MARCH 2025

# SUMMARY:

## SIA Response to USTR Section 301 Trade Investigation on China's Acts, Policies, and Practices Related to Targeting of the Semiconductor Industry for Dominance

Mature-node chips are critical for economic and national security, and the U.S. should invest in U.S.-based capacity to ensure fabless companies and downstream customers have access to diverse global sourcing options. These were among the messages emphasized in the Semiconductor Industry Association's (SIA) recent response to USTR's Section 301 investigation into China's policies related to the semiconductor industry.

SIA presented data and evidence to demonstrate Chinese capacity growth in mature-node chips is:

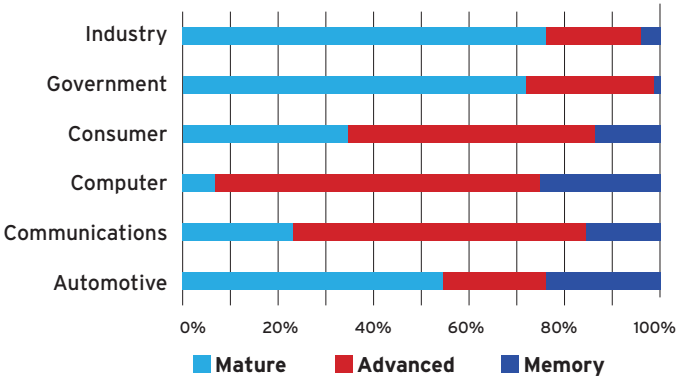
- Outpacing global demand,
- Displacing investments in other regions, and
- Driven by industrial policies, subsidies, and other non-market practices.

## IMPORTANCE OF MATURE-NODE CHIPS

Mature-node chips are generally defined as those with feature sizes ≥28nm and are critical to a range of downstream industries, including automotive, industrial automation, communications, consumer electronics, government (including military and defense), and technologies of the future like artificial intelligence and 5G/6G communications (See Figure 1). Mature node chips:

- Comprise roughly 60% of global fab capacity operations[1]
- Accounted for roughly 88% of global semiconductor units sold in 2023[2]
- Reached sales of $72 billion in the United States in 2023[3]
- Enable a staggering $10.8 trillion of economic activity across a range of downstream industry verticals, equating to 26% of U.S. gross economic output.[4]

**FIGURE 1:** *Use of Mature vs Advanced-node chips by End Sector (by value) excl. memory, 2023*

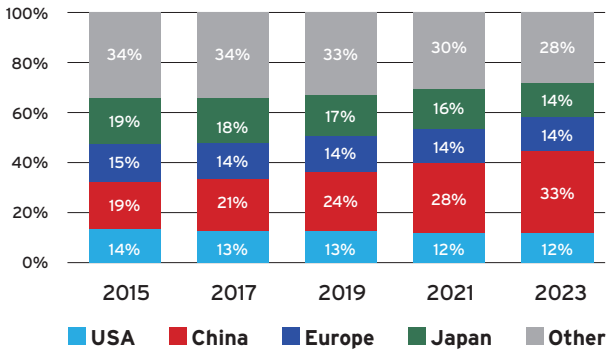



Source: WSTS

## GLOBAL SUPPLY AND CHINA'S BUILD OUT

The geographic distribution of global installed capacity for mature-node chips has grown increasingly concentrated in China, potentially crowding out investments in other regions.[5]

**FIGURE 2:** *Share of Mature-node chip fabrication capacity by region, 2015-2023*

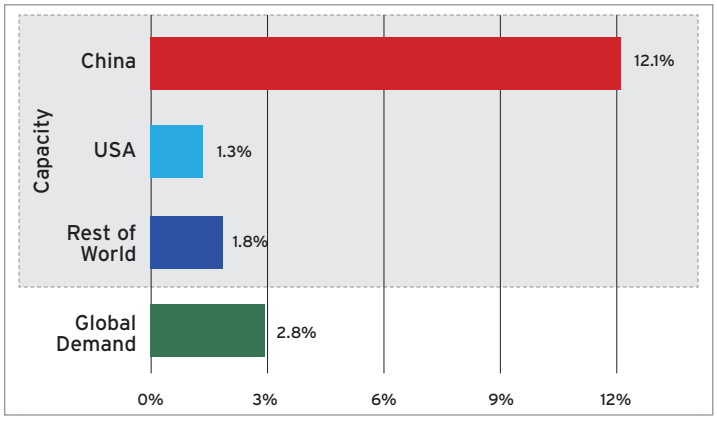



Source: SEMI

From 2015 to 2023,

- China accounted for 72% of global mature-node capacity growth;
- China's share of global mature-node capacity nearly doubled from 19% to 33% (see Figure 2)[6]
- China's capacity grew at a 12.1% compound annual growth rate (CAGR), more than 4 times faster than global demand for mature-node chips, which grew by only 2.9% (see Figure 3); and
- China's pure-play foundries operate with an average annual capital expenditure-to-revenue ratio of 112%, significantly outpacing the average 33% ratio for foundries outside of China.[7]

**FIGURE 3:** *Compound average annual growth rates for mature-node chips, capacity vs demand (2015-2023)*




Source: WSTS/SEMI

## CHINA'S SEMICONDUCTOR POLICIES

China's acts, policies, and practices related to the semiconductor sector are beginning to disrupt the semiconductor supply chain for the U.S., and globally. Its government is pursuing a multi-faceted, state-driven industrial policy strategy aimed at bolstering its chip industry and achieving self-sufficiency, including by impeding market access for foreign products and companies, for example, through:

- Directives, and party control within state and private enterprises;
- Subsidies, and persistent state financial support of industry;
- Industry consolidation through mergers and acquisitions;
- Market access restrictions; and
- Intellectual property theft and talent poaching.

## CONCLUSION AND RECOMMENDATIONS

SIA and its member companies are concerned that if China's investment in mature-node capacity continues to exceed global demand, it will risk crowding out investment in mature-node chips in other regions or forcing market-based competitors out of the market altogether. In particular, many fabless companies are concerned about the lack of investment in mature-node foundry capacity outside of China, which risks supply shortfalls in the face of increasing demand. Such a scenario could have significant downstream effects, resulting in supply chain dependencies not only for the semiconductor industry in the United States but across the myriad downstream industries that integrate mature-node semiconductor technologies into finished products.

SIA advocates for the U.S. government to implement policies that strengthen the U.S. semiconductor industry, expand U.S. firms' market access, and promote domestic foundry capacity, including by:

- Collaborating with Group of Seven (G7) countries and other trusted partners to implement coordinated, multi-country solutions to counter non-market practices and policies;
- Pursuing reciprocal trade and supply chain deals that create demand for Made-in-America chips and downstream products that incorporate our chips;
- Incentivizing investment in U.S.-based foundry capacity and ensuring diverse global sourcing options to maintain competitive market dynamics for fabless semiconductor companies;
- Building global supply chain capabilities that complement and support semiconductor industry operations in the United States; and
- Advancing trade facilitation and other policies that help chip companies operate more efficiently in global markets.

1 SIA analysis on SEMI, "World Fab Forecast," December 20, 2024.

2 WSTS, "Bluebook monthly reports," accessed January 16, 2025.

3 SIA analysis.

4 SIA analysis.

5 Please note that from this point onwards we will refer to "installed capacity" as capacity.

6 From 2015 to 2023, approximate global capacity of mature-node chips increased from 6 million to 8.5 million wafer starts per month (WSPM), or by 41.6%. However, more than half of this growth was concentrated in China, where mature-node semiconductor production capacity increased from 1.2 million WSPM to 3.0 million WSPM from 2015 to 2023. Over the next three to five years, Chinese domestic semiconductor manufacturers are expected to account for almost half of all new global mature-node capacity to manufacture mature-node semiconductors.

7 The capital expenditure-to-revenue ratio reveals the proportion of a company's revenue being reinvested into long-term assets, such as fabrication plants. This metric provides a view into the company's financial health, strategy, and operational efficiency. A high ratio shows significant debt accumulation and may indicate financial strain if investments are made in low-return projects.