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WEEKLY EDITION

Int'l Cooperation Essential to Developing Digital Economy

By Staff Reporters

Chinese President Xi Jinping announced China's decision to apply to join the Digital Economy Partnership Agreement on October 30 while addressing the 16th Group of 20 Leaders' Summit via video link in Beijing.

Xi said that China attaches great importance to international cooperation on digital economy and stands ready to work with all parties for the healthy and orderly development of digital economy.

China has put forth the Global Initiative on Data Security, said Xi, calling for joint efforts to discuss and develop international rules for digital governance that reflect the will and respect the interests of all sides, and actively foster an open, fair, just and non-discriminatory environment for digital development.

China has already made great efforts to develop digital economy and witnessed rapid growth in this area.

In recent years, scientific and technological achievements have been made in multiple areas, such as the Internet of Things, 5G communication, big data, artificial intelligence and block chain, to support the growth of the country's digital economy.

For example, as one of the four Global Navigation Satellite Systems certified by the UN, China's self-developed BeiDou Navigation Satellite System is trying to be more inclusive, providing services for more countries and regions.

According to the *China Internet Development Report* released by the Chinese Academy of Cyberspace Studies during the 2021 World Internet Conference Wuzhen Summit, the country's digital economy grew 9.7 percent year on year to 39.2 trillion RMB (about 6.07 tril-

lion USD) in 2020, accounting for 38.6 percent of the country's total GDP.

The digital economy has unleashed the vibrancy of businesses in China. Both traditional and digital industries are prospering. New forms of business based on the Internet, such as the platform economy and sharing economy, are booming.

The application of digital technology is fast expanding in government, the rural areas and society at large, in forms of smart cities and Internet-based government services, etc. For example, the application of QR codes plays a vital role in COVID-19 prevention and control measures.

Life has changed significantly, as more people turn to online education, shopping, food ordering, mobile payments, ride hailing, bike sharing, telecommuting, remote medical care, and smart homes.

However, there are still significant divides, within and among countries, in terms of capacities to connect to and use the Internet. Addressing these inequalities in the digital economy is key for development, according to the *Digital Economy Report 2021* released by the UN. Thus, there is a growing need for cooperation among countries to arrive to equitable development outcomes for the benefit of people and the planet.

China shows its commitment to international cooperation by building exchange platforms, including the Digital Belt and Road Program and cross-border e-commerce. All these efforts help facilitate and regulate cross-border data flows.

For example, at the newly concluded World Internet Conference Wuzhen Summit, 40 projects on digital economic cooperation were signed, with total investment of over 60 billion RMB.



Visitors watching an intelligent robot at the 2021 China International Digital Economy Expo. (PHOTO: XINHUA)

China, ASEAN to Boost Digital Economy

By TANG Zhexiao

The 38th and 39th ASEAN Summits and related meetings were held from October 26 to 28 via video conferences, focusing on the fight against the COVID-19 pandemic and promoting economic recovery.

With the theme "We care, we prepare, we prosper," the ASEAN meetings were joined by leaders from ASEAN's dialogue partners, including China, Japan, South Korea, India, the United States, Australia and Russia, and representatives of other countries.

The summits covered a number of issues including further strengthening the capacity of the ASEAN Community towards post-COVID-19 economic recovery and enhancing ASEAN's readiness to tackle common challenges, while seizing new opportunities to pursue shared prosperity.

The significance of the digital economy was highlighted as a driver of economic recovery. "We need to promote the digital economy in East Asia. China will host the APT Young Scientists Forum and other activities to help regional countries bridge the digital divide," said Chinese Premier Li Keqiang at the 24th China-ASEAN leaders' meeting via video link. See page 3

Editor's Pick

Innovative Technique Brings Life to Saline-alkali Soil

BY WANG Xiaoxia
TANG Zhexiao

Can you imagine transforming barren, salty soil into arable land in a month? This is not fantasy, but the actual result of research by Chinese scientists from China Agricultural University (CAU).

Hu Shuwen, professor at the College of Resources and Environmental Science of CAU, has developed a technique for rapid desalination and ecological treatment of saline-alkali soil by improving the soil structure.

During an exclusive interview with *Science and Technology Daily*, Hu said that his technique can desalinate soil in only one month, which has been demonstrated in many areas of China.

Major global challenge
Soil salinization is a global major challenge. According to the *Global Map of Salt-affected Soils* released by the Food and Agriculture Organization of the United Nations, more than 424 million hectares of topsoil (0-30 cm) and 833 million hectares of subsoil (30-100 cm) are salt-affected.

It is also a crucial issue in China. According to the data from the Chinese government, China has about 35 million hectares of saline-alkali land, of which about 14 million hectares have the potential for agricultural activities, accounting for more than 10 percent of the country's arable land.

Sustainable soil management practices shall be adopted to halt salinization and sodification.

Chinese President Xi Jinping said the comprehensive use of saline-alkali soil is of strategic importance to national food security. Xi made the remarks when visiting the Agricultural High-tech Industrial Demonstration Area of the

Yellow River Delta on October 21.

In fact, China has long been committed to the restoration of saline-alkali soil. However, hardly any groundbreaking progress has been made until Hu and his team developed an innovative management system for saline-alkali soil.

Systematic soil improvement
Hu joined CAU in 2006, returning from the University of California, Irvine, where he worked as a researcher. He said that he wanted to share his knowledge and to do something for the motherland.

To solve the problem, one must figure out the cause of it, said Hu. So he promptly set about studying saline-alkali soil in the field.

During the study, he found that the particles of this kind of soil are so fine and closely attached that there is no room for water to permeate.

It's just like the water-proof cloth, said Hu, so the salt cannot leach out and is left in the plough layer of soil.

With an academic background in polymer science, Hu applied advanced polymeric materials to soil improvement. He and his team invented a natural polymeric soil conditioner that improves soil structure.

The soil conditioner transforms the fine particles into clots, between which there are channels for rainfall to soak into the ground and leach out the salt through underground drainage.

Besides, the research team also invented a controlled-release material to protect seeds from salt damage. Organic fertilizer, bacterial and fungal communities are applied to create a healthier soil environment. Supporting facilities are built near the fields to keep groundwater at a lower level, so as to prevent the reoccurrence of soil salinization. All

these make up the systematic soil improvement technique, said Hu.

Compared with the traditional desalination methods via irrigation, the new technique is more efficient and sustainable, said Hu. It only takes one-third of the water compared to the previous method and remains long-term valid after improvement.

True knowledge comes from practice. Hu said that his team preferred to work in the field for eight months every year rather than staying in the lab. Seeing the crops grow from seedlings to harvest was a source of fulfillment, Hu.

Working toward a better future
Since 2013, Hu's saline-alkali soil improvement technique has been promoted and demonstrated on a large scale in the Songnen Plain, coastal area and inland arid area.

With the technique, more than 7,000 hectares of saline-alkali land have been restored and utilized, and the benefited area has exceeded 70,000 hectares, with an annual increase in grain production of more than 300 million tons, said Hu.

Soil salinization is closely connected with drought. More than two-thirds of global salt-affected soils are found in arid and semi-arid climatic zones. Countries in Africa, central Asia and the Middle East are also facing the severe problem of soil salinization, said Hu, so the technique can benefit more countries and regions through international cooperation.

Through ecological restoration of newly added arable land in salt-affected areas and improvement of soil quality in poor land, it is not only conducive to increasing food production and safeguarding global food security, but also of great significance to enhancing biodiversity and achieving carbon neutrality.

WEEKLY REVIEW

COP26 Begins as Countries Jointly Tackle Climate Challenge

The 26th United Nations Conference of Parties on Climate Change kicked off on October 31 in Glasgow, expecting to review overall progress and plan future actions on climate change.

Real-time Glacier Monitoring System Put into Use

A real-time glacier monitoring system which can update online every five minutes has been officially put into use in the Yulong Snow Mountain in southwest China's Yunnan Province, according to the Chinese Academy of Sciences.

China's First Hydrogen Locomotive Starts Trial Run

The first China-developed hydrogen fuel cell hybrid locomotive started a trial run on October 29 on a railway line for coal transport in north China's Inner Mongolia Autonomous Region.

Remote Sensing Satellite Jilin-1 Gaofen 02F Launched

The Jilin-1 Gaofen 02F satellite, an optical remote sensing satellite that can provide high resolution images and high-speed data transmission, was launched by a Kuaizhou-1A carrier rocket on October 27 from the Jiuquan Satellite Launch Center.

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Sino-German Auto Bond: From 1.0 to 3.0

By LU Zijian

The 2021 Sino-German Automobile Congress kicked off in Changchun, northeast China's Jilin Province on October 19. Key issues concerning the future of the automobile industry and cooperation between China and Germany were the main point of discussion.

While this is only a microcosm of the two country's links in this field, which began more than 30 years ago, the evolution of the auto industry means cooperation is being ramped up.

Era 1.0: Fossil-fuel cars
The cooperation between China and Germany in the car industry began just after China's reform and opening up. Volkswagen was the first German

company that established a joint venture car company in China in 1985.

In the following years, well known German brands like Mercedes Benz, Audi and BMW became household names in China.

Apart from cooperation in the industry, there was also cooperation concerning research and development (R&D) between universities, research institutes and enterprises.

On April 21 this year, a Sino-German joint automobile R&D center began operation at Tongji University in Shanghai. Long before the establishment of the center, Tongji University already had deep ties with German universities in the field of automobiles and engineering.

Era 2.0: Electric vehicles
China has made massive efforts to reduce carbon emissions through various approaches, such as promoting the use of New Energy Vehicles (NEV).

The cooperation in this field between China and Germany began as early as 2010, when the two countries issued a joint communiqué, strengthening the cooperation in the electric car field. About one year later, the two countries signed the Sino-German Joint Statement on Establishing a Strategic Partnership for Electric Vehicles.

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A worker is assembling a car in the workshop of FAW-Volkswagen Automobile in Changchun, Jilin Province, northeast China, April 2, 2021. (PHOTO: XINHUA)