

The Washington Post

Democracy Dies in Darkness

U.S. to give \$1.5 billion for computer-chip plant, heating up global race

The massive grant, part of the Chips Act, will help the U.S. establish a homegrown supply for some of the most critical components of modern life.



By [Drew Harwell](#)

February 19, 2024 at 5:00 a.m. EST

The Biden administration will give \$1.5 billion to help build a vast new computer-chip factory in New York state as part of an effort to strengthen the country's ability to mass-produce the brains of modern consumer and military electronics.

The grant, formally unveiled Monday, is the third announced as part of the [Chips and Science Act](#), a \$52 billion program President Biden signed in 2022 in hopes of supercharging U.S. manufacturing of semiconductors, which are largely made overseas.

The money will help the semiconductor giant GlobalFoundries build a large-scale fabrication facility, known as a "fab," at its headquarters in Malta, N.Y., to produce advanced chips not currently made in the United States. The grant will also help the company expand another plant in Malta, known as [Fab 8](#), and upgrade a third fab in Burlington, Vt.

The decades-long decline in U.S. chip manufacturing, as companies pursued lower costs overseas, has fueled concern in Washington over the nation's supply chain for the tiny electrical components that form the bedrock of modern life.

Traditional semiconductors, known as legacy chips, are used in essentially all modern electronics, from phones and computers to refrigerators and washing machines. More-advanced chips are expected to power state-of-the-art weapons systems and the next generation of artificial intelligence software.

The United States pioneered the technology decades ago but has since lagged in the production of both kinds of chips, even as China's capabilities have soared. Although U.S.-based plants made 37 percent of the world's chips in 1990, their share of production has slid to about 12 percent.

Commerce Secretary Gina Raimondo, in a briefing Sunday, said the Chips Act's "once-in-a-generation investment" was designed to address the country's overreliance on foreign manufacturers and secure a homegrown pipeline for chips critical to American industry and defense.

The funding will "play an important role in making the U.S. semiconductor ecosystem more globally competitive and resilient," GlobalFoundries chief executive Thomas Caulfield said in a statement. He added that the industry needs to next turn its "attention to increasing the demand for U.S.-made chips, and to growing our talented U.S. semiconductor workforce."

The GlobalFoundries grant is the largest announced as part of the act. Since December, the administration has said it would award \$35 million to BAE Systems, a defense contractor that makes a chip used in fighter jets, and \$162 million to Microchip Technology, a company that builds memory chips and other widely used "microcontrollers" at fabs in Colorado and Oregon. More awards will be announced in the coming weeks, officials said.

Worldwide chip shortages during the covid pandemic drove up car prices and shut down automotive plants. U.S. officials have also expressed fear over broader risks to the American supply chain due to China's threats to invade Taiwan, the island where many of the world's most advanced chips are made.

Today's chips are built in closely controlled "clean rooms" by printing circuits onto shiny, record-size silicon wafers, a highly sophisticated process reliant on some of the world's most advanced and expensive machines. The world's largest chipmaker, Taiwan Semiconductor Manufacturing Co., or TSMC, said it spent \$30 billion on capital expenditures last year.

GlobalFoundries, whose "trusted foundry" designation from the Pentagon allows it to build high-end hardware for the military, has supplied the chips used in internet routers, radio towers and satellites as well as in the James Webb Space Telescope and the International Space Station. Its customers include automaker General Motors, defense contractor Lockheed Martin and electronics firm Qualcomm.

Of the world's five largest chipmakers, GlobalFoundries is the only one based in the United States. The other four are based in China, South Korea and Taiwan.

1 million wafers

GlobalFoundries applied for the Chips Act subsidies last year, saying the support was necessary for the company to “continue growing its U.S. manufacturing footprint.” The company will also benefit from the statute's tax credit for advanced manufacturing investments, which the Congressional Budget Office has estimated will be worth about \$24 billion over the next decade.

The federally supported expansions will help GlobalFoundries' campus in Upstate New York, north of Albany, triple its capacity over the next decade, to 1 million wafers a year, administration officials said. The grant will also make the Burlington facility the first in the nation to create a next-generation chip for electric vehicles and the power grid.

The Fab 8 upgrade, meanwhile, will expand capacity for building automotive chips used by General Motors, which signed an agreement with GlobalFoundries last year granting the carmaker an exclusive chip supply. A single car contains dozens of specialized chips controlling a range of features, from air bags, brakes and backup cameras to electric-car motors and power seats.

Beyond the \$1.5 billion grant, the Biden administration will make \$1.6 billion in loans available to GlobalFoundries for the construction and upgrades. The three projects are expected to total about \$12.5 billion, including grants and private funding.

Administration officials gave no timeline for the construction. The money, they said, is committed as part of a preliminary agreement that will require a due diligence period before it is officially awarded. It will be paid out over time based on project milestones, as opposed to in a lump sum.

The projects are expected to create roughly 1,500 jobs in manufacturing and 9,000 in construction, many of which will be centralized around the new fab, officials said.

Chip manufacturers have complained that the costs of building a new fab — as TSMC is doing in Arizona — are higher in the United States than in Asia, boosting the need for public subsidies. They have also struggled with shortages of trained U.S. employees qualified to perform the delicate work.

The administration said its funds will include roughly \$10 million to support GlobalFoundries' workforce-development measures, which include an apprenticeship program for teaching trainees to work in a fab, no semiconductor experience required.

"This shows our best days are not over," Senate Majority Leader Charles E. Schumer, the New York Democrat whose state will benefit from the funds, said Sunday in a briefing. "We can compete, we can understand the new changes and quickly adapt to them."