



# Science and Technology Daily

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## China's Capacity for Sci-tech Innovation Greatly Enhanced

By Staff Reporters

During the 14th Five-Year Plan period (2021-2025), China's capacity for scientific and technological innovation significantly improved, with breakthroughs in core technologies in key fields accelerated, according to an official report released by the National Bureau of Statistics on June 2.

The report highlighted significant progress in the country's innovation-driven development strategy.

### R&D spending and talent pool grow

China's R&D expenditure increased from 2.44 trillion RMB in 2020 to 3.93 trillion RMB in 2025, marking an average annual growth rate of 10 percent, the report showed. The country's R&D intensity, or the share of R&D expenditure in GDP, rose from 2.36 percent to 2.80 percent during the same period, exceeding the average level of Organization for Economic Co-operation and Development (OECD) countries.

The number of full-time R&D personnel expanded from 5.24 million person-years in 2020 to 7.95 million person-years in 2025, maintaining its world-leading ranking for 13 consecutive years, according to the report. The value of technology contracts nationwide surged from 2.8 trillion RMB in 2020 to 7.6 trillion RMB in 2025, indicating improved efficiency in commercializing technologies.

### Strategic breakthroughs and infrastructure

During the five-year period, China established 77 national major sci-tech infrastructure projects, the report said, adding that some of these facilities have reached world-class levels. Breakthroughs were made in frontier fields such as quantum information, AI, life sciences, and deep-sea, deep-earth and deep-space exploration.

Progress in developing domestic chips and breakthroughs in operating systems was also made, along with leadership in LiDAR technology. Major achievements include the full operation and application of the Tiangong space station, regular commercial flights of the homegrown C919 large passenger aircraft, and the commissioning of the "Mengxiang" deep-ocean drilling vessel. *See page 2*

## WEEKLY REVIEW

### LangYa 2.0 AI Model for Full-blown Marine Phenomenon Forecasting Released

A year after issuing its first ocean forecasting AI system, Chinese scientists rolled out LangYa 2.0 on June 6, a major upgrade that moves beyond basic sea variables to predict complex marine phenomena, including typhoons, extreme rainfall and storm surges. It will provide intelligent support for marine disaster prevention, shipping safety, polar navigation and climate response.

### Tech Breakthroughs Boost China's Black Soil Protection Endeavors

Chinese scientists released research results on June 8 documenting technological breakthroughs in combating black soil degradation and boosting modern agricultural development through the use of modern precision practices.

### Study Identifies Early Blood Signature for Lung Cancer Risk

A group of international researchers have identified a blood signature that can predict lung cancer risk years before diagnosis, offering a potential pathway to earlier prevention, according to a study recently published in *Cell*. The study analyzed over 48,000 blood samples, identifying a 14-protein plasma signature that predicted lung cancer risk more than five years before diagnosis and was validated across eight international datasets, including in non-smokers.

### Researchers Spot Two Rare Sperm Whales in Mediterranean Sea

Israeli marine researchers on June 8 documented two sperm whales, among the rarest whale species in the Mediterranean Sea, highlighting the importance of protecting the region's marine environment, the University of Haifa said in a statement.



The photo shows part of an offshore wind turbine unit and a 2,000-ton self-elevating offshore wind power installation platform on the waters of southern Fujian in southwest China, January 13, 2026. (PHOTO: XINHUA)

## STI Frontier

## Data Network Protects Qinghai-Xizang Plateau

By LU Zijian & LU Chengkuan

Nicknamed Asia's Water Tower, the Tibetan Plateau is the source of the Yangtze River, the Yellow River, the Yarlung Zangbo River and other large rivers. Until now, it was almost impossible to accurately investigate the water resources of this water tower due to the harsh environment, but the National Tibetan Plateau Data Center (TPDC) is now building a reliable digital base for the plateau.

By May this year, TPDC had released 8,585 data sets and 6PB data had been downloaded.

### Tackling data barriers

Each piece of data from the Tibetan Plateau was hard earned, according to Li Xin, researcher at the Institute of Tibetan Plateau Research (ITP), Chinese Academy of Sciences (CAS) and director of TPDC.

Normal monitoring equipment battles to endure winter in the region, as the temperature could drop from -20 °C to -30 °C. Even if the equipment survived, the data stored in the memory cards cannot be transmitted quickly, because nearly 80 percent of the plateau was not covered by a communication network, let alone 4G signals. Researchers had to repeatedly trek into the mountains and manually retrieve the data.

To tackle these challenges, TPDC developed a satellite Internet of Things (IoT) terminal that can adapt to the extreme cold and high-altitude environment. New equipment includes a high-speed unmanned aerial vehicle (UAV) relay system, a UAV-borne runoff monitoring system, and the "Smart Eagle Eye" intelligent monitoring platform. All these build a three-dimensional "space-air-ground" monitoring network across the plateau.

At the space level, TPDC allows for the periodic monitoring of the entire Tibetan Plateau, by integrating domestic and international satellite resources like Gaofen series satellites and Fengyun series satellites.

At the air level, UAVs are equipped with multiple varieties of intelligent payloads to conduct high-resolution and high-frequency monitoring for key areas like glaciers and permafrost, the Yarlung Zangbo Grand Canyon and the Lhalu Wetland.

At the ground level, TPDC deployed its self-developed IoT-based monitoring information system across 24 ground observation stations in six major river basins, continuously collecting in-situ data on 62 key hydrological, meteorological and ecological indicators, with more than two billion data records received to date. *See page 3*

## Deeper Media Ties Elevate China-ASEAN Partnership

By YU Haoyuan

Under the theme "Media Convergence for Shared Growth: Opening a New Chapter in the ASEAN-China Comprehensive Strategic Partnership," the 2026 ASEAN-China Media Cooperation Forum was held on June 9 in Shenyang, northeast China's Liaoning province.

Now in its ninth year, the forum aims to establish a strong rapport between China and ASEAN, invigorate international communication, and advance cross-border media collaboration.

President of China International Communications Group (CICG) Chang Bo delivered the opening address, noting that 2026 marks the fifth anniversary of

the China-ASEAN Comprehensive Strategic Partnership, the 35th anniversary of China-ASEAN dialogue relations, and the first year of China's 15th Five-Year Plan. In this context, he called on media organizations from both sides to play a greater role in promoting mutual understanding.

"Media organizations from both sides should strengthen innovation-driven learning, expand practical cooperation, and uphold openness and collaboration," Chang said. He also expressed the hope that closer media cooperation would help develop a supportive public opinion environment for China-ASEAN collaboration, strengthen people-to-people bonds, and consoli-

date mutual friendship.

Nararya S. Soeprapto, deputy secretary-general of ASEAN, highlighted the growing role of media in the era of digital transformation. He said media organizations should go beyond the dissemination of information and serve as bridges for nurturing mutual trust, understanding and friendship.

During the main forum and roundtable dialogues, participants acknowledged that emerging technologies such as AI and big data are reshaping the media landscape. They called for deeper cooperation between Chinese and ASEAN media in the application of new technologies, as well as in technology ethics and governance. *See page 4*

## International Cooperation

## 5kg of Rice Symbolizes China-Africa Friendship

Edited by WANG Xiaoxia

A humble bag of rice, weighing just five kilograms and grown in the West African country of Guinea, was recently delivered to Deng Ze, the widow of legendary Chinese agronomist Yuan Longping, representing a story of profound trans-formation.

Printed on the front of the bag were the flags of China and Guinea. On the back, Guinea's prime minister had handwritten a simple but powerful message: "This bag of rice is the perfect symbol of cooperation between our two countries."

This is no ordinary grain. It is proof that Chinese hybrid rice has taken root across Africa — and it is not just surviving, but thriving and changing lives.

For years, China's approach to agricultural cooperation has been defined by pragmatism. Instead of simply shipping food aid, Chinese experts have helped build irrigation systems, develop better seeds, and fight pests and diseases. Under the Belt and Road Initiative and the Forum on China-Africa Cooperation, China has assisted African nations to sustainably grow their own food.

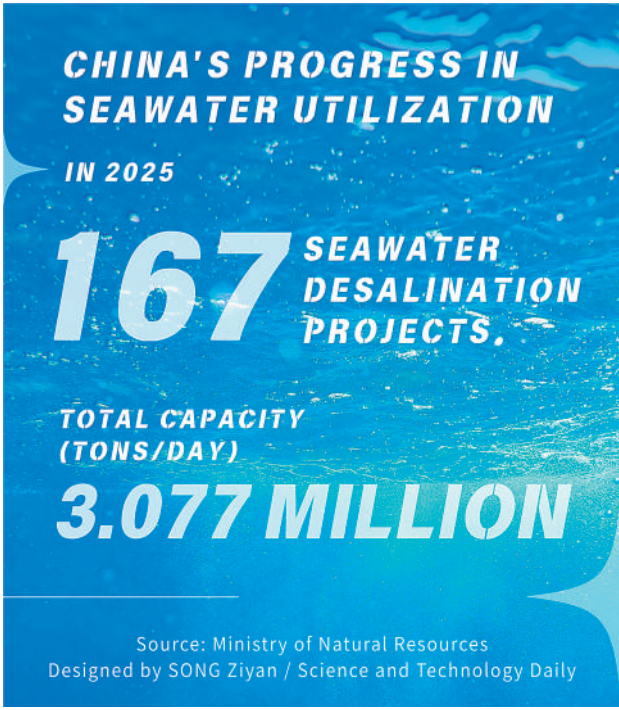
In Guinea, Chinese agricultural specialists helped establish Africa's largest hybrid rice demonstration park, where per-season yields are three times those of local varieties. In Chad, the introduction of high-yield techniques has sparked talk of exporting rice for the first time. And in Madagascar, the nation printed a rice stalk on its largest banknote — a tribute to Yuan Longping's team for helping the country move toward self-sufficiency.

This is the benefit of "teaching how to fish." China remembers its own bitter struggle with hunger. That memory fuels a deep empathy: defeating famine is never a one-time project, but a long, systemic effort.

And crucially, China's approach is rooted in respect. Unlike colonial-era powers that forced Africa to grow only cash crops for Western industries, and unlike some aid today that comes with political strings attached, China asks: What do you need to stand on your own?

That, perhaps, is the real impact of this 5kg bag, as instead of grand slogans and platitudes, it is the China-assisted roads, wells and rice paddies that result in the quiet dignity of a people feeding themselves.

## New Graphic



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