

CLIENT ALERT

The CHIPS Are Down and Incentives Flow as Congress Attempts to Vitalize the U.S. Semiconductor Industry

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Last week, the United States Congress passed the \$280 billion [CHIPS and Science Act of 2022](#) (CHIPS Act)[1] to bolster domestic semiconductor and microchip manufacturing in the United States. The bipartisan legislation will facilitate federal investments in the form of grants, loans, and loan guarantees to eligible entities and create significant business opportunities for companies in the U.S. The legislation also provides funding and new programs to boost advanced workforce training and research and development in a range of scientific and technology areas. The legislation now awaits the signature of President Biden, who hailed its passage as “exactly what we need to be doing to grow our economy right now.”

The legislation seeks to reverse the decades-long decline in U.S. microchip and semiconductor manufacturing and counter the rise of China as a source for technologically advanced manufacturing processes and products. By boosting domestic manufacturing and supply chains, the legislation also aims to relieve the global semiconductor shortage that has plagued manufacturers of a diverse set of products – everything from automobiles to children’s toys – and has contributed to the nation’s supply chain woes for more than two years.

The cornerstone of the legislation is \$52 billion that will be allocated to the U.S. Department of Commerce semiconductor initiative to develop and expand domestic manufacturing capacity. Implementation of that program was already underway at the Department of Commerce[2], following Congressional authorization in the Fiscal Year 2021 National Defense Authorization Act (FY21 NDAA), and the legislation passed last week now provides the critical funding needed to commence direct federal incentives for the construction, expansion, or modernization of semiconductor manufacturing facilities.

Other features of the CHIPS Act include:

- **Advanced Manufacturing Investment Credit:** U.S. semiconductor companies will also benefit from a new 25 percent tax credit for their investments in new and expanded domestic manufacturing of semiconductors, including costs of manufacturing specialized tooling equipment. Those credits will be provided for property placed into service after December 31, 2022, and for which construction begins before January 1, 2027. The details of this credit are fully described [here](#).
- **Government Accountability Office (GAO) Semiconductor Reporting:** The bill specifically enhances GAO’s semiconductor reporting requirement established in the FY21 NDAA to (1) include an evaluation of potential government steps to avoid semiconductor shortages; (2) describe efforts taken to hire individuals from disadvantaged populations into the semiconductor workforce; and (3) detail how funded projects support critical infrastructure industries.[3]
- **Public Wireless Supply Chain Innovation Fund:** The legislation provides another \$1.5 billion for the Department of Commerce to assist with 5G wireless deployment through its Public Wireless Supply Chain Innovation Fund, also created in the FY21 NDAA. That program seeks to provide 5G market access to additional U.S. vendors to diversify the domestic supply chain and decrease dependence on foreign supplies.[4]

- Allocations for Identified Research Projects: The legislation also authorizes investments of more than \$150 billion at the National Science Foundation (NSF), the Department of Commerce, the Department of Energy, and the National Institute of Standards and Technology (NIST) to bolster identified scientific research and programs.^[5]
- New NIST Authorities and Requirements: The bill grants NIST new authorities but also tasks it with expanding or creating guidance and programs related to issues such as the lifecycle of software, artificial intelligence-enabled defense research, biometrics identification, and sustainable chemistry, among other things. It also grants NIST other transactions authority allowing the agency to engage in more flexible contracting relationships with the private sector.^[6]
- Supply Chain Database: The legislation tasks NSF with establishing a voluntary National Supply Chain Database, which is intended to assist the federal government and industry sectors in minimizing supply chain disruptions by having an assessment of U.S. manufacturers' capabilities.^[7]
- Research Security: The bill provides for a new Office of Research Security and Policy and new Chief of Research Security at NSF. It further requires NSF to engage in various reporting, analyses, research, and mitigation of security risks to research, including establishing a university foreign funding reporting process with a reporting threshold of \$50,000 or more.^[8]
- Clean Energy Incubator Program: The legislation establishes a competitive grant program within the Department of Energy to provide funding to support the commercialization of clean energy technology, a program to help coordinate technology transfers between entrepreneurs and DOE programs, and a program to provide entrepreneurs access to resources of DOE national laboratories.

Key Takeaways

The CHIPS Act funds programs for research and development, manufacturing, and industry development in an effort to reduce supply chain vulnerabilities and foreign reliance. As with previous commitments to developing domestic industry, the implementation of the legislation likely will determine whether and how quickly effects are realized.

Companies should position themselves to shape and compete for opportunities to obtain this new research and development funding. Universities and other research and development institutions also should be aware of the new security and foreign funding reporting requirements likely to result from this legislation.

[1] H.R. 4346.

[2] <https://www.commerce.gov/news/press-releases/2022/01/commerce-department-requests-information-supporting-strong-us>.

[3] CHIPS Act, § 105.

[4] CHIPS Act, § 106.

[5] *See generally* CHIPS Act.

[6] CHIPS Act, Division B, Title II, Subtitle C.

[7] CHIPS Act, § 10253.

[8] Division B, Title III, Subtitle D; *see also* Division B, Title VI, Subtitle D.

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