



Pillars of Innovation Across Southeast Idaho & the Interstate-15 Corridor

March 2023

*Response to DOE Office of Science, Office of Technology Transitions
Activation Energy: DOE's National Laboratories as Catalysts of
Innovation*

Request for Information #2023-01440

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operated by Battelle Energy Alliance, LLC*

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**Prepared for the
U.S. Department of Energy
Office of Technology Transitions
Under DOE Idaho Operations Office
Contract DE-AC07-05ID14517**

ABSTRACT

Since 1949, Idaho National Laboratory (INL) has been home to developing civilian and defense nuclear reactor technologies and managing spent nuclear fuel. Today, INL is the nation's nuclear energy research laboratory, sustaining the safe and efficient operation of existing reactors, powering science in space, and breaking ground on the future fleet of advanced nuclear reactors. INL is only one of many rising technology resources in the region, however. Along the Interstate-15 (I-15) corridor, technology and cybersecurity industries and intellectual assets are rapidly expanding. Creating an innovation hub in this region would unite capabilities to solve current and future challenges in nuclear reactor sustainment and expanded deployment, integrated fuel cycle solutions, integrated energy systems, advanced materials and manufacturing for extreme environments, and secure and resilient cyber-physical systems.

Pillars of Innovation Across Southeast Idaho & the Interstate-15 Corridor

Introduction

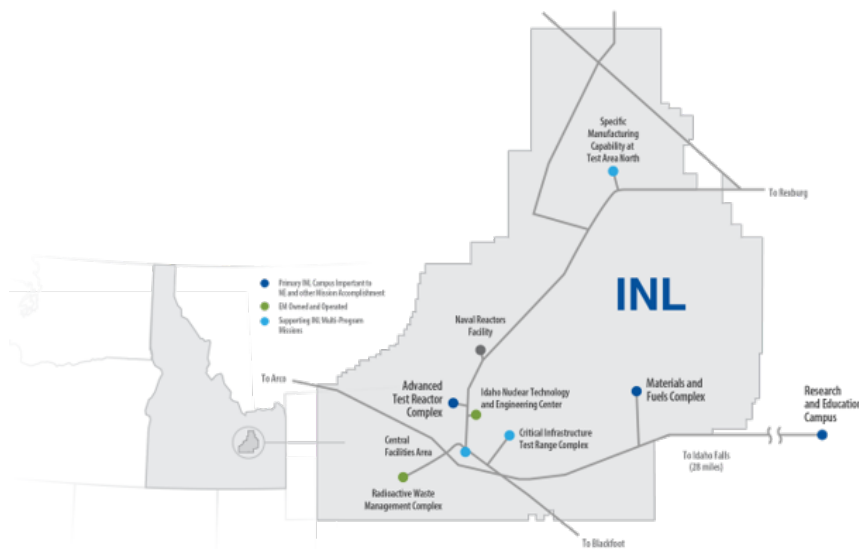
Idaho National Laboratory (INL) is managed by Battelle Energy Alliance for the Department of Energy's Office of Nuclear Energy (DOE-NE). INL is the nation's laboratory for nuclear energy research and development.

Part A—Regional Characteristics

What makes your region competitive or unique for innovation?

While most jobs in U.S. innovation are located in large metropolitan areas and on the nation's coasts, a concentration of highly trained scientists and engineers is located west of the Rocky Mountains. Beginning in 1949, Idaho National Laboratory (INL), originally named the National Reactor Testing Station, has been home to developing civilian and defense nuclear reactor technologies and managing spent nuclear fuel. Fifty-two reactors have been built and operated on INL's site; the first usable electricity generated by nuclear power occurred here. Today, INL employs more than 5,700 researchers and staff focused on innovations in nuclear research, integrated energy systems, and security solutions that are changing the world's energy future. INL is the nation's nuclear energy research laboratory, sustaining the safe and efficient operation of existing reactors, powering science in space, and breaking ground on the future fleet of advanced nuclear reactors.

The geography of the INL site is also unique. At 890 square miles, INL is the largest and possibly also the most complex of DOE's national laboratories. The site extends 39 miles from north to south and about 38 miles from east to west at its broadest area. INL lands stretch across five Idaho counties and are surrounded in many areas by federal lands. Lands immediately adjacent to the site are open sagebrush steppe, foothills, or agricultural fields.



890	Square miles
569,178	Acres
4	Operating reactors
12	Hazard Category II & III non-reactor facilities/activities
50	Radiological facilities/activities
17.5	Miles of railroad for shipping nuclear fuel
44	Miles of primary roads (125 miles total)
9	Substations with interfaces to two power providers
126	Miles of high-voltage transmission lines

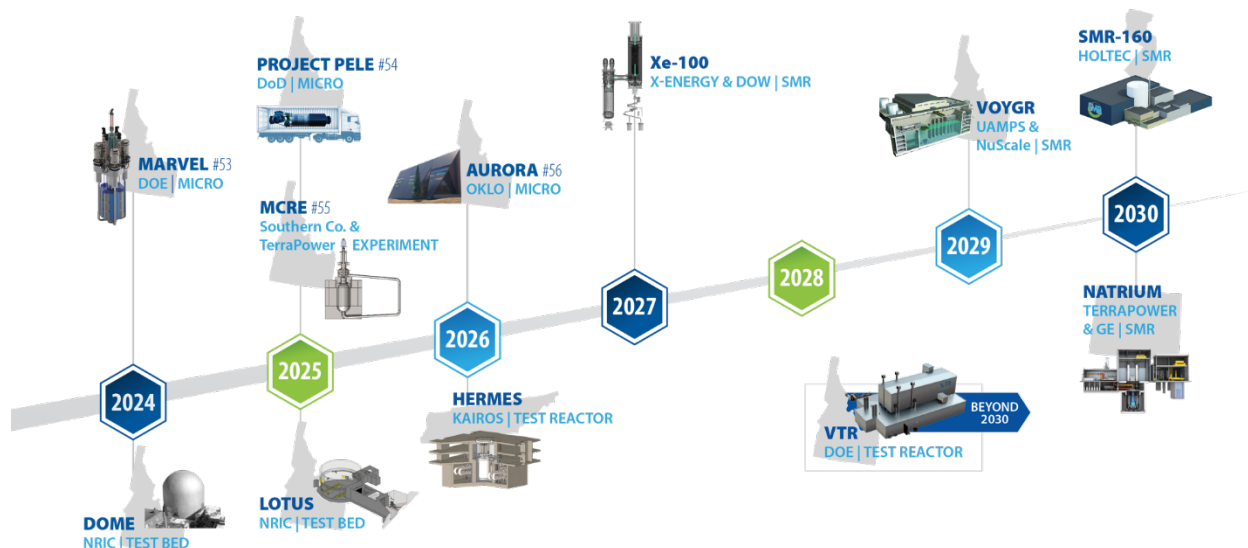
The Site is also a National Environmental Research Park, one of only seven in the nation. It is situated on otherwise unoccupied, undeveloped, semi- and high-desert terrain surrounded by prominent mountain ranges. All lands within the INL Site boundaries are a protected outdoor laboratory where scientists from DOE, other federal and state agencies, universities, and private research foundations conduct ecological studies.

There is an energy transition taking place across the Intermountain West region, challenging local communities to use carbon-free and renewable energy sources, turn household waste into biofuel, find solutions to water scarcity, and protect their power grids from cyber and physical threats. INL's current energy and cybersecurity assets are poised to address these challenges by innovating in five intersecting science and technology initiatives:

- Nuclear reactor sustainment and expanded deployment
- Integrated fuel cycle solutions
- Integrated energy systems
- Advanced materials and manufacturing for extreme environments
- Secure and resilient cyber-physical systems.

What are your region's top three areas of technical expertise or attributes that are relevant to DOE's missions?

Nuclear Energy Innovation Ecosystem As the nation's nuclear lab, INL's advanced nuclear programs are critical for sustaining the long-term operation of the nation's current fleet of commercial nuclear power plants and accelerating deployment of new advanced nuclear technology concepts. A small modular nuclear reactor, the first of its kind to be approved for civilian use in the United States, is poised to be in operation at INL in 2029. INL is also partnering with the industry partners, such as BWXT, Holtec, TerraPower, Oklo, Kairos Power, and Westinghouse, on demonstration and commercialization.



Emerging Cybersecurity Industry Southeast Idaho’s computing and cybersecurity industries paired with INL’s national security missions are areas of opportunity, using existing infrastructure throughout the regional corridor. These facilities focus on securing our nation’s energy infrastructure, analyzing wireless security, delivering threat analysis products, ensuring superiority in armor-related defense systems, and supporting other critical infrastructure across the region and country. INL’s Cybercore Integration Center and Collaborative Computer Center work together with the Center for Advanced Energy Studies (CAES) in Idaho Falls and the Idaho Federal Bureau of Investigation Data Center in Pocatello.

Clean Energy Goals Through Net-Zero Initiative With a goal to operate with net-zero carbon emissions by 2031, INL’s Net-Zero Initiative seeks to exemplify DOE’s clean energy goals in the region. INL is well positioned to use its capabilities to develop science and technology that enables a net-zero energy future by integrating innovative nuclear with a variety of other clean energy technologies. This includes pursuing an advanced nuclear reactor that can generate clean, abundant energy; replacing INL’s vehicle fleet with electric and hydrogen models; and using renewable energy to power its buildings, among other initiatives. INL’s unique site and operational activities make it an ideal platform to demonstrate proof-of-concept for net-zero technologies that can be deployed domestically and throughout the world. To accomplish this, INL is partnering with DOE and two other national labs as well as regional utility companies, industry, community leaders, and residents.

What untapped potential exists in your region?

Along the Interstate-15 (I-15) corridor, technology and cybersecurity industries and intellectual assets are rapidly expanding. INL is only one of many rising technology resources in the area. Some others are:

- CAES, a research and education consortium of INL and the public research universities of Idaho: Boise State University, Idaho State University, and University of Idaho. CAES integrates the universities and INL to solve critical energy challenges while providing workforce training opportunities and encouraging economic development.
- Grey Wolf, the Federal Bureau of Investigation (FBI) data center in Pocatello, Idaho. The data center consolidated almost 100 data centers throughout the U.S. Department of Justice and has 25,000 square feet of data floor space (with another 8,000 square feet for expansion).
- Silicon Slopes, a reference to the startup and technology ecosystem of Utah. Several cities in Utah, including Provo, Salt Lake City, and Ogden have been recognized as top cities for technology growth.
- Wyoming’s highly skilled, well-trained workforce. Wyoming is known as the “Energy State” because of its 100 years energy leadership and current experience with wind energy, hydrogen production, and carbon capture.
- College of Eastern Idaho (CEI), Idaho’s newest comprehensive community college, located in Idaho Falls. CEI represents the next wave of the East Idaho workforce—52% of students are less than 21 years old. Over 20% of the student population is from a minority group. In addition to traditional college degree programs, CEI offers customized workforce training, college and career readiness, general educational development (GED) completion, and English as a second language classes.
- The Snake River Basin region in Idaho is an emerging innovation ecosystem focused on energy and agriculture. The Snake River, a major waterway spanning over 1,000 miles, begins near Yellowstone National Park and ends near Pasco, Washington, where it merges with the Columbia River. The region is home to five federally recognized tribal nations in Idaho, including the Shoshone Bannock, Shoshone-Paiute, Coeur d’Alene, Kootenai, and Nez Perce. Catalyzing an innovation ecosystem in the Snake River Basin region will help to address the nation’s innovation disparity, address the needs for the complex landscape of land, water, and energy interactions likely to see challenges from climate change, and assure economic growth and sustainability for a growing population.

By creating an innovation hub, this region could unite to host qualified teams capable of solving current and future challenges in energy and cybersecurity. This technology ecosystem could link the needs of the energy sector with the greater population of the Intermountain West.

As a largely rural state, most of Idaho is recognized as an underserved area for medical, dental, and mental health care and for broadband services. Connecting education, industry, and government capabilities from the metropolitan area of Utah's Wasatch Front with the rural landscape of eastern Idaho, western Wyoming, and southern Montana would build infrastructure, improve local economies, and develop solutions to some of the greatest challenges of the West and the nation: clean and available energy, integrated energy systems, advanced transportation, and secure cyber assets.

What are the top three barriers to maximizing/growing your region's innovation ecosystem?

Infrastructure and Critical Service Needs As a largely rural region, the area is experiencing considerable growth. According to the American Communities Survey, Idaho is second in population growth. Bonneville County, which includes Idaho Falls, has seen a positive growth rate since 2011. Since 2017, the average number of new residents has been over 3,000 per year.

Despite the positive economic impact of growth, the influx of new residents to the region has strained current infrastructure and the availability of housing and resources. Funding for improvements and additions to infrastructure is necessary to support equitable, regional resource provision, service connectivity, and the development of industry and innovation.

Attracting and Retaining Talent A limited availability of high-paying jobs in the area has contributed to barriers to attracting and retaining qualified talent across sectors. Additionally, networks aimed at capacity-building have had challenges in connecting communities, universities, and private industry.

Training a Diverse and Skilled Workforce In 2021, Idaho had an education attainment rate of 51.8%, which includes graduate, bachelor, and associate degrees, certificates, and industry-recognized certifications. Bonneville county had a 42.2% attainment rate. Historically, rural and low-income populations have had lower rates of post-secondary education. The Idaho State Department of Education reports that in Spring 2022, Idaho Falls' two public high schools had low-income student populations of 15 and 24%. Barriers to retention of a highly skilled workforce can be compounded by the lack of institutions offering upskilling or certification programs aimed at providing talent pools for industry pipelines in the region.

What key areas of investment could be leveraged to realize untapped opportunities in your region?

Idaho Falls is the largest metropolitan area between Ogden, Utah, and Bozeman, Montana. It's also a major stop for tourists visiting the Greater Yellowstone and Teton areas. Since 2000, the population of the Idaho Falls area has grown over 30%. Idaho Falls serves as hub for critical services for East Idaho and beyond—including medical, education, and retail services. Growth in the energy sector and adjacent industries necessitates additional services and growth in the number, availability, and quality of these critical services to support and provide quality jobs to community residents. Growth in technologies will also increase demands for stronger regional partnerships among government entities, academic institutions, industry, and community to address regional needs and changes.

Part B—Place-Based Innovation Activity

B.1: Existing Activities: Describe the Existing Place-Based Innovation Activity in Your Region

INL has supported the development of place-based innovation as follows:

- February 2021: Battelle Energy Alliance (BEA) provided a \$55,000 grant to the City of Idaho Falls to explore creating an innovation district
- August 2022: INL hosted a workshop to support a regional coalition in efforts to pursue a National Science Foundation Innovation Engines grant
- August 2022: BEA supported the creation of the Snake River Basin Innovation District, a nonprofit entity with a mission of creating a regional innovation ecosystem.

How does the activity connect to the immediate region or other specific location?

INL is a leading institution in workforce development for the region, particularly in science, technology, engineering, and math (STEM), STEM-adjacent, and energy innovation career pathways. INL hosts STEM Scholars summer programs for students of all grade levels, hosts the My Amazing Future program for 8th-grade girls, sponsors the Idaho Hispanic Youth Leadership Summit, and provides STEM kits and speakers to area schools. INL also launched the INL Future Corps program, aimed at preparing the workforce of the future for both traditional STEM careers and STEM-adjacent jobs like technicians, operators, crafts, and skilled labor. This program builds on the laboratory's existing partnership and memorandum of understanding (MOU) with Shoshone-Bannock School District and a new MOU with the Idaho Falls School District.

INL also has a recognized internship program. Vault-Firsthand, the premier career building website that releases a list of the most prestigious and best companies for internships each year, listed INL among the nation's top internship opportunities. INL was the third best engineering internship opportunity and the 14th best internship experience in energy and renewables. INL was also the only national laboratory to make the list. In 2022, INL provided over 500 summer internships for high school and undergraduate students, 25 graduate fellowships, and over 100 post-doctoral appointments. These students come from across the country and internationally, hoping to gain real-world technical experience in the energy sector.

INL works alongside partners in the region to foster opportunities for small businesses, community and workforce development, and cross-sector relationships aimed at bettering the region. INL partners with CEI to develop industry-relevant courses, such as radiation safety and cybersecurity. The lab also participates in Talent Pipeline Management Initiative funded by the Idaho Workforce Development Council and trained by the U.S. Department of Commerce. These stakeholders will unite job providers and training and education programs to upscale and attract new talent to the area in sectors such as energy, healthcare, and construction management.

Regional partners seek to broaden their participation in workforce development and to make East Idaho a destination for inclusive and collaborative efforts in building a culture of scientific collaboration and impacts to the region through the innovation hub.

How does your activity engage with local/regional partners (e.g., Federal laboratories, industry, academia, financing/investment, community organizations, local and tribal governments, etc.)?

Local partnerships are critical to INL's success—including local government, universities, industry, and community organizations. Established partners include the City of Idaho Falls, Idaho State

University, University of Idaho, Boise State University, CEI, Regional Economic Development for Eastern Idaho, East-Central Idaho Planning and Development Association, Idaho Commission on Hispanic Affairs, Idaho Women's Business Center, and the Idaho Regional Optical Network.

In the advanced nuclear arena, INL and Idaho Falls are partners with the Utah Associated Municipal Power Systems (UAMPS). UAMPS provides electric energy services to 50 community-owned power member systems throughout the Intermountain West. The UAMPS Carbon-Free Power Project is the nation's first-generation small modular reactor nuclear plant and will be located at INL. The project will deploy six, 77-MW nuclear power modules provided by NuScale Power. Energy from the project will replace electric generation from coal plants that are nearing the end of their life cycles and will enable many members to completely decarbonize their energy portfolios.

In neighboring Wyoming, INL is collaborating on the research, development, demonstration, and deployment of TerraPower's Sodium Power Plant. While the plant will be built in Kemmerer, Wyoming, INL is providing the expertise and facilities to move the concept through testing, licensing, and construction.

Are there any DOE National Laboratories or Sites currently involved? If so, how?

As stated above, INL serves as a regional innovation center, focused on nuclear energy research and development, integrated energy systems, and cybersecurity. INL also provides opportunities for partnerships across sectors. Additionally, INL is a connector in the region surrounding talent and workforce development efforts, ensuring that educational institutions are preparing the next-generation workforce for the needs of the energy and adjacent industries.

INL is managed by BEA, which is wholly owned by Battelle. Battelle is an independent not-for-profit organization that advances science and technology to have the greatest impact on our society and economy. Battelle's proceeds are used to reinvest in the advancement of science and technology, as well as build schools to advance STEM programs.

How does the activity contribute to one or more of the aforementioned key elements of an innovation ecosystem?

- Talent: INL's internship, employee education, and regional partnerships all assist with workforce development.
- Infrastructure: INL and its partners provide research and development spaces for current projects.
- Technology: INL and many other regional entities exist to create scientific and technical knowledge throughout the research, development, demonstration, and deployment for commercialization and manufacturing in the energy, security, and technology sectors.
- Social capital: INL maintains partnerships with local governments, education entities, and organizations as well as across the globe to foster collaborations related to its mission.
- Collaboration with industry: INL partners with federal agencies, other national labs, industry, universities, and state and local governments to exchange knowledge, accelerate the technology development and commercialization, and promote workforce development.
- Community: INL has enjoyed local and regional community support for over 70 years.

How does the activity foster belonging, accessibility, justice, equity, diversity, and inclusion?

At INL, the diversity, equity, inclusion, and accessibility objectives are inherent to INL processes. In fact, inclusive diversity is one of INL's six core values. As detailed in a 2022 case study (Ulrich et al.

2022) and a feature story in Diversity Business Review (Carter 2019), inclusivity is an organizational value that has accelerated INL's performance across all aspects of operations: recruiting, hiring, promotion, compensation equity, professional development, supply chain management, community impact, research practice, and scientific achievement. Half of INL's staff live in Idaho Falls, which is home to four Justice40 census tracts, and nearly 70% of new hires live in the local region, which includes the lands of the Shoshone Bannock tribes.

What are the challenges for existing innovation activities in your region?

East Idaho and outlying areas are largely rural. Variations in community typology, geographic isolation, lack of infrastructure, and limited institutional resources give way to challenges in developing a region-wide strategy for growth. Resources and funding for workforce training, community and education development, collaboration needs, and increased infrastructure needs like housing, roads, services, and broadband connections are crucial to ensuring that INL and the region can support the future innovation levels projected.

How was this innovation activity initiated/funded?

Current INL and regional development funding has come from federal agencies, state and local governments, private industry, community development organizations, grants, and other vehicles.

B.2: Potential Activities: Describe Potential New or Expanded Place-Based Innovation Activities in Your Region

How would the new or expanded activity connect to the immediate region or other specific location?

Unprecedented growth combined with climate change in the Intermountain West, including East Idaho, are challenging local communities and exacerbating the need for more equitable access to clean and varied energy sources, solutions to water scarcity, protection of power grids, and innovations to support energy transitions away from fossil fuels. Where innovation hubs have typically developed on the coasts, East Idaho remains a left-behind region that contains untapped resources and opportunity.

Home to INL, Idaho Falls serves as a central location for regional service needs and is the proposed site for an innovation hub. In partnership with INL and other community stakeholders, the innovation hub seeks to demonstrate new energy and technology solutions while supporting a growing community through affordable, quality housing, quality medical care; education and workforce development opportunities; and community services and businesses.

How would your new or expanded activity engage with local/regional partners (e.g., Federal laboratories, industry, academia, funding/investment, community organizations, local and tribal governments, etc.)?

As described in the Existing Activities section above, INL maintains partnerships with many local and regional entities. Additional partnerships would be sought in Montana, Wyoming, and Utah. Together, this group of stakeholders seeks to establish governance that provides an efficient and equitable organizational structure, leading to the success of the region and associated public-private partnerships. Growing partnerships across the region, stakeholders seek to expand their impact by leveraging regional assets, encouraging small and disadvantaged business growth, developing next-generation talent, and providing equitable impacts to communities. Partners seek to foster economic growth through the strengths of the region in clean energy, cybersecurity, and advanced manufacturing. Additionally, efforts would be made to increase awareness of partners' capabilities and interests.

How would the new or expanded activity contribute to one or more of the aforementioned key elements of an innovation ecosystem?

- **Talent:** INL anticipates about 1,000 new positions and almost as many replacement positions in the next 4 years. The new staff will necessarily have a vast range of education levels, experiences, and backgrounds. The lab is collaborating with community and education leadership to build capabilities but more needs to be done to train local students. Additional outreach activities also need to be conducted to communicate INL's capabilities and draw talent from across the nation, especially from underrepresented and underserved populations.
- **Infrastructure:** Increased laboratory space is needed at INL for research, development, and demonstration. With the increased research comes a larger workforce and additional infrastructure demands.
- **Technology:** Creating an innovation hub will increase the ability to create partnerships and accelerate the development and commercialization of new technologies.
- **Capital:** Finances are needed to increase infrastructure and collaborations with regional partners.
- **Social Capital:** By design, the innovation hub would increase regional networking between INL, governments, universities, and private industry to increase technology development and accelerate its commercialization.
- **Policy:** By including local and state governments as innovation hub partners, communities would benefit from the innovations and industry would benefit from municipal and state support.
- **Collaboration with industry:** The innovation hub would seek to create many more regional partnerships between INL, universities, and the private sector, especially small and disadvantaged businesses, to increase the workforce, create new training opportunities, share capabilities, and accelerate technology moves to market.
- **Community:** Innovation partnerships will encourage new development in small, rural communities in new partnerships between INL, state and local governments, universities, and private industry. Increased infrastructure in regional communities would also be improved.

How would the new or expanded activity foster belonging, accessibility, justice, equity, diversity, and inclusion?

The innovation hub is poised to bring in more critical services and infrastructure that would enable Idaho Falls and East Idaho to serve as a connection point to partners across the region. However, with projected growth and the subsequent need for expanded services, the site of the innovation hub will also be a critical contributor of community capacity-building, connectedness, and culture center for the region.

The Fort Hall Indian Reservation sits between Pocatello and Idaho Falls. The community infrastructure and the proposed innovation hub will be sited on traditional Shoshone-Bannock land near the INL campus. Regarding land and resource use, energy provision, and traditional Indigenous Ways of Knowing, consultation with regional Tribal communities will be critical to promoting equity and environmental justice across the region. Consideration of Tribal perspectives, needs, and wants will be intrinsic to the development of the innovation hub and will rely on community buy-in.

Finally, the innovation hub is aimed at providing accessible services like more medical, dental, and mental health care, high-paying jobs and training programs for local industry, and a supportive culture to foster economic growth and increase the quality of life within regional communities. Drawing upon the resources of INL, the collaboration with community partners and stakeholders, and the consideration of rural, Tribal, and historically underserved communities, the hub serves to drive equitable and resilient growth and development.

What are the potential benefits of the new or expanded activity for your region?

Potential benefits to the region are multi-faceted. In January 2023, Idaho's Governor Little identified the availability of skilled workers as the #1 challenge facing Idaho employers. Thirty percent of INL's workforce is at least 50 years of age and approaching retirement. These facts, combined with a growth in business volume at the lab and across the region, make increasing the regional talent pipeline one of the most important regional focus areas. This coming shortage is not only for researchers but also for highly trained and qualified technicians, mechanics, and support staff. The lab and other employers also need personnel with a range of essential skills: the ability to manage projects; verbal and written communication skills; organizational skills; and computer and technological literacy.

Meeting the needs of the region's residents through provision of critical infrastructure and wrap-around services in adjacent and complementary industries is crucial to talent retention, community resilience, and quality of life for residents. Addressing the needs of underserved community members—including rural and Tribal communities—as a function of the innovation hub's job creation and availability of services is intrinsic to its success.

In addition to quality of life across the landscape, the hub is also aimed at providing workforce development and safe, high-paying jobs to the region. Programs through partners at INL, CAES, CEI, other universities, and private industry will assist in providing training, internships, and research opportunities for students and faculty partners. Partnerships focused on development of accessible training will be targeted to regional students to create talent pipelines in East Idaho and the surrounding areas.

What are the potential challenges for new innovation activities in your region?

Challenges to new innovation consider the largely rural landscape of Idaho and impacts of growth, particularly in East Idaho. Across the region, population growth under current infrastructure has necessitated more support of individuals, families, schools, and communities to meet daily basic needs. Issues such as availability and affordability of housing, access to critical services, and increases in household expenditures from inflation, have stretched current infrastructure, leaving minimal resources to establish innovation activities.

Additionally, the growing energy sector and industry in East Idaho is seeing challenges in recruiting, retaining, and training a highly skilled workforce for the future. Training program qualifications need to be merged with emerging career pathways and talent pipeline needs. The innovation hub seeks to reconcile this through its partnerships in education, industry, and in cooperation with local government and human services organizations. With efforts to address equity, inclusion, and environmental justice built into the design, the innovation hub seeks to provide value-added quality-of-life services like accessible healthcare, housing, and green spaces, among others.

What level of support would be required to facilitate the new or expanded activity?

Funding is needed to support STEM education and workforce development activities in the region. Innovation hub partnerships will aim at developing a comprehensive talent pipeline strategy that considers the complex sociocultural, economic, historical, and political conditions of the regions, the nuances of rural and small municipal infrastructure, and the area's current level of growth.

What are potential sources of support for this expanded or new activity?

Partnerships in support of the innovation hub and collaboration have been forged in East Idaho and in the region. For example, a need was identified for engineering technicians in the energy sector. In a public/private partnership, Idaho State University established the Energy Systems Technology and

Education Center (ESTEC). ESTEC personnel work with the energy industry to identify needed skills; students then enter the workforce with the precise skills needed to succeed. In another example, Utah's Workforce Services is networking with employers to increase hiring of individuals with disabilities and veterans.

In an effort to understand areas of opportunity, INL conducted a regional analysis to assess growth and needs of the workforce in leading industries such as professional, scientific, and technical services; healthcare and social assistance; and retail trade.

The State of Idaho has also done an analysis and recently started a new program called Idaho LAUNCH to match an individual's skills with employer needs. Once a jobseeker has entered their data, they are paired with a career planner to identify professional development opportunities and grant access to program funds.

Surrounding community services such as the Idaho Workforce Development Council, Regional Economic Development for Eastern Idaho, the region's universities and community colleges, and other leading industries in the area have partnered with INL to envision cross-sector support of workforce development, population growth, and community resilience. The Idaho Workforce Development Council will sponsor project managers housed at CAES to support workforce and talent pipeline needs across industries in East Idaho. Additionally, continued collaboration between learning institutions and employers will ensure that specific career readiness objectives are built into training programs and that they are tailored to sector needs and upskilling employees.

Stakeholders and partners have aligned in East Idaho to support one another in both attracting and retaining talent but recognize that additional infrastructure and groundwork for improved quality of life for residents are needed to buttress expansion of industry. While workforce development is a cornerstone of the innovation hub, partners have established that they will work together to provide support for housing, infrastructure, education, and necessary social services that foster greater community vitality and sustainability.