



# Science and Technology Daily

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WEEKLY EDITION

## Spring Festival Address

### Success Last Year Heralds Well Rabbit Year Ahead

The lunar year of the rabbit is just arriving, and while the past year of the tiger had its challenges, there were also many highlights.

In July 2022, we celebrated the first anniversary of our newspaper Science and Technology Daily Weekly Edition. Enduring many long hours and pressure of starting a new publication would not have been possible without the support of all involved, most especially our loyal readers.

As a platform of international sci-tech communication, we were lucky to witness and cover many memorable moments, where important sci-tech achievements and international cooperation were accomplished.

The Beijing 2022 Olympic and Paralympic Winter Games held in the beginning of last year were equipped with green technologies and offered smarter experiences for both staff and audience.

Second only to the Three Gorges Dam in terms of total installed capacity, the Baihetan hydropower station also went into full operation, marking the completion of the world's largest clean energy corridor.

High above us, Tiangong, China completed construction of its space station. The Shenzhou-14 and Shenzhou-15 crews had a historic gathering in the station, increasing the number of astronauts at the in-orbit space lab to six for the first time.

We were also awed by a lot of global sci-tech achievements. To name just a few, the James Webb Space Telescope captured images revealing the early star birth in the universe; the world's first synthetic embryo was created from stem cells alone; and artificial intelligence became capable of predicting protein structures, chatting with people and painting artworks.

Many of the achievements would not have been possible without the cooperation of scientists from different institutions, countries and regions. There is no doubt that cooperation and exchanges are essential, welcomed and applauded by international sci-tech communities.

Going forward, we would like to bring our readers more detailed and accurate content, and collaborate with more foreign experts working and living in China to share their China stories with our audience all over the world.

The editor and staff wish you a joyous and healthy Spring Festival and look forward to your continued support in the year of the rabbit.

The Editorial Office



(PHOTO: VCG)



The photo shows the scenery of Eryuan West Lake in Eryuan County, Yunnan province. (PHOTO: XINHUA)

## Editor's Pick

### Carbon Reduction: A Greener China

By Staff Reporters

China's drive to promote its green and low-carbon transformation of energy has reaped impressive results according to figures from the National Development and Reform Commission.

These show the country's energy intensity dropped by 26.4 percent in 2021 from that of 2012, and carbon intensity by 34.4 percent.

The proportion of coal consumption in the country's primary energy consumption decreased from 68.5 percent in 2012 to 56 percent in 2021.

**Largest clean power generation system**

China has established the largest clean power generation system in the world. The installed capacity of renewable resources in China has surpassed 1.1 billion kW, equaling nearly 30 times that of the Three Gorges Dam and ranking first in the world.

On December 20, 2022, the Baihetan hydropower station, second only to the Three Gorges Dam in terms of total installed capacity, went into full operation, marking the completion of the world's largest clean energy corridor, incorporating the six massive hydropower stations along the Yangtze River.

With a length of 1,800 kilometers, the corridor has a total installed capacity of 71.695 million kW, generating clean power of about 300 billion kW per year, which could satisfy the electricity needs of 360 million people for a year.

The corridor could effectively relieve the power shortage in Sichuan, Yunnan and Guangdong provinces, and provinces in central and east China, which supports the transmission of electricity from the west to the east of the country.

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### IPR Protection Targets for 2023

By Staff Reporters

China National Intellectual Property Administration (CNIPA) held an annual meeting on January 6 in Beijing, summarizing the results achieved in 2022 and making plans for the work in 2023.

In 2022, much progress was made in promoting intellectual property rights (IPR) protection. With guidance from central government, CNIPA and the intellectual property authorities of all levels have improved efficiency of the review process, and optimized service and supervision to provide a better environment

for innovation and business. China has subsequently seen increased industrialization of patents and international cooperation.

The meeting stressed the improvement of legal systems to better protect IPR and stimulate innovation. IPR protection should be in coordination with national strategy and plans, said the meeting.

It should effectively serve the core technology research and safety and stability of the industrial chain and supply chain.

The meeting focused on strengthening the IPR protection system, to ensure the security of IPR throughout the whole

process of creation, application, protection, management and service.

IPR management departments should also promote the transformation of IPR, and improve the market-oriented operation mechanism, thus promoting the high-quality development of the industry, the meeting resolved.

It was also agreed that further improvement of public services for IPR protection and international exchanges should be made, along with developing human resources and research on IPR, to provide strong support for decision-making and policy formulation.

### China-Africa Pragmatic Cooperation Grows Stronger

By WANG Xiaoxia

China is the largest developing country in the world, and Africa is the continent with the largest number of developing countries. Shared experiences and similar goals have long brought China and Africa closer together.

In the fight for national liberation and independence, China and African countries supported each other and expanded mutual trust. Although today's

world is full of uncertainties, China and Africa remain committed to pursuing win-win cooperation amid geopolitical tensions and a global economic slowdown.

At the FOCAC Beijing Summit held in September 2018, the two sides agreed to build an even stronger China-Africa community of shared future and lead China-Africa relations and cooperation into a new era. The principles of sincerity, real results, amity and good faith

and the principles of pursuing the greater good and shared interests epitomize China's policy to Africa.

China has always been sincere about cooperation in Africa from the perspective of helping to resolve setbacks in development, for example, constructing and upgrading infrastructure. China-Africa cooperation is pragmatic, said Peter Kagwanja, chief executive at the Africa Policy Institute in Kenya.

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China-aided Africa Centers for Disease Control and Prevention (Africa CDC) headquarters project is completed in the southern suburb of Addis Ababa, capital of Ethiopia on January 11, 2023. (PHOTO: XINHUA)

### First Holographic Digital Power Grid Built

By LU Zijian

China's first holographic digital power grid was established on January 5 in Jiangsu province, east of the country. It is also the first time in the world that a power grid with a load of over 100 million kilowatts has been displayed in holographic digitalization.

This virtual power grid consists of 100,000 kilometers of overhead transmission lines, 280,000 transmission towers and topography data.

Technologies like point cloud acquisition via three-dimensional lasers, digital elevation modeling and high-precision mapping are adopted to grant a specific three-dimensional coordinate for each transmission line, tower and part. The precision of positioning can reach a centimeter level.

Thanks to the holographic digital power grid, State Grid Jiangsu Electric Power has realized large-scale coordination, application and smart control of patrol and inspection of unmanned aerial vehicles (UAV), said Wu Qiang, deputy director of the equipment department of State Grid Jiangsu Electric Power Co. Ltd.

Jiang Haibo, deputy general manager of Jiangsu Fangtian Power Technology Co. Ltd., said that staff do not need to go outdoors to conduct patrols and inspection. It takes only six minutes to conduct a comprehensive patrol and inspection for a transmission tower with the digital power grid, cutting half of the time spent by staff operating UAVs directly, and lifting the efficiency by four to six times that of traditional manual inspections.

Wu noted that over 520,000 automatic patrols and inspections are conducted all year round, discovering 42,000 defects of transmission towers and hidden risks in tunnels in advance. The discovery rate of serious defects has increased by three-fold, said Wu, adding that the operation and maintenance costs could be cut by 200 million RMB annually.

## WEEKLY REVIEW

Orders for C919 Jetliner Reach 1,200

Over 1,200 C919 jetliners have been ordered, according to the plane's manufacturer Commercial Aircraft Corporation of China on January 12. As China's first domestically-built large passenger aircraft, C919 jetliner is receiving orders from many other airlines following its first buyer China Eastern Airlines.

World's First 5G Cruise Ship to be Delivered

A Chinese cruise company Adora Cruises announced on January 12 that it is going to launch the world's first 5G cruise ship through cooperating with China Telecom. The ship can carry 5,246 passengers and is expected to begin the service later this year.

14 Satellites Enter into Orbit in One Go

14 satellites carried by a Long March-2D carrier rocket were sent into orbit from the Taiyuan Satellite Launch Center on January 15. The satellites launched marked the 462nd mission for the Long March carrier rocket series and will enhance domestic remote-sensing capabilities.

Breakthroughs Made in Mimicking Brain Chemical Language

Chinese scientists have made breakthroughs in mimicking the 'chemical language' of human brain. The study, conducted by the scientists at Chinese Academy of Sciences, has been published in *Science* on January 16 and is expected to provide insights into neuro-intelligent sensing, brain-like intelligent devices and neurosensory prosthetics.

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