SAND2008-4865P

Overview of Integrated Technologies & Systems (ITS)

Presented to

Stimson Task Force Workshop

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July 29, 2008

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-ACO4-94AL85000

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Sandia's Strategy is Connected to U.S National Security Strategy

Integrated Technologies & Systems (ITS) Strategic Management Group (SMG) Programs

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- Proliferation Assessment
- Remote Sensing & Verification
- Surveillance & Reconnaissance
- Integrated Military Systems
- Information Operations
- Science & Technology Products
- Space Mission

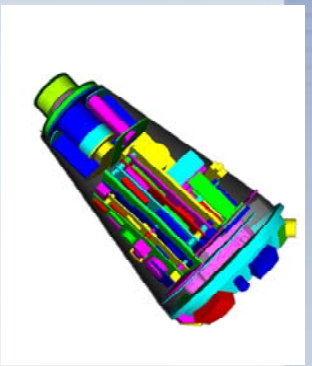
- Fuel & Water Systems
- Nuclear Energy
- Global Security
- Driving the Future
  - Office of Science
  - Breakthrough Science & Technology
  - Intrinsic Security
  - Systems Modeling & Analysis

- Catastrophic Event Mitigation
- Risk Management & Infrastructure Protection
- Homeland Defense & Force Protection

Synergy between NW and WFO: Radar Technology

NW Radar Fuze Tech Base

Before object installation

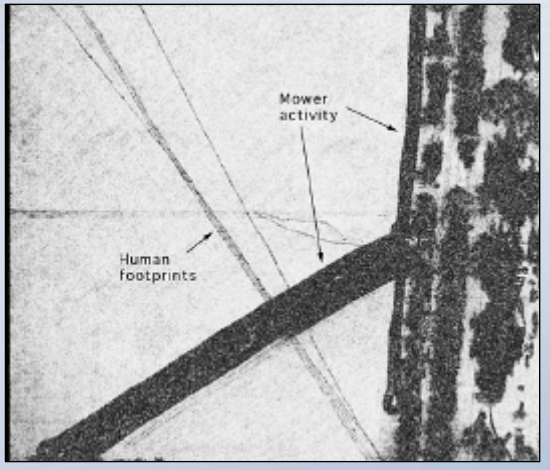


Advanced radar fuzing technology

Radar tech base originated with NW

Strengthened through WFO SAR development

Applied advanced technology for NW systems (B-61 and W76-1)



Synthetic Aperture Radar

Defense Systems & Assessments (DSA)
Strategic Management Unit (SMU) Programs

- Proliferation Assessment
- Remote Sensing & Verification
- Surveillance & Reconnaissance
- Integrated Military Systems
- Information Operations
- Science & Technology Products
- Space Mission

Predator UAV with SAR

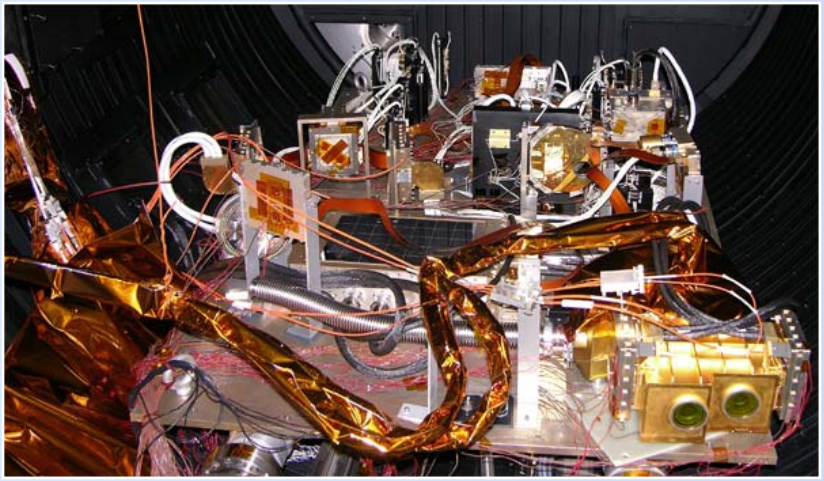
Support for Shuttle Return to Flight

SARCHASM view of Tres Hermanas (3 sisters) crevasses

Sensor Dart

Real-time SAR Images

DSA Accomplishments
Some recent examples…



HiFES ATE TVAC Testing

Shuttle Mission – ISS solar array

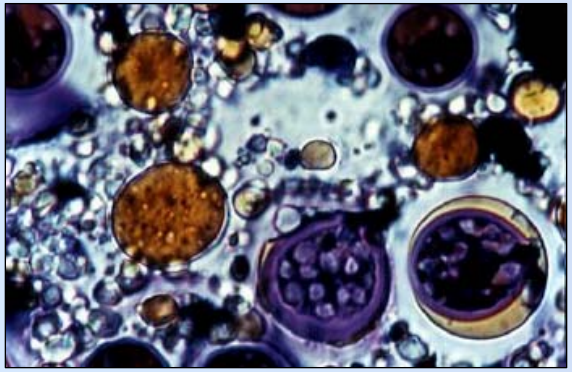
- Ground NDS Terminal (GNT) delivered GPS Block IIF upgrade to Northern Command
- Defense Support Program Launch
- Launch & Initialization of 50th Global Burst Detecti System on GPS

FTM-13 Launch

Energy, Resources, & Nonproliferation (ERN) SMU Programs

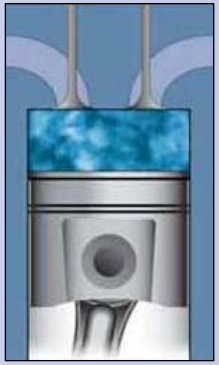
- Fuel & Water Systems
- Nuclear Energy
- Global Security

Yucca Mountain Project



Algae-Based Production of Biofuels

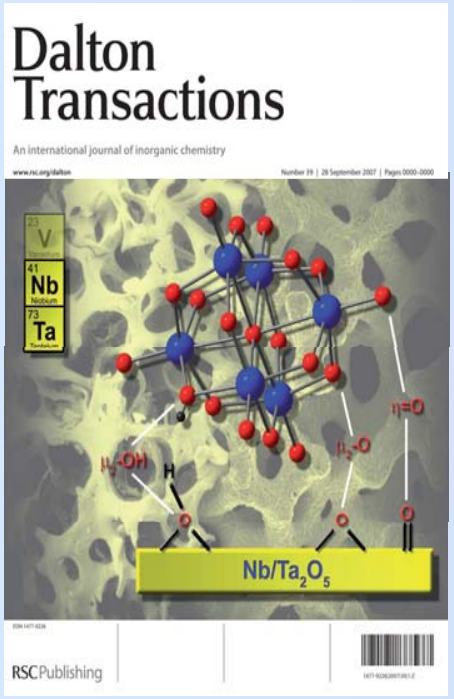
Center for Integrated Nanotechnologies (CINT)



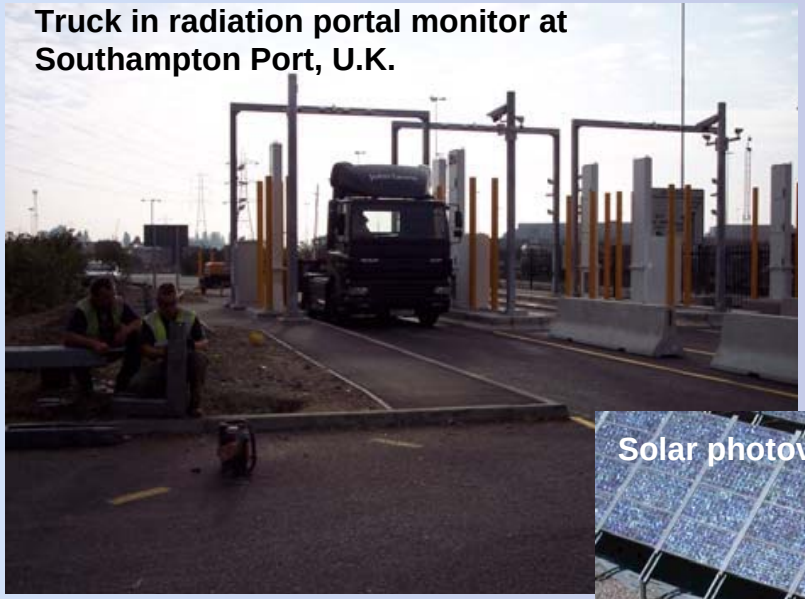
Homogeneous Charge Compression Ignition (HCCI) Engine

High Temperature Solid State Battery (HTSS10V)

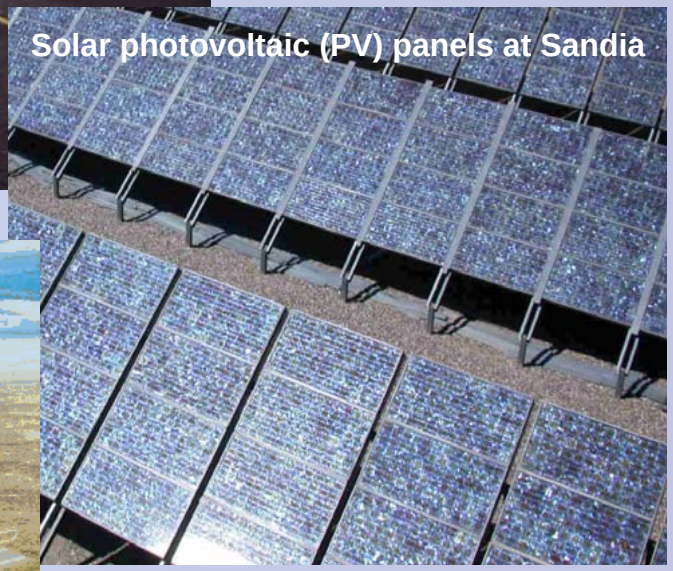
ERN Accomplishments
Some recent examples…



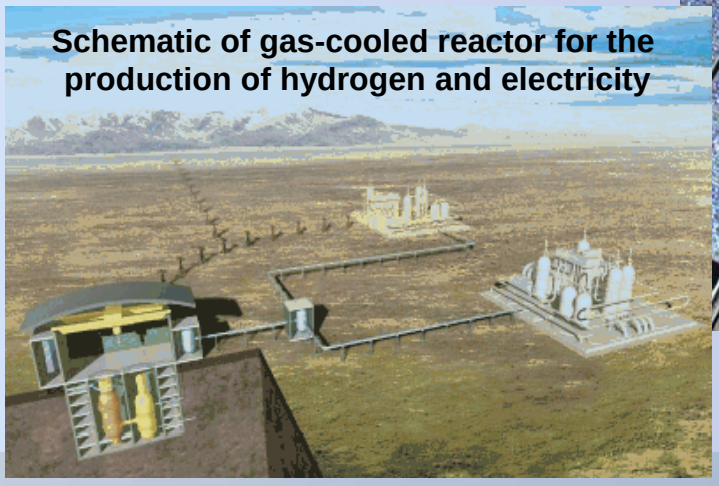
“Nano” material developed at Sandia



Truck in radiation portal monitor at Southampton Port, U.K.



Solar photovoltaic (PV) panels at Sandia



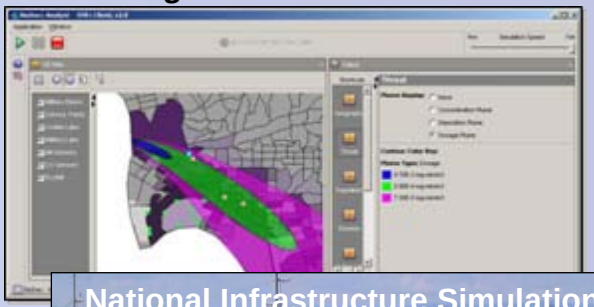
Schematic of gas-cooled reactor for the production of hydrogen and electricity

Homeland Security & Defense Programs (HSD) SMU Programs

- Catastrophic Event Mitigation
- Risk Management & Infrastructure Protection
- Homeland Defense & Force Protection

Trace Explosives Detector

Bioagent Release Model



SMART Radiation Detector

Perimeter Intrusion Detection & Assessment Systems (PIDAS)

Vehicle Barrier Testing

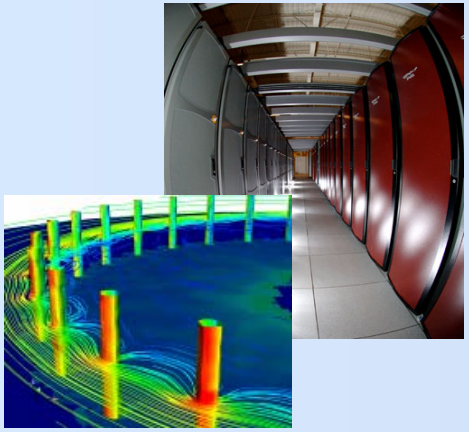
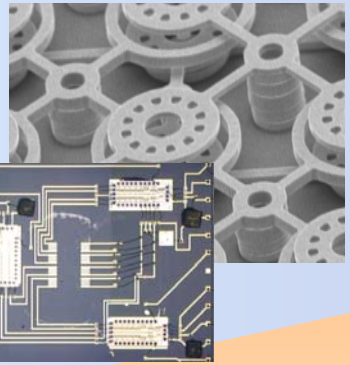
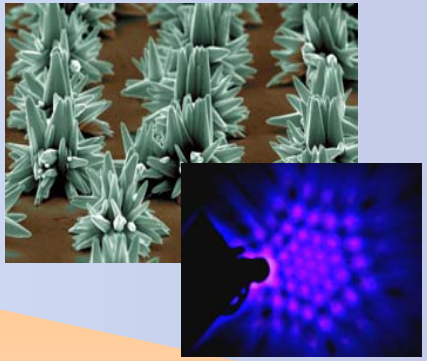
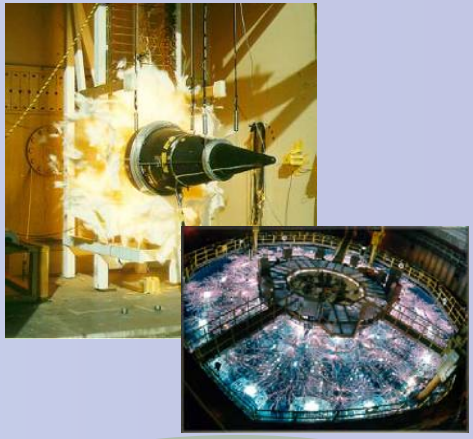
HSD Accomplishments
Some recent examples…

SNIFFER was successfully used at the 2008 Super Bowl event

Facility protection program for MDA: Interceptor at Fort Greely, Alaska

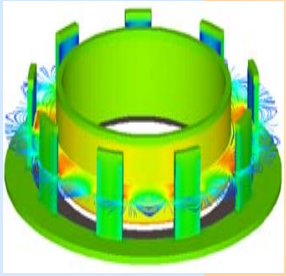
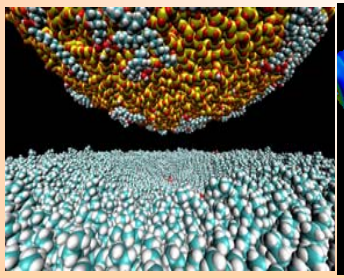
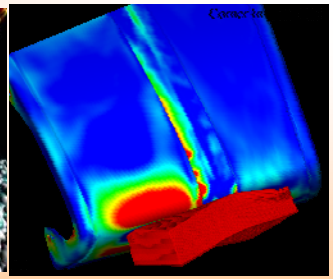
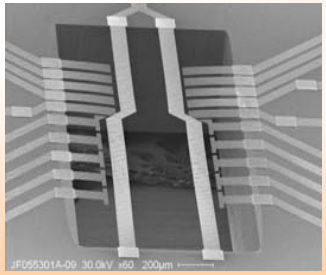
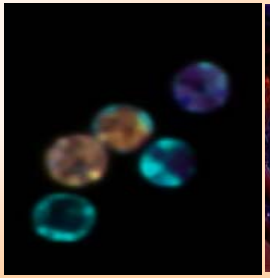
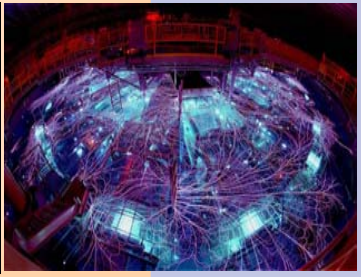
Sandia's Capabilities are Underpinned by 6 Research Disciplines

Strategic Capabilities

High Performance Computing | Microsystems | Nanotechnology | Extreme Environments

Computer Science | Materials | Engineering Sciences | Micro Devices | Bioscience | Pulsed Power

Research Disciplines

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