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ONE HUNDRED NINETEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

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April 13, 2026

MEMORANDUM

TO:	Members, Subcommittee on Commerce, Manufacturing, and Trade
FROM:	Committee Majority Staff
RE:	Subcommittee on Commerce, Manufacturing, and Trade Hearing

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I. INTRODUCTION

The Subcommittee on Commerce, Manufacturing, and Trade has scheduled a hearing on Wednesday, April 15, at 2:00 p.m. (ET) in 2123 Rayburn House Office Building. The title of the hearing is "Computing Power and Competition: Examining the Semiconductor Ecosystem."

II. WITNESSES

- Mr. Jason Grebe, Senior Vice President Corporate Planning, Intel
- Mr. Jason Oxman, President and CEO, Information Technology Industry Council
- Dr. Charles Wessner, Nonresident Senior Advisor, Renewing American Innovation Program, Center for Strategic and International Studies (CSIS)
- Mr. Asad Ramzanali, Director of AI and Technology Policy, Vanderbilt Policy Accelerator, Vanderbilt University

III. BACKGROUND

Semiconductors are foundational to modern technology and serve as the backbone of the digital world.[1] They are incredibly small and highly complicated manufactured products, made up of dozens of layers of intricate circuitry and billions of microscopic switches called transistors.[2] Semiconductors serve as the key components in consumer electronics such as smartphones, computers, and motor vehicles and are also at the center of advanced and emerging

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[1] Semiconductors are often commonly referred to as integrated circuits, computer chips, microchips, or chips. *See What is a Semiconductor*, SEMICONDUCTOR INDUS. ASS'N (last visited Mar. 26, 2026), https://www.semiconductors.org/semiconductors-101/what-is-a-semiconductor/.

[2] *What are Semiconductors?*, INTEL (May 26, 2023), https://newsroom.intel.com/tech101/what-are-semiconductors.

technologies that are shaping human advancement and United States (U.S.) technological leadership across the globe, such as artificial intelligence (AI) technologies.[3]

Semiconductors were invented in the U.S. over 65 years ago, and U.S. firms generate over 50 percent of global semiconductor revenue, firmly establishing the U.S. as the global leader. The U.S. semiconductor ecosystem is responsible for 345,000 jobs and an additional 2 million indirect and induced jobs.[4] Semiconductors are a top export for the U.S., generating $57 billion in 2024—a 13 percent increase from 2023. Indications show that similar levels of growth may continue, with global semiconductor revenue expected to reach $1 trillion by 2027.[5]

However, the U.S. global market share in semiconductor manufacturing capacity is in decline. In 1990, the U.S. had a 37 percent share of global manufacturing capacity, but by 2022, the U.S. held just 10 percent.[6] The supply shortage in 2021 exposed the linchpin role of semiconductors in the U.S. economy: estimates showed that the U.S. lost $240 billion, or a full percentage point, off national growth domestic product (GDP).[7] This impact reverberated throughout the domestic economy; for example, the auto industry produced 7.7 million fewer automobiles in 2021 due to a lack of necessary semiconductors.[8] This shortage demonstrates the vulnerability of global semiconductor supply chains and underscores how essential they are to the U.S. economy.

In response to these concerning trends, Congress included the CHIPS for America Act in the Fiscal Year 2021 National Defense Authorization Act to help the U.S. maintain its global leadership in the semiconductor manufacturing ecosystem.[9] Recent major private-sector investments—centered around leading-edge chips critical for deploying AI systems at scale and totaling over half a trillion dollars—have the potential to triple U.S. semiconductor manufacturing capacity by 2032 and create 500,000 additional jobs.[10]

IV. KEY PILLARS OF THE SEMICONDUCTOR SUPPLY CHAIN AND ECOSYSTEM

The semiconductor supply chain is global and consists of dozens of countries and thousands of firms. No single country or company is capable of executing all stages or roles of the supply chain on its own.[11] Consequently, the supply chain is highly vulnerable to shocks,

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[3] *State of the U.S. Semiconductor Industry*, SEMICONDUCTOR INDUS. ASS'N , at 4 (2025), https://www.semiconductors.org/wp-content/uploads/2025/07/SIA-State-of-the-Industry-Report-2025.pdf.
[4] *Id*. at 15.
[5] Jeroen Kusters, Deb Bhattacharjee, Jan Thomas Nicholas, Jordan Bish, Duncan Stewart, and Karthik Ramachandran, *2026 Global Semiconductor Industry Outlook*, DELOITTE (Feb. 5, 2026), https://www.deloitte.com/us/en/insights/industry/technology/technology-media-telecom-outlooks/semiconductor-industry-outlook html.
[6] *Id*. at 19.
[7] Akhil Thadani and Gregory C. Allen, *Mapping the Semiconductor Supply Chain: The Critical Role of the Indo-Pacific Region*, CTR. FOR STRATEGIC AND INT'L STUD. (May 30, 2023), https://www.csis.org/analysis/mapping-semiconductor-supply-chain-critical-role-indo-pacific-region.
[8] *Id*.
[9] Pub. L. No. 116-283, § 9902(a), 134 Stat. 3388, 4846–48 (codified at 15 U.S.C. § 4652(a)).
[10] SEMICONDUCTOR INDUS. ASS'N, *State of the U.S. Semiconductor Industry*, at 4.
[11] CTR. FOR STRATEGIC AND INT'L STUD., *Mapping the Semiconductor Supply Chain: The Critical Role of the Indo-Pacific Region*.

disruptions, and shortages (see figures 1 and 2 in the Appendix for visual displays of the semiconductor supply chain).

A. Design and Types of Semiconductors

Semiconductor design is a highly complex and demanding process, requiring intense investment of time and resources. There are two major types of semiconductors: logic chips and memory chips. Both types have numerous variants that different types of industries and end-products rely upon.

Some key categories of logic chips include high-end central processing units (CPU), discrete graphics processing units (GPU), field-programmable gate arrays (FPGA), and application-specific integrated circuits for artificial intelligence (AI ASIC).[12] CPUs are the primary general purpose logic chips, with the U.S. dominating design through firms such as Intel and AMD. GPUs are the most utilized semiconductor for training AI algorithms and thus have become immensely critical and in high demand. The U.S. also has a significant share in GPU design through firms including Nvidia and AMD. FPGAs are unique in that they can be reprogrammed after deployment for different uses and are key in executing AI algorithms; the U.S. also dominates FGPA design. AI ASICs can execute AI algorithms with great speed and efficiency but are highly specialized only to certain specific AI algorithms, making them less widely used compared to GPUs and FPGAs.[13]

Some key categories of memory chips include dynamic random access memory (DRAM) chips and NAND chips.[14] DRAM memory chips perform at high speeds to access data quickly when a computer is turned on but the temporary, or volatile, data storage is lost when the computer is turned off. NAND memory chips perform at slower speeds and are flash memory chips, which are non-volatile and store data regardless of whether the computer is on or off.[15] The performance and application of each type of memory chip is distinctly different, providing each an advantage in their utilization. Given its high speed and volatile data storage, DRAM memory chips tend to be used for real-time operations and computing, whereas NAND, with its slower speed and non-volatile data storage, tends to be used for long-term data and memory storage.[16]

Another identifier for semiconductors is nodes. Nodes are measured in nanometers (nm), which typically indicate how many transistors can fit onto a semiconductor. To put the nanoscale into perspective, an average human hair is between 60,000-100,000 nms wide, and a fingernail

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[12] Saif M. Khan, Dahlia Peterson, and Alexander Mann, *The Semiconductor Supply Chain: Assessing National Competitiveness*, CTR. FOR SECURITY AND EMERGING TECHNOLOGY, 16-18 (Jan. 2021), https://cset.georgetown.edu/wp-content/uploads/The-Semiconductor-Supply-Chain-Issue-Brief-1.pdf.
[13] *Id*.
[14] *Id*. at 19; Stephanie Susnjara and Ian Smalley, *What is NAND flash memory?*, IBM (last viewed Mar. 26, 2026), https://www.ibm.com/think/topics/nand-flash; "NAND" is a combination of "not" and "and" and refers to the logic gate that controls the internal structure of the chip.
[15] *Id*. at 19.
[16] Kristina Moyes, *Difference between DRAM and NAND 2023*, EMBEDIC (Dec. 21, 2023), https://www.embedic.com/technology/details/difference-between-dram-and-nand-2023?srsltid=AfmBOoqup62vBLIEr0Lefzd6mUlmjS5BUiuYB8DZmmyEaZUIVahZfuMq.

grows at a rate of about 1 nm per second.[17] Importantly, nodes serve as benchmarks of technology generations for semiconductors. Legacy semiconductors have larger nodes (i.e., 65 nm nodes), and leading-edge semiconductors have smaller nodes (i.e., 5 nm nodes). Legacy chips are important for numerous modern products and consumer devices ranging from automobiles to toasters, and leading-edge chips are critical for AI and other advanced technology applications.[18]

Historically, the U.S. has dominated semiconductor design, with U.S. firms accounting for highs in global revenue in chip design (46 percent) and design software/licensing (72 percent) as of 2022.[19] However, U.S. global leadership in chip design is being challenged. Foreign governments, including the People's Republic of China (PRC) and South Korea, are investing in and creating incentives for chip design, looking to replace the U.S. as the leading country in this sector.[20] U.S. global market share dropped from 50 percent to 46 percent from 2015 to 2022, and some projections indicate that the U.S. share could drop to 36 percent by 2030.[21]

B. Materials and Equipment

Between raw materials and semiconductor manufacturing equipment (SME), there are many critical inputs required to produce a semiconductor. Materials such as silicon, various chemicals, and rare earth elements are required for semiconductor production.[22] The PRC is naturally rich with many of the critical minerals and raw materials required for semiconductor production and monopolizes the processing of such materials, ultimately accounting for over 41 percent of global total material production—the largest among any single country.[23] While the U.S. produces a small amount of most materials, the Trump Administration has prioritized increasing domestic production and processing of critical minerals in order to strengthen U.S. global competition for these materials.[24] Nonetheless, reversing the current global imbalance will take time as the U.S. falls well short of the PRC's dominance in both rare earth mining and processing.[25]

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[17] *How Small is Nano?*, NATIONAL NANOTECHNOLOGY COORDINATED INFRASTRUCTURE (last viewed Apr. 9, 2026), https://nnci.net/how-small-nano#:~:text=a%20human%20hair%20is%20about,tall%20or%202%20billion%20nanometers.

[18] CTR. FOR SECURITY AND EMERGING TECHNOLOGY, *The Semiconductor Supply Chain: Assessing National Competitiveness*, , at 16-18.

[19] Yong W. Kwon, Emily G. Blevins, Karen M. Sutter, CONG. RSCH. SERV., R47508, *Semiconductors and the Semiconductor Industry*, 13 (Apr. 19, 2023), https://www.congress.gov/crs_external_products/R/PDF/R47508/R47508.6.pdf.

[20] SEMICONDUCTOR INDUS. ASS'N , *State of the U.S. Semiconductor Industry*, at 4.

[21] Ramiro Palma, Raj Varadarajan, Jimmy Goodrich, Thomas Lopez, and Aniket Patil, *The Growing Challenge of Semiconductor Design Leadership*, BOSTON CONSULTING GRP. AND SEMICONDUCTOR INDUS. ASS'N (Nov. 2022), https://www.semiconductors.org/wp-content/uploads/2022/11/2022_The-Growing-Challenge-of-Semiconductor-Design-Leadership_FINAL.pdf.

[22] CTR. FOR SECURITY AND EMERGING TECHNOLOGY, *The Semiconductor Supply Chain: Assessing National Competitiveness*, at 52.

[23] *Id*. at 55.

[24] Exec. Order No. 14241, 90 Fed. Reg. 13673 (Mar. 25, 2025).

[25] CTR. FOR SECURITY AND EMERGING TECHNOLOGY, *The Semiconductor Supply Chain: Assessing National Competitiveness*, at 53.

The U.S. and its allies, however, have a significant share in fabrication materials and SME. The PRC currently lacks sufficient domestic capabilities to produce materials such as wafers, photomasks, photoresists, chemicals, and electronic gases: inputs that are essential to semiconductor manufacturing.[26] Similarly, the U.S., along with Japan and the Netherlands, dominate the supply of SME, with the U.S. alone accounting for over 40 percent of global SME market share. The U.S. leads in manufacturing wafer fabrication and advanced packaging equipment and, together with Japan, supplies over 70 percent of the world's wafer fabrication equipment. [27] Notably, the Netherlands dominates the production of photolithography machines, as they are only produced by a single company in the Netherlands, ASML.[28] The PRC is actively seeking to increase their market share in fab materials and SME to unseat the U.S. and its allies from global leadership through state-led policies, subsidies, and direct funding to Chinese firms.[29]

C. Manufacturing and Fabrication

Semiconductors are physically manufactured, or fabricated, in manufacturing facilities known as "fabs." Fabs can either manufacture semiconductors designed in-house, known as integrated device manufacturers (IDM), or they can operate as "foundries," which contract with other companies to manufacture semiconductors for them.[30] In the fabrication process, semiconductors are manufactured on sheets of silicon, known as wafers. A wafer is between 8 and 12 inches wide and usually contains hundreds of different semiconductors, with each semiconductor containing billions of transistors. The wafer then enters the photolithography process, which consists of covering the wafer in a light-reactive material and exposing it to light through a type of stencil to etch in a circuit pattern. Depending on the product, completing the front-end fabrication of a semiconductor following these initial steps could include another 1,000 or more additional processes.[31]

As of 2022, fabs in the U.S. only accounted for 10 percent of global semiconductor manufacturing capacity, but over half a trillion dollars in recent private investment and significant public sector investment stand to increase that manufacturing capacity. The other global leaders in semiconductor manufacturing capacity are the PRC at 21 percent, Taiwan at 19 percent, South Korea at 17 percent, and Japan at 16 percent.[32]

However, there are significant differences in production capacity for legacy and leading-edge chips, as well as for logic and memory chips. The same countries that lead in semiconductor manufacturing capacity also lead in logic chip production capacity, except for the PRC. The PRC is notably deficient when it comes to producing logic and leading-edge chips but

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[26] *Id*. at 55.
[27] CTR. FOR STRATEGIC AND INT'L STUD, *Mapping the Semiconductor Supply Chain: The Critical Role of the Indo-Pacific Region*.
[28] CONG. RSCH. SERV., *Semiconductors and the Semiconductor Industry*, at 18.
[29] *Id*. at 15.
[30] *Id*. at 15; CTR. FOR SECURITY AND EMERGING TECHNOLOGY, *The Semiconductor Supply Chain: Assessing National Competitiveness*, at 14.
[31] CONG. RSCH. SERV., *Semiconductors and the Semiconductor Industry*, at 15.
[32] *Id*.

is highly competitive at producing legacy chips.[33] The U.S., Taiwan, and South Korea hold most of the world's logic chip production capacity, through the firms Intel (U.S.), TSMC (Taiwan), and Samsung (South Korea).[34] Importantly, TSMC holds 54 percent of the world's logic foundry market share.[35] South Korea leads the world in memory chip production capacity (46 percent), followed by the U.S. (30 percent), and trailed distantly by Japan (10 percent), Taiwan (6 percent), and the PRC (8 percent).[36]

D. Assembly, Test, and Packing

Once the front-end fabrication of a semiconductor is complete, it must undergo assembly, test, and packaging (ATP). The semiconductors are cut from their wafer, undergo performance testing, and are packaged for protection and integration into electronic devices.[37]

The ATP process can be accomplished under two different business models. Similar to fabs versus foundries, ATP steps can be performed in-house by IDMs, or they can be performed by a third party under contract, such as an outsourced semiconductor assembly and test (OSAT) company.[38] ATP requires a high quantity of labor but is relatively low-skilled compared to front-end fabrication, so ATP manufacturing sites are typically established in developing countries or countries with lower labor costs.[39]

Taiwan and the PRC are the largest benefactors of this offshoring of ATP to countries with inexpensive labor. As of 2021, only 5 percent of global ATP capacity is located physically in the United States, whereas the PRC and Taiwan hold 38 and 19 percent, respectively.[40] Virtually all American-made chips are packaged in Taiwan.[41]

E. Use Cases and Demand

Various types of semiconductors are integral components to many modern devices, ranging from consumer devices such as smart phones and computers, to cars, home appliances, and emerging technologies such as AI, quantum computing, advanced manufacturing, and many others. Current demand for semiconductors is largely generated from the use of leading-edge logic chips in deploying AI systems at scale, such as in data centers. The AI infrastructure boom is currently driving roughly half of total semiconductor revenue, potentially reaching $500 billion in revenue in 2026.[42] The semiconductor industry is focused on data center hyperscalers

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[33] CTR. FOR SECURITY AND EMERGING TECHNOLOGY, *The Semiconductor Supply Chain: Assessing National Competitiveness*, at 19.
[34] *Id*. at 22.
[35] *Id*. at 22.
[36] *Id*. at 20.
[37] CONG. RSCH. SERV., *Semiconductors and the Semiconductor Industry*, at 16.
[38] CTR. FOR SECURITY AND EMERGING TECHNOLOGY, *The Semiconductor Supply Chain: Assessing National Competitiveness*, at 23.
[39] *Id*.
[40] CONG. RSCH. SERV., *Semiconductors and the Semiconductor Industry*, at 16.
[41] Tripp Mickle, *The Looming Taiwan Chip Disaster that Silicon Valley Has Long Ignored*, THE N.Y. TIMES (Feb. 24, 2026), https://www nytimes.com/2026/02/24/technology/taiwan-china-chips-silicon-valley-tsmc.html
[42] DELOITTE *2026 Global Semiconductor Industry Outlook*.

with their rapid expansion and significant quantity of semiconductors purchased at premium prices.[43]

As of 2024, use of semiconductors in computers and AI systems led all end use, followed closely by communications, and followed distantly by automotive, consumer electronics, industrial applications, and government end uses.[44] Semiconductor demand continues to undergo robust growth, with global sales growing year by year and on track to reach $1 trillion by 2030.[45]

V. CHIPS ACT IMPLEMENTATION

The CHIPS and Science Act of 2022 was enacted as an amendment to the National Defense Authorization Act for Fiscal Year 2021.[46] The CHIPS Act appropriated $39 billion to the Department of Commerce (Commerce) to run a domestic semiconductor production program to provide direct funding, loans, and loan guarantees to companies starting projects to construct, expand, or modernize semiconductor production capabilities, facilities, equipment, and materials.[47] The Act also established a tax credit for advanced manufacturing facilities that primarily produce semiconductors or SME. The tax credit was originally enacted at 25 percent of the qualified investment for the taxable year with respect to an advanced manufacturing facility belonging to the taxpayer.[48]

The incentive program is structured to ensure recipients of an award bolster U.S. economic and national security interests and that the awards are dispersed across the different sectors of the semiconductor supply chain. Further, for a project to be eligible for an incentive award, the project must be on U.S. soil, but the recipient may be headquartered outside of the U.S. The incentive program has other guidelines, benchmarks, and requirements intended to protect this significant federal investment. The Biden Administration's implementation of the CHIPS Act's incentives program was plagued by excessive and unlawful regulatory requirements, such as requiring fabs to be powered by 100 percent renewable energy, be built with union labor, and include expensive childcare programs. The Department of Commerce under President Trump eliminated these extraneous requirements, setting the program on a more responsible path focused on U.S. national and economy security.

Generally, Commerce tracks two major stages of incentive awards: preliminary memoranda of terms (PMT), and final awards. As of March 2026, Commerce has given 46 final awards to 39 different companies, totaling over $29.5 billion in investments. There are a further

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[43] Hrishikesh S., *A new semiconductor tug of war: AI data centers vs. automakers*, S&P GLOBAL (Oct. 10, 2025), https://www.spglobal.com/automotive-insights/en/blogs/2025/10/semiconductor-tug-of-war-ai-data-centers-automakers.
[44] *See* Appendix, Figure 3 for more detail.
[45] SEMICONDUCTOR INDUS. ASS'N, *State of the U.S. Semiconductor Industry*, at 24.
[46] Pub. L. No. 116-283, § 9902(a), 134 Stat. 3388, 4846–48 (codified at 15 U.S.C. § 4652(a)).
[47] U.S. GOV'T ACCOUNTABILITY OFF., GAO-26-107882, *Semiconductors Information on Projects Funded to Strengthen U.S. Supply Chain*, at 1 (Dec. 2025), https://www.gao.gov/assets/gao-26-107882.pdf.
[48] "Qualified investment" means the basis of any qualified property placed in service by the taxpayer that is part of an advanced manufacturing facility; *see* INTERNAL REVENUE SERVICE, *Advanced Manufacturing Investment Credit*, https://www.irs.gov/credits-deductions/advanced-manufacturing-investment-credit (last visited Mar. 31, 2026).

14 PMTs with 12 different companies, totaling over $1.6 billion in potential investments.[49] In August of 2025, the U.S. Government made an $8.9 billion investment in the firm Intel via common stock using $5.7 billion in CHIPS Act incentive awards granted, but not yet paid, and $3.2 billion from the Secure Enclave program.[50] Further, President Trump worked with Micron Technology to secure $200 billion in domestic investments for semiconductor manufacturing and research and development, as well as with TSMC to secure an additional $100 billion investment in their U.S. semiconductor manufacturing plant in Arizona.[51]

These major federal investments in the semiconductor industry necessitate robust congressional oversight to ensure the responsible stewardship of taxpayer dollars and that these investments do not create an artificial dependency on the U.S. government for ongoing support.

VI. SEMICONDUCTORS AND NATIONAL SECURITY

Continued access to semiconductors is a key national security issue. Semiconductors are deeply integrated into U.S. society through electronics, consumer devices, and critical infrastructure. Further, leading-edge chips are required for AI systems.

Many pillars of the semiconductor supply chain present national security implications. As noted, the U.S. dominates the global stage of semiconductor design, giving the U.S. a distinct competitive advantage against strategic rivals in this sector—a strength for U.S. national security.[52] While the PRC exercises significant control over many of the raw materials for which the U.S. must rely on allies to compete, the U.S. and allies currently have an advantage in SME. The U.S. trails in semiconductor manufacturing capacity, but public and private investment and the PRC's weakness in leading-edge logic chip manufacturing capacity stand to help fortify U.S. national security interests. However, U.S. deficiencies in onshore ATP capacity while outsourcing nearly all ATP to Taiwan is a major strategic vulnerability, despite Taiwan being an American ally, given the extent of the offshoring and Taiwan's physical proximity and strategic value to the PRC. A confidential report issued by the Semiconductor Industry Association (SIA) estimated that the impact of a disruption to semiconductor supply chains coming from Taiwan could decrease U.S. economic output by 11 percent—double the 2008 recession—and would

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[49] *See* DEPARTMENT OF COMMERCE, NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, https://www.nist.gov/chips/chips-america-awards; and https://www nist.gov/chips/proposed-funding-sites?page=0 (last visited March 26, 2026).

[50] *Intel and Trump Administration Reach Historic Agreement to Accelerate American Technology and Manufacturing Leadership*, INTEL (Aug. 22, 2025), https://newsroom.intel.com/corporate/intel-and-trump-administration-reach-historic-agreement.

[51] *See* DEPARTMENT OF COMMERCE, NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, *President Trump Secures $200B Investment from Micron Technology for Memory Chip Manufacturing in the United States* (Jun. 12, 2025), https://www nist.gov/news-events/news/2025/06/president-trump-secures-200b-investment-micron-technology-memory-chip; *see* WHITE HOUSE, *Another Historic Investment Secured Under President Trump* (Mar. 3, 2025), https://www.whitehouse.gov/releases/2025/03/another-historic-investment-secured-under-president-trump/.

[52] Hideki Tomoshige and Bailey Crane, *RAI Explainer: Strategic Important of Continued U.S. Leadership in Chip Design*, CTR. FOR STRATEGIC AND INT'L STUD. (Jan. 19, 2024), https://www.csis.org/blogs/perspectives-innovation/rai-explainer-strategic-importance-continued-us-leadership-chip.

lead to the largest economic crisis since the Great Depression.[53] Treasury Secretary Scott Bessent characterized the concept of loss of access to Taiwan or the destruction of its production capacity as an "economic apocalypse" and the "single biggest threat to the world economy."[54]

The federal government has taken some steps to address national security concerns and strengthen semiconductor supply chains. As highlighted, the CHIPS Act provided a significant government investment in the U.S. semiconductor ecosystem, and national and economic security interests are factored into the grants and awards, pursuant to the program. Additionally, Commerce has initiated an investigation under Section 232 of the Trade Expansion Act of 1962, along with implementing export controls for certain chips.

A. Section 232 Investigation

In April 2025, Commerce initiated an investigation under Section 232 of the Trade Expansion Act of 1962 to determine the effects on the national security of imports of semiconductors and SME, and their derivative products. In December 2025, Commerce sent a report to the President on this investigation, and in January 2026 President Trump subjected a narrowly specified group of semiconductor related items to a 25 percent duty rate, directing Commerce and other government officials to continue trade negotiations, monitor the import and export of semiconductors, and provide updates and recommendations for further action if necessary.[55]

B. Export Controls

Export controls also have been deployed to protect national security interests, spurring a policy debate across industry and government. The Trump Administration added 42 Chinese firms to the Entities List in March 2025 and an additional 23 Chinese firms in September 2025, along with requiring the semiconductor firm Nvidia to apply for a license to sell its leading-edge H20 chip in the PRC.[56] In August 2025, Commerce approved Nvidia's H20 and AMD's MI308 semiconductors for export to the PRC on the condition that the U.S. government receives 15 percent of the sale proceeds. Additionally, in May 2025, the Trump Administration rescinded the Biden Administration's AI Diffusion Rule, citing its adverse impact on U.S. diplomatic relations and stifling of American innovation. The current administration has also taken steps to promote exports of the U.S. AI stack, including semiconductors, notably through the July 2025 AI Action Plan.[57]

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[53] Tripp Mickle, *The Looming Taiwan Chip Disaster that Silicon Valley Has Long Ignored,* THE N.Y. TIMES (Feb. 24, 2026), https://www nytimes.com/2026/02/24/technology/taiwan-china-chips-silicon-valley-tsmc.html.
[54] *Id*.
[55] *See* Proclamation NO. 11002, 91 FED. REG. 2443 (Jan. 14, 2026) (Where the Proclamation specifies semiconductor articles as semiconductors meeting the technical parameters provided in provisions 8471.50, 8471.80, and 8473.30 of the Harmonized Tariff Schedule of the United States, and must be a logic integrated circuit that has a total processing performance that is either: greater than 14,000 and less than 17,500 and a total DRAM bandwidth greater than 4,500 GB/s and less than 5,000 GB/s, or greater than 20,88 and less than 21,100 and total DRAM bandwidth greater than 5,800 GB/s and less than 6,200 GB/s).
[56] Karen M. Sutter, CONG. RSCH. SERV. R48642, *U.S. Export Controls and China: Advanced Semiconductors*, 3 (Sept. 19, 2025) https://www.congress.gov/crs_external_products/R/PDF/R48642/R48642.6.pdf.
[57] *Id*. at 4.

Additionally, Commerce rescinded licensing requirements on some Chinese firms after reaching agreement with the PRC to resume licensing rare earth magnets to U.S. firms.[58] In March 2026, the Department of Justice charged three people on two separate occasions with allegedly conspiring to circumvent export controls and smuggle leading-edge semiconductors into the PRC, renewing the debate surrounding export controls.[59]

The discussion about export controls remains active in Congress, too, where debates are centered around how to properly scope and execute these controls.[60]

VII. KEY QUESTIONS

- What does the U.S. need to do to retain its global leadership in semiconductor design?
- How can the U.S. reclaim its global leadership in semiconductor manufacturing capacity?
- What does the U.S. need to do to capitalize on and sustain the significant amount of private investment in the semiconductor ecosystem?
- How can the U.S. address increasing threats from the PRC's semiconductor industry?
- What steps does the U.S. need to take to secure and stabilize semiconductor supply chains, especially for materials and equipment vulnerable to supply chain disruptions?
- How can the U.S. meet the exponentially growing demand for semiconductors?
- How should Congress approach national and economic security concerns related to the semiconductor ecosystem?
- What lessons can the U.S. learn from the implementation of the CHIPS Act?

VIII. STAFF CONTACTS

If you have any questions regarding this hearing, please contact Giulia Leganski, Natalie Hellmann, Matt Furlow, or Alex Khlopin of the Committee Staff at (202) 225-3641.

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[58] *Id*. at 4.
[59] U.S. DEP'T OF JUST., *Three Charged with Conspiring to Unlawfully Divert Cutting Edge U.S. Artificial Intelligence Technology to China* (Mar. 19, 2026); U.S. DEP'T OF JUST., *Chinese National and Two U.S. Citizens Charged with Conspiring to Smuggle Artificial Intelligence Technology to China* (Mar. 25, 2026).
[60] *See* H.R. 3447, 119th Cong. (2025); H.R. 6875, 119th Cong. (2025).

APPENDIX

Figure 1 – the Semiconductor Supply Chain

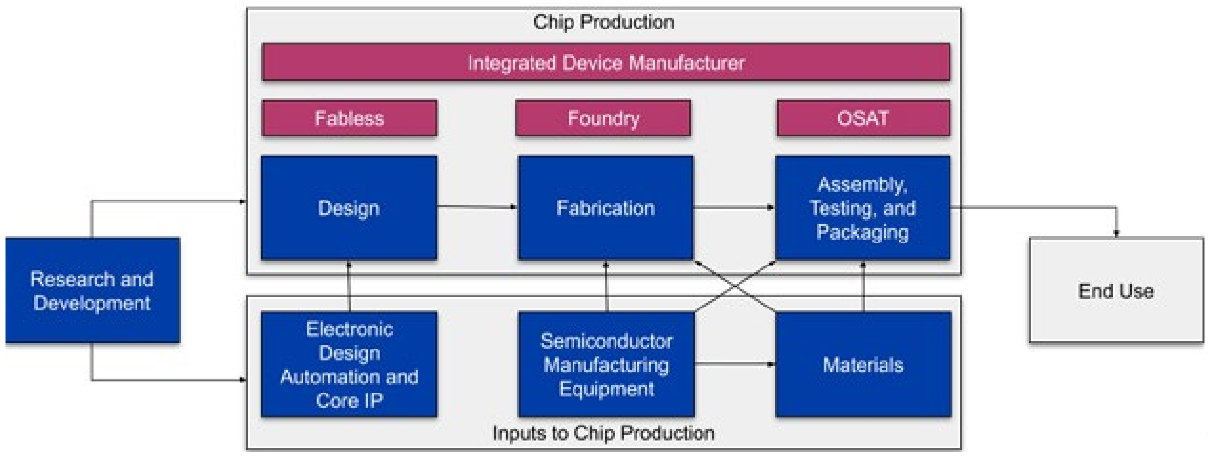

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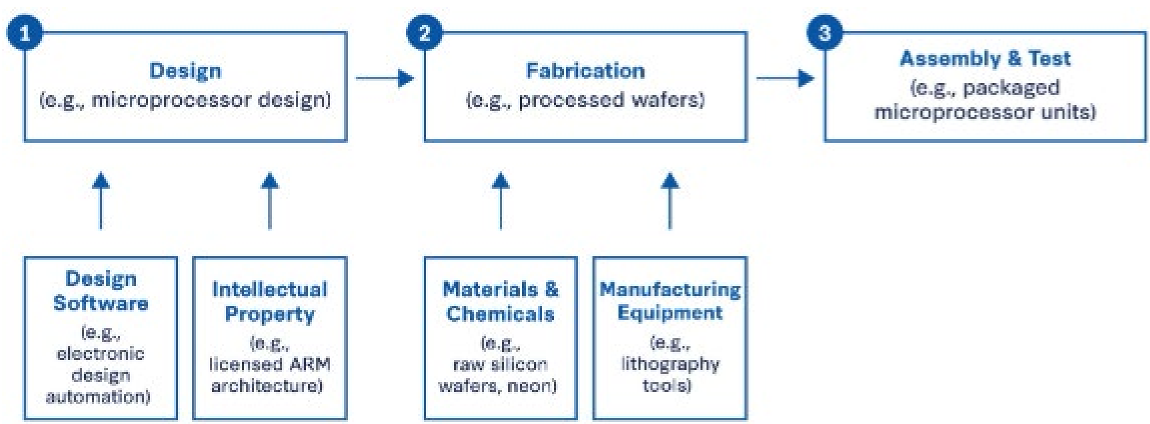
Figure 2 - the Semiconductor Supply Chain



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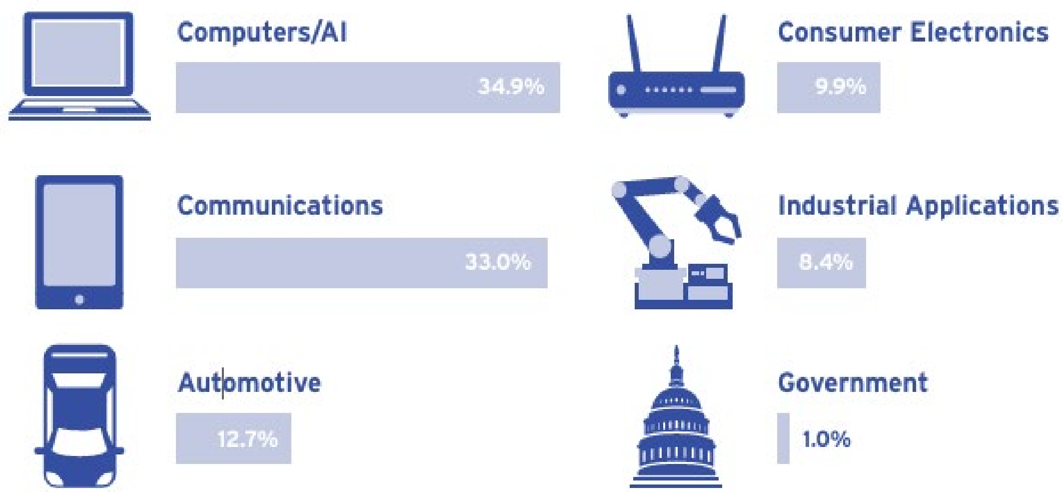
61 CTR. FOR SECURITY AND EMERGING TECHNOLOGY, *The Semiconductor Supply Chain: Assessing National Competitiveness*, at 5.
62 CTR. FOR STRATEGIC AND INT'L STUD., *Mapping the Semiconductor Supply Chain: The Critical Role of the Indo-Pacific Region*.

Figure 3 – Semiconductor Total Global Demand Share by End Use



[63]

[63] SEMICONDUCTOR INDUS. ASS'N, *State of the U.S. Semiconductor Industry*, at 24.