the period of 2020 to 2050. Moreover, the same source foresees the total generating capacity to reach 17,844 GWe by 2050, with a high increase in India and China.

Moreover, growing terrorist activities and the steadily growing use of radioactive materials the serious matter of concern. One such example is the Fukushima Daiichi nuclear accident in 2011 that occurred at the Fukushima Daiichi plant in northern Japan, which is claimed to be the second-worst nuclear accident till now.

A diverse range of activities in the defense sector can lead to large exposure to radiation, such as the supervision of nuclear weapons, nuclear waste transportation, and storage. The main sources of the radiation emission are nuclear ships, depleted uranium-made weapons, military equipment, submarines, etc. As a result, it raises the significant need to adopt radiation detection to limit the impact of radiation on health. Moreover, the devices dedicated to radiation detection must provide precise data, which raised a high need for technological developments. Additionally, the rising need for radiation detection devices having lighter weight, smaller size, longer useful life, and high reliability will bring attractive prospects for market growth during the analysis period.

Challenges Ahead
The radiation detection market can face various challenges due to the growing popularity of alternative energy sources like natural gas, hydrogen, solar power, and thorium. Australia, Turkey, India, and United States, together, make up 59% of the global thorium reserves. Thorium is widely used as a fuel, whereas just 1% of the mined uranium is used as a fuel globally. Meanwhile, thorium is considered less harmful, and it produces less waste.

Impact of COVID-19
Radiation detection can help prevent exposure to excessive radiation caused during the testing of COVID-19 through imaging equipment. Therefore, the market recorded potential growth due to the sudden rise in the testing process. On the flip side, the pandemic affected the supply chain due to restrictions imposed for a prolonged period. It also created shortages of raw materials, such as plastics, metals, glass, and electronics, which, in turn, complicated the growth of the market.

Segment Overview
Based on Detection Type, the Scintillators segment is will grow at the highest CAGR of 5.6%
Based on detection type, the gas-filled detectors segment leads with the highest share of 55.3% in 2021, while the scintillators segment is expected to record significant growth by registering the highest CAGR of 5.6%, owing to the reliability and efficiency of scintillators. Moreover, it is claimed to be the better technology for contamination monitoring as opposed to gas-filled detectors. Therefore, the scintillators segment will lead in the coming years by registering the highest CAGR of 5.6%.

The Healthcare segment leads with the highest market share in 2021
Based on end users, the healthcare segment leads with an excellent share of 44.9% in 2021 in the radiation detection market, owing to the high use of medical imaging in the healthcare

segment. Apart from that, the Homeland Security and Defense segment is estimated to grow at the highest compound annual growth rate (CAGR) of 5.3% during the forecast period, owing to the increasing concerns related to national security and growing territorial stress between nations.

The Asia-Pacific radiation detection market to record the highest CAGR for the forecast period North America accounted for the highest share of 35.2% in 2021, standing at US$ 598.9 Mn in 2021, while the Asia-Pacific radiation detection market is estimated to grow at the highest CAGR of 5.7%, and reach the value of US$ 270.6 Mn. China and Japan contribute the highest to the Asia-Pacific radiation detection market because of the reasons like growing rate of government organizations working on nuclear medicine, such as the China Society of Nuclear Medicine.

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Key Market Players
Some of the key market players in the global radiation detection market are HORIBA, Ltd., Mitsubishi Electric Group, IBA Worldwide, Thermo Fisher Scientific, Fortive Corporation, Fuji Electric, Hamamatsu Photonics, and others.

Segmentation Overview
Global Radiation Detection Market is segmented on the basis of product type, end user, detection type and region. These segments are sub-divided to get a holistic picture of the market.

Following are the different segments of the Global Radiation Detection Market:
By Product
Radiation monitoring post
RI monitors
Radiation detector and analyzers
Portable radiation survey meters
Others

By End User
Healthcare
Homeland Security and Defense
Nuclear Power Plants
Others

By Detection Type
Gas-filled Detectors
- Geiger-Muller Counters
- Ionization Chambers

- Proportional Counters

Scintillators
- Inorganic Scintillators
- Organic Scintillators

Solid-state Detectors
- Semiconductor Detectors
- Diamond Detectors

By Region
North America
The U.S.
Canada
Mexico

Europe
Western Europe
The UK
Germany
France
Italy
Spain
Rest of Western Europe
Eastern Europe
Poland
Russia
Eastern Europe

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

Middle East and Africa
UAE
Saudi Arabia
South Africa
Rest of MEA

South America

Argentina
Brazil
Rest of South America

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