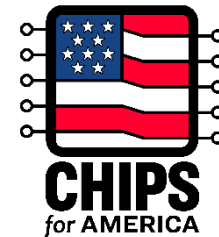


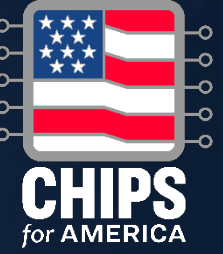
CHIPS for America States Webinar w/ NGA

Presented by Sreenivas Ramaswamy, Molly Ritner and Jason Boehm
October 2022



NIST





NATIONAL

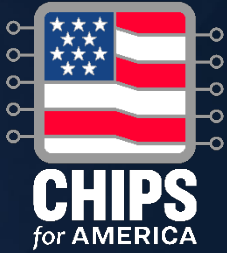
 GOVERNORS

 ASSOCIATION

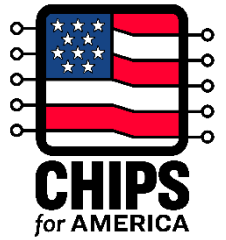
WELCOME



- We look forward to your questions. Submit your questions in the chat.
- We will answer as many questions as possible today.
- Visit [CHIPS.gov](https://www.chips.gov)
 - Get the strategy paper
 - Sign up for email updates

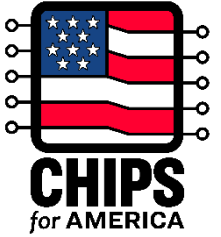


Molly Ritner
Director of External Affairs,
CHIPS Program Office
CHIPS for America Vision



Chips are the foundation of the modern world

Chips were invented in America



But most chips are made outside of the U.S.

Logic chip production by country, 2021

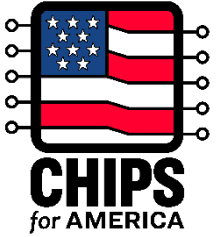


Memory chip production by country, 2021



Supply chain disruptions halt U.S. commerce

- Pandemic, storms and fires paused chip production
- Workers were furloughed
- Prices increased
- Demand still outstrips supply
- Geopolitical tensions over Taiwan present even greater supply chain risks going forward



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,*

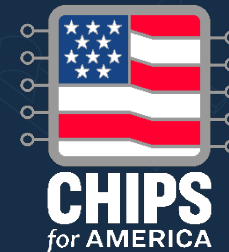
SECTION 1. TABLE OF CONTENTS.

The table of contents for this Act is as follows:

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

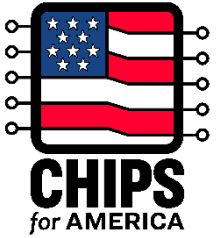
DIVISION A—CHIPS ACT OF 2022

- 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



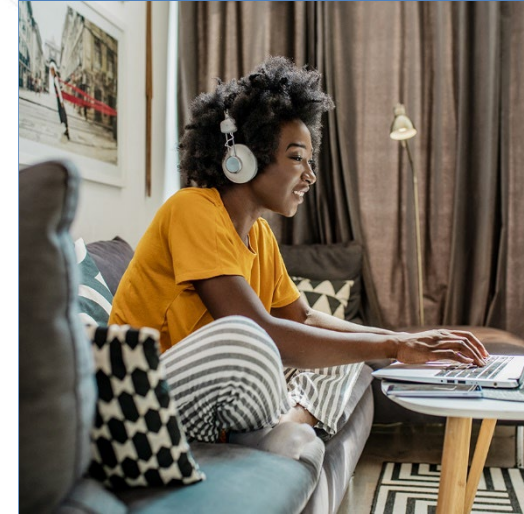
Economic Security

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



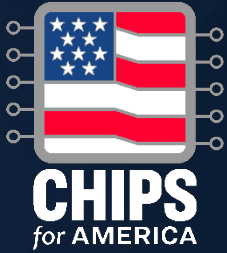
National Security

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.

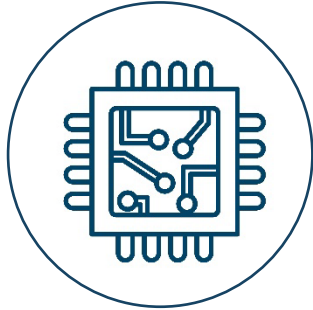
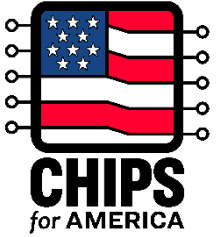


Sreenivas Ramaswamy

Senior Advisor to the Secretary of Commerce

Implementation:
CHIPS for America Fund
Strategy Paper

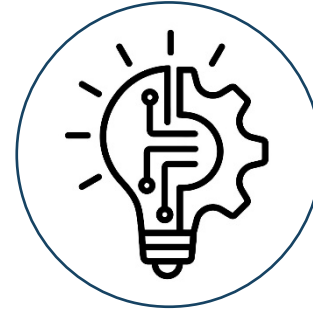
CHIPS for America will:



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



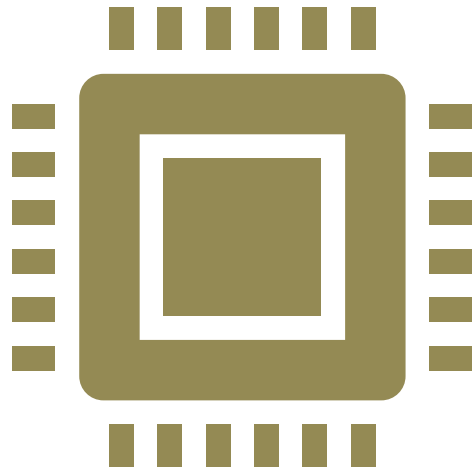
Grow a U.S. workforce and strengthen communities

Create a domestic semiconductor ecosystem for national and economic security

Guiding Principles

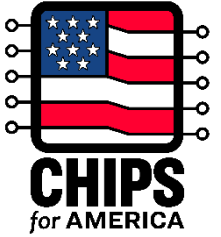
- 1 Meet economic and national security needs
- 2 Ensure long-term leadership in the sector
- 3 Strengthen and expand regional clusters
- 4 Catalyze private sector investment
- 5 Generate benefits for a range of stakeholders and communities
- 6 Protect taxpayer dollars

Strengthen and expand regional manufacturing and innovation clusters



- Long-term competitiveness requires large economies of scale and investments across the supply chain.
- Regional clusters containing manufacturing facilities, suppliers, basic and translational research, and workforce programs, along with supporting infrastructure, will be the foundation for a competitive industry.
- The CHIPS program will facilitate the expansion, creation, and coordination of semiconductor manufacturing and innovation clusters that benefit many companies.

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

1

LARGE-SCALE INVESTMENTS IN LEADING-EDGE LOGIC AND MEMORY MANUFACTURING CLUSTERS

Projects could Include:

- Construction or expansion of manufacturing facilities to fabricate, package, assemble and test leading edge logic and memory chips
- Multiple high-cost production lines and associated supplier ecosystems in large-scale clusters

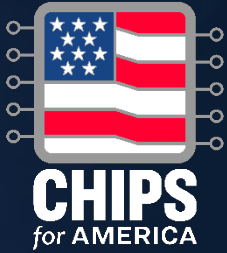
2

EXPANDING MANUFACTURING CAPACITY FOR MATURE AND CURRENT-GENERATION CHIPS, NEW AND SPECIALTY TECHNOLOGIES, AND FOR SUPPLIERS TO THE INDUSTRY

Projects could Include:

- Construction or expansion of facilities for the fabrication, packaging, assembly and testing of mature and current-generation semiconductors
- Facilities to produce new or specialty technologies
- Facilities that manufacture equipment and materials
- Facility upgrades





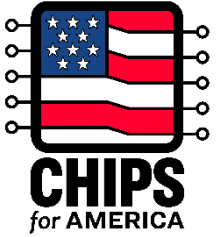
CHIPS for America Overview

R&D

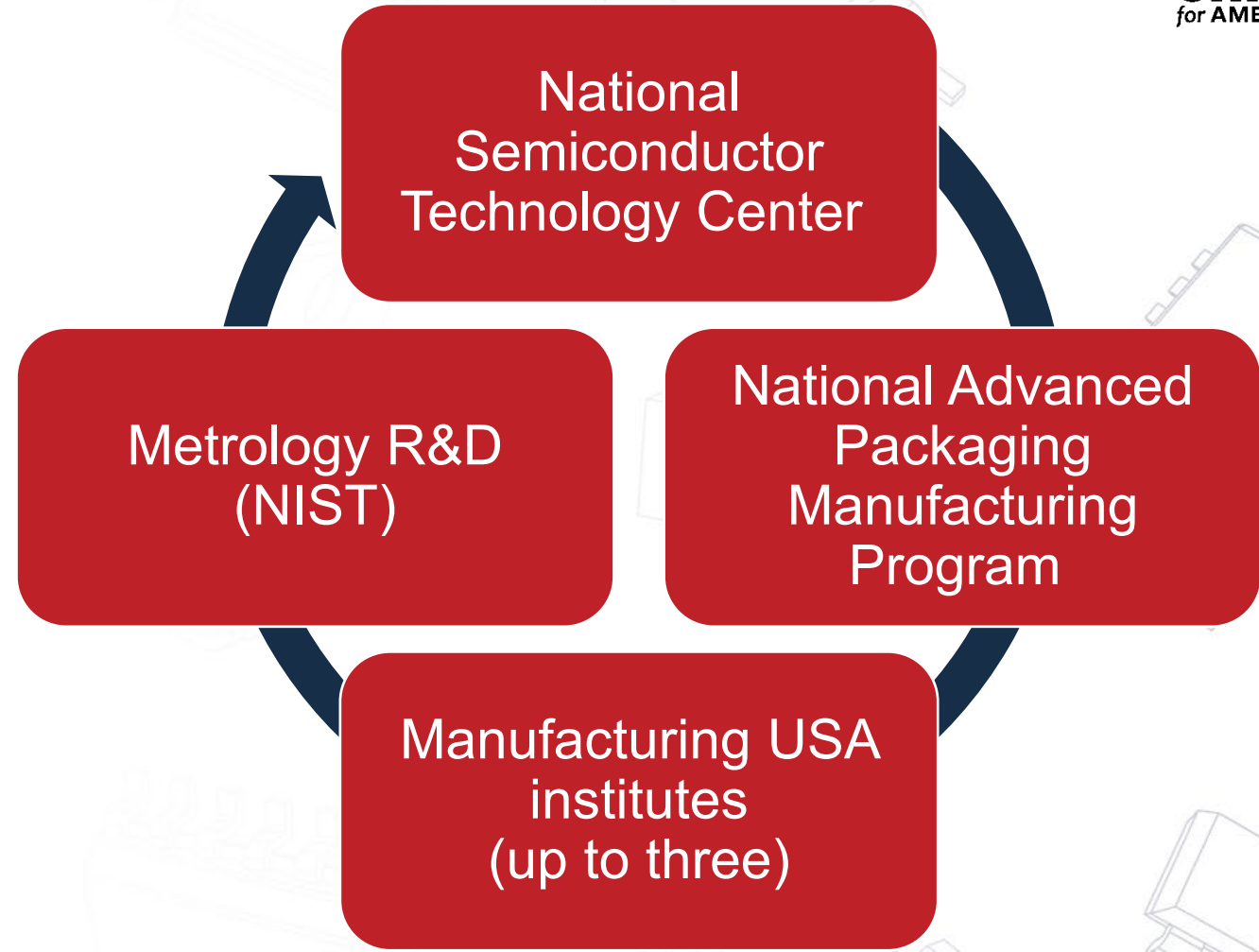
Jason Boehm
Chief of Staff

National Institute of Standards and Technology

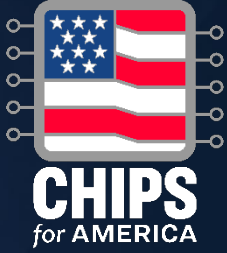
Research & Development



- 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



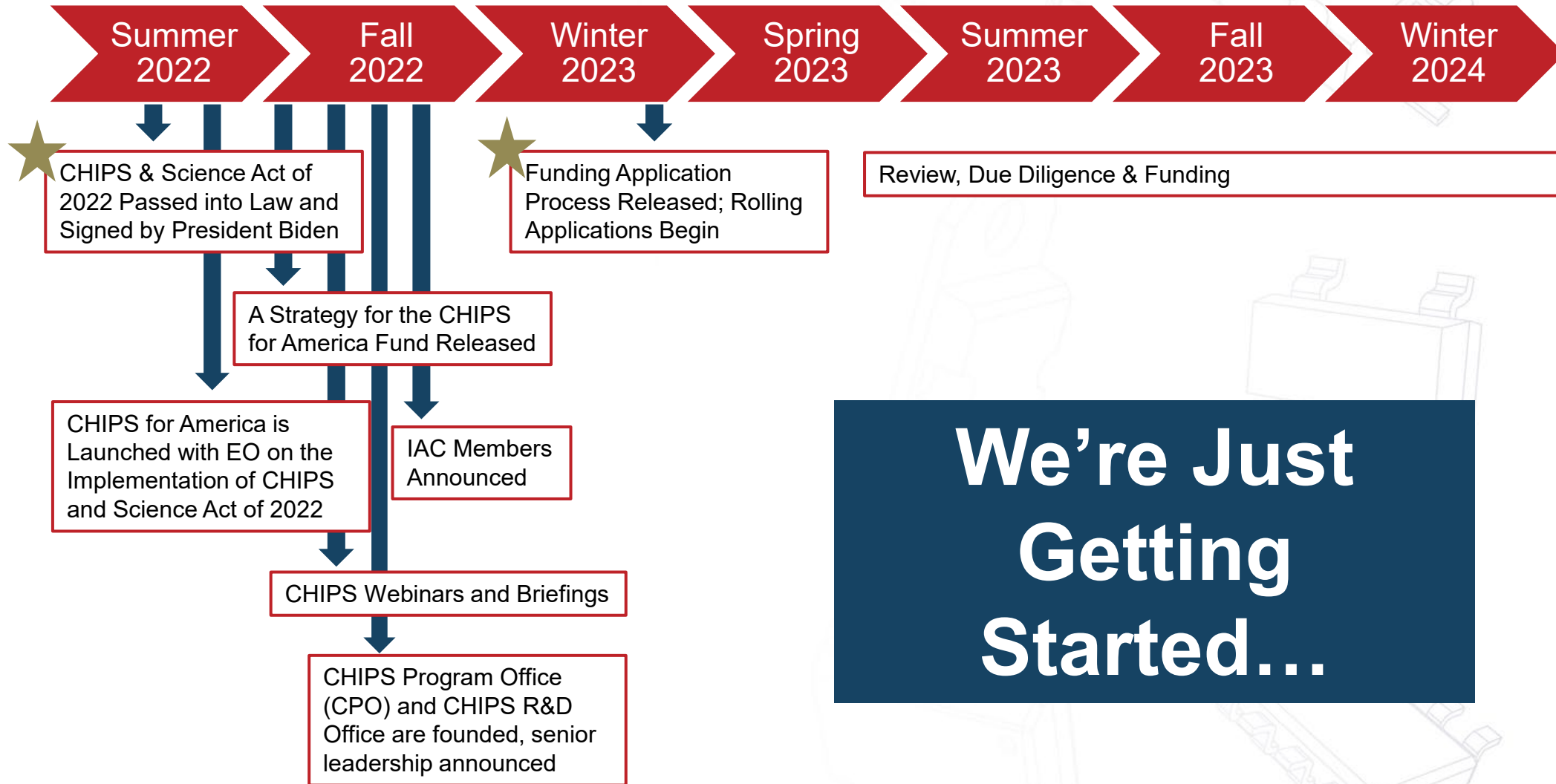
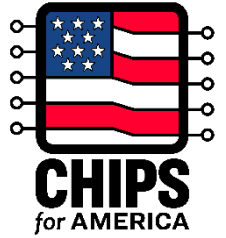
 **Members Announced!**



CHIPS Incentives Program Implementation: How to Get Started

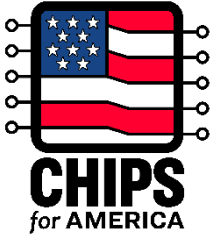
Sreenivas Ramaswamy

Timeline



*Timeline is tentative

Eligibility for Manufacturing Incentives



For organizations
that are...

- private
- non-profit
- consortia

that can
substantially...

- finance
- construct
- expand
- modernize

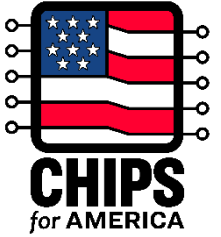
a U.S. facility for...

- 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

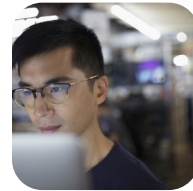
Establish a
secure and
resilient supply
chain

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 government

Those Incentives Can Take Multiple Forms And Can Include:



Workforce-related incentives



Concessions with respect to real property



Funding For R&D

Things for YOU to consider:

- state and local incentive packages are encouraged to create the potential for large spill-over benefits
- projects are encouraged boost regional and local economies gains and semiconductor ecosystems rather than just a single company
- Incentives are encouraged to be performance based



POTENTIAL STATE AND LOCAL INCENTIVES

- Investments in industrial infrastructure that specifically support the proposed project, but that also could support broader development of a supplier ecosystem such as shared utility, logistics, and production capacity.
- Workforce investment to ensure broad talent pipelines.
- Long-term tax credits to ensure that firms continually invest in upgrading and expanding facilities to maintain competitiveness.

Things for YOU to consider:

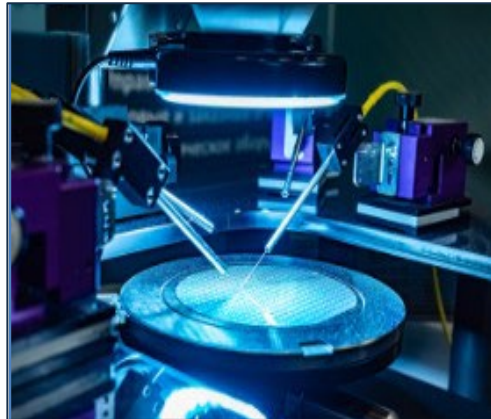
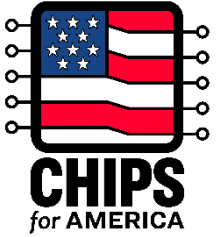
- Incentives or actions that can help projects move quickly
- Incentives or actions that project reduce risk
- Incentives or actions that promote regional cooperation—e.g., through expedited processes, single-window liaisons, and project integration



STATE AND LOCALITIES COULD SHOW THIS COMMITMENT IN VARIOUS WAYS

- **Permitting:** Expedited processes for environmental, health, and safety reviews and permits.
- **Liaisons:** point of contact to assist with site selection, supplier discovery, and compliance with local laws.
- **Integration:** A systems integrator that works with ecosystem companies to address shared issues like navigating permits, building infrastructure, finding workers, and coordinating incentive applications.
- **Cooperation:** Planning and support for other ancillary investments such as housing and community development.
- **Collaboration:** Where relevant, partnership with other states and localities to develop regional ecosystems and corridors that encompass multiple jurisdictions.

Workforce Development



Workforce programs included in applications for manufacturing incentives



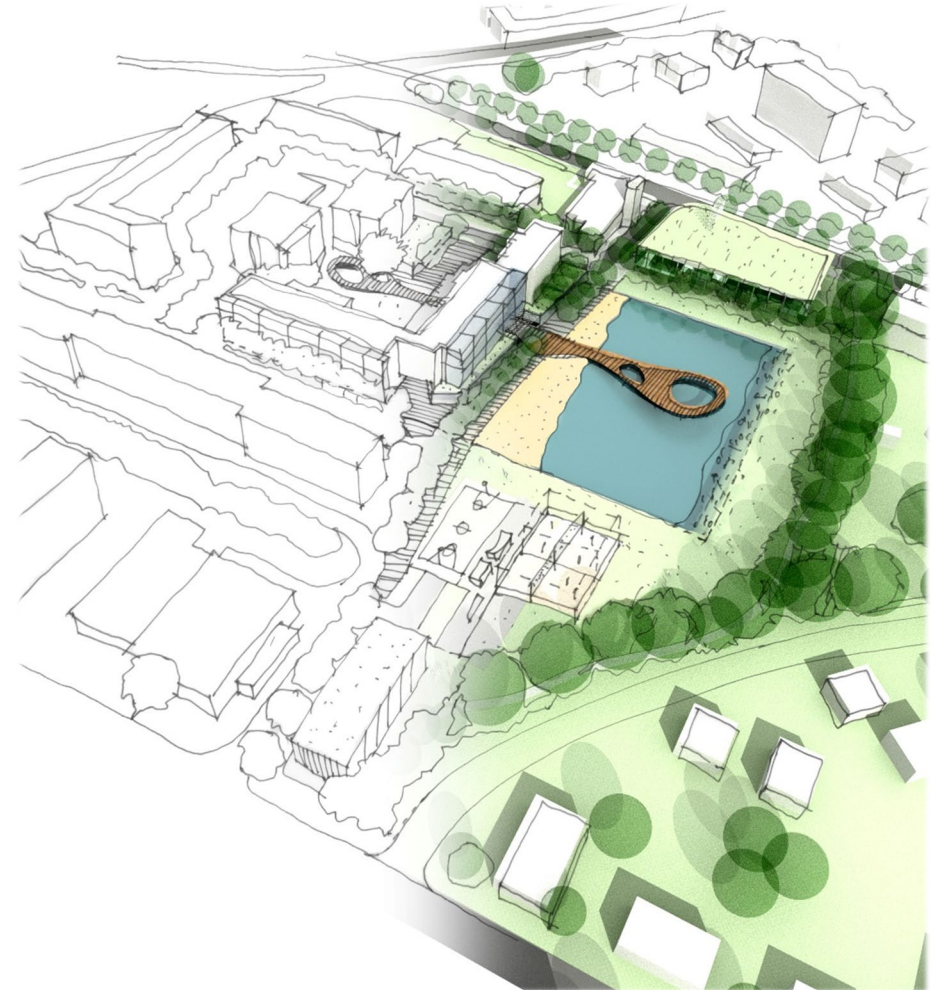
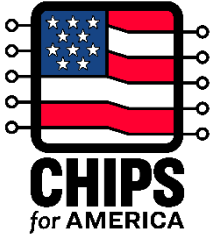
NSTC will establish programs in partnership with industry and educational institutions

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

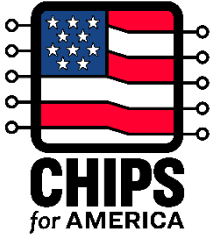
Economic Development

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

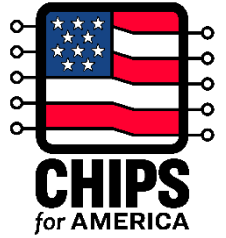
Beneficiaries may not send funded technology abroad or engage with countries of concern

Workers on funded construction projects to earn prevailing wages

Priority to programs that engage a diversity of participants

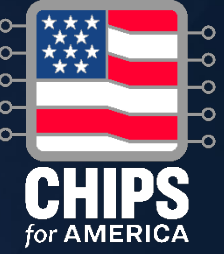
Public funds cannot be used for stock buybacks or dividend payments

Funds to be returned if taxpayer funds are misused

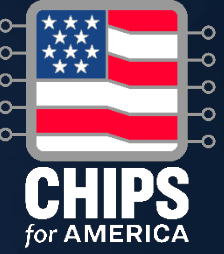


Next Steps

- Funding Application Process
 - Will be announced in February 2023 (6 months from enactment)
 - Proposals considered on a rolling basis
- Learn more
 - Visit [CHIPS.gov](https://www.chips.gov)
 - Read the Implementation Strategy
 - Join our mailing list



Question and Answers



Thank you for attending