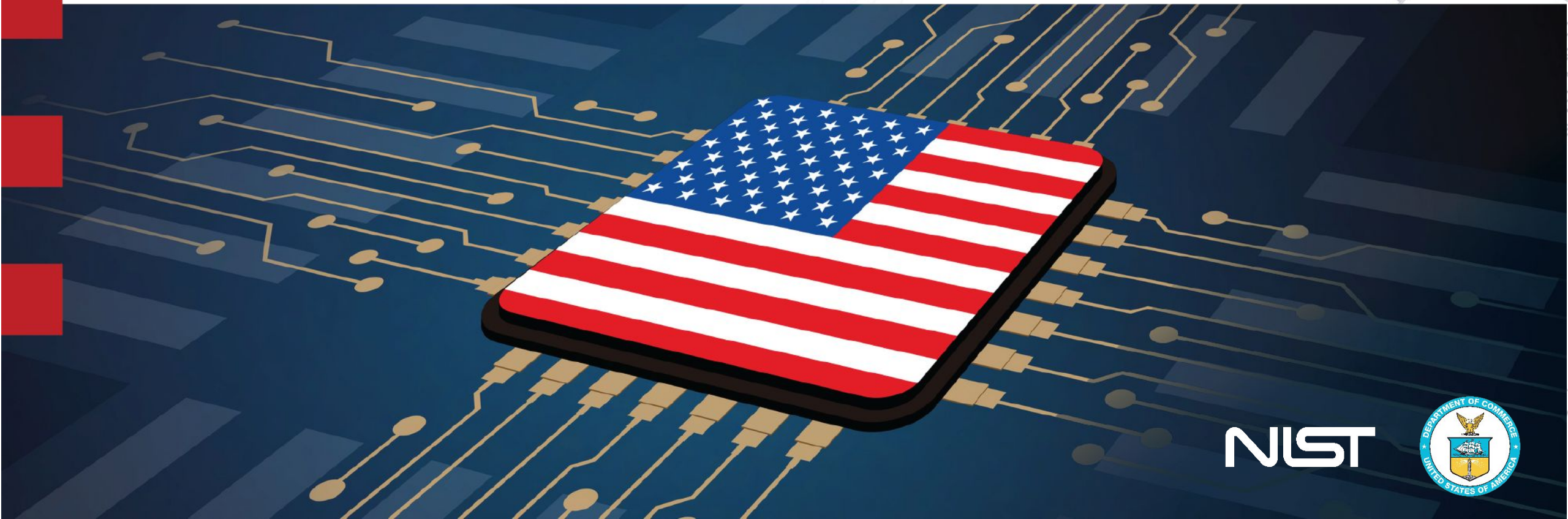
CHIPS for America

November 1, 2024



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 support U.S. manufacture of high-quality and secure chips for defense and other critical infrastructure applications.

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 to:

1. Attract large-scale investments in advanced technologies such as leading-edge logic and memory, and advanced packaging
2. Incentivize expansion of manufacturing capacity for mature and other types of semiconductors
3. Strengthen the U.S. supplier ecosystem for semiconductor materials and manufacturing equipment

$11 billion
for R&D

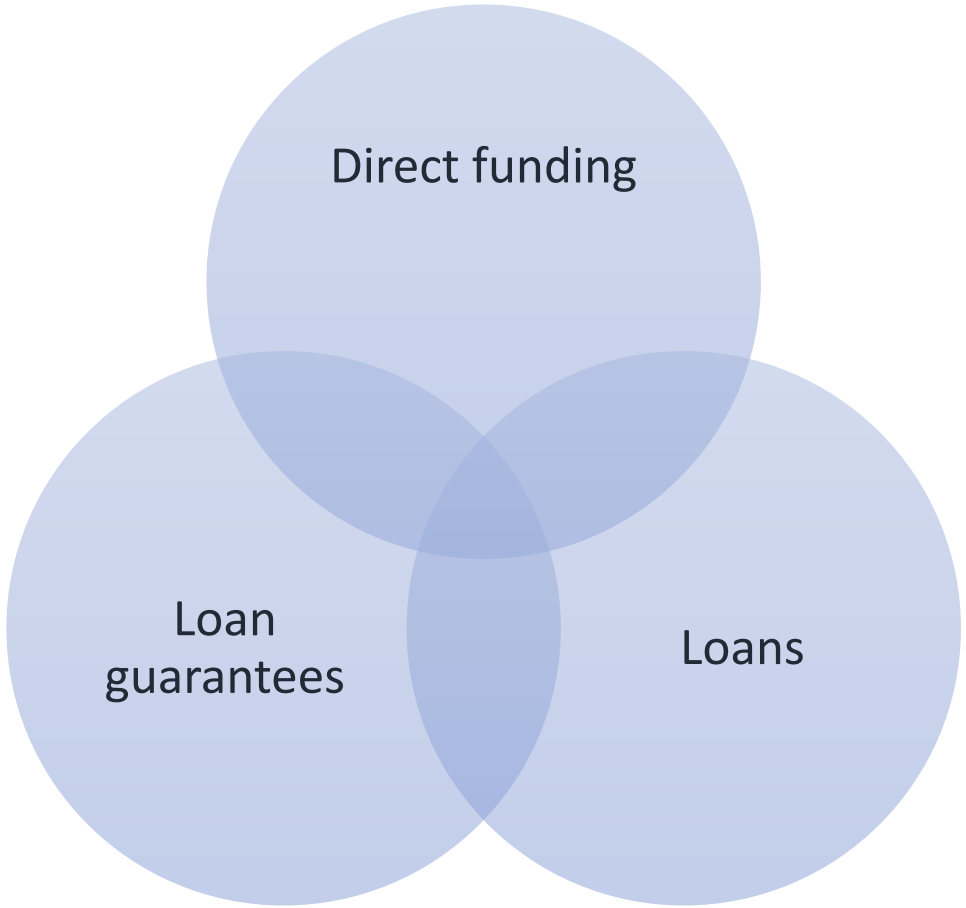
Four integrated programs to:

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

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

Funding Instruments

Funding Availability



	Total funding	Funding by project
Direct funding	For CHIPS **Direct Funding**, **up to $38.2B** available in total	Direct funding expected to be **5-15% of project capital expenditures**
Loans and Loan guarantees	For CHIPS **Loans** and **Loan Guarantees**, **up to $75B** in total in direct loan or guaranteed principal	Expected total amount of a CHIPS Incentives Award expected not to exceed **35% of project capital expenditures**

Funding Opportunities

February 28, 2023

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

June 23, 2023

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

September 29, 2023

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

The CHIPS Program Office received over 670 statements of interest, over 230 pre-applications and full applications, and over 160 small supplier concept plans. It has announced ***over $36 billion in proposed funding across 20 preliminary memoranda of terms and one final award.***

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 for critical applications will be **conducted in the U.S.**

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…

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**

Supply Chain

- ✔ U.S. government will **reduce chokepoint risks** flowing from **geographic concentration**.
- ✔ U.S. will **advance technology leadership** and **support vibrant fab clusters,** while reducing risk of production disruptions.

Manufacturing

- ✔ U.S. semiconductor manufacturing equipment and materials suppliers will **increase their footprints in the U.S**.
- ✔ The **most advanced non-U.S. suppliers** will establish large-scale footprints in the United States **for the first time**.

Program Priorities

Economic and national security objectives

Commercial viability

Financial strength

Technical feasibility and readiness

Workforce development

Broader impacts

Catalyzing Private Investment

The CHIPS Program Office aims to support a virtuous cycle of private investment in large-scale U.S.-based production and R&D, as well as throughout the supply chain, attracting both existing and new private investors to the U.S. semiconductor ecosystem and encouraging innovative approaches to funding industry growth. This will help ensure that semiconductor firms and their investors continue to invest in the United States long after CHIPS funding has ended.

PROPOSED
$35+ billion
IN INCENTIVES FUNDING

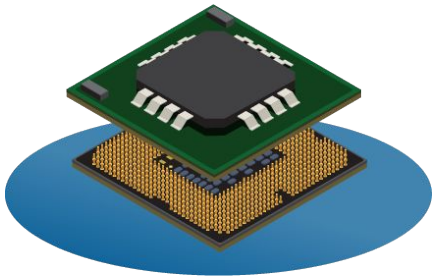
UNLEASHED
$400+ billion
IN PRIVATE INVESTMENTS

CHIPS for America on track to achieve EVERY Vision for Success Goal

Goals	Announced PMTs
Create 2+ large-scale leading-edge logic clusters	**5** Leading-edge logic clusters in AZ, OH, TX, and OR
Establish multiple high-volume advanced packaging facilities	**4** Advanced packaging projects in TX, NM, IN, and AZ
Produce high-volume DRAM chips and R&D	**4** DRAM production and R&D projects in NY, TX, IN, and ID
Increase production for current- and mature-node chips	**9** C&M projects in TX, NY, CO, NH, MN, OR, FL, VT, and NM
Build resilient semiconductor supply chain	**4** Supply chain projects in CO, TX, MO, and GA

CHIPS R&D Programs

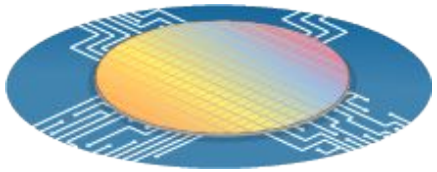
CHIPS Metrology Program



CHIPS National Semiconductor Technology Center (NSTC) Program

Natcast

Natcast is a purpose-built nonprofit organization and operator of the NSTC consortium



CHIPS National Advanced Packaging Manufacturing Program (NAPMP)

Manufacturing USA

CHIPS Manufacturing USA Program

Workforce Initiatives

Overview of CHIPS R&D Office Goals

Vision

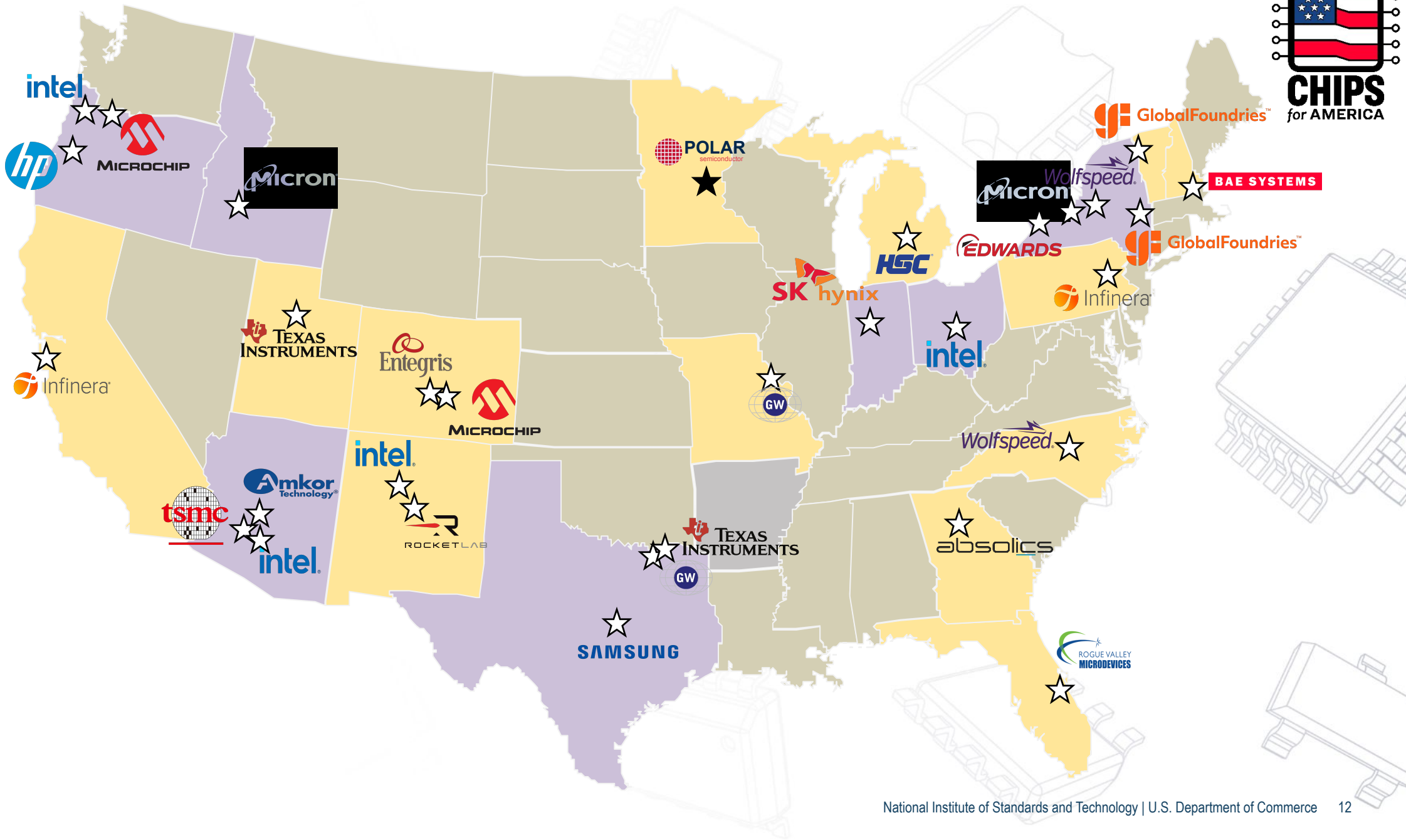
A vibrant and self-sustaining U.S. domestic semiconductor ecosystem that revitalizes American manufacturing, grows a skilled and diverse workforce, and leads the world in semiconductor research and innovation.

Mission

Accelerate the development and commercial deployment of foundational semiconductor technologies by establishing, connecting, and providing access to domestic tools, resources, workers, and facilities.

2030 Goals

- **U.S. Technology Leadership:** The United States establishes the capacity to invent, develop, prototype, manufacture, and deploy the foundational semiconductor technologies of the future.
- **Accelerated Ideas to Market:** The best ideas achieve commercial scale as quickly and cost effectively as possible.
- **Robust Semiconductor Workforce:** Inventors, designers, researchers, developers, engineers, technicians, and staff meet evolving domestic government and commercial-sector needs.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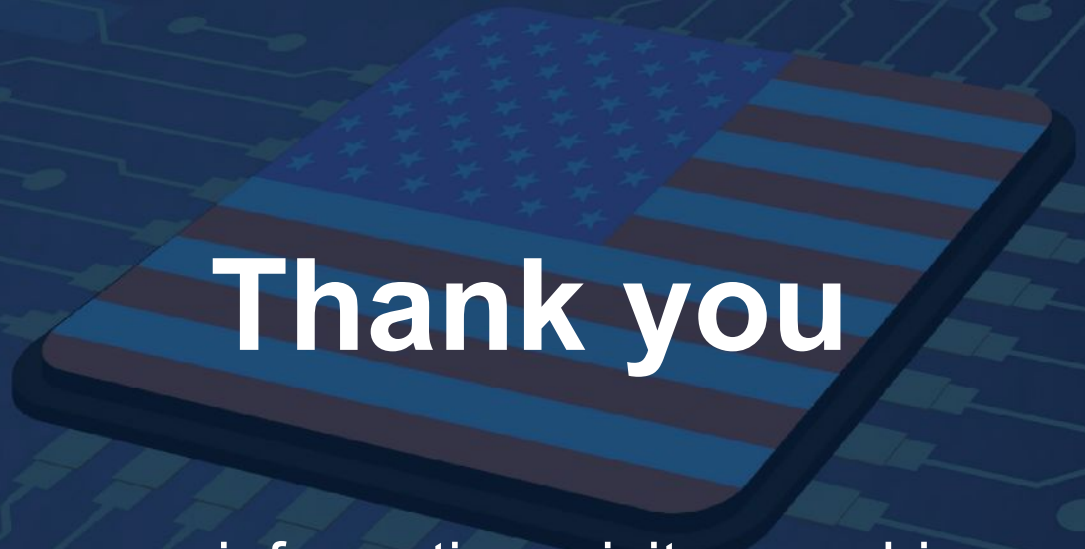

Thank you

For more information, visit www.chips.gov