DOE SC/HEP
Accelerator Stewardship Test Facility Pilot Program

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Image courtesy of Oak Ridge National Laboratory

DOE Office of Science Accelerator R&D Capabilities

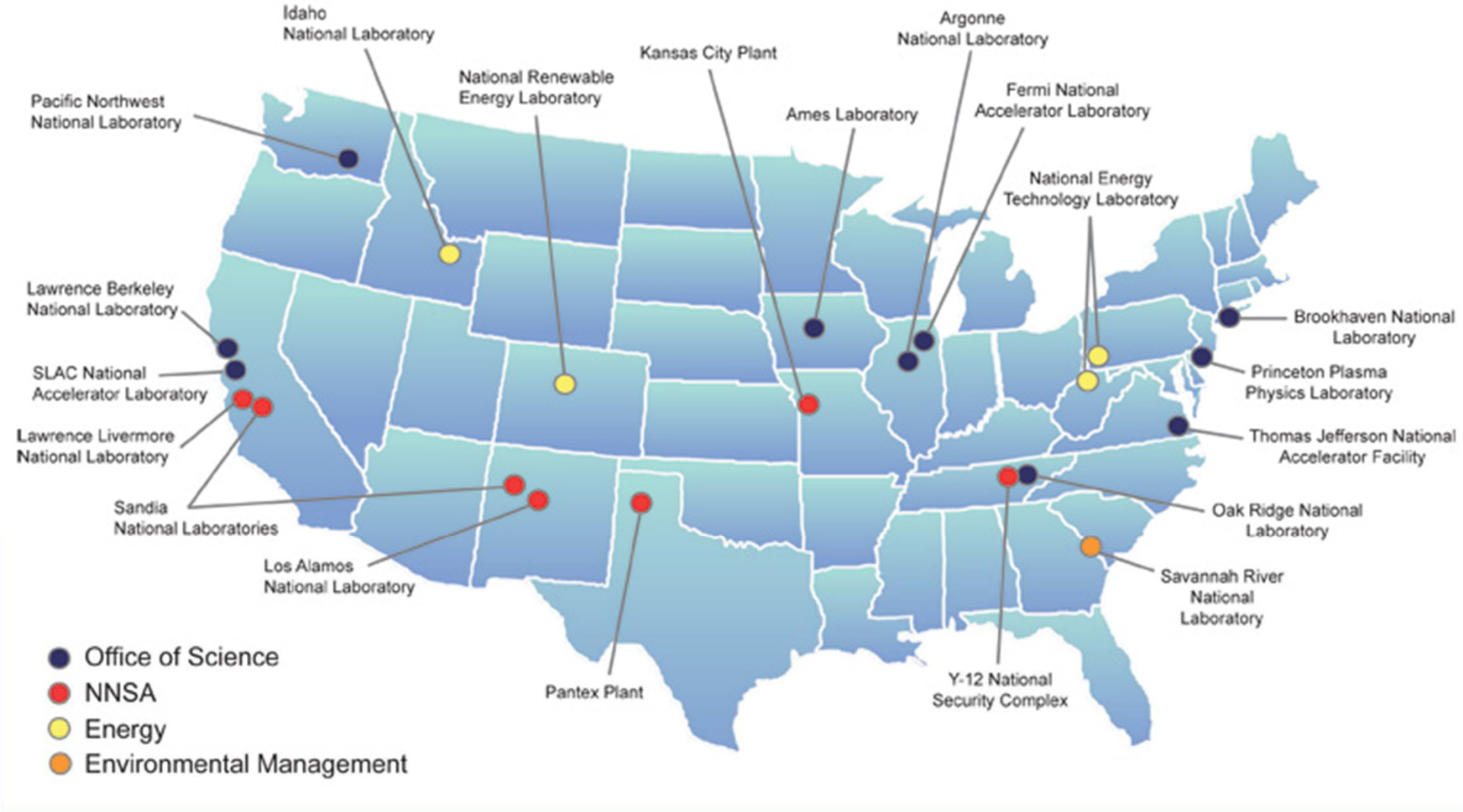
These are just a few of the more than 50 specialized accelerator R&D capabilities across the DOE SC complex…

Argonne NATIONAL LABORATORY | BROOKHAVEN NATIONAL LABORATORY | Fermilab | Jefferson Lab EXPLORING THE NATURE OF MATTER | OAK RIDGE National Laboratory | BERKELEY LAB Bringing Science Solutions to the World | SLAC NATIONAL ACCELERATOR LABORATORY

DOE Office of Science Accelerator R&D Capabilities

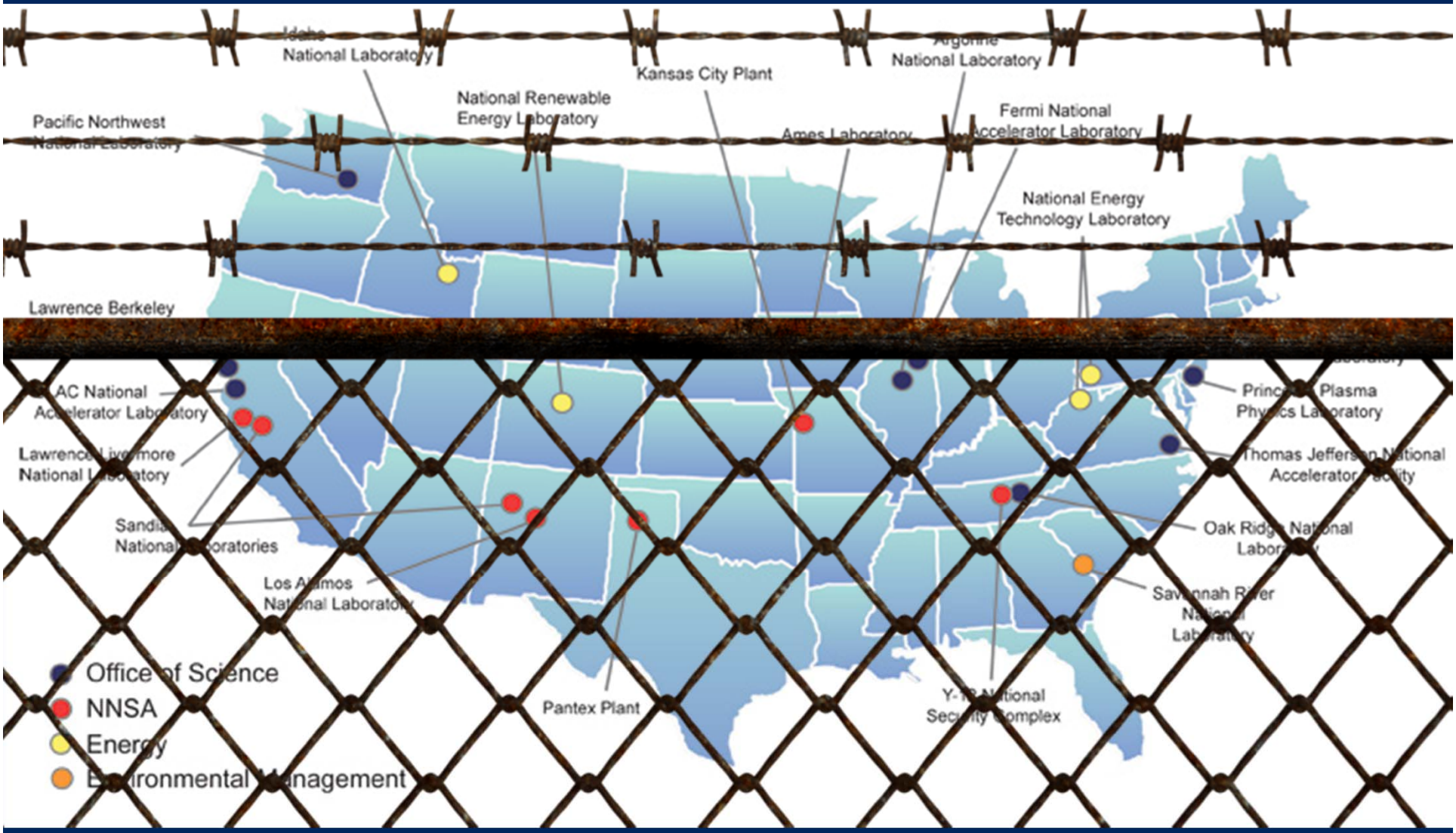
- **Many unique accelerator R&D capabilities have been developed to support the scientific research of the Office of Science:**
  - Design
    - Beam physics and high-performance computing expertise
      - High accuracy modeling of complex accelerator systems
    - Design and engineering of accelerator components
      - Complete concept-to-prototype design capability
  - Fabrication & Subcomponent Testing
    - Superconducting cable/strand and cavity preparation and testing facilities
      - Processing and testing infrastructure for cable and RF cavities
    - Magnet test facilities
      - Power supplies, cryogenic test stands, high precision field mapping
    - Microwave and laser test facilities
      - Microwave and laser source & measurement capability covering a very wide spectrum
    - Fabrication and materials characterization facilities
  - Beam Testing Facilities
    - Provide electrons, neutrons, protons, light and heavy ions, x-rays, gamma rays, …
  - And more!

This is how DOE National Laboratories see themselves…



Slide courtesy of Eric Isaacs

…and this is how industry has viewed us.



Slide courtesy of Eric Isaacs

The Accelerator Stewardship Test Facility Pilot Program

Is a one-year Pilot Program to:

- **Broaden public awareness** of accelerator R&D capabilities at the DOE National Laboratories
- **Survey the potential Stewardship demand** for accelerator R&D capabilities
- **Seed fund** a few collaborative R&D efforts
- **Test the process** and logistics involved in engaging Stewardship users

What activities are potentially eligible for the seed funding?

- **High-value-added collaborative accelerator R&D opportunities that:**
  - Mutually benefit the lab and the Stewardship partner
  - Capitalize on existing lab accelerator test facilities and expertise

"The proposed work—

(1) is consistent with or complementary to missions of DOE/NNSA and the facility to which the work is to be assigned,

(2) will not adversely impact programs assigned to the facility,

(3) will not place the facility in direct competition with the domestic private sector, and

(4) will not create a detrimental future burden on DOE/NNSA resources." -- DOE O 481.1C, section 4(c)

Pilot Program Process and Timeline

- **April/May** **Labs conduct public outreach events**
  - BNL – done!
  - ANL & FNAL – April 28
  - JLAB – May 4
  - LBNL – coming soon
  - ORNL – coming soon
  - SLAC – coming soon
- **June 15, 2015** **Labs submit proposals for seed funding**
- **June/July** **Proposals are peer reviewed**
- **Aug/Sept** **Seed funding to labs**
- **Spring 2016** **Evaluate results of pilot program**

National Laboratory Public Outreach Events

- **The goals of today's public outreach events are:**
  - Broaden public awareness about the lab's accelerator test facilities and accelerator expertise, and
  - Meet potential Stewardship partners, and discuss their needs:
    - What facilities and expertise are needed?
    - What time and effort is needed?
    - What supporting engineering is needed?
    - How will results be published and/or protected?
- **Desired outcomes of the public outreach events are:**
  - Develop a list of potential collaborative accelerator R&D opportunities
  - Propose some of these opportunities for seed funding through the Pilot Program

“One-Stop Shopping” for finding Accelerator R&D Capabilities at the DOE Office of Science National Laboratories

http://www.acceleratorsamerica.org

A portal for new Stewardship Partners to browse lab capabilities and identify a contact person for more information.

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Additional Information Resources

- **The HEP Accelerator Stewardship program is described at:**
  - http://science.energy.gov/hep/research/accelerator-rd-stewardship/
- **The HEP Accelerator Stewardship program is developing the Accelerator for America's Future website to serve as a portal specific to accelerator R&D test facilities:**
  - http://www.acceleratorsamerica.org/working-with-labs/index.html
- **More generally, the DOE Office of Technology Transitions maintains:**
  - "How-to" guides for interacting with the labs:
    - http://technologytransfer.energy.gov/
  - A general "Portal" for Business to find DOE Labs facilities:
    - http://www.energy.gov/technologytransitions/who-do-i-contact-labs
  - A detailed list of facilities:
    - http://www.energy.gov/technologytransitions/technology-transitions-facilities-database

Thank you for taking time to visit your National Laboratories!

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