

CHIPS for America SEDE Leadership Briefing

Presented by Sam Marullo

December 2022



NIST



Chips are the foundation of the modern world

One Hundred Seventeenth Congress
of the
United States of America

AT THE SECOND SESSION

*Begun and held at the City of Washington on Monday,
the third day of January, two thousand and twenty-two*

An Act

Making appropriations for Legislative Branch for the fiscal year ending September 30, 2022, and for other purposes.

*Be it enacted by the Senate and House of Representatives of
the United States of America in Congress assembled,*

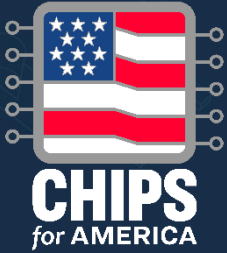
SECTION 1. TABLE OF CONTENTS.

The table of contents for this Act is as follows:

- Sec. 1. Table of contents.
- Sec. 2. References.

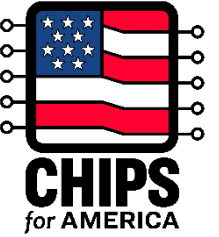
DIVISION A—CHIPS ACT OF 2022

- Sec. 101. Short title.
- Sec. 102. Creating helpful incentives to produce semiconductors (CHIPS) for America fund.
- Sec. 103. Semiconductor incentives.
- Sec. 104. Opportunity and inclusion.
- Sec. 105. Additional GAO reporting requirements.
- Sec. 106. Appropriations for wireless supply chain innovation.
- Sec. 107. Advanced manufacturing investment credit.



The CHIPS and
Science Act
of 2022

CHIPS for America Vision



Economic Security

This act enables us to build more resilient supply chains for important components.



National Security

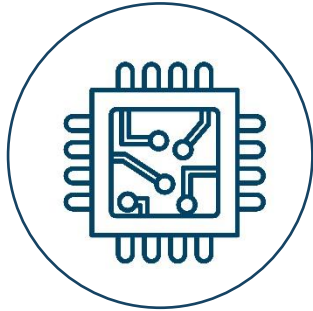
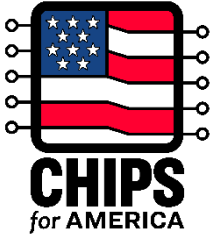
This act enables us to bring the most sophisticated technologies back to the U.S.



Future Innovation

Chips are key to the technologies and industries of the future, so we need to be at the forefront. This act will ensure long-term U.S. leadership in the sector.

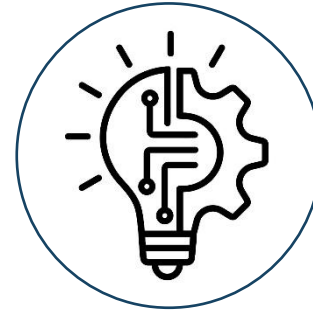
CHIPS for America will:



Return leading-edge chip manufacturing to U.S.



Expand capacity to make current/mature chips and critical supplies



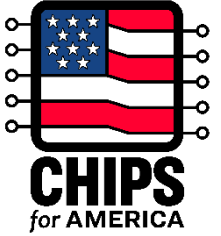
Reinforce U.S. strengths in chip design and equipment



Grow a U.S. workforce and strengthen communities

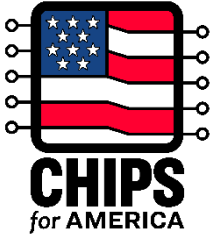
Create a domestic semiconductor ecosystem for national and economic security

Guiding Principles



- 1 Meet economic and national security needs
- 2 Ensure long-term leadership in the sector
- 3 Strengthen and expand regional clusters
- 4 Catalyze private sector investment
- 5 Generate benefits for a range of stakeholders and communities
- 6 Protect taxpayer dollars

CHIPS for America Incentives



\$39 billion for manufacturing

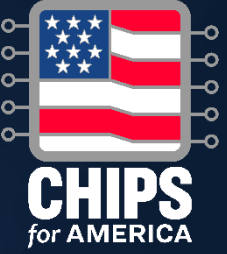
- Incentivize expansion of manufacturing capacity for semiconductors
- Attract large-scale investments in advanced technologies such as leading-edge logic and memory
- Advance U.S. technical leadership
- NDAA Section 9902

\$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
- NDAA Section 9906

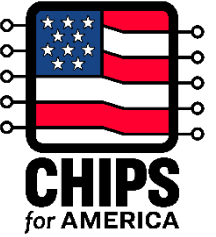
Together with CHIPS initiatives from other agencies, including DOD, State, NSF, and Treasury

Workforce development

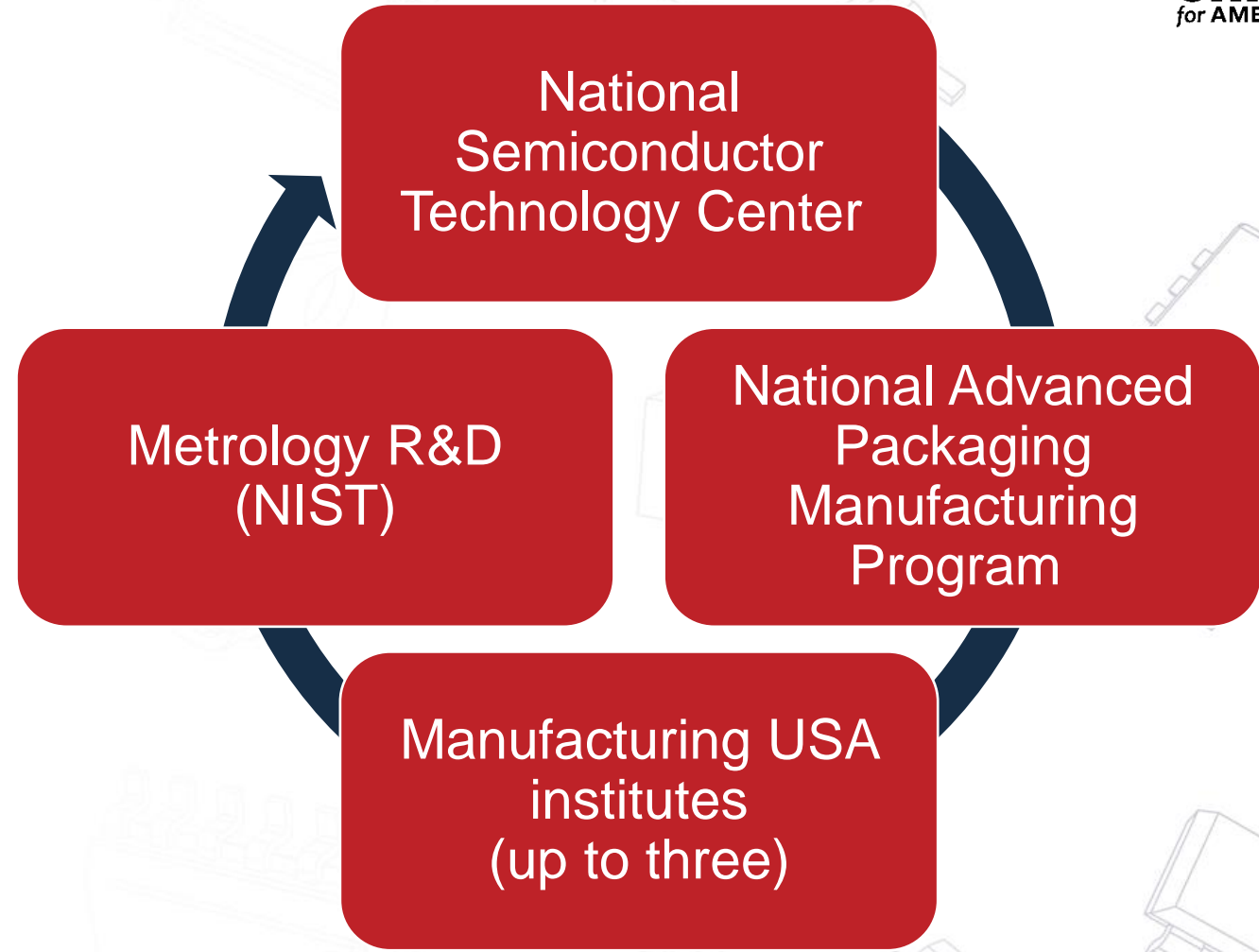


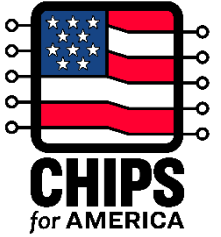
CHIPS R&D OVERVIEW

Research & Development



- Strengthen and advance U.S. leadership in R&D
- An integrated ecosystem that drives innovation
- In partnership with industry, academia, government, and allies
- A strategic view of R&D infrastructure, participant value-proposition, and technology focus areas
- Informed by the Industrial Advisory Committee





INDUSTRIAL ADVISORY COMMITTEE

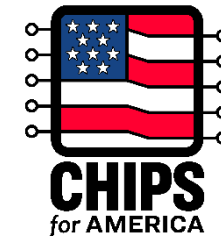
ADVISES THE SECRETARY OF COMMERCE ON

- The science and technology needs of the nation's domestic microelectronics industry
- The national strategy on microelectronics research
- The research and development programs and other advanced microelectronics activities funded through CHIPS for America
- Opportunities for new public-private partnerships

DOES NOT ADVISE ON

- The CHIPS incentives program

IAC Members



Industry



Mike Splinter
Chair
MRS Business
and Technology
Advisors



Susan Feindt
Vice-Chair
Analog
Devices



Susie
Armstrong
Qualcomm



Ahmad
Bahai
Texas
Instruments



Deirdre
Hanford
Synopsys



Ken Joyce
Brewer
Science



Ann Kelleher
Intel
Corporation



Mukesh
Khare
IBM
Research



Meredith
LaBeau
Calumet
Electronics



Om
Nalamasu
Applied
Materials



Debo
Olaosebikan
Kepler
Computing



Alex
Oscilowski
TEL America



Anthony Yen
ASML
Technology
Center

Ecosystem/ Customers



Daniel
Armbrust
Silicon
Catalyst



Bill Chappell
Microsoft



Charles Gray
Ford Motor
Company

Academia/Other Stakeholders



James Ang
Pacific
Northwest
National
Laboratory



Michael Fritze
Potomac
Institute for
Policy Studies



Carol
Handwerker
Purdue
University



Rajarao
Jammy
MITRE
Engenuity



Tsu-Jae King
Liu
University of
California
Berkley



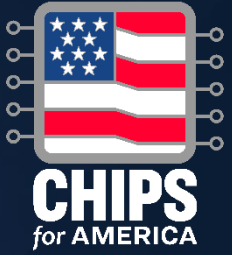
Willy Shih
Harvard
Business
School



Brandon
Tucker
Washtenaw
Community
College

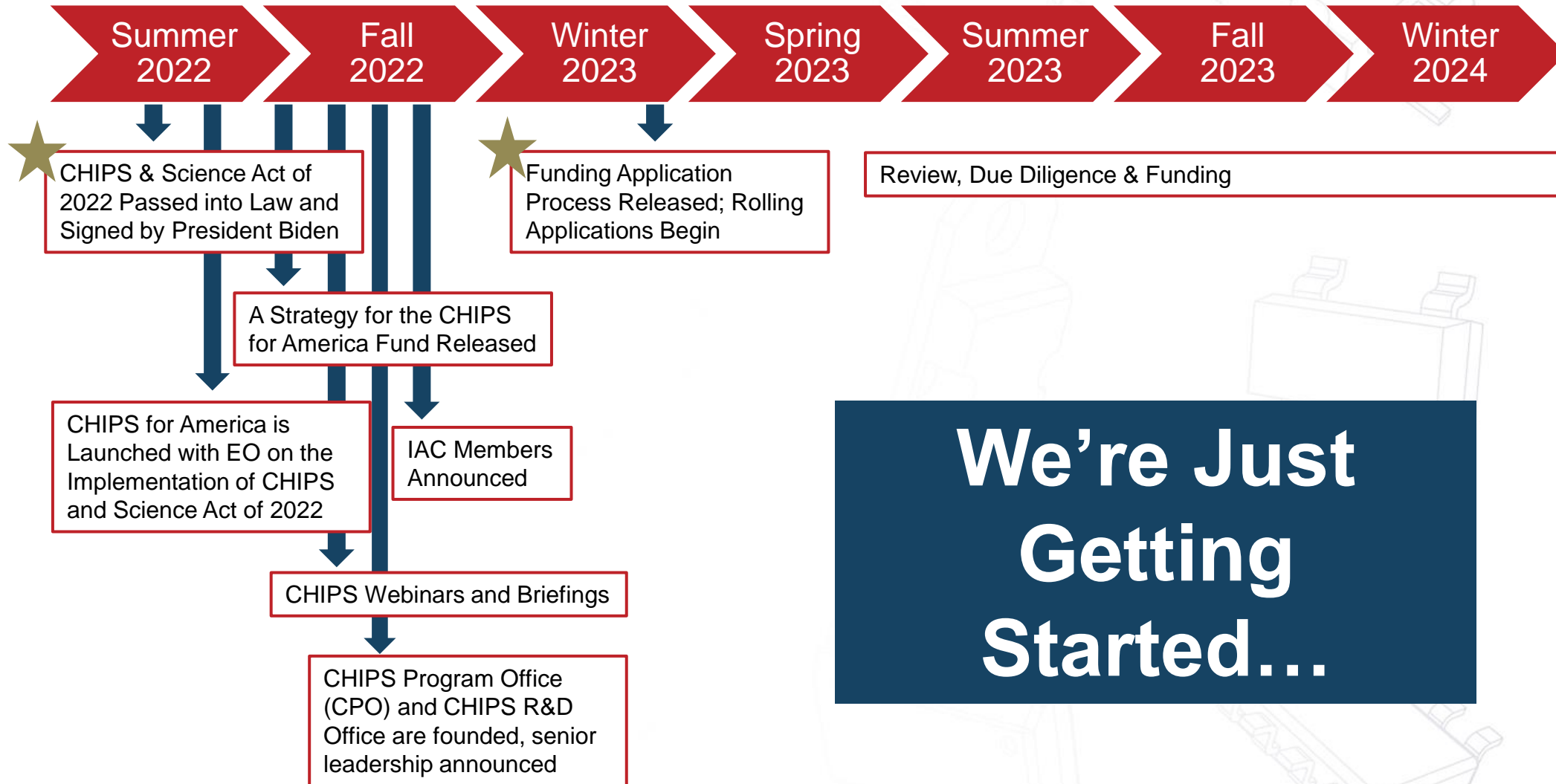
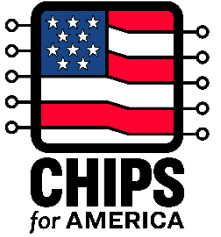


H.S. Philip
Wong
Stanford
University



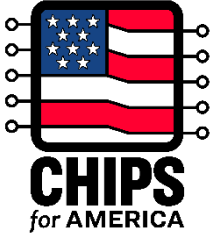
CHIPS Incentives Program Implementation: How to Get Started

Timeline



*Timeline is tentative

Eligibility for Manufacturing Incentives



For organizations
that are...

- ☐ private
- ☐ non-profit
- ☐ consortia

that can
substantially...

- ☐ finance
- ☐ construct
- ☐ expand
- ☐ modernize

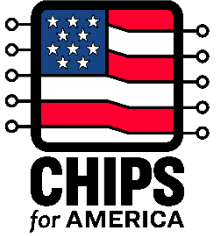
a U.S. facility for...

- ☐ fabrication
- ☐ assembly
- ☐ testing
- ☐ packaging
- ☐ production
- ☐ R&D

of...

- ☐ semiconductors
- ☐ materials
- ☐ manufacturing equipment

Guidance for Incentive Applicants



Increase scale
and attract
private capital

Leverage
collaborations to
build out
ecosystems

Secure additional
incentives and
support to build
clusters

Establish a
secure and
resilient supply
chain

Expand the
workforce
pipeline

Create inclusive
opportunities for
businesses and
communities

The CHIPS for America statute requires that applicants demonstrate they have secured incentives from state or local governments

Those incentives can take multiple forms and can include:



Workforce-related incentives

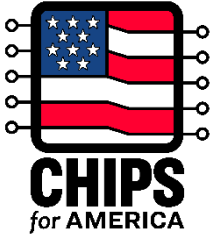


Concessions with respect to real property



Funding for R&D

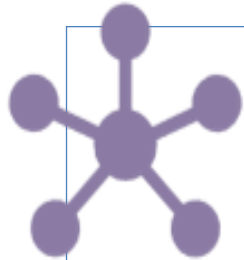
Potential incentives and actions



Permitting



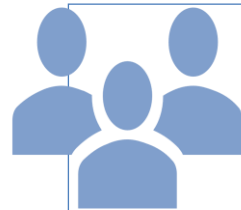
Liaisons



Integration

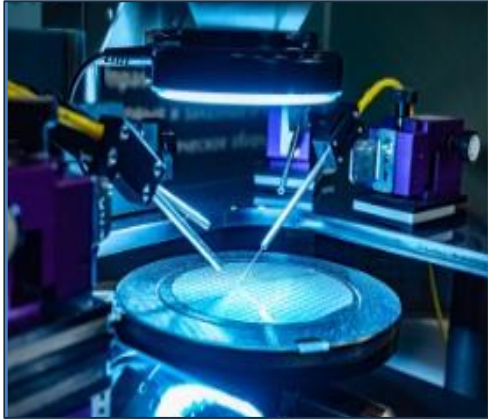
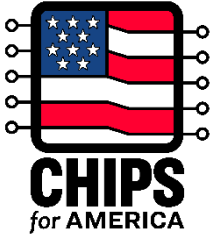


Cooperation



Collaboration

Workforce Development



Workforce programs included in applications for manufacturing incentives



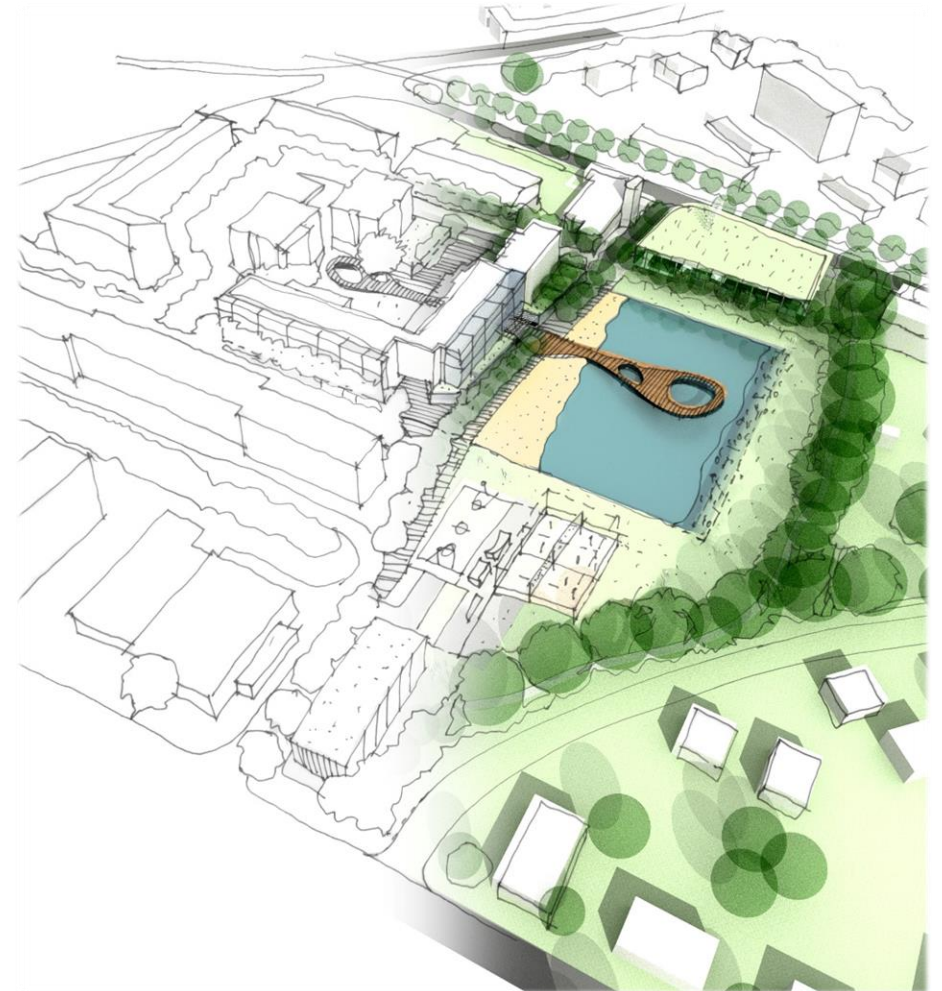
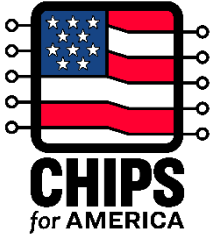
NSTC will establish programs in partnership with industry and educational institutions

- Scientists and engineers in many fields
- Specialty construction workers:
 - Cleanroom architects
 - High-purity welders
 - Pipefitters
- Equipment technicians:
 - Installation and tooling
 - Maintenance
 - Operations
- Innovators

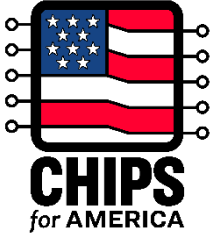
Economic Development

Applicants for CHIPS for America incentives should consider:

- Extending access to paid training and jobs to underserved and underrepresented populations
- Working with unions and workforce development organizations to create training and hands-on learning
- Widespread and long-term spillover benefits to the local community and regional ecosystem
- Significant industrial infrastructure (such as upgraded power grids, gas lines, and water treatment facilities) and other local infrastructure needs, such as housing and community amenities
- Measurable benefits to small businesses and startups, including those from disadvantaged backgrounds and regions



Accountability



Projects must be economically viable and compatible with strategy

Beneficiaries must meet performance, reporting, audit, and oversight requirements

Beneficiaries may not send funded technology to or engage with countries of concern

Workers on funded construction projects to earn prevailing wages

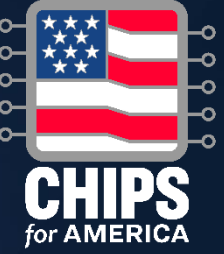
Priority to programs that engage a diversity of participants

Public funds cannot be used for stock buybacks or dividend payments

Funds to be returned if taxpayer funds are misused

Next Steps

- Funding Application Process
 - Steps to prepare for the NOFO
 - Will be announced in February 2023 (6 months from enactment)
 - Proposals considered on a rolling basis
- Learn more
 - Visit CHIPS.gov
 - Read the Implementation Strategy
 - Join our mailing list



Thank you for attending