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International Cooperation

BRICS Expansion Signals Promising Future

Edited by LIANG Yilian

The BRICS membership doubled on January 1, from 5 to 10, after Saudi Arabia, Egypt, the United Arab Emirates, Iran, and Ethiopia joined the group of emerging-market nations.

For years, BRICS has witnessed concrete cooperation results in economic, political, scientific and cultural spheres, and continues to prosper in a spirit of openness, inclusiveness and win-win cooperation.

On the medical front, BRICS countries have established a research network for tuberculosis (TB), which has greatly promoted communication among policymakers and scientists and contributed to the global drive of ending TB, according to China's National Health Commission.

In addition, BRICS members explored more medical cooperation opportunities through a series of international conferences. Neuroscientists from five BRICS countries gathered in 2023 at the Neuroscience Symposium in Shanghai, and exchanged latest academic advances in the fields of brain function, brain mapping, sleep regulation, mental diseases, degenerative diseases and new techniques for brain research.

As emerging markets and agricultural powers, BRICS countries are an important force in ensuring world food security. To promote the high-quality development of agriculture, the countries turned to science and technology.

In June 2023, the "Chinese + Agricultural Science and Education Development Center" jointly built by South China Agricultural University and Brazil's Federal University of Mato Grosso was officially inaugurated.

Taking advantage of discipline construction and international resources, the center plays the role of a language bridge, and builds a platform for agricultural science and education cooperation.

On July 5, 2023, the China-Russia Soybean Joint Research Center was officially inaugurated. The center will promote the advantages of soybean science and technology and personnel resources of the two countries, creating an international soybean research platform of joint innovation and resource sharing.

Ethiopian Prime Minister Abiy Ahmed in November 2023 said Ethiopia's membership in the BRICS mechanism is advantageous as the group promotes the South-South cooperation framework.

Meanwhile, Saudi Arabia's Prince Faisal bin Farhan was quoted by Reuters as saying the BRICS group was "a beneficial and important channel" to strengthen economic cooperation.

According to Chinese Foreign Ministry spokesperson Wang Wenbin, China is fully confident in the BRICS' future, and BRICS expansion has shown positive prospects. He noted the BRICS cooperation mechanism has increased cohesiveness and influence, and become a positive and stable force for good in international affairs.

"We will work with BRICS partners to strive for new results in greater BRICS cooperation," Wang said on January 2.

New Graphic



A Long March-2C carrier rocket carrying a new astronomical satellite named Einstein Probe blasts off from the Xichang Satellite Launch Center in southwest China's Sichuan province on January 9, 2024. The satellite uses the "lobster eye" microarray focused imaging technique to accurately capture more distant and faint transient sources and erupting objects. (PHOTO: XINHUA)

Editor's Pick

Harmony Between Railway Construction and Natural Protection

By DU Peng & ZONG Shihan

In the cold of winter, the sleek speeding train is like a dragon, flying across Poyang Lake leaving ripples on the blue water's surface. The Hangzhou-Nanchang high-speed railway is now full-line operational, after the section connecting Huangshan city in Anhui province and Nanchang city in Jiangxi province officially went live on December 27, 2023.

Nearly 90 percent of the Huangshan-Nanchang section is elevated above lakes, plains, and hills. It passes through Poyang Lake, a habitat for Yangtze finless porpoises, Junshan Lake, a pollution-free aquatic products breeding base, and Jinxi Lake, a habitat of white swans. Protecting the beautiful ecological environment along the line has become an important task in the construction of the railway.

Reducing environmental pollution
"The construction environment

along the railway is complex. This did not mean the environmental protection requirements were reduced, but were in fact given priority," said Huang Zhirong, the technical director of the Huangshan-Nanchang section of the Hangzhou-Nanchang high-speed railway.

At the design inception, railway designers achieved maximum protection of the ecological environment through various technical means such as optimizing railway lines and bridge types.

Compared to the 32-meter continuous beams used in traditional railway bridges, the Huangshan-Nanchang section adopted the 40-meter simply supported beams to cross the lake area, which can reduce more than 230 piers and minimize the ecological impact on lake areas, said Huang.

The Huangshan-Nanchang section spans 8.8 kilometers across the Poyang Lake wetland, with some bridge piers located within the provincial-level nature

reserve of the salangid spawning ground. Throughout the construction process, workers transported all the mud, debris, and sewage outside. Mud boxes were used to prevent potential splashing of sludge and lake water pollution.

Protecting wild animals and birds

Poyang Lake is an important habitat for finless porpoises, which rely on sonar to communicate and are very sensitive to sound. In order to reduce disturbances to wild animals and residents along the line, the construction team used a noise-reducing reverse circulation drilling method for construction, and only scheduled high noise-level construction during daytime.

At the same time, sound sensors were installed at all temporary sites. The construction team assigned dedicated personnel to detect, analyze, and record noise emissions in real time, and took timely control measures to minimize noise impact on local life and the ecological environment. *See page 2*

Overseas Echoes

Stronger China-Sweden Sci-tech Cooperation for Global Well-being

By CUI Aimin
Chinese ambassador to Sweden

Recently, I've read a story that a Nobel laureate introduced about a special map of innovation. Each time a research was completed, he would express gratitude to all the team members in the laboratory, sometimes not only by announcing their names, but also taking out a world map and marking their birthplaces on it with pins. He exclaimed that such a map was quite spectacular, reflecting the rich geographical diversity of the team members who were from Asia, Europe and the Americas.

This anecdote shows that science has no borders. Major sci-tech innovation achievements have never been created by a single country or team alone, but are

the results of international cooperation. China and Sweden are similar in terms of innovation. Sci-tech innovation infused China's modern industrial system with strong vitality. In recent decades, China's innovation capability has achieved leapfrog development.

China climbed to the 12th place on WIPO's Global Innovation Index 2023, rising by more than 20 places in the past decade. Scientific research papers published by Chinese researchers accounted for 24.6 percent of the global total, and the number of valid Chinese patents reached 4.8 million, both ranking first in the world.

China has made a number of significant original innovations with international influence in the fields such as quantum technology, stem cells, and

brain-like chips. Sweden is a leading country in sci-tech innovation. It has been top-ranked in the Global Innovation Index and the EU innovation scoreboard for years, maintaining a leading position in multiple fields such as life sciences and advanced manufacturing. It is one of the earliest countries in the world to implement environmental protection and to introduce the concept of sustainable development. Leading environmental products and technologies such as fossil-free steel, waste recycling and reuse, and sustainable energy from renewable sources have contributed to Sweden's sustainable development.

In the past decade, sci-tech innovation cooperation between Sweden and China has grown rapidly. *See page 4*

Space Advances To Be Expected in 2024

Edited by WANG Xiaoxia

In 2023, China made some major advances in space exploration. In 2024, the in-orbit China Space Station will welcome new "visitors," and the country will make the first ever attempt to collect samples from the far side of the Moon. Meanwhile, the commercial space industry is expected to continue the positive momentum made last year.

Four missions to Tiangong

Four missions will be concluded in the country's space program in 2024, namely the launches of the cargo craft Tianzhou-7 and Tianzhou-8, and the crewed spaceships Shenzhou-18 and Shenzhou-19, according to the China Manned Space Agency.

Among them, both Shenzhou-18 and Shenzhou-19 are composed of three crew members, which means that the space station will see two in-orbit "shifts" this year, and six astronauts will work and live in the "space home."

As for the Tianzhou cargo craft, its loading capacity has reached 7.4 tons, making it one of the most powerful cargo spacecraft in the world. When Tianzhou-7 is launched, the in-orbit inventory and the cargo craft's supplies combined can support the crew for one year.

Collecting samples from the Moon's far side

As one of the science events to watch for in 2024, selected by the journal *Nature*, China's lunar probe Chang'e-6 will be launched to collect samples from the far side of the Moon, according to the China National Space Administration (CNSA).

Before the probe, the newly developed relay satellite Queqiao-2, or Magpie Bridge-2, will be launched in the first half of 2024, to support the communications between the Moon's far side and the Earth. After Chang'e-6, the satellite will continue to serve the Chang'e-7, Chang'e-8 and subsequent lunar exploration missions, said the CNSA.

It noted that the Chang'e-6 lunar probe will carry payloads from France, Italy, Pakistan and the European Space Agency, which include a negative ion detector and a radon gas detector. At present, China is leading the development of the International Lunar Research Station to promote international cooperation in lunar exploration. *See page 2*

WEEKLY REVIEW

Chinese Products Shine at CES 2024

The 2024 Consumer Electronics Show (CES) kicked off in Las Vegas, U.S. on January 9, with over 4,000 exhibitors from all over the world. More than 1,100 Chinese companies participate in this year's CES, covering various categories of the consumer electronic industries, including well-known brands Lenovo, BOE, Hisense and TCL.

Over 400 Million Tonnes of Grain Purchased in 2023

China maintained its grain purchase level at over 400 million tonnes last year while its grain output achieved another bumper harvest in 2023, ensuring abundant stocks, according to the State Grain and Reserves Administration on January 9.

World's Largest Container Ship on Trial Voyage

The world's largest container ship, the OOCL Valencia, departed for sea trial on January 9 through the Nantong section of the Yangtze River. It is the first ship of its kind completed in China in 2024.

Researchers Publish Map of Human Limb Development

A research team from the Zhongshan School of Medicine at Sun Yat-sen University innovatively used single cell transcriptome technology and single cell spatial transcriptome technology, making it possible to explore the cell evolution process. The study has been published in the journal *Nature*.

WECHAT ACCOUNT



E-PAPER

