Sandia National Laboratories

Corporate Overview

and

Global Security Program

John C. Matter

Manager, International Physical Security

March 16, 2011

Exceptional Service in the National Intererst

National Labs and Production Sites

Pacific Northwest

Idaho

Fermi

Brookhaven

Lawrence Berkeley

National Renewable Energy

Ames

Argonne

National Energy Technology

Princeton

Lawrence Livermore

Sandia

KCP

Thomas Jefferson

Stanford Linear Accelerator Center

Los Alamos

Y-12

Sandia

Pantex

Oak Ridge

SRP

Savannah River

KEY:

⚙ = Production Sites

★ = NNSA Labs   ★ = Environmental Management

★ = Science   ★ = Fossil Energy

★ = Nuclear Energy   ★ = Energy Efficiency and Renewable

Sandia National Laboratories

Sandia's Sites

Albuquerque, New Mexico

Livermore, California

vada

Waste Isolation Pilot Pl...
Carlsbad, New Mexico

Sandia's Governance Structure
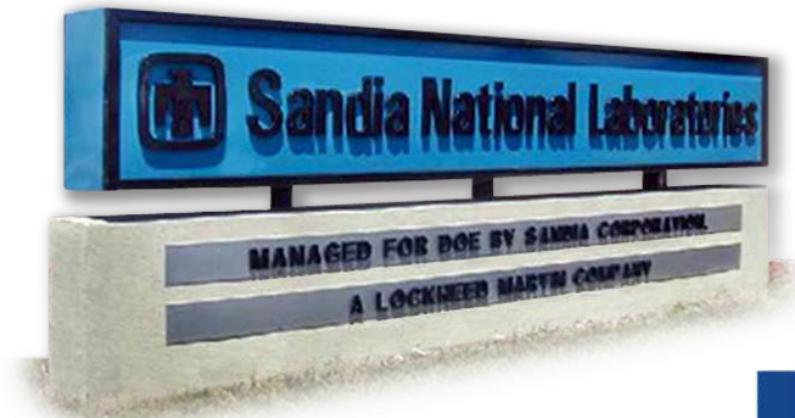
Government owned, contractor operated

Sandia Corporation
- **AT&T: 1949–1993**
- **Martin Marietta: 1993–1995**
- **Lockheed Martin: 1995–present**
- **Existing contract expires Sept. 9, 2012**

Management and Operating Contract Between Sandia Corporation and DOE

DE-AC04-94AL85000

Contract Period: October 1, 1993-September 30, 2009

Sections A-I
Statement of Work
Contract Requirements

Appendix A through Appendix J

Performance Evaluation Plan (PEP)

Performance Objectives (POs)
Performance Incentives (PIs)
Award Terms (ATs)
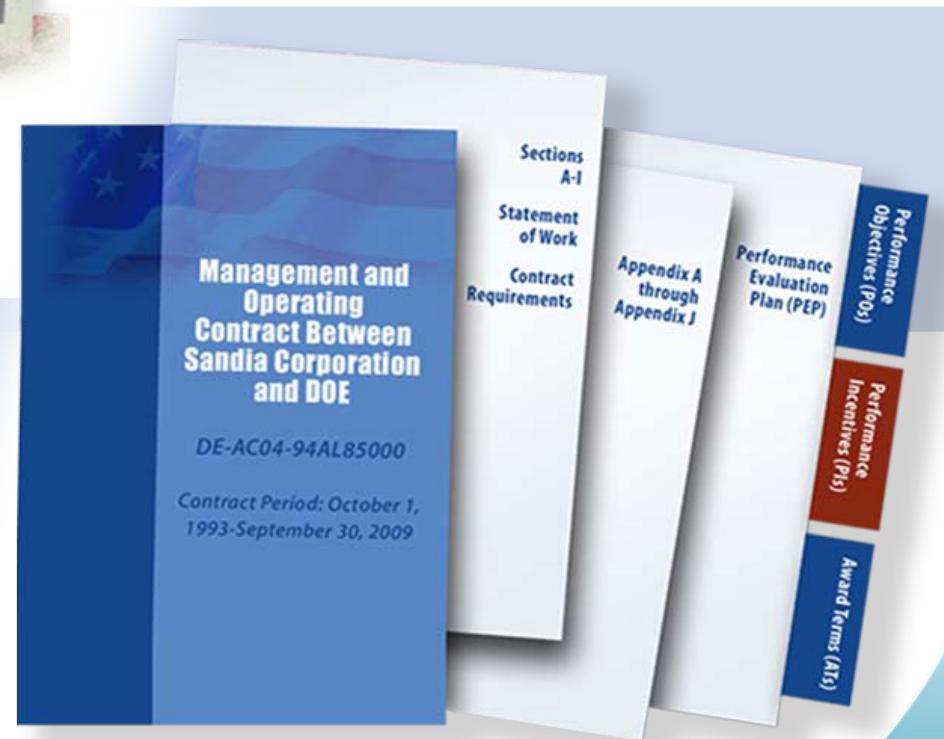
Federally funded research and development center

People and Budget (As of October 15, 2010)

- On-site workforce: 11,677
- Regular employees: 8,607
- Gross payroll: ~$898.7 million

FY10 operating revenue
$2.3 billion

13%
13%
13%
43%
31%

(Operating Budget)

- Nuclear Weapons
- Defense Systems & Assessments
- Energy, Climate, & Infrastructure Security
- International, Homeland, and Nuclear Security

Technical staff (4,277) by discipline:

Computing 16%
Math 2%
Chemistry 6%
Physics 6%
Other science 6%
Other fields 12%

Electrical engineering 21%
Mechanical engineering 16%
Other engineering 15%

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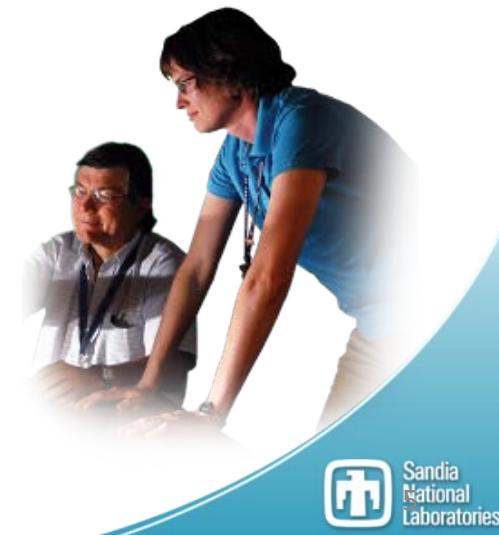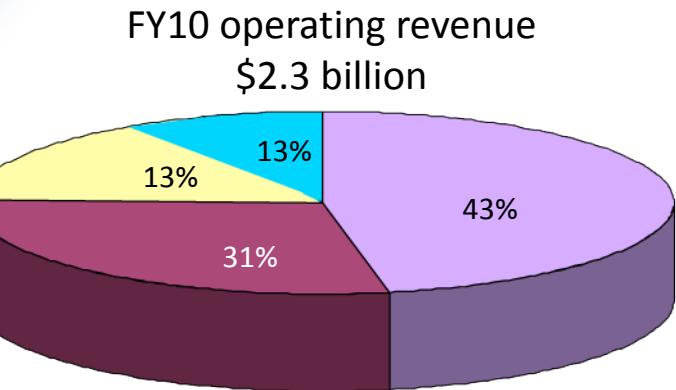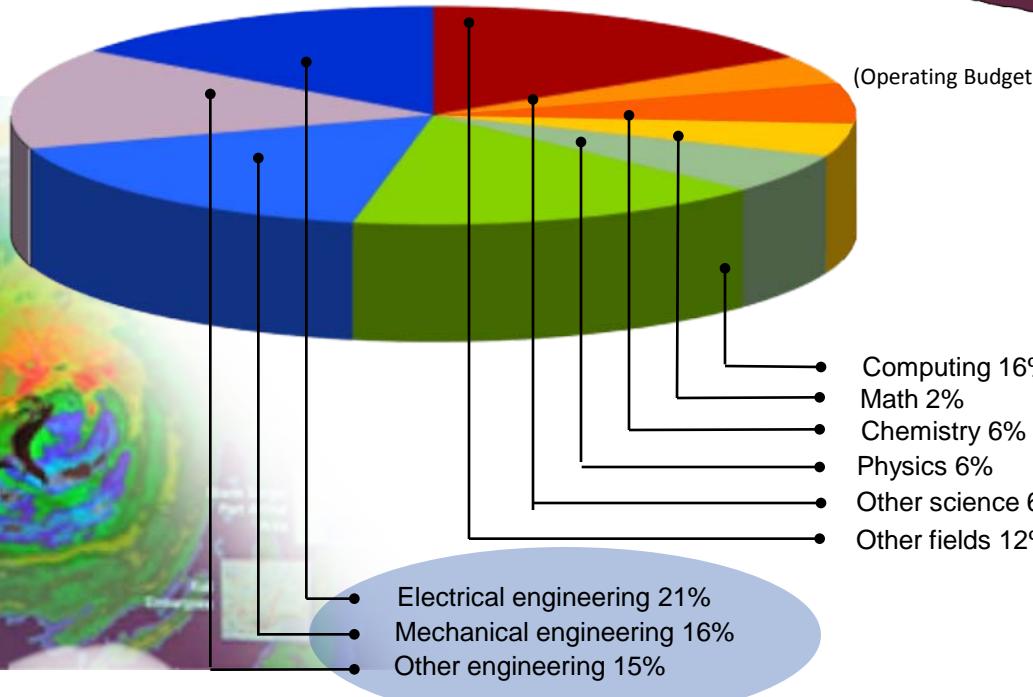
Research Disciplines Drive Capabilities
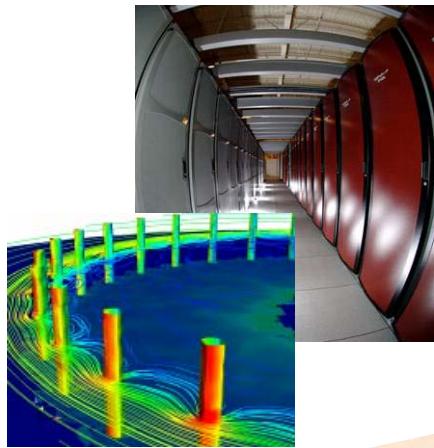
High Performance
Computing
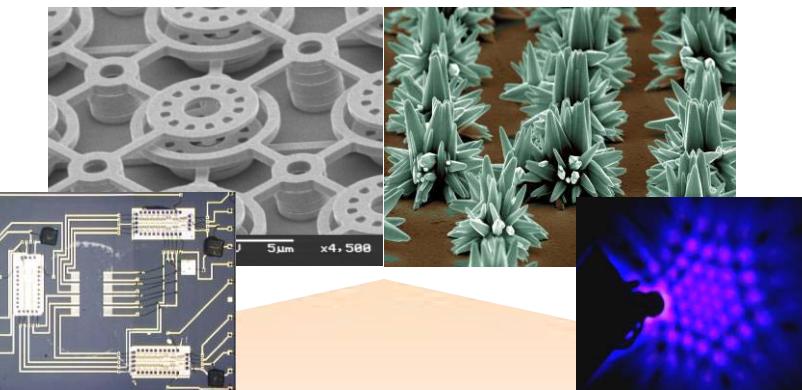
Nanotechnologies &
Microsystems
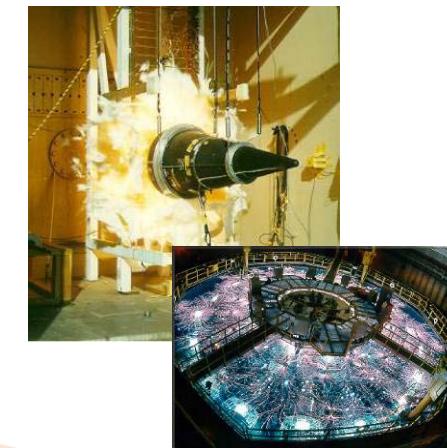
Extreme
Environments

Computer
Science
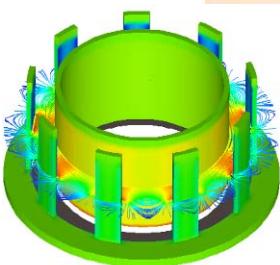
Materials
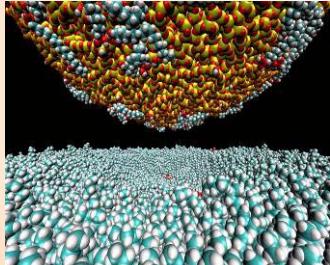
Engineering
Sciences
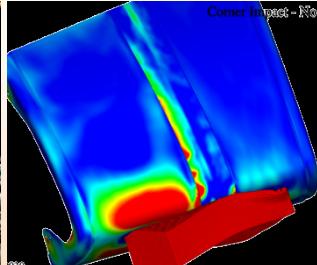
Micro
Electronics
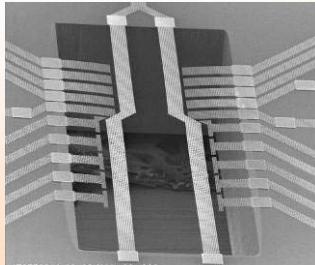
Bioscience

Pulsed Power

Research Disciplines
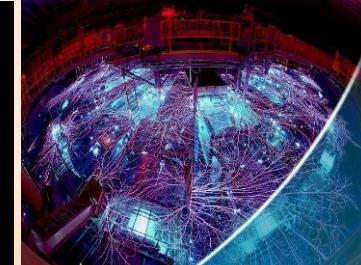
Sandia
National
Laboratories

Four Mission Areas

- Nuclear Weapons
- Defense Systems and Assessments
- Energy, Climate and Infrastructure Security
- International, Homeland and Nuclear Security

Sandia National Laboratories

Sandia's History

exceptional service in the national interest.
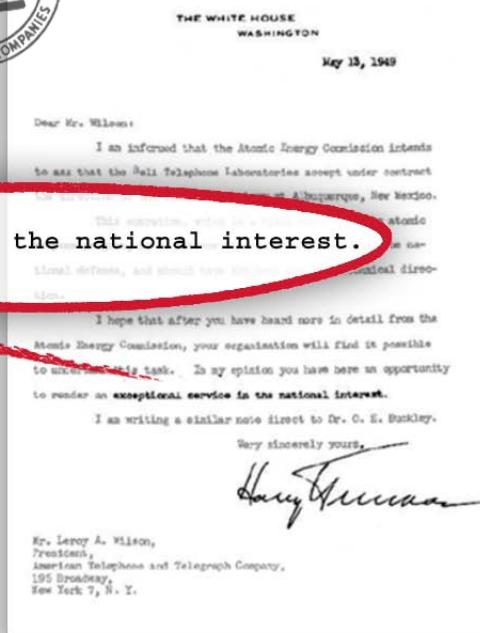
The Mission Has Evolved for Decades

1950s	1960s	1970s	1980s	1990s	2000s
Production engineering & manufacturing engineering	Development engineering	Multiprogram laboratory	Research, development and production	Post-Cold War transition	Broader national security challenges

% NON-NW FUNDING

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

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Emerging National Security Thrusts

Nuclear

Energy

Cyber
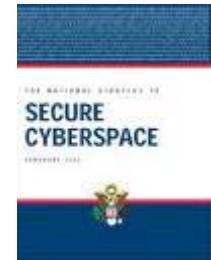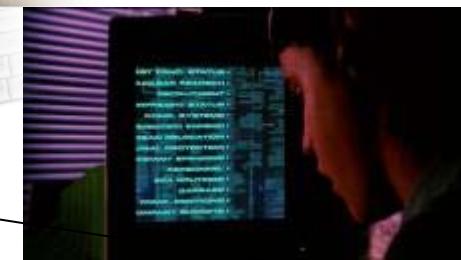
Science &
Technology

Historically, Sandia's Nonproliferation Programs Evolved and Expanded to Support Emerging Needs

2000s
Multilateral cooperation on interdiction (PSI)
UNSCR 1540, GICNT
DPRK Denuclearization

- MPC&A Transition
- Second Line of Defense
- Megaports
- Warhead Monitoring
- Bilateral Transparency

- Radiological Threat Reduction
- IAEA Support
- Next Generation Safeguards
- WMD Detection

1990s
START I and II
Nunn-Lugar Cooperative Threat Reduction
Warhead Safety and Security Exchange

- Russian MPC&A Program
- FSU Threat Reduction

- Fissile Material Monitoring

- Cooperative Monitoring Center
- Regional Security
- Visiting Scholars

1980s
INF Treaty
Conv. on the Physical Protection of Nuclear Materials

- Verification strategy (Treaty On-Site Inspection)
- Arms Control Technology Options
- IAEA unattended monitoring technologies

1960s-70s
Nonproliferation Treaty
Nuclear Nonproliferation Act
Proliferation Detection Technologies

- Satellite Verification
- Safeguards Technology
- Ground-based Sensors
- IAEA Physical Protection Missions

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International, Homeland, and Nuclear Security

Program Areas

- **Critical Asset Protection**
- **Global Security**
- **Homeland Defense and Force Protection**
- **Homeland Security**

Areas of Expertise

- **Countering Bioterrorism**
- **Nuclear, Radiological, and Chemical Risk Reduction**
- **Nonproliferation and Arms Control**
- **Physical Security**
- **Emergency Response**
- **Systems Analysis and Engineering**
- **Border Security**
- **Aviation and Airworthiness Security**
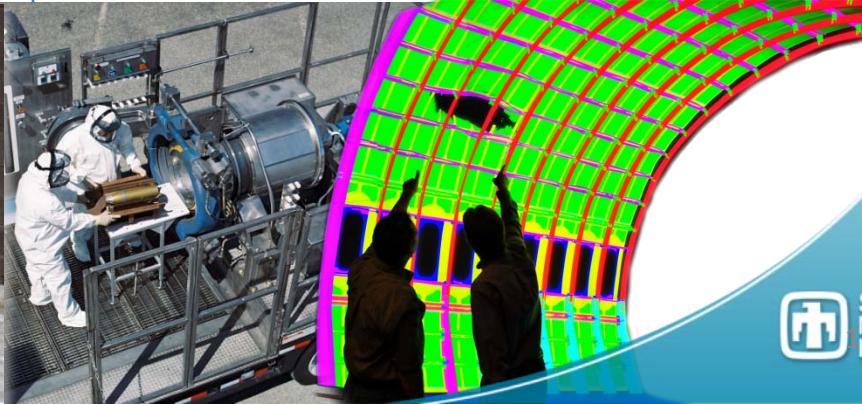
Global Security Program

Mission: *Reducing proliferation and terrorism threats to U.S. national security through global technical engagement*

Multi-Threat Risk Reduction

- Limit the spread of sensitive materials and technologies
- Reduce motivation to acquire/use WMD
- Impede access by proliferators to WMD expertise
- Secure borders and ports
- Secure critical assets

Nuclear and Radiological Risks

- Secure weapons and material
- Reduce fissile material inventories
- Strengthen international safeguards and nonproliferation regimes
- Prevent malevolent radiological dispersal
- Detect / interdict nuclear smuggling
- Enable global reductions in NW arms and supporting infrastructure

Biological and Chemical Risks

- Enhance the safety and security of high-risk pathogens, chemicals, and facilities
- Strengthen capacities to detect and control dangerous infectious diseases

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Global Security Program Strategy

Vision: *Creating sustainable systems solutions to address evolving nuclear, radiological, biological, and chemical risks by*

Reducing Demand & Motivation to Acquire

- Partnership for Nuclear Security
- Regional security confidence building measures
- Middle East Nuclear Energy Infrastructure Institute

Reducing Inventories

- HEU Transparency
- Warhead Monitoring
- Fissile Material Monitoring
- Arms Control
  - Strategic Arms Reduction Treaties

Restricting Access

- Global Threat Reduction Initiative
- Material Protection, Control & Accountancy
- International Safeguards
- International Biological Threat Reduction
- International Physical Protection
- International Chemical Threat Reduction

Interdicting Materials

- Second Line of Defense
- Megaports
- Export Control
- Interdiction technical support
- Border Security

Managing Consequences

- Emergency Response Training

Emerging Threats
- Critical Asset Protection
- Cyber security

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Partnerships and Collaboration Accelerate Innovation
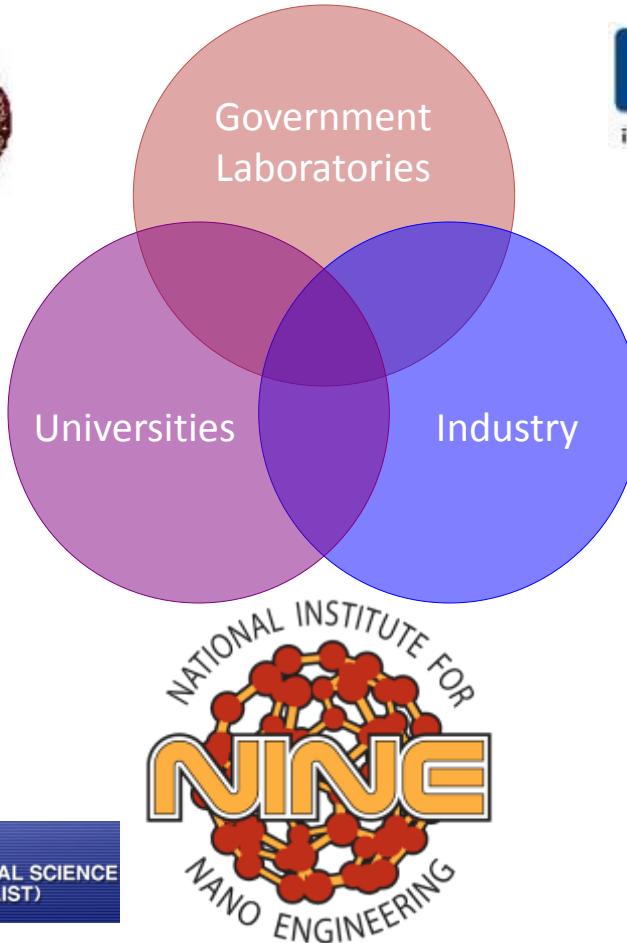
Summary

As global proliferation and terrorist threats continue to evolve, Sandia's Global Security Program will anticipate US needs to meet the challenges in a dynamic and complex international environment.

- Building on Sandia's science and technology foundations

- Building on more than 40 years experience in security

- Leveraging our established programs, capabilities, and relationships

- Providing the critical link between technology and policy

Meeting the global security challenges today and in the future

Sandia National Laboratories