National & Homeland Security at INL

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Idaho National Laboratory — Missions

Programs of National Importance

Nuclear Energy

- GNEP
- NGNP
- Space Nuclear

- *National Reactor and Fuel Cycle Laboratory and an International leader*

National & Homeland Security

- SCADA Work
- Grid Reliability and Security
- Wireless Communications
- Nuclear Nonproliferation

A leader in critical infrastructure protection and homeland security

Energy & Environment

- Clean Energy and Water
- Bio-fuels and Synfuels

A leader in developing solutions to energy, resources and infrastructure challenges in the State, Region and Nation

Technologies that Benefit Our Communities, State, Region and Country

Our N&HS Mission is Synergistic With the Nuclear Mission

- ***Development of National & Homeland Security technologies focused on Critical Infrastructure Protection (CIP) and Nuclear Nonproliferation***
- ***By 2014:***
  - *Center of Excellence for Critical Infrastructure Protection*
  - *Center of Excellence for Grid Reliability / Resilience*
  - *Center of Excellence for Nuclear Nonproliferation / Safeguards and Security*
- ***Principal Customers:***
  - *DOD/DHS/NNSA/DOE-OE*
  - *Industry (Critical Infrastructure Asset Owners)*

N&HS Focus Areas

Global Security	National Defense	Homeland Security	Special Programs	Energy Security

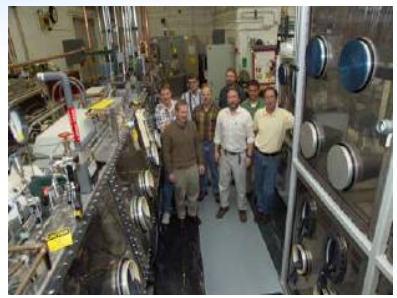
Focus Areas

SCADA / Cyber/ Power Grid

Wireless Technology

Unmanned Systems

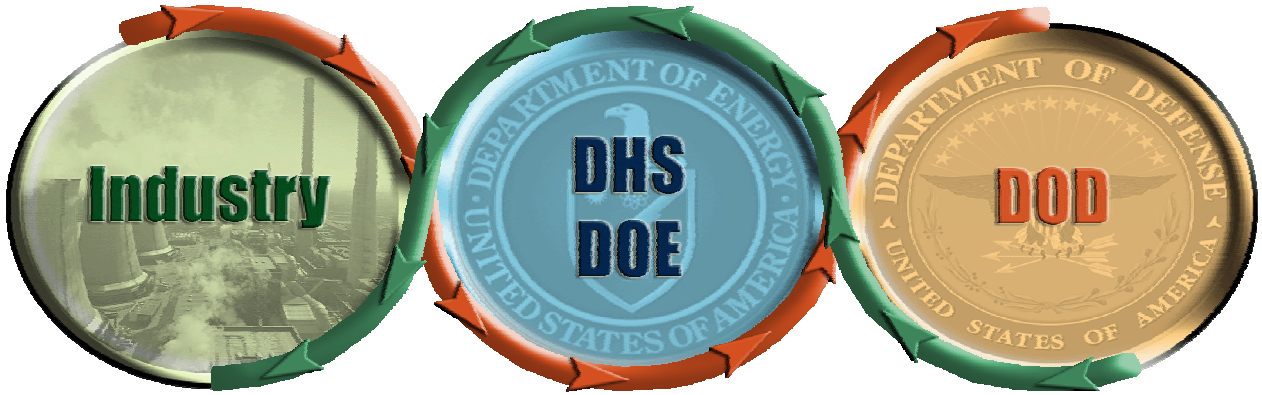
Explosives Detection & Testing



Nonproliferation / Safeguards & Security

Armor Development

Our Approach is Focused on Asset Owner and Warfighter Challenges



- ***Hire proven talent from relevant industries and national security organizations – builds domain expertise and credibility with customers***
- ***Adopt a science-based "Build-Test-Build" approach for early solutions, demonstrating customer value***
- ***Focus and prioritize resources and efforts on becoming "thought leaders" among providers.***

Our Expertise and Unique Infrastructure are Tailored to Address Threats

Process Control Systems / Power Engineering:

- *Supervisory Control and Data Acquisition (SCADA) Systems*
- *Relationship with equipment vendors (85% of electric sector)*
- *Link SCADA systems to real infrastructure*
- *Real Time Digital Simulators (RTDS)*

Communications:

- *Low electromagnetic background*
- *Spectrum of capabilities (HF, Cell, Microwave, Fiber)*
- *NTIA experimental station status (foreign frequencies)*
- *Tier 1 GSM Cellular Network*
- *True end-to-end testing in field*

Cyber Security:

- *Deep expertise and skills*
- *Linked Cyber Test Beds to other Test Beds*
- *Security Solution experience*

Physical Security

- *Chemicals and Explosives Detection (Trace; Bulk)*
- *Explosives Testing – Permitted in-house range*
- *Blast Effects/Survivability (Modeling & Testing)*
- *NNSA Center of Excellence for Vulnerability Assessment*
- *Light Weight Armor Development*
- *Unmanned Systems (UGV / UAV)*

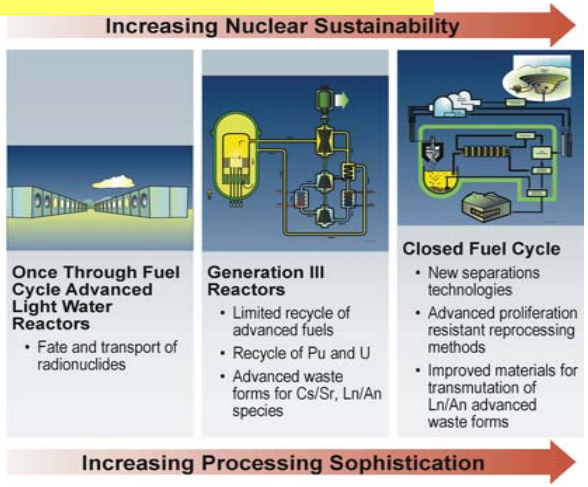
INL Core Competencies and Unique Assets for Nuclear Nonproliferation / Counterproliferation

- *U.S. Research Reactor Conversions (RERTR) (HEU to LEU)*
- *Russian Research Reactor Fuel Return*
- *Fuel Development / Testing*
- *Nuclear Materials Safeguards and Security*
- *Advanced Fuel Cycle Initiative*
- *Nuclear /Radiological Detection (Passive / Active)*
- *Nuclear Signatures and Forensics*
- *RDD Training*

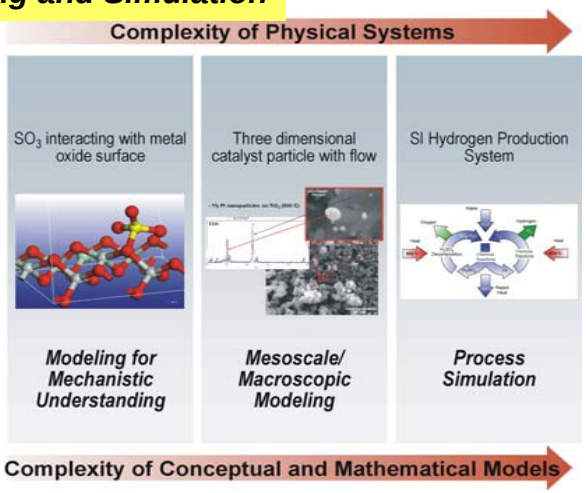
INL Core Competencies

I&C and Intelligent Systems

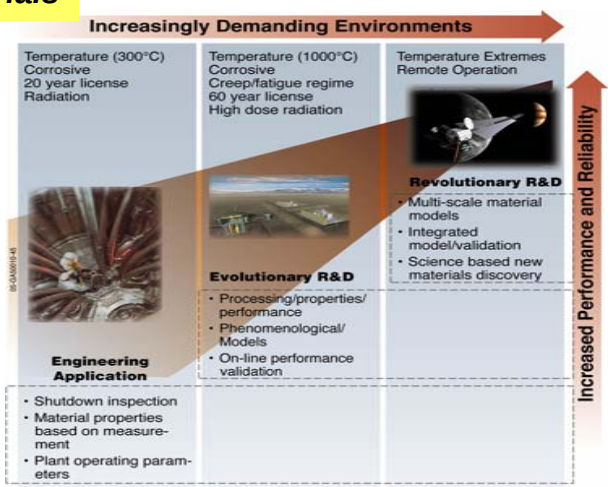
Separations and Actinide Science



Modeling and Simulation



Materials



The U.S. is faced with unprecedented National & Homeland Security challenges and INL offers expertise and unique infrastructure assets to make an impact.