



State of the Labs Presentation

# Delivering Today, Shaping Tomorrow

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President and Laboratories Director

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# Our people of today and tomorrow

- 10% of our employees are FY15 new hires
- 24% of our employees were hired in the last 3 years
- 11% of management employees are in new positions

Total Sandia workforce: 12,600

Regular employees: 10,300

Advanced degrees: 5,790

## Today's Demographic Makeup

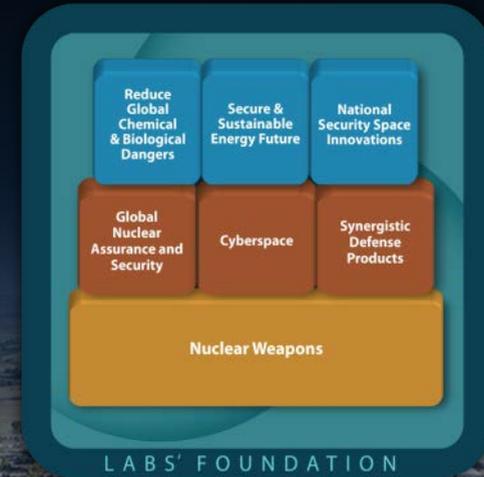


- ~3,500 with less than 5 years of service

# Our institution is evolving

## *Multimission laboratory*

Maintain the nation's nuclear weapon stockpile while bringing solutions to broader national security challenges



# We Deliver on National and Global Security Challenges

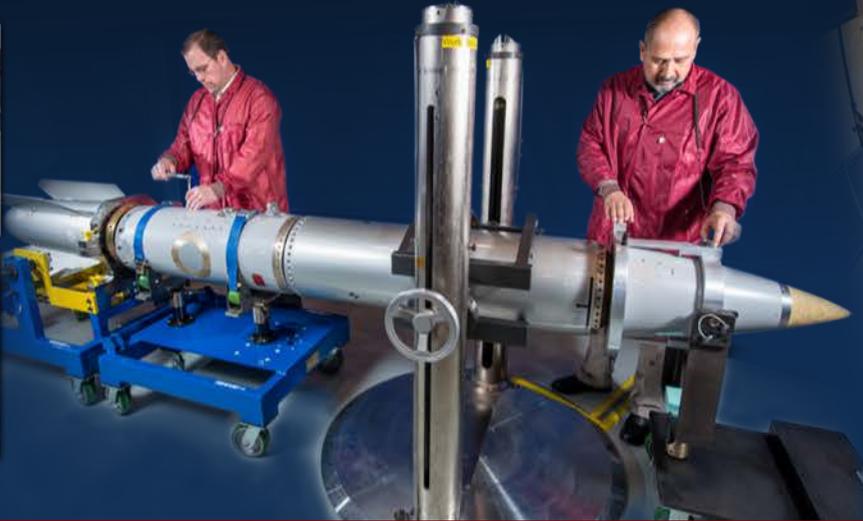
# Paving the way for qualification testing starting in FY17

*Three successful flight tests on the B61-12 Life Extension Program*



# Certifying the nation's nuclear weapon stockpile

Sandia's 2015 annual assessment letter was sent to the secretaries of Energy and Defense and the chairman of the Nuclear Weapons Council on September 28



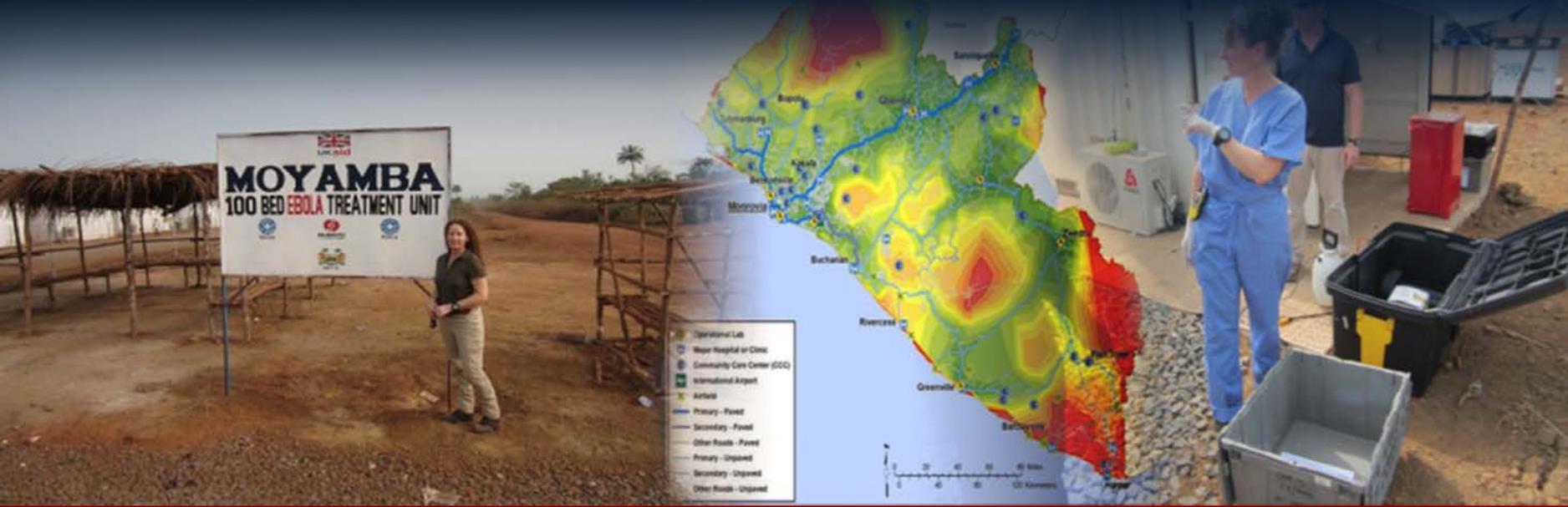
# Solving global challenges

Representatives from several countries and guests from the United Nations and NATO became acquainted with our programs that support implementation of the Treaty on Non-Proliferation of Nuclear Weapons



# Assisting West Africa with biosafety

- Used geospatial analytics and simulation to model national infrastructure and reduce sample transport time, ultimately saving lives
- Assessed international transportation policy and informed U.S. hospital response



# Testing and evaluating systems at the Counterfeit Detection Center

A center of excellence supporting the U.S. government with assessments of systems ranging from the macro to the micro scale



# Addressing the most demanding climate change issues

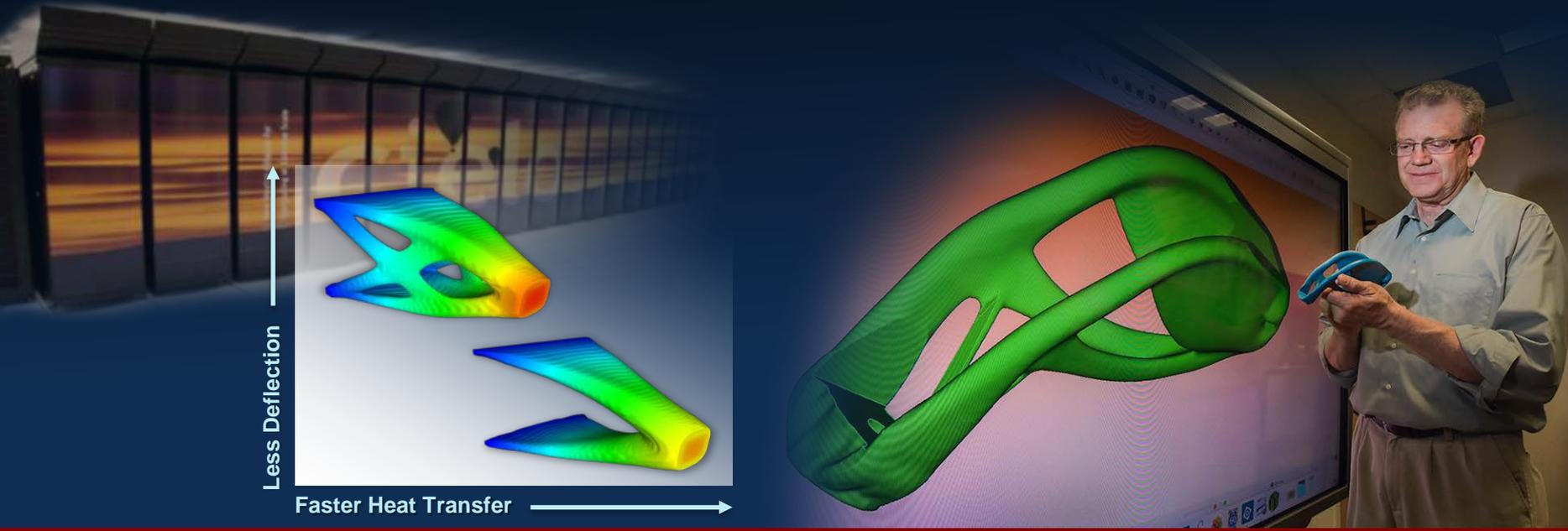
## *Accelerated climate modeling for energy (ACME)*

- 15 institutions collaborate to develop the most complete climate and Earth system model, ACME
- Sandian Mark Taylor received the DOE's 2014 Secretary's Honor Award for his team's work to unify the DOE's climate modeling research community
- This work has brought recognition to Sandia as a leader in climate change science



# Coupling novel design tools and additive manufacturing

- Topology optimization takes advantage of design freedom
- Optimizing shapes while saving space and weight

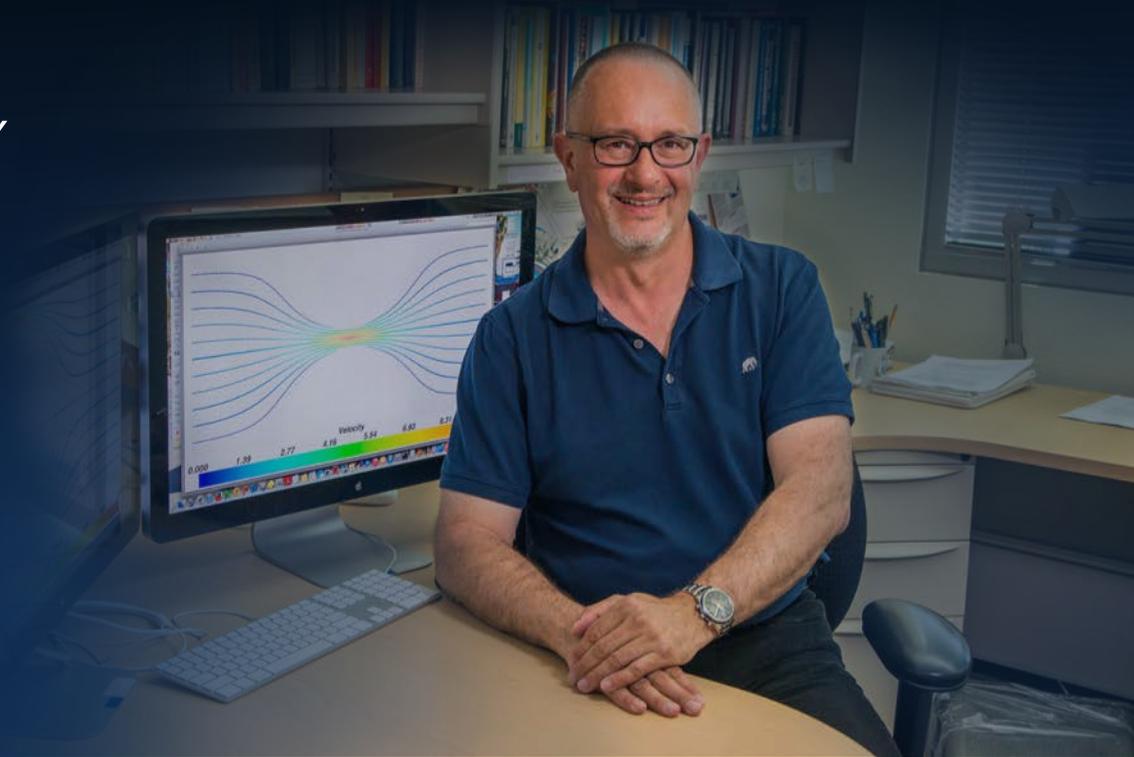


# Stretching the limits of knowledge in mathematics

*Pavel Bochev*

DOE Ernest Orlando  
Lawrence Award

*Advances in numerical  
methods for partial  
differential equations*



# Supporting the mission



Investing into our infrastructure



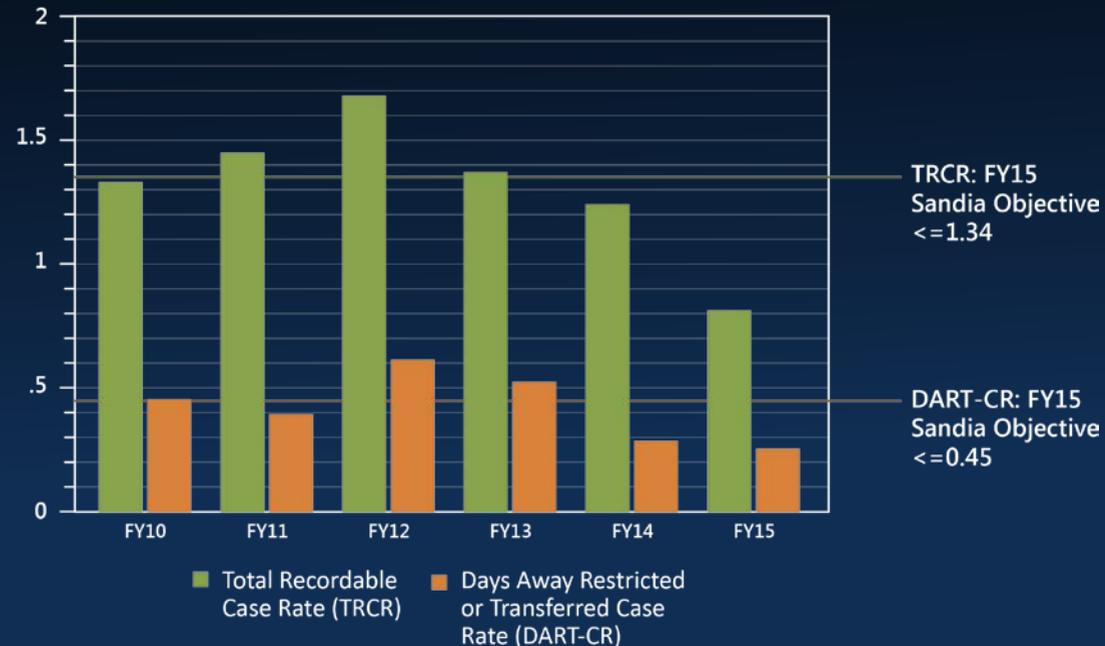
Centralizing waste disposal



# We Continue to Focus

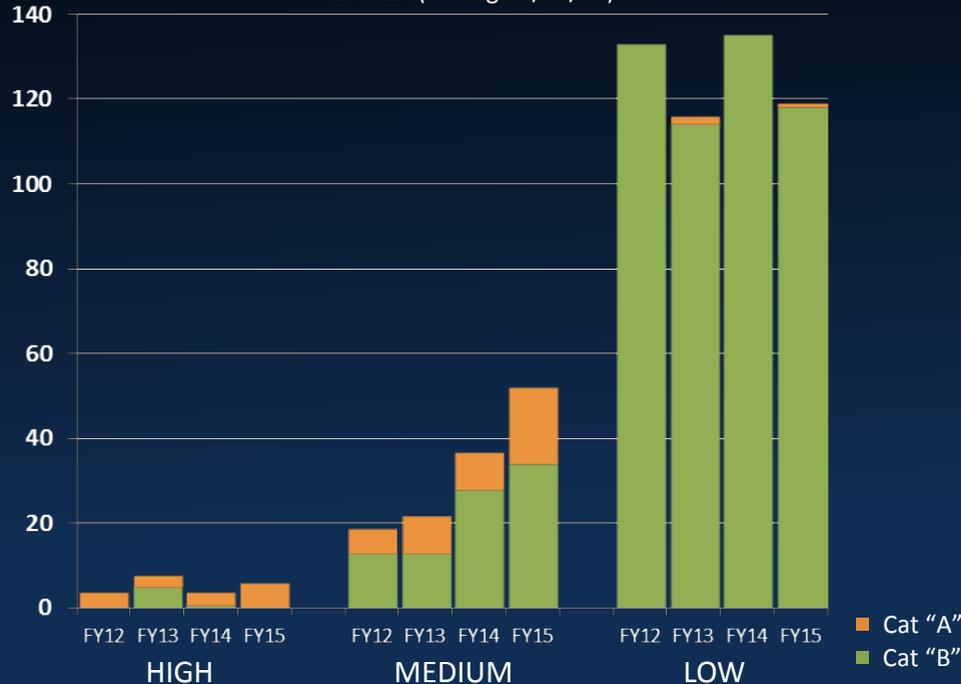
# We are exceeding our safety goals, but we still have lessons to learn

- Use a structured approach to ensure safe operations through WP&C engineered safety
  - Anticipate known risks and unforeseen events
  - Examine safety risks where project intersections exist
- Demonstrate critical thinking and a questioning attitude
- Ask for help or an independent review



# Increases in classified mission work create increased opportunity for security challenges

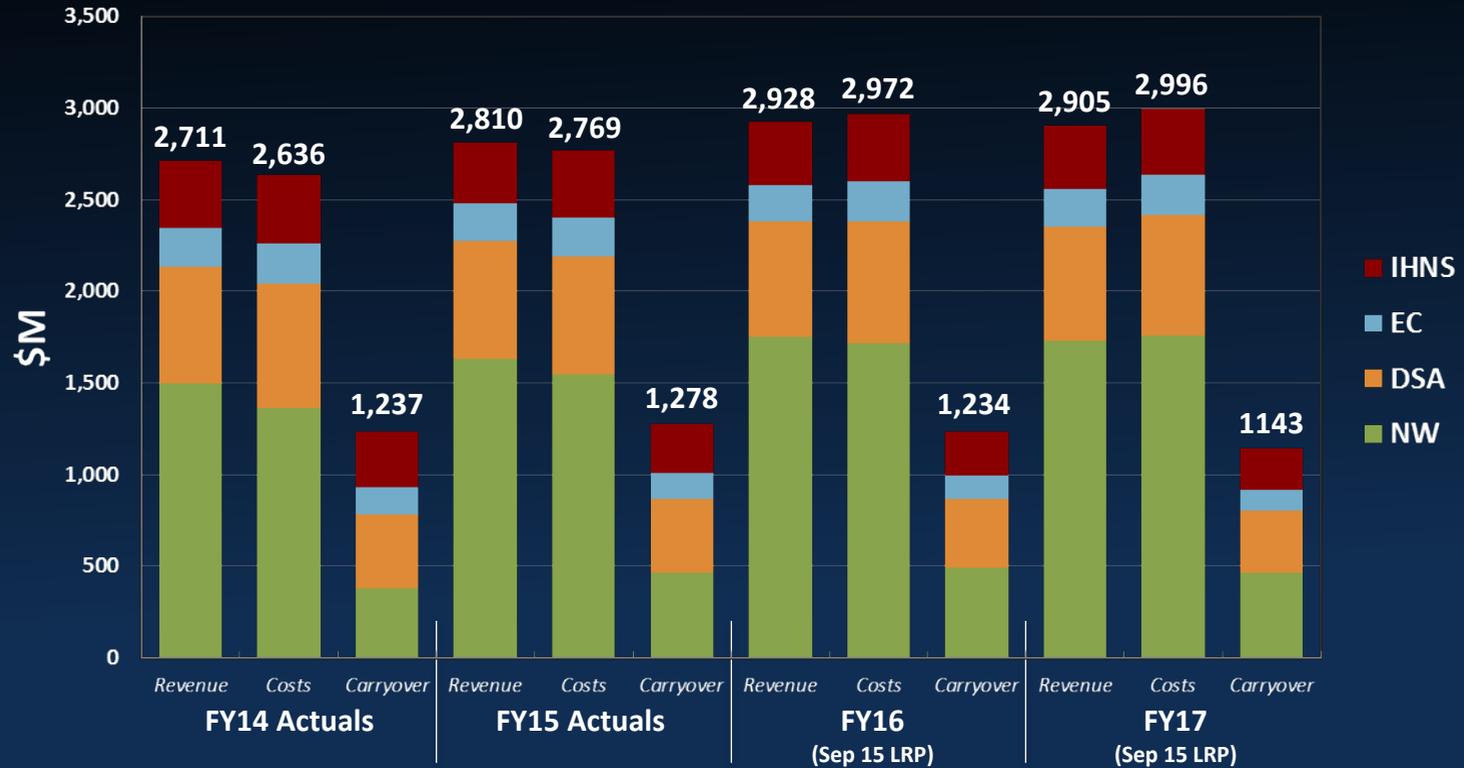
10CFR824 Security Incidents by Risk  
FY12-FY15 (through 9/30/15)



- Ongoing work on four NW modernization programs
- Upward trend in security incidents involving classified information
- Implementation of division-specific improvement activities
- Structured security process planned to mirror the safety WP&C-ES process

# We are in a strong financial position

*Revenue, cost, and carryover*



# How did we do?

PO	FY15 PEAR	FY15 PER	FY14 PEAR	FY14 PER	FY13 PEAR	FY13 PER
<b>PO-1 NW</b>	Excellent	TBD	Excellent	Very Good	Excellent	Excellent
<b>PO-2 Global Nuclear Security</b>	Excellent	TBD	Very Good	Very Good	Excellent	Excellent
<b>PO-3 DOE &amp; SPP</b>	Excellent	TBD	N/A	N/A	N/A	N/A
<b>PO-4 ST&amp;E</b>	Excellent	TBD	Excellent	Excellent	Excellent	Excellent
<b>PO-5 Infrastructure</b>	Very Good	TBD	Very Good	Good	Very Good	Very Good
<b>PO-6 Leadership</b>	Good	TBD	Excellent	Very Good	Excellent	Very Good

We Are  
Shaping  
Tomorrow

# FY16–FY20 Strategic Plan

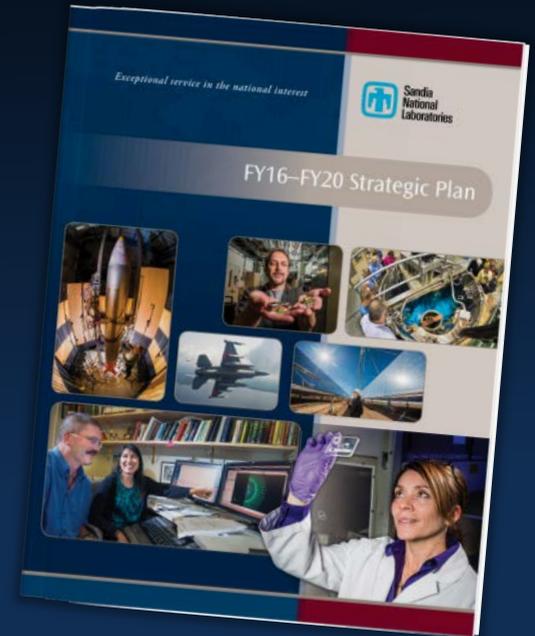
Amplify our  
national security  
impact

Strengthen our  
Laboratories' foundation  
to maximize mission  
impact

Advance an exceptional  
work environment that  
enables and inspires our  
people in service to our  
nation

TRUSTED PARTNERSHIPS

EXCEPTIONAL PERFORMANCE



# FY16 Milestones: A few examples

**Milestone 1.3.1:** Mature mission area strategies and clearly identify top priorities to enrich the dialogue at LLT and sharpen the focus on the Labs' priorities.

**Milestone 2.3.1:** Deploy the integrated strategy developed in 2015 to improve cyber, computer science, and computer engineering talent attraction and retention; apply best practices more broadly to people in key mission areas in the future.

**Milestone 3.4.2:** Reconcile and consolidate the Safety Basis Manual and the WP&C criteria manual and develop simplified tools to improve our application of engineered safety.



# Academic alliances

- Strategic research
- National impact
- Attraction and retention
- Technology and knowledge transfer



# Our work stirs interest from our nation's leaders

- DOE Undersecretary Sherwood-Randall
- Senators Tom Udall (D-NM), Barbara Mikulski (D-MD), and Martin Heinrich (D-NM) at a tech transfer roundtable
- NNSA Administrator Lt. Gen. Klotz
- 20<sup>th</sup> Anniversary of the stockpile stewardship program



# Other hot topics

- FY 2016 budget situation
- Sandia M&O contract



U.S. DEPARTMENT OF  
**ENERGY**





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# Thank you for coming!