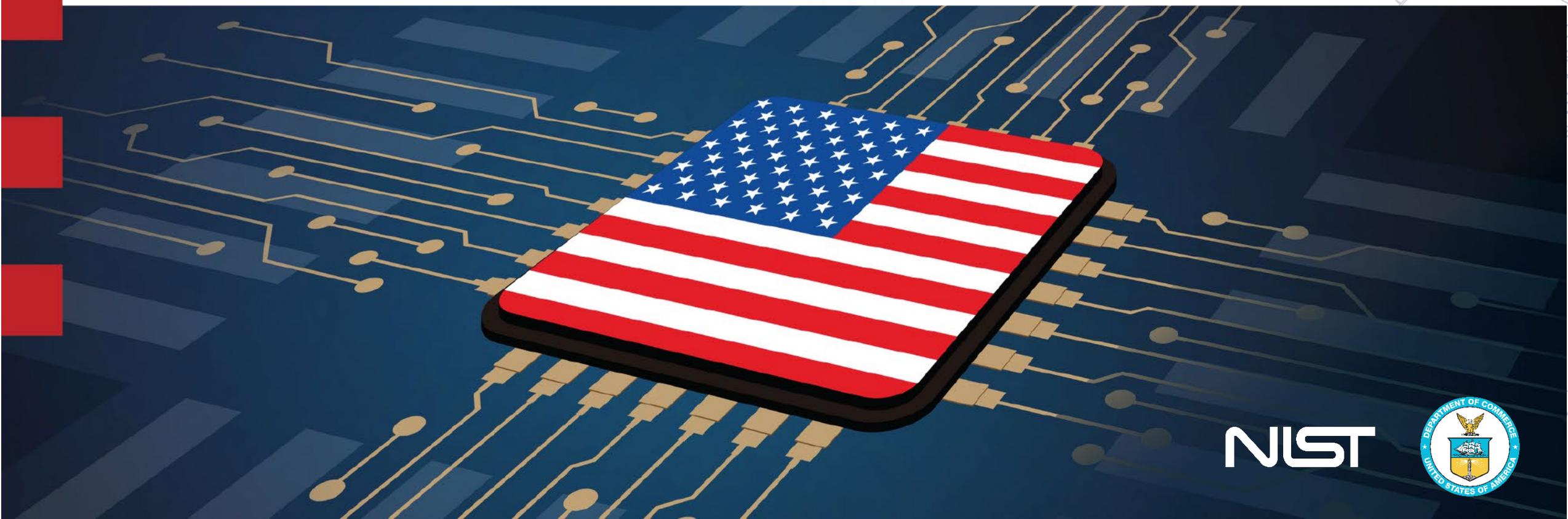
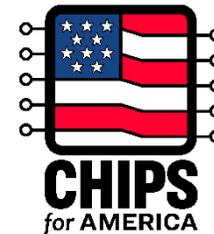


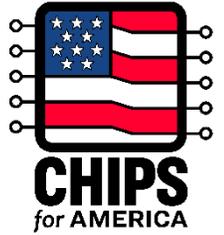
CHIPS for America Incentive Program

Presented by Donna Dubinsky, Sreenivas Ramaswamy and Jason Boehm
September 2022



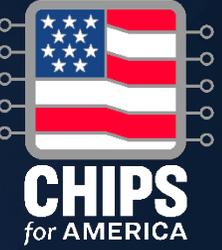
NIST





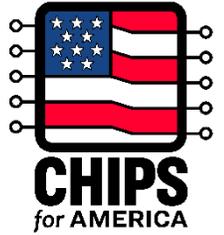
WELCOME

- We look forward to your questions. Click the Q&A button, type your question, and click “Post Question” to submit.
- 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



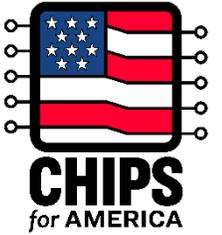
CHIPS for America Vision

Donna Dubinsky
Senior Counselor to the Secretary
for CHIPS Implementation



Chips are the foundation of the modern world

Chips were invented in America



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

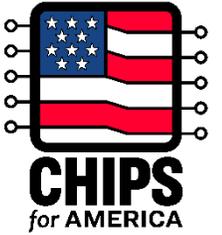
Logic chip production by country, 2021



Memory chip production by country, 2021



CHIPS for America Vision



Economic Security

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



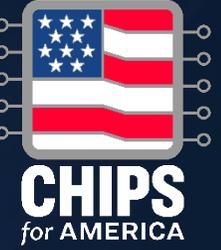
National Security

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



Future Innovation

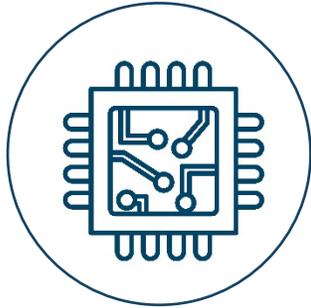
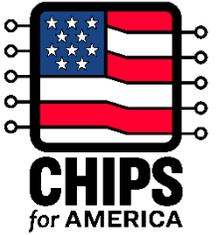
Chips are key to the technologies and industries of the future, so we need to be at the forefront. This act will ensure long-term U.S. leadership in the sector.



CHIPS for America Overview

Sreenivas Ramaswamy
Senior Advisor to the Secretary of Commerce

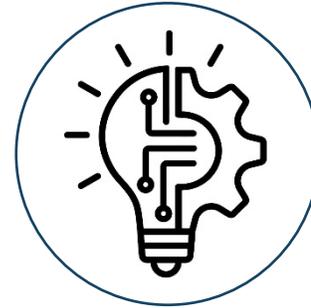
CHIPS for America will:



Return leading-edge chip manufacturing to U.S.



Expand capacity to make current/mature chips and critical supplies



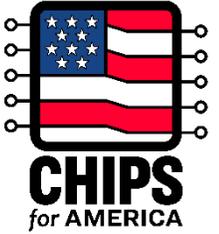
Reinforce U.S. strengths in chip design and equipment



Grow a U.S. workforce and strengthen communities

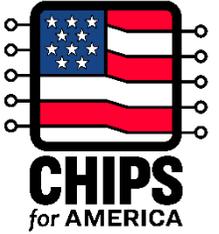
Create a domestic semiconductor ecosystem for national and economic security

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

Two component programs:

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

Workforce development

1

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

Projects could include:

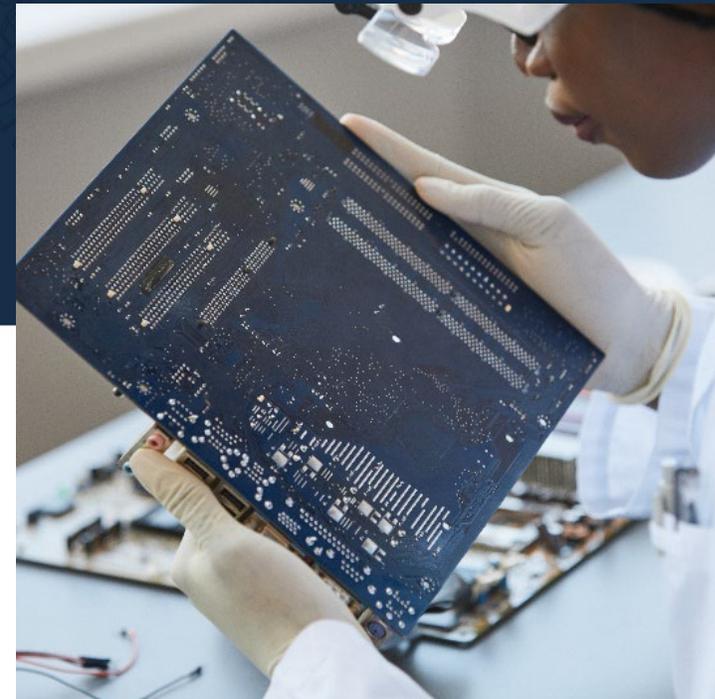
- Construction or expansion of manufacturing facilities to fabricate, package, assemble and test leading edge logic and memory chips
- Multiple high-cost, production lines and associated supplier ecosystems

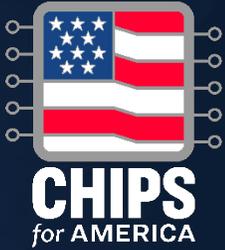
2

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
- Equipment upgrades





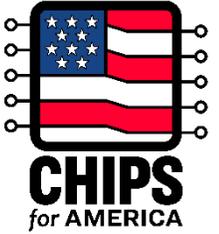
CHIPS for America Overview

R&D

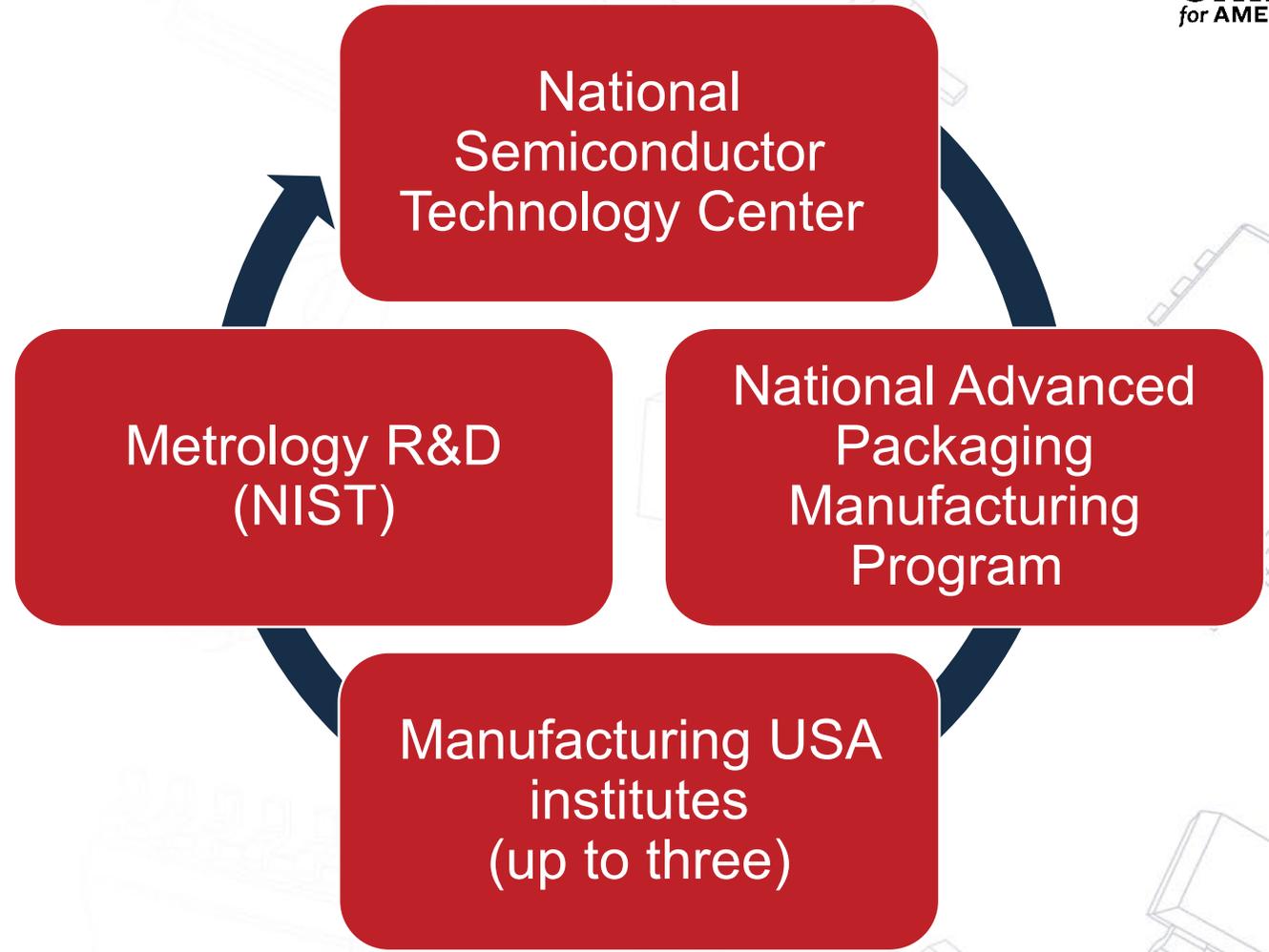
Jason Boehm
Chief of Staff

National Institute of Standards and Technology

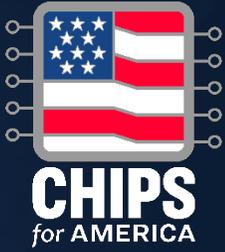
Research & Development



- 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 today!**

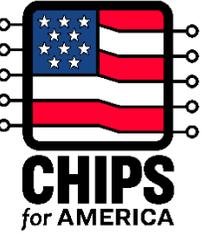


Sreenivas Ramaswamy

Senior Advisor to the Secretary of Commerce

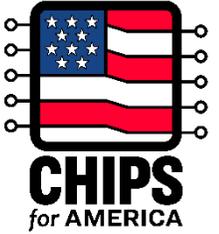
CHIPS Incentives Program Implementation:
How to Get Started

Timeline



*Timeline is tentative

Eligibility Criteria



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

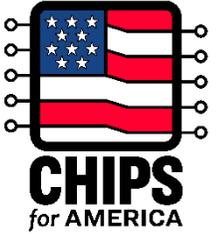
of...

- semiconductors
- materials
- manufacturing
equipment

**More details will be released in the funding application document*

Guidance for Incentive Applicants

HOW DO YOU GET STARTED?



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

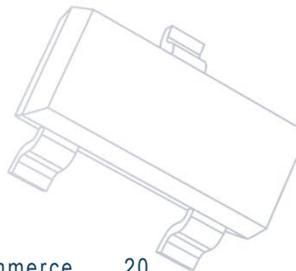
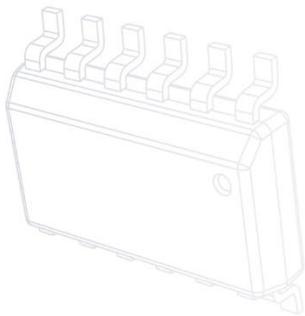
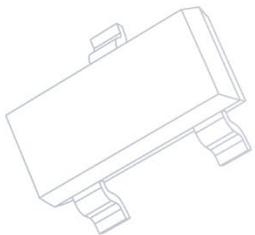
What should you do next?

- Consider if you can broaden the scale of previously contemplated projects
- Don't wait, find other investors now



INCREASE SCALE AND ATTRACT CAPITAL

- Economies of scale matter; large fabs are more competitive, more attractive for suppliers to co-locate
- Minimum federal investment required to attract significant private capital
- CPO will use loans and loan guarantees to leverage the impact of government grants to leverage funding, and extend CHIPS benefits to a wider set of small manufacturers



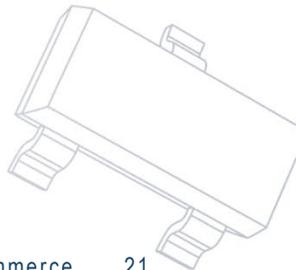
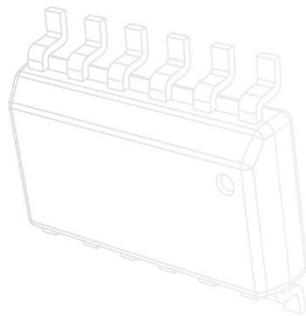
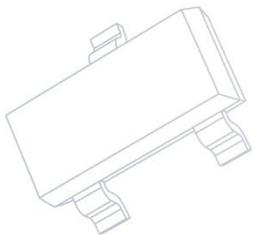
What should you do next?

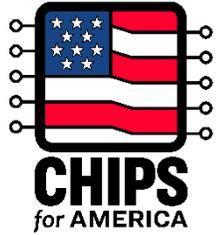
- Go to suppliers now and build a consortium
- Go to customers now and build a consortium



LEVERAGE COLLABORATIONS TO BUILD OUT ECOSYSTEMS

- Purchase commitments and other initiatives to improve demand transparency
- Collaboration between investors, customers, designers, and suppliers is encouraged and will ensure investments match up with future market demand
- Manufacturing incentives will principally support fabs, but fabless companies will benefit substantially and projects that enable fabless design tools and IP, are flexible, and have better portability are encouraged





What should you do next?

- Talk to states and localities about their interest in supporting your project
- Seek out long-term state & local tax credits that can ensure continued investment in upgrading and expanding facilities



SECURE ADDITIONAL INCENTIVES AND SUPPORT TO BUILD CLUSTERS

- The 2021 NDAA requires that applicants demonstrate they have secured incentives from state or local government
- Encouraged projects:
 - include state and local incentive packages with the potential for large spill-over benefits,
 - are based on performance
 - boost regional and local economies gains and semiconductor ecosystems rather than just a single company
- Encouraged proposals are ones that move quickly, reduce project risk, demonstrate ample local support/regional cooperation, and provide broad based benefits

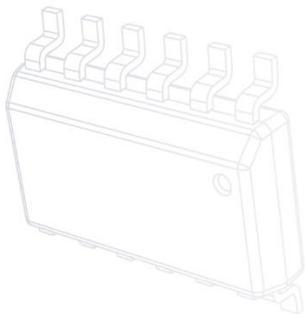
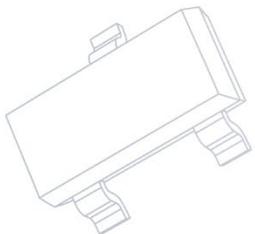
What should you do next?

- Plan for your project to have a robust information and data security posture
- Begin upgrading your systems



ESTABLISH A SECURE AND RESILIENT SEMICONDUCTOR SUPPLY CHAIN

- We expect to prioritize projects that adhere to standards and guidelines on information security, data tracking and verification, and that collaborate on further development and adoption of such standards
- We expect to prioritize investments that address supply chain risks including,
 - poor demand visibility
 - single sourcing and geographic chokepoints
 - transport and logistical bottlenecks
 - weather-related disruptions
 - counterfeiting and tampering
 - IP theft
 - cybersecurity vulnerability



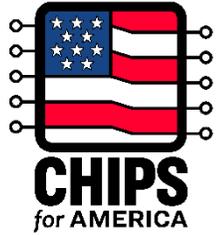
What should you do next?

- Plan to develop or scale workforce programs now
- Find proven training partners like unions, community colleges, and more
- Begin to update or rethink your hiring practices



EXPAND THE WORKFORCE PIPELINE TO MATCH INCREASED DOMESTIC CAPACITY WORKFORCE NEEDS

- We expect to prioritize projects that include effective and creative workforce development solutions
- Programs should be inclusive of populations that have traditionally been underrepresented in the industry
- Encouraged programs:
 - paid training and experiential apprenticeship programs
 - industry to hire based on skills, not just degrees
 - wrap around services
 - connect trainees to jobs
 - exceeding the local prevailing wage including basic benefits and/or are unionized



What should you do next?

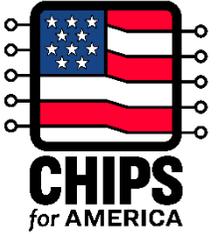
- Don't wait for the application, begin outreach now
- Connect with organizations that can assist this effort, like the Minority Business Development Agency



CREATE INCLUSIVE AND BROADLY SHARED OPPORTUNITIES FOR BUSINESSES

- Investments should result in measurable benefits to small and underrepresented businesses, including;
 - Minority-owned
 - Veteran-owned
 - Women-owned
 - Rural
- We expect to prioritize projects that proactively work to ensure that such businesses are included

Accountability



Projects must be economically viable and compatible with strategy

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

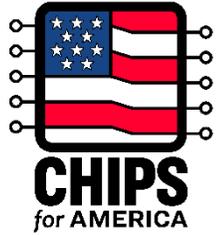
Beneficiaries may not send funded technology abroad or engage with countries of concern

Workers on funded construction projects to earn prevailing wages

Priority to programs that engage a diversity of participants

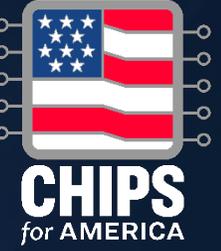
Public funds cannot be used for stock buybacks or dividend payments

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

How to ask a question

Attendee View

(David Lee)

Entry banner alerts Attendee that nobody will be able to see or hear them.



Event title → Sales Kickoff

Speaker Volume →

Mute Speaker →

Full Screen →

Exit the event →

Questions & Answers →

Expand side navigation (display Presenter roster) →

Settings (choose which speaker to use) →

Slider bar – drag to change the size of video and content

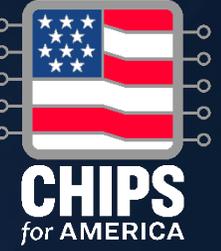
The event is live - You are in a view only role and can not be seen or heard DISMISS

| Year | RED | BLUE | GREEN | YELLOW |
|------|------|------|-------|--------|
| 2004 | 10% | 15% | 10% | 45% |
| 2005 | 25% | 35% | 25% | 55% |
| 2006 | 30% | 40% | 30% | 65% |
| 2007 | 70% | 40% | 50% | 70% |
| 2008 | 85% | 65% | 75% | 40% |
| 2009 | 90% | 65% | 80% | 30% |
| 2010 | 90% | 60% | 50% | 30% |
| 2011 | 100% | 80% | 60% | 45% |

How to submit your question

Click the Q&A button, type out your question, and click “Post Question”.





Thank you for attending