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GLOBAL COMMUNITY THUMBS UP FOR CHINA'S RURAL REVITALIZATION

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2022 CIFTIS Stimulates Greener Future

By Staff Reporters

With a specific focus on greener development, the 2022 China International Fair for Trade in Services (CIFTIS) was held from August 31 to September 5 in Beijing.

Celebrating its 10th anniversary, CIFTIS has witnessed China's fast and steady growth in the import and export of trade in services, especially trade in knowledge-intensive services, which saw an average annual growth of 9.3 percent from 2012 to 2021.

Trade in knowledge-intensive services that is digital, intelligent and green has become the new impetus for development, said Sheng Qiuping, vice minister of commerce at a press conference on August 23.

A new exhibition section was set up by CIFTIS to display achievements in green and low carbon development, covering low-carbon energy, climate and carbon economy, carbon neutrality, green technology and building "Dual Carbon Goals" demonstration cities.

Among the exhibits was a Hydrogen Forerunner, hydrogen fuel cell installed in shuttle buses used during the Olympic Winter Games Beijing 2022. The fuel cell was independently developed by the State Power Investment Corporation Limited (SPIC).

Compared with traditional fossil fuel vehicles, the bus equipped with Hydrogen Forerunner could reduce 70 kg emissions of CO_2 per 100 km, said Lu Anjian, director of department of legal and commercial affairs at SPIC.

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Shenzhou-14 astronaut Liu Yang (L) returned to the space station lab module Wentian after completing extravehicular activities (EVAs) on September 2. This was the first time Chinese astronauts used Wentian's airlock cabin, aided by its small mechanical arm, to carry out EVAs. (PHOTO: XINHUA)

Editor's Pick

Sci-tech Support Improves Public Health Service

10 Years Review

By WANG Xiaoxia

Fifty national clinical medical research centers and more than one million medical institutions at all levels have been established, while the number of doctors and physicians in the country has exceeded four million, according to the National Health Commission (NHC).

The NHC statistics reflect the effort that China made in health science, technology innovation and medical education over the past decade, making quality medical care and medicine available and affordable to people across the country.

New medicine R&D

In the field of health science and technology innovation, the NHC launched a national major project focusing on new drug development in 2008. Since then, 80 kinds of first-class new drugs have been approved, 16 times the number before the implementation of the project.

The new drug development project has attached great importance to the research of malignant tumors and promoted 31 new drugs in the market, said Jiang Jiandong, director of the Institute of Materia Medica, Chinese Academy of Medical Sciences.

Icotinib hydrochloride was approved in China for the treatment of non-small cell lung cancer in 2011. As the first targeted therapy with proprietary intellectual property rights in China, its side effects have been much reduced by more than a decade of efforts.

To further reduce damage to patient's health, new drugs for immunotherapies, including antibody-drug conjugates (ADCs) and CAR T-cell therapy, can be expected to serve patients in China in the coming years, said Jiang.

In terms of pediatric drug development, there are challenges because children's medicines differ from adults' medicines as they absorb and process medicines differently. By far, China has spent more than 600 million RMB on the research of novel medications for children, said Jiang, adding that 47 children's medicines were approved in 2021.

Fight against COVID-19

Through the implementation of new drug projects, China has improved its medical research ability, so that the country was able to respond quickly to the outbreak of COVID-19. *See page 4*

China Makes Historic Progress in Solar Exploration

By LIN Yuchen

Making historic progress, China's recent achievements in solar exploration have been widely acclaimed.

The Chinese H-alpha Solar Explorer (CHASE), dubbed 'Xihe' in Chinese, successfully captured the sun's H-alpha images in-orbit, according to China National Space Administration (CNSA) on August 30, laying a foundation for deciphering the structure of the solar lower atmosphere.

"The H-alpha line is one of the most important optical lines for solar observations," according to a research paper by Li Chuan and Fang Cheng, scientists at Nanjing University. Examining the spectral profile near the H-alpha line center, the paper claims, can reflect the information of both the chromosomes and the photospheres of the sun, contributing to the study of solar filament, which may help investigate further how our sun works.

This achievement may also broaden our horizons to facilitate human's research of the sun as previously the ground-based telescopes worldwide cannot easily produce full-sun H-alpha spectroscopic images, according to the paper.

Other progress includes the fine structures of the SiI and FeI spectral lines obtained in-orbit, and the magnetic levitation technology adopted in the explorer, which ensures greater accuracy and stability during its operation.

"Our ability to control the positions of spacecraft in-orbit has improved to a much more advanced level," said Zhao Jian, official of State Administration of Science Technology and Industry for National Defense, adding that "This will give us more autonomy for future space missions, especially in high-resolution remote control and when exploring foreign planets beyond the solar system."

"More instructions have been given to further our solar study and we will continue to examine the sun at a more comprehensive level, expanding the trajectory of human development by looking at in greater detail, including the origin and evolvement of solar activities," said Zhao.

All data obtained from the CHASE has been shared globally and the research on this data is still under way, according to CNSA.

International Cooperation

BRI Project Promotes Industrial Upgrade in Indonesia

By WANG Xiaoxia

A China-invested project under the Belt and Road Initiative (BRI) in Indonesia has accelerated the upgrade of the country's nickel industry, and helped Indonesia transform from a raw material supplier to the world's top producer of nickel iron and stainless steel.

Delong Industrial Park, located in Sulawesi province of Indonesia, is a ferronickel and stainless steel industrial park developed by China's Jiangsu Delong Nickel Co., Ltd., with a planned area of 2,200 hectares and an output capacity of 3-million-tons of ferronickel and 2.5-million-tons of stainless steel.

As a key BRI project jointly built by China and Indonesia, the industrial park was inaugurated in 2014, and comprises two plants in Kendari and one in Morowali, which were listed as national strategic projects of Indonesia. *See page 2*

Delong Industrial Park, a ferronickel and stainless steel industrial park developed by China's Jiangsu Delong Nickel Co., Ltd., is located in Kendari, Sulawesi province of Indonesia. (PHOTO: XINHUA)

New CCUS Project to Cut CO_2 Emissions by 1 Mln Tons

By Staff Reporters

China's first Carbon Capture, Utilization and Storage (CCUS) project, which could reduce CO_2 emissions by one million tons per year, began operation on August 29 in Shengli Oil Field, east China's Shandong province, according to SINOPEC.

The cut of CO_2 emissions per annum by the project equals planting about nine million trees.

The project covers a reserve of more than 25 million tons of petroleum, and over 1,000 tons of CO_2 will be injected into 73 oil wells in 15 years. The project is expected to increase oil production by nearly three million tons, and lift the recovery ratio by over 12 percent, said Chen Jun, manager of the project at Shengli Oil Field.

The CO_2 is first captured by SINOPEC Qilu Petrochemical company from the gasification equipment in one of its chemical fertilizer factories, then transported by land to Shengli Oil Field, where the CO_2 is used for oil displacement and then stored.

Underground, CO_2 mixes with crude oil to lower the viscosity of the oil and accelerate its flow, according to Zhang Chuanbao, researcher at Shengli Oil Field. He said that such oil displacement by CO_2 both increases the production of crude oil and realizes underground storage of CO_2.

Data shows that the efficiency of CO_2 oil displacement is 40 percent higher than that of water. The primary sequestration proportion of CO_2 can reach 60 to 70 percent, and 100 percent of the CO_2 can be sequestrated with multiple recapture and reinjection.

Researchers at Shengli Oil Field have been working on CO_2 oil displacement since 1967, and more than 500,000 tons of CO_2 have been stored, while over 100,000 more tons of oil have been extracted.

Based on SINOPEC's plan, the pipeline for transporting CO_2 from Qilu Petrochemical to Shengli Oil Field is expected to start operation by the end of 2022, which will be the first time that CO_2 is transported in a pipeline over a long distance, under supercritical pressure.

WEEKLY REVIEW

New Insulation Material Unveiled at CIFTIS

A new material displayed at the 2022 CIFTIS may revolutionize the way we clothe. Heating this material to the water-evaporating stage still does not make it problematic to be touched by hand. This material, in general, developed by Matrix shows potentials for replacing feathers and furs as sourcing materials of winter outfits.

China's Digital Consumption Keeps Growing in H1

According to MIIT, China has a fast-growing digital market with innovations popping up widely in different areas. The market size reached 6.8 trillion RMB in 2021, compared to that of 2.8 trilion in 2014. In the first half of this year, the country boasted a 3.2 trillion RMB's digital consumption, a rise of about 6 percent year on year.

Enterprises March Toward Wider AI Implementation

At the 2022 World Artificial Intelligence Conference which closed on September 3, entrepreneurs discussed positively about the future of AI implementation. China now has the largest proportions of AI applications among enterprises and is expected to integrate the metaverse model into AI adoption in coming years.

Hydrogenic Energy Witnesses Progress

Hydrogenic energy as a new form of clean energy is becoming increasingly popular in China. During the first half of this year, 21 rounds of financing events were initiated targeted for this industry, totaling 1.59 billion RMB, which represented a rise of 137 percent compared to last year, according to Kang Yong, chief economist of KPMG China at CIFTIS.

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