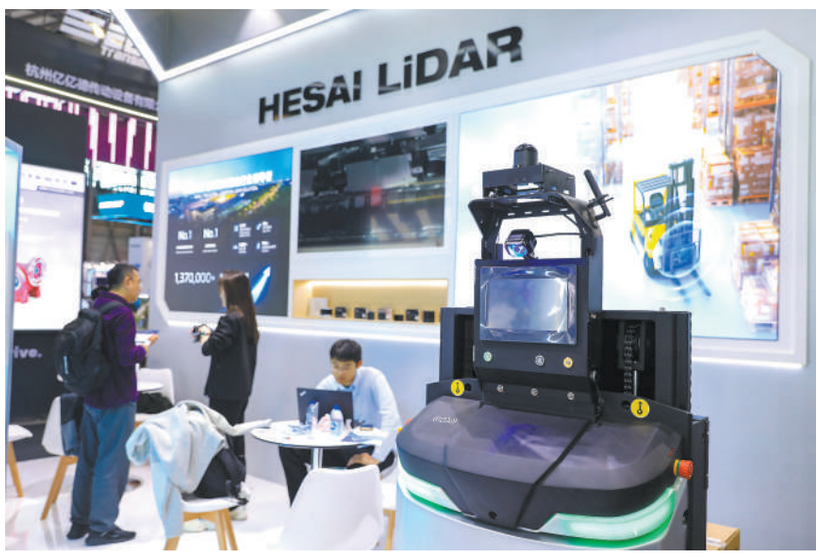
Crackdowns on Chinese Lidar Can't Mask U.S. Industry Plight

Clear Voice

By LIANG Yilian & HU Dingkun



The booth of Hesai Technology at an expo in Shanghai. (PHOTO: VCG)

Recently, Raja Krishnamoorthi, a Democratic ranking member of the U.S. House Select Committee on China, introduced the so-called Stopping Adversaries From Exploiting LiDAR Act (Safe Lidar Act), calling for the gradual removal of Chinese-made Light Detection and Ranging (lidar) systems currently used in the United States and a ban on new imports after three years. Exceptions would apply only for limited purposes such as scientific research or cybersecurity testing. Lidar is a remote sensing method used to examine the surface of the Earth.

In his statement, Krishnamoorthi claimed — without evidence — that Chinese lidar products pose a threat to U.S. national security. He argued that the United States must ensure such systems are built by "trusted partners" and insisted that the U.S. and its allies should lead innovation in lidar technology rather than "ceding control of this critical technology to foreign adversaries."

It's a typical example of the old playbook of American politicians banning Chinese sci-tech products from going to the U.S. market by tarnishing them. This rhetoric follows a well-worn pattern. By framing Chinese technology products as security risks, some U.S. politicians seek to block their access to the American market, suppress the development of Chinese industries, and clear space for domestic companies — an approach reminiscent of Washington's earlier campaign against Huawei.

Yet market realities tell a very different story. Chinese companies have already emerged as global leaders in the lidar industry. According to estimates by French consulting firm Yole Group, in 2024 four Chinese companies — Hesai Technology, RoboSense, Huawei, and Seyond — accounted for 88 percent of the global automotive lidar market. This year alone, Huawei's lidar installations surpassed 400,000 units in the first half, while Hesai Technology produced more than one million lidar units between January and September.

These gains are not accidental. Chinese lidar companies have pursued a dual strategy of technological innovation and large-scale manufacturing. On the technology front, they have consistently broken through key technical bottlenecks and improved performance. Patent data show that Hesai Technology and RoboSense each hold more than three times as many lidar-related patents as U.S. competitors, such as Ouster and Luminar. On the manufacturing side, Chinese companies have invested heavily in automation and intelligent production. Hesai Technology's highly automated production line, which relies extensively on industrial robots, can roll out one lidar unit every 20 seconds. Its Maxwell Intelligent Manufacturing Center is the world's first facility to integrate lidar research, development, and manufacturing.

As a result, Chinese lidar products are not only technologically mature but also significantly more affordable. Companies such as Hesai Technology and RoboSense have already driven prices for some models down to around 200 USD.

The contrast with the U.S. is striking. American companies once enjoyed a clear first-mover advantage. Supported by U.S. military autonomous driving challenges, Velodyne pioneered the automotive lidar market and dominated global sales throughout much of the 2010s, at one point commanding more than 80 percent market share. Volvo strongly backed Luminar's technology development and in 2022 signed an agreement reserving 1.1 million lidar units.

However, the inability to achieve low-cost, large-scale mass production has proven to be a persistent obstacle for U.S. firms. Velodyne struggled with high prices and operational difficulties before merging with Ouster. Mercedes-Benz and Volvo later canceled their partnerships with Luminar. According to foreign media reports, Luminar's lidar products were priced at around 1,000 USD in 2024, and the company had planned to introduce a 500 USD model only by 2026.

The irony is hard to ignore. Just days after the Safe Lidar Act was introduced, Luminar — once the most highly valued lidar company in the U.S. — filed for bankruptcy on December 15. Other U.S. lidar firms are also facing mounting pressure. Ouster, now the highest-valued U.S. lidar company following its merger with Velodyne, shipped just over 7,200 units in the third quarter of 2025. Aeva, ranked second by valuation, posted quarterly revenue less than one-tenth of Ouster's during the same period.

Ultimately, the difficulties facing the U.S. lidar sector reflect deeper structural problems within American manufacturing. Without addressing long-standing challenges, forcing Chinese products out of the market through political means will only raise costs for the government and consumers alike. Even if protectionist measures temporarily create market space, U.S. companies may be unable to fill it — let alone achieve a genuine industrial revival.

Voice of the World

Tech-led Chinese Brands Benefit the World

By QI Liming

In today's volatile global market, the "going global" concept of Chinese enterprises has shifted from the export of products and capital to a new era of exporting brands, organizational capabilities, and management mechanisms.

According to the recent Deloitte's *China FY2025 Societal Impact Report*, a growing number of Chinese brands are winning overseas consumers through tech-driven innovation, thoughtful design, and cultural resonance.

Benefiting global consumers and investors

The British magazine *The Economist* has said that "Innovative Chinese brands are popping up everywhere. Consumers and investors around the world stand to benefit."

An example of this took place in July this year, when the 2025 World Intellectual Property Organization Global Awards announced that Chinese company Unitree Robotics stood out among 780 companies from 95 countries and became one of the award-winning enterprises. Its strong capabilities in the field of robotics have been globally recognized.

And in Egypt, Osama Aboul-Magd, head of the Egyptian Automotive Dealers Association, said the influence of Chinese electric vehicles in the Egyptian market is increasing rapidly. Local consumers also gave feedback that the battery technology and intelligence level of Chinese electric vehicles are reassuring.

Moving towards independent innovation

Chinese brands not only provide products, but also tailor the innovative R&D according to the usage habits of consumers from various parts of the world.

Kim Hee-gyeo, professor at the Kwangwoon University, South Korea, said the rapid development of "Made in China" is mainly attributed to China's efforts in forming manufacturing clusters. This not only reduces costs and enhances productivity, but also promotes innovation through cooperation and competition.

Claudia Januzzi, chairperson of the Brazil-China Institute of Innovation Economy said, "After years of investment in technology and education, China's manufacturing industry has made significant progress in terms of human resources, technical level, and management experience." China has become a major country in sci-tech innovation, and Chinese brands are bringing a positive impact on the world, she added.

Sharing innovative technology with the world

China is shifting from being the "world's factory" to a source of innovation. Carlos Fernandez Bielsa, director of the Spanish New Silk Road Research Center, said the rise of Chinese brands has brought tangible changes to the Spanish market, accelerating the upgrading and innovation of the local market in terms of technology, environmental protection and service models.

"Chinese enterprises have contributed to improving the quality of life for consumers worldwide," Kim said. Chinese enterprises share their technological achievements through open-source methods, providing developing countries with the opportunity to use the latest technologies at a lower cost.

"China supports its domestic enterprises in entering the international market, and at the same time welcomes international brands to enter the Chinese market. This provides an open platform for all countries' enterprises to achieve fair competition, exchange experiences and [provide] mutual benefit and win-win results," Diaa Helmy, secretary-general of the Egyptian-Chinese Chamber of Commerce, said.

China's Innovation Surge Rooted in Tradition

Comment

By ZHONG Jianli

At a recent roundtable on Tiangong Kaiwu, a 17th-century Chinese encyclopedia of crafts, Li Bo, a renowned cultural scholar and professor at Nanjing Normal University, dubbed the book "a DeepSeek of 400 years ago." That comparison — linking an early repository of practical knowledge to a modern open-source AI model — reveals a deeper truth: China's contemporary surge in innovation is less of a sudden rise and more of a revival rooted in a long civilizational habit of problem-solving and practical inquiry.

For a long time, popular narratives of Western media doubled down on the idea that modern China was somehow alien to innovation. They often portrayed Chinese innovation as a "follower" or "challenger," habitually framing it in zero-sum terms like a "race."

DeepSeek's open-source practice, however, tells a different story: China's innovation is not about building technological walls but about constructing bridges for cooperation; not about hoarding results but about promoting shared benefits.

This open and inclusive spirit is continuous with the historical role of Tiangong Kaiwu after its transmission to Europe, which helped spur technological exchange. Just as technologies recorded in the book — such as patterned looms and steel-casting methods — once benefited the world, today's Chinese digital innovations also aim to become global digital public goods.

From a broader perspective, DeepSeek is not an isolated case. Practices like opening China's FAST to global observations, providing the BeiDou satellite navigation system to the world, and carrying international payloads on the Chang'e-6 lunar missions, help outline a new paradigm of Chinese innovation: rooted in the cultural tenet of "If you want to make a stand, help other make a stand, and if you want to reach your goal, help other reach their goal," replacing technological closure with open cooperation and zero-sum competition with inclusive sharing.

This paradigm not only counters the framing of Chinese technological rise as an isolated, competitive threat but also repositions it as a public tool to address humanity's common challenges.

As the Chinese civilization has long emphasized "applying knowledge to practical affairs" and the integration of technology with people's livelihoods, this pragmatic and open tradition of innovation is the cultural foundation that enables modern Chinese science and technology to be rapidly translated into applications that serve society.

China's juncao (fungus grass) technology has been promoted to more than a hundred countries, effectively helping Pacific Island nations reduce poverty; its hybrid rice has been planted in Southeast Asian and African countries, supporting local people to solve the food shortage; and its new energy vehicles drive around the globe, beneficial to a cleaner, greener world.

If you see China's sci-tech developments through a civilizational lens, you can understand that its innovation can contribute to a broader, shared renaissance of science and technology — one that serves not just national ambitions but global needs.

Flexible Screen Opens New 'Display' Window

Hi-Tech

By QI Liming

In recent years, display technology has been upgrading from "rigid" to "flexible." Flexible displays, resilient and stretchable, are increasingly applied in consumer electronics, commercial spaces, intelligent interaction and other fields.

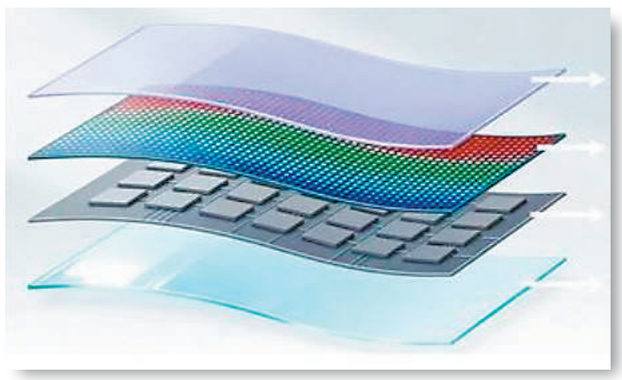
Flexible screens are by no means simply bending traditional glass screens. They are like a multi-layered "rainbow cake" composed of a base, electronic components, encapsulation films, and a cover plate. Each layer of the "cake" has to be flexible so that the entire structure can be bent and folded, while ensuring the display effect and durability of the screen. This requires collaborative innovation in multiple fields such as flexible base materials, core electronic components, structural design, and flexible packaging technology.

With the development of emerging technologies such as smart homes, the Internet of Things, and virtual reality, display devices need to show higher flexibility and stability. The development of new intrinsic flexible materials is a solution to these problems.

A research team from the Institute of Chemistry, Chinese Academy of Sciences (CAS), has successfully fabricated high-performance intrinsic stretchable PLED (polymer light-emitting diode) devices by introducing microcrystalline elastomers into luminescent polymer matrix.

Intrinsic flexibility not only enhances durability and stability significantly, but also opens up new application scenarios. This shift from "people adapting to devices" to "devices adapting to people" is the core charm of flexible display technology, inspiring expectations for more innovative products in the future.

Currently, intrinsic flexible displays are still in the stage of material verification and have not yet achieved large-scale application. The development of intrinsic flexibility still faces significant challenges in key aspects such as high elasticity self-healing substrates, electrodes, and flexible packaging materials and requires further cross-disciplinary research and joint efforts from the industry chain.



Schematic diagram of flexible screen manufacturing. (PHOTO: The Institute of Chemistry, CAS)

'AI + Consumption' Has Vast Potential

Opinion

By LIANG Yilian & WANG Shanshan

AI has become a powerful catalyst for China's consumer economy. As of the first half of 2025, generative AI products already had numbered 515 million users nationwide. Such a massive user base reflects a profound shift in how Chinese consumers now live, purchase, and engage with digital services.

Experts point to this massive user base as clear evidence of the immense potential for "AI + Consumption" in China, forecasting that AI will unlock remarkable new waves of consumer growth.

AI integrates into daily life

"Ultimately, all technology, including AI, must serve people," said Fang Yi, CEO of Merit Interactive Co, adding that, "AI + Consumption is one of the most effective paths for AI to move swiftly from the lab to the masses." AI brings smarter, more convenient living, while diverse consumer scenarios, in turn, stimulate innovation and expansion in AI applications.

"This immense user base sends two positive signals," Fang explained. "First, AI technology has achieved scaled, regular adoption. Second, China possesses a solid user foundation for both AI technological iterations and the expansion of consumer applications."

Today, AI is upgrading from an "assistant tool" to a more intuitive "consumption partner." Fang noted that while China's consumer product variety exceeds 230 million items, only 213 application scenarios for "digital technology empowering product variety, quality, and branding" have been widely promoted. This gap indicates that the boundaries of "AI + Consumption" are far from being reached, especially considering how AI can enhance our lives beyond current imagination.

Balancing innovation with trust

The very strength of AI — its reliance on analyzing user behavior, biometrics, and other sensitive data to make intelligent decisions — raises legitimate privacy concerns. Incidents such as reports of popular AI smart toys collecting and uploading private voice data and home environment information, highlight the risks of over-collection and potential data breaches.

"Users choose AI products ultimately for 'safer services and more efficient experiences,'" said Zhang Shaobo, a cybersecurity expert at Qi An Xin Technology Group. "Security and trustworthiness are the core competitiveness and non-negotiable bottom line for AI products. "AI + Consumption" should not come at the cost of user privacy."

Consumption patterns reshaped

China's new regulations on labeling AI-generated content (AIGC) officially came into effect on September 1, 2025. Zhang emphasized that regulatory frameworks are evolving to address these challenges. The regulations establish a governance architecture combining visible labels for users and technical traceability. Moving forward, all parties involved in designing and producing AI products must adhere to principles of "data minimization and full-process traceability."

The convergence of a vast, digitally engaged population, endlessly innovative application scenarios, and increasingly robust governance creates a unique ecosystem for "AI + consumption" in China. As AI transitions from a novelty to a natural part of daily life, it is poised to redefine consumer experiences — delivering growth driven not only by scale, but by quality, personalization, and trust.

The journey is just beginning, and the potential remains vast.