SEMICONDUCTOR INDUSTRY ASSOCIATION

Testimony of
David Isaacs, Vice President of Government Affairs
Semiconductor Industry Association (SIA)
Before the
U.S. Senate Committee on Finance
Hearing on
"Trade in Critical Supply Chains"

May 14, 2025

Chairman Crapo, Ranking Member Wyden, and Members of the Committee,

Thank you for the opportunity to testify on the important issues regarding trade in critical supply chains.

I'm David Isaacs, Vice President of Government Affairs for the Semiconductor Industry Association (SIA).[1] SIA is the voice of the U.S. semiconductor industry, one of America's top export industries, and a key driver of America's economic strength, national security, and global competitiveness. SIA represents 99% of the U.S. semiconductor industry by revenue and nearly two-thirds of non-U.S. chip firms. The semiconductor was invented in the United States more than 65 years ago, and today, the U.S. industry remains a global leader in semiconductor technology and innovation, running a healthy trade surplus for nearly three decades.[2]

Semiconductors drive transformative growth in nearly every modern technology, from computing to mobile phones to the internet itself, and they play a critical role in innovation in automobiles, medical devices, manufacturing, energy production, defense systems, aerospace, telecommunications, and more. Critically, chips underpin advances in the "must-win" technologies of the future, including artificial intelligence, quantum computing, and advanced wireless networks. Continued U.S. leadership in semiconductor technology is vital to our nation's future.

A strong, secure U.S. semiconductor supply chain is a top priority for SIA and its member companies. A vibrant domestic semiconductor ecosystem supports American economic growth, advances national security, and maintains global technological leadership. To achieve these goals, we encourage a holistic approach to policymaking that increases domestic and international market demand for U.S. chips, incentivizes further investment in the American semiconductor supply chain, ensures cost competitive access to inputs and components, invests in semiconductor R&D and workforce development, and creates a smart regulatory system. Congress and the Administration recognize the importance of a strong semiconductor industry, and SIA is eager to partner with policymakers to advance these objectives.

I. Semiconductor Supply Chain

The semiconductor supply chain is highly complex, specialized, and has been carefully calibrated over decades to balance technical capabilities with commercial viability. Semiconductor manufacturing consists of hundreds of steps to produce a single wafer (i.e., a thin, round slice of a semiconductor material varying in size between 6 and 12 inches in

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[1] More information about SIA and the industry is available at www.semiconductors.org.
[2] U.S. International Trade Commission, "DataWeb," accessed May 6, 2025, HTS codes: 8541 (excluding photovoltaic cells and modules) and 8542.

diameter) and ultimately between 1,000 and 1,500 steps to turn the silicon into the final packaged semiconductor, depending on the complexity of the chip. A semiconductor product "could cross international borders approximately 70 or more times before finally making it to the end customer," and "components for a chip could travel more than 25,000 miles by the time it finds its way into a television set, mobile phone, automobile, computer, or any of the millions of products that now rely on chips to operate."[3]

An abridged overview of the semiconductor supply chain is included below:

- *Design:* Firms involved in design and development of nanometer scale integrated circuits, which perform the critical tasks that make electronic devices work, such as computing, storage, connectivity to networks, and power management. Design activity is largely knowledge- and skill- intensive, and accounts for the majority of both industry R&D and value added.

- *Electronic design automation* (*EDA) & Core IP*: Core intellectual property (IP), and EDA are R&D-intensive, non-manufacturing segments of the supply chain. At the design stage, EDA companies provide sophisticated software and services to support designing semiconductors.

- *Equipment and Tools*: Semiconductor manufacturing uses more than 50 different types of sophisticated, specialized wafer processing and testing equipment ("tools") provided by specialized vendors for each step in the fabrication, assembly, test, and packaging processes. Most of this equipment, such as lithography and metrology tools, incorporates hundreds or thousands of technology subsystems including modules, lasers, mechatronics, control chips, and optics. A typical fab includes 1,200 multimillion-dollar manufacturing tools.

- *Materials*: Firms involved in semiconductor manufacturing also rely on specialized materials suppliers. Semiconductor manufacturing uses hundreds of different inputs, many of which also require advanced technology to produce. The main front-end materials include polysilicon, bare and epitaxial (epi) wafers, photomask, photoresist chemicals, wet processing chemicals, gases, and chemical mechanical planarization slurries. Back-end materials include lead frames, organic substrates, ceramic packages, encapsulation resins, bonding wires and die-attach materials.

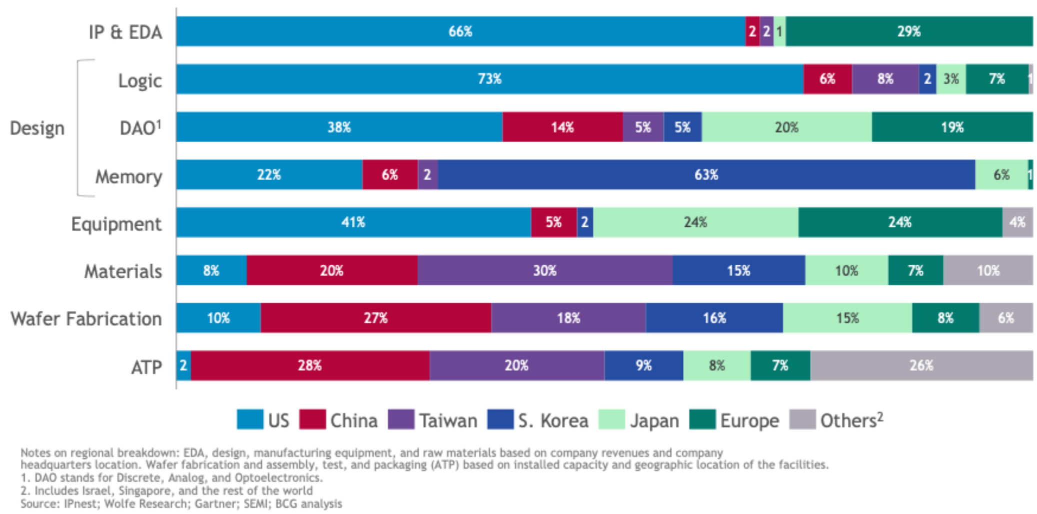
- *Front-End Wafer Fabrication*: The heart of any semiconductor manufacturing business is the fabrication. Highly specialized semiconductor manufacturing facilities, typically called "fabs," print the nanometer-scale integrated circuits from the chip design into silicon wafers. Each wafer contains multiple chips of the same design. Front-end manufacturing is highly R&D and capital intensive, especially for advanced chips, due to the scale and complex equipment needed to produce semiconductors.

- *Back-End Wafer Assembly, Test, and Packaging (ATP)*: This stage involves converting the silicon wafers produced by the fabs into finished chips that are ready to be assembled into electronic devices. Firms involved at this stage first slice silicon wafers into individual chips. Chips are then packaged into protective frames and encased in a resin shell. Chips are further rigorously tested before being shipped to electronic device manufacturers.

[3] Accenture / Global Semiconductor Alliance, "Globality and Complexity of the Semiconductor Ecosystem," 2020. https://www.gsaglobal.org/wp-content/uploads/2020/02/GSA-Accenture-Globality-and-Complexity-of-the-Semiconductor-Ecosystem.pdf

A SIA-Boston Consulting Group (BCG) report illustrated the degree of specialization in the global semiconductor supply chain and the countries contributing to this ecosystem (*see* **Figure 1**). For example, U.S.-headquartered companies lead in design, EDA, and core IP, and command almost half the global market share in semiconductor manufacturing equipment, which are key value-add segments of the global supply chain. Nearly all the remaining global market share for equipment is in allied countries, including the Netherlands and Japan, whose companies conduct significant manufacturing and R&D in the United States. Meanwhile, the U.S. currently trails other regions in the share of capacity of wafer fabrication, assembly, test, and packaging, although recent investments are expected to result in a greater U.S. share in these areas. For materials used in semiconductor manufacturing – such as bare and epi wafers, photoresist chemicals, photomasks, gases, wet chemicals, substrates, lead frames, etc. – U.S. semiconductor manufacturers rely principally on suppliers from Taiwan, Japan, South Korea, and China.

Figure 1: Semiconductor Industry Value Added by Activity and Region, 2024 (%)



Fab operators must manage sophisticated supply chains, potentially involving thousands of upstream suppliers, that provide fabs with hundreds of chemical, gas, and material inputs, each with precise requirements and their own sophisticated supply chains.[4] The upstream semiconductor ecosystem requires raw materials and parts with precise purity levels and specifications to deposit materials and build features at a near-atomic level. For example, ultra-pure semiconductor-grade polysilicon is typically produced at purity levels greater than 11 nines (99.999999999%), which is an impurity level less than 10 parts per trillion (equivalent to one grain of sand in sixteen Olympic-size swimming pools).[5] Likewise, the mirrors used to reflect extreme ultraviolet (EUV) light in an EUV machine are the most accurate, flattest mirrors in the world. Scaled up to the size of Germany, the largest unevenness would be just a tenth of a millimeter.[6]

According to some industry experts, there is currently insufficient domestic supply for approximately 60% of the semiconductor industry's critical inputs, highlighting the U.S. industry's

[4] McKinsey, "Creating a Thriving Chemical Semiconductor Supply Chain in America," March 25, 2025. https://www.mckinsey.com/industries/chemicals/our-insights/creating-a-thriving-chemical-semiconductor-supply-chain-in-america
[5] Hemlock Semiconductor, Wacker Polysilicon North America, and REC Silicon comments to the U.S. Department of Commerce, https://www.regulations.gov/comment/DOC-2022-0001-0121
[6] Zeiss, "EUV Lithography," Oct. 2021. https://www.zeiss.com/semiconductor-manufacturing-technology/smt-magazine/euv-lithography-as-an-european-joint-project.html

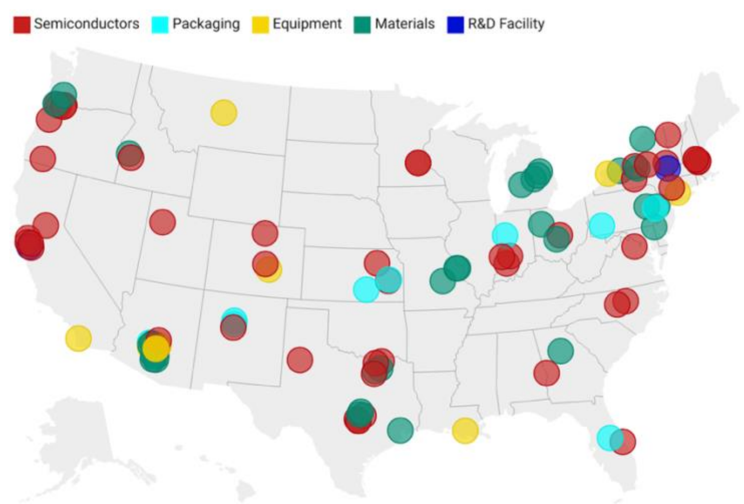
need for reliable access to the global supply chain, particularly when competing with other markets that can secure access to these materials through domestic production or trade.[7]

II. U.S. Capacity Growth

The U.S. share of global semiconductor manufacturing capacity declined from a relative peak of 37% in 1990 to 10% in 2022.[8] The decline in market share is largely attributable to U.S.-based semiconductor manufacturing facilities facing a 30-50% cost disadvantage for total construction and operating costs of a fab in the United States compared to Asia. Of this cost gap, 40-70% was directly attributable government incentives.[9]

Fortunately, the United States is making substantial progress in reversing this decline and rebuilding the U.S. supply chain. Starting in 2020, during the first Trump Administration, the United States took a critical step toward an investment-driven approach to revitalize a robust semiconductor ecosystem in the United States, and those investments are now beginning to pay off. The semiconductor industry is investing over $540 billion, and counting, across more than 100 projects in 28 states to increase American manufacturing capacity, including in key industry segments such as leading-edge logic, memory, analog, and advanced packaging, and to build the overall domestic chip ecosystem for research, design, and materials (*see* **Figure 2**). These announced projects are expected to create and support over 500,000 American jobs — 68,000 facility jobs in the semiconductor ecosystem; 122,000 construction jobs; and support over 320,000 additional jobs throughout the U.S. economy.[10]

Figure 2. Semiconductor Supply Chain Investment Announcements, 2020-2025



Source: SIA Analysis, news reports, corporate press releases, U.S. Department of Commerce

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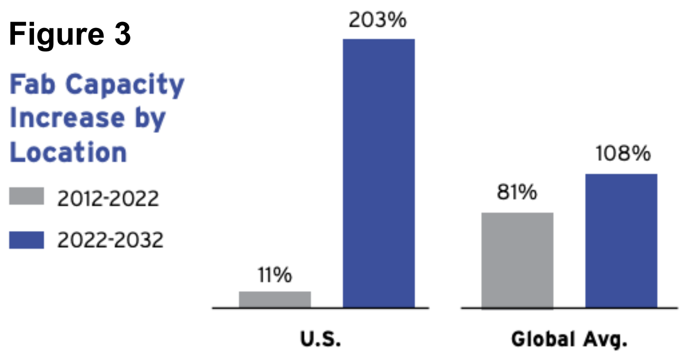
[7] McKinsey, "Creating a Thriving Chemical Semiconductor Supply Chain in America," March 25, 2025. https://www.mckinsey.com/industries/chemicals/our-insights/creating-a-thriving-chemical-semiconductor-supply-chain-in-america.
[8] SIA and BCG, "Strengthening the Global Semiconductor Supply Chain in an Uncertain Era", April 2021. https://www.semiconductors.org/wp-content/uploads/2021/05/BCG-x-SIA-Strengthening-the-Global-Semiconductor-Value-Chain-April-2021_1.pdf
[9] SIA and BCG, "Government Incentives and US Competitiveness in Semiconductor Manufacturing", September 2020, https://www.semiconductors.org/wp-content/uploads/2020/09/Government-Incentives-and-US-Competitiveness-in-Semiconductor-Manufacturing-Sep-2020.pdf
[10] Semiconductor Industry Association, "America's Chip Resurgence: Over $540 Billion in Semiconductor Supply Chain Investments," updated March 2025. https://www.semiconductors.org/chip-supply-chain-investments/

A recent SIA/BCG report projects U.S. semiconductor manufacturing capacity will increase 203% by 2032, a tripling of U.S. capacity. By comparison, between 2012 and 2022, U.S. fab capacity increased by only 11% (*see* **Figure 3**). The U.S. is on track to reverse its decades-long decline and increase its share of global capacity from 10% to 14%. The report also details a continued flow of capital into the U.S. in the chip sector, with 28% of global semiconductor capital expenditures projected to occur in the United States. Many of the announced new facilities, expansions, and modernizations are anticipated to be completed in the second half of this decade, and continued cost-competitive access to critical components is key to ensuring investments and projects proceed in a timely, competitive fashion.

Figure 3

Fab Capacity Increase by Location



III. Importance of Global Market Access for the U.S. Semiconductor Industry

To sustain these growing supply chain investments as well as the substantial investment in R&D needed to maintain market competitiveness,[11] companies increasing their presence in the U.S. will need robust and reliable access to global markets for their products. Approximately 70% of U.S. chips sales are to overseas destinations, and the U.S. has maintained a trade surplus in semiconductors with most of our major trading partners for nearly three decades. The global semiconductor market is projected to exceed $1 trillion by 2030.[12] The scale of the global market – and capturing as great a share of market growth as possible – is the engine that provides the revenue necessary to reinvest in R&D and capital expenditures at a high level. Therefore global market access is a key driver to long-term industry growth and one of the industry's competitive advantages.

To maintain and grow access to markets, SIA encourages Congress and the Administration to pursue an affirmative trade policy to expand global markets for semiconductors designed and manufactured in the United States. One such opportunity is for the Administration to pursue a semiconductor sectoral agreement in conjunction with like-minded partners and allies. Elements of such a negotiated sectoral agreement with trusted partners could include preferential access for chips and equipment manufactured in countries party to the agreement, alongside coordinated measures to address non-market policies and practices. Additional details are in Section V.

IV. Impact of Broad-Based Tariffs

Plans to expand U.S.-based semiconductor production are extremely complex and require years of significant advanced planning, including the management of thousands of inputs from numerous companies and countries around the world. Semiconductor manufacturers, like other high-tech manufacturers, must make capacity and production plans on long timelines to ensure alignment with investors, workforce partners, and partners in national and local governments.

[11] The U.S. semiconductor industry re-invests approximately 20% of revenues back into R&D, the second-highest ratio of all sectors, alongside an additional 15% into capital expenditures. Semiconductor Industry Association, "2024 Factbook," May 2024. https://www.semiconductors.org/wp-content/uploads/2024/05/SIA-2024-Factbook.pdf
[12] McKinsey, "The semiconductor decade: A trillion-dollar industry," April 2022. https://www.mckinsey.com/industries/semiconductors/our-insights/the-semiconductor-decade-a-trillion-dollar-industry

These plans require predictable access to resources including workers, land, power, and water, as well as significant capital expenditures.

SIA shares the Administration's goal of growing the chip supply chain in the United States, and the industry is making huge investments to advance this goal. While it is too early to assess the potential impact of tariffs, we are concerned that broad-based tariffs pose the risk of increasing the costs of inputs and diminishing U.S. competitiveness. New, unanticipated cost increases and market uncertainties could represent shocks and disruptions that threaten to undermine the ability of companies to fully execute ambitious investment plans, slow the deployment of semiconductor manufacturing in the United States, and reduce the productivity and competitiveness of U.S. fabs. In sum, additional costs could stifle new projects being planned in the United States.

Semiconductor manufacturing equipment and building systems account for most of the cost of building a fab. Tariffs have the potential to raise the costs of these products, exacerbating the cost premium to build and operate a fab in the United States when compared to other countries, and risk delaying or even jeopardizing planned investments in U.S.-based semiconductor manufacturing and R&D facilities. Many of these inputs and components lack readily available domestic substitutes and would take years, and in some cases decades, to secure new sources of supply.

This has significant implications for manufacturers upstream and downstream in the supply chain, as well as consumers. SIA analysis indicates that tariff increases on semiconductor manufacturing inputs (e.g., high-value equipment, specialized materials, etc.) could lead to a substantial increase in the overall cost of constructing a fab. If fab costs increase, wafer prices could increase, ultimately raising prices of products with embedded semiconductors so that manufacturers can maintain their previous margins.[13] These cost increases, in turn, have the potential to raise costs for technology users, including in the defense and intelligence communities, and reduce our overall competitiveness and security. Potential cost increases pose risks to the U.S. industry's global competitiveness, leaving a vacuum that global competitors will readily fill.

SIA urges policymakers to adopt a more targeted approach that 1) limits inadvertent harm to the semiconductor industry in the United States and our companies' investment plans, including investments in semiconductor manufacturing equipment, and 2) drives increased demand for our chips, which will in turn drive greater revenue for our companies to reinvest domestically.

SIA urges the consideration of the following:[14]

- **Narrow Country and Product Scope:** The scope of any imposed tariffs should be narrowly tailored to address specific nonmarket problems in the global semiconductor marketplace (e.g., specific countries or types of chips, such as non-market economy legacy chips). Given the diversity of products and inputs in the industry, a one-size-fits all approach would result in potentially adverse unintended consequences. A narrowly tailored approach would help to address unfair trade practices and the risks of excess capacity in key industry segments.[15]

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[13] SIA analysis indicates that a 1% increase in duty rates for semiconductor manufacturing inputs is expected to lead to a 0.64% increase in the overall cost of constructing a fab. For every dollar that a semiconductor chip increases in price, products with embedded semiconductors will have to raise their sales price by $3 to maintain their previous margins.

[14] Semiconductor Industry Association, "SIA Comments on BIS Section 232 Investigation on Imports of Semiconductors and Semiconductor Manufacturing Equipment," May 2025. https://www.semiconductors.org/resources/sia-comments-on-bis-section-232-investigation-on-imports-of-semiconductors-and-semiconductor-manufacturing-equipment/

[15] Please see SIA's recent submission in response to USTR's ongoing Section 301 investigation into "China's Acts, Policies, and Practices Related to Targeting of the Semiconductor Industry for Dominance." https://www.semiconductors.org/resources/sia-comments-on-ustr-section-301-investigation-on-chinese-legacy-chips/

- **U.S. Content Exemption:** Exclude U.S. content from the scope of tariffs. Given the vitally important role of R&D and design in continued U.S. semiconductor leadership, the administration could also consider including the value of U.S. intangible content (e.g., the value of semiconductor design) as non-dutiable U.S. content.

- **Tariff Phase-ins to Accommodate Investments in U.S. Manufacturing:** The typical fab can take upwards of 5 years to be fully operational and recovering upfront costs through manufacture and sale of chips can take another 5-10 years. In light of this long time horizon, SIA recommends that any tariffs should have delayed implementation— e.g., phased-in over time—or be structured as a tariff rate quota (TRQ) to allow the U.S. industry to continue operating efficiently while U.S. manufacturing facilities are completed. A TRQ could be phased in as new U.S. capacity comes online.

- **Maintain Duty Drawback:** Duty drawback permits a company that manufactures goods in the United States to be refunded duties, taxes, and fees paid on imported parts, components, and materials that are incorporated in an exported product. Maintaining duty drawback would ensure more revenue remains available for investments in expanding U.S. manufacturing capacity and R&D.

- **Avoid overlapping remedies across different trade actions:** Given the far-reaching consequences of imposing tariffs on semiconductors, equipment, and related components, maintaining as simple of a tariff regime for semiconductors as possible is important, and the administration should avoid imposing overlapping remedies that could result in stacked tariffs for the same products.

- **Clear Implementation Guidance:** Customs clearance procedures for any potential tariffs should be clear and simple. Specific information requirements, such as the declaration of country of origin and content ratio may create confusion and pose a significant burden on companies without clear guidance and adequate time for companies to gather necessary information. These compliance challenges should be mitigated to the maximum extent possible, as they could cause an increase in operational costs and delays, further reducing business competitiveness.

The imposition of tariffs on certain critical supply inputs and certain chips carry a significant risk of inadvertent but serious harm to the U.S. semiconductor industry and downstream sectors, and the above recommendations can only partially mitigate that risk. The best way to support this critical sector of the U.S. economy is to prioritize other affirmative trade policy measures, like negotiating sectoral agreements to improve market access for U.S. chips and providing additional support for investments in U.S. semiconductor operations.

V. Affirmative Policies to Win the Chip Race

To compete effectively and advance American technology leadership, while also securing the U.S. semiconductor supply chain, Congress and the Administration should advance a series of policies to make the United States an attractive destination for investment in semiconductor research, design, and manufacturing. Affirmative measures such as incentives and investments are a necessary supplement to “defensive” measures, such as tariffs and export controls. Such a strategy should consist of the following key components:

1. Competitive domestic tax incentives that close the cost differential with other regions and spur further American investment
2. Robust investments in semiconductor R&D programs and federal R&D agencies
3. Efforts to build a skilled semiconductor workforce of technicians and engineers
4. Smart regulation that promotes domestic innovation and competitiveness
5. Positive trade actions, such as a sectoral trade agreement on semiconductors

SIA is eager to work with the Administration and Congress to ensure America's leadership in semiconductor technology remains unchallenged.

1. Domestic Incentives

To support continued expansion of the American semiconductor manufacturing supply chain, the United States needs to double down on an investment-based approach toward rebuilding an advanced domestic semiconductor ecosystem. To start, the Administration and Congress should work together to extend and expand the Advanced Manufacturing Investment Credit (AMIC) (IRC Section 48D) to spur additional investments in the domestic semiconductor ecosystem and bolster supply chain resilience. The AMIC has already proven to be a powerful driver of private investment in the U.S. semiconductor ecosystem; however, the credit is set to expire in 2026, threatening the ability of companies to make sustained, long-term investments in the United States to bolster domestic semiconductor manufacturing capabilities in the face of growing global competition. Extending the credit would ensure the continued growth of U.S. manufacturing capacity and provide the business certainty needed for companies to plan future investments in America. Expanding the credit to include semiconductor research and design would ensure more innovation takes place in America and that the United States retains its first-mover advantage in the technologies of the future enabled by semiconductors. Congress should also consider increasing the rate of the credit to enhance global competitiveness and reduce the cost differential between manufacturing in the United States versus abroad.

We note two promising bills have been introduced in the House of Representatives, 1) the Semiconductor Technology Advancement and Research (STAR) Act (H.R. 802),[16] which would extend the duration of the AMIC for 10 years and expand the eligibility of the credit to chip research and design; and 2) the Building Advanced Semiconductors Investment Credit (BASIC) Act (H.R. 3204),[17] which also extends the existing credit and increases the rate from 25% to 35%.

2. R&D Investments

Given the critical enabling role of semiconductors in advancing innovations in technologies of the future — such as AI, quantum computing, energy, and 5G/6G — continued robust U.S. investment in semiconductor R&D is essential for the U.S. to lead the world in these technologies. Federally funded basic and applied research conducted at national labs and universities drives the next generation of technology, fueling economic growth and national security. In addition, these programs help train the next generation of scientists and engineers needed to advance innovation in the U.S.

Additionally, new research programs established at the Department of Commerce, including the National Semiconductor Technology Center (NSTC), the National Advanced Packaging Manufacturing Program (NAPMP), the Semiconductor Manufacturing and Advanced Research

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[16] STAR Act, H.R. 802. https://www.congress.gov/bill/119th-congress/house-bill/802
[17] BASIC Act, H.R. 3204. https://www.congress.gov/bill/119th-congress/house-bill/3204

with Twins USA (SMART USA) Institute, and the CHIPS Metrology Program are supporting a new framework and infrastructure for continued U.S. leadership in semiconductor technology by bridging the gap from "lab to fab," driving innovation in advanced packaging, and jumpstarting initiatives in metrology and digital twins. These investments and other federal investments in semiconductor R&D provide an outsized return on investment through huge benefits across the entire economy: SIA estimates that every $1 invested by the federal government into semiconductor research has increased overall U.S. gross domestic product (GDP) by $16.50.[18]

3. Workforce Development

A 2023 report by SIA and Oxford Economics[19] found a significant shortage of skilled and highly educated workers, particularly technicians, engineers, and computer scientists.[20] We estimate a workforce gap for technicians of 20% and a 39% workforce gap for both engineers and computer scientists. By 2030, roughly 67,000 jobs in the U.S. semiconductor industry risk going unfilled at current degree completion rates. Without action to address this gap, 58% of projected new semiconductor industry technical jobs and roughly 80% of projected new jobs in technical occupations, including technicians, engineers, and computer scientists, risk going unfilled. The United States also currently lacks a skilled employment base of construction workers with customized training both for the construction of the fab and for the ongoing maintenance and repair of facilities. SIA member companies have begun taking action to address these gaps, but shortages are likely to persist, especially among workers with advanced degrees.

SIA's Workforce Policy Blueprint recommends a set of complementary actions to build the U.S. semiconductor workforce and close the talent gap.[21] Policymakers should focus efforts on (1) strengthening programs aimed at growing the pipeline for skilled technicians; (2) growing the domestic STEM pipeline for engineers and computer scientists vital to the semiconductor industry and other sectors that are critical to the future economy; and (3) retaining and attracting more international advanced degree students in STEM fields.

The largest pain point for workforce in the industry continues to be at the advanced-degree level. More than half of students in U.S. advanced degree programs in electrical engineering, computer science, and other critical fields are foreign nationals. We recommend that the Administration take additional steps to address the gaps stemming from this reality. These steps should include both (1) efforts to increase the number of domestic students choosing to enter advanced degree programs in fields critical to the industry, and (2) efforts to improve industry's ability to recruit and retain foreign nationals with advanced degrees in needed fields.

4. Smart Regulation

A recent report found that, due to permitting and construction delays, timelines for building some U.S. chip manufacturing facilities can exceed 50 months, whereas "in East Asia, fabs have been

[18] Semiconductor Industry Association, "Sparking Innovation: How Federal Investment in Semiconductor R&D Spurs U.S. Economic Growth and Job Creation," June 2020. https://www.semiconductors.org/sparking-innovation/

[19] Semiconductor Industry Association and Oxford Economics, *Chipping Away – Addressing the Labor Market Gap Facing the U.S. Semiconductor Industry*, July 2023. https://www.semiconductors.org/wp-content/uploads/2023/07/SIA_July2023_ChippingAway_website.pdf

[20] Certain industry representatives have identified high turnover and labor shortages, particularly for production specialists, skilled manufacturing technicians, and product verification engineers due to a training demands and pay competition.

[21] Semiconductor Industry Association, "Semiconductor Workforce Development: A Policy Blueprint," April 2024. https://www.semiconductors.org/workforceblueprint/

completed and have achieved volume production 28 to 32 months after construction started."[22] For example, several factors may contribute to delays in bringing domestic manufacturing facilities online, including environmental regulations and permitting processes, access to reliable and affordable electricity, shortages of workers with necessary skills, and the need for demand signals that create the necessary business case to justify expansion in the United States. SIA supports efforts to make it easier to build in America. Policymakers should continue to partner with industry and government stakeholders at the federal, state, and local level to ensure semiconductor manufacturing facilities can be built in the United States efficiently and without delays. A streamlined regulatory approach to fab construction and permitting, will ensure U.S. domestic chip capacity comes online as quickly and efficiently as possible.

SIA is encouraged by the Trump Administration's approach to smart regulation as a means of unleashing American innovation and manufacturing.[23] As part of a holistic strategy to strengthen the U.S. semiconductor ecosystem, SIA supports efforts to review government policies and regulations that may inadvertently stifle the ability to build fabs, make the supply chain more resilient, innovate the next generation of technology, acquire the best talent, and drive American-made chip sales domestically and around the world. SIA welcomes the opportunity to engage with the Administration, federal agencies, and Congress to identify opportunities to streamline certain policies, regulations, or approval processes to help unleash America's chip resurgence.

5. Positive Trade Actions

Without continued access to foreign markets and efforts to increase global demand for U.S. chips, our ambitious goals to expand domestic capacity may not be economically viable, as roughly 70% of U.S. semiconductor industry revenue comes from sales to overseas customers.

As part of his "American First Trade Policy Memorandum,"[24] President Trump directed USTR, in conjunction with the Secretary of Commerce and Secretary of Treasury, to "identify countries with which the United States can negotiate agreements on a bilateral or sector-specific basis…[and] shall make recommendations regarding such potential agreements." A semiconductor sectoral agreement led by the Trump Administration offers a unique opportunity to address non-market policies and practices in the semiconductor sector in conjunction with likeminded partners and allies with the goal of achieving coordinated, multi-country solutions to the challenges outlined in SIA's submission to USTR's ongoing Section 301 investigation on Chinese legacy semiconductors. By leveraging a broader set of economic and diplomatic tools, the President can address economic and national security threats more effectively and avoid unintended adverse consequences that import restrictions alone might create. It will also reaffirm the administration's new approach to trade and could serve as a blueprint for trade policies in other domains.

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[22] McKinsey, "Semiconductors have a big opportunity—but barriers to scale remain," April 21, 2025. https://www.mckinsey.com/industries/semiconductors/our-insights/semiconductors-have-a-big-opportunity-but-barriers-to-scale-remain#/

[23] The White House, "Unleashing Prosperity Through Deregulation," January 31, 2025. https://www.whitehouse.gov/presidential-actions/2025/01/unleashing-prosperity-through-deregulation/

[24] The White House, "America First Trade Policy," January 20, 2025. https://www.whitehouse.gov/presidentialactions/2025/01/america-first-trade-policy.

Elements of a negotiated sectoral agreement with trusted and likeminded partners could include:

- Preferential access for chips and SME manufactured in countries party to the agreement, to include government procurement and critical infrastructure markets;
- Coordinated measures to address non-market policies and practices;
- Mutual recognition arrangements for semiconductor testing and standards;
- Protection and enforcement of IP rights;
- Coordinated inbound and outbound investment policies/requirements for semiconductors;
- Alignment on export control regulations, enforcement, and other national and economic security policies (e.g., investment screening); and
- Initiatives to facilitate secure research and development collaboration on critical and emerging technologies.

In comments submitted to USTR in February 2025,[25] we highlighted a semiconductor-focused working group established by Group of Seven (G7) Leaders[26] under Italy's G7 Presidency to promote resilient and reliable semiconductor supply chains. We believe that this and other relevant fora could be utilized to develop a sectoral approach amongst key partners and allies that could create new demand for Made-in-America semiconductors.

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Semiconductor technology is the foundation of the modern economy, leading to innovations and advances in key technologies of the future such as artificial intelligence, quantum, and 5G/6G, as well as sectors across the economy like agriculture, defense & aerospace, telecommunications, transportation, and others. The semiconductor supply chain is highly complex, specialized, and has been carefully calibrated over decades to ensure that all stages of the supply chain meet stringent technical standards.

Companies across the semiconductor supply chain are investing in America, building our manufacturing capacity, including in key segments, boosting our domestic chip ecosystem, bolstering our national security, and generating economic growth. To build on this momentum, we urge policymakers to adopt a holistic approach to building the American semiconductor supply chain. This includes policies that increase domestic and international market demand for U.S. chips, incentivizes further investment in the American semiconductor supply chain, ensures cost competitive access to inputs and components, invests in semiconductor R&D and workforce, and creates a smart regulatory system. This agenda will help boost our economy and national security, build a strong and secure domestic semiconductor ecosystem, and ensure America leads the world in semiconductor technology.

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[25] SIA, Request for Public Comments: China's Acts, Policies, and Practices Related to Targeting of the Semiconductor Industry for Dominance, February 5, 2025. https://www.semiconductors.org/wp-content/uploads/2025/02/USTR2024-0024-00109674-CAT-5016-Public-Document.pdf
[26] G7, "Apulia G7 Leaders' Communiqué," June 15, 2024. https://www.g7italy.it/wp-content/uploads/Apulia-G7- Leaders-Communique.pdf