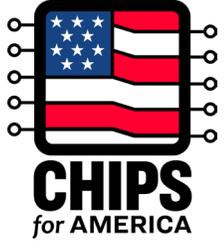


# Building the U.S. Semiconductor Workforce CHIPS for America Workforce Update



November 15, 2023



# CHIPS for America Programs

## \$39 billion for manufacturing

Components:

1. Attract large-scale investments in advanced technologies such as leading-edge logic and memory
2. Incentivize expansion of manufacturing capacity for mature and other types of semiconductors

## \$11 billion for R&D

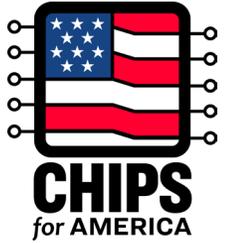
- National Semiconductor Technology Center
- National Advanced Packaging Manufacturing Program
- Manufacturing USA institute(s)
- National Institute of Standards and Technology measurement science

Together with  
CHIPS  
initiatives from  
other agencies,  
including DOD,  
State, NSF,  
and Treasury



# CHIPS Workforce Call to Action

*OVER THE NEXT DECADE...*



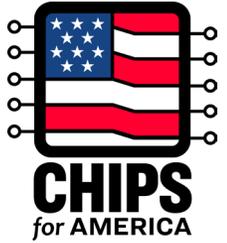
**Double** the U.S. semiconductor workforce overall.

**Triple** the number of graduates in semiconductor-related fields, including engineering.

**Train 100,000 new technicians** through apprenticeships, career and technical education, and career pathway programs.

Expand recruitment for **more people from underserved communities** – including women and veterans – to launch semiconductor industry careers.

Hire and **train an additional million women in construction** to meet the demand across a range of industries, including CHIPS projects.



# Key Workforce Milestones to date

*SINCE THE PASSAGE OF THE CHIPS AND SCIENCE ACT...*

At least **seven states** have dedicated new funding to support workforce training for semiconductor jobs.

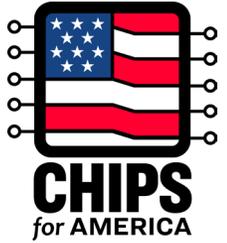
Over **50 community colleges** across **19 states** have announced new or expanded programming to support semiconductor opportunities.

Semiconductor companies partnering with labor unions to recruit, train and retain a skilled construction workforce, **including several that committed to Project Labor Agreements.**

CHIPS for America has engaged directly with **education and training partners in over 25 states**—including hosting in-person workforce roundtables and listening tour sessions.

NSTC Vision and Strategy Paper named workforce development as one of **NSTC's Top Three priorities**

# 2023 Workforce Development Progress



U.S. Department of Commerce  
Workforce Development Strategy

CHIPS for America NSTC  
Vision & Strategy Paper

Workforce Development  
Planning Guide

Industrial Advisory  
Committee R&D  
Workforce  
Working Group

CHIPS for  
America  
Teaming  
Partner List

**Workforce Development Principles**

Our workforce development strategy guided by 11 core principles:

- 1 Ensures it is employer-led to better connect skilled workers to quality jobs.
- 2 Includes partners like educational institutions, labor unions, community-based and economic development organizations.
- 3 Offers wrap-around services to support vulnerable populations.
- 4 Advances educational and workplace diversity, equity, inclusion, and accessibility.
- 5 Prioritizes proven earn-and-learn models like Registered Apprenticeships.
- 6 Leads to stackable, industry-recognized credentials and ensure that information is publicly accessible.
- 7 Measures outcomes such as workers' employment and earnings.
- 8 Builds sustainable systems and partnerships.
- 9 Connects workforce development to economic development.
- 10 Coordinates across the federal government.
- 11 Encourages other government and private funding.

**CHIPS for AMERICA**

**Workforce Development Planning Guide**

Guidance for CHIPS Incentives Applicants

CHIPS Program Office  
March 27, 2023

**CHIPS for AMERICA**

**A VISION AND STRATEGY FOR THE NATIONAL SEMICONDUCTOR TECHNOLOGY CENTER**

CHIPS Research and Development Office  
April 25, 2023

U.S. DEPARTMENT OF COMMERCE  
NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY  
INDUSTRIAL ADVISORY COMMITTEE

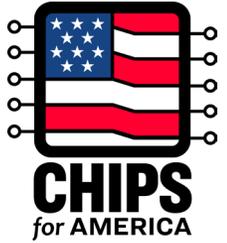
CHARTER

1. **Committee's Official Designation.** Industrial Advisory Committee.
2. **Authority.** The Industrial Advisory Committee (IAC or Committee) is established by the Secretary of Commerce, in consultation with the Secretary of Defense, the Secretary of Energy, and the Secretary of Homeland Security, pursuant to the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Act), Public Law Number 116-283, § 9906(b), in accordance with the Federal Advisory Committee Act, as amended (FACA), 5 U.S.C. App.
3. **Objectives and Scope of Activities.** The Committee shall act in the public interest to provide advice to the Secretary of Commerce through the National Institute of Standards and Technology (NIST) on matters relating to microelectronics research, development, manufacturing, and policy.
4. **Description of Duties.** The Committee will function solely as an advisory body, in accordance with the provisions of FACA. The Committee shall assess and provide guidance to the Secretary of Commerce, through NIST, on—
  - (A) science and technology needs of the nation's domestic microelectronics industry;
  - (B) the extent to which the strategy developed under section 9906(a)(3) of the Act is helping maintain United States leadership in microelectronics manufacturing;
  - (C) assessment of the research and development programs and activities authorized under section 9906 of the Act; and
  - (D) opportunities for new public-private partnerships to advance microelectronics research, development, and domestic manufacturing.

The Committee shall not participate in selecting recipients of federal financial assistance.



# Key Incentives Program Workforce Updates



Most CHIPS incentives awards for construction, modernization or expansion of manufacturing facilities will include dedicated funds for workforce development.

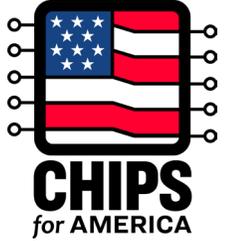
Public and private workforce investments in CHIPS-funded facilities expected to exceed \$500 million, based on commitments and industry benchmarks.

Workforce data collection will be embedded in awards to support long-term efforts

CHIPS for America expects new commitments to Registered Apprenticeships and pre-apprenticeships as a result of CHIPS awards.

CHIPS for America staff expect to work closely with incentives recipients and regional education and training partners to support implementation of workforce strategies.

# NSTC Workforce Center(s) of Excellence Concepts



## ***FOUR KEY ROLES:***

**Convene** industry, research, education, government and labor stakeholders

Collect data to measure the success of existing programs and guide future investment

**Scale up** proven programs

**Pilot new efforts**, including initiatives to engage underserved communities