Defentect
Intelligent Threat Awareness

Product Overviews

Defentect Architecture

Defentect provides new threat-awareness solutions integrating broadly deployed radiation sensors and flexible messaging to inform first responders, protect facilities and safeguard infrastructure from dangerous radiological exposure. Based on a distributed network of solid state Gammatect™ radiation sensors, the system protects and defends by sending real-time notifications to security command centers when the presence of threat-level gamma rays is detected. The integrated Defentect DM3™ system enables customers to add radiation and other threat-event detection capability to their security systems. Sensors can be strategically positioned adjacent to existing surveillance cameras, enabling visual identification of threats. Integral to Defentect's DM3™ management and monitoring software is a messaging system that sends customized highly configurable alerts when any anomaly is detected.   Administrators can designate alerts to be triggered to cell phones, pagers, PDAs or other devices through text messages, calls or e-mail.

Defentect combines passive surveillance and active alerts when a threat is detected. No special training or added security staff is required. DM3™ is designed to overlay onto existing surveillance infrastructure. It is built to avoid the common pitfalls of innocent positive alerts from legitimate medical low-level radioactive sources. DM3™ is easily integrated with the full complement of data-based security systems, from stand-alone to enterprise-level solutions. Threat-event alerts are generated to multiple user accounts with various privileges.

Defentect DM3™ Software

Defentect's DM3™ is the management, monitoring and messaging software central to Defentect's solutions. DM3™ enables customers to add radiation detection and other threat-event sensors to existing security systems, controlling video surveillance cameras to document the location and nature of a threat. Communication features of DM3™ provide the ability to receive and process data over a network from sensors to an incident command center as well to PDAs, cellphones or pagers. The addition of strategically placed Gammatect Plus™ sensors enables Defentect to identify the isotope causing the radiation, providing control over false positive alarms. Defentect's threat-event detection network integrates data from broadly deployed radiation sensors to protect facilities and safeguard infrastructure from dangerous radiological exposure. Defentect's DM3™ is networked using IP and managed over the Web. When high-energy gamma rays from dirty bomb components interact with Defentect's Gammatect™ family of sensors, DM3's™ proprietary algorithms analyze the data and alert authorities to radiation that may pose a security threat.

Gammatect™ Sensors

Gammatect™ solid state sensors detect gamma radiation above 20 mR/hr in less than one second and will detect a dirty bomb made with 60 curies of Cesium-137 at a distance of 29.5 meters, or about 100 feet. Sensors can be positioned adjacent to security cameras to provide visual identification of a threat. They can be hidden above ceilings or behind walls to prevent

compromise by terrorists. Gammatect™ has been validated at highly respected commercial radiation laboratories, including Oak Ridge National Laboratories.

Gammatect Plus™ Sensors

Gammatect Plus™ is a scintillator-based sensor enabling real-time alerts and gamma radiation isotope identification in an unattended perimeter or portal network. During a high radiological count event, isotope ID and date are sent to a remote command center, triggering an alarm. System administrators can designate alerts to be triggered to PDAs, cell phones, pagers or other mobile clients. Gammatect Plus™ combines passive surveillance with active alarms and can be set to ignore medical or other benign environmental isotopes. Even high radiation areas may be monitored since the system automatically subtracts predictive background radiation. Set in 'patient mode,' individuals undergoing medical treatments pass without triggering innocent alarms. Gammatect Plus™ set in 'patient mode' won't alarm for isotopes below 500 keV.

How does the Defentect DM3™/Gammatect™ system work?

Defentect's DM3™ is an integrated protective architecture for sensing, data management, alert and response. Gammatect™ sensors protect by detecting gamma radiation. They are integrated into a data network, providing rapid and accurate reporting of sensor readings to a central command center, enabling coordination of response team efforts. The incident command center stores, analyzes, displays and shares data collected from all deployed sensors. It logs and transmits a complete history of sensor position, total radiation dose rate and alarms. Communication options provide the ability to receive, process and transmit all data over the web from the radiation sensor to the command center as well as to handheld clients.

What is the sensitivity level of Gammatect™ & Gammatect Plus™?

Using a Cesium-137 beam irradiator, testing indicated that Gammatect™ sensors detect gamma radiation above 20 mR/hr in less than one second and will detect a dirty bomb made with 60 curies of Cesium-137 at a distance of 29.5 meters, or about 100 feet. Gammatect Plus™ can detect a 150 µCi (microcuries) at 50 feet. A threat-level source of 60 – 100 Ci could be identified thousands of yards away or more than a mile away. High radiation areas may be monitored since the system automatically subtracts predictive background radiation. Set in 'patient mode,' individuals undergoing medical treatments pass without triggering innocent alarms. Gammatect Plus™ set in 'patient mode' won't alarm for isotopes below 500 keV – the measure of energy within an isotope. (Kiloelectron volts are a unit of energy in diagnostic radiography and nuclear medicine, equivalent to the kinetic energy gained by an electron falling through a potential of 1 volt.)

For more information, please contact:

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