

## **CBRNE (Chemical, Biological, Radiological, Nuclear And Explosives) Detection Devices : Markets Reach \$9.8 Billion by 2022**

LEXINGTON, Massachusetts (September 2, 2016) – WinterGreen Research announces that it has published a new study CBRNE (Chemical, Biological, Radiological, Nuclear And Explosives) Detection Devices: Market Shares, Strategy, and Forecasts, Worldwide, 2016 to 2022. The 2016 study has 1,208 pages, 512 tables and figures. Worldwide CBRNE markets are poised to achieve significant growth with the use of detectors that are implemented as platforms, many of them handheld, used to help implement precision detection of intent to do harm to civilian populations or military personnel.

Chemical warfare agents (CWAs), toxic industrial chemicals (TICs), toxic industrial materials (TIMs), hazmat agents are problems in civilized society when terrorists target civilian populations as has happened recently in Boston, Paris, Asia, Syria, London, and Belgium. The risks associated with terrorist use of chemical, biological, radiological, nuclear and explosive (CBRNE) warfare are tremendous.

Growing use of CBRNE detection devices to try to protect civilians is encouraging, because it gives a sense of being able to protect people, whereas previously everyone has felt terribly vulnerable. Watchfulness in the context of terrorist threats is encouraging because the terrorist behavior is concerning.

Expanding threats require more first responder CBRNE detection devices and more vigilance from the first responders as they learn to use the devices. CBRNE detection teams and hazmat response are provided by first responders to help protect civilian populations.

Advanced handheld analytical technology permits first responders to be capable of proactive performance in a hot zone. Handheld devices allow for faster detection, response and continuous monitoring of both conventional and unconventional threats helping to ensure public safety and response team protection.

An abundance of new research and development in sensors and technology permits detection of a hazardous substance that may have been planted by a terrorist. Detection



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and identification of CBRNE at a distance becomes a way to protect first responders responsible for finding the hazmat. The significance of detection is increasing as governments and military organizations recognize the need to more efficiently identify and categorize chemicals, explosives, biological agents, radiology and nuclear materials and other threats. The ability to manage separate detection devices creates the need for device integration.

Worldwide, government agencies and military branches are tasked with the formidable job of identifying evolving threats to national security such as concealed explosives, improvised explosive devices (IEDs), and airborne chemical and biological materials – without putting equipment or people in harm’s way. Lasers and optical techniques are of critical importance as they are used to implement standoff detection technology for their ability to passively and actively probe threats near and far.

Threat Detection: Chemical, Biological, Radiological, Nuclear and Explosive detection is a fundamental responsibility of governments worldwide. New technology is necessary, less expensive techniques for detection are needed. Domestic and foreign terrorists continue to pose serious threats to the United States. U.S. citizens at home or traveling abroad can be targets, as can infrastructure (roads, bridges, IT systems) and trade ports. CBRNe detection devices are on the front line of evolving protection practices.

Emergency responders are distributed throughout every country are the primary users of the CBRNe devices along with the military. The first responders work in the military and they work in small communities; they work in large cities. All first responders need reliable and interoperable chemical, biological, radiological, nuclear, and explosive (CBRNE) detectors to protect life and property.

Since September 2001, emergency responders are far better equipped to face these threats. Their detection systems, communication and protective gear are better designed for counterterrorism.

In the US, NIST and the Department of Homeland Security continue to address critical needs for standards that identify performance metrics for gear, instruments and systems used in threat detection. In the US, NIST's National Security Standards Program supports and coordinates development of test methods, performance standards, guidance and training for systems and gear that protect against CBRNE threats to ensure that:



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According to Susan Eustis, lead author of the study, “Use of CBRNE represents a key milestone in provision of value to the governments charged with protecting large civilian populations. Customized cameras, multiple different types of sensors, and new chemistry approaches are used to address protection in venues everywhere. Smaller, lighter systems further automate detection. Spending on CBRNE detection devices was recently upgraded in response to random weekly terrorist attacks in various parts of the world.”

The worldwide market for CBRNE (Chemical, Biological, Radiological, Nuclear And Explosives) at \$2.2 billion in 2015 is anticipated to reach \$ 9.8 billion by 2022. Market growth is driven by the vulnerability of civilian populations to the whim of terrorist attacks. CBRNE represents a cohesive response to a scattered threat. As such, there are many different detection devices that need to be available in any one place to address safety issues.

Multiple applications drive market growth, most of all integrated devices that promote ease of use. White powder identification and standoff systems are significant. Applications for CBRNE are in law enforcement, the military, border control, homeland security, building surveillance, concert protection, sports arena protection, fire department use, utility infrastructure surveillance, and delivery systems. These application areas are identified and forecast in the market research study.

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