

FACT SHEET: Biden-Harris Administration Announces Over \$5 Billion from the CHIPS and Science Act for Research, Development, and Workforce

The Administration will invest billions in the National Semiconductor Technology Center (NSTC), now formally established as a public-private consortium, and other CHIPS Research and Development (R&D) priorities to support and extend U.S. leadership in semiconductor research, design, engineering, advanced manufacturing, and workforce development

Today, the Biden-Harris Administration announced it expects to invest over \$5 billion in semiconductor-related research, development, and workforce needs, including in the National Semiconductor Technology Center (NSTC), to advance President Biden's goals of driving R&D in the United States. As part of the implementation of the CHIPS and Science Act and the President's Investing in America agenda, these investments advance U.S. leadership in semiconductor R&D, cut down on the time and cost of commercializing new technologies, support U.S. national security and access to key technologies, and connect and support workers in securing good-semiconductor jobs.

Semiconductors were invented in America and serve as the backbone of the modern economy. But today, the United States produces less than 10 percent of global supply and none of the most advanced chips. Similarly, investments in domestic R&D have fallen to less than 1 percent of GDP from 2 percent in the mid-1960s at the peak of the space race. Under President Biden's Investing in America agenda, the CHIPS and Science Act aims to change that by making a historic investment in U.S. semiconductor manufacturing, research and development (R&D), and workforce. The CHIPS R&D program includes \$11 billion in total funding to advance four programs: the NSTC; the National Advanced Packaging Manufacturing Program (NAPMP); the CHIPS Metrology Program; and the CHIPS Manufacturing USA Institute. The NSTC, as the centerpiece of the CHIPS R&D program, will bring together government, industry, labor,

customers, suppliers, educational institutions, entrepreneurs, and investors to accelerate the pace of new innovations, lower barriers to participation in semiconductor R&D, and directly address fundamental needs for a skilled, diverse semiconductor workforce.

Today, the White House hosted research and development and workforce convenings with senior Administration leadership, industry, academia, think tanks, state and local government, and labor, where the Biden-Harris Administration announced several milestones that will drive U.S. leadership in cutting-edge semiconductor research and development, including:

Building the National Semiconductor Technology Center

- **Expected \$5 billion investment in the NSTC**, now formally established as a Public-Private Consortium by the Secretaries of Commerce, Defense, and Energy, the Director of the National Science Foundation, and Natcast CEO Deirdre Hanford. The NSTC will ensure the U.S. leads the way in the next generation of semiconductor technologies by supporting the design, prototyping, and piloting of the latest semiconductor technologies; leveraging shared facilities and expertise to ensure innovators have access to critical capabilities; and building and sustaining a skilled and diverse semiconductor workforce.
- **Announcing research priorities for the NSTC for 2024**, including identifying early start research programs.
- **Launching the NSTC Community of Interest**, a zero-cost, pre-membership program, for interested stakeholders to provide input into the anticipated membership structure and program offerings of the NSTC.

Investing in the Semiconductor Workforce

- **Expected investments of hundreds of millions in the NSTC's workforce efforts, including the creation of a Workforce Center of Excellence with a presence in multiple regions.** The Center of Excellence will build on the Administration's efforts to create equitable training pathways to connect Americans to the good-paying, high quality jobs in critical industries of the future created by the President's Investing in America Agenda, including work done through the Biden-Harris Administration's Workforce Hubs and Advanced Manufacturing Sprint. It will leverage workforce investments made by industry, academia, and other education and workforce partners and:
 - Convene stakeholders, facilitating connections between employers and education and training providers, such as community and technical colleges, workforce development boards, and registered apprenticeship programs;
 - Use data to measure the success of existing programs and to guide future investment; scale up proven education and training programs; and

- Pilot new efforts, including initiatives to engage underserved communities.
- Additional activities could include synthesizing semiconductor education and training to form a common baseline education program, launching campaigns to attract new students and workers to the semiconductor industry, developing new training methodologies, and accelerating access to educational resources.
- **Continuing to engage a broad set of stakeholders to guide the stand-up of the NSTC's workforce activities**, with the goal of launching them in summer 2024. The NSTC's workforce activities will engage senior leadership from the **National Science Foundation, Department of Defense, Department of Energy, Department of Labor, and Department of Education, along with other federal agencies**, to ensure the NSTC benefits from expertise across the government, in addition to industry, academia, labor, workforce training providers, and other experts.

Investing in Other Key R&D Needs

- **Commerce released a Notice of Intent to invest at least \$200 million in a CHIPS Manufacturing USA Institute** to create a first-of-its-kind semiconductor manufacturing digital twin institute, which will allow innovators to replicate and experiment with physical manufacturing processes at low cost, with the goal of significantly reducing U.S. chip development and manufacturing costs, improving development cycle time, and accelerating the adoption of innovation semiconductor manufacturing technologies.
- **Commerce released a Notice of Intent to fund up to \$300 million in new R&D activities in advanced packaging of substrates and substrate materials**, a key technology for manufacturing semiconductors, to improve all aspects of system performance and support the breadth of new semiconductor applications.
- **Commerce has awarded over \$100 million in funding across 29 projects in the CHIPS Metrology program** addressing common needs across the microelectronic industry. Current projects are helping to develop new measurement instruments, measurement methods, and measurement-informed models and simulations for advanced microelectronics design and manufacturing, all of which will help inventors and entrepreneurs more easily scale innovations into commercial products.

Today's announcements build on the progress the Administration has already made in advancing research, development, and innovation in the United States. Last week, the White House and the [National Science Foundation announced 10 U.S. regions](#) that are emerging as innovation ecosystems and **receiving over \$530 million in investment catalyzed by the National Science Foundation's Regional Innovation Engines program**, including to support advanced semiconductor packaging capabilities in Osceola County, Florida. Over the last several months, the Biden-Harris Administration also officially designated a new nonprofit, the National

Center for the Advancement of Semiconductor Technology (Natcast), as the operator of the NSTC, and announced the selection of a Board of Directors and a CEO. And, in the fall of 2023, the Administration announced the **designation of 31 Regional Tech Hubs**, which were authorized by the CHIPS and Science Act, including hubs in New York, Oregon, Vermont, Texas, and Oklahoma that will specifically focus on spurring and supporting innovation in semiconductor manufacturing.