



Homeland Security at Sandia National Laboratories

Sandia National Laboratories is a premier science and engineering national laboratory that provides technical solutions to the most challenging problems that threaten peace and freedom. *Our primary mission always has been to ensure the safety, security, and reliability of the nation's nuclear weapon stockpile.* In carrying out this mission, Sandia has built a dedicated, innovative core of scientists and engineers and a vast technology base. Many of the technologies and capabilities developed by Sandia for U.S. weapons and nonproliferation programs support the Department of Homeland Security's mission of *defending our nation against terrorist threats.*



Sandia has pioneered many of the bomb-disablement techniques used by first responders

A Sampling of Sandia Technologies

- In response to the September 11th attacks, Sandia sent a team to Ground Zero to instrument K-9 rescue units with video and audio equipment so that rescue dogs searching confined spaces could transmit live images and sound to their handlers.
- A decontamination formulation developed by Sandia was used to neutralize anthrax in government office buildings and other contaminated sites in New York City and Washington, DC. The formulation, which is non-toxic and environmentally friendly, is available commercially.

- A surgically precise bomb disablement system developed by Sandia explosives experts is used to disable improvised explosive devices, without detonating the explosives, thereby preserving forensic evidence. The system was used to disable a device found at the Unabomber cabin in Montana and the shoe bombs removed from a trans-Atlantic flight.



Search and rescue at the World Trade Center

"In spite of everything we have done, we are only at the beginning of what will be a long struggle to protect this country from terrorism."

Homeland Security Secretary Tom Ridge, January 2003



Sandia's decontamination formulation neutralizes chemical and biological agents



- A hand-held, microsensor-based explosives detection system developed by Sandia can detect trace amounts of explosives at airports, border crossings, military bases, or any high-risk facility or event. Similar technology includes a walk-through explosives detection portal developed for the Federal Aviation Administration and a vehicle portal.
- A chemical sensor developed by Sandia provides a self-contained, hand-held “lab in a chip” that detects and analyzes chemical and biological agents that could be used in terrorist weapons.
- A radiation assessment system developed at Sandia detects and identifies radioactive materials, quickly determining whether the radiation is from an innocuous source such as a medical or industrial isotope or from a source of concern such as plutonium. It can be used at international ports of entry, including passenger terminals, vehicle crossings, maritime ports, and package distribution centers.



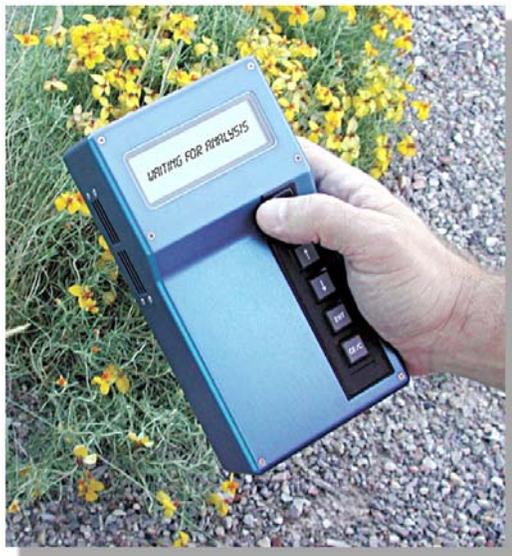
A commercialized version of Sandia's explosives detection portal provides walk-through screening of personnel

A Systems Approach

Sandia combines decades of experience in physical protection with state-of-the-art modeling and systems analysis to meet the complex challenge of protecting high-value U.S. facilities, resources, and special events.

Commercial Partners

As part of its role in developing technologies “with a mission in mind,” Sandia often works closely with industrial partners to transform research and development projects into commercial products. Sandia’s *decontamination formulation* and its *explosives detection portal* are excellent examples of technology transfer to the private sector.



MicroChemLab™ detects chemical and biological agents

“The U.S. government has no more important mission than protecting the homeland from future terrorist attacks.”

President George W. Bush

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Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy’s National Nuclear Security Administration under contract DE-AC04-94AL85000.

SAND2003-0949P