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Techno-Economic Intelligence on China

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DATENNA INTELLIGENCE BRIEFING

Hunter-Gatherer: Exploring China's semiconductor networks amidst allegations of chip-smuggling

How SMIC, Hua Hong, and other companies hide their ties to clear export control loopholes

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KEY FINDINGS

- The U.S. Government found that China was working through international subsidiaries to skirt export controls on advanced semiconductors.
- Semiconductors are a critical enabling resource whose applications have immense value on the battlefield.
- Through major investments over the last ten years, China's semiconductor field has ballooned to five times its original size and now controls roughly 30% of global capacity in legacy chips.
- Complex corporate structures and Hong Kong holding companies act as a strategic vector for finance and shipping, including for smuggling.

WHAT HAPPENED

BIS Discovers Large Network Designed to Exploiting Loopholes

In late May 2026, the U.S. Department of Commerce Bureau of Industry and Security (BIS) moved quickly to close a loophole that allowed Chinese companies to obtain some of the world's most advanced semiconductors through international subsidiaries. The announcement reiterated that even if a company was located outside of China, if the ultimate parent company was headquartered in China, then any business would have to seek permission before exporting advanced semiconductors.

This ruling seeks to curb a long history of theft, espionage, and full mobilization of national resources towards gaining the most advanced chips for the PRC. The ruling itself came on the heels of allegations that China had already been quietly exploiting this loophole to buy potentially "hundreds of thousands" of NVIDIA's advanced Blackwell GPUs through international subsidiaries set-up in Southeast Asian countries like Malaysia.

For example, the House Select Committee on Competition Between the United States and the CCP found that in just the seven-month period between August 2025 and March 2026 there were at least six separate cases of attempted smuggling and export control evasion of semiconductors and related fabrication technology. These cases featured 24 total conspirators, an estimated $2.8 billion in advanced chips and production technology, and frequent use of shell companies in Singapore, Malaysia, and Thailand as an intermediary to get restricted technology to China.

Semiconductor Smuggling Routes – Export Control Evasion into China

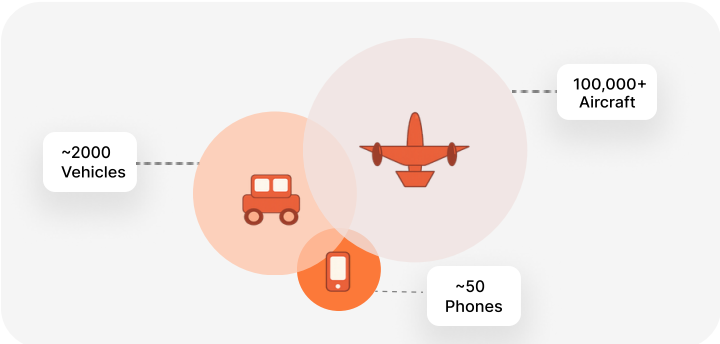
Semiconductor Export Control Evasion – Route Legend

- Source – export-controlled equipment & chips (US, NL, JP, KR, TW)
- Transshipment hub – re-export, re-labelling, front companies
- Final destination – PRC / Hong Kong
- Leg 1 – diversion from source country
- Leg 2 – onward shipment into PRC

WHY IT MATTERS

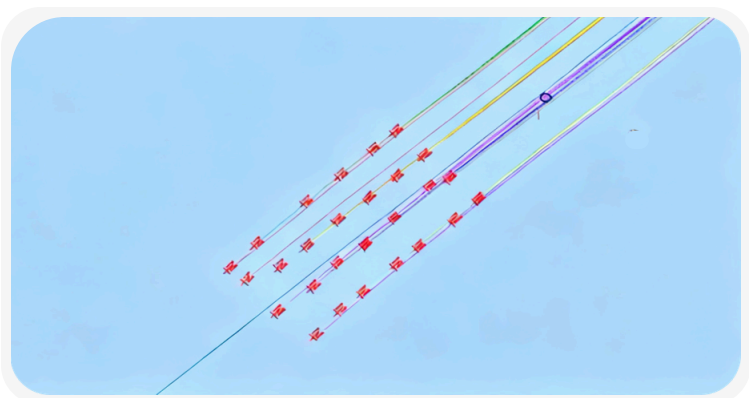
Semiconductors Enable All Other Key Technologies

Semiconductors are an integral component in all modern electronics and an essential strategic resource. This is especially true for the People's Liberation Army (PLA) as it continues with its modernization drive away from massed infantry doctrine towards "informationization." All computing systems use semiconductors in some capacity, from calculators, to smart phones, to any vehicle including automobiles, motorcycles, or airplanes. As modern militaries have become more and more technical, semiconductors have also become an enabling resource as critical as oil or manpower and require a constant supply of the resource for defense production. For example, personal communications devices contain roughly 50 semiconductors, while vehicles contain at least 2,000, and aircraft can easily have more than 100,000 depending on their size and complexity. These systems mostly rely on older, less cutting-edge semiconductors known as "legacy chips" that are used for processes like logic, signals, or memory, among others.



However, the most advanced semiconductors are needed for any system that requires quick processing speeds or complex computations. These cutting-edge semiconductors are often classified as operating below the 10nm threshold, with 7nm often cited as a key benchmark for the most advanced producers. These sizes enable massive computational power, and requisite applications such as high-performance computing, artificial intelligence, and advanced encryption and code-breaking.

Although these applications are all strategic in nature, artificial intelligence in particularly is already being developed for use on the battlefield, especially regarding drone swarm technology. For example, China's CETC recently unveiled the Atlas drone swarm system, which can launch and coordinate up to 96 fixed-wing drones through the use of advanced AI. The system can configure the swarm for targeted strikes, reconnaissance, or to act as a communications node. Likewise, drone swarm control "motherships" are also being developed for use in the aerospace domain through platforms like AVIC's Jiutian SS-UAV.



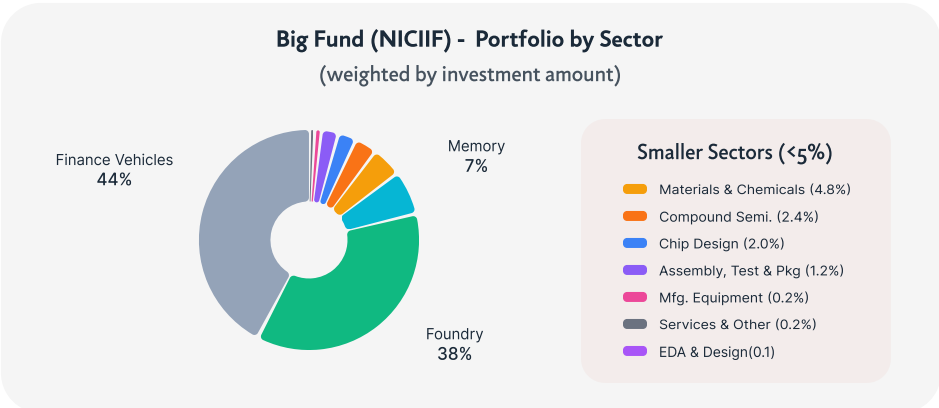
WHAT WE FOUND

China's Semiconductor Supply Network Runs Both Deep and Wide

These strategic capabilities are exactly why the Chinese government declared "extraordinary measures" for semiconductor self-sufficiency in the 15 th Five-Year Plan, aiming to fully capture the many stages of the manufacturing process regardless of node size. This would make China impervious to punitive export controls, allow its military undisrupted operations during wartime, and give it significant leverage over countries that its supply chains feed.

The Chinese government has been working towards this goal for many years by this point, and is now only slightly behind the world's leaders in advanced chip manufacturing. The drive has been relentless. One estimate from the Information Technology and Innovation Foundation suggests China has invested the equivalent of the U.S. CHIPS and Science Act virtually every year since 2014 through a myriad of channels. This tidal wave of funds, investments, and initiatives has led to an explosion of Chinese companies and capabilities. For example, in 2010 China had just 582 semiconductor design firms, but by 2022 that presence ballooned to 3,243 firms and roughly 30% of global capacity in legacy chips. By some measures, China is now the world's largest wafer fabricator by capacity.

Perhaps the biggest enabler for this dominance was the National Integrated Circuit Industry Investment Fund, dubbed the "Big Fund." Consisting of three rounds of investment in 2014, 2019, and 2024, the Fund threw at least $23 billion, $29 billion, and $47.5 billion respectively at Chinese firms in the semiconductor industry over each of its iterations. Through utilizing Datenna's proprietary datasets, we were able to map out which sectors benefitted from these investments and highlight where the Chinese government's priorities lie.



By far, the largest sector to receive allocations from the Big Fund was other, more granular investments funds. Many of these smaller funds exist as provincial level investments such as the Shanghai Integrated Circuit Industry Investment Fund Ltd [上海 成电路产业投资基金股份有限公司] or the Beijing Integrated Circuit Manufacturing and Equipment Equity Investment Center [北京集成电路制造和装备股权投资中心].

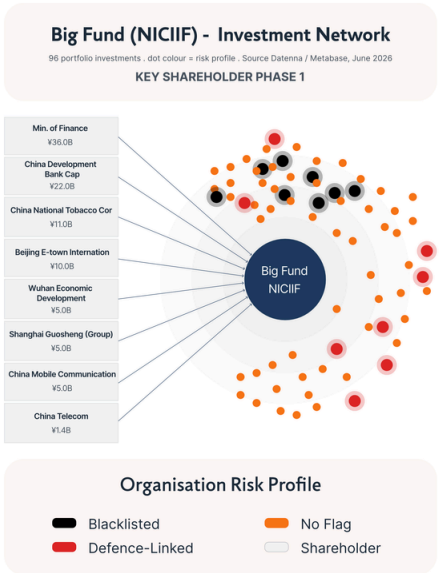
These smaller investment vehicles can accumulate capital from multiple sources and work to disburse them to regional projects and champions. For example, the Shanghai fund mentioned above received a further $3 billion from investment vehicles associated with the state-owned Shanghai Automotive Industry Corporation (SAIC) and the Shanghai State-owned Assets Supervision and Administration Commission (SASAC), among others and is itself heavily invested in the Semiconductor Manufacturing International Corporation (SMIC) [中芯国际集成电路制造有限公司], China's massive semiconductor juggernaut.

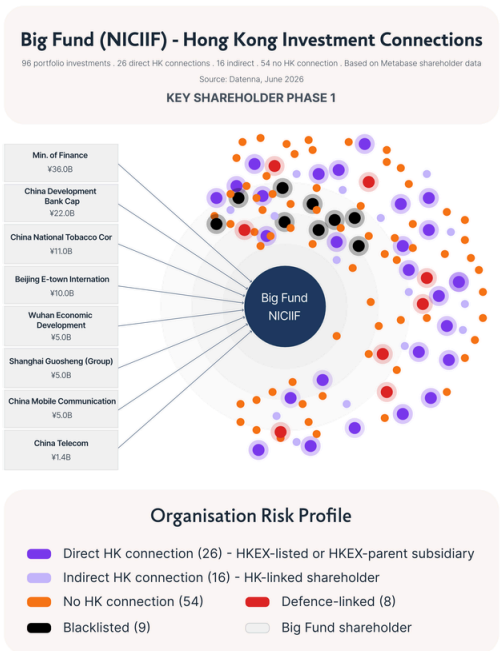
The second largest sector to benefit from the Big Fund are foundries, the facilities where semiconductors are manufactured. The biggest beneficiaries from among the Big Fund investment are also China's largest and most advanced foundries, SMIC and the

Hua Hong Group [华虹半导体有限公司]. The Big Fund invested at least $1.5 billion and $1.3 billion in each respectively, while these organizations also received further capital from the Big Fund's other investment vehicles. At the same time, these organizations leapfrogged their competition and sit as China's first and second place foundries today.

This overwhelming push to build out foundries has both come from the Chinese government through state-owned enterprises (SOEs), investment funds, and organs of the SASAC. Moreover, expanding China's semiconductor capabilities and consolidating upstream supply chains creates direct downstream benefits for the Chinese government, as these capabilities flow back through contracts with SOEs and the PLA.

The Big Fund itself received fully a third of its capital either directly from the State Council's Ministry of Finance or through its investment arm in the China Development Bank [国家开发银行]. The rest came from a mix of tech-adjacent SOEs like China Telecom, government-backed investment vehicles, or provincial funds. In turn, just on the first level of ownership the Big Fund's portfolio includes China's most prolific state-backed foundries, 17 companies that have aided the PLA, and 9 entities that have been blacklisted by the U.S. Government.





However, for many of these organizations, the resources to build out China's semiconductor sector didn't come purely from the Chinese government. Instead, 18 organizations have direct parent companies designed to raise international investment through Hong Kong, while a further 13 have at least one Hong Kong-based organization in their overall ownership structure. These organizations are presented in purple and violet respectively in the graph.

This particular finance arrangement is certainly not unique to China's semiconductor ecosystem. Rather, it is a common method for Chinese organizations to raise capital for development from abroad, skirt international scrutiny, and distribute liability away from mainland-based entities. However, besides raising capital away from prying eyes, this arrangement may also be an avenue for smuggling advanced semiconductors.

Where China was unable to build its industry through direct injections of capital, it has been accused of making-up the difference through theft. In this regard, Hong Kong has played a role in a number of chip smuggling allegations in the recent past. For example, in late 2025, a massive ring was disrupted from its operations sending export-controlled advanced H100 and H200 graphics processing units to China. Payments were made through international subsidiaries, while the chips were smuggled from New York, to Singapore, to Hong Kong, and then to Mainland China.

In a similar scheme Hong Kong holding companies were used as a method to make payments for other organizations also engaged in smuggling advanced semiconductors to mainland China, obfuscating the true orchestrator behind the plot. These examples hint towards the fact that Hong Kong's unique legal status makes it an ideal launching point for any funding and support arrangement where the end user desires anonymity.

In addition to many Chinese entities, SMIC and the Hua Hong Group both have similar corporate structures whereby Hong Kong firms and offshore incorporation constitute an ownership layer above mainland Chinese companies. This structure is used to draw in business and connections from abroad, reposition the capital to offshore accounts, and then funnel resources to mainland Chinese firms, factories, and R&D facilities. A graph of their corporate structure from Datenna is presented below.

SMIC - Geographic Capital Flow Map

Hong Kong → Listed Parent (Offshore) → Intermediate Holding → Operating Fabs

Source: Datenna / Metabase, June 2026

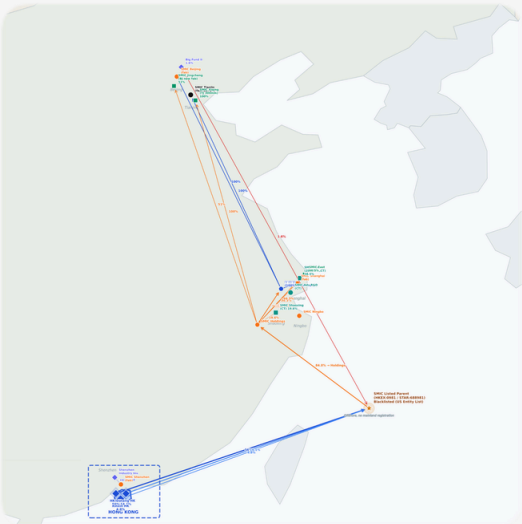
Hong Kong Capital Hub

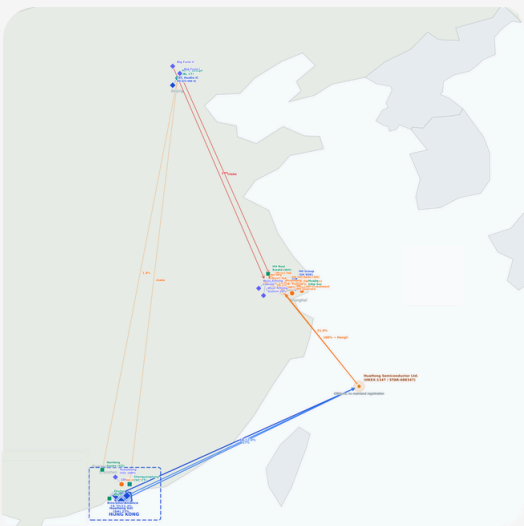
Blue Arrows = HK capital in
- HKSCC 56% (HKEX nominee)
- Datang Holdings HK 14.1%
- Xinxin HK 4.8%

Orange arrows = internal SMIC group ownership chain
→ HK parent → Holdings → Holdings → new fabs

Node / Arrow Key

- SMIC Listed Parent ★
- SMIC core entity ●
- Blacklisted ●
- Critical Tech ●
- HK capital vehicle ◆
- State shareholder ◆
- SMIC investee fab ■
- ← Blue: HK capital in
- ← Orange: internal ownership
- ← Blue (dom.): □□ → fabs





HuaHong Semiconductor - Geographic Capital Flow Map

Hong Kong → Listed Parent (Offshore) → Hongli → Wuxi Fabs

Source: Datenna / Metabase, June 2026

Hong Kong Capital Hub

Blue Arrows = HK capital in
- HuaHong Intl (SH) 27%
- Xinxin HK 18.7%
- Sino-Alliance HK 12.4%

Orange arrows = internal HuaHong ownership chain
→ Listed parent → Hongli → Wuxi fabs

Node / Arrow Key

- HuaHong Listed Parent (offshore) ★
- HuaHong core entity ●
- Critical Teck flagged ●
- HK capital vehicle ◆
- Key shareholder ◆
- State / gov. shareholder ◆
- Direct investee ■
- ← Blue: HK capital in
- ← Orange: internal ownership
- ← Blue (dom.): shareholder → entity

Although both the Hua Hong Group and SMIC were not directly implicated in recent smuggling allegations, they have been accused of employing nefarious tactics to obtain trade secrets in the past. Likewise, they have made significant leaps in production capabilities seemingly overnight, and may be closing in on the world's leaders like TSMC, further spurring suspicions of foul play.

WHAT THIS MEANS GOING FORWARD

Semiconductors are a critical resource like any other

As the U.S. Department of Commerce moves to close loopholes in its export control policies, Chinese actors will likely be hard at work searching out new methods of subversion. Though the exact practices may vary, the incentives are aligned to push China to obtain advanced semiconductors at all costs.

As a key enabling technology, no modern country can function without access to semiconductors, and the threat of their restriction has pushed China to fight hard in the quest to both indigenize and onshore full stream production. From larger legacy chips to the most advanced GPUs, China is fully committed to cutting its dependency on foreign organizations. If China succeeds, it will result in a massive windfall for contentious international regimes like North Korea or Russia, which is already acquiring scores of advanced semiconductors from China for its war in Ukraine.

ABOUT DATENNA

Datenna maps over 50 million Chinese organizations, tracking procurement contracts, patent filings, funding streams, and ownership structures. Our platform provides allied governments, defense institutions, and industry with provable, auditable intelligence on China's technology and defense ecosystem.

To book a platform demonstration or speak with our analyst team: datenna.com