



THE WHITE HOUSE  
WASHINGTON

# White House Advanced Manufacturing Workforce Sprint

*Community College Webinar*

January 8, 2024

# Welcome

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- Lael Brainard, Director, White House National Economic Council
- Rachel West, Special Assistant to the President for Labor and Workers, White House Domestic Policy Council
- Jen Mishory, Senior Advisor on Workforce Development and Education, Office of the First Lady, White House



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# Department of Labor

Manny Lamarre, Senior Advisor  
Employment and Training Administration, U.S. Department of Labor

# Advanced Manufacturing – The Opportunity

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**\$440 M**

**10%**

**34%**

**22%**

# Advanced Manufacturing – Leveraging Tools & Resources

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**Investments**

**Guidance**

**Technical  
Assistance**

**Partnerships**

# Leveraging Investments

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- **DOL Building Pathways to Infrastructure Jobs Grant Program**
  - **Apprenticeship Building America Grant Program**
- **State Apprenticeship Expansion Formula & Competitive**
  - **Strengthening Community Colleges Training Grant**
    - **WIOA**

## Good Jobs Principles



- "Increasing Employer and Workforce System Customer Access to Good Jobs"  
TEGL
- "Building Pathways to Infrastructure Careers"  
TEN
- Workforce Innovation and Opportunity Act  
Title I Youth Formula  
TEN

# Technical Assistance – Expanding Apprenticeship

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## Example Registered Apprenticeships

- Aerospace Engineer
- CNC Machine Operator
  - Tool and Die Maker
  - Plastics Fabricator
- Mechanical Engineering Technician
  - Mechatronics Technician
  - Precision Machinist
- Industrial Manufacturing Technician
  - Maintenance Mechanic
  - Robotics Technician
  - Quality Technician

- Expanding Community College Apprenticeships Resources (AACCC)
- Work with our Advanced Manufacturing Intermediaries
  - [Interstate Renewable Energy Council \(IREC\)](#)
  - [Jobs for the Future \(JFF\)](#)
  - [Manhattan Strategy Group \(MSG\)](#)
  - [National Institute for Innovation and Technology \(NIIT\)](#)
  - [Virginia Manufacturers Association \(VMA\)](#)
- Attend an apprentice event or visit [Apprenticeship.gov](http://Apprenticeship.gov) for resources
- Competency-based Occupational Frameworks on [CareerOneStop.org](http://CareerOneStop.org)



# Partner with the workforce system

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- **Local workforce boards**
- **WIOA and Perkins State Planning**
- **Job Corps Partnerships**



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# Department of Education

Noah Brown, Senior Advisor,  
Office of Career, Technical and Adult Education, U.S. Department of Education

# Creating pathways and sustainable pipelines of talent into manufacturing for new/returning workers and underemployed adults

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- Raising the Bar - Unlocking Career Success Initiative: Blurring the lines between secondary and postsecondary to create better workforce-aligned career and occupational pathways.
- New \$25M Career Connected High School Grant NIA (in process now): Aligning secondary, postsecondary, and business and industry.
- WIOA Title II: Supporting adults to transition back to postsecondary education and reskilling.
- Representation on IWGs related to advanced manufacturing
- Lead agency - Columbus Workforce Hub and Semiconductors



# Creating pathways and sustainable pipelines of talent into manufacturing for new/returning workers and underemployed adults (*cont.*)

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- Federal Pell Grants and undergraduate certificate programs related to STEM and manufacturing.
- 34 statewide free tuition programs; 425 local programs to remove financial barriers to the manufacturing workforce.
- Second Chance Pell and restoration of Pell for incarcerated individuals and justice-involved adults.
- Help community colleges leverage industrial talent and expertise to build and sustain workforce programs.





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# Department of Commerce

Rachel Lipson, Senior Policy Advisor  
CHIPS for America, U.S. Department of Commerce

# CHIPS and Science Act presents huge potential for community colleges

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- The \$250 billion CHIPS and Science Act (the Act) includes authorization of 33 programs supporting STEM-related education, training and outreach.\*
- The Act includes focus on strengthening U.S. competitiveness in 10 “Key Technology Focus Areas” which support advanced manufacturing, R&D, innovation, and workforce development.\*
- Department of Commerce programs include CHIPS for America Manufacturing Incentives; CHIPS for America Research and Development; Technology and Innovation Hubs (“Tech Hubs”); Manufacturing Extension Partnership; Manufacturing USA; Recompete Program

# Semiconductor manufacturing overview

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## Semiconductor investments:

- Commerce implementing **\$39B CHIPS manufacturing incentives** and **\$11B CHIPS R&D** programs.
- In addition to federal funding, **over \$234B in private investments in semiconductor manufacturing** have been announced since the start of the Biden-Harris Administration.
- **At least eight states** have announced new funding to support education and workforce opportunities in semiconductor manufacturing since the passage of the Act.
- **Over 50 community colleges across 19 states** have announced new or expanded programs to help Americans access good jobs in semiconductors since the passage of the Act.

## Semiconductor jobs:

- As part of the CHIPS for America vision, Secretary Raimondo has called on the U.S. to **double the semiconductor workforce overall, triple the number of graduates in semiconductor-related fields, and train 100,000 new technicians.**
- Over 60% of semiconductor manufacturing jobs **do not require a bachelor's degree.**\*
- Student applications to jobs posted by semiconductor companies **increased 79% in 2022-2023**, vs. just 19% for other industries.\*\*

# CHIPS for America workforce opportunities

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- Workforce development is an **eligible use of funds for CHIPS manufacturing incentives**. CHIPS expects most incentives awards to include dedicated funds for workforce development and **\$500M+ in public and private investments** in workforce development associated with CHIPS-funded projects. Applicants are required to submit a workforce development plan and must partner with education or training providers.
- For the latest funding incentives opportunity for smaller supply chain projects, **regional consortia are strongly encouraged**, which could include workforce development partners.
- **State and local investments in education and training** to support semiconductor workforce development are “**covered incentives**,” a requirement for a project to qualify for CHIPS incentives funds.
- Workforce development is one of the top three stated objectives for the **National Semiconductor Technology Center**, a public-private consortium; and workforce development is integrated into all CHIPS R&D efforts.



# Economic Development Administration (EDA) Investments

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- Community colleges are almost always eligible to apply for EDA programs, though some EDA programs may require a community college to organize and apply together with other local entities under one consortium application.
- Many EDA programs support workforce development in advanced manufacturing, including:
  - **STEM Talent Challenge:** funds STEM-based training projects
  - **Build to Scale Program:** technology-based economic development grant that seeks to grow and nurture regional innovation ecosystems
  - **Good Jobs Challenge:** links employer needs with targeted training in high-demand jobs through sector-specific strategies
  - **Tech Hubs Program:** invests in geographically diverse regions to create, scale, and deliver critical technologies, industries, and jobs of the future
  - **Recompete Pilot Program:** place-based grant program to make large scale, transformational investments in local communities and labor markets
  - **Build Back Better Regional Challenge:** supports regional cluster growth, including workforce

# Manufacturing USA (MFG USA) and Manufacturing Extension Partnership (MEP) Opportunities

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- **MFG USA has institutes** across 17 technology areas, comprised of 2,600 members. 22% of MFG USA members are colleges & universities and each institute has an Education and Workforce team. In 2022, over 79,000 students and 4,000 educators participated in MFG USA STEM activities and training.
- MFG USA membership can connect community colleges to a vast network of local, regional, and national manufacturers – most of which are small and medium manufacturers **AND they are looking to partner on existing student programs.**
- The **MEP National Network** consists of MEP Centers located in all 50 states and Puerto Rico, each offering a wide range of workforce development programs and resources.
- Many community colleges are members of their MEP Networks, and **many community colleges partner with centers** to deliver standard or customized training and improve industry outreach, education, and services.

# Example Projects with Community College Partnerships

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- **Ohio Manufacturers' Association (OMA)** has a project funded (\$23M) through the **Good Jobs Challenge** supporting the growth of a diverse, new generation of skilled manufacturing workers in partnership with over 100 employers including Honda, Lincoln Electric and Kenworth. **Lorain County Community College** is a sub-awardee.
- **St. Louis Community College (STLCC)** –As part of the Workforce Development spoke of the St. Louis Tech Triangle hub and Greater St. Louis **Build Back Better Regional Challenge Coalition**, BBRC is funding equipment purchase and installation (\$3M) for STLCC students to use, maintain and repair up-to-date equipment used in robotics, robotic welding, programmable logic controllers, drone technology, geospatial technology, and other advanced manufacturing fields.
- **Austin Community College** - received a **STEM Talent Challenge award** in 2023 which will allow the college to launch an affordable, short-term, high-quality training program for entry-level semiconductor manufacturing equipment maintenance and repair technicians.
- **Santa Fe Community College** - won a 2023 **Build to Scale award** as part of a consortium with the North American Intelligent Manufacturing Initiative (NAIMI) to develop a locally representative workforce needed in the cybersecurity/IT/advanced manufacturing sectors in Santa Fe, NM.

# Recap: What Should Community Colleges Do?

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- Talk to **industry partners about their upcoming projects** that will require workforce training, including semiconductor manufacturers and equipment and materials manufacturers. Use the [Investing in America map](#) and the [CHIPS Teaming Partner](#) list as resources.
- Talk to your **states and localities about new workforce investments** to support advanced manufacturing priorities, and encourage them to invest in education and workforce to help meet state and local incentives requirements for CHIPS incentives funding.
- Reach out to [Good Jobs Challenge grantee leads](#) in your region to see if they are seeking partners.
- Reach out to your Tech Hubs applicant leaders to **incorporate your work into the broader Tech Hub Strategy**. You can find points-of-contact for each Hub at [techhubs.gov](#), and you can reach the Tech Hubs team at [techhubs@eda.gov](mailto:techhubs@eda.gov) (Phase 2 Deadline: Feb 29).
- Visit the [Recompete website](#) to **view the 22 Finalists** and explore potential opportunities for collaboration (Phase 2 Deadline April 25).
- Check out your [local MEP Center](#) and the [MFG USA Network](#) for resources and potential partnerships.



# National Science Foundation

James L. Moore III, Assistant Director for STEM Education (EDU)

Erwin Gianchandani, Assistant Director for Technology, Innovation and Partnerships (TIP)

National Science Foundation

# NSF's mission





# NSF's STRATEGIC PRIORITIES

## STRENGTHENING ESTABLISHED NSF

With **investments that expand the frontiers of knowledge and discovery**

## INSPIRING MISSING MILLIONS

Using **capacity building and interventions** that enhance and broaden participation

## ACCELERATING TECHNOLOGY AND INNOVATION

Through innovative, **cross-cutting partnerships** and programs



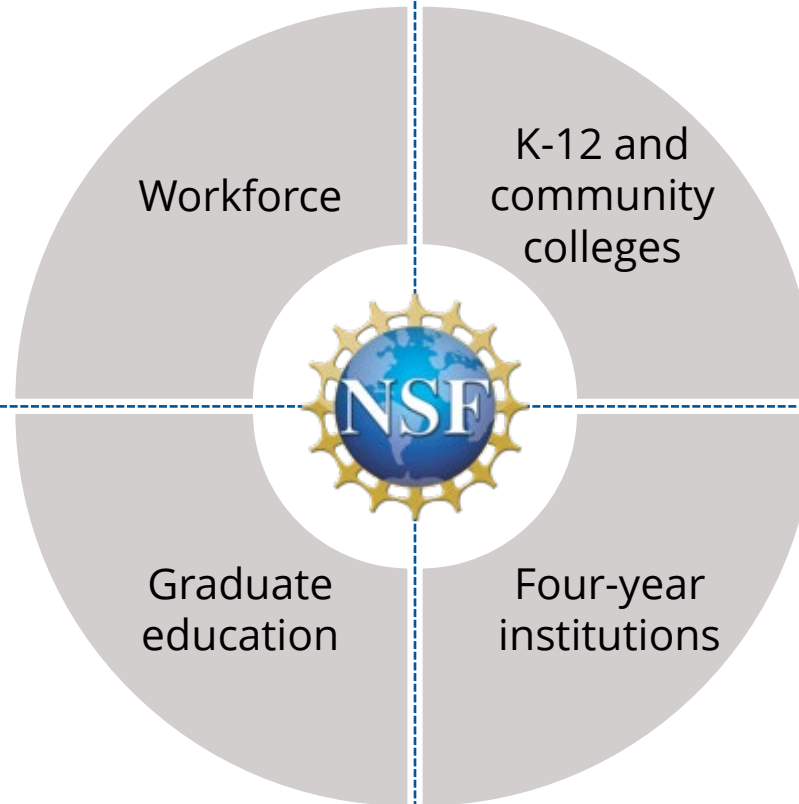
# NSF leads STEM education, incl. advanced mfg., by “meeting people where they are”

## Experiential Learning in Emerging and Novel Technologies (ExLENT)

- Invests in practical experiences, incl. for the current workforce looking to reskill in emerging technologies
- Anticipated to touch 1,000 students beginning this year

## Non-Academic Research Internships for Graduate Students (INTERN)

- Invests in internships for NSF-funded graduate students



## Advanced Technological Education (ATE)

- Invests in advanced technician training
- Touches ~39,500 students, 8,700 teachers annually

## Scholarships for STEM (S-STEM)

- Invests in low-income students
- Has touched >100,000 students in nearly every state, plus PR and USVI, since 2006





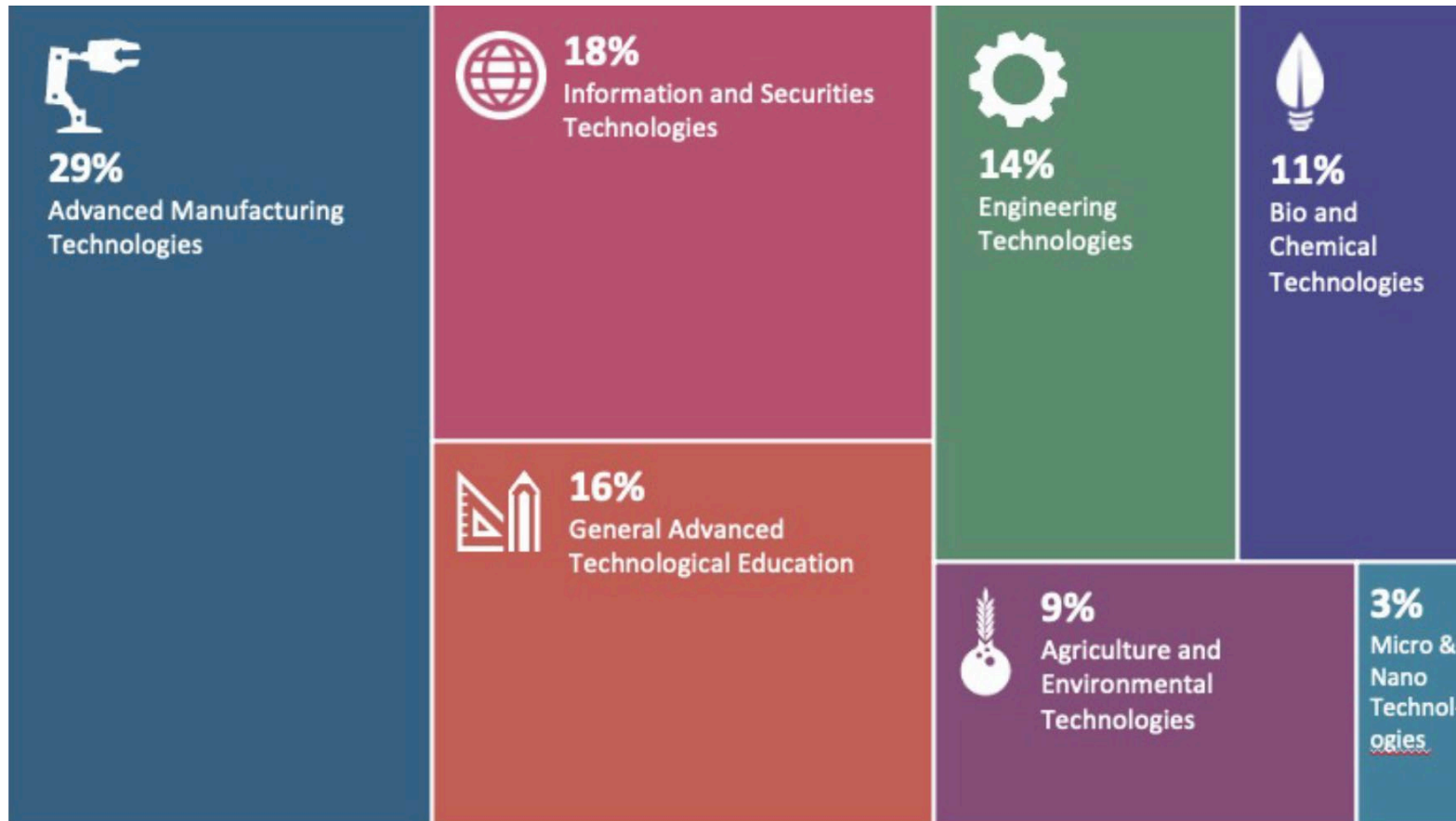
# Advanced Technological Education (ATE) program

- NSF's major program targeting the *skilled technical workforce*
- Focuses on:
  - Technician education for the high-tech fields that drive the U.S. economy
  - Community and technical colleges (two-year colleges)
  - Associate degree programs and certificate programs
  - Pathways: secondary school (Career & Technical Education) → community college → four-year college/university
  - Partnerships: community colleges, employers, four-year colleges/universities, K-12 schools
- Supports all fields of technology
- Awards range from \$70k to \$7.5M



# ATE highlights

The program reaches ~40,000 students and 9,000 teachers every year, and its awards focus on many areas of technology....

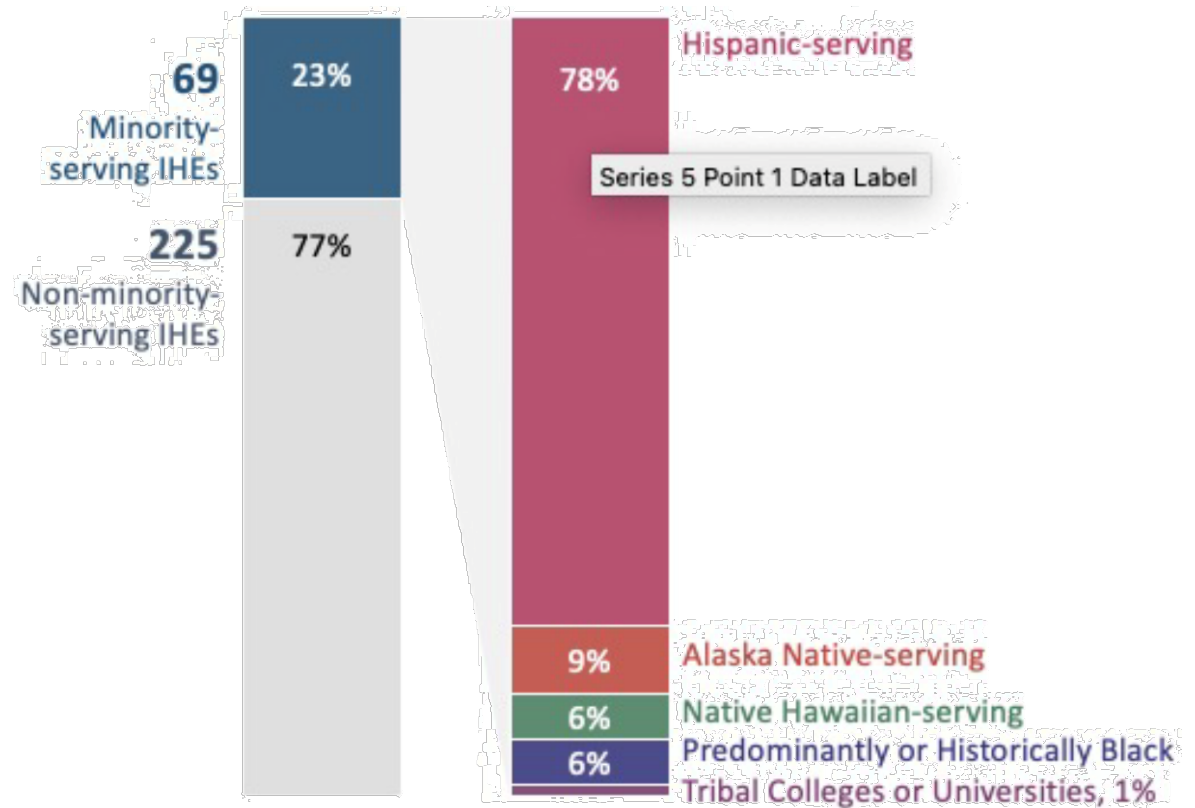


# ATE highlights

Most ATE grantees are located at **two-year colleges**, followed by **four-year colleges and universities** and **nonprofits**.



Two-year colleges must have a significant leadership role in *all* projects.



# ATE centers focused on advanced manufacturing

National Center for  
**NEXT  
GEN**  
MANUFACTURING



*Tunxis Community-Technical  
College, Connecticut*



National Center for Welding  
Education and Training

*Lorain County Community  
College, Ohio*



ADVANCED TECHNOLOGICAL  
EDUCATION CENTER

*FloridaMakes in Orlando*



*Bemidji State University, Minnesota*



*Clemson University, South Carolina*



# Experiential Learning for Emerging and Novel Technologies (ExLENT)

- New program launched in October 2022; first awards totaling nearly \$19 million announced in September 2023
- Goals:
  1. Expand access to career-enhancing experiential learning opportunities for a broad, diverse population, including those who are entering/reentering the workforce and those who are reskilling/upskilling
  2. Promote cross-sector partnerships between organizations with expertise in emerging technology and organizations with expertise in workforce development
  3. Develop a workforce aligned with regional economies based on emerging technologies
- Award size and duration: up to \$1M for up to 3 years



# ExLENT highlights



*“Large scale societal challenges like climate change and clean energy require a STEM workforce that brings varied perspectives and expertise to further accelerate the translation of science and engineering discoveries into large scale solutions.”*

- Program Synopsis, NSF ExLENT (Experiential Learning for Emerging and Novel Technologies)



## Empowering STEM Cohorts for Biomanufacturing Careers

The \$1 million grant aims to create robust pathways for students in emerging biomanufacturing technologies. The project offers internship, pre-apprenticeship, and apprenticeship experiences in biomanufacturing, targeting underrepresented groups in STEM (Science, Technology, Engineering, and Mathematics).

This groundbreaking initiative will enhance the employability of MiraCosta students and address the need for an inclusive, diverse, and skilled workforce in the industry. The project is in alignment with the NSF ExLENT Program.



# NSF Regional Innovation Engines (NSF Engines) program

## NSF Regional Innovation Engines (NSF Engines)

program supports the development of diverse, regional coalitions to engage in use-inspired research, drive research results to the market and society, promote workforce development, and ultimately stimulate the economy and create new jobs.

NSF Engines: up to **\$160 million** for up to **10** years

NSF Engine Development Awards: up to **\$1 million** for up to **2** years to plan for a future NSF Engine

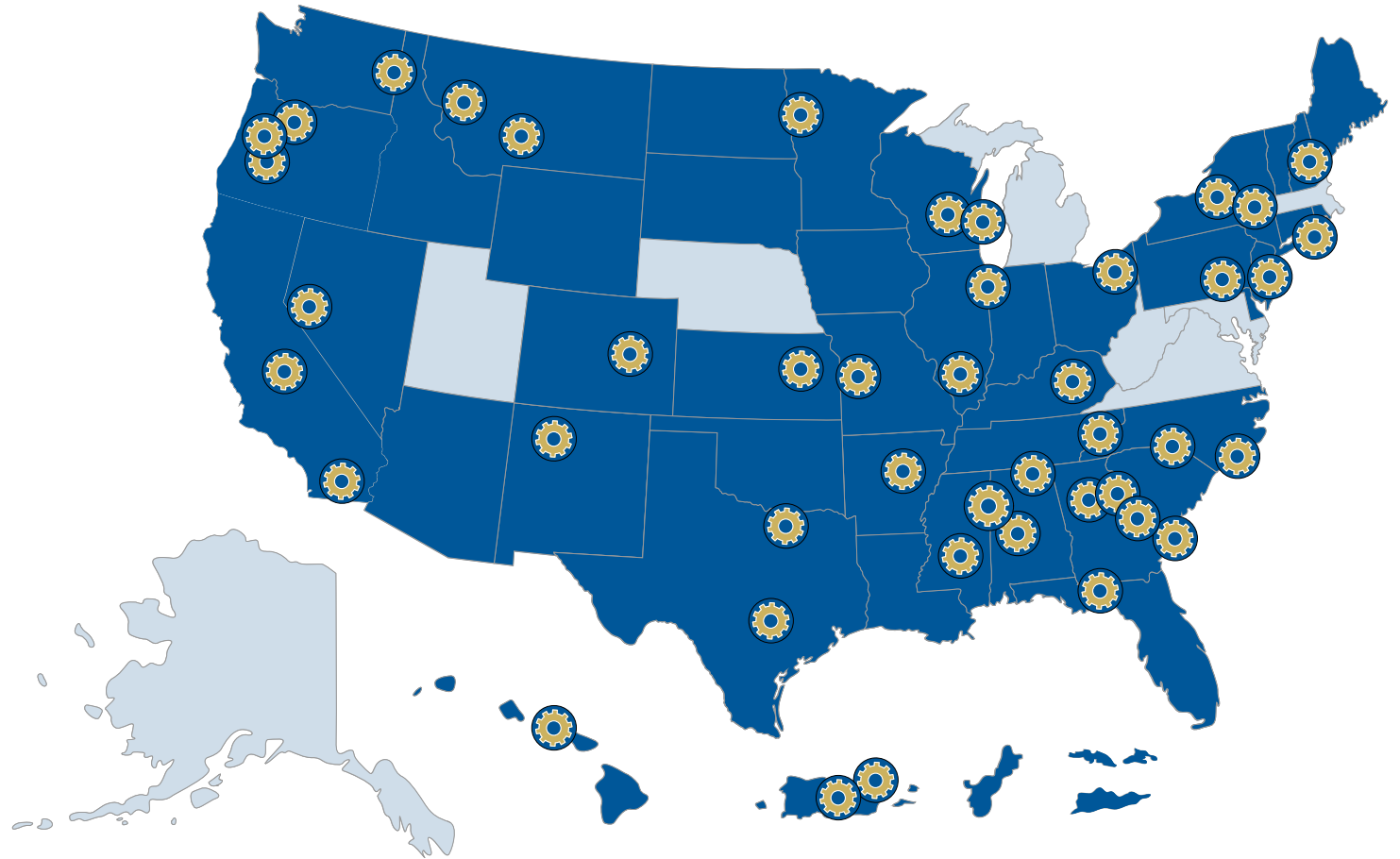


Opportunity available to:

-  Academia
-  Nonprofits
-  Business & Industry
-  State, Local, Tribal Governments

# NSF Engine Development Awards

- **\$43 million** investment, announced in May 2023
- **44 awards** across **46 states and U.S. territories**
- **Establishes the connections** for building robust economic development ecosystems



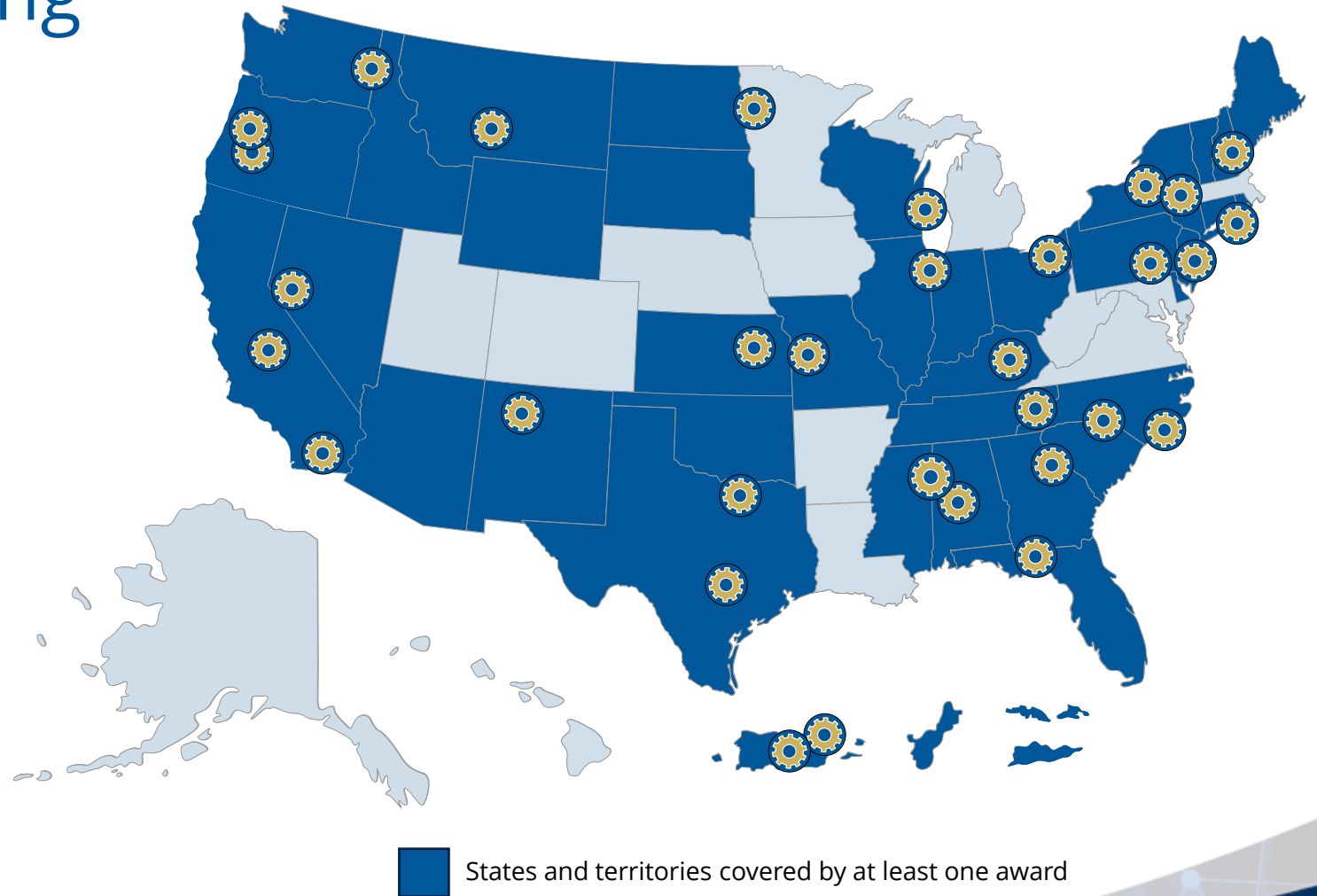
 States and territories covered by at least one award





# NSF Engine Development Awards: Advanced Manufacturing

- **32 awards** totaling **\$31.5 million** across **37 states and territories**
- **Strong emphasis on workforce development** in K-12 districts, community/technical colleges, four-year institutions







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# How to Join the Sprint and Recap of Key Resources

Rachel West, Special Assistant to the President for Labor and Workers  
White House Domestic Policy Council

# How to Join the Sprint and Recap of Key Resources

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## Join the Sprint!

- Complete the Advanced Manufacturing Sprint [survey](#)
  - *Hyperlink is also in invitation to this webinar*

## Key Resources:

- White House [factsheet](#) on the Sprint
- DOL Advanced Manufacturing [Apprenticeship Accelerator](#)
- CHIPS [Teaming Partners List](#)
- [Good Jobs Principles](#) from Departments of Commerce and Labor