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New Pacts to Deepen China-Spain Sci-tech Cooperation

International Cooperation

By Staff Reporters

Spanish Prime Minister Pedro Sanchez had visited China in September. In his meeting with Sanchez, President Xi Jinping said China and Spain should fully utilize platforms such as the Joint Commission on Science and Technology to jointly promote development in high-tech fields such as AI, digital economy and new energy for mutual benefit and win-win results.

Ten cooperation agreements have been signed between Chinese and Spanish research institutions and technology companies on the occasion of the 2024 China-Spain Science and Technology Cooperation Theme Day, observed at the University of Zaragoza in Zaragoza, Spain, on September 25.

The world today is undergoing unprecedented changes, driven by a new wave of scientific and technological revolution and accelerated global industrial transformation, Chinese Science and Technology Vice Minister Chen Jiachang said in a video message.

Countries around the world should not only share the opportunities brought by rapid technological development, but also collaborate to address global challenges.

"Over the past few years, China-Spain relations have progressed smoothly, resulting in multiple fruitful outcomes in practical cooperation. Both sides have jointly released five batches of guidelines for intergovernmental joint research projects, supporting 30 collaborative research projects. Cooperation between the institutions of the two countries is also deepening," Chen added.

Both Yao Jing, Chinese ambassador to Spain, and José Antonio Mayoral, rector of the University of Zaragoza, expressed their shared vision for deepening Sino-Spanish cooperation in science and technology.

The event, themed "China-Spain Science and Technology Cooperation for the Future," brought together government officials, academics, and business representatives from both countries to deepen mutual understanding in their scientific and industrial communities.

Chen invited Spain's academic, scientific, and business communities to visit China. "We hope you can experience our local culture, as well as our advancements in science and technology. Your visit will greatly contribute to the enduring friendship between our two countries and peoples, help us address global challenges together, and promote the well-being of all," he said.

The four sub-forums organized for the event focused on AI, biotechnology, advanced materials, and renewable energy with discussions, exhibitions and cooperation matchmaking.

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▲ This photo taken on June 25, 2024 shows the retrieval site of the returner of the Chang'e-6 probe in Siziwang Banner, north China's Inner Mongolia autonomous region. (PHOTO: XINHUA)

◀ A researcher shows a lunar sample retrieved by the Chang'e-6 mission at the lunar sample laboratory in the National Astronomical Observatories of the Chinese Academy of Sciences in Beijing, September 24, 2024. (PHOTO: XINHUA)

Editor's Pick

China's 20 Years of Lunar Exploration

By LIANG Yilian

China's lunar exploration project, officially launched in January 2004, has marked two decades of significant achievements and established the country as a key player in the field. With a strategic "orbit, land, and return" three-step program, the project has paved the way for future deep space exploration.

Breaking ground: Chang'e-1

The journey began with Chang'e-1, launched on October 24, 2007, from the Xichang Satellite Launch Center. It entered lunar orbit in early November, becoming the first Chinese probe to successfully orbit the moon. This historic achievement was a milestone in China's aerospace history, following its successes in Earth satellite launches and manned spaceflights.

"From the moment Chang'e-1 flew to the moon, I knew that once the moon-shot door was opened, the pace of deep space exploration would not stop," said Sun Jiadong, the first chief designer of the lunar exploration project.

Concrete steps to the moon

Each subsequent mission has built

on these initial achievements. Chang'e-2, launched in 2010, set several records, including being the first international probe to explore the Lagrange point and capturing a complete lunar image at a 7-meter resolution.

Landing on the moon was a major goal achieved by the Chang'e-3 mission in 2013. Given the moon's lack of atmosphere, researchers developed a unique landing system using variable thrust propulsion, enabling the safe touchdown of the probe.

In 2018, the Chang'e-4 mission became the first to achieve a soft landing on the far side of the moon. A relay satellite, Queqiao, was launched to establish a communication link, solving a critical challenge of maintaining contact between Earth and the rover on the far side of the moon.

Bringing samples home

The Chang'e-5 mission in 2020 was China's first sample-return mission, collecting and bringing back lunar soil within just 23 days. It successfully completed 11 major stages, setting five Chinese records in extraterrestrial sample collection.

Chang'e-6 completed the first sampling of the far side of the moon in human history, breaking new ground and pushing the boundaries of technology further.

Next chapter of exploration

China's lunar ambitions extend far beyond these missions. The upcoming Chang'e-7, expected to launch around 2026, will focus on the lunar polar region, while Chang'e-8, slated for 2028, will test technologies for in-situ utilization of lunar resources. Together, these missions aim to lay the groundwork for an international lunar research station by 2035, centered at the lunar south pole, with a 100-kilometer scientific research capacity.

With the increasing level of international cooperation in space missions, more countries and international organizations will participate in the construction of international lunar scientific research stations to jointly enhance the understanding of the universe and promote the development of human civilization, according to Bian Zhigang, deputy director of the China National Space Administration.

High-quality Growth

Digital Transformation Drives Intelligent Chongqing

By SUN Yu, FANG Linlin, YONG Li, WANG Shanshan & QI Liming

Urban digital transformation is promoting innovative development of the digital economy and speeding up the modernization of urban governance systems and capabilities. *Science and Technology Daily* reporters went on a field trip to Chongqing in southwestern China recently to learn firsthand how digital governance is driving economic and social development in this megacity.

"Data resources are an important basis for the construction of digital Chongqing. Its integrated intelligent public data platform provides vast data resources for

the construction of digital Chongqing and a powerful digital base for the modern governance of this megacity," Hu Junguo, deputy director of Chongqing Big Data Development Bureau, said.

On the one hand, the Western China Data Exchange located in Chongqing is turning data into assets. So far, it has attracted nearly 700 data suppliers, listed more than 5,500 types of data products, and achieved a data transaction volume of 920 million RMB.

On other hand, Chongqing has also strengthened its computing infrastructure, and the city's computing power has reached 3,000P (1P is equivalent to 1,000 trillion calculations per second).

According to the data, Chongqing has 144 intelligent factories and 958 digital workshops, with 17 intelligent factories and 224 digital workshops given recognition in 2023 alone.

Digital enabling scenarios have been deeply integrated into people's lives and ways of production. The digital workshops have improved the production efficiency of enterprises while residents can log on to the digital platform for employment, enrollment, housing and other needs.

Chongqing will continue to deepen its digitalization and catalyze digital reform, improving the megacity governance system and accelerating the creation of a model city in the new era of digital civilization.

Delivering Earth Intelligence for All

By LI Linxu & LIU Yin

"If you want to go far, go together." The proverb was echoed in the 2024 GEO (Group on Earth Observations) Symposium and Open Data & Open Knowledge Workshop (ODOK) recently held in Hangzhou.

The symposium and ODOK, themed "From Vision to Action: Crafting GEO's Post 2025 Implementation Plan", focused on translating the GEO Post-2025 Strategy into a detailed implementation plan.

Openness and cooperation are the underlying spirit of GEO, said Gao Xiang, director general of both the GEO China Secretariat and the China Science and Technology Exchange Center. More than ever, human society needs international cooperation, openness and sharing, to tackle global challenges, such as climate change, food security and digital divide.

As one of the founding countries of GEO as well as its current lead co-chair, China is diligently performing its duties, and deeply engaged in the governance of GEO, winning high appraisal from the international community.

China is both a beneficiary of and a contributor to GEO, said Li Deren, academician of both the Chinese Academy of Sciences and the Chinese Academy of Engineering, who has witnessed the establishment and development of GEO. He added that we have only one Earth. Cooperation in Earth observation is not only a need but a must for our planet.

As the largest inter-governmental organization for Earth observations, GEO has facilitated open access to data, developed services, and coordinated enhanced use of Earth observation for the benefit of society since its creation in 2005.

The event is held at a pivotal moment for GEO, presenting a perfect opportunity to learn about the plans developed so far towards implementation of the GEO Post-2025 Strategy of "Earth Intelligence for All", said Justyna Nicinska, GEO programme board co-chair, and senior international relations specialist at the U.S. National Oceanic and Atmospheric Administration.

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WEEKLY REVIEW

2024 Nobel in Physiology or Medicine Prize Announced

U.S. scientists Victor Ambros and Gary Ruvkun won the 2024 Nobel Prize in Medicine for the discovery of microRNA and its crucial role in how multicellular organisms grow and live.

2024 Physics Nobel Laureates Named

U.S. scientist John Hopfield and British-Canadian Geoffrey Hinton won the 2024 Nobel Prize in Physics for discoveries and inventions in machine learning that paved the way for the artificial intelligence boom.

Nobel Prize in Chemistry Awarded to 3 Scientists

U.S. scientists David Baker and John Jumper and British Demis Hassabis won the 2024 Nobel Prize in Chemistry for work on decoding the structure of proteins and creating new ones, yielding advances in areas such as drug development.

Heavy-duty Gas Turbine Passes Test

China's domestically produced 300-megawatt F-class heavy-duty gas turbine completed its first ignition test in Shanghai on October 7, marking a significant advancement in the country's gas turbine technology.

In-orbit Satellite Tests AI Large-model

ADA Space, a Chinese AI satellite Internet technology company, announced on October 6 that its recently-launched satellite has successfully verified its AI large-model technology during in-orbit operation.

Main Telescope Antenna Installed in Xizang

The main antenna of China's 40-meter-aperture radio telescope was recently installed in Shigatse, southwest China's Xizang autonomous region. Developed by the Shanghai Astronomical Observatory under the Chinese Academy of Sciences, the basic construction of the fully movable, high-precision, multi-purpose telescope is scheduled to be completed by the end of 2024, with an initial observation capability in early 2025.

New Graphic

Rapid Growth of China's Electronic Information Manufacturing Sector

9.94 trillion RMB

The revenue of electronic information manufacturing industry above the designated size (Jan-Aug 2024)

7.7% y/y

Source: Ministry of Industry and Information Technology
Designed by YAO Yili / Science and Technology Daily

WECHAT ACCOUNT



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