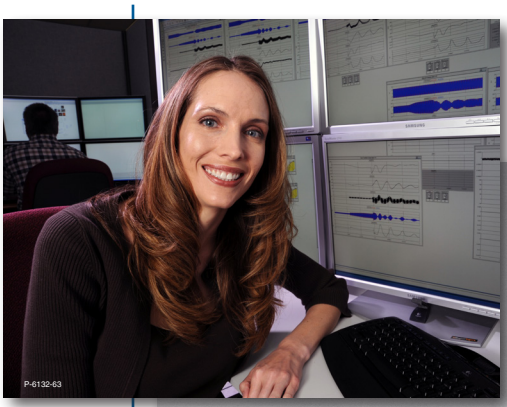

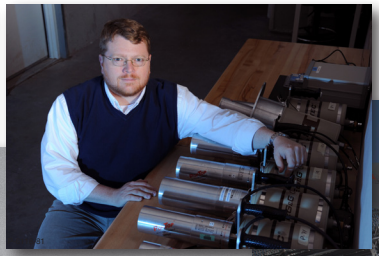

From its early days as a Naval gunnery range to more recent missions, INL has contributed significantly to national security.

National and Homeland Security

Since its inception in 1949, Idaho National Laboratory has created products and developed solutions that are saving lives from the home front to the battlefield. INL's national security missions focus on protecting the nation's critical infrastructures and preventing the proliferation of weapons of mass destruction.

Within both areas, INL leverages its scientific expertise, engineering discipline and unique infrastructure to develop military, homeland security, energy and industry solutions.

Control Systems Cybersecurity

For nearly a decade, INL has been performing cutting-edge research, conducting vulnerability assessments, developing innovative technology and providing leadership to increase infrastructure resiliency. With a strong emphasis on industry collaboration and partnership, we are enhancing electric grid reliability, control systems cybersecurity and physical security systems.

On our 890-square-mile Critical Infrastructure Test Range, INL researchers conduct resiliency exercises and experiments from conceptual design to full-scale demonstration. INL also has access to a utility-scale powergrid, substations, unique real-time modeling and simulation systems, and vendor-supplied Supervisory Control and Data Acquisition (SCADA) systems for demonstration and deployment exercises.

Wireless Communications

In addition, we own and operate an unmatched communications network designed to research and test cellular, mobile and emerging Internet communication protocols and technology. Our wireless engineers operate both fixed and mobile 3-G platforms that allow testing and demonstration within a range of experimental frequencies in a low-background environment.

Our power and cyber engineers are widely recognized for their efforts to improve the security

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The Energy of Innovation
Idaho National Laboratory

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of current and next-generation industrial control systems and component devices. And cyber team members work to develop cutting-edge defensive strategies against exploits, malware and zero-day attacks by analyzing protocols, developing code and applying reverse engineering.

We routinely conduct advanced cyber training and oversee simulated competitive exercises for national and international customers. And we support cybersecurity and control systems programs for the departments of Homeland Security, Energy and Defense. Our staff is frequently asked to provide guidance and leadership to standards organizations, regulatory agencies and national policy committees.

Physical Protection

Since 1985, INL has been the Army's lead manufacturer of armor for the Abrams tank. Today, we're also designing and researching innovative armor packages to increase infrastructure survivability and outfit military vehicles with stronger, multi-hit protection. Our technical expertise focuses on improving armor performance, weight and production costs through the use of simple and exotic materials and configurations.

Engineers and explosives experts at INL work in tandem with the lab's armor researchers to fortify facilities against explosives threats. INL's remote, 10-acre explosives test range supports the preparation, detonation, measurement and analysis of large explosives effects such as blast pressure, shockwaves, vibrations and other signatures. Our researchers also support trace and forensic detection of explosives materials and validate commercial technology

Nuclear Nonproliferation

Building on INL's nuclear mission and legacy in reactor design and operations, our engineers are developing technology, shaping policy and leading initiatives to secure the nuclear fuel cycle and prevent the proliferation of weapons of mass destruction.

Under the direction of the National Nuclear Security Administration, INL and other national laboratory scientists are leading a global initiative to secure foreign stockpiles of fresh and spent highly enriched uranium and return it to secure storage for processing. Other engineers are working to convert U.S. research reactors and build new reactor fuels that replace highly-enriched uranium with a safer, low-enriched uranium fuel. To protect against threats from the dispersal of nuclear and radiological devices, our researchers also examine radiological materials to understand their origin and potential uses. Others have applied their knowledge to the development of detection technologies that scan and monitor containers for nuclear materials.

The laboratory's expansive desert location, nuclear facilities and wide range of source materials provide an ideal training location for military responders, law enforcement and other civilian first responders. We routinely support these organizations by leading classroom training, conducting field exercises and assisting in technology assessments.

Our scientists are also leading discussions and performing research to ensure future nuclear facilities are intrinsically equipped with modern safeguards and security policies, practices and technologies.

For more information

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Quick Facts

- National security programs focus on critical infrastructure protection and nuclear nonproliferation
- The lab has provided 60 years of national security service for customers including DOD, DHS, DOE and industry
- International expertise and recognition in a range of national security specialties
- The lab's 890-sqauare-mile site includes a utility-scale powergrid, explosives range, wireless test bed, nuclear reactors, hot cells and fuel treatment facilities
- INL is home to thousands of leading scientists, engineers and researchers just three hours north of Salt Lake City

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