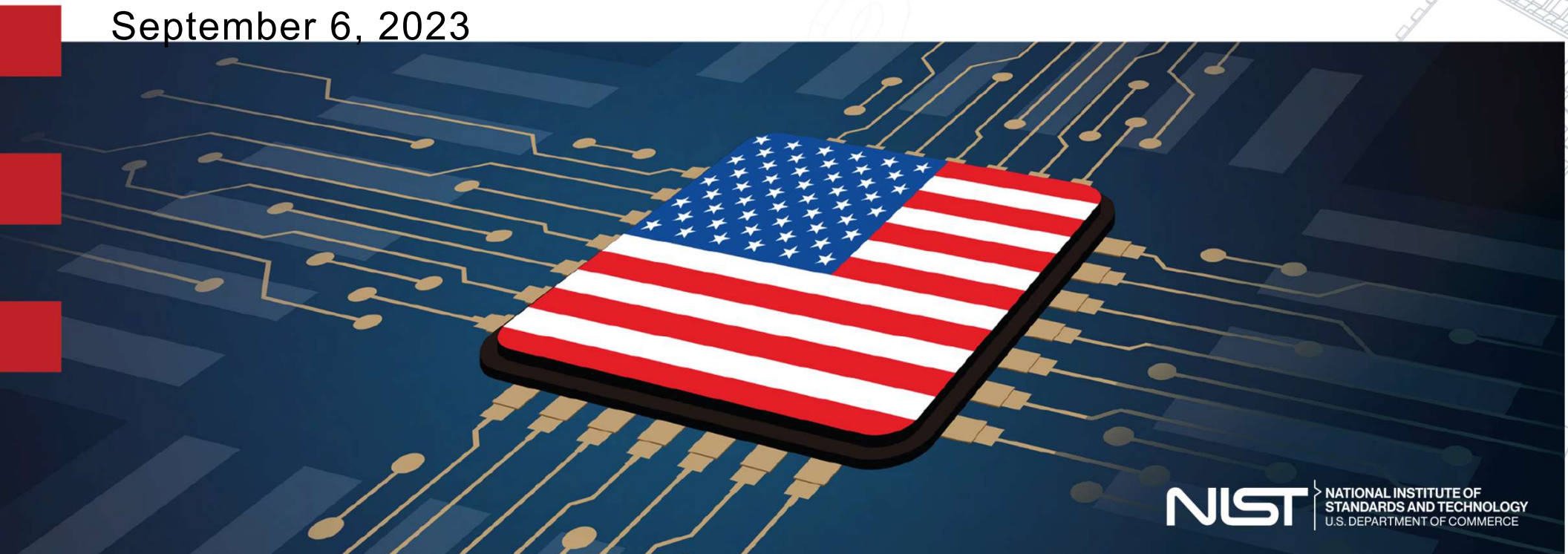
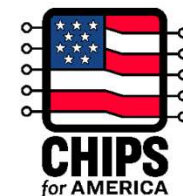


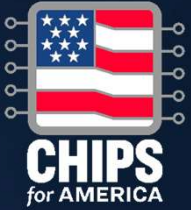
CHIPS for America

Adrienne Elrod, Director of External and Government Affairs

CHIPS Webinar

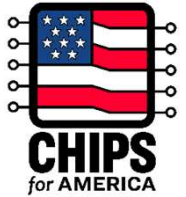
September 6, 2023





Overview of CHIPS for America

CHIPS for America Vision



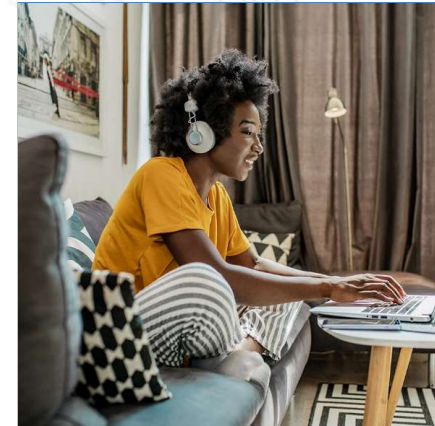
Economic Security

The CHIPS Act will strengthen supply chain security and increase economic resilience in critical sectors.



National Security

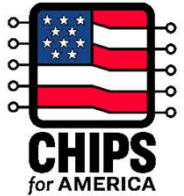
The CHIPS Act will ensure that the U.S. can manufacture advanced technologies, including secure chips for the U.S. military.



Future Innovation

The CHIPS Act will spur innovation, increase competitiveness, and ensure long-term U.S. leadership in the sector.

CHIPS for America



\$39 billion for incentives

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

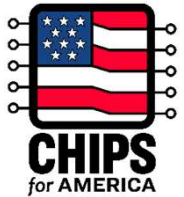
Four integrated programs to:

1. Conduct research and prototyping of advanced semiconductor technology
2. Strengthen semiconductor advanced test, assembly, and packaging
3. Enable advances in measurement science, standards, material characterization, instrumentation, testing, and manufacturing

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

Workforce development

Funding Opportunities



February 28, 2023

June 23, 2023

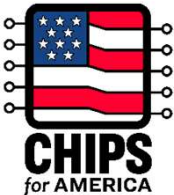
For commercial leading-edge, current, and mature node fabrication facilities

For large semiconductor materials and equipment facility projects \$300M+

For smaller semiconductor materials and equipment facility projects under \$300M

To support the construction of semiconductor R&D facilities

Statements of Interest currently being accepted for all funding opportunities



Vision for Success



Leading-Edge Logic

- ✓ The U.S. will have at least **two new large-scale clusters of leading-edge logic fabs**
- ✓ **U.S.-based engineers** will develop the process technologies underlying the **next gen of logic chips**



Memory

- ✓ U.S.-based fabs will **produce high-volume memory chips on economically competitive terms**
- ✓ **R&D for next-generation memory** technologies critical to supercomputing and other advanced computing applications will be **conducted in the U.S.**



Advanced Packaging

- ✓ The U.S. will be home to **multiple high-volume advanced packaging facilities**
- ✓ The U.S. will be a **global leader in commercial-scale advanced packaging technology**

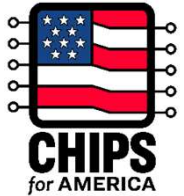


Current-Generation and Mature

- ✓ The U.S. will have **strategically increased its production capacity** for current-gen and mature chips
- ✓ Chipmakers will also be able to **respond more nimbly** to supply and demand shocks

By the end of the decade...

Vision for Success – Materials and Equipment Facilities



Strengthen Supply Chain Resilience

- ✓ The **U.S. and its allies** will **reduce chokepoint risks** flowing from **geographic concentration**
- ✓ Supply chain participants will improve the **transparency of demand and supply** to **reduce the risks of production disruptions**



Advance U.S. Technology Leadership

- ✓ The U.S. will have **incentivized major U.S. equipment and materials suppliers to increase their footprints** in the U.S.
- ✓ **Non-U.S. suppliers** of the world's most advanced equipment, materials, and subsystems will also **establish large-scale footprints** in the U.S.

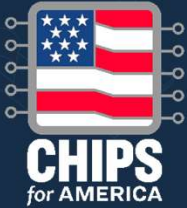
By the
end of the
decade...



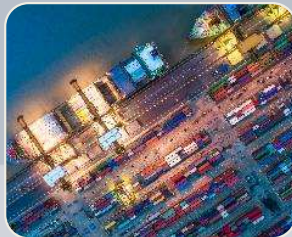
Support Vibrant U.S. Fab Clusters

- ✓ Each **CHIPS-funded fab cluster** in the U.S. will be **supported by dozens of suppliers**, including many **investing in the U.S. for the first time**
- ✓ **State and local entities** encouraged to help **facilitate the expansion of these ecosystems**

Program Priorities



Economic
and national
security
objectives



Commercial
viability



Financial
strength



Technical
feasibility
and
readiness

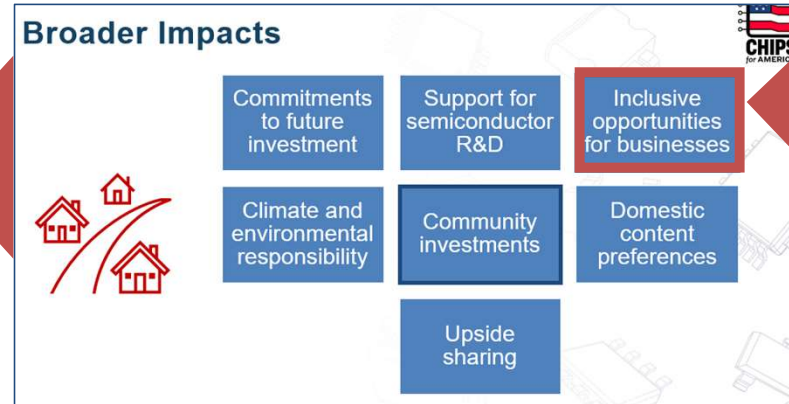
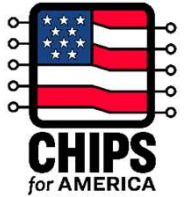


Workforce
development



Broader
impacts

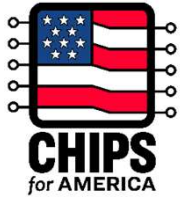
CHIPS Program Priorities



Inclusive opportunities for small, minority-owned, veteran-owned, and women-owned businesses

Commitments to inclusive business opportunities are **important to the success** of the CHIPS program.

Economic Security



SEEKING PROJECTS THAT

- Increase U.S. semiconductor production and align with U.S. strategic needs
- Create a more resilient semiconductor supply chain
- Build foundry or other capacity to serve many different customers
- Attract supplier, workforce, and other investments
- Contribute to a self-sustaining ecosystem and catalyze future upgrades

Leading-edge

- Use the most advanced tech and produce products that are most critical to enhancing U.S. competitiveness
- Commit to ongoing investment in U.S.

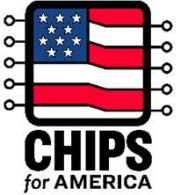
Current-generation and mature-node

- Support production of chips vital to automobiles, aerospace and defense, and other critical infrastructure
- Use processes that convert to make other types of chips in times of disruption

Back-end production

- Advanced packaging

National Security



SEEKING PROJECTS THAT

Produce semiconductors that are relied upon by the Department of Defense, other government systems, or by critical infrastructure

Support U.S. government national security needs, such as by providing U.S. government access to facility output, or adapting commercial production for low-volume and high-mix national security components

Mitigate operational and cybersecurity risks

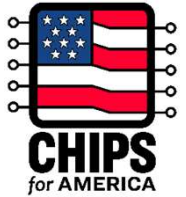
Strengthen supply chain resilience by analyzing and managing risks to their own supply chains

Ensure that foreign entities of concern will not pose undue risks

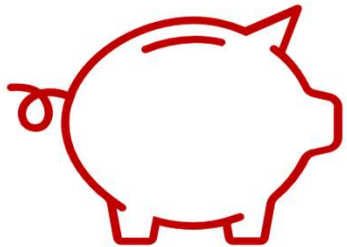
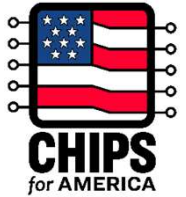
Produce mature-node semiconductors that are then supplied to critical manufacturing industries



Commercial Viability



Financial Strength



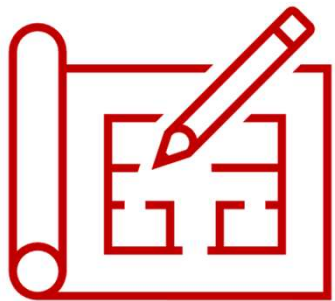
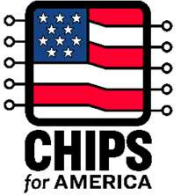
Financial strength of the applicant / parent

Financial strength of the project

Commitment of private/third-party investment

Reasonableness / suitability of CHIPS funding request

Technical Feasibility and Readiness



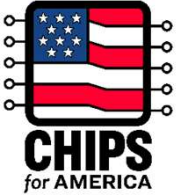
Organizational
readiness

Technology and
manufacturing
processes

Construction
plan

Environmental
risk

Workforce Development



Create good jobs

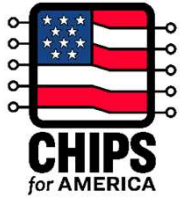
Recruit, hire, train, and retain a diverse and skilled construction and manufacturing workforce

Include women and economically disadvantaged individuals

Engage with community partners

Child care

Broader Impacts



Commitments to future investment

Support for semiconductor R&D

Inclusive opportunities for businesses

Climate and environmental responsibility

Community investments

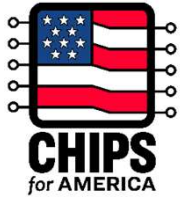
Domestic content preferences

Upside sharing

Application Process



Submissions accepted as of...

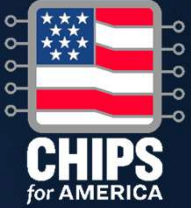


Large supply chain projects

Leading-edge

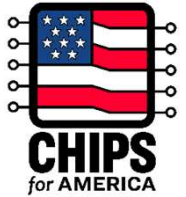
Current-gen, mature-node, and back-end

February 28, 2023	February 28, 2023	February 28, 2023
September 1, 2023	March 31, 2023	May 1, 2023
October 23, 2023	March 31, 2023	June 26, 2023



Smaller Supply Chain Projects

Smaller Supply Chain Project Overview



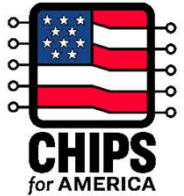
Construct, expand, or modernize a semiconductor material facility or semiconductor equipment facility

Capital investment below \$300 million

Focus on supporting vibrant, competitive, self-sustaining U.S. fabrication clusters

More details will be made available in a dedicated notice of funding opportunity later this year

Smaller Supply Chain Project Details



Consortia

- Strong focus on **consortium applications** that promote **the development and sustainability of semiconductor clusters**
- Consortia may include a **diverse array of entities**

Project Types

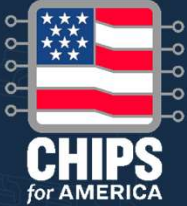
- The Department intends to reserve its funding to **support investments that would not happen without CHIPS funding**

Tailored Application Process

- Dedicated funding opportunity will include a **different application process that smaller businesses can easily navigate**

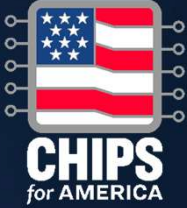
More details will be made available in a dedicated notice of funding opportunity later this year

Consortia Details



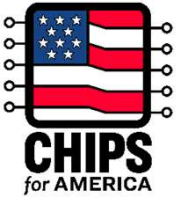
Example: Science Park

- Land
- Shared Utilities and Infrastructure
- Streamlined Permitting
- Incentives for Suppliers



Opportunity and Inclusion for Small Businesses

Inclusive Business Opportunities Vision



The CHIPS & Science Act will:

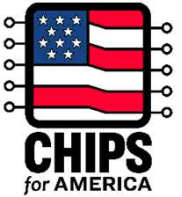
Grow the **economy** of the United States and support **job creation** in the United States;

Promote the **inclusion of historically and economically disadvantaged communities** and **small businesses**; and

Contribute to **community-based economic development** and **empowerment** as well as **innovation** and **supply chain resiliency** within the semiconductor industry.



To achieve this vision, the Department is prioritizing applications that...

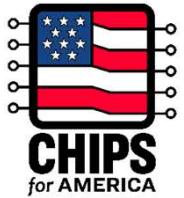


1 Describe their **supplier diversity** plan, including the components of their strategy.

2 Work with **partners to identify and engage with** small, minority-owned, veteran-owned, and women-owned businesses.

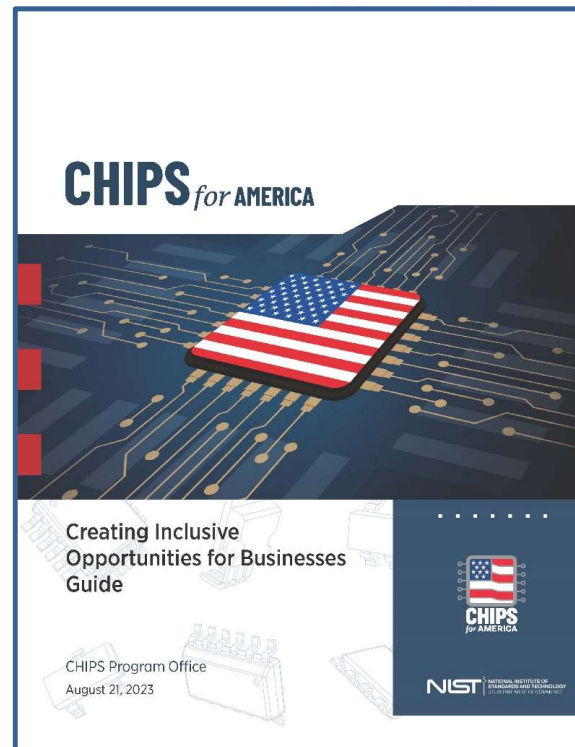
3 **Track and disclose data** on supplier diversity and pursue other proactive engagement opportunities.

This guide will help applicants think through the best models that work for them and submit strong supplier diversity plans



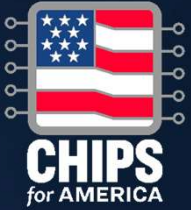
1. Value of Supplier Diversity

2. Supplier Diversity Plan



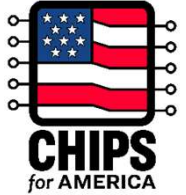
3. Submitting a Successful Supplier Diversity Plan

4. Appendix & Resources

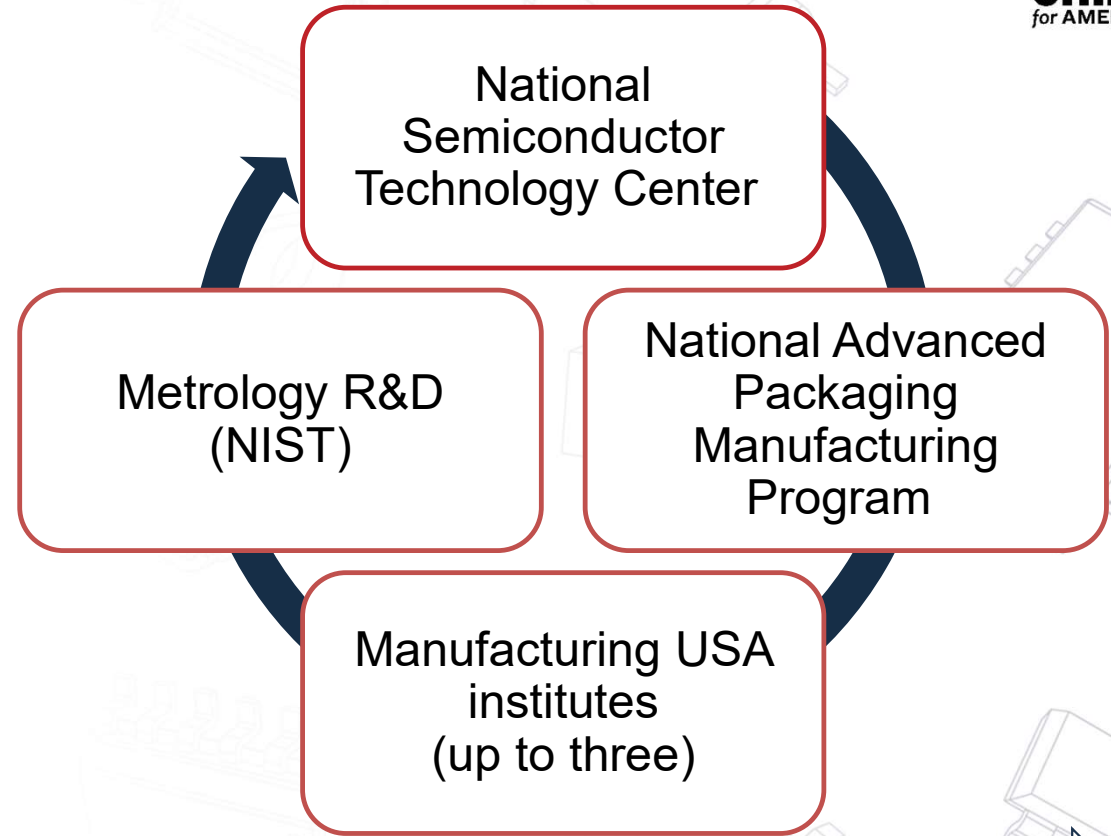


Research and Development

CHIPS for America R&D

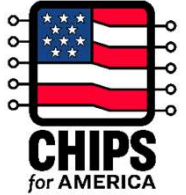


- To strengthen and advance U.S. leadership in R&D
- An integrated ecosystem that drives innovation
- In partnership with industry, academia, government, and allies
- A strategic view of R&D infrastructure, participant value-proposition, and technology focus areas
- Informed by the Industrial Advisory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



Workforce is Critical to CHIPS R&D

Vision for Success – R&D



Tools

- ✓ The U.S. will have a core of world-leading **research and engineering capabilities** and a network of **technical centers throughout the country**
- ✓ U.S. innovators will have access to **research fabs, prototyping facilities, and digital resources** to bring technology to commercial scale



Innovation

- ✓ More **U.S.-based start-ups** will enter the market, faster and at less expense
- ✓ The **cost of moving a new chip from lab to fab** will be cut in half in the U.S.



Collaboration

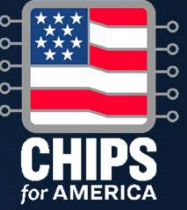
- ✓ The U.S. will provide pre-competitive spaces where members of **industry, academia, and government and allies** work together to **build the technologies of the future**
- ✓ **The community will establish grand challenges and roadmaps** to inspire and guide R&D in the U.S.



Workforce

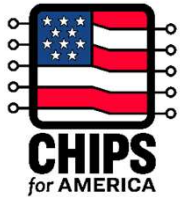
- ✓ The U.S. will **triple the number of college graduates and people retrained** in chip-related fields
- ✓ U.S. students will **train on current and cutting-edge equipment at CHIPS facilities**
- ✓ The U.S. will **double the number of women, veterans, and others from under-represented communities** in the chip industry

By the
end of the
decade ...



Resources

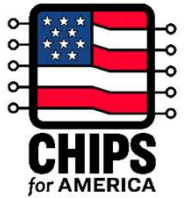
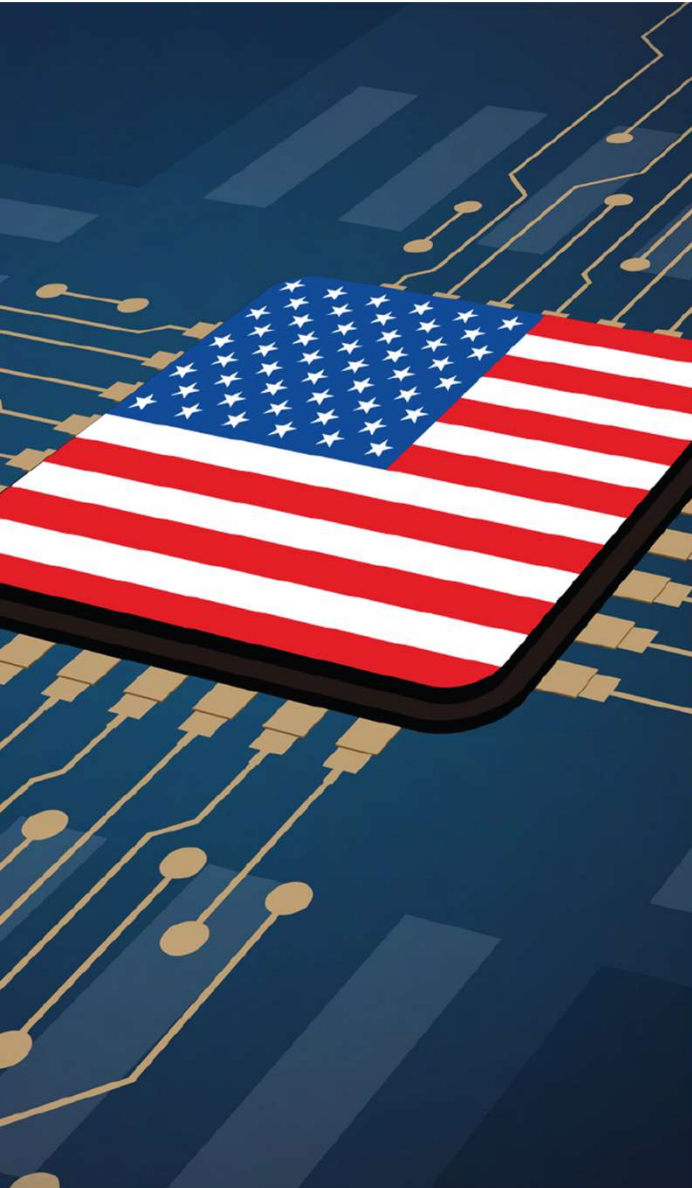
New Resource: Teaming Partner List



- **The teaming partner list will enable entities to share information, foster collaboration, and advance shared goals**
 - Entities that may not be eligible to apply can **share contact information and capabilities**
 - Potential applicants can access and **reach out to entities on the list to facilitate potential partnerships and collaboration**
 - This list does not directly connect entities to potential applicants, but is meant to enable **potential strategic partnerships**
- **Consider signing up for the teaming list** if you:
 - Are an entity that may not qualify as covered entities under the CHIPS funding opportunities
 - Are an organization that provides relevant support services
 - This could include: educational and workforce training providers; labor unions; childcare providers; organizations that engage or support minority-owned, women-owned, and veteran-owned businesses; community-based organizations; and others

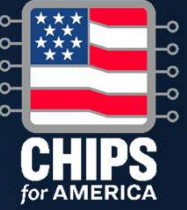


More details at: <https://www.nist.gov/chips/chips-america-teaming-partner-list>

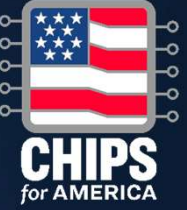


Next Steps

- Visit [CHIPS.gov](https://chips.gov) for resources, including:
 - Applicant guides and templates
 - FAQs and fact sheets
- Register for future webinars
- Join our mailing list
- Contact us
 - askchips@chips.gov – General inquiries
 - apply@chips.gov – Application-related inquiries



Thank You



Questions