Before the
DEPARTMENT OF COMMERCE
INDUSTRY AND SECURITY BUREAU
Washington, DC 20230

In the Matter of	)	
	)	
Notice of Request for Public Comments on	)	
Section 232 National Security Investigation of	)	Docket No. 250414-0066
Imports of Semiconductors and Semiconductor	)	
Manufacturing Equipment	)	
	)	

COMMENTS OF THE
TELECOMMUNICATIONS INDUSTRY ASSOCIATION

I. INTRODUCTION

The Telecommunications Industry Association ("TIA") appreciates the opportunity to comment regarding the Bureau of Industry and Security ("BIS") Section 232 National Security Investigation of Imports of Semiconductors and Semiconductor Manufacturing Equipment. TIA represents over 400 manufacturers and suppliers of telecommunications equipment and services. TIA members design, produce, market, and manage the information communications technology ("ICT") equipment and services that connect Americans to high-speed broadband networks. TIA members are intimately involved in the semiconductor and semiconductor manufacturing equipment ("SME") supply chain, both as designers of semiconductors and as the predominant user of semiconductors. The telecommunications sector represents 50% of semiconductor end use, split between infrastructure equipment (24%) and ICT devices (26%).[1] As such, addressing

[1] America's Supply Chains, Exec. Order No. 14,017, 86 Fed. Reg. 11,849 (Mar. 1, 2021).

the specific needs of this sector in the context of this proceeding is essential. To this end, we recommend the following:

1. **Action should focus on mechanisms other than duties to support U.S. national security needs.** Duties on semiconductors, SMEs, and derivative products will increase the cost to manufacture in the United States. Instead, the administration should focus on providing manufacturing incentives, promoting inbound investment, and reducing the overall tax burden for manufacturers.
2. **Derivatives should be excluded from the scope of this investigation.** ICT products are not "derivates" of semiconductors but rather a downstream product that incorporates them. An attempt to tax them as such would be complicated, impractical, and costly both for companies and Customs and Border Protection ("CBP").
3. **The report and follow-on actions should account for and build on existing government lines of effort relating to semiconductors and SMEs.** BIS, DHS, and other agencies have already conducted extensive investigations of the semiconductor and electronics supply chains more broadly pursuant to Executive Order 14017. Additionally, there are other congressionally mandated lines of effort such as the CHIPS and Science Act and §5949 of the FY 2023 NDAA that may align with the objectives of the Sec. 232 investigation and mitigate the need for punitive actions such as duties.

Our further comments below will substantiate these policy recommendations and provide more in-depth information about the relevance of semiconductors and SMEs to our industry.

II. DUTIES WILL HAVE A NEGATIVE IMPACT ON U.S. MANUFACTURING

TIA supports increasing U.S. manufacturing in the ICT sector, and our members have already made ambitious investments in support of this goal within the two years.[2] However, additional tariffs threaten to undermine this goal by increasing component costs for entities seeking to manufacture products here. Semiconductors are the leading component by value of many telecommunications products,[3] and while the U.S. semiconductor industry has a vibrant,

[2] See 2023 announcements by Nokia, Corning, Commscope, AdTran, Infinera, Ciena, DZS and others.
[3] See TIA member survey data in TIA, *Comments on FHWA Buy America Waiver Proposal* (May 10, 2024), https://tiaonline.org/wp-content/uploads/2024/05/2024.5.10-TIA-Comments-on-FHWA-waiver.pdf, 4.

highly competitive semiconductor sector that leads the world in many segments,[4] the current ecosystem in the U.S. does have gaps such as in the production of both advanced and legacy nodes; domestic access to substrates, glass and laminate; as well as advanced packaging capability. As a result, there are no substitute sources in the U.S. that companies can switch to for some products.

It will also take time for new U.S. suppliers to come to market to address the wide range of both leading-edge and legacy chips needed by the industry. Semiconductor fabs take at least three to four years to build;[5] and in reality, those timelines can stretch out much longer. For example, Intel broke ground on their Ohio One facility in 2022 with an initial goal to begin production at the facility by 2025.[6] They now estimate that construction will be completed by 2031 and that production will begin in 2032.[7] This is consistent with other external estimates that state that it would take the United States at least a decade more to become one of the world's top semiconductor producers.[8] Those projections, however, do not take into account any setbacks that will result from increased Section 232 tariffs on SMEs, SME parts and components, copper, and critical minerals – all of which play an essential role in scaling up domestic semiconductor

[4] As stated by BIS in a 2023 report, ""the United States is an essential leader in the global microelectronics sector … accounting for approximately half of worldwide semiconductor revenue." U.S. Dep't of Com., Bureau of Indus. & Sec., Final Report: Section 9904 Technology Evaluation (Dec. 21, 2023), https://www.bis.doc.gov/index.php/documents/technology-evaluation/3402-section-9904-report-final-20231221/file.

[5] Intel Corp., What Does It Take to Build a Fab?, INTEL NEWSROOM (2022), https://download.intel.com/newsroom/2022/manufacturing/fab-final-static.pdf.

[6] Intel Corp., Intel Announces Next US Site with Landmark Investment in Ohio, BUSINESS WIRE (Jan. 21, 2022), https://www.businesswire.com/news/home/20220121005066/en/Intel-Announces-Next-US-Site-with-Landmark-Investment-in-Ohio.

[7] Intel Corp., Ohio One Construction Timeline Update, INTEL NEWSROOM (Feb. 28, 2025), https://newsroom.intel.com/corporate/ohio-one-construction-timeline-update.

[8] *See* Boston Consulting Group and Semiconductor Industry Association, "Emerging Resilience in the Semiconductor Supply Chain," at 14 and Exhibit 8, dated May 2024, available at https://www.semiconductors.org/wp-content/uploads/2024/05/Report_Emerging-Resilience-in-the-Semiconductor-Supply-Chain.pdf.

manufacturing. With these additional tariffs, the projected decade needed to become one of the world's top semiconductor producers could be stretched at least two-fold, perhaps even longer. In short, a trade-restrictive approach is inconsistent with the goal of becoming a world-class semiconductor industry in the shortest time possible.

As mentioned, semiconductors are an essential part of the products our industry produces, and business operations depend on consistent and reliable sources of semiconductors. While some companies do not manufacture semiconductors, they do design many of the semiconductors that they use in their products. These U.S.-designed semiconductors may be currently manufactured in a foreign country and imported to the United States for incorporation into products that are then manufactured here. This is because the semiconductor manufacturing industry in the United States is not able to service the needs of the telecommunications sector, let alone all the needs of U.S. companies that need semiconductors to produce their products.

Given the current limitations of the domestic semiconductor industry, imposing broad tariffs on all semiconductor imports at this time would only have far-reaching and detrimental effects on American businesses – particularly companies that need a reliable source of semiconductors right now to maintain U.S. operations, fulfill customer demands, and remain competitive in the global market. Until the U.S. semiconductor supply chain is sufficiently developed and diversified, Section 232 tariffs by themselves risk undermining the very economic and technological objectives they aim to advance.

Duties will also negatively impact U.S. manufacturers by limiting their access to global markets. The U.S. is a significant ICT exporter, selling $13.8 billion in finished

telecommunication equipment in 2024 to global consumers[9] and exporting $70.1 billion in ICT services on annual basis.[10] The majority of the global market for ICT products is outside of the United States, so for the U.S. ICT sector to thrive, it needs to be able to access those markets. An innovative U.S. ICT sector cannot limit itself to the 300 million internet users in the U.S.[11] while there are more than 4 billion internet users around the world with billions more potential ICT customers still yet to be connected.[12] Countries have already demonstrated that they will respond to U.S. duties with tariff and non-tariff measures of their own, including by specifically targeting U.S. telecommunications equipment vendors.[13] This potential for retaliation against U.S. telecommunications equipment manufacturers is particularly substantial since many countries feature telecommunications service providers who are either in whole or in part state-owned. As a result of this state ownership, these entities are often particularly sensitive to shifts in government policy. If U.S. ICT companies are targeted or have their ability to sell in global markets restricted, then their U.S. manufacturing will be negatively affected.

III. THE U.S. CAN TAKE POSITIVE STEPS TO SUPPORT SEMICONDUCTOR MANUFACTURING WITHOUT DUTIES

Instead of relying on costly duties that would be borne by American consumers and downstream manufacturers, the Trump Administration has the opportunity to use this

[9] Data derived from searching 2024 USITC Dataweb data regarding exports of products under HTS codes: 8517 (Electrical Apparatus For Line Telephony Or Line Telegraphy, Including Such Apparatus For Carrier-current Or Digital Line Systems; Parts Thereof), 854470 (Insulated Optical Fiber Cables, Made Up Of Individually Sheathed Fibers), 8802503000 (Communications Satellites), 8802603000 (Communications Satellites). Dataweb can be accessed here: https://dataweb.usitc.gov/trade/search/Export/HTS.

[10] The World Bank, *ICT Service Exports (BoP, Current US$)*, https://data.worldbank.org/indicator/BX.GSR.CCIS.CD (last visited May 1, 2025).

[11] U.S. Census Bureau, *Computer and Internet Use in the United States: 2021* (Apr. 21, 2021), https://www.census.gov/newsroom/press-releases/2021/computer-internet-use.html.

[12] Int'l Telecomm. Union, *Facts and Figures* (2024), https://www.itu.int/en/ITU-D/Statistics/Pages/facts/default.aspx.

[13] See for example: Drew Clark, *Starlink Becomes Punching Bag Amid Global Backlash to Trump Tariffs*, Broadband Breakfast (Apr. 26, 2024), https://broadbandbreakfast.com/starlink-becomes-punching-bag-amid-global-backlash-to-trump-tariffs/.

investigation to develop a proactive plan that supports U.S. leadership in the industry. This could include:

- **Using the convening power of the U.S. Government.** U.S. Government can work with semiconductor companies and downstream users on the development of a proactive plan to support growth of semiconductor supply in the United States that matches demand needs in the U.S., while ensuring that this effort complies with anti-trust rules;
- **Supporting bipartisan legislation to incentivize U.S. semiconductor manufacturing including:**
    - **The Protecting Circuit Boards and Substrate Acts (HR 3249)**, which would authorize $3 billion to support American facilities manufacturing or researching PCBs.[14]
    - **The Semiconductor Technology Advancement and Research Act of 2025** ("STAR Act"), which would extend the Advanced Manufacturing Investment Credit (IRC Section 48D).The credit is set to expire in 2026, threatening the ability of companies to make sustained, long-term investments in the United States and bolster our semiconductor manufacturing capabilities in the face of growing global competition.
- **Negotiating economic security agreements with U.S. allies and trusted trading partners.** U.S. government should work with our trusted partners e.g., UK, Japan, Australia, Taiwan, Spain, Germany) to create a secure, reliable semiconductor supply chain, including (a) open market access to substrates/wafers, advanced and legacy chips, PCBs/PCBAs, glass, laminate, and priority critical minerals; and (b) export controls harmonization;
- **Increasing Defense Production Act Support.** Existing incentives could be increased, such as raising the existing determination under the Defense Production Act to $1 billion, which would support the nation's domestic Printed Circuit Boards (PrCB) and Advanced Packaging industrial base.[15]
- **Enacting President Trump's proposed 15% tax rate on US manufacturing.** Such a law could provide a 15% tax rate on profits from the sale, license, lease, rental, exchange, other disposition of qualifying production property (which should include high tech products such as hardware, software, and film) that is manufactured, produced, grown, or extracted by the taxpayer in whole or in significant part within the United States. This could be similar to prior Section 199 that was in effect from 2005-2017, updated to accommodate modern business models for the provision of software, including the provision of software via e-delivery or via the cloud. Such a provision would incentivize increased US manufacturing, expand US industrial supply chains and ecosystems, and drive increased US investment, jobs, economic growth, and exports.

[14] H.R. 3249, 118th Cong. (2023), https://www.congress.gov/bill/118th-congress/house-bill/3249/text.

[15] U.S. Dep't of Def., *Defense Production Act Title III Presidential Determination for Printed Circuit Boards and Advanced Packaging* (Mar. 27, 2023), https://www.defense.gov/News/Releases/Release/Article/3342032/defense-production-act-title-iii-presidential-determination-for-printed-circuit/.

- **Passing the Workforce Innovative and Opportunity Act.** This act would provide states with funding for workforce development, ensuring that the majority of funding goes towards workforce training so that after the fabrications facilities are built, there is an American workforce available to work in these new fabs.

A positive agenda like this would ultimately be more successful than one that raises prices on U.S. manufacturers and potentially cuts them off from global markets.

IV. "DERIVATIVES" IS AN UNCLEAR TERM THAT RAISES ADMINISTRABILITY CONCERNS

The notion that complex ICT systems are "derivatives" of semiconductors and should be tariffed accordingly is the element of this Section 232 investigation of highest concern to the telecommunications industry. There is no reasonable scenario in which complex telecommunications products are "derived" from semiconductors. Although semiconductors are an essential component, there is no amount of smelting, bending, or other physical transformation that will turn a chip into a phone. Semiconductors are instead integrated, along with other non-semiconductor products, through a series of processes that include both hardware and software. This is fundamentally different than what a plain language reading of the term "derivative" would suggest is the intention of, or would be logically permissible under, the Section 232 statute.

Additionally, the proposed definition of semiconductor derivative as "downstream products that contain semiconductors" is impossibly broad. Hair dryers, automobiles, telephones, pacemakers, and electric toothbrushes all contain semiconductors. These products share very little in common with one another, and instituting a novel duty on this breadth of products would have significant consequences for CBP, consumers, and the U.S. economy as a whole.

Duties would also raise significant administrability concerns. Based on past precedent, there seem to be two distinct methods by which duties could be administered:

1. Duties would be assessed at a fixed percentage of the "semiconductor derivative," or
2. Consistent with the recent expansion of duties on steel[16] and aluminum[17] derivates, CBP implements derivative duties wherein the value of semiconductor content in finished ICT devices is tariffed.

The problems with the first approach are straightforward. CBP could be tasked with assessing new duties against thousands of new Harmonized Tariff Schedule codes, which could have a substantial impact on consumer prices across the board.

The problems with the second approach are more nuanced and relate to the complexity of the ICT supply chain relative to simple metal supply chains. Semiconductors are different from the case of aluminum and steel where transformation is comparatively simple and could be broken down by CBP by determining "country of melt and pour"[18] or "primary country of smelt, secondary country of smelt, or country of most recent cast."[19] Conversely, semiconductors go through many more steps that can broadly be described as including design, fabrication, and backend assembly, testing, and packaging. These are all steps that take place before actual integration into the finished ICT product and its transformation by the application of software, and they often take place across many international borders. According to a report from Accenture, a semiconductor product could cross international borders approximately 70 or more times before finally making it to the end customer.[20]

Additionally, these steps take place separately across the thousands of integrated circuits that are embodied in ICT end products. As one data point, modern smartphones have more than

[16] *Adjusting Imports of Steel Into the United States*, 89 Fed. Reg. 12067 (Feb. 18, 2025).
[17] *Adjusting Imports of Aluminum Into the United States*, 89 Fed. Reg. 12301 (Feb. 18, 2025).
[18] U.S. Customs & Border Prot., *CSMS # 62582900 – GUIDANCE: Section 232 Melt and Pour Requirements* (Oct. 9, 2024), https://content.govdelivery.com/accounts/USDHSCBP/bulletins/3baf074.
[19] *Adjusting Imports of Aluminum Into the United States*, 89 Fed. Reg. 51472 (July 15, 2024).
[20] Global Semiconductor Alliance & Accenture, *The Globality and Complexity of the Semiconductor Ecosystem* 1 (Feb. 2020), https://www.gsaglobal.org/wp-content/uploads/2020/02/GSA-Accenture-Globality-and-Complexity-of-the-Semiconductor-Ecosystem.pdf.

10 billion transistors.[21] The idea of tracing these various complex components, assigning a country or countries of origin, and assigning a value for the purpose of calculating a derivative duty is a Herculean task. In large part, companies – who in many cases are contracting their manufacturing out to an original equipment manufacturer ("OEM") – cannot even establish a country of origin for semiconductors that go into their products, which themselves may be integrated into larger boards and assemblies. BIS has studied this issue of semiconductor traceability before. According to the agency's 2024 study of this issue, 44% of respondent companies could not with certainty determine the origin of chips in their products.[22] Establishing conclusive points of origin and then calculating duties for all these inputs is substantially more complex than ascertaining whether products from a single country do/do not exist in a product.

V. THIS SECTION 232 INVESTIGATION OVERLAPS WITH EXISTING LINES OF EFFORT

As BIS moves forward with this investigation, it should consider building on the existing work that the agency and other parts of the U.S. government have undertaken so as to avoid reduplication. For example, BIS conducted several analyses pursuant to EO 140177 including one on semiconductors[23] and one on Information and Communications Technology.[24] BIS should consider these analyses as it conducts its national security investigation in the Section 232 docket. Additionally, BIS should consider engaging with the work being carried out pursuant to

[21] Sally Ward-Foxton, *76 Years of the Transistor: Then, Now, and What's to Come*, Electronic Design (Dec. 20, 2023), https://www.electronicdesign.com/technologies/embedded/article/21262840/synopsys-76-years-of-the-transistor-then-now-and-whats-to-come.

[22] Bureau of Indus. & Sec., U.S. Dep't of Com., *Public Report on the Use of Mature-Node Semiconductors* (Dec. 2024), https://www.bis.gov/media/documents/public-report-use-mature-node-semiconductors-december-2024.

[23] U.S. Dep't of Com., *Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth: 100-Day Reviews Under Executive Order 14017* (June 2021), https://www.bis.doc.gov/index.php/documents/technology-evaluation/2958-100-day-supply-chain-review-report/file.

[24] U.S. Dep't of Homeland Sec., *Information and Communications Technology Supply Chain Risk Management Task Force Report* 1 (Feb. 2022), https://www.dhs.gov/sites/default/files/2022-02/ICT%20Supply%20Chain%20Report_2.pdf.

§5949 of the FY2023 James M. Inhofe National Defense Authorization Act[25] – particularly paragraph (f) regarding semiconductor traceability and public comments on 48 CFR Part 40[26] operationalizing paragraphs (a), (b), and (h) – as it considers its investigation.

Additionally, the Administration should coordinate its actions under other Section 232 investigations on copper and critical minerals to ensure a ready supply in the U.S. of these materials. For instance, the Administration should ensure that the various 232 tariffs are not "stacked" so that a finished product that relies on semiconductors and copper and critical minerals would not be paying the 232 tariffs three times. Relatedly, antimony, gallium, germanium, and indium are needed to produce semiconductors. One of the main sources of these critical minerals is the People's Republic of China. China has imposed its own export control measures on some of these critical minerals. Adding 232 tariffs on these critical minerals makes it even more difficult to shift supply chains from China to other affordable options.

VI. CONCLUSION

TIA appreciates the opportunity to provide comments on this matter. As stated previously, TIA supports increasing U.S. manufacturing in our industry, and we hope that this matter is approached in a manner that supports, not harms, the industry's ability to do so. As a foundational matter, we appreciate that the administration is using Section 232 as an established legal framework to structure an investigation with the opportunity for industry input instead of using the International Emergency Economic Powers Act or some other authority to do so. Public comments are essential to productive policy. For the same reason, we believe that

[25] *James M. Inhofe National Defense Authorization Act for Fiscal Year 2023*, Pub. L. No. 117-263, § 5949, 136 Stat. 2395, 2716 (2022).
[26] *Federal Acquisition Regulation: Prohibition on Certain Semiconductor Products and Services*, 89 Fed. Reg. 35,766 (May 3, 2024).

releasing the findings of this report publicly is in the public interest given the impact that duties on semiconductors, SMEs, and derivatives will have on U.S. manufacturers and on consumers writ large. Industry feedback is essential to understand the full impact of potential duties on products as complex as semiconductors, and we hope that future proposals will have substantial comment periods and public hearings to ensure BIS is afforded a wide range of data and input. Please let us know if you have any questions, or if there is any way that TIA can support the Administration's work on this important set of issues.

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