



# Science and Technology Daily

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## Impressive Sci-tech Progress and Openness in 1 Year

Edited by WANG Xiaoxia

One year ago, Chinese President Xi Jinping noted the strategically leading and fundamental supporting role of science and technology, urging efforts to strengthen top-level design and overall planning, and expedite high-level sci-tech self-reliance to realize the strategic goal of building a strong country in science and technology by 2035.

Xi made the remarks at a meeting conflating the national sci-tech conference, the national science and technology award conference, and the general assemblies of the members of the Chinese Academy of Sciences (CAS) and the Chinese Academy of Engineering on June 24, 2024.

One year on, China has made new breakthroughs in both basic and frontier research, taken new strides in strategic high-tech fields, and achieved new results in high-quality development driven by innovation. It has opened up new prospects in the reform of the sci-tech system, and made new progress in sci-tech opening up and global cooperation.

### Advancing innovation

The sci-tech system and governance capacity has been improved to better invigorate innovation. China has deepened its reform of the evaluation and categorization of scientific research talents. Measures have been taken to promote financial services for sci-tech innovation, including boosting venture investment, credit supply and insurance support. Also, the *Science and Technology Popularization Law* has been revised, putting science popularization on par with technological innovation in terms of importance.

In 2024, China's investment in basic research climbed 10.5 percent from 2023 to 249.7 billion RMB, accounting for 6.91 percent of the total R&D expenditure. A number of major original achievements have been made in fields such as quantum technology, life science and space science.

China's Chang'e-6 probe brought the world's first samples from the moon's far side. China's Five-hundred-meter Aperture Spherical Radio Telescope has identified more than 1,000 new pulsars, ushering in a new era of cosmic discovery.

This February, a team led by CAS academician Xue Qikun developed nickelate high-temperature superconductors at ambient pressure. In March, Chinese scientists unveiled a superconducting quantum computer prototype, "Zuchongzhi 3.0," with 105 qubits, setting new records in computational power. This month, China's domestically developed AG600 "Kunlong" amphibious aircraft officially entered mass production after receiving production certification.

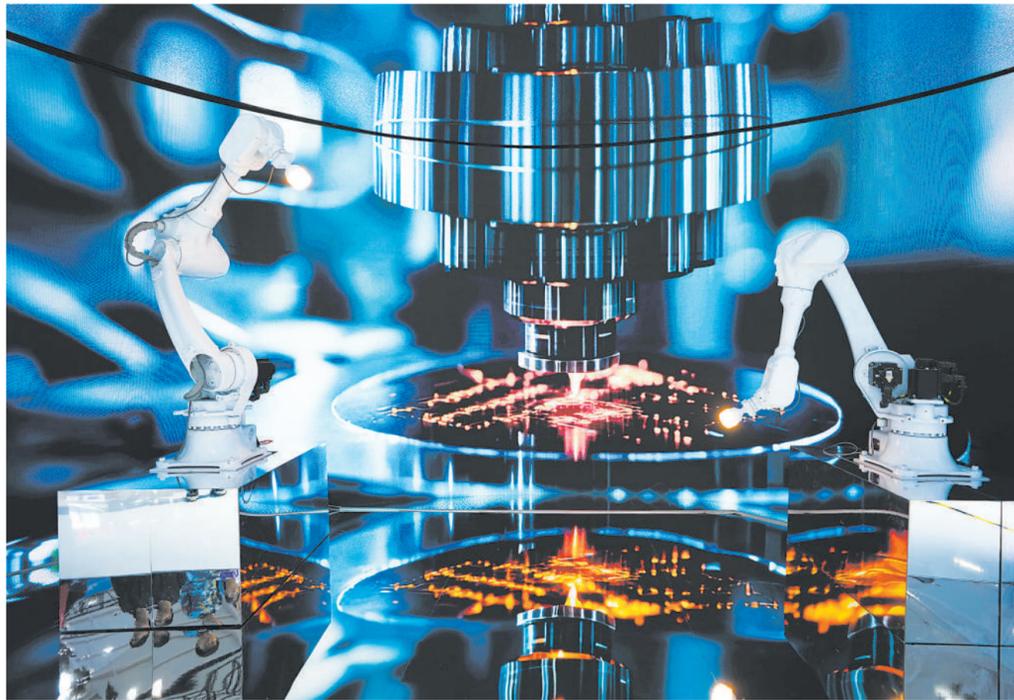
The integration of sci-tech innovation with industry is accelerating high-quality development. Export of China's electric vehicles, lithium batteries and photovoltaic products continues to lead growth. The robotics industry is undergoing intelligent transformation, while DeepSeek's open-source AI model has generated widespread attention in the global tech community.

### Promoting global development

To address the challenges of shared global development, the world needs international cooperation and openness more than ever before. China is making increasingly influential contributions to global scientific research and is worthy of attention and reference by other countries, said Magdalena Skipper, the editor-in-chief of the journal *Nature*.

To date, China has established sci-tech cooperation relations with more than 160 countries and regions, signed 119 inter-government agreements on scientific and technological cooperation, established over 70 Belt and Road joint laboratories, and participated in more than 60 international major science programs and projects.

The Global Hadal Exploration Programme, a pioneering international initiative for exploring the deepest region of the ocean, has been recently approved as one of the projects of the United Nations Decade of Ocean Science for Sustainable Development (2021-2030).



Robotic arms are displayed during the 9th China-South Asia Expo in Kunming, southwest China's Yunnan province. (PHOTO: XINHUA)

## Kunming Expo Deepens China-S. Asia Cooperation

By Staff Reporters

The ninth China-South Asia Expo in Kunming, Yunnan province in southwest China, concluded on June 24 with over 150 business contracts worth more than 8.4 billion RMB signed. The expo received more than 500,000 visits, making it a landmark platform for deepening cooperation between China and South Asian countries.

According to official statistics released at a press conference on the last day, 31 investment cooperation projects were signed, totaling over 13.6 billion RMB — a year-on-year increase of 33 percent.

Guests from 73 countries, regions and international organizations attended

the expo, and more than 2,500 enterprises took part in the exhibition, 942 of which were from overseas. This was a 20.9 percent increase over last time. Over 3,000 buyers from more than 30 countries and regions participated in the procurement, including from South Asian countries and members of the Regional Comprehensive Economic Partnership.

High-quality consumer goods such as carpets, furniture, cashmere products and black tea from Pakistan, Nepal and Sri Lanka were very popular. More than 500 high-quality products from 66 domestic foreign trade enterprises were displayed in a newly established area.

For the first time, the forum set up a launch hall where over 40 enterprises debuted their new products. It covered AI,

new materials, new energy vehicles and biomedicine, providing opportunities for both first-time and repeat customers.

The Tengchong Scientists Forum, which has been held three times in Tengchong in Yunnan, also made its debut at the expo. The forum has built platforms for academic exchanges, interaction among governments, industries and research institutes, and transfer of sci-tech achievements. Through it, sci-tech cooperation with South Asian and Southeast Asian countries has been established, facilitating 780 investment projects with a total value of 190 billion RMB.

The forum constitutes part of Yunnan's efforts to promote technology transfer and sci-tech cooperation with South Asian countries. *See page 4*

## Innovation Frontier

## AG600 Kunlong: Guardian of Sky and Sea

By LIN Yuchen

The AG600 "Kunlong," the world's largest civil amphibious aircraft developed by China, has received its production certificate from the Civil Aviation Administration of China, marking the beginning of its mass production. This is a milestone in China's emergency response aviation capabilities.

The AG600, with a maximum takeoff weight of 60 tonnes and a wingspan comparable to a Boeing 737's, is specifically designed for missions such as forest firefighting, maritime rescue and aerial patrol.

### A versatile workhorse guardian

The technological marvel is a workhorse designed to address real-world crises.

In its firefighting mode, it can scoop up 12 tonnes of water in just 20 seconds and release it over an area of 4,000 square meters — equivalent to 10 basketball courts — in a single pass. Compared to traditional firefighting teams, it can

achieve what hundreds of personnel would take hours to accomplish.

In maritime rescue operations, it can respond much faster than conventional ships. It has a range of 4,500 km and can carry 50 individuals per mission, enabling it to perform effectively in both domestic and international scenarios.

Besides its capability to perform low-altitude searches overwater, the AG600 is also equipped to conduct surface rescues in challenging weather conditions, including waves as high as two meters.

### A sky-sea hybrid engineering marvel

The most challenging aspect of the design was achieving an integrated aerodynamic layout.

To ensure that, the lower fuselage of the AG600 is designed as a V-shaped hull. The AG600 has a streamlined fairing on the lower fuselage that wraps around the retracted main landing gear, reducing aerodynamic drag.

However, the fairing is located rela-

tively close to the wing, creating an additional airflow channel between them, which could potentially lead to lateral-directional instability, affecting flight safety.

Its designing team conducted countless analyses and tests to refine the design, ultimately finding a solution. They added a flow diverting device to the side of the fuselage just below the wing and were able to "split" the airflow, thus improving the lateral-directional characteristic of the Kunlong.

During the three years it took for the overall design, the team conducted more than 30,000 wind tunnel and water dynamics tests. The integration of aerodynamics and hydrodynamics was hard-earned through rigorous testing, laying a solid foundation for the Kunlong.

### Shaping the future of global aviation

From initial concept to full certification, the AG600 represents a 15-year journey of engineering commitment.

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## China Takes Center Stage at 2025 Summer Davos

### International Cooperation

By WANG Manxi

Themed "Entrepreneurship in the New Era," the 2025 Summer Davos forum, also known as the 16th Annual Meeting of New Champions of the World Economic Forum (WEF), was held from June 24 to 26. The event underscored global confidence in China's future technological innovation and economic development.

Chinese Premier Li Qiang attended a symposium on Wednesday, exchanging ideas with business entrepreneurs.

The Chinese economy maintained stable growth, relying not only on a solid foundation of stability and improvement, and proactive and effective macro policies, but also on the effective utilization of market forces and the resources of enterprises, including substantial contributions from foreign-funded enterprises, the premier said.

He added that in the face of a world of change and disorder, it is essential to adapt to the changing times and to respond proactively and effectively to various challenges and risks, creating a conducive environment for business development.

In the context of in-depth restructuring in the global industrial chain, the quality and efficiency of industrial supply structure are particularly important, Li said, adding that China has strong industrial support capabilities, with its industrial and supply chains optimizing continuously.

The premier said there is substantial space and significant opportunities for companies from around the world to engage in scientific and technological cooperation and collaborative innovation in China. China will continue to welcome foreign enterprises to invest in the country.

China's explorations and practical experiences were frequently referenced in the discussions and speeches centered around themes such as "intelligence" and "green development."

As the world's second-largest economy, the largest trading nation in goods, and a major trade partner for over 150 countries and regions, China has consistently contributed around 30 percent of global economic growth for many years. Its positive development trajectory has made "betting on China" and "investing in China" a shared consensus among many participants at the event.

Today, China stands as a global leader in renewable energy investment. It has pioneered transformative technologies in the fields of batteries and electric vehicles, creating millions of high-quality jobs in these future-oriented sectors, according to Gim Huay Neo, managing director of the WEF.

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## New Graphic

### China's Innovation Power Rises

Significant progress in developing global innovation hubs

Beijing, Shanghai and the Guangdong-Hong Kong-Macao Greater Bay Area ranked among the world's **top 5** technology clusters in 2024.

Deep Integration of STI and Industrial Innovation

Global share of industrial robot new installations over **50%**

In 2024, the added value of core industries of the digital economy accounted for about **10%** of GDP

WECHAT ACCOUNT



E-PAPER

