



# Science and Technology Daily

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WEEKLY EDITION

## International Cooperation

### Sino-Swiss Scientists Ramp Up Space Science Collaboration

By WANG Xiaoxia

An online meeting on cooperation in space science and technology was held on June 30, where scientists from China and Switzerland shared information on new advances in this field.

The meeting, co-hosted by China Science and Technology Exchange Center (CSTEC) and Swiss Museum of Transport (Verkehrshaus), provided an opportunity for researchers, astronauts and students to share experience and exchange ideas amid the global COVID-19 pandemic.

In the rise of global challenges and uncertainties, to promote sci-tech advances and sustainable development benefiting all humankind is the common issue faced by scientists worldwide, said Gao Xiang, director general of CSTEC, during his opening remarks. *See page 2*

### Chinese-built Bangladesh Bridge to Boost Regional Development

By Staff Reporters

After eight years of construction, the Padma Bridge built by a Chinese enterprise opened to traffic on June 25, expected to effectively promote regional connectivity and economic development in Bangladesh and South Asia.

The bridge is expected to contribute 1.23 percentage points to Bangladesh's GDP growth and reduce the poverty rate by 0.84 percentage point per year, said Bangladesh Prime Minister Sheikh Hasina, adding that as a major part of the Asian Highway Network, the bridge will also contribute greatly to regional trade.

New economic zones and high-tech parks will be built in the vicinity of the bridge. As a result, domestic and foreign investment will be attracted and the pace of industrialization of the country will be accelerated, the prime minister said.

For Bangladeshis, a dream has come true. The completion of the "Dream Padma Bridge" has brought an end to the history of crossing the mighty Padma River between dozens of districts in southern Bangladesh and the capital of Dhaka by ferries or boats only, shortening the travel time from nearly eight hours to only ten minutes.

The mega multipurpose road-rail bridge, with the main bridge spanning 6.15 km in length, was constructed by China Railway Major Bridge Engineering Group Co, Ltd (MBEC). It is the largest and most challenging infrastructure project in Bangladesh's history.

Composed mainly of ultra-fine sand and soft clay, the riverbed of the Padma River is very weak and unstable, which posed great construction challenges, said Shen Tao, deputy project manager of the bridge from MBEC.

To stabilize the bridge, the builders had to fix steel piles 120 meters deep into the riverbed, which needed to be hammered in an average of 20,000 to 30,000 times per pile, said Li Jiming, Chinese Ambassador to Bangladesh.

According to MBEC, the project has created more than 50,000 jobs for local residents since the beginning of construction. Bangladeshi workers have improved their skills during the construction process, and can now work on other large projects with the experience gained.



The Padma Bridge, constructed by China Railway Major Bridge Engineering Group, is the largest infrastructure project in Bangladesh's history. (PHOTO: XINHUA)



The Hong Kong Science Park officially opened in 2002 with a vision to create an innovation-driven future for Hong Kong Special Administrative Region. (PHOTO: XINHUA)

## Editor's Pick

### Hong Kong: Innovation Hub in the Making

By LU Zijian

After 25 years back in the fold of the motherland, the Hong Kong Special Administrative Region (HKSAR) has witnessed its innovation advances soar, especially in the recent past.

The number of start-ups has rocketed from around 1,500 in 2015 to 4,000 in 2021 in Hong Kong, and more than ten unicorn enterprises have been born there.

According to the *World Competitive-ness Ranking 2022* released by International Institute for Management Development, Hong Kong is ranked 5th in the world.

Step by step, Hong Kong is making a great effort to become more innovative.

#### R&D cooperation

By 2021, there were 16 national key laboratories, six branches of national engineering research centers, and 22 joint laboratories with Chinese Academy of Sciences in Hong Kong.

Gao Min, dean of the Hong Kong University of Science and Technology (HKUST) Fok Ying Tung Research Institute, said that the eight universities in

Hong Kong have access to Tianhe-2, the renowned supercomputer installed at the National Super Computer Center in Guangzhou, and enjoy its data service via a special line.

Thanks to Tianhe-2, athlete Lee Wai-sze won a bronze medal in the women's track cycling sprint at the 2020 Tokyo Olympics as Professor Zhang Xin at HKUST helped to improve her riding posture and outfit based on the calculations of Tianhe-2.

According to Gao, more than 200 research teams from Hong Kong and Macao have used Tianhe-2, which greatly improved the sci-tech research in the two regions.

Research cooperation between enterprises also brought about fruitful results. Roborn, a robot company in Hong Kong, established a strategic partnership with ZTE and China Mobile in 2018, and developed a 5G compliance motion control humanoid robot, which is the first of its kind in China.

#### Obtaining policy and fund support

The central government has been offering policy and funding support for the sci-tech innovation development of

Hong Kong.

A science and technology cooperation committee between Hong Kong and the mainland was established as early as 2004 and 15 meetings have subsequently been held.

The *Arrangement on Enhancing Innovation & Technology Cooperation between the Mainland and Hong Kong* was signed between the Ministry of Science and Technology (MOST) and the the HKSAR in 2018 to promote sci-tech cooperation.

Researchers from Hong Kong universities are treated equally with their counterparts at mainland universities, and they can apply for national key R&D projects in all nine basic frontier areas, said Wang Zhigang, minister of science and technology.

For the past two years alone, more than 440 million RMB was authorized for Hong Kong's universities and research institutes for R&D projects or establishing laboratories, said Carrie Lam, former Chief Executive of HKSAR, at the Greater Bay Science Forum 2021 last December.

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### 112 Mln: Sci-Tech Personnel Numbers Soar

By Staff Reporters

By the end of 2020, the number of sci-tech personnel in China reached more than 112 million, ranking first in the world for several years, according to a report released by the National Academy of Innovation Strategy, China Association for Science and Technology on June 25.

The sci-tech personnel in China are not only increasing in number, but also becoming significantly younger, with

those 39 years old or younger comprising about three quarters of the total.

Another feature worth noticing is that the number of female scientists and engineers has rocketed, consisting of around 40 percent of the sci-tech personnel in total in 2019, which makes the gender structure of the sci-tech personnel more balanced in China. In addition, more than half the total number of personnel hold a degree in engineering.

The report predicted that the num-

ber of sci-tech personnel in China will keep growing with continuously optimized structure and enhanced quality.

It also suggested that China should constantly improve the quality of sci-tech talent cultivation and perfect the incentive mechanism. According to the report, efforts should be made to cultivate a large team of sci-tech personnel with good quality, optimized structure and crucial role to play in accelerating the establishment of a major world center of talent and innovation.

### AI Integration with Real Economy Fast Tracked

By Staff Reporters

In recent years, China has witnessed a rapid growth of artificial intelligence (AI) and accelerated the integration of AI technology with industries. To date, the scale of China's AI core industry has exceeded 400 billion RMB (about 59.7 billion USD), with over 3,000 enterprises involved, according to the Ministry of Industry and Information Technology (MIIT).

Since the State Council issued the development plan for the new generation of AI in 2017, China has built a batch of national pilot zones for AI innovation and development, to promote its application scenarios in the real economy, including medical care, education, transportation, pharmacy and urban construction.

To support the application of AI in the real economy, China has accelerated the construction of intelligent information infrastructure. The innovation capacity has been continuously improved in the fields of smart sensors, intelligent connected vehicles and other landmark products.

The integration of AI with manufacturing, transportation, medical care and industries related to people's livelihood is being fast tracked, and new business models and markets are constantly emerging, vigorously promoting the digital and intelligent transformation of all industries, said Xiao Yaqing, minister of MIIT.

Apart from the consumer market, AI is more applied to the production process, deeply integrating with various industries, constantly providing innovative products and services, and merging into scientific, technological, economic and social development in an all-round way, said Xing Huaibin, deputy director-general of department of strategy and planning, the Ministry of Science and Technology.

## WEEKLY REVIEW

#### China-backed LRT Operates in Africa

Built by a consortium led by China Railway Group and AVIC International Holding Corp, the first electrified light rail transit (LRT) system in Egypt began pilot run on July 3. The first phase of the LRT contains 22 trains and will serve 360,000 passengers daily.

#### First Hybrid UHVDC Transmission Line in Operation

As the first hybrid UHVDC system in the world, the Baihetan- Jiangsu  $\pm 800$ kV UHVDC Transmission Line started operation on July 1. The system will transmit clean electricity of 30 billion kWh annually and reduce 14 million tons of coal consumption for electricity generation and carbon dioxide emissions of 25 million tons.

#### Digital Economy Soaring in China

The scale of China's digital economy soared from 11 trillion RMB in 2012 to more than 45 trillion RMB in 2021, according to statistics from the Ministry of Industry and Information Technology. The proportion of digital economy in the country's GDP also increased from 21.6 percent to 39.8 percent in the same period.

#### China's OS Developers' Platform Unveiled

OpenKylin, China's first desktop operating system (OS) developers' platform, was jointly launched by China Industrial Control Systems Cyber Emergency Response Team, Kylinsoft and other companies recently. It works on the development of open source desk OS with independent innovative technologies.

#### China-CEEC Innovation Cooperation Research Center Inaugurated

Guided by the Ministry of Science and Technology, the China-Central and Eastern European Countries Innovation Cooperation Research Center was launched on June 30, aiming to build a platform for innovation cooperation, circulation of economic elements and commercialization of achievements between China and Eastern European Countries.

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