

## **NanoMarkets: Radiation Detection Materials Industry Sees \$2.7 billion Opportunity in 2016**

**Glen Allen, Virginia:** Industry analyst firm NanoMarkets has just released a new report on the radiation detection materials market. The report quantifies the market for scintillation, thin-film, and semiconductor detection materials used for domestic security, military, medical imaging, nuclear power, science and geophysical applications. Also included is an in-depth assessment of the opportunities for a broad range of materials including sodium iodide, lanthanum bromide, cesium iodide, strontium iodide, cadmium compounds, silicates, halides, oxides, plastics/polymers, GaAs and nanocrystals among others.

The report contains more than 40 separate eight-year forecasts of the radiation detection materials market with detailed breakouts by material and applications. It also discusses the activities and strategies of leading firms active in this space.

Among the firms mentioned in this report are Alpha Spectra, Canberra Industries, GE, Hamamatsu, Hilger, Hitachi, Horiba, Kodak, Lambda Photonics, NuSAFE, Omega Piezo, ORTEC, Radcom, Redlen, REXON, Saint Gobain, Samsung, SIAC and Varian.

Additional details about this report, Radiation Detection Materials Markets – 2011 are at <http://tinyurl.com/3pnoalp> [1].

### **Key Findings:**

While the overall market for radiation detection is expected to experience only modest growth NanoMarkets sees considerable opportunity for higher-performance and lower-cost radiation detection materials to meet demand from domestic security and medical imaging markets. Both of these markets are making more use of radiation detectors and have growing needs for higher sensitivities and mobile detection systems; needs that only detectors based on new materials can satisfy.

Scintillation-based radiation detectors currently represent more than 70 percent of the radiation detector market and will remain the only cost-effective radiation detection solutions in many cases. However, users are looking for these systems to provide better light output and linearity as well as energy resolution. As a result, NanoMarkets believes that there will be strong demand for detectors based on novel materials – such oxides, simple salts, silicates and plastics -- that can help meet these needs.

Semiconductor detectors will mostly stay the detector of choice for high-performance applications. But according to the NanoMarkets report, this part of market is desperately in need of new materials that are less expensive; materials for semiconductor detectors can cost ten times those for scintillation detectors. There is also strong demand for detectors in this class that need less sophisticated

cooling systems that can be easily provided outside of the laboratory.

These requirements for semiconductor detectors will mean that the high-performance germanium (HPGe) that is now dominant in this segment will lose share to other materials. CdZnTe (CZT) is seen as having considerable promise as a room temperature radiation detector, but there will be strong growth from silicon and GaAs detectors too. According to NanoMarkets, CZT will not just displace current HPGe units, but will expand the addressable markets for high-performance detectors into areas where scintillation detection is current exclusively employed.

## **About NanoMarkets:**

NanoMarkets tracks and analyzes emerging market opportunities created by developments in advanced materials. It provides regular and comprehensive industry analysis of the latest commercial technologies in the electronics and energy sectors and other related areas and is recognized worldwide as a leading source of industry analysis in these areas.

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## **Links:**

[1] <http://tinyurl.com/3pnoalp>