Idaho National Laboratory

Presentation to Idaho Legislature

Mark Peters
Director, Idaho National Laboratory

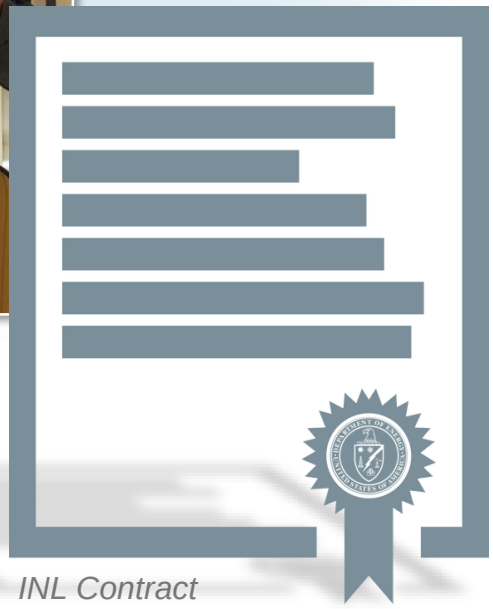
January 30-31, 2018
Boise, Idaho

www.inl.gov

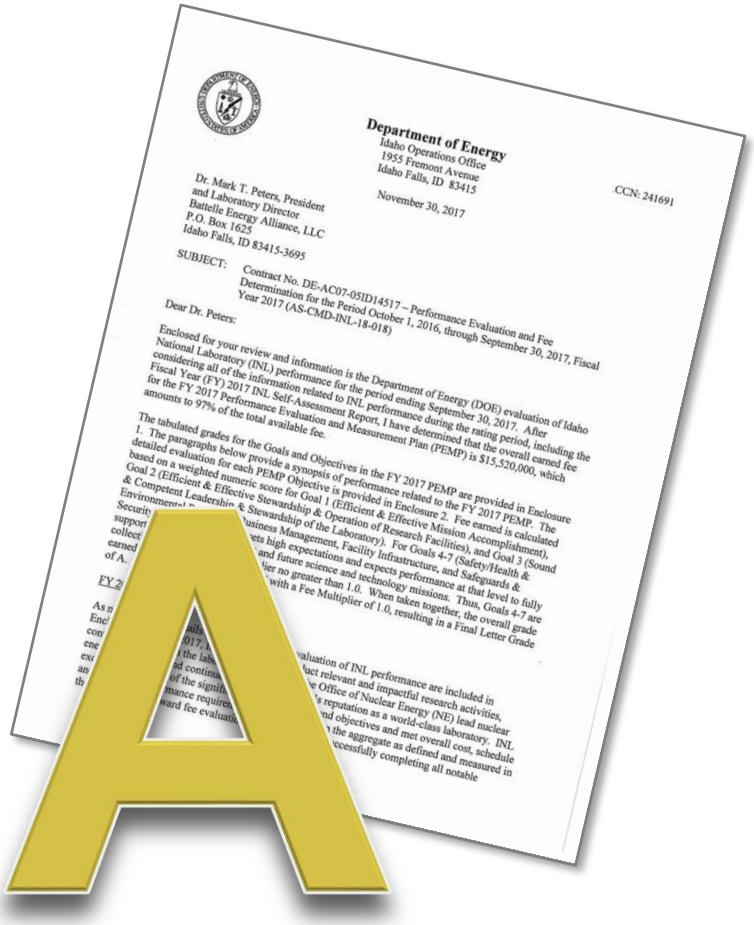
Idaho National Laboratory

Idaho's National Laboratory

Secretary Perry visit
May 2017



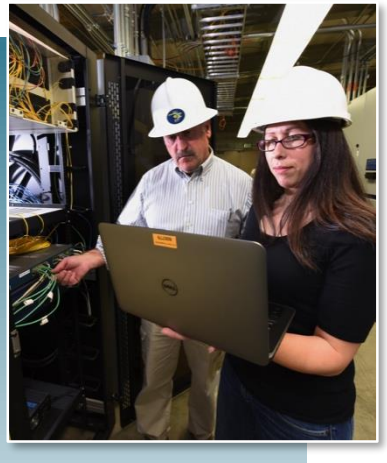
INL Contract
Extension to 2024

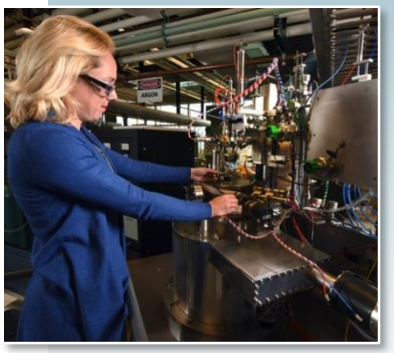


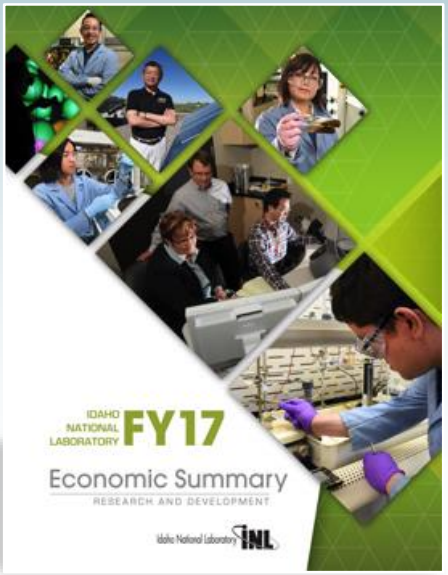
97% "A" rating 4 years
in a row

INL FY17 Economic Impact Summary

INL is the 6th largest private employer in Idaho – providing high-tech, high paying jobs







- Average base salary of an INL employee in **FY17** was **$95,768 annually**
- **INL directly employed 4,256** workers in Idaho
- INL spent nearly **$140 million** with **Idaho-based subcontractors**
- BEA corporate office contributed more than **$610,000 to charitable giving**

Our Vision and Mission Positions INL to be Relevant to Tomorrow's Energy Future

INL Vision

INL will change the world's energy future and secure our critical infrastructure.

INL Mission

Discover, demonstrate and secure innovative nuclear energy solutions, clean energy options and critical infrastructure.

The Idaho National Laboratory Site

Geography

- 890 square miles
- 1350 miles of roads
- 21 miles of railroad lines
- 112 miles of electrical transmission and distribution lines

Infrastructure / Mission

- 4 reactors
- Nuclear and radiological facilities
- 2 spent fuel pools
- 400+ buildings
- 3 fire stations
- Mass transit system
- Explosive range
- Landfill
- Museum
- Significant security profile

4,256 Employees

FY17 Business Volume
$1,001 M

…the Nation's Nuclear Laboratory

We are Focused on Four Critical Initiatives to Meet Energy, Competitiveness, and National Security Goals

Enhance core capabilities, talent, S&T infrastructure, programs, and partnerships

Nuclear energy competitiveness and leadership

Integrated nuclear fuel cycle solutions

Advanced hybrid energy systems

Cyber and physical security

INL is Positioned to Address the World's Most Challenging Problems

Nuclear S&T

- Advanced reactor design and optimization
- Nuclear fuels and materials
- Fuel cycle technologies
- Light water reactor fleet sustainability

Advanced Test Reactor

- Steady state neutron irradiation of materials and fuels
  - Naval Nuclear Propulsion Program
  - Industry
  - National laboratories and universities

Materials & Fuels Complex

- TREAT – Transient testing
- Analytical laboratories
- Post-irradiation examination
- Advanced characterization
- Fuel fabrication
- Space nuclear power and isotope technologies

Energy & Environment S&T

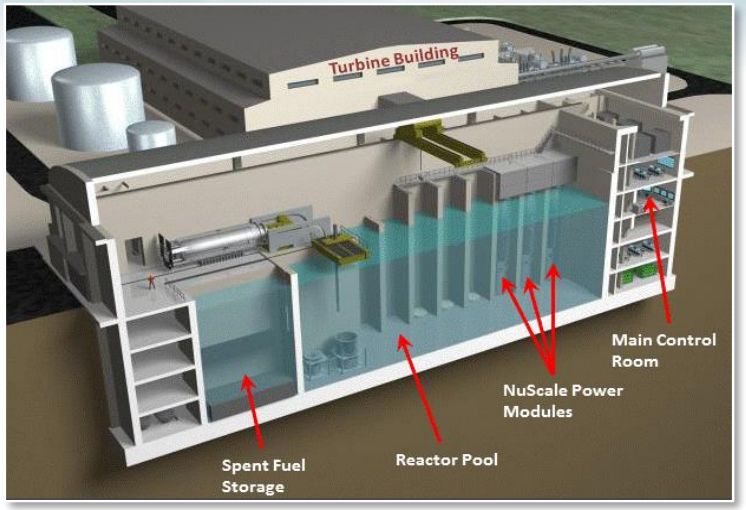
- Advanced transportation
- Environmental sustainability
- Clean energy
- Advanced manufacturing
- Biomass

National & Homeland Security S&T

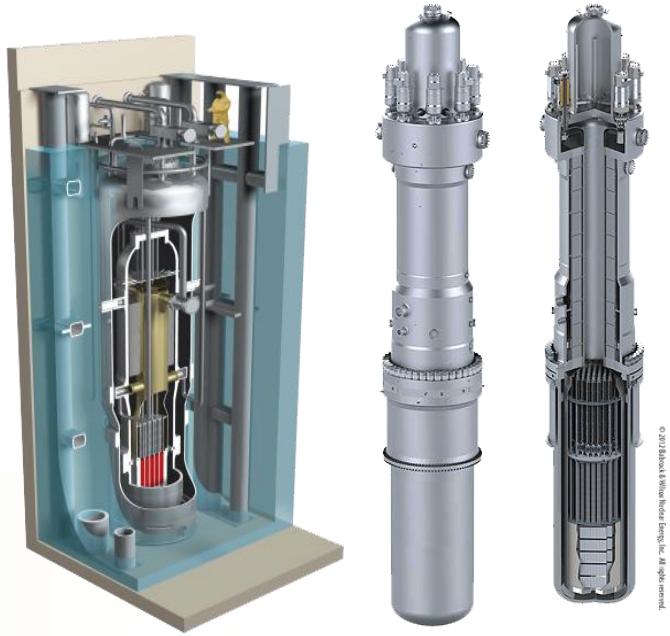
- Critical infrastructure protection and resiliency
- Nuclear nonproliferation
- Physical defense systems

Small Modular Reactors (SMR)

- **INL supports site characterization, RD&D, and regulatory support for the first SMR anywhere in the world.**
- **DOE granted a site use permit to Utah Associated Municipal Power Systems (UAMPS) Carbon Free Power Project (CFPP) in February 2016 that enables UAMPS to study, license and locate a NuScale-designed SMR at INL.**
- **The Joint Use Module Plant (JUMP) concept is being developed to commercially demonstrate Hybrid Energy Systems (HES) and Secure Reliable Microgrid (SRM) applications.**



3-D view of Six NuScale Modules



Other advanced reactor companies also interested in siting in Idaho

Center for Advanced Energy Studies (CAES)

CAES is a research and education consortium where collaboration inspires innovation that fuels energy transitions and economic growth.

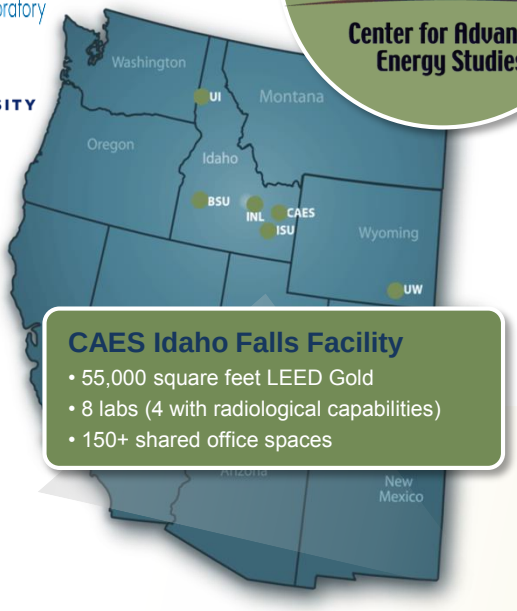
Idaho National Laboratory

BOISE STATE UNIVERSITY

Idaho State University

University of Idaho

University of Wyoming



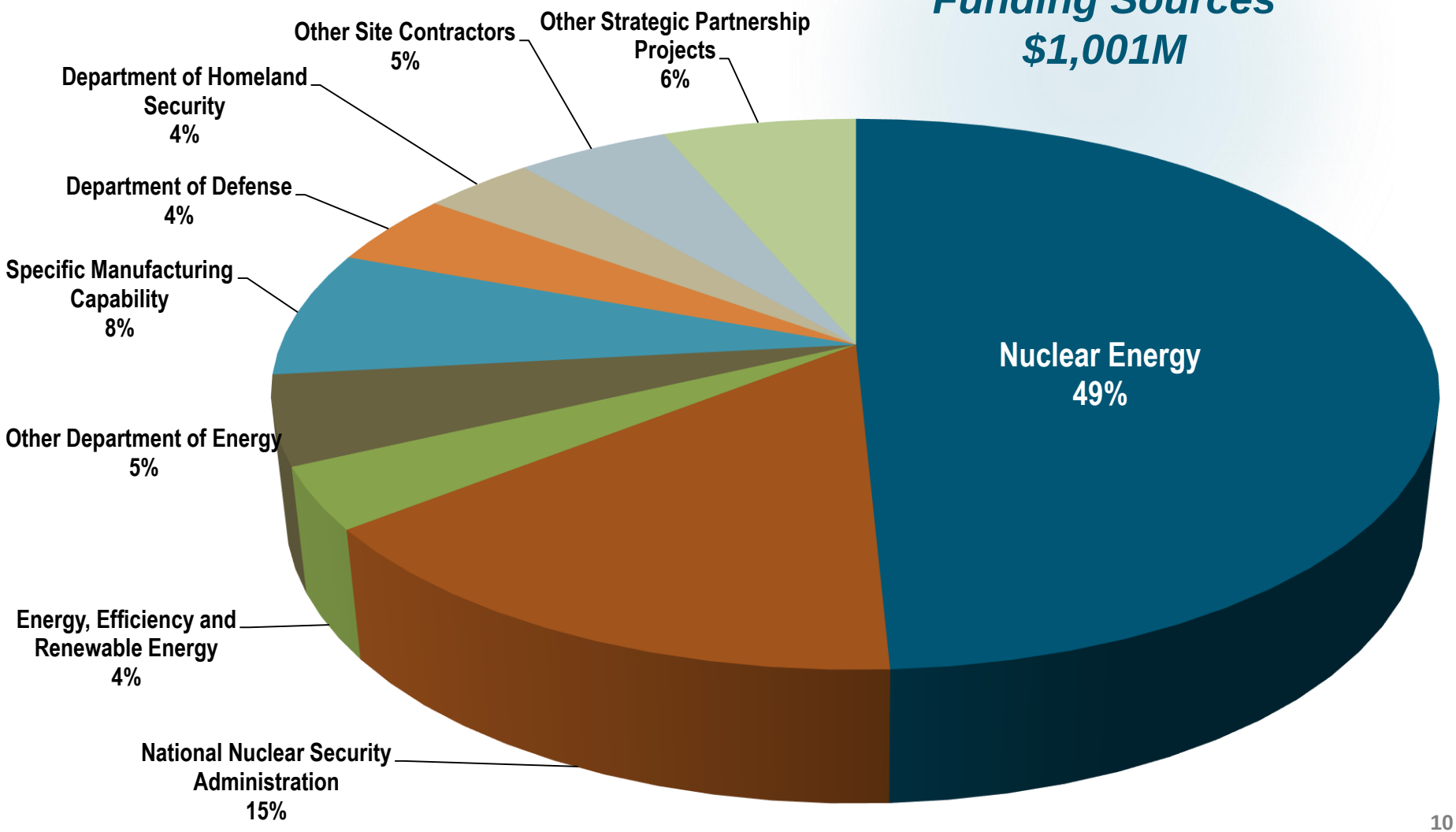
Our value to Idaho

- **Idaho students receive:**
  - technical laboratory training
  - access to professional network
  - career opportunities after graduation
- **Idaho university faculty receive:**
  - experience that shapes instruction
  - unique research opportunities, collaboration
  - joint appointments with national laboratory
- **INL receives:**
  - access to skilled graduates
  - access to non-traditional funding
  - access to educational opportunities

State's investment = **Millions in public/private funding**
State's investment = **Encourages students to "Go-On"**
State's investment = **Foster's economic development**

INL Business Volume

FY17 Funding Sources $1,001M



Excellence in Operations, Stakeholder Engagement, and Community Service are Fundamental to Our S&T Strategy

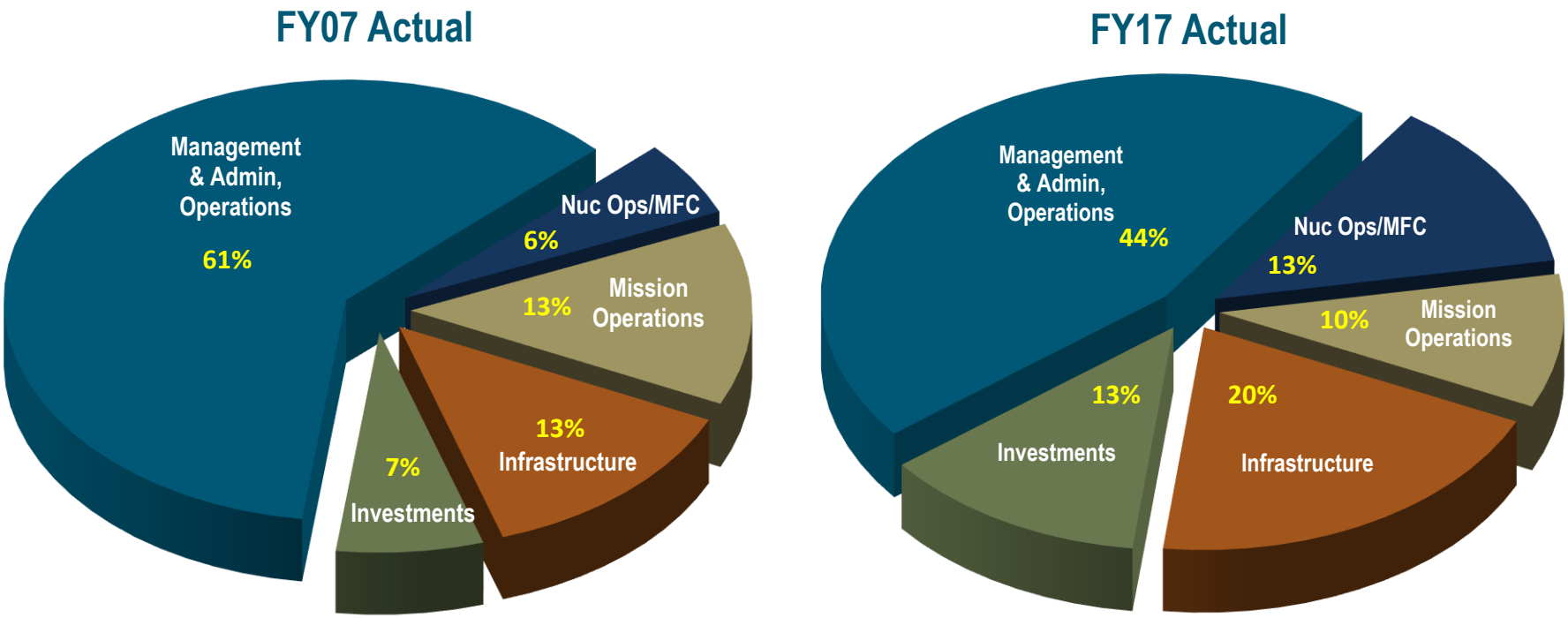
Operations Excellence

Transform INL's infrastructure, capabilities, systems, and processes to enable modern science

Community Excellence

Establish INL as high value, nationally, and in the community, state, and region

We are Using the Taxpayers Dollars Wisely

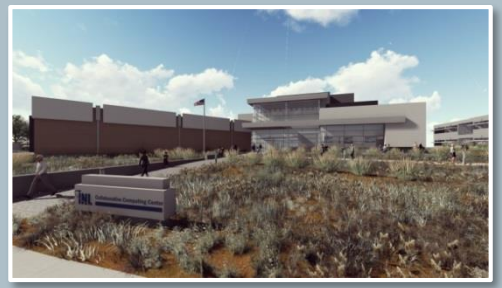


Indirect budgets reflect two primary drivers: market forces influencing fringe benefit costs, and the need to build intellectual and physical mission-related capability

Planned Campus/Complex Modifications

REC

CyberCore Integration Center



Collaborative Computational Center (C3)

Idaho Falls Greenbelt and University Campus Connectivity

ATR

Maintenance Support Building

Utility Corridor Modernization

ATR Strategic Plan

30-Ton and 40-Ton Crane Replacements

MFC

Research Collaboration Facility

MFC Strategic Plan

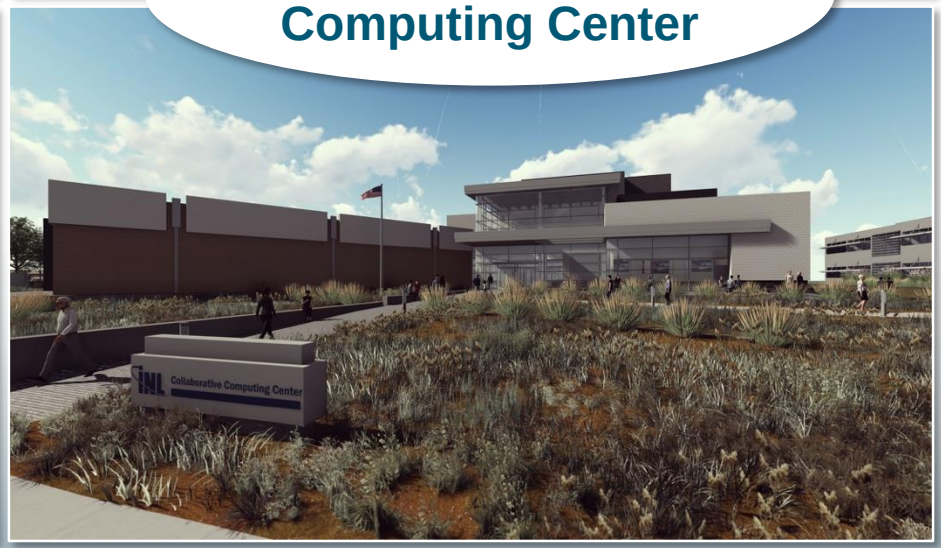
Utility Corridor Modernization

Sample Preparation Laboratory

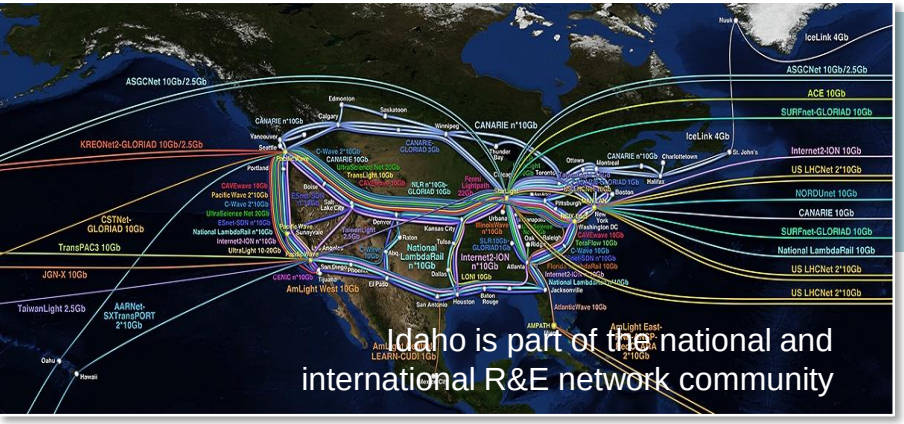
Cybercore Integration Center and Collaborative Computing Center Status

Cybercore Integration Center

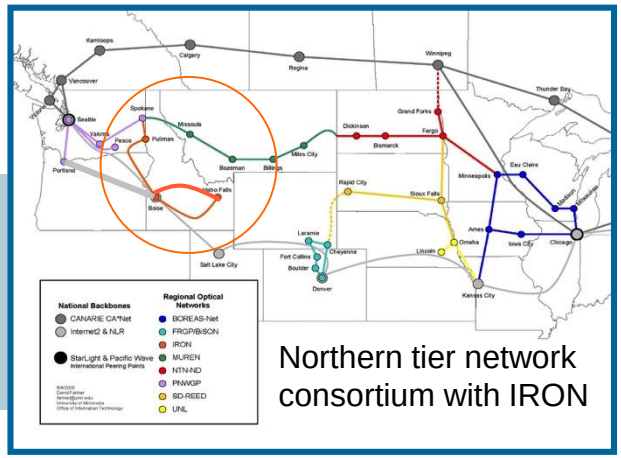
Collaborative Computing Center



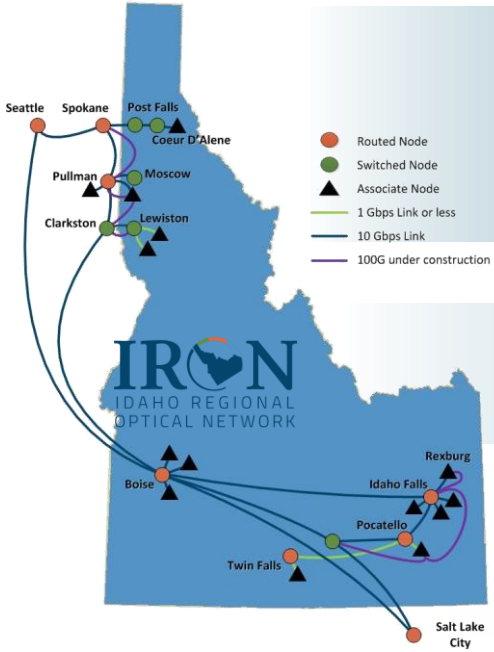
Idaho's Regional Optical Network – IRON



A strategic asset for Idaho enabling collaboration in education, research, government, healthcare and economic development. **Helping Idaho cross the digital divide.**



Northern tier network consortium with IRON

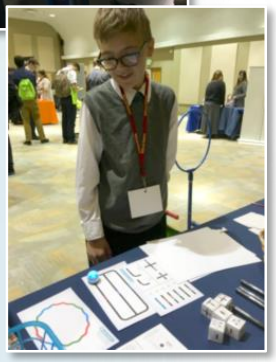


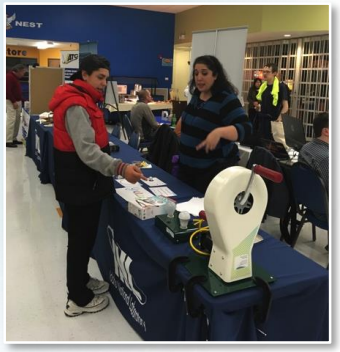
IRON is the digital fabric that holds INL and Idaho's higher education together focused on workforce development

IRON is working with INL, Idaho universities, and colleges to develop an educational ecosystem across Idaho

INL is a participant, facilitator and advocate for IRON's educational ecosystem

Initiatives to Increase Talent Attraction and Engagement





- **Partnering with universities, community colleges, and technical colleges for talent and research collaboration**
  - Investing INL resources to match STEM Action Center goals
    - Empowering teachers through professional development – **Reached 1,600 teachers in 95% of Idaho's school districts**
    - Motivating students through STEM outreach – **Benefited 56,000 students in FY 2017**
    - Collaborating with families and communities to explore STEM careers and develop STEM Literacy
    - Providing STEM grants – **Grants over $300,000 on annual basis**
  - Targeting rural and underrepresented, underserved, first generation populations
  - Implementing inclusion and diversity program

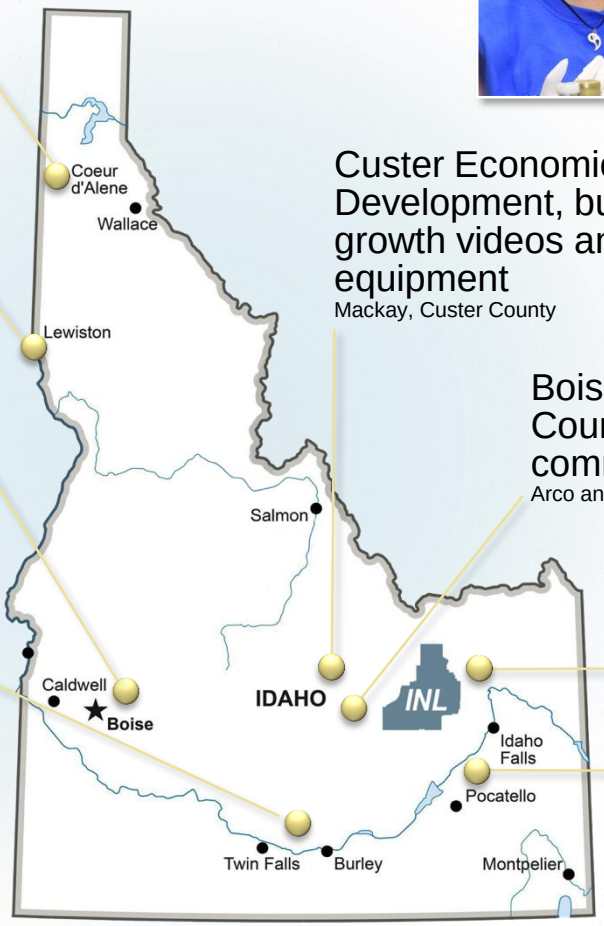
Idaho's National Laboratory – 2018 INL Technology-based Economic Development Grants

University of Idaho, Apple Swift coding
Coeur D Alene

Clearwater Economic Development, igniting innovation and equipment
Lewiston

Trailhead, Women in entrepreneurship training program Boise, Treasure Valley

College of Southern Idaho Foundation, military veterans to workforce
12 cities in Southern Idaho



Custer Economic Development, business growth videos and equipment
Mackay, Custer County

Boise State University, Butte County economic development community guide
Arco and Butte County, Boise

REDI Science Technology and Research cluster
14 counties, Eastern Idaho

Shoshone-Bannock Tribes, business plan and feasibility study
Shoshone-Bannock Tribe

Statewide

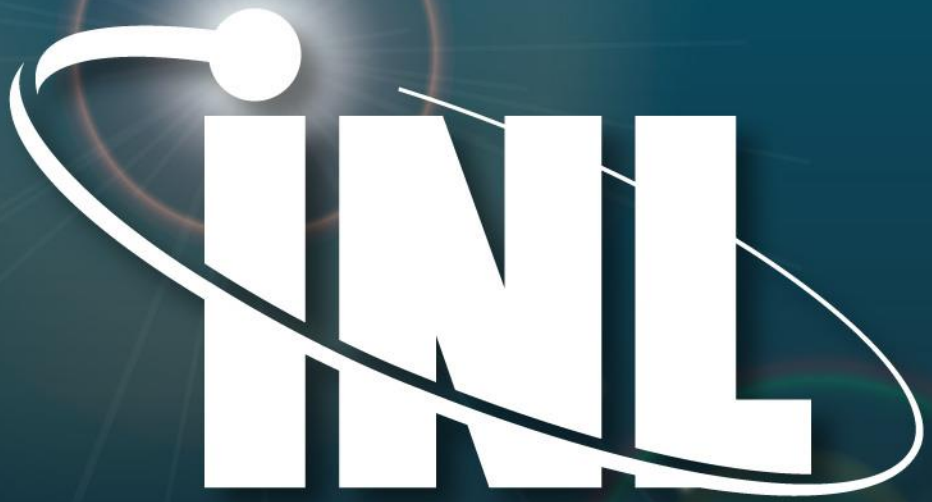
Idaho Technology Council, Idaho State of Industry Report

Idaho Rural Partnership, turning ideas into action program

INL Day at the Legislature

- **INL staff will be showcasing virtual tours**
  - Transient Test Reactor
  - Hot Fuel Examination Facility
  - Electric Vehicle Integration Laboratory and
  - Battery Test Center
- **Learn more about INL's Space and Security Power Systems work and our work in National and Homeland Security**

January 31, 2018
8:00am – Noon
First Floor Rotunda



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