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WEEKLY EDITION

## BRICS to Strengthen Sci-tech Cooperation

By FENG Zhiwen & LIN Yuchen

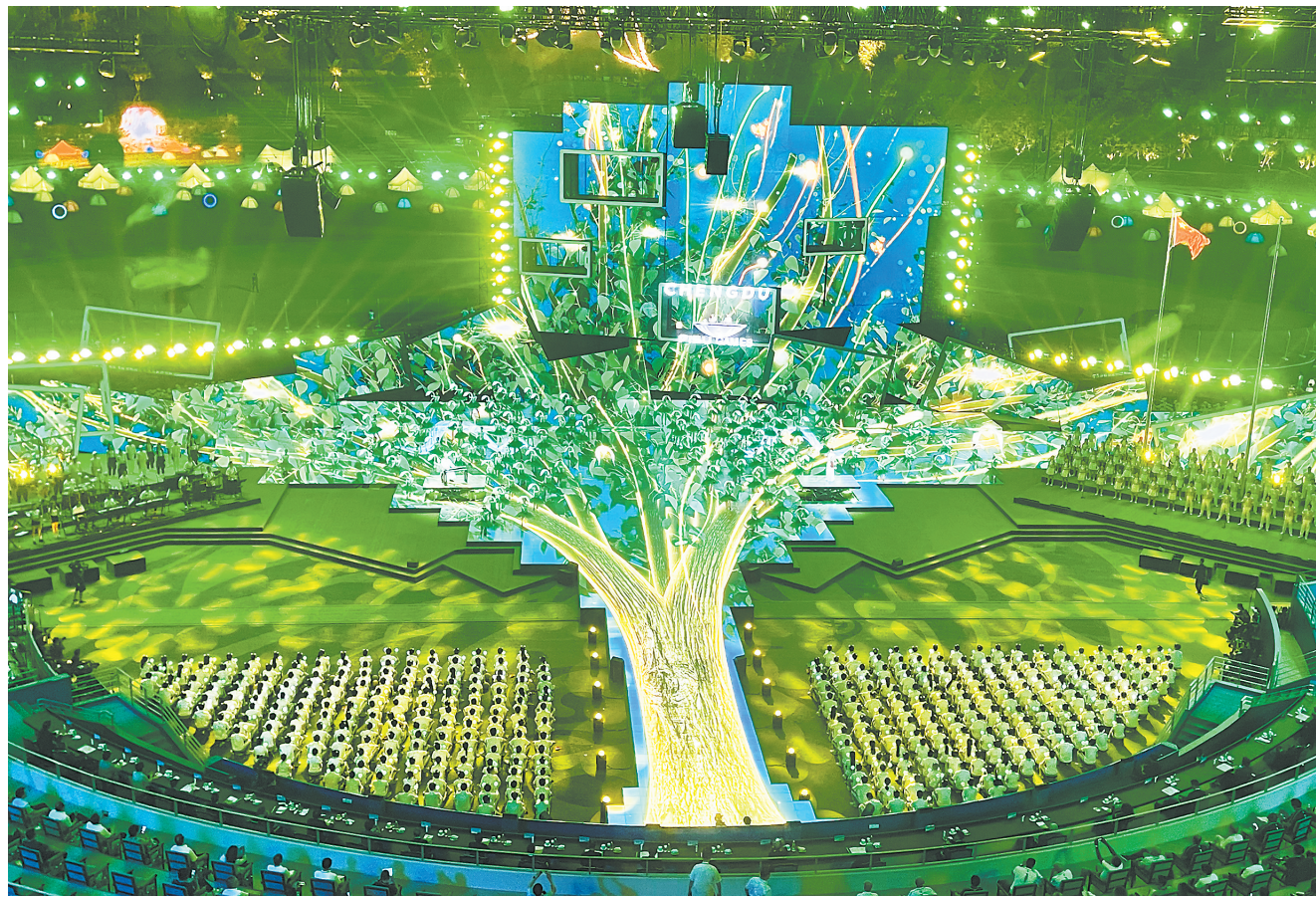
The 11th BRICS Science, Technology and Innovation (STI) Ministerial Meeting held in the city of Gqeberha, South Africa, on August 4, in the run-up to the 15th BRICS Summit from August 22 to 24, declared to strengthen the BRICS partnership in STI.

According to China's Minister of Science and Technology Wang Zhigang, China's innovative development cannot be separated from the world, and the world's scientific and technological progress needs China. He added that China has integrated itself into the global development network and achieved results in joint research with many countries, including the BRICS members, in such areas as climate change, food security and human health.

At present, China has sci-tech cooperation relations with 161 countries, regions and international organizations. It is also a member of more than 200 international organizations and multilateral mechanisms, participating in major international scientific programs and projects. They include the International Thermonuclear Experimental Reactor, the world's largest nuclear fusion research and engineering program, and the Square Kilometer Array Radio Telescope.

Wang said China has always regarded BRICS as a priority for cooperation in sci-tech innovation, and put forward a four-point initiative to deepen cooperation in sci-tech innovation, including strengthening the top-level design of cooperation in sci-tech innovation; accelerating the output and application of high-level scientific and technological achievements; promoting the benefits of science and technology for the betterment of society and people's livelihoods; and expanding the space for international exchanges and cooperation in science and technology.

Emmanuel Blade Nzimande, South Africa's Minister of Higher Education, Science and Technology, said his country has introduced a new 10-year science plan that puts STI at the core of its development. The three priorities are vaccine manufacturing, and developing the hydrogen economy and marine science, with deepening cooperation with other BRICS countries.



The autostereoscopic 3D display of the Chinese dove tree during the closing ceremony of the 31st FISU Summer World University Games in Chengdu, southwest China's Sichuan province. (PHOTO: CHEN Ke/S&T Daily)

## Editor's Pick

## Makeover of Bohai Coast from Barren Land to Farmland

By Staff Reporters

The salinization of soil poses a serious threat to agriculture and sustainable development by reducing the growth of crops. China has about 100 million hectares of saline-alkaline land, of which only one-third could be used to grow crops.

Hence, in recent years the focus is to develop and utilize the saline-alkaline land in the low plain area around Bohai Bay.

In 2013, the Chinese Academy of Sciences (CAS) and the Ministry of Science and Technology launched a demon-

stration project in collaboration with the local governments of Hebei, Shandong, Liaoning and Tianjin to improve the capacity of the low-yield fields.

### Improving soil quality

To treat the shortage of fresh water and the high salt content of the soil, researchers used several methods like using a combination of irrigation techniques, treating the soil chemically and planting halophytes which can grow in saline conditions.

CAS established an ecological agriculture experimental station in Nanpi, a county in Hebei province, to research on

improving saline-alkaline land and breeding wheat varieties that can grow on such land. They used modifiers - substances that can reduce salinity and alkalinity, and introduced microorganisms or plants that can enhance soil fertility and biodiversity.

Nanpi has also made a breakthrough in the irrigation system. CAS scientists created a technology to use brackish water that is slightly salty but not as much as seawater for irrigation. This has increased crop production while saving water.

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## China, ASEAN Accelerate Collaboration

### International Cooperation

By Staff Reporters

The 11th Forum on China-ASEAN Technology Transfer and Collaborative Innovation held last month, has served as a platform facilitating cooperation by promoting conversations. In the process, multiple southeast Asian countries and China have shared cooperative benefits.

The China-ASEAN Technology Transfer Center has built a technology transfer collaborative network covering China and ASEAN countries, with more than 2,800 members, and four technology transfer cooperation platforms in Thailand, Singapore, Indonesia and Malaysia, serving more than 18,000 enterprises in the region.

"Openness and cooperation is an inherent requirement for scientific and technological progress, innovation and development, and an inevitable choice for countries to deal with global chal-

lenges," said Dai Gang, director-general of the department of international cooperation of Ministry of Science and Technology.

During the first China-ASEAN Artificial Intelligence Cooperation Forum, organized this year, experts and scholars from ASEAN countries and a number of Chinese industry experts gave keynote speeches to bridge upstream and downstream international cooperation and exchanges for the industry. This was designed to stimulate innovative thinking, and to jointly explore opportunities for cooperation in the field of artificial intelligence.

China's Hainan province was invited as a "guest province" to participate in this forum. In the field of tropical crop agriculture, for example, Hainan and ASEAN countries have cooperated in the establishment of rubber, bananas and other tropical crop production and processing technology demonstration bases, offshore agricultural experiment stations, and jointly carried out a number of key technology research and develop-

ment and application. In the field of the deep sea, Hainan and Indonesia, Singapore, Malaysia, as well as other countries, carried out in-depth cooperation surrounding abyssal deep-diving scientific research.

The forum also launched the 2023 China-ASEAN Innovation and Entrepreneurship Competition, released the ASEAN-oriented Cooperation Initiative on Artificial Intelligence Development and the China-ASEAN Work Program on Science Popularization Exchange and Cooperation.

Previously, the forum held 31 technical docking sessions in specialized fields, displayed and promoted a cumulative total of more than 4,200 projects, witnessed the signing of 79 key China-ASEAN innovation cooperation projects, and facilitated more than 300 signings or intentional signings between China and ASEAN countries.

The forum has added new sci-tech momentum into the establishment of a China-ASEAN community with a shared future.

## Smart Chengdu Universiade Embraces High-tech

By LIANG Yilian

Pandas, Sichuan spicy cuisine and tea houses are traditional images that come to mind when people think of Chengdu, the capital city of Sichuan province. However, the recently concluded Chengdu FISU World University Games have transformed these stereotypical impressions of the city, and showcased its scientific and technological strength and innovative vitality.

### High-tech opening ceremony

The opening ceremony of the games presented a fusion of high-tech and artistic splendor. Held at Dong'an Lake Sports Park Stadium, the ceremony featured a seamless integration of technological innovation with Chengdu's cultural heritage. This was exemplified by vibrant silk threads and Shu embroidery patterns, symbolizing the city's rich culture, projected onto the stadium's track during the athletes' parade.

The production team developed a system incorporating 40 lasers to create the visual effects, according to Wang Ruixiang, general producer of the opening ceremony. Additionally, the team engineered an intelligent control device for aerial stunts. This device, tailored to the stadium's architectural features, helped produce the ideal artistic effects and represented the vigor and vitality of university students, according to People's Daily Online.

To minimize environmental impact, the opening ceremony used high-tech environmental protection fireworks. The firework agents were free of heavy metals and used a low sulfur content to greatly reduce the sulfur generated during discharge, Chen Weiya, chief director of the opening ceremony, told *Science and Technology Daily*.

### Introducing robots to the Universiade

Ranging from coffee making to table tennis coaching, the Chengdu Universiade showcased the integration of robotics in various critical roles.

One of the most remarkable robots featured at the event was a panda-like robot, designed to resemble the event mascot "Rongbao." This groundbreaking service robot was equipped to handle emergencies and distribute emergency kits, cardiac defibrillators, and other medical tools. Additionally, it offered various services such as providing explanations, answering inquiries, translating and guiding attendees.

Another noteworthy robot appearing at the Universiade was the "training partner robot," capable of mimicking human movements in table tennis, such as speed, rotation, and the landing point for each ball served. See page 2

## WEEKLY REVIEW

### Meteorological Satellite Launched

The Fengyun-3F meteorological satellite successfully entered its planned orbit on August 3. It will take over the in-orbit duties of the previous FY-3C satellite and provide services such as weather forecasting, climate prediction, disaster monitoring and environmental monitoring.

### Beijing to Initiate Carbon Hydrogen-based Carbon Trading

The Beijing hydrogen fuel cell vehicle carbon reduction project was launched in its Daxing district on August 3. The project will estimatedly slash about 24,000 tons of carbon emissions annually and is expected to complete the city's first hydrogen-based carbon trading in September.

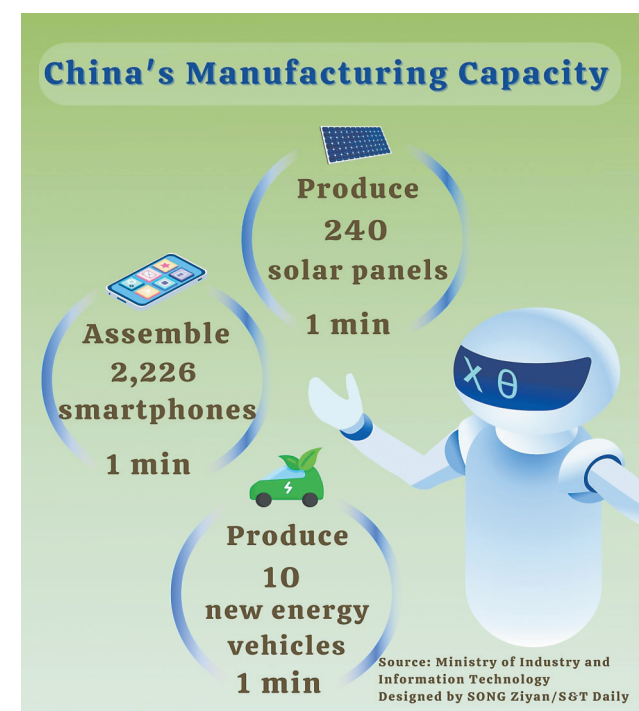
### Flexible Ferroelectric Material Developed

Chinese scientists have developed a highly flexible and electrically stable material, according to a study published in the journal *Science* on August 4. The ferroelectric material not only retains its functions when stretched two-fold but also returns to its original shape once the stress is relieved.

### New Homegrown Multipurpose Aircraft Makes First Flight

The MA60 firefighting plane, a new member of the Modern Ark aircraft family, successfully made its maiden flight recently. This is a major step forward in the development and airworthiness certification works of this new model, according to the Aviation Industry Corporation of China.

## New Graphic



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