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May 7, 2025

Eric Longnecker  
Deputy Assistant Secretary for Technology Security  
Bureau of Industry and Security  
U.S. Department of Commerce  
14th and Constitution Avenue, NW  
Room 3876  
Washington, DC 20230

Re: Docket numbers 250414-0066 and XRIN 0694-XC121; Request for Public  
Comments by the Department of Commerce on the Section 232 National Security  
Investigation of Imports of Semiconductors and Semiconductor Manufacturing  
Equipment

Dear Mr. Longnecker:

The National Association of Manufacturers is the largest manufacturing association in the United States, representing manufacturers of all sizes, in every industrial sector and in all 50 states. Manufacturing drives American prosperity—the industry employs 13 million people in the U.S., contributes \$2.94 trillion annually to the U.S. economy and accounts for nearly 53% of all private sector research and development in the nation.<sup>1</sup>

The NAM appreciates the opportunity to comment on the Department of Commerce's investigation opened on April 1, 2025 under Section 232 of the Trade Expansion Act, to determine the effects on national security of imports of semiconductors, semiconductor manufacturing equipment and derivative products that include semiconductors.

Manufacturers in America innovate and fabricate semiconductors, utilize semiconductors extensively on factory floors across the U.S., and incorporate semiconductors in a wide array of manufactured products throughout the U.S. economy—including in medical devices, aircraft and spacecraft, data centers, automotive parts and vehicles, industrial automation, defense systems, office equipment, personal electronics, and much more.

The NAM believes it is vital for global economic leadership and for U.S. national security to promote a world-class semiconductor industry in America. Semiconductor manufacturing capacity is expanding rapidly in China, supported by industrial targeting practices such as those set out in Made in China 2025, as well as trade-distorting industrial subsidies by the Chinese Communist Party. Tariffs have neither deterred China's production advancements nor addressed the underlying unfair advantages conferred by the Chinese Communist Party.

For manufacturers in the U.S. to sustain global advantage in the innovation, production and use of semiconductors across the entire manufacturing sector, the Trump Administration should focus on policies that enable and facilitate domestic investments, unlock opportunities for economies of scale through full participation in global markets, and leverage the collective advantages of America's

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<sup>1</sup> National Association of Manufacturers (May 2025), *Manufacturing in the United States*,  
<https://nam.org/mfgdata/#KeyFacts>

international allies to help make semiconductor supply chains more resilient. The NAM's policy recommendations for each of these three approaches are elaborated below, following background on the essential and varied role that semiconductors play across all forms of modern manufacturing in America.

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## Semiconductors are Essential to Modern Manufacturing in America

**On the Factory Floor:** Modern manufacturing leverages advanced digital technologies and innovative processes to manufacture goods more efficiently, safely and at higher levels of quality. These advances are achieved using:

- Mature node (also called “legacy”) semiconductor digital sensors embedded in manufacturing and supply chain management equipment to capture data about all aspects of operations;
- Data servers, which integrate both leading edge (also called advanced node, the most advanced and powerful semiconductors) and legacy chips to analyze operational data for the purpose of optimizing these operations; and
- Robotics and other forms of automation that depend heavily on a mix of leading edge and legacy semiconductors.

The life cycle of most manufacturing equipment is long (generally 10 to 20 years). Predictable and affordable access to the semiconductors that are embedded into or control this equipment is therefore critical to the continued modernization and expansion of manufacturing in the U.S.

**Through Use of Artificial Intelligence:** Modern manufacturing operations are increasingly enhanced by artificial intelligence applications. For example, manufacturers can use digital twins<sup>2</sup> of manufacturing processes to simulate and analyze workflows, identify bottlenecks and optimize resource allocation, leading to increased efficiency, reduced waste, and higher production output. They can also use machine vision<sup>3</sup> to inspect products for defects such as dents, missing components or inadequate packaging quality, at speeds and accuracies far exceeding human capabilities.<sup>4</sup> Very high-end semiconductors, including advanced node logic chips<sup>5</sup> and high bandwidth memory (HBM) chips, many of which are developed or optimized for AI workloads, constitute the essential microelectronic foundation of AI systems at a time when AI is critical to manufacturing innovation and U.S. leadership on the world stage.

**Embedded in Modern Manufactured Products:** Most electrically powered manufactured products incorporate semiconductors (mostly mature node chips) that enhance their functionalities or add new functionalities, allow users to operate them remotely, link them with each other into integrated product suites, and support maintenance and after-sale customer support. These products are referred to as “semiconductor derivatives” in this investigation.

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<sup>2</sup> Digital twins are virtual representations of physical objects, systems or processes that are used to simulate, analyze, and optimize their real-world counterparts.

<sup>3</sup> Machine vision systems capture, interpret and understand visual information from their physical environment to enable automation.

<sup>4</sup> For more on the nexus between AI and modern manufacturing, see “Working Smarter: How Manufacturers Are Using Artificial Intelligence,” National Association of Manufacturers, May 2024, available at [www.nam.org/ai](http://www.nam.org/ai)

<sup>5</sup> Graphics Processing Units (GPUs), Tensor Processing Units (TPUs) and Central Processing Units (CPUs).

For example, both commercial and personal vehicles now contain hundreds if not thousands of semiconductor chips that enable a wide range of functions and systems, including engine control, safety systems, infotainment, navigation and autonomy. These automotive applications operate mostly on mature node chips, although some of the more demanding computing workloads (including infotainment, navigation and autonomy) require leading edge chips. Similarly, smart home systems (household appliances, home security, lighting, etc.), medical devices, educational products and fitness equipment that in previous generations did not incorporate semiconductors have now been transformed by chips—again, mostly mature node chips. The computers, smartphones and other communication equipment and consumer electronics that have become central to our modern personal and professional lives would simply not exist without semiconductors, driven by leading edge chips, but also incorporating some mature node chips.

The scope of this investigation, given its inclusion of “semiconductor derivative products,” therefore implicates an extremely wide array of manufactured products. Manufacturers urge the Administration to use caution when imposing tariffs on any of these products given their importance for the American consumer, manufacturers, and our national security.

**In the Ecosystem of Services:** The vital importance of semiconductors to the manufacturing industry mirrors their importance to the services industry and to the provision of government services. Leading edge semiconductors have been a critical building block enabling the emergence of the internet and cloud computing, online and mobile banking, telehealth, e-learning, retail and wholesale e-commerce, online hospitality and travel booking systems, e-government, and online entertainment, among many other services. Few, if any, of the services inherent to our modern lives are possible without plentiful, reliable and affordable access to leading edge semiconductors.

### **“Legacy” Chips Alone Drive \$10.8 Trillion in Manufacturing Activity**

To support this ecosystem, manufacturers depend on continued access to affordable and plentiful supplies of a full spectrum of semiconductors. The Semiconductor Industry Association (SIA) calculates that mature node semiconductors, or legacy chips, create \$10.8 trillion in economic activity associated with the manufacturers that consume these chips to make and sell their own products. To accommodate growing demand, semiconductor manufacturers are carrying out greenfield or brownfield expansions of mature node fabrication sites throughout the U.S.<sup>6</sup> According to SIA, semiconductor companies have announced more than 100 new semiconductor ecosystem projects in the U.S. since President Trump’s first term, totaling more than \$540 billion in private investments across 28 states, creating and supporting over half a million American jobs.<sup>7</sup>

### **The Challenge is Industrial Targeting and Trade-Distorting Subsidies by China**

The Chinese Communist Party provides extensive subsidies, below-market financing, direct financial aid, and regulatory support to nurture national semiconductor champions. Through industrial targeting, China’s share of global mature node semiconductor capacity increased from 19% in 2015

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<sup>6</sup> Semiconductor Industry Association (February 5, 2025), *Section 301 Legacy Investigation SIA Comments*, <https://www.semiconductors.org/wp-content/uploads/2025/02/USTR-2024-0024-00109674-CAT-5016-Public-Document.pdf>

<sup>7</sup> Semiconductor Industry Association (May 1, 2025), *SIA Welcomes Legislation to Strengthen U.S. Semiconductor Manufacturing Credit*, <https://www.semiconductors.org/sia-welcomes-legislation-to-strengthen-u-s-semiconductor-manufacturing-credit/#:~:text=by%20Semiconductor%20Industry%20Association&text=The%20legislation%20supports%20the%20continued,the%20credit%20for%20four%20years>

to 33% by 2023.<sup>8</sup> U.S. capacity remained nearly the same over that period, accounting for 12% of global manufacturing in 2023.

The growth of China's semiconductor industry has resulted in some instances in Chinese contract foundries being the only manufacturers in the world capable of providing certain mature node solutions. As it stands today, for those manufacturers that utilize PRC foundries, many of them indicated to BIS in its 2024 semiconductor survey that no other foundries were available to make the chips they needed.<sup>9</sup>

Years of Section 301 tariffs, including on semiconductors, have not meaningfully impacted China's industrial targeting and subsidization of its semiconductor sector. Competition for semiconductors and semiconductor-containing manufactured products has only heated up in third country markets where manufacturers in the U.S. seek to export. This underscores the need for broader and more comprehensive strategies—beyond tariffs—to support U.S. industry and advance U.S. national security and economic interests.

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### Three Approaches to Outcompete China and Preserve National Security

Manufacturers believe that the most effective strategy to strengthen semiconductor competitiveness and secure U.S. national interests focuses on expanding manufacturing domestically, maximizing market opportunities for U.S. semiconductor exports and leveraging the collective and mutual strengths of allies in global supply networks.

First, the Trump Administration should **support ongoing efforts by manufacturers to expand manufacturing production in the U.S. and attract, not deter, new investments.** This includes implementing existing semiconductor manufacturing funding grants, renewing a series of expiring tax policies, streamlining regulatory and permitting processes, and building a skilled workforce. **Tariffs on imports that are used to build and operate semiconductor manufacturing facilities should be avoided or rebated.**

Second, the Trump Administration should seek to **maximize market opportunities for U.S. semiconductor exports**, thereby strengthening the commercial position of U.S.-produced semiconductors worldwide. This can be accomplished by **negotiating zero tariffs in new trade deals, preserving use of duty drawback and more strategic use of Export-Import ("EXIM") Bank financing.** Ongoing trade tensions are accelerating foreign companies' consideration of "designing out" U.S. chips from their supply chains. Policymakers should understand that the market risk of "designing-out" of U.S. technology has the potential to significantly diminish the long-term profitability of semiconductor manufacturers in the U.S. and ultimately harm U.S. economic and national security.

Third, to strengthen the long-term resilience of the industry, the U.S. must **partner with international allies to secure favorable trade and investment terms and leverage the collective advantages of global supply networks.** By deepening strategic partnerships and coordinating investments across allies—especially those with specialized roles in semiconductor supply chains, including but not limited to Japan, South Korea, Taiwan, and Europe, as well as

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<sup>8</sup> Semiconductor Industry Association (February 5, 2025), *Section 301 Legacy Investigation SIA Comments*, <https://www.semiconductors.org/wp-content/uploads/2025/02/USTR-2024-0024-00109674-CAT-5016-Public-Document.pdf>

<sup>9</sup> Department of Commerce Bureau of Industry and Security (December 6, 2024), *Public Report on the Use of Mature-Node Semiconductors*, <https://www.bis.gov/media/documents/public-report-use-mature-node-semiconductors-december-2024>

countries with prominent roles in the critical mineral supply chains—the U.S. can more effectively compete with China and reduce vulnerability to geopolitical risks.

Pursuing these three objectives will ensure that the U.S. semiconductor industry remains resilient, innovative, and strategically dominant for years to come.

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## Approach One: Support Semiconductor and Manufacturing Investments in the U.S.

***Recommendation: Remove from the scope of this investigation any tariffs on imported goods necessary to build, expand, upgrade and operate semiconductor and related manufacturing.***

Additional tariffs would delay, jeopardize, or deter investments by semiconductor manufacturers in the U.S., as the ability of manufacturers to undertake semiconductor manufacturing expansion in the U.S. depends on reliable access to essential inputs—many of which are imported into the U.S. and often without any available or viable U.S. alternative. These goods can be broadly grouped into three categories.

- **Construction Equipment and Materials:** The first category includes materials and equipment necessary to build or upgrade manufacturing facilities. This encompasses heavy construction machinery such as excavators, loaders, bulldozers, cranes and specialized machinery parts critical for site preparation and structural development. Additionally, it includes foundational construction materials like steel and aluminum, cement, aggregates, glass and copper-heavy electrical infrastructure such as transformers, cables, and wiring systems. Secure and consistent availability of these foundational inputs is imperative to enable timely, cost-effective development of semiconductor facilities.
- **Operational Equipment:** The second category comprises capital-intensive equipment designed for long-term use within manufacturing facilities, typically operating over 10- to 20-year life cycles. This includes advanced manufacturing tools, precision industrial machinery, robotics, automation systems, and specialized semiconductor manufacturing equipment. Some of this equipment is manufactured domestically, while some is imported, primarily from suppliers in Europe and Asia. Semiconductor manufacturing equipment manufacturers rely on a mix of legacy and leading-edge chips to produce SME. Ensuring consistent availability of these chips is thus essential both for semiconductor manufacturers establishing or expanding operations in the United States and for equipment producers that support these manufacturers.
- **Critical Materials and Inputs:** The third category consists of critical inputs directly involved in semiconductor manufacturing, including specialty chemicals, ultra-pure metals, gases, and semiconductor substrates. Critical minerals such as gallium and germanium are incorporated into semiconductors, and other critical materials are foundational to the chip manufacturing process, such as fluorspar. Often, these highly specialized materials lack available and viable domestic suppliers, making imports essential, which underscores the importance of stable and secure international supply chains. Any disruption in access can significantly hinder semiconductor production and compromise the viability of U.S.-based manufacturing.

Additionally, given the nature of chemistry, many chemical products are used in a wide range of supply chains. For example, silicon products are a necessary component of manufacturing highly reliable and efficient semiconductor chips, but these chemistries are also used in food packaging, consumer products and more. These products are often difficult to distinguish both in their production and when categorizing or classifying them by their Harmonized

System codes. The NAM urges the administration to work closely with industry to discuss the scope of this investigation as it affects inputs that go well beyond semiconductors, including pharmaceutical supply chains as well as inputs for agriculture, food production, healthcare products, information technology and other industrial products.

***Recommendation: Avoid “stacking” of tariffs applied under different tariff authorities, including those imposed under IEEPA, Section 301, and Section 232 authorities.***

Manufacturers considering investments in U.S. semiconductor facilities require a stable investment environment with predictable input costs. However, current uncertainties surrounding future trade policies significantly impact manufacturers’ confidence and their willingness to commit to long-term capital investments in the United States. The unpredictability stemming from ongoing tariff actions has already led manufacturers to reconsider or halt planned investments.<sup>10</sup> Regional manufacturing surveys reflect this sentiment, with firms indicating reduced capital expenditure expectations; notably, the Richmond regional survey reported negative investment forecasts.<sup>11</sup>

Much of this uncertainty stems from potentially compounding U.S. tariffs. Depending on the product and source of the input, manufacturers in the semiconductor and semiconductor-derivatives industry face tariffs under two forms of IEEPA tariffs, current and potential Section 301 tariffs on semiconductors and their derivative products, and multiple Section 232 investigations that have bearing on production in this and related manufacturing industries. The steel and aluminum Section 232 tariffs, for instance, currently apply not just to primary metal imports, but broadly to derivative products containing these metals. Similarly, proposed Section 232 investigations into semiconductors and critical minerals also contemplate expansive tariff scopes, potentially encompassing a wide range of derivative products.

As the administration’s April 29, 2025 executive order regarding the “unstacking” of automotive-related Section 232 tariffs recognizes, this complexity has negative consequences for manufacturers who cannot predict the level of tariffs on essential imports required for the construction and operation of their facilities in the U.S.<sup>12</sup> This long-term unpredictability gravely undermines manufacturers’ ability to plan effectively, thereby significantly harming investment prospects in the U.S.

***Recommendation: Implement semiconductor manufacturing capacity grants and extend the advanced manufacturing investment credit.***

Semiconductor manufacturing is one of the most capital-intensive industries. The Boston Consulting Group estimates the total cost of ownership of a single semiconductor fab over the next 10 years will

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<sup>10</sup> Federal Reserve Bank of New York (April 2025), *Empire State Manufacturing Survey*, [https://www.newyorkfed.org/medialibrary/media/Survey/Empire/empire2025/ESMS\\_2025\\_04.pdf?sc\\_lang=en&hash=03E17019AE59F42ABC7492D9678DFDE2](https://www.newyorkfed.org/medialibrary/media/Survey/Empire/empire2025/ESMS_2025_04.pdf?sc_lang=en&hash=03E17019AE59F42ABC7492D9678DFDE2;);

Federal Reserve Bank of Philadelphia (April 2025), *Manufacturing Business Outlook Survey*, [https://www.philadelphiafed.org/-/media/FRBP/Assets/Surveys-And-Data/MBOS/2025/bos0425.pdf?sc\\_lang=en&hash=A1CF2F346929B0806D5B75EAD232F26B](https://www.philadelphiafed.org/-/media/FRBP/Assets/Surveys-And-Data/MBOS/2025/bos0425.pdf?sc_lang=en&hash=A1CF2F346929B0806D5B75EAD232F26B)

<sup>11</sup> Regional Reserve Bank of Richmond (April 2025), *Fifth District Survey of Manufacturing Activity*, [https://www.richmondfed.org/-/media/RichmondFedOrg/region\\_communities/regional\\_data\\_analysis/regional\\_economy/surveys\\_of\\_business\\_conditions/manufacturing/2025/pdf/mfg\\_04\\_22\\_25.pdf](https://www.richmondfed.org/-/media/RichmondFedOrg/region_communities/regional_data_analysis/regional_economy/surveys_of_business_conditions/manufacturing/2025/pdf/mfg_04_22_25.pdf)

<sup>12</sup> The White House (April 29, 2025), *Addressing Certain Tariffs on Imported Articles*, <https://www.whitehouse.gov/presidential-actions/2025/04/addressing-certain-tariffs-on-imported-articles/>



be \$35 to \$43 billion.<sup>13</sup> It is therefore critical that public policies provide a predictable and supportive environment for semiconductor manufacturers to make such massive investments in the U.S.

In recent years, semiconductor manufacturers have in fact pledged to significantly expand their production footprint in the U.S. These announcements are largely the result of policies initiated by President Trump during his first term, when his administration worked closely with Congress to craft the bipartisan investment incentives, which the NAM supported from the outset. The President's leadership and the federal programs he initiated have spurred hundreds of billions of dollars of private sector investments that are expected to increase U.S. semiconductor manufacturing capacity by over 200% and support the creation of tens of thousands of U.S. semiconductor manufacturing jobs.<sup>14</sup> Manufacturers urge the Department of Commerce to continue to implement in a timely manner the funding agreements it has reached with various chip manufacturers. Manufacturers also call on the administration to work with Congress to renew the Advanced Manufacturing Investment Credit, which is set to expire at the end of 2026.

***Recommendation: Invest in upskilling and reskilling the U.S. workforce for AI.***

Manufacturing semiconductors is a highly sophisticated process that requires a well-trained workforce. According to a 2023 study by SIA and Oxford Economics, the U.S. faces a projected shortfall of 67,000 computer scientists, engineers, and technicians in the semiconductor industry. Without a significant increase in these kinds of workers, achieving a major increase in the domestic production of semiconductors will be extremely challenging. Building U.S. semiconductor manufacturing capabilities requires specialized technical talent (e.g., chip design engineers) and a broadly skilled AI workforce. Manufacturers therefore recommend investing in training, upskilling, and workforce solutions that will increase the size of the semiconductor design, engineering, and manufacturing workforce and close critical skill gaps.

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## **Approach Two: Maximize Opportunities to Sell and Compete in Global Markets**

***Recommendation: Negotiate zero-for-zero tariff terms with key allies and trading partners to secure new and long-term market access for U.S. exports of semiconductor and related products, including derivative products.***

To achieve high volume utilization, many chip facilities produce standardized and mass-produced semiconductors, earning margins that pay back the risk and costs of investing in semiconductor factory capacity. Manufacturers of chips must therefore keep production costs as low as possible to remain viable and competitive. Yet the capital expenditures required to build a semiconductor fabrication facility are enormous. Once up and running, factories in the U.S. are costly to operate: one estimate suggests that fabs operating in the U.S. have 35 percent higher operating costs than a similar facility built in Taiwan.<sup>15</sup>

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<sup>13</sup> Gaurav Tembey, Adriana Dahik, Christopher Richard, and Vaishali Rastogi (September 28, 2023), Boston Consulting Group, <https://web-assets-pdf.bcg.com/prod/navigating-the-semiconductor-manufacturing-costs.pdf>

<sup>14</sup> In addition to hundreds of thousands of indirect jobs.

<sup>15</sup> Bill Wiseman, Henry Marcil, and Marc de Jong, with Raphaela Wagner, Taylor Roundtree, and Teddy Stopford (April 21, 2025), McKinsey, *Semiconductors have a big opportunity—but barriers to scale remain*, <https://www.mckinsey.com/industries/semiconductors/our-insights/semiconductors-have-a-big-opportunity-but-barriers-to-scale-remain>

Due to these commercial realities, the growth of the U.S. semiconductor industry relies on achieving economies of scale that can overcome high costs and thin margins. For manufacturers, this means having a large and growing global customer base that sets a reliable demand signal for the semiconductors being manufactured. According to one estimate, roughly 75% of U.S. semiconductor industry revenue comes from overseas sales.<sup>16</sup> Simply put, without reliable revenue from overseas customers and access to these markets, the U.S. semiconductor industry will be deprived of funds crucial to manufacturers' ongoing ability to perform R&D and capital investment in the U.S., creating a significant advantage for global competitors.

Current tariffs and proposed trade actions pose significant risks for semiconductor manufacturers aiming to maintain and grow their global sales. Many U.S.-made chips are sold to overseas manufacturers that incorporate them into finished goods ultimately destined for the U.S. market, ranging from data centers to medical devices to consumer electronics and autos. Proposed tariffs on those finished products could reduce demand across these industries, leading to a corresponding drop in demand for U.S. semiconductors used in their production.

In addition to immediate sales impacts, the prospect of future tariffs and a prolonged trade war poses a longer-term structural risk: U.S. semiconductor manufacturers are concerned about efforts already underway by some of their major customers to "design out" U.S. chips to avoid future tariff exposure and supply chain uncertainty. Once a U.S. chip is removed from a product's design, it is costly and difficult to regain that position, given the technical validation and supply chain commitments involved. This design-out risk could lead to lasting losses for U.S. semiconductor manufacturers, reducing their role in critical global supply chains over time. **The Trump Administration has the opportunity in negotiations to support U.S. semiconductor exports by locking in preferential access to key global markets through reciprocal zero-tariff trade terms.**

***Recommendation: Preserve the semiconductor industry's ability to use duty drawback mechanisms in any tariff regime imposed on them.***

In addition to exports, the semiconductor industry in the U.S. needs dependable access to specialized imports to grow. Semiconductor manufacturing relies on complex, multinational supply chains; a single chip incorporates inputs and materials from many countries. **Policymakers should ensure that manufacturers are not penalized for importing materials that are ultimately re-exported in manufactured goods.**

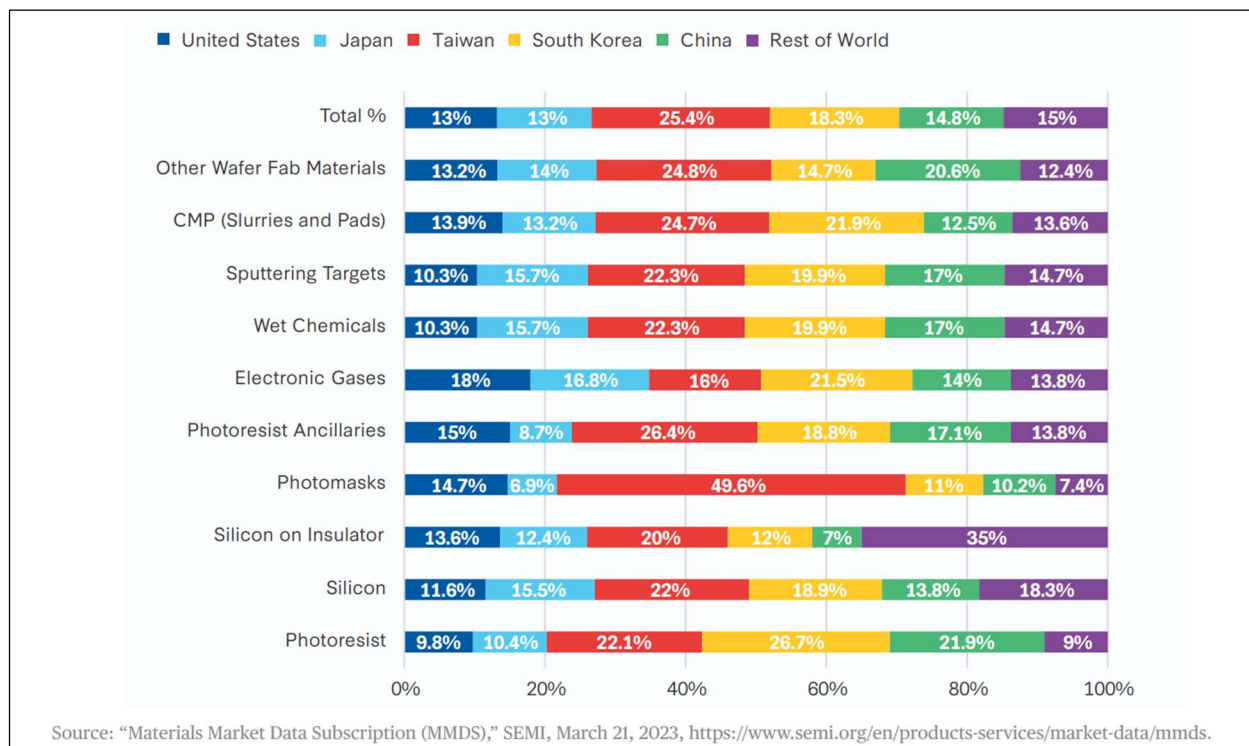
For example, the global wafer fabrication materials market in the chart below illustrates that, at just one link in the larger semiconductor supply chain, the international sources of critical inputs for the industry are diverse and complex.

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<sup>16</sup> SIA Submission (February 2025), Request for Public Comments: *China's Acts, Policies, and Practices Related to Targeting of the Semiconductor Industry for Dominance*, <https://www.semiconductors.org/wp-content/uploads/2025/02/USTR-2024-0024-00109674-CAT-5016-Public-Document.pdf>



### Wafer Fabrication Materials Market Share by Country (2022)<sup>17</sup>



This complexity applies to many other critical components in semiconductor supply networks, including semiconductor manufacturing equipment, which are highly sophisticated systems containing thousands of individual components, some of which are only available from suppliers outside the U.S.

The health of the U.S. semiconductor industry therefore depends on maintaining tariff-free access to imports that are incorporated into goods destined for sales abroad.

### Approach Three: Negotiate Trade Deals and Leverage Other Trade Tools to Strengthen Global Semiconductor Industry Networks with Allies

**Recommendation: Prioritize trade negotiations with semiconductor allies to secure the mutual removal of tariff and relevant non-tariff barriers as quickly as possible.**

Much of the global semiconductor industry is concentrated in countries that are close American allies and trusted commercial partners. Key semiconductor manufacturing hubs—including Japan, South Korea, Taiwan, and several European nations—play indispensable roles across every segment of the semiconductor supply chain. To effectively address national security and economic challenges, it is critical that U.S. policy strategically deepen these relationships to reinforce both security and

<sup>17</sup> Thadani and Allen (May 2023), CSIS, *Mapping the Semiconductor Supply Chain, The Critical Role of the Indo-Pacific Region*, [https://csis-website-prod.s3.amazonaws.com/s3fs-public/2023-05/230530\\_Thadani\\_MappingSemiconductor\\_SupplyChain.pdf](https://csis-website-prod.s3.amazonaws.com/s3fs-public/2023-05/230530_Thadani_MappingSemiconductor_SupplyChain.pdf)

commercial objectives. The administration has an opportunity to negotiate preferential tariff deals with these trading partners, including by pursuing a broader sectoral agreement that covers semiconductors, manufacturing equipment and related inputs.

***Recommendation: Negotiate new critical mineral “sectoral” trade agreements and use export financing tools through the U.S. International Development Finance Corporation (DFC) and the EXIM Bank to finance new critical mineral projects in key markets around the world.***

While the U.S. benefits from strong alliances across much of the global semiconductor supply chain, some risks remain. China maintains a dominant position over the mining and refining of raw silicon, critical minerals, and rare earth elements—materials essential to semiconductor manufacturing. Recent Chinese export controls on these inputs have further underscored the risk of overreliance on a single supplier.

To address this vulnerability, U.S. policy must prioritize the rapid development of alternative supply chains as we enable more domestic investments in critical minerals production at home. This includes expanding sourcing relationships with partners such as Australia, Chile, Argentina, and countries across Africa. Strengthening trade ties and reducing barriers with these nations will help diversify supply sources and stabilize access to essential inputs. Moreover, the U.S. has tools to direct investment in mining, refining, and infrastructure projects critical to the semiconductor sector in these countries.

***Recommendation: U.S. policy should actively promote nearshoring to Mexico through investment incentives, trade facilitation measures, and security cooperation agreements, while establishing standards to ensure that information and communications technology and services (“ICTS”) manufacturing remains secure, trusted, and resilient.***

As established by BIS, certain ICTS present an undue or unacceptable risk to U.S. national security when those systems are designed, developed, manufactured, or supplied by persons owned by, controlled by, or subject to the jurisdiction or direction of a foreign adversary.<sup>18</sup> Given the broad application of semiconductors in sensitive industries—including defense, critical infrastructure, and advanced manufacturing—the presence of compromised components could have serious consequences for both national security and economic stability.

To mitigate these risks, the U.S. should intentionally incentivize the relocation of ICTS-related manufacturing and supply chains into trusted environments. A priority strategy should be to focus on nearshoring production to countries with existing manufacturing capabilities and strong economic ties to the United States. Mexico is a strong candidate for secure ICTS manufacturing expansion. It already hosts a growing ICTS manufacturing sector, is integrated into the North American market through the United States-Mexico-Canada Agreement, and benefits from close regulatory cooperation with the United States. Moreover, Mexico offers geographical proximity, skilled labor, and cost advantages that make it an attractive alternative for ICTS manufacturing and broader semiconductor supply chain operations.

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<sup>18</sup> Federal Register (January 16, 2025), Securing the Information and Communications Technology and Services Supply Chain: Connected Vehicles, <https://www.federalregister.gov/documents/2025/01/16/2025-00592/securing-the-information-and-communications-technology-and-services-supply-chain-connected-vehicles>

## Conclusion

This Section 232 investigation is complex and unprecedented in scope. The outcome will affect nearly all manufacturing operations and manufactured products in some way. This investigation also overlaps with multiple ongoing trade policy initiatives pursued by the Administration, including tariff actions imposed under Section 301, IEEPA, and other Section 232 actions and investigations now underway by the Commerce Department, for example, related to processed critical minerals and derivative products.

The NAM's recommendations herein offer several alternative paths to achieving national security and economic resiliency and competitiveness in the semiconductor sector, without raising costs for manufacturers in the U.S. or curtailing their access to foreign markets. We respectfully seek the opportunity to engage BIS in discussions to discuss its approach. We also believe the Department's report should be made public as a basis for further discussions on comprehensive and effective policies to strengthen the semiconductor and related manufacturing industries in the U.S.

Manufacturers look forward to working with the Administration to support a robust and competitive semiconductor industry in the U.S.—and to ensure that manufacturers of all sizes and in all segments of the industry have access to the chips necessary for modern, innovative manufactured products.

Sincerely,

A handwritten signature in black ink, appearing to read "Andrea Durkin", with a long horizontal flourish extending to the right.

Andrea Durkin  
Vice President, International Policy