U.S. DEPARTMENT of ENERGY | Office of Critical Minerals and Energy Innovation

Smart Labs for Universities and Healthcare Peer Exchange

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What’s your dream vacation?

Smart Labs for Universities and Healthcare Peer Exchange

The **Smart Labs for Universities and Healthcare Peer Exchange** is dedicated to **enabling organizations** to meet **energy-related goals** in lab facilities, **implementing affordable and safe solutions**, and **providing energy leadership** to the country by identifying and leveraging industry best practices in **Smart Labs**.

Objectives

1. Embrace Smart Labs principles.
2. Collaborate on the best practices for implementation.
3. Align safety and cost savings in research environments.
4. Improve the ventilation effectiveness of labs.
5. Establish ongoing, dynamic management plans for labs.

Target Participants

- Research campus energy managers
- Environmental health and safety staff
- Industrial hygienists
- Analytics and controls maintenance staff
- Building managers
- Facility engineers
- Program managers
- Researchers

Funded by U.S. Department of Energy Building Technologies Office (BTO)

SMART LABS

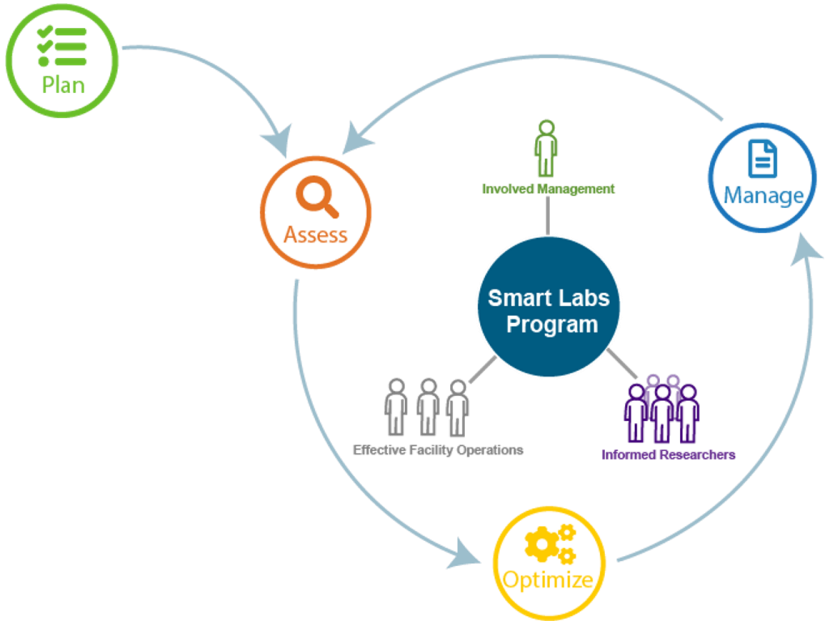
Agenda

- **Announcements**
- **Partner Updates**
- **Presentation**
  Managing Plug and Process Loads (PPL) in Critical Research Spaces
- **Discussion**
- **Next Meeting**

SMART LABS

Announcements

The **Smart Labs Toolkit** describes a **systematic process** that helps research campus owners and operators **cost-effectively manage safe, efficient labs** for **world-class science**.



Visit the Toolkit at **smartlabs.i2sl.org**!

This Toolkit was developed by several contributors and includes results of best practices and lessons learned from the Better Buildings Smart Labs Accelerator.

Best Practices curated into a Step-by-Step Framework

- **Introduction**: Why Smart Labs?
- **Plan**: Building a team and roadmap
- **Assess**: Assessing baseline operations (ventilation, energy, water, etc.)
- **Optimize**: Funding and implementing projects
- **Manage**: Continuous management, analytics, and tracking progress
- **Working with Scientists**: Strategies for engaging researchers
- **New Construction**: Integrating Smart Labs into new construction projects
- **Contributors and Resources**

Templates, Tools & Calculators

- Smart Labs Checklist
- Smart Labs Roadmap Template
- Building Profiler Tool
- Laboratory Benchmarking Tool (LBT) with Actionable Insights & Measures
- Fume Hood Energy Calculator
- Lab Ventilation Risk Assessment (LVRA) Data Collection Template*
- Heating, Ventilation, and Air Conditioning (HVA) Resource Map
- Lab Ventilation Management Program Template

Partner Case Studies

Lessons learned by partners implementing Smart Labs.

Best Practice Guides and more!

**Available upon request.*

We want to hear your feedback! Please reach out to Amanda.Kirkeby@nlr.gov.

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Partner Updates

[Insert Name of Your Institution Here]

Recent Success(es):

*[**DIRECTIONS:** Please include a brief description of any recent successes you would like to share with your peers. Include actual or estimated cost savings. Please remove directions when complete.]*

1. [Success 1] *([$ in savings] [Select one: estimated/realized])*
2. [Success 1] *([$ in savings] [Select one: estimated/realized])*
3. [Success 1] *([$ in savings] [Select one: estimated/realized])*

Main Challenge(s):

*[**DIRECTIONS:** Please list the top three challenges your organization faces in implementing Smart Labs. (e.g., funding, staff bandwidth, EHS concerns about changes, overall change management, etc.).]*

1. [Challenge 1]
2. [Challenge 2]
3. [Challenge 3]

Top Resource(s):

*[**DIRECTIONS:** Please share what resources you find valuable:*

- ***Existing Smart Labs Resources or tools that you find helpful** (e.g., Lab Benchmarking Tool, Energy Score, and AIM Report)*
- ***Existing External Resources that you find helpful and include link** (e.g., third-party LVRA and LVMP management platforms, etc.)*
- ***Wish-list Items (Resources you wish existed and would find helpful)** (e.g., cohort-based technical support, recognition program, etc.)*

1. **[Resource 1]** *([Select one: Smart Labs/Other/Wish-List Item])*
2. **[Resource 2]** *([Select one: Smart Labs/Other/Wish-List Item])*
3. **[Resource 3]** *([Select one: Smart Labs/Other/Wish-List Item])*

Image Credit | [Insert Image Credit Here]

Please remove the directions when complete. Reminder to not include any business-sensitive information, these slides will be shared as is during the upcoming peer exchange.

Example to be removed when updates are recieved

University of California, Irvine

Recent Success(es):

1. **Smart Labs Initiative Recognized as Top Globally in Solutions that Scale by *Forbes Magazine (2023)***
   (61% total energy savings realized)

Main Challenge(s):

1. Initial momentum to “buck the status quo” and shift organizational culture.

Top Resources

1. **LVRA Assessments** *(Smart Labs/3rd-Party)*

Image Credit | University of California, Irvine

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Guest Presentation

Managing Plug and Process Loads (PPL) in Critical Research Spaces

Amy Van Sant, National Laboratory of the Rockies
Robin Tuttle, National Laboratory of the Rockies

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Open Discussion

Spread the Word!

Share the **Smart Labs for Universities and Healthcare Peer Exchange** with any new staff and across your networks!

Next Meeting: August 2026

SMART LABS

We Are Here To Help YOU!

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Thank you!

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