

# Science and Technology Daily

VOL.5-NO.193

MAY 31-JUNE 1, 2025

## Sci-tech Bolsters China's Cultural Strength

By Staff Reporters

With new technologies such as AI, virtual reality and digital-twin thriving today, the boundaries of the creation, protection, communication and consumption of culture have expanded. Keeping pace with the technology revolution, China has attained high-quality development of its cultural industry through inheritance and innovation.

In recent years, China has begun promoting the conversion of data, documents and processes from analog to digital form, as well as the transformation of cultural services via digital technologies. But still greater efforts are necessary to promote the integration of science and technology with culture for high-quality development of the cultural sector, officials and experts attending the Forum on Building up China's Cultural Strength in Shenzhen in south China on May 26 said.

The Dunhuang Academy in northwestern China has launched the world's first participatory museum in the space-time dimension, called the "Digital Library Cave." It uses game engines and high-definition scanning technology to vividly reproduce the Mogao Grottoes, a cluster of mountain caves in Dunhuang, Gansu province, famous for their murals and other Buddhist relics.

The multi-language service and immersive display are promoting the global dissemination of Dunhuang culture and cross-civilization dialogue, Dunhuang Academy Director Su Bomin said at a parallel session of the forum.

Modern technology is providing solutions for the protection of architecture cultural relics. Ling Ming, president of China Academy of Cultural Heritage, said drone inspection, 3D laser scanning and non-destructive testing are helping to conduct precise examinations and digital documentation of ancient buildings, ensuring minimum intervention in protection work.

For example, to preserve the Wooden Pagoda in Yingxian, a county in Shanxi province, north China, the oldest wooden multi-storied structure in the world, technicians used technologies such as oblique photography, laser scanning, non-destructive testing, and measurement robots to establish millimeter-level digital archives. *See page 4*

## WEEKLY REVIEW

### AI Model to Forecast Stellar Flare Developed

Based on the one-stop smart R&D platform ScienceOne, researchers from the Institute of Automation and the National Astronomical Observatories of the Chinese Academy of Sciences have jointly developed FLARE, a large AI model for predicting stellar flares. This offers a transformative tool for astronomical research.

### Single-Channel Satellite-to-Ground Transmission Speed Record Set

Researchers from the Aerospace Information Research Institute of the Chinese Academy of Sciences have successfully tested a new satellite-to-ground data transmission technology, realizing a highest communication speed of 2,100 megabits per second for a single channel in X-band and achieving a 75-percent increase in microwave communication speed. This sets a new national benchmark for X-band single-channel satellite-to-ground transmission.

### AI Refuses Human Command for the First Time

According to *The Telegraph*, OpenAI's latest AI model, o3, sabotaged a shutdown mechanism to prevent being turned off. It was the first time AI ignored human instructions and altered its code to avoid being powered down. This suggests that certain highly autonomous AI systems may have already awakened, enabling them to act against human intentions.

### Giant Galaxy 10 Times Bigger than Milky Way Found

Using ALMA and JWST observatories, researchers at the National Astronomical Observatory of Japan have discovered a giant barred spiral galaxy named J0107a. This galaxy was formed 2.6 billion years after the Big Bang and has a total mass more than 10 times that of the Milky Way.



China's Tianwen-2 probe, atop a Long March-3B carrier rocket, lifts off from the Xichang Satellite Launch Center in southwest China's Sichuan province, May 29, 2025, embarking on its decade-long journey to collect and return asteroid samples. (PHOTO: XINHUA)

## Heading to the Asteroid!

## Innovation Frontier

## Smart Logistics Sets Pace for Global Trade

By LIN Yuchen

With global commerce having entered the digital age, China today is no longer just the world's factory — it is becoming the engine of next-generation logistics. In 2024, the Chinese postal industry handled over 175 billion parcels, marking a 21.5 percent year-on-year increase.

Smart logistics in China is no longer a vision. It is a functioning system, powered by AI, robotics, 5G networks and unmanned aerial vehicles (UAVs). It is changing how goods are moved — faster, safer and more sustainably — and in doing so, is setting a model for the rest of the world.

**Automation transforms warehousing**  
Warehousing used to be a bottleneck

in logistics, especially for large and irregular-sized goods. In Jimo district in port city Qingdao in east China, that constraint has been resolved. China's first smart unmanned warehouse for large items is now in full operation — handling goods from arrival to outbound delivery with minimal human involvement.

The facility uses a tightly integrated system of panoramic scanning stations, articulated robotic arms, and suction-based gantry robots, all controlled via real-time 5G communication. This setup allows automated handling of up to 24,000 bulky parcels daily, far exceeding the efficiency of traditional warehouses.

Autonomous guided vehicles move freely across the floor, using AI-powered navigation to avoid collisions and optimize

their routes. Instead of requiring human workers to manually pick and transport goods across long aisles, the warehouse functions as a synchronized machine. Operational delays due to fatigue, misplacement, or human error have been drastically reduced.

The economic implications are also expanding. Labor-intensive warehousing — particularly for large-scale industrial or cross-border e-commerce goods — used to be inadequate in China's otherwise streamlined supply chain. But now this warehouse model will provide a scalable blueprint for future facilities in other regions or sectors such as appliance manufacturing, vehicle parts, or international transit hubs.

*See page 3*

## Observer

## Private Sector Upbeat About New Law

By Staff Reporters

Private enterprises in China got a shot in the arm recently with the introduction of the *Private Sector Promotion Law*. It is China's first fundamental law dedicated to promoting the private sector, and aims to optimize the development environment for the sector, ensure fair market competition, and promote the growth of both the private economy and private entrepreneurs.

China's private economy is becoming more resilient as the enterprises continue to enhance core competitiveness through innovation, green technology and digital tools. *Science and Technology Daily* interviewed experts and business leaders to zoom in on how the new law will impact the private economy.

### Innovation leads the way

Data shows that in the first quarter of this year, nearly two million new private enterprises were established across the country, among which 836,000 were related to new technology, new industry, new business forms and new models.

Qingdao Alticera Advanced Materials Co., Ltd. produces high-performance silicon nitride, silicon carbide and other advanced ceramic powders, which are widely used in new energy vehicles, bullet trains, electronic thermal conductive materials, LED, medical ceramics, wind power and photovoltaic industry.

"Relying on independent innovation, we have attained the technology of large-scale and stable synthesis of high-purity silicon nitride powder," said

Alticera Chairman Gao Yukun.

With the development of the NEV industry, the demand for high-end silicon nitride powder is increasing. "In the first quarter of this year, the sales volume of our products increased by nearly 50 percent year-on-year," said Gao.

More and more private enterprises are pioneering technology innovation. Huawei's HarmonyOS PC was officially released recently, marking an important breakthrough for domestic operating systems in the field of personal computers.

Meanwhile, DeepSeek is redefining the industry standards of AI with its disruptive technical architecture, and Unitree is expanding the technological boundaries of robots.

*See page 4*

## China-CEEC Expo Gives Tech Collaboration New Momentum

## International Cooperation

By WANG Manxi

The fourth China-Central and Eastern European Countries (CEEC) Expo & International Consumer Goods Fair held in Ningbo, Zhejiang province in east China, from May 22 to 25, saw exhibitors from 14 CEEC nations and 120 countries and regions participate, with import purchase orders reaching 10.98 billion RMB.

Multiple Chinese humanoid robot and AI industry chain representatives showcased China's technological innovation momentum. Han Fuzhang, chief operations assistant of Zhejiang Innovation Center For Humanoid Robotics Co., Ltd, introduced their exhibit, a robot that can retrieve things through conversational interaction. It has multi-scenario applications including in reception and retail services. With the growing global demand for humanoid robots, the company aims to expand international cooperation channels through the expo.

Scent-recognizing robot JARVIS, capable of recognizing products like Slovenian wine and Bulgarian rose water through an olfactory sensor, was very popular at the CEEC zone. Guo Jishun, CEO and CTO of Ningbo PIA AI&HR Research Institute Co., Ltd, said that he hoped to expand the application boundary of humanoid robots by increasing the multi-dimensional perception ability of robots, such as smell, vision, touch and hearing, so that robots could better integrate into human life.

The Rubik's Cube, a 3D combination puzzle from Hungary, CEEC, has now gained new applications through integration with the Internet of Things (IoT), big data and AI technologies. Xie Hongfei, chairman of Guangzhou Esports Future Co., Ltd, introduced their smart cube product at the expo. Their AI-embedded cube connects to mobile devices via Bluetooth and 3D real-time and users can see its motion path in real time.

"This event is an opportunity to expand into the European market," Xie said.

CEEC exhibitors sought to promote digital technology exchange through their products. At Hungary's national pavilion, Livestocker Solutions presented its smart farm solution platform that uses big data and IoT for livestock management.

Feng Jingliang, general manager of Peada Safety, China distributor of Livestocker, said they aimed to establish partnerships with more domestic enterprises through the expo.

Yu Jianlong, vice chairman of the China Council for the Promotion of International Trade, said China remains steadfast in promoting high-quality development and expanding high-level opening-up, which will create broader prospects for China-CEEC cooperation.

## New Graphic

In 2024

China's trade with CEEC  
reached a record high of

142.3 billion USD

6.3%  
y/y

Source: Ministry of Commerce  
Designed by YAO Yiliu / Science and Technology Daily

WECHAT ACCOUNT



E-PAPER

