

# ASG Analysis: The CHIPS Act Ushers in a New Era for U.S. Industrial Policy Amid Major Challenges

November 21, 2022

## Key takeaways

- The Creating Helpful Incentives to Produce Semiconductors and Science Act, better known as the CHIPS and Science Act, was signed into law by President Biden on August 9, 2022. **The bill aims to shore up U.S. semiconductor manufacturing capacity by providing attractive incentives and funding for R&D and workforce development.** The act is motivated primarily by China-related national security concerns, as well as the United States' continuing reliance on South Korea and Taiwan for cutting-edge semiconductors.
- **The bill includes more than \$50 billion in appropriations for chip manufacturing and R&D.** The Department of Commerce will oversee the disbursement of these funds over the next five years, including \$39 billion for building, expanding, and modernizing domestic production facilities and equipment, and \$11 billion for advanced semiconductor R&D (see [appendix](#) for granular breakdowns).
- **The Biden administration is keen to show progress on implementation as soon as possible.** Commerce has established two new offices within the National Institute of Standards and Technology – the CHIPS Program Office (CPO) and the CHIPS R&D Office – to oversee progress. The CPO has already released a public consultation seeking feedback on the design and implementation of CHIPS incentive programs, and Commerce recently appointed 24 experts to the industrial advisory committee.
- **The implementation process will proceed in several stages and cover different groups of companies.** Priority will initially be given to legacy technology companies and projects in order to upgrade older facilities and equipment. Applications from larger companies such as TSMC, Intel, Samsung, and Micron will likely take more time as they will receive more funding, requiring greater scrutiny and longer approval processes. Nevertheless, these four companies have already announced plans to upgrade or build U.S.-based facilities in anticipation of receiving CHIPS money.
- **The Commerce Department hopes to begin accepting applications for CHIPS-funded projects as soon as February 2023,** though there is limited publicly available guidance on how to prepare. Companies that plan to apply will, however, need to demonstrate significant commitment to the U.S. semiconductor ecosystem and specifically to workforce development, including through providing opportunities for small businesses and disadvantaged communities.
- **Key questions remain related to implementation, funding, and sustainability.** At present, there is significant concern over the long-term commitment to funding and how

initial funds will be separated – for example, how much of the initial funding will go to companies in the upstream and downstream subsectors of the industry.

## CHIPS funding marks a significant shift in U.S. industrial policy

The CHIPS and Science Act, passed by Congress in July and signed into law by President Joe Biden, represents a major watershed in the development of a new, more muscular U.S. industrial policy. Driven by U.S. concerns over China (and relatedly, over Taiwan’s dominance of high-end semiconductor manufacturing), the act is the first step on what will be a long and contentious road to addressing broader concerns about China’s role on the global stage and developing a commercially viable onshore manufacturing sector for semiconductors. The bulk of the legislation’s \$54.2 billion of total appropriations is directed to supporting investments in the U.S. semiconductor ecosystem. The goal of these incentives, which will be front-loaded over five years, is to boost U.S. national security and economic competitiveness.

More specifically, the U.S. government wants to attract global industry leaders to make large-scale investments in domestic semiconductor manufacturing capacity, including advanced fabrication facilities (or “fabs”) and associated packaging and testing capabilities. CHIPS incentives will also help fund new semiconductor R&D and workforce development initiatives. This is part of a broader push to shore up U.S. technological competitiveness with China.

*Reducing U.S. vulnerability to a concentration of both cutting-edge and legacy semiconductor production in Taiwan is the most important goal of this new industrial policy*

While the incentives are substantial in dollar terms, the high costs associated with semiconductor manufacturing mean they should be viewed as only an initial down payment on the U.S. attempt to build a more resilient domestic industry supply chain. Changing the industry’s overall footprint to reduce the current reliance on a small number of critical supplier facilities located in Taiwan and South Korea will be a slow process. Long-term success will require sustained political and financial commitment beyond the end of the initial CHIPS Act funding in 2026.

Even if the current heavy reliance on Taiwan and South Korea for cutting-edge semiconductors can be somewhat reduced via the initial CHIPS Act incentives that will fund TSMC, Samsung, and Intel fabs, the U.S. and allied countries will be unable to onshore a substantial portion of semiconductor-related capacity. Large subsidies from the U.S. and other governments investing in similar incentives will also create new risks for the semiconductor industry. These will need to be carefully managed via coordination and dialogue between governments and industry players to avoid the risk of unintentionally disrupting the industry’s unique innovation engine.

Beyond semiconductors, the CHIPS Act earmarks significant funds for broader investments in U.S. research, science, and innovation. These authorizations include major new initiatives and expansions of existing programs at the Department of Energy, Department of Commerce (including the National Institute for Standards and Technology), the National Science Foundation, NASA, and other government agencies. Funding for these new investments will need to be approved separately by Congress and could become subject to political squabbling. If funding materializes, it will represent the biggest reboot of U.S. government support for science and technology in decades.

For companies in the semiconductor sector and adjacent sectors, it will be important to understand what is in the current bill; what remains to be clarified; how the administration will make decisions related to grants and incentives; and what this will mean to firms seeking funding or other support.

## What can the CHIPS money accomplish?

The CHIPS Act has its roots in an analysis commissioned by the Semiconductor Industry Association (SIA) in 2020, which found that \$50 billion of government incentives for industry would be required to establish the U.S. as an attractive location for semiconductor manufacturing. Consultants working for SIA concluded that this level of funding should be sufficient to encourage companies to build roughly 19 advanced fabs for logic, memory, and analog semiconductors over the next decade – roughly double the activity that would have taken place without subsidies. They estimated this would lead to the creation of sufficient onshore U.S. manufacturing capacity to cover U.S. semiconductor needs for military, aerospace, and critical industry applications.

The same study estimated that fully onshoring all U.S. semiconductor needs would require \$400 billion of incentives and \$1 trillion of total investment over a decade, illustrating the seemingly insurmountable political and financial obstacles to establishing full self-sufficiency in semiconductors. But the goal of the drivers behind the CHIPS Act is to achieve some level of advanced manufacturing in the U.S. and not to fully recreate global semiconductor supply chains on U.S. soil.

## What is in the CHIPS and Science Act?

The bill includes \$54.2 billion in total appropriations for CHIPS and Public Wireless Supply Chain Innovation. See the [appendix](#) for a detailed breakdown.

Some additional proposals, including a separate bill establishing a new “CFIUS-like” outbound investment screening process for U.S. company investments in China, did not make it into the final package. The final bill takes a narrow approach to proscribing new investment in China. Recipients of semiconductor subsidies and tax breaks will be prohibited from “expanding or building new manufacturing capacity for certain advanced semiconductors in specific countries that present a national security threat to the United States.”

This narrow approach to restrictions on Chinese investment and the fact that the outbound CFIUS proposals were excluded from the final version also means that there are likely to be other administrative actions on outbound investment in the near term.

While semiconductor manufacturing incentives are the core of the CHIPS and Science Act, it also provides authorizations for funding for major new investments in basic research and innovation. This includes financial support for new Department of Energy research initiatives in basic energy, biological and environmental research, advanced scientific computing research, fusion energy, physics, and other initiatives; increased funding for the National Institute for Standards and Technology (NIST); and major new funding for the National Science Foundation (NSF).

Finally, the debate around both this bill and some of the proposed legislation left out of a separate omnibus bill, of which it was originally part, had a distinct focus on competition with China. Chinese officials were critical of the process that started last summer with the passage of the U.S. Innovation and Competition Act, which included the CHIPS Act funding authorization. In coming months, the other pieces of the broader anti-China bill will be taken up again in various forms, and there will be ongoing congressional churn on a range of China-related issues. These include data privacy, China-origin inputs into U.S. ICT supply chains related to critical infrastructure, and Chinese investment in critical technologies.

*There will be ongoing congressional churn on a range of China-related issues.*

## Implementation

The nearly two-year period that it took to draft and get the legislation through Congress represented a significant delay in terms of the pace of development of the overall semiconductor industry. This has added urgency to the establishment of structures to oversee the funding and begin reviewing applications and disbursing funds. U.S. officials at the Commerce Department tasked with overseeing the rollout of CHIPS Act funding must first contend with the lack of a well-oiled interagency infrastructure to oversee the process. Shortly after passage of the act, the White House released an executive order establishing the initial parameters of an implementation plan. A meeting in early October overseen by the White House CHIPS Steering Council also laid out in very general terms how the implementation plan will unfold.

The administration hopes to begin accepting applications for CHIPS-funded projects by February 2023. The Department of Commerce has established two new offices within the NIST to manage the program (see chart): the CHIPS Program Office (CPO) and the CHIPS R&D Office. The choice to house these new offices within NIST reflects a need for technical expertise in evaluating how CHIPS money should be spent.

### CHIPS Implementation

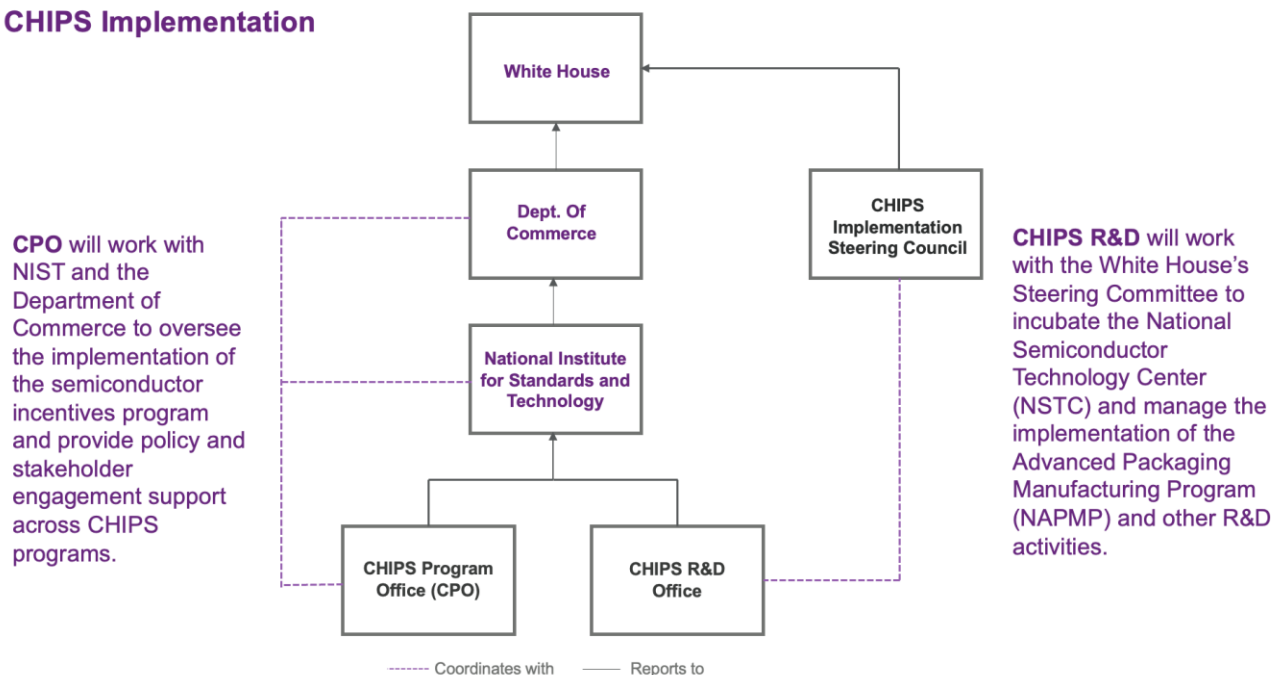


Figure 1: CHIPS coordination and reporting structure

Commerce Secretary Gina Raimondo, who will be a key driver of the implementation process, has hired Donna Dubinsky, an IT industry veteran, to oversee staffing up of the CPO. This process will continue through the end of the year and well into 2023. Initially, the CHIPS leadership team will consist of detailees from other government offices, as well as repositioned individuals such as Commerce official Ronnie Chatterji, who will assume the position of White House Coordinator for CHIPS Implementation and be the primary interface between the CHIPS Office and the interagency.

Some of the individuals in leadership positions are likely placeholders, while Commerce officials work to identify candidates with deeper industry experience and attempt to get them through the cumbersome government hiring process. There is currently a shortage of more senior officials with deep industry expertise across all of the disciplines that will be involved in decision-making, including geopolitics, technologies and processes, upstream and downstream supply chains, industry players, and investment strategies, as well as a limited understanding of the differing levels of innovation and market sensitivity of the many interlinked elements of the industry.

The initial implementation process will proceed in several stages and cover different groups of companies based on priorities laid out in the bill. Secretary Raimondo and other Commerce officials have spoken about the need to have a “holistic vision” for the program, where “everything is connected.”

The first **application guidance** will be released in February 2023, with the potential that some initial applications for CHIPS Act funding could be reviewed by the CPO in February; at least, this is the goal. The application process will be rolling, so it will behoove companies to get into the queue early. There is also likely to be a **pre-application process**, whereby companies can submit an application, enter into a dialogue with the CPO, and address issues raised by their applications before formal submission. All companies involved in the application process will need to demonstrate their commitment to the **U.S. semiconductor ecosystem and specifically to workforce development**, a key priority for U.S. officials, in particular Secretary Raimondo.

Commerce officials have indicated that they would like to **focus initially on legacy technology companies and projects**, including upgrading existing equipment and facilities for the legacy semiconductors that were a key part of the recent global shortage. This would include micro controller units (MCUs), and radio frequency semiconductors that were most impacted by the shortages. Companies in this category are likely to include Skywater, NXP, Infineon, Global Foundries, Texas Instruments, and ON Semi. Secretary Raimondo has indicated that roughly one quarter of the \$39 billion in the act for manufacturing – around \$10 billion – will go to legacy projects.

**Applications from larger producers** that already have some presence in the U.S. and will be seeking much higher levels of funding will take more time. The first four companies that will receive funding in this category will be TSMC, Intel, Samsung, and Micron. TSMC committed two years ago to building an advanced fab in Arizona, based on promises made by the Trump administration that the firm would receive funding under what would eventually become the CHIPS Act. Intel has lobbied heavily for funding to support the two advanced fabs it is building in Ohio. Samsung has committed to major upgrades of existing manufacturing facilities in Texas and is expected

*This month, Arizona governor Doug Ducey announced a historic \$100 million investment to enhance the state's semiconductor ecosystem.*

to be an initial recipient of funding. Micron has pledged to spend \$100 billion on new fab facilities in New York.

The Biden administration is eager to show progress on implementation as rapidly as possible. Key stakeholders in getting the bill through Congress, such as New York Senator Chuck Schumer, are already moving on this front: Schumer in August issued a press release with examples of New York companies that could get funding.

On October 12, the CPO office released a public consultation process (RFI) seeking feedback on the design and implementation of incentive programs, including grants, loans, and loan guarantees. The RFI on the incentive program aims to account for amendments made to the CHIPS Act, including changes to broaden the program’s eligibility to support manufacturers of semiconductor equipment and materials, while prohibiting covered entities from expanding advanced semiconductor manufacturing capabilities in China. The CPO is drafting so-called “guardrails” for the funding process; companies should watch see how the guardrails language will be worded, and how it will align with other recent U.S. measures that could impact existing facilities and investments in China. The October 7 export control package included major new restrictions on U.S. persons working in China and in specified facilities doing advanced manufacturing as well as restricted the export of some semiconductor manufacturing equipment to China. In addition, a forthcoming executive order on outbound investment is expected to include notification requirements around semiconductor-related investments in China.

The new Industrial Advisory Committee is set to meet in early December and will focus on the R&D elements of the CHIPS funding stream, including the National Semiconductor Technology

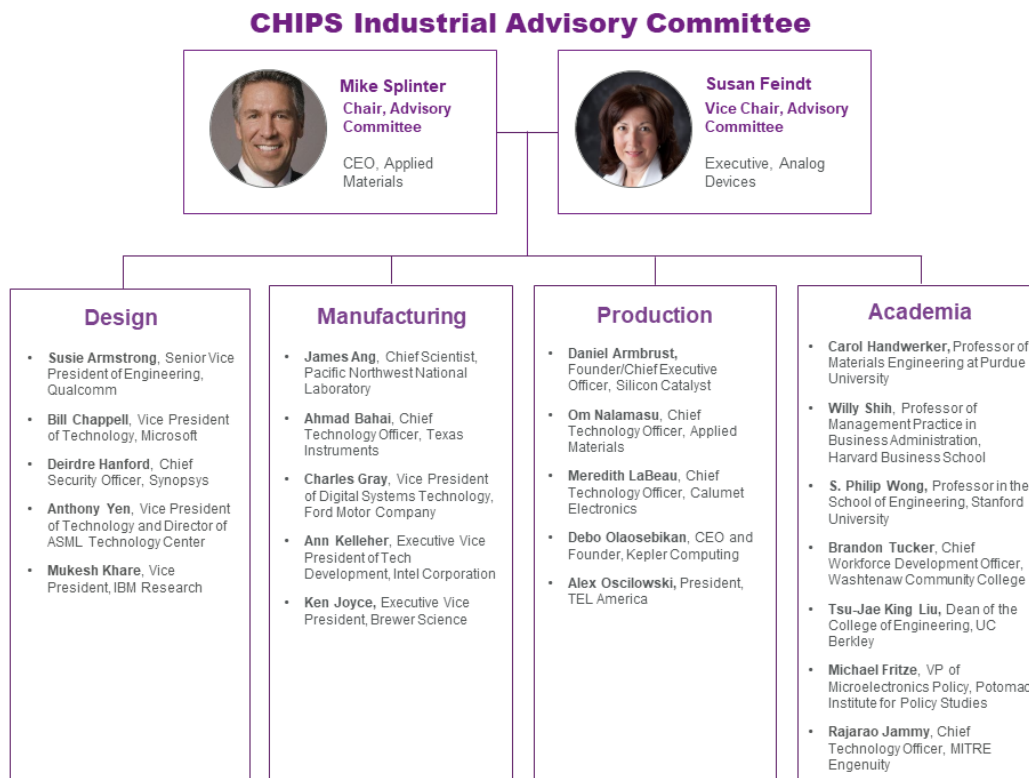


Figure 2: Commerce Industrial Committee Appointees in 2022

Center (NSTC). It does not have a mandate for the grants portion of the CHIPS investments but is likely to be consulted on some of the key areas

of the broader funding program, including areas such as upstream and downstream sector priorities. It will also develop a longer-term strategy for integrating R&D efforts at NSTC into a broader industry strategy that will leverage government support along several key pieces of the supply chain.

*Companies wishing to take advantage of the CHIPS Act will need to fully understand the process for applying for funding.*

Finally, local government incentives, particularly at the state level, will also play an important role, augmenting federal subsidies. States that are already being particularly aggressive in attracting companies to site facilities within their borders include Arizona, Michigan, Indiana, Ohio, and New York. In some cases, state-level packages being offered companies are quite substantial, and senior state officials are participating in efforts to attract companies.

## Looking ahead

There are a number of outstanding questions related to the implementation of the CHIPS Act in the near term. It remains unclear how Commerce officials will balance and prioritize the different elements of the semiconductor supply chain that will be required to onshore significant capacity in the U.S. So far, there has been no clear definition in public-facing documents about how U.S. officials will define different categories of potential funding recipients, such as cutting-edge, legacy, upstream, or downstream. In addition, while the goal for advanced packaging and testing appears to be to use the R&D funding via the NSTC to jumpstart a packaging industry in the U.S., the details of how this will happen remain unclear.

The initial CHIPS Act funding is also relatively small and does not reduce the importance of establishing a long-term process for continuing to encourage public-private partnerships to bring advanced manufacturing to the U.S. The semiconductor industry will engage in \$300 billion in capital spending this year, an amount that will cumulatively reach \$4 trillion by 2030. The administration will struggle to address all of the factors that have limited semiconductor manufacturing in the U.S. just via the CHIPS Act.

In particular, it remains unclear how much of the initial funding will go to companies in the upstream and downstream subsectors of the industry. For example, **upstream**, the wafers used as the foundation for manufacturing semiconductors, as well as many of the chemicals and process gases, come primarily from Japan. **Downstream**, advanced testing and packaging is currently done primarily in China and Taiwan. U.S. officials have displayed no appetite for attracting or funding legacy packaging companies and will likely focus on more advanced packaging such as chiplets. This will also be done in conjunction with the NSTC, but details of how all of these pieces will work together when major fabs begin production in the 2024-25 timeframe remain unclear. The economics of shipping materials and semi-finished products back to Asia will remain problematic for some time, while the administration works to attract more Asian companies upstream in the supply chain to site facilities in the U.S. Taiwan's GlobalWafer, for example, is a likely early recipient of CHIPS Act money after the first round goes to large manufacturers – the firm has likely been given some guarantee by Commerce officials of funding, given the criticality of siting advanced wafer facilities in the U.S. close to customers.

Interested parties should closely track developments over the next three months and carefully map stakeholders across the U.S. government. For its part, the Biden administration will need to communicate its vision for long-term success of the effort early on. Here, there are several major issues: what does success look like? What is next after the massive debates that led to passage of the bill? And finally, are there realistic plans to do more? There is concern within the semiconductor industry about the U.S. government's long-term commitment to funding and supporting advanced manufacturing in the U.S., and to building a sustainable ecosystem that can make the industry commercially viable over the long-term, including by building resiliency within what is a highly cyclical sector. Even senior TSMC officials have raised concerns on this issue. While the current leadership at the Commerce Department is highly supportive of the effort and includes capable individuals with industry knowledge, this group will change over the next decade, as will administrations, creating challenges for sustaining support and ensuring funding that the industry needs to continue to plan for the long term.

The CPO will primarily be responsible for ensuring that CHIPS money earmarked for new semiconductor manufacturing facilities is spent efficiently. We expect the CPO's calls for applications to include extensive information about the requirements of the application and its evaluation criteria. Proposals will go through a two-stage process, where applicants will receive feedback from on preliminary applications before handing in a final application.

Michael Schmidt, a former Senior Advisor at the Treasury Department, has been tasked with leading this office – Schmidt brings considerable experience in dealing with investment tax credits. JD Grom, Senior Advisor to the Secretary on CHIPS Implementation, has been Raimondo's point person with Congress, and his appointment highlights the secretary's desire to maintain close ties to Capitol Hill during the implementation process.

On the R&D side, the office will work closely with the White House Steering Committee to oversee the incubation of the NSTC and the National Advanced Packaging Manufacturing Program (NAPMP). The NSTC will focus primarily on scaling up advancing semiconductor design, workforce development, and upskilling. The NAPPMP will focus on expanding U.S. capabilities in advanced packaging, a challenging assignment given that existing facilities are primarily located in Asia.

Japan in November announced new plans to establish a Japanese version of the NSTC, which is likely to pursue collaborative efforts with the U.S. The LSTC, or Leading Edge Semiconductor Technology Center, will focus on R&D for manufacturing of semiconductors beyond the 2 nm next-generation node. Japan will also fund a new domestic manufacturing company that will leverage the LSTC's R&D. The partners in this manufacturing project, called Rapidus, include Sony, Kioxia, SB, Denso, NTT, Fujitsu, and NEC. For now, this consortium will only include Japanese companies, but Japanese officials maintain that it will eventually be open to U.S. and likely Taiwan firms, including TSMC.

## Risks

While the new U.S. investments, and other government investments coming from Japan and potentially other like-minded countries, will help fund expansions in new semiconductor manufacturing capacity, companies will also face new risks from the revival of large-scale U.S.



industrial policy. CHIPS incentives will be accompanied by claw-back provisions that will require companies to return funds if projects do not meet certain conditions.

In addition to crafting a strategy to take advantage of the U.S. legislation and CHIPS Act process, companies with global operations will also need to consider the global environment – specifically business and policy in Europe, China, Asia, and Southeast Asia, and elsewhere – and build a holistic investment and government relations approach that provides maximum benefit while de-risking decisions. Companies should not build a CHIPS strategy in isolation.

A major challenge facing companies receiving CHIPS Act money and building new facilities in the U.S. will be recruiting engineering and other technical talent to staff advanced production and packaging operations. TSMC, for example, will be training some staff for its Arizona fab in Taiwan, and is heavily recruiting engineering talent from Arizona State University. A key element of the CHIPS Act funding, which aims to encourage STEM education and boost interest in hardware engineering, will take time to put in place and to begin producing results. All of the key suppliers for major fab operations will also need to recruit and train engineers and staff to support their customers.

Companies that accept government support may also face heightened political pressure to invest through the business cycle. This could lead to friction with shareholders in the event of an economic recession or industry downturn, during which companies could come under pressure to reduce capital expenditures or return more money to shareholders. Companies that take CHIPS Act money will also face restrictions on their ability to invest in new facilities in China.

Finally, governments and companies will need to coordinate carefully to avoid a “subsidy race” that could lead to over-investment and an eventual glut of new capacity that could harm companies’ ability to recycle profits into new R&D breakthroughs.

## Appendix

### CHIPS for America Fund

- \$39 billion for the Commerce Incentive Program: builds, expands, or modernizes domestic facilities and equipment for semiconductor fabrication, assembly, testing, advanced packaging, or research and development, including \$2 billion specifically for mature semiconductors.
  - *Note: Within the incentive program, up to \$6 billion may be used for the cost of direct loans and loan guarantees.*
- \$11 billion for Commerce R&D programs: implement programs including the National Semiconductor Technology Center (NSTC), National Advanced Packaging Manufacturing Program, and other R&D programs.
  - *Note, \$5 billion is for the National Semiconductor Technology Center (NSTC) when the bill is passed, and another \$6 billion that will be distributed over the next 4 Fiscal Years.*

- \$200 million for the CHIPS for America Workforce and Education Fund: kickstarts development of the domestic semiconductor workforce, which faces near-term labor shortages, by leveraging activities of the National Science Foundation.
- \$2.5 billion for the CHIPS America Defense Fund and International Security and Innovation Fund: provides support for R&D, testing and evaluation, workforce development, and other related activities, in coordination with the private sector, universities, and other federal agencies to support the needs of the Department of Defense and the intelligence community. This also includes funding to collaborate with the international community on semiconductor security and supply chain improvements.
- \$1.5 billion for the Public Wireless Supply Chain Innovation Fund: spurs movement towards open-architecture, software-based wireless technologies, funding innovative, “leap-ahead” technologies in the U.S. mobile broadband market.
- Facilitating American-Built Semiconductors (FABS) Act – Advanced Manufacturing Investment Credit: provides a 25 percent tax credit for investment in semiconductor manufacturing and incentivizes the manufacturing of semiconductors and the specialized tooling equipment required in the manufacturing process.

Outside of the CHIPS act, the bill provides funding for several agencies, include the Department of Commerce and the Department of Energy. Below is a quick breakdown of what the bill includes for each agency:

- \$81 billion as part of a National Science Foundation authorization: invests in translational strategic sciences to accelerate the development of key technologies used for artificial intelligence and 6G communications. It also aims to build a robust STEM work force, expand rural STEM education, and expand and build upon current NSF research activities.
- \$11 billion for Commerce Department technology hubs: creates 20 regional technology hubs to focus on development, job creation, and promoting innovation capacity. It also establishes the “Recompete Pilot Program” to support persistently distressed communities with economic development activities.
- \$10 billion as part of National Institute of Standards and Technology authorization: aims to support critical technology research and standards, strengthen small manufacturers, combat supply chain disruption, grow domestic manufacturing, and promote competition in international standards.
- NASA authorization: authorizes the Artemis Moon Program, aims to maintain the international space station, advance U.S. aeronautics leadership, enhance NASA’s technology, workforce, and infrastructure, and ensure planetary defense.
- “Research Security to Protect Federal Investment in the U.S. R&D Enterprise”: seeks to empower NSF research security, train researchers on best practices, prohibit foreign recruitment programs, and ensure transparency.

CHIPS Implementation Leadership Team				
	Name	CHIPS Position	Current Position	Expertise
White House	Ronnie Chatterji	White House Coordinator for CHIPS Implementation at the National Economic Council	Chief Economist of the Department of Commerce since April 2021; Professor of Business and Public Policy at Duke University's Fuqua School of Business (on leave)	<b>Finance/Economy/Public Policy:</b> Chatterji has been the principal economic adviser to the Secretary of Commerce Gina Raimondo and senior economist at the White House's Council of Economic Advisers during Obama administration. He also has served as a term member of the Council on Foreign Relations and worked as a financial analyst at Goldman Sachs.
	Michael Schmidt	Director of the CHIPS Program Office	Senior Advisor at the Treasury Department	<b>Finance/Large-scale Program Management:</b> At Treasury, Schmidt managed implementation of the Child Tax Credit program in the American Rescue Plan, which provided monthly payments to more than 37 million families and lifted more than 3 million children out of poverty. Prior to that, he served as the Commissioner of the New York State Department of Taxation and Finance, which oversees the state's tax system and collects more than \$100 billion in revenue annually.
Department of Commerce	Eric Lin	Interim Director of the CHIPS Research and Development Office	Director of the Material Measurement Laboratory at the National Institute of Standards and Technology	<b>Semiconductor R&amp;D:</b> Dr. Lin has conducted and led world class research programs in semiconductor electronics processing, nanoscale materials, and advanced manufacturing. He received a B.S.E. from Princeton University, and Masters and Ph.D. degrees from Stanford, in chemical engineering.
	Todd Fisher	Interim Senior Advisor in the CHIPS Program Office	Program Director for the American Rescue Plan Funds at the Economic Development Administration in the U.S. Department of Commerce	<b>Finance/ Large-scale Program Management:</b> In Fisher's current position, he is responsible for all aspects of the implementation of EDA's \$3 billion American Rescue Plan programs. He had a 30-year career in the finance and investment industry as an investor and C-level business leader.
	Donna Dubinsky	Senior Counselor to the Secretary for CHIPS Implementation	Board Chair and CEO of Numenta (an AI company)	<b>Business/Electronics:</b> Dubinsky is a serial entrepreneur best known for her work as CEO of Palm Computing and then Handspring, pioneers of the first successful handheld computers and smartphones. Previously, Dubinsky spent 10 years in a multitude of sales, sales support, and logistics functions—both at Apple and at Claris, an Apple software subsidiary.
	J.D. Grom	Senior Advisor to the Secretary on CHIPS Implementation.	Assistant Secretary for Legislative & Intergovernmental Affairs in the U.S. Department of Commerce	<b>Public Policy:</b> In Grom's current role, he helped lead the Administration's legislative strategy to pass the CHIPS and Science Act among other Department priorities. Prior to Commerce, Grom had two stints working in the House of Representatives. First for his hometown representative, Congresswoman Melissa Bean (IL-08) and later as Executive Director of the House New Democrat Coalition.

## About ASG

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