

INSIGHTS

China's Chip Boom Defies Export Restrictions

Clear Voice 

By LIANG Yilian & HU Dingkun

Several members of the U.S. Congress, including Chuck Schumer and John Moolenaar, have been busy recently introducing the Multilateral Alignment of Technology Controls on Hardware (MATCH) Act. In essence, it seeks to tighten export control measures to prevent "adversary countries" from obtaining critical semiconductor manufacturing equipment and technologies from the U.S. and its allies.

The legislation contains several key provisions. First, it requires the U.S. Department of Commerce to identify a list of semiconductor manufacturing equipment that "adversary countries" are unable to produce independently. Second, it would prohibit the sale of such equipment and related technologies to those countries, while also banning the provision of maintenance and support services. Third, the act would designate all chip fabrication facilities operated by several Chinese semiconductor companies — including ChangXin Memory Technologies, Huawei, and Semiconductor Manufacturing International Corporation — as "controlled facilities," effectively cutting off exports, maintenance services, and technical support. Fourth, it seeks to ensure that these restrictions are uniformly implemented by the U.S. and its allies. If allied countries fail to make sufficient progress within a specified timeframe, the Commerce Department would impose unilateral controls on foreign-made products that incorporate U.S. software, technology, or components.

Although the act nominally targets "adversary countries," its primary focus is clearly China. In addition to explicitly



Workers test and sort semiconductor chips at Jiangsu Nuanyang Semiconductor Technology Co., Ltd. in Yancheng city, Jiangsu province. (PHOTO: XINHUA)

naming several Chinese semiconductor companies, statements released by the lawmakers on congressional websites make little effort to conceal the legislation's intent. Schumer, Senate Minority Leader, said "the MATCH Act would stop the flow of advanced semiconductor manufacturing equipment that China desperately needs to build up their own chip industry." Meanwhile, Moolenaar, chairman of the House Select Committee on China, claimed the legislation would "ensure the next decade of growth in chip manufacturing — and the jobs that come with it — happens in the United States and allied countries, not China."

Taken together, the MATCH Act represents an attempt by some U.S. lawmakers to significantly escalate pressure on China's semiconductor sector. The act not only aims to turn the screws on U.S. export controls on semiconductor equipment and technologies destined for China, but also seeks to compel American companies to stop maintenance services for critical equipment al-

ready exported to Chinese facilities. Furthermore, it proposes the use of extraterritorial measures to pressure U.S. allies into aligning with Washington's policies and coordinating broader restrictions on China's access to advanced chip technologies.

The proposal of the MATCH Act also suggests that some U.S. politicians have failed to draw lessons from the repeated failures of Washington's semiconductor containment policies toward China in recent years. Attempts to stifle China's chip industry through export controls alone are unlikely to succeed. On March 24, experts including Sujai Shivakumar from the "Renewing American Innovation" project at the Center for Strategic and International Studies, published an analysis arguing that export controls imposed by the U.S. and its allies on advanced semiconductor technologies have only had limited progress in restricting China's development in AI and high-end chips.

Instead, their primary effect has been to hasten the adoption of domesti-

cally produced equipment and products within China. The analysis noted, "Ironically, U.S. measures are proving more successful at catalyzing true Chinese chip innovation, as opposed to reverse engineering — manifested in recent achievements in advanced packaging, alternative forms of lithography, and other SMEs, and novel systems architecture."

At the same time, the MATCH Act also reveals the hegemonic logic of some American politicians. Lawmakers promoting the act claim it is intended to create "a level playing field for U.S. companies." Their reasoning is that Washington's export controls were previously stricter than those of its allies, allowing China to purchase large quantities of semiconductor equipment from other countries.

Yet China is the world's largest buyer of semiconductor manufacturing equipment and a major production base for mature-node chips. Forcing U.S. allies to tighten export controls on semiconductor equipment destined for China would inevitably cause economic losses for countries that rely on the Chinese market. It could also disrupt global semiconductor supply chains. In this sense, the "American-style fairness" invoked by these lawmakers would in fact amount to unfairness for both China and U.S. allies, while undermining the stability of the global semiconductor industry.

Ultimately, sanctions and technological blockades are not sustainable for international technological competition. Any legislation or initiatives aimed at obstructing China's semiconductor industry development is unlikely to succeed. Given China's determination and growing capabilities to become semiconductor self-reliant, such efforts will ultimately prove ineffective. It's time some U.S. politicians recognize this and reconsider their approach.

Voice of the World

Chinese Innovative Drugs Gain Global Reputation

By Staff Reporters

China claimed the top spot in the world in innovative drugs under research by the end of 2025, with Chinese innovative drugs achieving "world first" breakthroughs, according to official data.

By the end of 2025, there were 4,751 innovative drugs under research in China, accounting for 33.7 percent of the global total. The rapidly rising innovative strength has made global equity cooperation on Chinese innovative drugs highly desirable in the international market, and China's reputation in the global pharmaceutical innovation field is rising.

At the recently concluded China Development Forum in Beijing, many top executives of major international pharmaceutical companies expressed their optimism about China's bio-pharmaceutical innovation environment and confirmed China's position as a hub of global pharmaceutical innovation.

Guo Jinjiang, head of Data Science Department, Global Health Drug Discovery Institute, said, "It has become an international consensus that the R&D capabilities of China's pharmaceutical innovation have been upgraded as a whole." China's bio-pharmaceutical industry has a new image of pursuing target innovation and mechanism innovation, he added.

In the emerging field of bio-pharmaceuticals, China's R&D capabilities account for half of the global total. Among the cell therapy projects under development, China makes up 48 percent. Among the antibody-drug conjugate projects under research, China accounts for more than 50 percent.

According to new research from Georgetown University, the Lombardi Comprehensive Cancer Center and the

National Bureau of Economic Research of the U.S., early-stage drug development worldwide has nearly doubled over the past decade, shifting from a U.S.-dominated model to a dual hub centered in the U.S. and China.

The new analysis of global early-stage bio-pharmaceutical development programs from 2015 through 2025 found that while the U.S. remains the single largest originator of early-stage drug programs, China's share has grown substantially.

In 2015, about 48 percent of early-stage programs originated in the U.S. and eight percent in China. By 2024, the U.S. share had declined to just over 37 percent, while China's share rose to over 32 percent.

Today, China's innovative pharmaceutical industry is embarking on a new journey of high-quality development. This is not only a profound transformation of China's new drug R&D from isolated exploration to systematic operation, but also a footnote of the era when Chinese wisdom and solutions inject new impetus into the global health cause.

Cheng Zengjiang, vice president of the China Food and Drug Corporation Quality and Safety Promotion Association, said, "It is not accidental but inevitable that multinational giants can purchase potential new drugs in China."

There are over 20,000 pharmaceutical R&D institutions in China. Once an innovative target in academic research emerges, many leading institutions follow and develop it.

Li Kefeng, associate professor of the Center for Artificial Intelligence Drug Discovery, Macao Polytechnic University, said China has become the core source of innovation in new drug R&D represented by cell therapy, gene therapy and antibody-drug conjugates.

Caihong Wins Key U.S. Patent Ruling

By WANG Xiaoxia & ZHANG Jiaxin

A Chinese display material manufacturer has won a landmark legal victory in the U.S., securing an initial ruling of non-infringement in a high-stakes patent case.

This ruling not only gives Chinese-made glass substrates a compliance "green light" to enter the U.S. market, but also signifies a major advancement in breaking the global glass substrate monopoly and achieving technological autonomy in key materials.



Chinese display material manufacturer Caihong Display Devices Co., Ltd. (Photo from Caihong website)

The legal battle

On April 7, the U.S. International Trade Commission (ITC) issued an initial ruling that Caihong Display Devices Co., Ltd.'s "616" formula glass substrate does not infringe on patents held by U.S.-based Corning Inc.

The case centered on glass substrate formulas determining key performance indicators.

Corning's three related patents sought to protect the company's dominant market position with over 50 percent global share. The patents focus on the key links in the manufacturing of glass substrates.

Caihong argued that Corning's so-called patents should be declared invalid due to a lack of novelty and feasibility. Its self-developed "616" formula is significantly different from Corning's

patented technology.

The ITC initial ruling affirmed that Caihong's current products made with the 616 formula do not infringe on Corning's patents.

New opportunity

The core of the dispute was the chemical composition of the glass substrate, a foundational material for LCD panels.

According to Caihong, its independently developed "616" formula has essential properties like high flatness and low thermal expansion while enabling greener production, through a distinct design path.

Notably, Caihong fully upgraded its production lines for LCD glass in 2024 and has been using the "616" material formula since January 2025. Its previously used "615" formula product, which constituted patent infringement, was discontinued in 2024.

The initial ruling is seen as a significant step for China's display industry in breaking foreign technological monopolies in key upstream materials, clearing a major intellectual property hurdle for

Caihong's new-generation products to enter the U.S. market.

Furthermore, the Corning patents are set to expire in October and November, limiting the potential impact of any final ruling.

Shift in the industry

This dispute reflects not only the changes in the global display industry landscape, but also the trend of the industry's capacity shifting to Asia in recent years.

Data shows that China has invested over 1.5 trillion RMB to build more than 60 LCD panel production lines, with an annual production capacity of 250 million square meters, accounting for 78 percent of global LCD panel capacity.

Caihong's technical compliance is critical in securing the supply chain for key materials like glass substrates.

This ruling supports the coordinated push by Chinese material makers and panel giants (such as BOE and Huaxing) to build an autonomous supply chain, marking a shift from a technology follower to a definer of industry standards.



Chinese scientists have for the first time identified the transport mechanism of key bile acid transporters. (PHOTO: XINHUA)

6th CICPE: Hi-tech Illuminates New Consumer Lifestyle

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Numerous life-focused embodied AI products are attracting large crowds of visitors for hands-on trials at the expo. Smart products ranging from child-accompanying AI devices to pet health monitors have also impressed visitors.

Global brands flocking to China

Exhibitors expressed strong optimism about China's consumer market. They called the expo a high-efficiency platform connecting the Chinese market to global buyers. Hainan, backed by its FTP privileges, is a key gateway for brands to deepen their footprint in the world's second-largest economy.

The CICPE continues to drive the industry's shift from product innovation to ecosystem co-construction, and serves as a new bridge for global opening-up and cooperation.

"The Chinese market is vital to us, and the Hainan FTP is a critical gateway

for bringing our products and innovations to Chinese consumers," said Thomas McDonald, global CEO of New Zealand-based Spring Sheep Milk Co. "We aim to lift our brand profile at this year's CICPE, and bring the natural nutrition of our grass-fed dairy to more Chinese families."

"The development of the Hainan FTP creates exciting opportunities for international brands to connect more closely with Chinese consumers through duty-free retail and cross-border channels," said Daniel Wermelinger, director of the Consumer Health Business Unit at Swiss brand Doetsch Grether. "For us, participating in this expo is not only about presenting our brand, but also about building long-term partnerships and understanding the needs of Chinese consumers. We are very optimistic about the future of the Chinese market and look forward to growing together with our partners here."

Chinese Electricity Becomes 'Digital Oil' Powering Global AI

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The spatial and temporal alignment of computing and green electricity significantly reduces overall energy consumption and operating costs.

A self-sufficient supply chain ensures a robust infrastructure.

From domestic GPUs, liquid-cooled servers, and high-density computing clusters to cross-border subsea cables and global low-latency networks, China

has built a complete computing infrastructure supply chain. This reduces reliance on any single external link and ensures stable, efficient computing power supply.

Meanwhile, rapid progress in domestic models — through advanced computing techniques and iterative engineering optimizations — continues to lower token-wise computing resource consumption and boost inference effi-

ciency, further amplifying cost advantages.

The rise of the token economy is reshaping global AI and energy landscapes.

It has broken the pricing monopoly of overseas tech giants, restructuring global computing markets with high cost-performance. It is opening new avenues for green power absorption in western China, creating a win-win loop between energy transition and digital

economy.

It is also accelerating China's upgrade from a "physical world factory" to a "digital world smart factory," exporting intelligent services rather than just hardware. Finally, it is driving the entire industry chain — including computing leasing, cross-border networks, and AI plugin ecosystems — going global, forming a new paradigm for digital service globalization.