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WEEKLY EDITION

## Major Progress of Innovation in 2021

By LU Zijian

The State Council Information Office held a press conference on February 25, at which Wang Zhigang, minister of science and technology, updated the media on China's progress in sci-tech innovation in 2021.

New achievements were made in innovation-driven development, said Wang. In 2021, China's R&D expenditure went up 14.2 percent year-on-year to 2.79 trillion RMB, accounting for 2.44 percent of its GDP. China has risen to 12th in the *Global Innovation Index 2021*, released by the World Intellectual Property Organization last September.

Last year, China strengthened its focus on the whole chain of basic research, technological innovation, commercialization and industrialization of sci-tech achievements, uplifting the inner impetus that drives economic and social development.

Facing the global sci-tech frontier, China supported the exploration of basic

research and frontier technologies, which brought the emerging of a series of original and spectacular achievements.

The country also regarded economy as a key factor for development, arranging the industrial chain and innovation chain correspondently, boosting new impetus non-stop.

In terms of the country's major needs, China remained target-oriented, reinforcing the wholistic design of R&D projects and providing key solutions for its major needs using sci-tech as the logical start point and core element.

China also insisted on putting people and their lives first, regarding the improvement of people's health care as an important guidance for R&D.

The building of strategic sci-tech strength was accelerated, including that of national laboratories, national key laboratories, high-level research-oriented universities and research institutes, as well as the development of high-tech enterprises.

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## Sci-tech Cooperation with 84 BRI Countries Set up

By Staff Reporters

By the end of 2021, China had established sci-tech cooperative relationships with 84 countries along the Belt and Road Initiative (BRI), supporting 1,118 joint research projects. There are also 53 joint laboratory projects in agriculture, new energy and health care.

In terms of cooperation in agriculture, an international joint laboratory of water saving irrigation was established by China's Ningxia University and Egypt's Ain Shams University in 2019. The two countries built two test sites for a smart water saving irrigation system using wind solar hybrid power in two farms in Egypt, covering 320 mu.

All tunnels were buried underground, and the irrigation system can cover 50 mu farmland an hour, operated from a smart phone. In cooperation with local enterprises, the system is set in farmland of more than 30,000 mu, benefiting the agricultural industry in the desert areas.

There is also cooperation in other sci-tech fields. Last December, the Innovation Academy for Microsatellites of

Chinese Academy of Sciences and the Foundation for Science and Technology Portugal (FCT) established a joint laboratory STARLab, aiming to cooperate further in sea and space sciences. Before that, China and Portugal had already started cooperation and the latter is the first country from the European Union to establish a "blue partnership" with China.

Apart from joint laboratories and research projects, there have been more than 30 bilateral or multilateral technology transfer centers built between China and countries which joined BRI. Since 2016, around 180,000 sci-tech personnel have come to China for exchange and training, and more than 14,000 young scientists for short-term sci-tech research work.

Industrial parks were also built. In the suburb of Minsk, capital of Belarus, the Great Stone Industrial Park jointly built by China and Belarus has attracted more than 80 enterprises from 15 countries. Vehicle-mounted supercapacitors produced in the park have been installed in local buses as batteries, offering green commuting services to local residents.



An agriculture exhibition is held at the Great Stone Industrial Park in the suburb of Minsk, capital of Belarus. (PHOTO: XINHUA)



The yield of double-cropping rice developed by Yuan Longping and his team exceeds 1,500 kg per mu at an experimental base in Yazhou District (Batou), Sanya city of Hainan. (PHOTO: XINHUA)

## Editor's Pick

### Nanfan: Breeding Seeds of Hope

By WANG Xiaoxia

Yuan Longping, the late "father of hybrid rice," once said the success of hybrid rice should be attributed to "Nanfan."

Nanfan is a process that accelerates the seed breeding process in south China's warmer climate, greatly improving the adaptability of varieties, and bearing more than 70 percent of new crop varieties in the country. If Yuan's hybrid rice is one of the masterpieces of China's agricultural science and technology, Nanfan is the collection of them, making a great contribution to China's food security.

Seed breeding, as vital agricultural core technology, was once again noted in China's newly unveiled "No. 1 central document" for 2022. Stepping into the

new era, China is building a "Nanfan Silicon Valley" that integrates scientific research, production, sales, sci-tech exchanges and achievement transformation.

#### Improved conditions

Beginning in the late 1950s, thousands of Chinese agricultural experts began migrating to Hainan, the country's largest Nanfan breeding base, from September to May every year. They used the sunlight and temperature on the island to search for more seed breeding possibilities, while enduring harsh living conditions.

Farmer scientist Li Denghai recalled the early years of his career in Hainan. He arrived to research corn breeding in 1978, and lived in a thatched house, sometimes sleeping in the fields to pro-

tect the materials, covered with sacks to protect himself from mosquitoes.

After years of effort, Li's high-yield corn varieties have increased the country's output by more than 100 million tons. The seed company Li founded has established 17 well-equipped breeding bases in Hainan.

Cheng Xiangwen, an 86-year-old agronomist, has spent nearly 60 spring festivals in Hainan, since he first arrived to develop improved corn varieties in 1964.

Now, authorities have approved 14 new, high-yield corn varieties that Cheng helped develop. Among them, the series of "Jundan" has been promoted in more than 300 million mu (1 mu is about 667 square meters) of land in China.

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### WWD, Committed to Wildlife Protection

By WANG Xiaoxia

Today is 9th World Wildlife Day (WWD). The day is the most important global annual event dedicated to wildlife established by UN General Assembly on March 3, 2013, in honor of signature of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 1973.

This year's theme "Recovering Key Species for Ecosystem Restoration" draws attention to the critically endangered keystone species, to support the restoration of their habitats and ecosystems and to promote their sustainable use by humanity.

In 1981, China became the 63rd party to CITES. Over the past 41 years, the country has promoted the implementation of the convention, taking action and making remarkable progress in ecological protection and green economic development.

With unremitting efforts, 90 percent of China's vegetation types and terrestrial ecosystems, 65 percent of higher

plant communities and 85 percent of key protected wildlife populations have been effectively protected, according to the National Forestry and Grassland Administration (NFGA).

The giant panda, crested ibis, Cycas, Chinese dove tree (*Davidia involucreata* Baill.) and other endangered species have all achieved recovery and growth. Wild giant pandas have been downgraded from "endangered" to "vulnerable," as the population living in the wild exceeded 1,800 in 2021. Meanwhile, the number of Tibetan antelopes in the wild has increased from 60,000-70,000 in the 1990s to 300,000-400,000 in 2021, according to the NFGA.

In terms of habitat restoration, the first batch of national parks, Sanjiangyuan National Park, Wuyi Mountain National Park, Giant Panda National Park, Northeast China Tiger and Leopard National Park, and Hainan Tropical Rainforest National Park, were established in October 2021.

A total of 230,000 square kilome-

ters of land has been protected, which covers nearly 30 percent of the key terrestrial wildlife species found in China. The condition of the flagship species in national parks continues to improve, said NFGA's Sun Hongyan.

However, Sun said the development of national parks should benefit not only wild fauna and flora but also people living there. Efforts are being taken to facilitate an all-round green transformation in economic and social development, featuring harmonious human-nature co-existence.

For example, the Northeast China Tiger and Leopard National Park is expected to provide 10,000 jobs in ecological conservation and increase local farmers' incomes. The Giant Panda National Park has selected and promoted eco-friendly products such as "Panda Tea" and "Panda Honey". The Wuyi Mountain National Park has improved its ecological compensation mechanism, and guided tea enterprises and farmers to build ecological tea gardens with high standards.

## Paralympic Winter Games Kick off Tomorrow

By Staff Reporters

With 78 events across six sports, the Paralympic Winter Games Beijing 2022 will be held from March 4 to 13. The venues and corresponding facilities have been transformed from the Winter Olympics to better serve the athletes.

One key factor in the transformation is to create a barrier-free environment for athletes, staff and audience. The 108 related places and surrounding areas, including competition venues, Olympic villages (Paralympic villages), hospitals and restaurants, have been checked on many occasions to ensure that the barrier-free transformation was complete, according to Dong Lianmin, vice chairman of Beijing Disabled Persons' Federation, at a press conference on February 20.

Special attention was paid to detail. For example, the best viewing spots in the stadium were reserved for those who are wheel chair bound. See page 3

## WEEKLY REVIEW

### One Single Rocket Brings 22 Satellites into Space

China launched a Long March-8 rocket to place 22 satellites in space on February 27, setting a domestic record for the most spacecraft launched by a single rocket. These satellites will be mainly used for commercial remote sensing services, marine environment monitoring, forest fire prevention and disaster mitigation.

### High-tech Zones Have Shown Strong Growth Momentum

The annual revenue of the China's 169 state-level high-tech zones is expected to exceed 48 trillion RMB in 2021, up about 12 percent year on year, according to Shao Xinyu vice minister of science and technology last Friday.

### Deep Space Exploration Laboratory Established

China's deep space exploration laboratory, co-established by the CNSA, Anhui province and the University of Science and Technology of China, was officially inaugurated on February 25. It will carry out research on major national projects in deep space exploration and promote the transformation of research achievements.

### Evidence to Support Broader Application of Acupuncture Therapies

Professor Xu Nenggui and his team from Guangzhou University of Chinese Medicine made systematic reviews of acupuncture therapies and formulated the world's first clinical evidence atlas of acupuncture. This research was published in the *British Medical Journal* on February 25.

WECHAT ACCOUNT E-PAPER

