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Innovation Pathway

Key Sci-tech Tasks Set for 2026

By LI Linxu & LIU Yin

A series of key sci-tech tasks was set for 2026 and the overall planning was made for sci-tech work during the 15th Five-Year Plan period (2026-2030) at a national work conference on science and technology in Beijing on January 26 and 27.

The conference also reviewed the progress and achievements made in sci-tech work throughout 2025 as well as during the 14th Five-Year Plan period (2021-2025).

In his work report, Yin Hejun, minister of science and technology, highlighted 2025 as a pivotal year with substantial achievements in sci-tech innovation.

In 2025, China's sci-tech capabilities reached a new level. For the first time, the country entered the top 10 of the Global Innovation Index, marking solid progress toward building a sci-tech powerhouse. The role of innovation in supporting high-quality development and high-level security became more prominent.

Key outcomes included solid advancement in major national sci-tech tasks, strengthened basic research, elevated original innovation, and accelerated development of world-class scientific journals.

The national strategic sci-tech force saw coordinated progress, and the development of leading tech enterprises gained momentum. Reforms deepened at national research institutions and top-tier research universities, while the integration of technological and industrial innovation accelerated.

Notably, new breakthroughs in sci-tech finance were made, including the release and implementation of policies to build a robust financial system supporting high-level self-reliance and strength in science and technology.

A new round of science and technology system reform was launched, with more efficient coordination and allocation of sci-tech resources, progress in the reform of talent evaluation, and support for young scientists to take on major responsibilities.

It also saw continuous improvement of the research ecosystem, and further promotion of the scientist spirit.

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① China's research icebreaker Xuelong 2 conducts scientific research. (PHOTO: WANG Bin / A system engineer working on Xuelong 2)
② Foreign scientists prepare for experiments in China's Great Wall Station in Antarctic. (PHOTO: BI Wenting / Science and Technology Daily)

STI Frontier

Modern Agriculture Thriving in China's Desert Region

Edited by WANG Xiaoxia

Once eroded by wild wind and sand, the Hexi Corridor is now a modern agricultural region using local conditions to its best advantage, and in the process growing a number of crops popular with consumers. The boundless desolation has transformed into a farmland that nurtures hope.

Modern facility agriculture

The Hexi Corridor, located between the Qilian Mountains and the northern deserts in northwest China, has long been a Silk Road hub that bridges diverse cultures such as nomadism and farming. Although meltwater from the Qilian Mountains has nourished oases and grasslands, the average temperature in the Gobi Desert varies from -40°C at night to 45°C in the day, and water evaporation can be more than 10 times that of its rainfall. Cold and drought have always been the biggest constraints that the agricultural development in the

Hexi Corridor has had to face.

In the 1990s, agriculture in the Hexi Corridor began to transform to meet market demand. At that time, many people tried to build greenhouses in the Gobi, according to Liu Zhenhua, the Party secretary of Huangjiawan village in Zhangye city, Gansu province, adding that it was not until 2009 that the region mastered the technology to help mitigate severe cold and strong winds.

Local farmers' success in this regard attracted enterprises and research institutes, and received government support. By 2010, technologies such as substrate soilless cultivation had achieved success in the Gobi Desert, and a facility agriculture model featuring more light, less water, new technologies and high efficiency was gradually established.

Zhang Rong, head of the Zhangye Economic Crop Technology Extension Station, said facility agriculture utilized non-cultivated land such as the desert, integrated modern agricultural technologies,

and reconstructed the growth environment of crops, thus breaking through the limitation of natural conditions.

Under the guidance of the government, the Hexi Corridor has promoted water-saving technologies and equipment. A total of 7.16 million mu (1 mu equals 666.7 square meters) of farmland with efficient water-saving irrigation has been built, accounting for nearly half of the permanent farmland.

'Golden Corridor' of seed breeding

At the end of autumn and the beginning of winter, the endless Gobi Desert in the Hexi Corridor is covered with patches of golden yellow. These are corn seeds being dried by farmers.

The Hexi Corridor enjoys abundant sunlight, little rainfall, a large temperature difference between day and night, and has few pests and diseases. These factors combine to create a unique natural seed production workshop and laboratory for cultivating stress-resistant seed varieties. See page 4

Local Plans to Drive 15th FYP Tech Trends

By Staff Reporters

In 2025, government departments and provinces in China used challenge-based competitions to ignite new momentum in scientific research, and tackled financing challenges for small and medium-sized enterprises with measures like technology-backed loans and technology commercialization loans.

Through categorized evaluations and increased research funding, enhanced support was given to an innovation ecosystem with "institutional safeguards + capital support + talent aggregation" and young talents assuming greater responsibilities, unleashing innovation vitality.

At the beginning of 2026, municipalities, provinces and autonomous regions convened their first major meetings of the year to strategize for the 15th Five-Year Plan period (2026-2030).

A highlight of the proposals is consistent emphasis on sci-tech innovation, as local governments align their unique strengths with national strategies to pursue distinct yet coordinated paths of development.

Upgrading traditional industries

Some provinces and regions are accelerating upgrading their traditional sectors through digital and green technologies.

Shanxi province in north China, a

major energy and resource base, is integrating technological innovation with industrial upgrading to develop a modern industrial system capitalizing on regional strengths.

Ningxia, also in the north, is advancing key R&D in renewable energy integration and ultra-high-voltage transmission to support the nation's first ±800 kV ultra-high voltage direct current transmission project. This will deliver wind and solar power from desert-based energy hubs to Hunan province in central China.

Heilongjiang, China's northernmost province, is transforming its ice and snow resources into a high-tech economic engine. See page 4

International Cooperation

Great Wall Station: Hub of Int'l Antarctic Research

By WANG Xiaoxia & BI Wenting

"Nine years ago, during my first Antarctic expedition at the Great Wall Station, I got to know Chinese expedition team member Dai Yufei," Cármen Sofia Vieira de Sousa, a researcher from the University of Algarve in Faro, Portugal, told *Science and Technology Daily (S&T Daily)*.

Today, Dai is in charge of the station, and Sousa has come back as a project leader.

The Great Wall Station, China's first Antarctic research base established in 1985, has been performing as an inclusive platform for polar scientific research, witnessing the growth of researchers from all the world.

Dai told *S&T Daily* the station holds international exchanges all year round and has received scientists from Argentina, Russia, Chile, Brazil, Poland, South Korea and Uruguay.

In 2017, Sousa came to the Great Wall Station for the first time during her PhD program, which was part of a collaborative research effort between the University of Algarve and China's Shanghai Ocean University. The cooperative atmosphere and hospitality helped her quickly adapt to the work.

While completing her project, she forged a deep friendship with the Chinese expedition team members, and they celebrated the Spring Festival together.

In 2019, Sousa came again and visited China's research icebreaker Xuelong 2.

Now on her third visit to the Great Wall Station, Sousa is heading a 60-day scientific expedition with support from Portugal's PROPOLAR program to study the ecotoxicological adaptability of organisms to metal pollution in extremely cold environments. The findings will help understand fragile ecosystems' response mechanisms to global environmental pressures. See page 3

WEEKLY REVIEW

Domestic 'Industrial Gold' Achieves Large-scale Supply

Dushanzi Petrochemical, a subsidiary of China National Petroleum Corporation, produced nearly 60,000 tons of polyolefin elastomer (POE) products in 2025. This marks China's first industrial-scale production and supply of POE via the pioneering gas-phase polymerization process. Nicknamed "industrial gold," POE is extensively used in photovoltaic modules, lightweight automotive components and high-end packaging.

Key Mutation in Ebola Virus Infectivity Identified

A joint research team led by Sun Yat-sen University in south China has systematically revealed for the first time a key "advantageous" mutation in the Ebola virus during its large-scale outbreaks from 2018 to 2020. This discovery provides important scientific clues for understanding viral mutations and developing novel broad-spectrum antiviral strategies. The findings were recently published in the journal *Cell*.

Cosmic 'Mass Map' Released

Astronomers have created the most detailed and highest-resolution cosmic "mass map" to date, revealing how dark matter has shaped galaxy evolution over the past 10 billion years. With resolution more than double that of previous maps and extending to earlier stages of cosmic evolution, this survey is a benchmark for studying dark matter properties and the formation of large-scale cosmic structure.

New Chip Boosts Energy Efficiency & Speed

A joint research team including Italy's Politecnico di Milano has developed a novel "smart" chip with an innovative architecture design. This chip significantly reduces energy consumption while substantially increasing data processing speed, potentially breaking through longstanding computational energy bottlenecks. This research has broad application prospects in fields such as AI, large-scale data processing, next-generation wireless communications, robotics, data centers, and 5G/6G networks.

New Graphic

IN 2025

6,000

• China had more than 6,000 AI enterprises.

1.2 trillion RMB

• Core AI industry scale was expected to exceed 1.2 trillion RMB.

1,590 EFLOPS

• Intelligent computing power capacity reached 1,590 EFLOPS.

Source: Ministry of Industry and Information Technology
Designed by SONG Ziyan / Science and Technology Daily

WECHAT ACCOUNT



E-PAPER



Industrial Online Platform Supports Innovation

Policy Express

By LIN Yuchen

China has released a new policy blueprint to drive the iterative evolution and large-scale adoption of industrial internet platforms to provide robust support for advancing new industrialization and developing new quality productive forces. The action plan recently issued by the Ministry of Industry and Information Technology, sets out clear goals, pathways and safeguards for the next phase of platform-driven industrial transformation.

By enabling large-scale data aggregation, model accumulation and application development, industrial Internet platforms serve as key hubs for connecting industrial resources, optimizing allocation and supporting manufacturing's digital and intelligent transformation.

In recent years, China has built a rapidly expanding platform ecosystem, comprising over 340 platforms of notable influence and over 100 million industrial devices connected nationwide. However, policymakers have identified challenges, including insufficient differentiation among platforms, limited application depth, and weak ecosystem coordination.

Against this backdrop, the action



Industrial robotic arms are exhibited in a factory. (PHOTO: XINHUA)

plan responds to both structural challenges and emerging opportunities. The rapid convergence of artificial intelligence (AI) with manufacturing is reshaping production models and industrial organization, while also offering momentum for developing new quality productive forces. The action plan also aims to utilize these trends to guide industrial internet platforms toward greater efficiency, stronger capabilities and greater value creation.

Looking ahead, the action plan sets ambitious targets. By 2028, China aims to build a multi-tiered platform system

combining professional, industry-specific and collaborative platforms, with more than 450 platforms of recognized influence. Key platforms are expected to significantly enhance data value creation, model development and AI application capabilities, while the number of connected industrial devices is set to exceed 120 million. Platform adoption among industrial enterprises is projected to surpass 55 percent, alongside the formation of an industrial Internet platform ecosystem featuring ubiquitous connectivity, digital-intelligent integration, deep cooperation and open-source openness.

To achieve these goals, the action plan proposes four major initiatives. The first focuses on cultivating and upgrading platforms through differentiated development, encouraging specialization rather than scale expansion. The second emphasizes data aggregation and intelligence enhancement, promoting high-quality industrial data sets, industrial models and AI-enabled applications. The third targets large-scale application, using high-value industrial scenarios to drive platform adoption and promote new business models. The fourth centers on ecosystem building, including open-source mechanisms, international cooperation, standard-setting and strengthened security governance.

Implementation will rely on coordinated efforts across levels of government. Authorities are tasked with refining local measures, encouraging eligible regions to innovate support mechanisms in funding, taxation, and talent development, and ensuring equal treatment of private enterprises and small and medium-sized enterprises. By strengthening public services and promoting best practices, the action plan seeks to translate platform innovation into tangible gains for manufacturing competitiveness and industrial modernization.



all cost is slashed by about 80 percent.

At the Hunan Museum in Changsha, over 1,000 cultural artifacts were 3D modeled in just 22 days. So far, the platform has put more than 78,000 digital artifacts online from 98 museums around the world.

"We are developing the first large-scale model for Chinese historical and cultural heritage with Peking University to provide a low-cost, high-efficiency AIGC tool for the innovative transformation of traditional culture," said Fang Fei, general manager of the company.

This will not only strengthen technological research and development upstream of the chain but also support downstream market applications and the transmission of cultural heritage.

During the 14th Five-Year Plan period (2021-2025), Hunan leveraged digital technology to promote the digital transformation and innovative application of high-quality cultural resources, and advanced key technologies such as high-performance computing for video.

In 2024, the revenue of enterprises above designated size in the cultural sector in Hunan exceeded 300 billion RMB, up 10 percent year on year.

Hunan's recommendations for its own 15th Five-Year Plan (2026-2030) include accelerating the development of new cultural industries such as audio-visual content. The province aims to cultivate leading enterprises in the cultural sector and strengthen original capabilities in integrating culture and technology.

The report urged advancing integrated development of education, science and technology, and talent, deepening reforms in talent evaluation, strengthening scientific ethics, and promoting the scientist spirit.

It emphasized advancing the development of the three major international sci-tech innovation centers at a high level, accelerating building regional sci-tech innovation hubs, cultivating innovation-driven growth poles to drive high-quality regional development, and developing new quality productive forces in line with local conditions.

It also called for strengthening high-level and in-depth international cooperation in science and technology, further advancing BRI sci-tech innovation cooperation, and fostering an open and innovative ecosystem with global competitiveness.

Global Journal Observatory

AR: A New Force in Global Bird Research

By LEI Fumin

The *Avian Research* journal, which has already gained widespread influence in the global ornithological community, was founded just over a decade ago. Yet, within this short span of time, it has surpassed numerous century-old classics in multiple impact metrics, emerging as a new force in international ornithological research.

Breaking new ground

China has achieved remarkable accomplishments in ornithological research. However, despite being rich in avian biodiversity and frequent scientific breakthroughs, it long lacked a professional ornithology journal with international influence.

Then in 2010, *Chinese Birds* was launched, becoming the sole China-led academic platform among over 20 international ornithology journals at the time.

Jointly published by Beijing Forestry University (BFU) and the China Ornithological Society (COS), the journal followed the principle of being "grounded locally, with a global vision." It was committed to elevating the academic standards of ornithological research in China and contributing to avian conservation, breeding and ecological development.

In its early years, constrained by the regional connotations of its name, *Chinese Birds* often faced challenges in soliciting manuscripts, particularly in securing high-quality submissions. The editorial board, assessing the situation, decided to change the name to the more internationally oriented *Avian Research*.

The change of name in 2014 witnessed consequent improvement in the quality of submissions, and in 2016, *AR* was successfully indexed by major international databases.

Today, annual submissions have increased fivefold compared to the initial years, with the number of published articles tripling. The authors are from nearly 60 countries and regions worldwide, and various academic evaluation metrics continue to rise steadily, positioning *AR* among the top-tier journals in its field.

Focusing on key areas

Birds, a vital component of ecosystems and an indicator group for ecosystem health, are closely linked to national ecological security.

Aligning closely with the national strategies for ecological civilization and ecological security, *AR* focuses on key areas such as avian biodiversity conservation, migratory bird ecology, and the spread of avian diseases. By organizing high-quality submissions, it provides crucial scientific support for national decision-making in areas like the conservation of threatened bird species and the management of avian disease transmission.

AR places special emphasis on the status and conservation of threatened birds globally, particularly in China. Over the years, it has published numerous articles on endangered species such as the Crested Ibis (*Nipponia nippon*),



Front cover of volume 17, *Avian Research*. (COURTESY PHOTO)

Scaly-sided Merganser (*Mergus squamatus*), Siberian Crane (*Leucogeranus leucogeranus*), and Spoon-billed Sandpiper (*Calidris pygmaea*), covering aspects like population size, distribution, habitat conditions and genetic diversity. This has made it an important window into the conservation of China's endangered avian species.

Of the nine global migratory bird flyways, four traverse China, with the East Asian-Australasian Flyway being the most critical in terms of the number and diversity of migratory birds. China's conservation efforts along this flyway play an essential role in global migratory bird protection.

AR prioritizes publishing research on the conservation of migratory birds along this route, organizing special issues and feature collections. Many of its key research findings have garnered international attention.

For instance, Professor Cao Lei from the Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, was awarded the British Ornithologists' Union Godman-Salvin Medal for her innovative work in *AR*, becoming the first Asian recipient in the award's century-long history.

Synergy of hosts

AR's achievements are built upon the strong support of its hosts. The BFU provides solid backing in funding and policy. The COS serves as a core force in advancing ornithological research, science communication, and the conservation of endangered species in China. The research expertise of its members offers a steady and reliable stream of academic resources for *AR*.

The collaboration between the two hosts has driven *AR*'s high-quality development, setting an example of university-society partnership in journal publishing.

After over a decade of dedicated effort, *AR*, like a young eagle, is soaring into a broader sky. We firmly believe that with the ongoing attention and support, it will become a shining "Chinese academic name card" in the fields of ornithology and zoology, amplifying China's voice on the international academic stage.

The author is the editor-in-chief of Avian Research.

Journal Review

Bird research and conservation are crucial for the healthy development of global ecosystems and the harmonious coexistence of humans and nature.

Publishing the latest findings in ornithology is particularly significant for advancing avian research and conservation.

Avian Research has long been committed to reporting original research, upholding the principles of excellence and innovation and making outstanding contributions to the development of ornithology worldwide.

The journal has an open-access model and has waived article processing charges for many years, widely benefiting readers and authors globally. It is especially popular among early and mid-career ornithologists.

We look forward to even greater achievements in its future endeavors.

— Zhang Zhengwang, president of the World Pheasant Association and chair of the China Ornithological Society

Tech Boosts Hunan's Cultural Transformation

Case Study

By SUN Jin & YU Huiyou

Over the past five years, Hunan has taken a development strategy that emphasizes adapting to local conditions, systematic planning, and reform and innovation. With the Malanshan (Changsha) Video Cultural and Creative Industrial Park as its flagship, the province is building a culture and technology convergence zone.

The new foundation
In 2024, Hunan and the municipal government of provincial capital Changsha jointly launched the Malanshan Audio and Video Laboratory, a new kind of research and development institution to



Malanshan, Changsha, Hunan province. (PHOTO: VCG)

develop an innovation system for the entire audio and video industry chain. It covers content capture, editing, production, transmission and display.

Zeng Xiong, secretary of the Party Working Committee of Malanshan, said a data center is under construction in Malanshan. "Once completed, the total computing power will be increased to 500 petaflops with a total storage capacity of 500 petabytes."

The center will support the training of audio and video large models with hundreds of billions of parameters, as well as platform operations and model development, providing a solid foundation for technological innovation.

Leveraging its technological and computing advantages, Malanshan now hosts more than 4,300 enterprises, 22 research institutions and innovation platforms, and around 64,000 professionals.

The rise of Malanshan is a testament to Hunan's innovative practices in cultivating new cultural industries. Over the past five years, Hunan has established multiple research and application platforms, continuously breaking technological barriers to bolster the growth of emerging cultural sectors.

Reshaping content production
AI is being used to accelerate film restoration. "Combining AI-powered automated restoration with manual fine-tuning, we streamlined the upstream process from technological R&D to practical implementation," said Long Xinbin, technical director of Changsha Yunshang Lanshan Technology Co., Ltd.

In March 2021, the company's first restored color version of the film *Lei Feng* premiered in Changsha, also the home of Lei Feng, a soldier known for helping others.

Now, the company is planning to use AI-generated content (AIGC) to make mobile-friendly short videos of classic films to attract young audiences.

Museums are also part of the transformation. In 2024, the Hunan Mango Digital Art Intelligence Technology company launched a digital platform called Shanghai Museum, literally "mountain and sea," a digital portal to showcase artifacts from renowned museums.

Using more than 30 proprietary patents, the technical team has achieved full-process automation from data capture to 3D reconstruction of artifacts. A single artifact can be modeled in less than 10 minutes, while the over-

Key Sci-tech Tasks Set for 2026

From page 1

The regional sci-tech innovation layout has been optimized, with the construction of three international sci-tech innovation centers entering a new stage. Significant achievements have also been made in the construction of regional sci-tech innovation hubs.

International sci-tech cooperation has expanded, with 120 intergovernmental sci-tech cooperation agreements signed, in-depth advancement of Belt and Road Initiative (BRI) sci-tech innovation cooperation, and steady implementation of international big science programs such as the Deep-time Digital Earth and the Ocean Negative Carbon Emissions.

Yin stressed that the 15th Five-Year

Plan period is critical for achieving high-level self-reliance and strength in science and technology and building China into a science and technology powerhouse. It demands focus on high-quality development, and fostering new quality productive forces.

Priority should be given to tackling original and cutting-edge science and technology, balancing development with security, enhancing holistic and full-chain planning of sci-tech innovation across all sectors, and ensuring effective implementation of initiatives for building China into a sci-tech powerhouse.

The key tasks for 2026 include formulating the 15th Five-Year Sci-tech Innovation Plan, strengthening a strategic,

forward-looking and systematic layout of basic research, enhancing original innovation and breakthroughs in key core technologies, and accelerating the organization and implementation of major sci-tech projects.

Deep integration of sci-tech innovation and industrial innovation will be boosted, and seamless alignment between the innovation chain and the industrial chain promoted. Enterprises will be reinforced as the main drivers of sci-tech innovation.

Efforts will be made to foster and scale up leading sci-tech enterprises, speed up efficient transformation and application of major sci-tech achievements, and innovate sci-tech financial services.

Exclusion of Chinese Products to Recoil on EU

Clear Voice

By QI Liming & HU Dingkun

Brussels will propose phasing out Chinese-made equipment from critical infrastructure in the European Union (EU), which will bar companies such as Huawei and ZTE from telecommunications networks, solar energy systems and security scanners, according to recent reports by the *Financial Times* and other foreign media, quoting officials.

In fact, the EU has already been taking action against Chinese sci-tech enterprises in these areas. In 2020, the "EU toolbox for 5G security" was released, suggesting that member states restrict the use of Huawei and ZTE equipment in communication networks.

In March 2024, the EU invoked the Foreign Subsidies Regulation (FSR) to investigate two Chinese enterprises participating in a local solar power generation project bidding, ultimately forcing them to withdraw. One month later, the EU conducted a "dawn raid" on Chinese security scan equipment company NUCTECH on the ground that it was receiving foreign subsidies.

The "EU toolbox for 5G security" is a set of recommendations and each EU member state will decide how to implement them based on their own circumstances. The FSR mainly investigates projects such as bids and mergers and acquisitions. Enterprises under investigation in a certain project can still participate in other projects.

However, the measure the EU is reportedly going to introduce this time is more mandatory, and "high-risk suppliers" will be completely excluded from all critical infrastructure, marking a further escalation of the EU's crackdown



At the 2025 Mobile World Congress held in Barcelona, Spain, people visit the ZTE exhibition area. (PHOTO: XINHUA)

on Chinese sci-tech enterprises.

Once it is implemented, it will have a significant negative impact on the operations of Chinese enterprises in Europe. At the same time, the EU will also have to pay a huge price for this.

According to statistics, replacing Chinese telecommunications equipment within the EU would cost several billion euros; over 90 percent of the solar panels in the EU are produced in China.

According to a cost comparison published by the Dutch initiative Topsector Energie, the cost of manufacturing solar panels locally in the EU may be 160 percent higher than in China.

Currently, over 200 gigawatts of power generation capacity in the EU uses Chinese inverters, and 70 percent of the new solar power generation capacity added in 2023 had inverters imported from China. The price of these products is more than 20 percent lower than in the EU.

In April 2025, NUCTECH won the bid for an Italian customs procurement project. Compared with its competitors, it had a price advantage of seven million euros. From 2014 to 2024, the governments of various EU countries awarded more than 160 contracts to the company.

Chinese telecommunications and solar power generation equipment as well as security scanners have made the popularization and application of 5G communication and green energy in the EU cost-effective. They have done the same thing for the digitalization and low-carbon transformation of EU society, and even public safety.

The EU's mandatory exclusion of Chinese equipment will not only require a huge investment but will also lead to delays or even setbacks in the progress of construction of projects, endangering the development of the EU itself.

The EU's so-called Cybersecurity

Act, which came into force in 2019, is using the guise of cybersecurity to erect trade barriers and suppress sci-tech. Cyber risks should be determined based on factual evidence, not the country of enterprises or the product's place of origin.

The main areas covered by this act are all industries where Chinese enterprises have significant technological advantages and Chinese products have a large market share. The mandatory exclusion measures are obviously discriminatory and targeted.

Many of the equipment proposed for exclusion under the act is being exported to the EU for many years and has proven safety in actual operation.

Some EU politicians have no evidence that Chinese equipment have safety issues. They are only engaging in fantasy, imagining that these devices might have pre-set backdoors or be used for cyber attacks and data theft.

They then use this fantasy to promote the "threat theory" emanating from Chinese equipment and define Chinese enterprises as "high-risk suppliers." This is a typical example of politicizing and instrumentalizing cybersecurity issues.

China's leading position in certain industries is the result of continuous sci-tech innovation and the advantages of its manufacturing system. No means can stop it, and no tricks can suppress it.

China's development brings opportunities to the world, not threats. The EU should not view China as an "imaginary enemy," falling into the mental trap of "persecutory delusion," and harming itself while attacking China.

What the EU really needs to do is to create a fair and friendly business environment for Chinese sci-tech enterprises, and to engage in open cooperation, which will ensure mutual benefit and win-win results.

Voice of the World

China's Economy Shows Resilience Amid Global Uncertainty

By LI Linxu

China's GDP grew five percent year on year in 2025, meeting the annual target of around five percent, official data showed on January 19.

The economy reached 140.1879 trillion RMB, data released by the National Bureau of Statistics (NBS) revealed.

Facing abrupt changes in the external environment and mounting domestic difficulties and challenges, China adopted more proactive and effective macro policies, which helped offset adverse external shocks and stabilize the foundation for development amid headwinds, Kang Yi, head of the NBS, said.

The country defied expectations as it found alternative markets for its products and U.S. tariffs proved less punitive than originally threatened, observed *The Guardian*.

China's economy is looking resilient, with strong exports and breakthroughs in AI and other advanced technologies, according to AP.

Analysts pointed to export expansion, diversified trade ties, and strategic infrastructure spending as key drivers that helped the country achieve its target.

"The description of China's economic growth performance in 2025, in one word, is resilience," Sandile Swana, a South African governance and political

analyst, said.

John Bryson, expert in economic geography and professor at the University of Birmingham, said that some commentators might be surprised with this outcome given that it occurred during Donald Trump's tariff war. However, this five percent demonstrates that Chinese politicians, policymakers and companies were able to adjust.

Global financial institutions have also weighed in. Major investment banks — including Goldman Sachs, Deutsche Bank and Morgan Stanley — lifted their growth expectations for China and expressed renewed optimism about the outlook.

China's exports were resilient in 2025 despite higher U.S. tariffs. That's partly due to a robust increase in exports to emerging market economies, according to Goldman Sachs.

The Commonwealth Bank of Australia's chief economist, Luke Yeamman, said navigating a fraught geopolitical landscape remains a "major wildcard," but China's economy should continue to grow through 2026.

The International Monetary Fund upgraded its projections for China's growth to five percent in 2025 and 4.5 percent in 2026, up by 0.2 and 0.3 percentage points from its October projection, respectively, according to its latest World Economic Outlook report.

AI-powered 3D Virtual Tours

Hi-Tech

By Staff Reporters

"Fly Street View" is the world's first application of a world model in the inclusive lifestyle services sector, setting a global precedent," Guo Ning, CEO of Amap, told *Science and Technology Daily* recently. Amap's self-developed world model has achieved the highest overall score on the internationally recognized benchmark WorldScore, an impressive accolade.

"Fly Street View" relies on Amap's self-developed world model and utilizes "physical AI" to deliver an immersive, interactive online store-visiting experience. Industry insiders point out that this serves as a representative example of "physical AI" application.

So, what exactly is "Flying Street View"? According to Alibaba, of which Amap is a subsidiary, it is a new 3D store tour feature designed to help users make more informed choices when deciding where to eat and visit. At its core lies Amap's self-developed world model, which uses highly realistic digital reconstruction to enable continuous, dynamic, and near-lifelike navigation and exploration. With the feature users can virtually preview restaurants, tourist attractions and surrounding environments before visiting in person — taking in exterior and interior layouts, nearby scenery, parking conditions, and even private dining rooms, all in advance.

For businesses, "Flying Street View" significantly lowers the barrier to digital presentation, offering a more efficient and authentic way to showcase their businesses. "Traditional production methods are like handicraft workshops — difficult to scale," Sun said, "Our solution is AI-driven, industrialized production." In the past, creating a digital replica of a single store required professional equipment, specialized staff and several days of work. Now, merchants can simply record a short video and take a few photos with a smartphone, and a realistic virtual storefront can be generated automatically within hours.

Alongside the launch, Amap introduced a program pledging computing resources worth several hundred million RMB to offer 'Flying Street View' free of charge to one million merchants. According to Amap, more than 350,000 businesses signed up within just 48 hours of the program's launch.

For users, "Flying Street View" offers a new immersive and interactive way to explore locations online. As Guo put it, "With 'Flying Street View,' you're no longer imagining your destination — what you see is what you get."

Many users have shared that the feature allows them to take in a venue's full layout from above, preview window-side seating, and even check parking availability. But more than just enhancing discovery of new places, "Flying Street View" helps guide users to well-reviewed hidden gems tucked away in side streets, reducing the risk of disappointing choices. At the same time, visualized environments encourage merchants to pay closer attention to cleanliness and ambiance, gradually fostering a more trustworthy consumption ecosystem that benefits both sides.

Currently, "Flying Street View" has expanded beyond dining into the cultural tourism sector. Virtual street views of major attractions, including the Palace Museum, have gone live, allowing users to "tour" real-world sites from home and enriching interactive digital tourism experiences.



A citizen follows the latest updates of Amap's "Street Sweeping Rankings" on phone. (PHOTO: VCG)

Low-altitude Economy Takes Off in China in 2025

Opinion

By LIANG Yilian & DAI Xiaopei

China's low-altitude economy is flying through a period of rapid expansion. This is being driven by supportive policies and rapid technological iteration, and it has become a key area for developing new quality productive forces and building a trillion-RMB emerging industry.

In 2025, driven jointly by policy guidance, technological innovation and real-world deployment, the sector achieved a pivotal shift from exploratory development toward scaled and standardized growth. The policy framework has continued to develop, breakthroughs in key technologies have accelerated, application scenarios have diversified, and infrastructure networks have begun to take shape.

Flying cars are a crucial part of the low-altitude economy. According to a report on flying car development released recently, flying cars are expected

to experience a commercial takeoff between 2025 and 2030, with application scenarios progressing along two parallel tracks: professional use and mass-market adoption.

"Professional scenarios will see the first breakthroughs, with emergency rescue, upgrades to police equipment, and highway monitoring among the earliest application areas," Wang Zhihong, chief engineer of the High-tech Industry Department at the China International Engineering Consulting Corporation, told *Science and Technology Daily*.

"Mass-market scenarios will follow a progression in which cultural tourism comes first, short-distance connections follow, and urban commuting comes last. At present, cultural and tourism flight projects by companies such as EHang have already been launched. Short-range connections between airports and urban areas, as well as inter-city transport within urban clusters, will become the next focus for large-scale deployment, while intra-city commuting will be advanced gradually as a longer-term goal," said Wang.

Despite gaining momentum, the

large-scale deployment of the flying car industry still faces multiple systemic challenges, in fields like payload and range, airworthiness safety, intelligent flight control and power systems.

To address these challenges, Wang proposed a systematic approach centered around "policy guidance, technological coordination, industrial integration and scenario-based demonstration."

At the policy level, Wang called for the establishment of airworthiness certification mechanisms, airspace management systems and regulatory standards specifically designed to accommodate the technological evolution and mass-production demands of flying cars. On the technology front, he suggested forming collaborative working groups on low-altitude flight technologies to collectively address common challenges in areas such as flight control and power systems.

In terms of industrial integration, Wang emphasized leveraging the roughly 70 percent technological overlap between flying cars and new energy vehicles to reduce costs and improve efficiency, while strengthening

work with Uruguayan scientists, Dai added.

Through various approaches such as joint expeditions, data sharing and academic exchanges, China is ready to participate in Antarctic governance, expand cooperation, and promote building a community with a shared future for humanity, said Wu Jiawen, deputy leader of China's 42nd Antarctic expedition team.

Great Wall Station: Hub of Int'l Antarctic Research

From page 1

Sousa and her colleagues have chosen Antarctic marine invertebrates such as sea anemones and limpets as their research subjects as these are good biological indicators of marine pollution.

The Great Wall Station has a container at the wharf where the natural living environment of organisms can be better restored for in-situ experiments, she explained.

The Great Wall Station is a hub of international scientific cooperation. Shared laboratories, joint field activities and regular meetings have created natural opportunities for cooperation, Sousa's colleague Caio Cesar Ribeiro said.

For example, Ribeiro told *S&T Daily* that the station has provided them with field equipment, stable sample freezing storage and access to analytical instruments, which is crucial for

them to carry out research. On the fragile continent of Antarctica, scientific research has never been a "solo performance" by a single country, but a "chorus" involving all.

For example, the Chinese expedition team has collaborated with Russian scientists to monitor marine mammals, conducted soil environment investigation with Thai scientists, and discussed penguin satellite tracking

4

LIFE IN CHINA

Making Connections through Power Electronics

Dialogue

By LONG Yun, BI Weizi & LIU Xia

Straight from delivering a lecture at Southwest Jiaotong University, Professor Frede Blaabjerg sat down for an interview with *Science and Technology Daily*. When asked if he was tired, he smiled and said, "I seldom get tired from academic work."

It is this quiet dedication, ever present in this Danish scholar, that has defined his more than 30-year career in power electronics.

During these three decades, his research in power electronics has enabled cleaner, more efficient ways to generate, transmit and use electricity, findings that now underpin the global shift toward renewable energy. Blaabjerg was presented with the Chinese government's Friendship Award in 2025, the highest honor for foreign experts, in recognition of his sustained collaboration with Chinese institutions.

Currently, Blaabjerg is an honorary professor at Southwest Jiaotong University and a member of both the Danish Academy of Technical Sciences and the Royal Danish Academy of Sciences and Letters.

A unified mission in energy conversion

Blaabjerg described his research as centered on one core principle. "Everything I work on relates to converting electrical energy from one form to another," he said. This applies equally to large-scale solar farms feeding power into the grid and small devices like laptop chargers. "Whether you are driving an electric vehicle or charging a computer, efficient and controllable power conversion is essential," he added.



Professor Frede Blaabjerg. (COURTESY PHOTO)

He highlighted two contributions as particularly impactful. The first began over two decades ago, when his team demonstrated that power electronics could reliably connect renewable energy sources to the grid — a concept now standard across the industry.

The second involves new design methodologies that significantly extend system lifespans and improve reliability. "We have helped establish standards for designing power electronics so that their operational lifetime can be better predicted and extended," he said.

These advances deliver real-world benefits. Blaabjerg noted that today's laptop charger is far smaller yet more powerful than those of a decade ago. "We can use fewer materials while handling greater power. This principle scales from watts to megawatts," he said.

His work also strengthens grid resilience. During brief disturbances such as voltage dips caused by faults, his control strategies ensure that wind turbines and photovoltaic systems remain connected

and actively support recovery.

In the context of global decarbonization, he sees power electronics as indispensable. "Decarbonizing the energy system requires electrification powered by renewables," he said. "To achieve this, we need technologies that can efficiently generate, transmit, distribute and consume electricity. Power electronics is key to making this transition successful."

Balancing research and mentorship

Despite his extensive research record, Blaabjerg said he finds the greatest fulfillment in the success of others. "I am still excited whenever our work is recognized as transformative or meaningfully contributing to the field," he said. He added that he feels "deeply satisfied" when former PhD students and postdocs go on to build successful careers.

With time, his priorities have shifted. "My top priority now is mentoring, to ensure that the people around me enjoy their work, stay innovative, and have good conditions," he said.

In his exchanges with young scientists, Blaabjerg has often stressed that genuine interest is the foundation of meaningful work. He believes that researchers should devote themselves to topics they truly care about. While he acknowledges the necessity of diligence, he also cautions against burnout, noting that exhaustion stifles creativity. To sustain both productivity and well-being, he encourages a balanced life enriched by physical activity, travel and meaningful social connections.

A partnership built on long-term perspective

Blaabjerg's engagement with China began in 1992, when universities across the country were still laying the foundations of modern research. Today, he regards China as a nation where science and innovation have become central to its development, driven by people whose dedication is matched only by their willingness to learn and contribute.

He visits China four to six times a year to lecture at Southwest Jiaotong University, attending conferences, or meeting former students now working in academia and industries across the country.

Blaabjerg holds his Chinese colleagues and students in high regard. He noted their diligence and intellectual rigor, as well as their warmth, collaborative spirit and growing ability to situate their work within a broader global context.

In his view, China stands out as a place where opportunity meets effort, where talent is nurtured at scale and where the pursuit of knowledge is closely tied to real-world progress. This is not an impression formed overnight, but one shaped through more than three decades of quiet, consistent collaboration.

Southwest Jiaotong University also contributed to this article.

said, adding that she primarily uses the birds' size, feather colour, beak shape and wing shape for identification.

Effective bird observation involves more than just recording what was seen. Latitude, longitude, observation time, quantity, distance from the observation point and weather are all important data points. After each day's observations, Xu compiles this information into an observation report, which serves as crucial baseline data for Antarctic bird monitoring.

"That flock of Antarctic prions (small petrels) had over 100 birds," said Xu. Birds and mammals occupy the top position in the Antarctic ecosystem's food chain, and their population ecology is closely related to climate and environmental changes in the Southern Ocean. Monitoring these top predators over the long term is crucial for understanding the biodiversity and distribution of Antarctic birds, as well as for assessing the potential impact of human activities and climate change on the region. "What we are doing now is laying the foundation for future research," said Xu.

'Lords' of the Antarctic Skies

Science Outreach

By BI Weizi & BI Wenting

Do the names Antarctic petrel, Cape petrel, snow petrel and light-mantled albatross sound unfamiliar? That's probably because they are found in Antarctica, where they are known as the "lords" of the sky. They form an indispensable part of the Antarctic ecosystem.

Every morning at eight o'clock, Xu Hongying, a member of the oceanographic team of China's 42nd Antarctic expedition and a doctoral student at the College of Life Sciences at Beijing Normal University, begins her work on the deck of the Xuelong 2, China's research polar icebreaking vessel, holding a long-range zoom camera in her hands and constantly scanning the sea and sky.

Her research project for this expedition is about the operational monitoring of seabirds in the Southern Ocean, which involves observing and recording the species, numbers and geographical coordinates of Antarctic seabirds. This provides valuable basic data and image materials for research on Antarctic bird diversity.

Unlike birdwatching on land, the Xuelong 2 is a mobile oceanographic research platform. The ship is moving, the birds are flying and the sea and observation conditions are constantly changing. For Xu, the bridge and the decks on either side are her laboratory. The wide view allows her to see the sea ahead, the shipping lanes on both sides and the distant sky — one of the best locations on the ship for observing birds.

"The defining feature of birdwatching on the ship is constantly being busy. The ship is sailing and the position of the bird flocks relative to the ship is also changing, so I have to constantly adjust my perspective. At least

eight hours of observation a day and walking more than 10,000 steps is the minimum," she said.

Many seabirds in Antarctica belong to the order Procellariiformes, and their similar appearance makes identification difficult, particularly as most of them are not found in the Northern Hemisphere. Before boarding the Xuelong 2, Xu's knowledge of these birds was limited to what she had read in books. Initially, she spent her days observing and comparing her camera shots with those in a book, but after a few weeks, she had become proficient at identifying them herself.

"The wandering albatross is huge, with a wingspan of over three meters. Its wings are long and slender, and it hardly flaps them while flying, soaring for long periods like a glider. The black-browed albatross has a distinct black eyebrow stripe behind its eye, and the snow petrel is entirely white and relatively small, making it particularly conspicuous against the backdrop of the sea," she

to the less developed western regions.

Guizhou province in the southwest, known for providing computing power for major projects such as the blockbuster film *Ne Zha 2*, plans to expand its electronics manufacturing ecosystem, encompassing semiconductors, smart devices and software.

Strategic bets on future industries

Progressive provinces are positioning themselves at the frontier of next-generation technologies. Anhui in east China showcased its dynamic attitude with such breakthroughs as the superconducting quantum computing prototype "Zuchongzhi-3."

This accomplishment reaffirms its

Tech+Culture

Ancient Shu Treasures Showcased

By Staff Reporters

A major exhibition bringing together over 200 artifacts from two of China's most enigmatic archaeological sites, Sanxingdui and Jinsha, has opened at the National Museum of China in Beijing, offering a window into the ancient Shu civilization that once thrived in what is now Sichuan province.

The show is co-organized by the National Museum of China and the Sichuan Provincial Cultural Heritage Administration under the guidance of the National Cultural Heritage Administration. It highlights the cultural continuity between the two sites, which scholars now view as successive centers of a single, sophisticated Bronze Age society.

The discovery of sacrificial pits at Sanxingdui in 1986 stunned the world and was hailed as one of the greatest archaeological finds of the 20th century in China. The unearthing of the Jinsha site in Chengdu in 2001 reshaped the understanding of early Chinese history once again.

Both have since been included among China's top 100 archaeological discoveries of the past century.

Excavation at Sanxingdui resumed in 2019, revealing six additional pits filled with extraordinary bronzes, gold objects and ivory, prompting headlines worldwide about the "reawakening" of this long-lost culture.

Now, for the first time, two nearly identical bronze masks with bulging eyes and elaborate headdresses, one housed in the Sanxingdui Museum and the other in the National Museum of China, are on display side by side.

These iconic masks, discovered in 1986, have never been exhibited together before, making this reunion a historic moment for both scholars and the public.

The exhibition also marks a rare opportunity to see key Jinsha artifacts outside their home museum, which is currently closed for renovations.

Modern science is playing a crucial role in unlocking the secrets of these ancient relics. Isotopic analysis was used to trace the origin of the elephant tusks found in the Sanxingdui pits.

Digital reconstruction is restoring fragmented bronzes to their original forms, while remote sensing helps map the full layout of long-buried settlements.



A visitor views bronze heads at the exhibition in the National Museum of China in Beijing. (PHOTO: HONG Xing / Science and Technology Daily)

Modern Agriculture Thriving in China's Desert Region

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In recent years, with government support for the modern seed industry, Gansu province has championed promotion of the transformation and upgrading of the seed industry in the Hexi Corridor.

Zhang Zongxiang, a seed producer in Zhangye city, has witnessed the industrial upgrade, and said that the harvested corn seeds are directly transported from the fields to seed enterprises for drying, threshing and packaging, reducing the loss caused by sun-drying.

At present, Zhangye's corn seeds have become a renowned product in China, with annual output exceeding 700 million kilograms in its seven major seed production counties.

Meanwhile, the innovation capacity

of variety breeding has been significantly improved. Many seed enterprises have adopted breeding methods such as molecular markers and gene editing, which shorten the breeding cycle compared with traditional methods and improve seed resistance to pests and the elements.

Ta Wenshan, the chairman of Jiuguan Huamei Seed Co., Ltd., said that the domestic market share of the pepper variety independently cultivated by the enterprise once exceeded 50 percent.

With the continuous advancement of the Belt and Road Initiative, the Hexi Corridor is becoming an important platform for international agricultural cooperation, and an increasing number of researchers from countries such as Pakistan, Tajikistan and Malaysia are visiting to learn from its experience.

Local Plans to Drive 15th FYP Tech Trends

From page 1

Local companies are taking advantage of the boom by producing carbon-fiber snowboards, using innovations from the Harbin Institute of Technology — at about half the cost of imported products.

Guangdong in the south is deploying AI in manufacturing. For example, at the tile company Monalisa Group, an AI-controlled kiln system has boosted ceramic firing precision from 86 percent to 98 percent, strengthening the province's global competitiveness in traditional manufacturing.

Accelerating infrastructure

As China advances its "Digital China"