

**Written Comments of the  
Semiconductor Industry Association  
On  
USTR’S Request for Public Comments on 2024 China WTO Compliance  
Report  
89 Fed. Reg. 63462 (August 5, 2024)  
September 10, 2024**

The Semiconductor Industry Association (“SIA”) is pleased to submit these written comments in response to a request by the Office of the U.S. Trade Representative (USTR) for public comments on its upcoming report to Congress on China’s compliance with its obligations as a Member of the World Trade Organization (WTO).

In the nearly quarter-century since it acceded to the WTO in 2001, China has become a major player in the global semiconductor industry, both as the world’s largest market for U.S. semiconductors and as a serious and growing competitor. SIA welcomed China’s accession to the WTO, and its subsequent participation in the WTO Information Technology Arrangement (ITA-1) and its 2015 Expansion (ITA-2). However, China’s embrace of market-based reforms in recent years has been waning, which is a cause of growing concern. We are similarly concerned that important aspects of China’s regulatory framework are at odds with important WTO rules, commitments, and obligations, which have in turn exposed weaknesses in WTO institutions.

**Introduction and Background**

SIA has been the voice of the U.S. semiconductor industry for nearly half a century. Our member companies represent more than 99% of the U.S. semiconductor industry by revenue and nearly two-thirds of non-U.S. firms, and are engaged in the research, design, and manufacture of semiconductors. The United States is the global leader in the semiconductor industry, and continued U.S. leadership in semiconductor technology drives America’s economic strength, national security, and global competitiveness. More information about SIA and the semiconductor industry is available at [www.semiconductors.org](http://www.semiconductors.org).

Semiconductors are critical to the functioning of everyday consumer electronics, communications, and computing devices in the automotive, industrial, financial, medical, retail, defense, and many other sectors of the economy. They are also critical components for future technologies, such as artificial intelligence (“AI”), quantum computing, and 5G/6G telecommunications. Few industries, if any, have a supply chain and development ecosystem as complex, geographically widespread, and interdependent as the semiconductor industry. A joint report by the Boston Consulting Group (BCG) and SIA found more than 120 countries were involved as an exporter or importer of semiconductor products.

Domestically, maintaining a strong U.S. semiconductor research, design, manufacturing, and supplier base is an economic and a national security imperative. As stated in both the House and Senate versions of the 2021 National Defense Authorization Act: *“The leadership of the United*

*States in semiconductor technology and innovation is critical to the economic growth and national security of the United States.”<sup>1</sup>*

The steady opening of markets and leveling of the global playing field spearheaded by U.S. negotiators under the auspices of the World Trade Organization (WTO) over the past 25 years has been vital to the ability of the U.S. semiconductor industry to drive global advances in various industries across the global economy, from automotives to agriculture. This has given rise to new technologies that hold the promise to transform society and standards of living for the better. Around 75% of U.S. industry’s sales were to overseas customers in 2023, making semiconductors America’s 6th largest export and a sector where the U.S. maintains a sizable trade surplus. Increased access to global markets and enforceable multilateral rules to ensure fair trade have enabled the United States to establish and maintain its position as global industry leader.

China is an important link in global semiconductor supply chains, both as a consumer and producer of chips. As the world’s largest electronics manufacturing hub – producing around one-third of the world’s electronics, including computers, cellphones, and other consumer electronics – China is also the single largest export market for semiconductors globally, accounting for 29% of global chip sales in 2023. Semiconductors sold into China are then incorporated into electronics, vehicles, appliances, and various other technology products for sale domestically in China and abroad. From a production standpoint, China currently accounts for roughly 20% of front-end and nearly 40% of back-end semiconductor manufacturing capacity.

### **Chinese Industrial Policies**

When China acceded to the WTO in 2001, it was based on an expectation by the United States and other WTO Members – and a commitment from Beijing – that China would pursue a path of market-based reform. As part of its Accession Protocol, China agreed to take on the obligations set forth in existing WTO rules, while also making numerous specific commitments aimed at addressing a range of non-market, state-driven, trade-distorting practices. It also assured its WTO trading partners on its plans for continued reform and market-opening.

Over the past decade, however, China has pursued a decidedly managed approach to its economy and trade. Government planners have taken a progressively more active role in supporting advanced technology sectors, including semiconductors, deemed vital to China’s future global leadership under Made in China 2025, Five-Year Plans, and other government industrial policies. In particular, Chinese officials and industrial planners have long recognized that semiconductors are a vital technology from the standpoint of China’s national security, industrial competitiveness, and exports.

Many of China’s barriers impacting the U.S. semiconductor industry are rooted in the government’s managed approach to industrial policy. In semiconductors, as in other advanced technologies, China has pursued a wide array of policies and practices that seek to frustrate access for foreign products and companies to its domestic market, while offering an array of subsidies, discriminatory standards, preferential government procurement policies, local content requirements, and other measures that appear to be WTO-inconsistent designed to boost local

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<sup>1</sup> H.R. 6395 § 1824(b) and S. 4049 § 1098(b).

producers and advance China's long-term ambitions to dominate the global semiconductor ecosystem.

While China has long pursued industrial policies to support its development of a world-class chip industry, these efforts accelerated to a new level in 2014. In June 2014, the Chinese Government issued *Guidelines to Promote National Integrated Circuit Industry* ("Guidelines" or "National IC Plan"). The Guidelines set out a strategy aimed at developing "national champions" supported by government funding and policies to accelerate technology transfers and lift China's indigenous semiconductor industry to put it on a level with leading international competitors. As part of this plan, the Guidelines called for a \$150 billion National Integrated Circuit Fund ("National IC Fund") supported by the central and provincial governments.

Then, in 2015, China issued *Made in China 2025* ("MIC 2025"), which set out an aspirational goal to achieve 70% self-sufficiency in semiconductors by 2025. While official, public references to MIC 2025 disappeared after USTR launched a Section 301 investigation in 2017, MIC 2025 and the Guidelines continue to undergird Chinese semiconductor policies, and these strategies have only intensified in the past few years.

The National IC Fund and MIC 2025 have been buttressed with an array of other government supports, including below-market loans from state-owned banks, equity infusions from SOEs, government grants, forced technology transfers, reduced utility rates, tax breaks, import substitution programs, and free or discounted land. The National IC Fund and an assortment of local government subsidies and other practices risk leading to distortions in global semiconductor markets, raising concerns in some quarters in particular about the risk of overconcentration of manufacturing capacity, and potentially even overcapacity, especially for mature-node semiconductors ( $\geq 28\text{nm}$ ).

## **WTO Concerns**

### **1. Import Substitution Policies**

China has long employed formal and informal import substitution programs, both to support local producers and technologies and restrict competing imports. One of the main goals of MIC 2025 was to substitute domestic technologies, products, and services for foreign technologies, products, and services in the Chinese market, similar to previous "indigenous innovation" policies.

On May 14, 2020, the CCP Politburo Standing Committee added a "new development program of mutual benefit through domestic-international dual circulation." Dual circulation is designed to innovate more domestically developed technology and thereby reduce China's reliance on foreign technology. In March 2021, the National People's Congress adopted the 14th Five-Year Plan (2021–2025), incorporating both the dual circulation paradigm and indigenous innovation. This Plan targets "the expansion of domestic demand through strengthened supply chains supported by industrial policies, indigenous innovation, and increased domestic consumption."

Alongside indigenous innovation and dual-circulation policies, recent reports suggest China has expanded the use of implicit, unpublished, or internal guidance aimed at replacing U.S. and

foreign-made products/services with domestic alternatives. For example, the *Wall Street Journal* reported in September 2022<sup>2</sup> that China's State-Owned Assets Supervision and Administration Commission (SASAC) issued Document 79, a government directive known as "Delete A" or "Delete America" and which requires state-owned entities (SOEs) in finance, energy, and other critical infrastructure sectors to substitute Chinese software for U.S. software in their IT systems by 2027. Other reports<sup>3</sup> indicate the Chinese Government now requires government agencies and state-owned enterprises to purchase only chips that meet required criteria for "safe and reliable" semiconductors, criteria that effectively exclude chips manufactured by U.S. companies.

Such directives support Chinese self-sufficiency as part of the "dual-circulation" economy" and advance China's "secure and controllable" doctrine.<sup>4</sup> Semiconductors are identified as one of the strategic industries and national priorities to achieve lower dependence and higher resilience from foreign suppliers. SOEs must report on their progress in replacing foreign software, computer equipment, and semiconductors with local alternatives.

Such policies – e.g. discriminatory import substitution, dual-circulation, "Delete A," and "secure and controllable" policies – appear inconsistent with GATT Article III and other WTO obligations.

## 2. Automotive Chip Standards

On January 7, 2024, China's Ministry of Industry and information Technology (MIIT) announced plans to develop more than 30 key auto chip standards by 2025 and more than 70 related standards by 2030 covering areas such as reliability, electromagnetic compatibility, and operational and information security. According to guidelines issued by MIIT and circulated to industry groups, these standards seek to ensure safety and reliability by providing for performance tests of semiconductors used in finished vehicles and core systems. They are widely expected to be used as a tool to push automakers to use domestically made semiconductors.

According to China's *Global Times*,<sup>5</sup> the purpose of these standards is "to guide and promote the development and application of China's automotive chip technology, cultivate an independent innovation environment, enhance overall technological capabilities and competitiveness, and create a safe, open, and sustainable ecosystem."

China's standard-setting process often lacks transparency and excludes foreign stakeholders, which could lead to discriminatory standards and *de facto* exclusion of foreign semiconductors from China's large and growing automotive market. Even when foreign companies have been

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<sup>2</sup> Liza Lin, "China Intensifies Push to 'Delete America' From Its Technology" (March 7, 2024) at <https://www.wsj.com/world/china/china-technology-software-delete-america-2b8ea89f>

<sup>3</sup> Ryan McMorow, Nian Liu, Qianer Liu, "China blocks use of Intel and AMD chips in government computers" (March 24, 2024) at <https://www.ft.com/content/7bf0f79b-dea7-49fa-8253-f678d5acd64a>

<sup>4</sup> The Chinese Government has used "secure and controllable" and "indigenous and controllable" as code words to favor local Chinese companies based on the idea is that local products and services are more secure. The terms appear throughout national level plans that call for "building a secure and controllable ICT industry ecosystem, including Made in China 2025. (CPUs, operating systems, software office suites), suppliers need to submit verification materials including product IP, source code, and design and development documents.

<sup>5</sup> Global Times, "China steps up efforts to set standards for auto chips amid fierce competition" (January 9, 2024) at <https://www.globaltimes.cn/page/202401/1305028.shtml>

permitted to participate in technical committees in China’s standards development organizations, this participation has typically been on terms less favorable than those applicable to their domestic competitors.

China’s standards frequently and unnecessarily deviate from international standards, whereas Article 2.4 of the WTO Agreement on Technical Barriers to Trade (TBT) stipulates that WTO Members “shall” use relevant international standards where technical regulations are required. As a result, Chinese standards often discriminate against like foreign products and lead to unnecessary obstacles to trade, which runs counter to Articles 2.1 and 2.2 of the TBT Agreement.

Given the relative lack of transparency in China, frequent failure to provide adequate notice, and lack of meaningful opportunities for comments by other WTO Members and interested parties in Chinese standards development, we encourage USTR to engage China to ensure its processes for the preparation, adoption, and application of standards consistent with Article 2.9 of the TBT Agreement and the TBT Agreement’s *Code of Good Practices*.

### **3. SASAC Guidance**

On August 6, 2024, the China’s State-owned Assets Supervision and Administration Commission (SASAC) and the National Development and Reform Commission (NDRC) jointly issued the “*Guiding Opinions on Standardizing the Procurement Management of Central Enterprises*” (“Guiding Opinions”) to further clarify the procurement methods and control points and effectively standardize the procurement of state-owned enterprises. The Guiding Opinions state that in key areas of scientific and technological innovation such as semiconductors, satellite navigation, high-end machine tools, industrial robots, and advanced medical equipment, the power of SOEs should be fully utilized with respect to procurement of innovative products to promote the research and development capabilities of domestic enterprises and China’s international competitiveness and self-sufficiency. According to Chinese media, these guidelines benefit China’s economy by “giving priority to purchasing domestic key equipment and technologies”.<sup>6</sup>

Reports suggest the Guiding Opinions are aimed at promoting procurement of local semiconductors and other advanced technologies in order to “positively impact scientific and technological innovation and promote self-sufficiency” in accordance with the broader industrial policy goals encompassed in Made in China 2025, the dual-circulation economy, indigenous innovation, the 14th Five-Year Plan,<sup>7</sup> and the Third Plenum.

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<sup>6</sup> China Times, “The State-owned Assets Supervision and Administration Commission and the National Development and Reform Commission have identified “five key areas” to give full play to the role of central enterprises as the main force in procurement” (August 8, 2024) at <https://finance.sina.cn/2024-08-08/detail-inchxefh1844696.d.html>

<sup>7</sup> The 14th Five-Year Plan (2021–2025) for National Economic and Social Development of the People’s Republic of China (PRC) was approved on March 2021. It emphasizes innovation as the core of modern development, relying on the dual circulation strategy as the growth paradigm coupled with reforms to increase living standards. The Plan introduces a dual circulation paradigm that targets the expansion of domestic demand through strengthened supply chains supported by industrial policies, indigenous innovation, and increased domestic consumption. According to the Asian Development Bank, the goal is to advance innovation in multiple areas to become less dependent on foreign technology.

To the extent these Guiding Opinions apply to Chinese SOEs engaged in commercial activity, they appear at odds with GATT Articles III:4 and III:5, since the GATT Article 8(a) exclusion of government procurement from Article III obligations is limited to procurement by governmental agencies for governmental purposes.

#### **4. Subsidies**

As noted above, in June 2014, the Chinese Government issued *Guidelines to Promote National Integrated Circuit Industry* (“Guidelines” or “National IC Plan”). As part of the plan, the Guidelines called for a \$150 billion *National Integrated Circuit Fund* (“National IC Fund” or “Big Fund”) supported by the central and provincial governments. The first tranche of the Big Fund was launched in 2014 with 138 billion yuan (\$21 billion) in capital funding. A second tranche was established in 2019 with an additional 204.2 billion yuan (\$39 billion). These were bolstered by local IC funds run by provincial and municipal governments. Much of this support has taken the form of what appear to be below-market equity infusions. According to the OECD, China is almost unique among major semiconductor-producing economies in providing major government support to semiconductor enterprises through equity infusions.

In May 2024, China announced the third and largest tranche of the National IC Fund with a registered capital of 344 billion yuan, or roughly \$47.5 billion. The Ministry of Finance is the largest shareholder of the Fund with a 17% stake, along with major Chinese banks, including the Industrial and Commercial Bank of China, China Construction Bank, Agricultural Bank of China, and Bank of Communications, and large state-owned enterprises, including China Tobacco, China Mobile, and China Electronics Technology Group Corporation.

The National IC Fund and MIC 2025 have been supplemented with an array of other government subsidies from MIIT, other Ministries, and other central, provincial, or municipal governmental bodies, including below-market loans from state-owned banks, equity infusions from SOEs, government grants, forced technology transfers, reduced utility rates, tax breaks, import substitution programs, and free or discounted land.

The Fund has benefited an array of leading Chinese semiconductor companies. A 2019 study by the OECD found China’s four leading state-backed semiconductor companies received a total of \$4.85 billion in below-market loans from China’s state-owned banks between 2014-2018, which represented 98% of below-market borrowing by leading global semiconductor companies. In addition, the OECD found that 43% of the registered capital of the Chinese industry, totaling \$51 billion, is directly or indirectly owned by China’s government, giving it significant influence over the direction of the industry.

China’s subsidy policies raise a host of WTO concerns.

Eligibility for certain Chinese subsidies programs is explicitly contingent on export performance, whether as a sole factor or as one of multiple conditions for an entity’s eligibility. In addition, a host of Chinese subsidies programs and industrial policies, including Made in China 2025, reference import substitution as a goal. Both export and import substitution subsidies are expressly

prohibited under Article 3 of the WTO Agreement on Subsidies and Countervailing Measures (SCM Agreement).

Under SCM Article 25, China, like all WTO Members, is required to notify the WTO of subsidy programs. This obligation covers any program covered by SCM Article 1.1 and the notifications must be sufficiently specific to enable other WTO Members to evaluate their trade effects and understand their operation. However, China has not notified the WTO of its National IC Fund or the various provincial and municipal IC funds, arguing these funds are “private equity” and therefore out of scope. Indeed, WTO Secretariat’s June 2024 Trade Policy Review report on China notes that the China’s subsidies notifications to the WTO did not provide a clear picture of China’s support programs or government expenditure levels in sectors where government support is likely to have global repercussions, including semiconductors, noting:

“So-called "Government Guidance Funds" or "Government Investment Funds" continue to use public resources to make equity investments in industries and activities that the Government considers important. No information on the overall endowment of these funds was provided by the authorities .... The incentives provided by these funds have generally not been notified to the WTO; the authorities state that these funds operate under market principles.”<sup>8</sup>

The report goes on further to say “the overall lack of transparency on China's government support may also contribute to debates on what is perceived by some as overcapacity in certain sectors.”

SCM Article 1.1(iv) states a subsidy shall be deemed to exist if “a government makes payments to a funding mechanism, or entrusts or directs a private body to carry out one or more of the type of functions ... which would normally be vested in the government and the practice, in no real sense, differs from practices normally followed by governments.” China’s various IC funds appear to be carrying out the explicit directives of the Chinese Government in the *Guidelines to Promote National Integrated Circuit Industry, Made in China 2025*, *13th Five-Year Plan for Economic and Social Development of the People’s Republic of China (2016–2020)*, *14th Five-Year Plan (2021–2025) for National Economic and Social Development of the People’s Republic of China*, *State Council Technical Area Roadmap*, *Indigenous Innovation*, and other industrial policy measures, and implementing a governmental function by allocating government-funded support to eligible firms and SOEs.

Given the breakdown of the WTO’s subsidies notification process under SCM Article 25, SIA has worked through the World Semiconductor Council (WSC) and Government Authorities Meeting on Semiconductors (GAMS) to establish an alternative, plurilateral process with the other leading semiconductor economies through the *WSC/GAMS Regional Support Guidelines and Best Practices*. This has involved a series of notifications of regional support programs by WSC/GAMS members and, despite China’s foot-dragging, has led to some improvements in transparency. Such transparency is important, given the proliferation of support programs around the world.

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<sup>8</sup> World Trade Organization Secretariat, “Trade Policy Review, Report by the Secretariat: China” (June 12, 2024) at [https://www.wto.org/english/tratop\\_e/tpr\\_e/s458\\_e.pdf](https://www.wto.org/english/tratop_e/tpr_e/s458_e.pdf)

While the WTO has strong rules on export and import substitution subsidies, its rules on domestic industrial subsidies are weak. This weakness is not new and dates back to Article XVI of the General Agreement on Tariffs and Trade (GATT). While efforts were made to strengthen such rules in the Uruguay Round, these were not sustained.<sup>9</sup> As a result, apart from countervailing duties on subsidized imports, the WTO's purported disciplines on domestic industrial subsidies have proven weak, unenforceable, and ineffective in addressing China's industrial subsidies for semiconductors and other advanced technologies.

## 5. Encryption/“Secure and Controllable”

Semiconductors are increasingly dependent on encryption as an essential functionality for protecting privacy and safeguarding sensitive commercial information. As noted above, in August 2014, MIIT published “*Guiding Opinions Concerning Strengthening Cybersecurity Work in the Telecommunications and Internet Sectors*,” promoting “secure and controllable” software and hardware and “indigenous research and development” with the aim to “move forward with the application of secure and controllable key software and hardware, and play a positive role in safeguarding national security, stimulating economic development, protect the interests of the popular bases and build a strong network country.”

In October 2019, as a follow-up, China adopted its *Cryptography Law* that includes restrictions on commercial encryption products that “involve national security, the national economy and people’s lives, and public interest,” which must undergo a security assessment. In August 2020, the State Cryptography Administration issued a new set of *Commercial Cryptography Administrative Regulations*, including a new review process to regulate the purchase of ICT products, including semiconductors, by critical information infrastructure operators and online platform operators in China, ostensibly to address potential national security risks.

SIA, Digital Europe, the Japan Semiconductor Industry Association (JSIA), and the U.S. Information Technology Organization (USITO) provided detailed comments on the *Cryptography Law* and draft *Commercial Cryptography Administrative Regulations*, focusing particularly on its breadth, the elaborate review procedures that could impede the efficient and timely flow of mass-marketed or general-purpose products into and out of China, and departures from the World Semiconductor Council’s *Encryption Principles*.<sup>10</sup> While SIA and USITO were pleased by certain revisions<sup>11</sup> to the final law and implementing regulations, we remain concerned about the broad scope of these measures and the requirements ICT equipment and other ICT products in critical sectors must meet to be “secure and controllable,” as these seem to have emerged as code words for discouraging the use of U.S. and foreign ICT products.

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<sup>9</sup> The WTO *Agreement on Subsidies and Countervailing Measures* (SCM Agreement) established a new “dark amber” category for certain types of highly trade-distorting domestic subsidies in SCM Article 6.2, including for situations in which the total ad valorem subsidization exceeded 5%. However, this was only a provisional rule under SCM Article 31 and was dropped after a 5-year review period because of a lack of support from the United States.

<sup>10</sup> WSC *Encryption Principles*, (Lisbon, 23 May 2013).

<sup>11</sup> These improvement included steps to (i) more fully separate the regulatory approach for “commercial” cryptography from “core” and “common” cryptography; (ii) exempt commercial mass market products from import/export licensing requirements; and (iii) remove provisions that could de jure or de facto force the disclosure of source code or extensive intellectual property (IP), including commercially sensitive and proprietary information.



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We encourage the U.S. government to take a measured, comprehensive approach to address the concerns outlined in this submission, acting in a coordinated fashion with allies and likeminded partners to combat market access barriers and non-market practices that unfairly tilt the playing field. To this end, we also encourage the U.S. government not to rely on unilateral restrictions.

The fact remains that China is the single largest market for semiconductors for the U.S. semiconductor industry, accounting for 31% of U.S. semiconductor sales globally. Those sales have been a major driver of research and development in the semiconductor sector. At the same time, with diversification of risk taking hold as a priority in the post-pandemic era, we encourage the U.S. government to actively pursue proactive trade and economic policies aimed at opening and expanding market access for semiconductors in third countries. In the meantime, revenue from U.S. semiconductor sales in China will remain critical to maintain continued U.S. semiconductor leadership.

SIA appreciates the opportunity to provide these comments and looks forward to continued engagement with USTR.