

February 14, 2023

The Honorable Shalanda Young  
Director, Office of Management and Budget  
725 17<sup>th</sup> St NW  
Washington, DC 20503

Dear Director Young,

As you continue to prepare the President's Budget for Fiscal Year 2024 (FY24), the Semiconductor Industry Association (SIA)<sup>1</sup> strongly encourages you to include funding for science and research programs at the levels authorized in the CHIPS and Science Act of 2022 (P.L. 117-167).

SIA applauds Congress and the Administration for passage and enactment of the CHIPS and Science Act, which provided historic increases in funding authorizations for American innovation through programs at the National Science Foundation (NSF), Department of Energy Office of Science (DOE-SC), National Institute of Standards and Technology (NIST), and Department of Commerce Economic Development Administration (EDA). Such initiatives will help advance innovation, ensure U.S. competitiveness, strengthen the American STEM workforce, promote economic growth, and maintain national security. To uphold the promise and opportunity of the CHIPS and Science Act, it is pivotal that the Administration and Congress support these programs at the fully authorized level.

### **National Science Foundation**

Basic and applied research funded through NSF sets the foundation for the technology breakthroughs of the future, such as those in important semiconductor-related fields including engineering, computer science, and mathematics. A strong innovation workforce is key to successful implementation of the CHIPS and Science Act, and investments in STEM education will strengthen the semiconductor workforce pipeline, from K-PhD. Funding for the NSF's newly established Directorate for Technology, Innovation, and Partnerships (TIP) will support its mission to "harness the nation's vast and diverse talent pool to advance critical and emerging technologies, address pressing societal and economic challenges, and accelerate the translation of research results from lab to market and society," especially through NSF programs such as Enabling Partnerships to Increase Innovation Capacity (EPIIC), Future of Semiconductors (FuSe), and Experiential Learning for Emerging and Novel Technologies (ExLENT). SIA recommends increasing the budget for NSF to support the level authorized by the CHIPS and Science Act.

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<sup>1</sup> The Semiconductor Industry Association (SIA) is the voice of the semiconductor industry, one of America's top export industries and a key driver of America's economic strength, national security, and global competitiveness. Semiconductors – the tiny chips that enable modern technologies – power incredible products and services that have transformed our lives and our economy. The semiconductor industry directly employs over a quarter of a million workers in the United States, and U.S. semiconductor company sales totaled \$258 billion in 2021. SIA represents 99 percent of the U.S. semiconductor industry by revenue and nearly two-thirds of non-U.S. chip firms. Through this coalition, SIA seeks to strengthen leadership of semiconductor manufacturing, design, and research by working with Congress, the Administration, and key industry stakeholders around the world to encourage policies that fuel innovation, propel business, and drive international competition. Additional information is available at [www.semiconductors.org](http://www.semiconductors.org).

## Department of Energy Office of Science

The DOE Office of Science is critical to the U.S. innovation ecosystem and should be funded at the maximum possible level. The National Laboratories operated by the Office of Science are fundamental to sustaining U.S. semiconductor R&D leadership, ranging from Oak Ridge National Laboratory in Tennessee, which is home to the world's fastest supercomputer and the first exascale computer, to Argonne National Laboratory in Illinois, which recently launched the microelectronics Energy Efficiency Scaling for 2 Decades (EES2) initiative. For decades, the Office of Science has been an important leader in basic and applied research needs, both in microelectronics and beyond. Sustained investment is needed in facilities, personnel, and other resources. SIA recommends increasing the budget for DOE-SC to support the level authorized by the CHIPS and Science Act.

## National Institute of Standards and Technology

NIST has been leading efforts in semiconductor research since the 1940s. Today, NIST programs play a crucial role in continued R&D advancements. There are dozens of ongoing microelectronics-related projects at NIST, including, for example, those in micro- and nano-materials, EUV imaging and spectroscopy, and semiconductor metrology. NIST's Nanoelectronics Research Initiative facilitates a public-private partnership between the government, academia, and industry to train students and conduct critical research. NIST also supports programs, such as the NEW LIMITS Center ("NEW materials for Logic, Memory and InTerconnectS"), whose mission is to develop new materials that enable novel computing and storage innovations. A fully funded NIST will support its mission of "promoting U.S. innovation and industrial competitiveness." SIA recommends increasing the budget for NIST to support the level authorized by the CHIPS and Science Act.

## Department of Commerce Economic Development Administration

### *Regional Technology and Innovation Hubs*

The 20 regional technology and innovation hubs authorized by the CHIPS and Science Act will create new innovation regions and expand existing ones. These hubs will facilitate innovation partnerships between local and state governments, industry, workforce development organizations, and colleges and universities, with wide-reaching benefits to the region's economy, education system, and R&D output. SIA recommends increasing the budget for the EDA Regional Technology and Innovation Hubs to support the level authorized by the CHIPS and Science Act.

### *RECOMPETE Pilot Program*

As authorized in the CHIPS and Science Act, the RECOMPETE Pilot Program provides flexible, long-term grants that support investments in R&D, workforce development, and expanding the scope of communities that participate in the innovation ecosystem. SIA recommends increasing the budget for the EDA RECOMPETE Pilot Program to support the level authorized by the CHIPS and Science Act.

## Department of Defense

SIA also supports robust funding for Department of Defense (DOD) science and technology (S&T) programs, including funding for defense basic research. These investments include the Defense Advanced Research Projects Agency (DARPA) and the 6.1 basic research programs, 6.2 applied research programs, and 6.3 advanced technology development.

### *Trusted & Assured Microelectronics Program*

As authorized in the NDAA, the Trusted & Assured Microelectronics Program seeks to create a resilient and robust secure microelectronics pipeline for disruptive R&D transition, supply chain aware technology development, education, and workforce development.

### *Microelectronics Commons*

As funded in the CHIPS and Science Act with the creation of the Creating Helpful Incentives to Produce Semiconductors (CHIPS) for America Defense Fund, the Microelectronics Commons is a national network that will create direct pathways to commercialization for U.S. microelectronics researchers and designers from lab to fab.

Together, these programs will sustain investments in semiconductor innovation and R&D that support national security. SIA recommends the budget for these defense research programs be as robust as possible.

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Federal R&D programs have a substantial return on investment throughout the economy, advancing innovations in new technologies that enable progress in such fields as computing, energy, manufacturing, AI, healthcare, space, telecommunications, and defense. The President's budget and congressional appropriations should follow through on the historic commitments of the CHIPS and Science Act in order to support a vibrant American innovation ecosystem. Thank you for your support of these important priorities and consideration of inclusion in the President's budget.

Sincerely,

