



# Science and Technology Daily

VOL.5-NO.219

DECEMBER 6-7, 2025

## Innovation Pathway

### 15th FYP Underscores Sci-tech Innovation

By Staff Reporters

The results of sci-tech innovation during the 14th Five-Year Plan (FYP) period (2021-2025) have laid a solid foundation for building a country strong in science and technology, and the 15th FYP period (2026-2030) is a crucial and critical time for achieving this goal, said Yin Hejun, Minister of Science and Technology.

Yin made the remarks during an interview with *Science and Technology Daily*, sharing his insights on the ministry's plans to promote sci-tech development in the next five years.

He called the 14th FYP period a milestone in the development history of China's science and technology cause.

China's capacity for sci-tech innovation has steadily improved. The integration between technological and industrial innovation is accelerating, with new quality productive forces flourishing. Sci-tech innovation achievements have benefited people's well-being.

Substantial improvement in sci-tech self-reliance and strength is listed as a major objective for national economic and social development during the 15th FYP period. To achieve greater self-reliance and strength in science and technology and steer the development of new quality productive forces, measures will be taken in four specific aspects.

Yin said promoting advances in original innovation and breakthroughs in core technologies in key fields would strengthen the foundation of technological support; promoting in-depth integration between technological and industrial innovation would enable coordinated development of sci-tech and industry, accelerating the cultivation of new quality productive forces.

The integrated development of education, science and technology, and human resources plays a fundamental and strategic supporting role in Chinese modernization. Advancing the Digital China initiative means seizing the opportunities of the new technological revolution and industrial transformation, and giving new impetus to economic and social development.

See page 3



Xinhai Harbour, located in Haikou, Hainan province, serves as a gateway port for the Hainan Free Trade Port. The Hainan Free Trade Port will launch island-wide independent customs operations on December 18. (PHOTO: VCG)

## STI Frontier

### 'Future' Drives Deep-Sea Exploitation Green Progress

By LU Zijian & JIN Feng

"Future", China's first deep-sea green and intelligent technology experimental vessel, recently completed its first deep and remote sea test since its delivery in July this year.

After six years of tackling key research problems, design and construction, the vessel described as a "mobile offshore laboratory," can conduct tests for new type green intelligent technologies, provide application and testing support for deep-sea equipment, and assist scientists in conducting deep-ocean surveys, said Ye Cong, director of the China Ship Scientific Research Center of the China State Shipbuilding Corporation (CSSC) and chief commander of the "Future" construction project.

**Green "heart"**

"Future" is equipped with four major diesel generators and six propellers.

Zhou Yu, the on-site in charge of the vessel's power system from Shanghai Marine Diesel Engine Research Institute, CSSC, said researchers tried to make the generators adjust rotational speed and output power based on the demand for electricity.

The initial mooring trials encountered challenges, one of which was the power oscillation when the four generators were in parallel operation, resulting in unstable power generation.

A container at the shipyard dock became the meeting room at that time. Researchers discussed test programs in the container and then did tests in ship cabins that were under construction.

After hundreds of parallel operation tests and multiple rounds of technical reviews and discussion, the researchers found a solution.

In April this year, a new round of mooring trials took place, and the power

output of the generator sets steadily increased during parallel operation and ultimately stabilized at rated load. According to Zhou, with this set of technologies, the generators can save 456 tonnes of diesel per year, decreasing circa 1,420 tonnes of carbon emission, which equals the emission of 560 cars per year.

**Elevator for submersibles**

A crucial mission of "Future" is to provide support for deep-sea equipment operations. A moon pool, which is a vertical opening in the hull of the vessel that provides direct access to the sea from inside the vessel, plays an important role in operating submersibles.

Liu Yang, head of the vessel's construction supervision team, said the influence of severe sea conditions like violent storms and waves could be eased when deep-sea equipment is deployed into the ocean for operation via the moon pool. See page 2

## International Cooperation

### China, South Africa Jointly Promote Science Popularization

By Staff Reporters

On November 21, L.I.S.T.E.N Science Space, an interactive hub to explore science beyond borders jointly built by the China Science and Technology Museum and the Sci-Bono Discovery Center of South Africa, opened to the public, marking new progress in sci-tech cooperation between China and South Africa.

More than 100 representatives from the scientific and academic circles as well as students from South Africa attended the launching ceremony.

China and South Africa, both early members of BRICS, have forged a strong and profound friendship. During the Beijing Summit of the Forum on China-Africa Cooperation last year, the China Association for Science and Technology (CAST) and South Africa's Department of Science and Innovation (DSI) signed a memorandum of understanding (MoU) to deepen bilateral cooperation in such areas as public participation in science and technology, sci-tech and cultural exchanges, mutual recognition of engineers, engineering and mathematics education, and women's participation in science and technology.

In March 2025, a delegation from CAST visited the Sci-Bono Discovery Centre and both organizations signed an MoU. The interactive hub is a significant step to implement this agreement.

With an area of approximately 200 square meters, the hub is located in the Sci-Bono Discovery Centre, integrating scientific exhibitions, interactive experiences, and cultural exchanges. It is not merely a simple addition to the existing scientific education infrastructure of China and South Africa but an important practice for the two countries to jointly promote innovative development of science education.

Chen Jingquan, minister counsellor at the Chinese Embassy in South Africa, said scientific popularization and participation are the key ways to achieve sci-tech equality. Everyone has the right to access, use and enjoy scientific achievements. The mission of science diplomacy is to transform innovative achievements into the common wealth of all humanity and make them a driving force for sustainable development. See page 4

## WEEKLY REVIEW

**China's Single Largest Gas Turbine Starts Operation**

According to China Energy, the No. 1 gas turbine unit of the Zhejiang Anji Power Plant began to work on November 30, marking the official commercial operation of the largest single-unit capacity and most efficient gas turbine in China. It has an efficiency rate as high as 64.15 percent.

**China's 1st Sea-based Rocket Recovery Platform Delivered**

"Linghangzhe," meaning Pathfinder, China's first seaborne platform designed for rocket recovery using a net system, was delivered on November 30. It is a critical piece of infrastructure for reusable rocket launch and comes after the launch of Chinese commercial rocket firm i-Space's landing vessel in August.

**First Single-dose Dengue Vaccine Approved**

Brazil has recently approved the world's first single-dose dengue vaccine. The "Butantan-DV" dengue vaccine, developed by the Butantan Institute in São Paulo for people aged 12 to 59, demonstrated 91.6 percent effectiveness in preventing severe dengue fever.

**Russia Grows Barley on Simulated Mars Soil**

Researchers from the Southern Federal University in Russia have for the first time grown barley seedlings in a substrate that simulates the composition of Martian soil. By adding a special mixture of microorganisms to the substrate taken from the Mojave Desert, they created a layer rich in nutrients and successfully grew barley.

## New Graphic

In terms of total brand value of the  
top 5,000 global brands,  
Chinese brands rank

2<sup>nd</sup>  
reaching  
1.81 trillion USD

Source: China National Intellectual Property Administration  
Designed by SONG Ziyao / Science and Technology Daily

WECHAT ACCOUNT



E-PAPER

