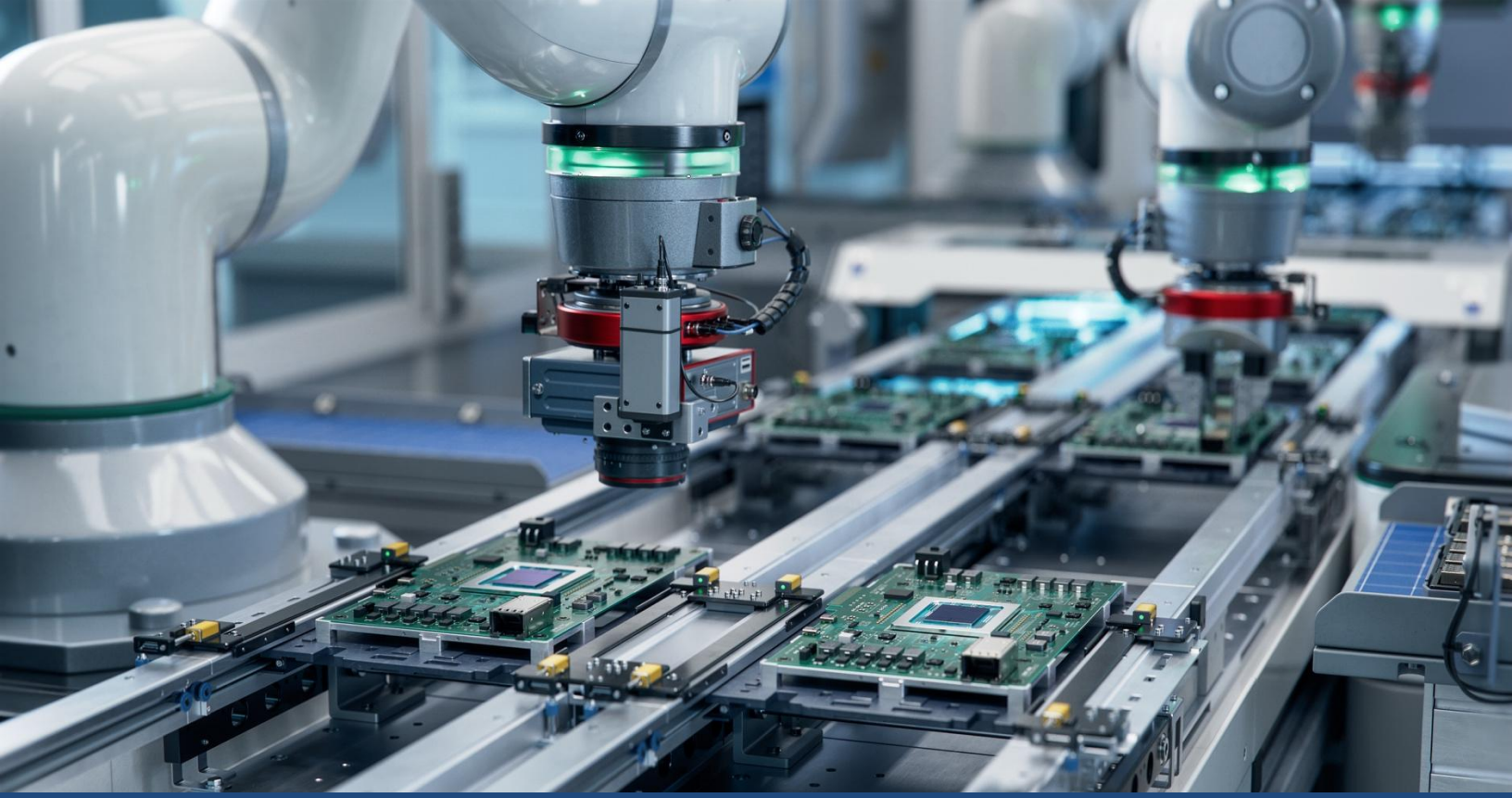

Reshoring Semiconductor Manufacturing

Semiconductors are the foundation of our everyday lives. Chips are the brains of products ranging from smartphones to TVs, data centers, electric vehicles, medical devices, and more. Without semiconductors, modern computing and consumer electronics would not exist.

Semiconductors support computation and connectivity, which currently drive product development, business productivity, and competitiveness. When chip supply is disrupted, the effects can be devastating for businesses and consumers. Semiconductor manufacturing can't be easily expanded or substituted in response to sudden demand changes or disruptions. Capital investment in new facilities and the time to build them are significant.

Governments view semiconductor manufacturing capability not just as an economic advantage but also as a national security asset. Access to advanced chip production impacts innovation in artificial intelligence, cybersecurity, aerospace, and defense technologies. As semiconductor production expanded internationally, manufacturing capacity and supply chains concentrated in Asia, particularly in Taiwan and China. This resulted in cost, efficiency, and scale advantages but also placed important semiconductor production, dependency, and risk outside of U.S. control.

Reshoring Institute
Non-profit and Non-partisan

Supply Chain Risks

The semiconductor supply chain is at risk because of geographic concentration in Asia. Attempts to eliminate the U.S. dependence on foreign countries through building production capacity in the US are underway, but will take an estimated 5-15 years before production is fully online. Semiconductor factories are full of advanced automation technology and are expensive to build. The Semiconductor Industry Association (SIA) and Boston Consulting Group analysis estimates that a fully domestic semiconductor industry would require between $900 billion and $1.225 trillion in upfront investment.[1]

The COVID-19 pandemic exposed the full scale of U.S. semiconductor vulnerability. Global lockdowns disrupted fabrication plants and logistics networks at the same time that the demand for electronics skyrocketed due to remote work and at-home education.

This resulted in a global chip shortage between 2020 and 2023. Consumer electronics and automotive production were particularly hard hit. Shutdowns of semiconductor fabrication factories caused downstream impact, as consumer products and vehicles depend on thousands of chips.

[1] "Strengthening the Global Semiconductor Supply Chain in an Uncertain Era." Semiconductor Industry Association and Boston Consulting Group, https://www.semiconductors.org/strengthening-the-global-semiconductor-supply-chain-in-an-uncertain-era/

The CHIPS and Science Act

Although construction of new semiconductor factories is underway in multiple domestic locations, the United States currently lacks the capacity to produce the most advanced chips. The CHIPS and Science Act, passed by Congress in 2022, was enacted to assist semiconductor manufacturers, through federal funding, to rebuild domestic capacity. The Act establishes and appropriates $39 billion to a CHIPS for America Fund to bolster semiconductor manufacturing capacity in the United States by providing financial incentives. The Department of Commerce notes that new semiconductor manufacturing facilities are expected to create over 115,000 manufacturing and construction jobs across the country.[2]

New Semiconductor Factory Investments

TSMC and Intel - Arizona

An important new semiconductor investment site is Taiwan Semiconductor Manufacturing Company's (TSMC) Arizona site. The company announced that the expansion will include "three new fabrication plants, two advanced packaging facilities and a major R&D team center." TSMC's total U.S. investment is expected to reach $165 billion, representing the largest foreign direct investment in U.S. history. The project received $6.6 billion in direct CHIPS Act funding.[3]

Intel has also invested $20 billion into building two fabs in Arizona. These fabs, named Fab 52 and Fab 62, both produce advanced logic chips using Intel's 18A technology, which is meant to compete with TSMC's advanced chips.

Samsung and Texas Instruments - Texas

Samsung announced plans for a semiconductor fab in Taylor, Texas, describing it as the largest-ever investment by Samsung in the U.S., with an initial project value of $17 billion. The company said the facility would boost production of advanced logic chips and improve the supply of critical chips used in next-generation technologies.

Another investment by Texas Instruments focuses on foundational chips rather than the leading-edge processors. The site will include up to four 300mm water fabrication plants, with the company noting that these facilities will be able to produce tens of millions of analog and embedded processing chips, used mainly in automotive industries, including Tesla. TI received $1.6 billion in direct funding for this site. Both investments support reshoring by strengthening advanced logic and foundational chip production within the U.S.

Intel - Ohio

Intel is building another major semiconductor plant in New Albany, Ohio. Construction for this site began in 2022, with plans to be in production by 2031, and is supported by CHIPS funding. The Department of Commerce announced up to $8.5 billion in funding for Intel to support multiple sites, with $1.5 billion allotted to the Ohio site.

Micron - Idaho and New York

Micron Technology is adding a new fabrication facility to its Idaho headquarters. The facility is intended to support growing demand in artificial intelligence and data infrastructure. Micron Technologies is also expanding in New York, investing up to $100 billion to build a massive memory manufacturing campus near Syracuse. This will be the largest semiconductor project in U.S. history. Both projects have received more than $6 billion in funding from the CHIPS Act.

Company	State	Total Investment	CHIPS Funding	Private Investment	CHIPs Share
TSMC	AZ	$165B	$6.6B	$158.4B	4%
Micron	NY	$100B	$6B	$94B	6%
Intel	OH	$29.5B	$1.5B	$28B	5%
Intel	AZ	$24B	$4B	$20B	16%
Samsung	TX	$17B	$6.4B	$10.6B	38%
TI	TX	$10B	$1.6B	$8.4B	16%
Micron	ID	$6B	$2B	$4B	33%

[2] "CHIPS for America Program." U.S. Department of Commerce, https://www.commerce.gov/issues/semiconductor-industry

[3] TSMC Press Release, 2025. & U.S. Department of Commerce, CHIPS Incentives Award – TSMC &New Advanced Semiconductor Fab Site in Taylor, Texas. & Texas Instruments, Sherman Texas Expansion & Micron Technology, New York Expansion.

Workforce and the Economic Impact of Reshoring

Reshoring semiconductor manufacturing has a direct impact on the U.S. labor market. According to the U.S. Bureau of Labor Statistics, semiconductor processing technicians earn a median wage of $51,180 per year, with wages ranging from $35,000 to over $87,000. In comparison, production workers across a non-semiconductor manufacturing industry earn a median wage of about $45,960.[4]

Reshoring and expansion of semiconductors will create new jobs directly in building semiconductor plants and with suppliers. Semiconductor jobs require more engineers and technicians with advanced skills and training. The local economies of these new mega-factories will also benefit from a positive economic magnification effect on local businesses.

Conclusion

Vulnerabilities exposed by the COVID-19 pandemic and the global chip shortage made it clear that supply chains concentrated in Asia are not sustainable for a U.S. technology-dependent economy. The CHIPS and Science Act, along with private investments from major semiconductor companies, are expanding U.S. semiconductor manufacturing, but fabrication factories won't be online for several years.

Semiconductor reshoring is not just about building factories. It requires an entire ecosystem, including semiconductor design companies, suppliers, construction, plus developing a workforce and the infrastructure to support the industry. While all of these investments help domestic semiconductor manufacturing, they will not fully eliminate global dependence. The supply chain remains international and interconnected, and demand for semiconductors continues to grow. Even when the new factories are operational, they will not fully support the expected growing demand. These projects represent a shift towards reshoring, where the U.S. can regain some control over semiconductor production and reduce exposure to geopolitical risk and other disruptions.

Job Description	**Entry Level**	**Median**	**Senior**
Semiconductor Processing Technician	$35,000	$51,180	$87,000
General Production Workers	$28,000	$45,960	$68,000
Semiconductor Engineers	$81,400	$120,000	$142,000

[4] U.S. Bureau of Labor Statistics, Semiconductor Processing Technicians. https://www.bls.gov/ooh/production/semiconductor-processing-technicians.htm and https://www.bls.gov/ooh/production/home.htm

ABOUT THE AUTHOR

Eli Kishinevsky
University of San Diego

Eli Kishinevsky is a 2026 graduate of the University of San Diego with a Bachelor's degree in Supply Chain Management. During his undergraduate studies, Eli spent a semester studying abroad in Madrid, where he gained exposure to global supply chain perspectives. While study overseas, he furthered his interest in understanding how organizations operate across borders.

ABOUT THE RESHORING INSTITUTE

We provide information, research, and consulting for companies endeavoring to reshore manufacturing back to America and nearshore to Mexico. This includes topics and projects such as site selection, tax incentives, marketing, public relations, cost comparison development, consulting, and case studies.

www.ReshoringInstitute.org
info@ReshoringInstitute.org

Reshoring Institute®
Non-profit and Non-partisan