



Arizona's All-in on CHIPS

An Overview

About the CHIPS Act

On August 9, 2022, President Biden signed into law the CHIPS and Science Act (CHIPS), historic legislation that invests nearly \$53 billion in U.S. semiconductor manufacturing, research and development, and workforce initiatives. The law also creates a 25 percent tax credit for capital investments in semiconductor manufacturing.

Arizona's Actions

As the nation's leader in new semiconductor jobs, investment, and supplier expansions, Arizona promises to play a leading role in the future of U.S. chip manufacturing and innovation.

To maximize opportunities under the CHIPS Act, Arizona has launched an unprecedented collaborative effort, bringing together stakeholders from state and local governments, industry, trade groups, economic development organizations, universities and community colleges, workforce partners, and more.

Working together, partners have announced important new initiatives to enhance the state's semiconductor ecosystem including new industry-led apprenticeships and workforce programs, investments in university infrastructure and R&D, first-of-its kind training accelerators at community colleges, a national industry roadmap, and more.

Arizona Semiconductor Task Force

Launched in August 2022, the Arizona Semiconductor Task Force represents a statewide effort led by the Arizona Commerce Authority (ACA) to coordinate the state's pursuit of competitive funding opportunities under the CHIPS Act, grow the semiconductor talent pipeline, strengthen and enhance connectivity throughout the supply chain, and invest in semiconductor R&D infrastructure. Driven by industry-led efforts, the group includes more than 100 partner organizations from private industry, academia, and the public sector working to maintain and grow Arizona's semiconductor leadership.

The group has convened five full task force meetings as well as numerous subcommittee meetings in areas such as workforce, advanced packaging, and the supply chain.

Under the ACA's leadership, the Task Force is focused on helping companies navigate their applications for direct incentives, leveraging Arizona's unique capabilities and strengths to lead federal CHIPS R&D programs.



A convening of the full Arizona Semiconductor Task Force in October 2023

Supply Chain and R&D

Arizona Supplier Consortium

On September 29, 2023, the U.S. Department of Commerce released a funding opportunity for supply chain projects less than \$300 million. In response, the ACA and partner organizations formed the Arizona Small-Scale Supplier Consortium (AZ SSC), a subgroup of the Arizona Semiconductor Task Force.

The consortium includes key supply chain operators in Arizona representing materials, equipment, R&D, advanced packaging, and more. The AZ SSC combined projects, which are backed by the support of more than 20 partner organizations in the state, represent nearly \$1.8 billion in investment and will create over 3,800 high-paying and high-skilled jobs in Arizona.

The consortium helps to highlight the importance of Arizona's semiconductor cluster and the critical role filled by suppliers to support larger manufacturing operations, such as those conducted by Intel, TSMC, and NXP.

University Investments

To maximize Arizona's competitive position for research and development opportunities under the CHIPS Act while spurring additional private sector investment, the State of Arizona allocated \$100 million to the ACA to further enhance Arizona's semiconductor infrastructure, workforce, and research capabilities.

Investments from the ACA include:

- ✔ **\$47.5 million** to ASU, enabling the first-of-its-kind Applied Materials/ASU Materials to Fab (MTF) Laboratory at ASU's MacroTechnology Works facility and supporting the development of advanced packaging and GaN capabilities;
- ✔ **\$35.5 million** to the University of Arizona, enabling a major expansion of the university's Micro/Nano Fabrication Center and advancing R&D and industry partnerships. The partnership includes a collaboration with Pima Community College and Central Arizona College to advance training opportunities;
- ✔ **\$13 million** to Northern Arizona University to launch the Microelectronics Metrology certificate program, training center, and research laboratory; and
- ✔ **\$4 million** to establish Registered Apprenticeship Programs for semiconductor technicians



Researchers
at ASU's
MacroTechnology
Works facility in
Tempe

Timeline of Recent Semiconductor Actions

- SEPT 2021 — ACA convenes national effort to develop **semiconductor industry roadmap (NSER)**
- AUG 2022 — ACA launches the **Arizona Semiconductor Task Force**, a statewide effort to coordinate CHIPS Act efforts
- NOV 2022 — Arizona invests **\$100 million** to enhance statewide semiconductor ecosystem
- DEC 2022 — Industry, state leaders publish **National Semiconductor Economic Roadmap (NSER)**
- JAN 2023 — **SEMICON West** announces **annual rotation** in Phoenix
- MAR 2023 — Plug and Play launches **new office** In Arizona focused on advanced manufacturing
- JUN 2023 — **Gov. Hobbs** launches first of six new **advanced manufacturing training centers**
- JUL 2023 — **Applied Materials, ASU, ACA** announce new **\$270 million** “Materials-to-Fab” Center
- SEPT 2021 — ACA forms Arizona Small-Scale Supplier Consortium (AZ SSC)
- NOV 2023 — ACA, UArizona announce **\$35.5 million** investment for Micro/Nano Fabrication Center (MNFC)
- NOV 2023 — **Governor Hobbs** announces **new apprenticeships**, programs to enhance Arizona’s semiconductor workforce
- NOV 2023 — **Amkor** Announces **\$2 billion** advanced packaging and test facility In Peoria
- DEC 2023 — **ASM** announces **\$300 million** R&D expansion in Scottsdale
- DEC 2023 — ACA allocates **\$17.5 million** to expand ASU R&D, workforce initiatives
- JAN 2024 — **Phoenix, Biden-Harris admin, TSMC** announce **new workforce initiatives**
- FEB 2024 — ACA allocates **\$13 million** for NAU training and research programs

Governor Hobbs announces new workforce training initiatives in November 2023



Enhancing Arizona's Semiconductor Ecosystem

For more than 70 years, Arizona has stood at the forefront of semiconductor design, development, and production. Combined with Arizona's rapid population growth and deep labor pool, which includes more than 3.6 million workers and counting, Arizona is poised better than any state to power the semiconductor workforce of the future.

Recent actions:

Launching the Future48 Workforce Accelerator: Governor Hobbs announced a partnership with Maricopa Community Colleges to offer a customized, industry-led training pathway at the state-of-the-art microelectronics facility.

Establishing the first semiconductor Registered Apprenticeship Program: Alongside NXP Semiconductors, which is based in Chandler, Governor Hobbs announced Arizona's first Registered Apprenticeship Program supporting the semiconductor industry.

Increasing support for apprentices: The ACA will invest \$4 million to support the growth of Registered Apprenticeship Programs (RAPs) in Arizona supporting the semiconductor industry.

Launching the Phoenix Workforce Hub: In January 2024, the City of Phoenix and senior officials from the Biden-Harris Administration announced a \$5 million commitment from TSMC to establish a new semiconductor technician Registered Apprenticeship Program. The announcement also included a \$5 million commitment from philanthropic organizations to provide 1,500 Arizonans with supportive services to enter in-demand jobs of the future, new partnerships between unions and community colleges, and more.

Leading with NSER: In December 2022, after a year of development and extensive work alongside many state and national partners, the ACA released the much-anticipated [National Semiconductor Economic Roadmap \(NSER\)](#), a blueprint to increase U.S. semiconductor competitiveness.

Meeting childcare needs: Arizona state agencies are collaborating to conduct a Childcare Needs Study to assess gaps across the state across all industries as well as challenges specific to the semiconductor industry.

Expanding Arizona's Semiconductor Technician Quick Start Program:

In partnership with Intel and TSMC, Maricopa Community Colleges launched the Semiconductor Technician Quick Start program in 2022. The affordable two-week program prepares students for careers as semiconductor technicians through hands-on learning from private-industry instructors.

Increasing trade apprentices through BuilditAZ: Launched in August 2023, the BuilditAZ Apprenticeship Initiative aims to double the number of construction and trades registered apprentices by 2026.

Expanding the Joint Apprenticeship Training Center:

Arizona Pipe Trades plans to expand its Joint Apprenticeship Training Center after receiving a \$15 million investment from Taiwan Semiconductor Manufacturing Company. The Joint Apprenticeship Training Center supports about 1,000 apprentices at a time with plans to expand to over 2,000.



A UArizona researcher at the university's Micro/Nano Fabrication Center