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WEEKLY EDITION

Pursuing Modernization with Chinese Characteristics

By Staff Reporters

President Xi Jinping has said that there is no set model of modernization in the world, nor is there a universal criterion for modernization that fits all. He said, the modernization China is pursuing is the CPC-led socialist model and the country must push forward national rejuvenation by following a uniquely Chinese path to modernization.

Based on long-term exploration and practices since the founding of the People's Republic of China in 1949, especially since the launch of reform and opening up in 1978, China has successfully promoted and expanded a uniquely Chinese modernization with new breakthroughs in theories and practices since the 18th CPC National Congress. Xi stressed at a study session on July 26 in Beijing.

The remarks received enthusiastic feedback.

Zhou Rongbin, executive director of life sciences and medicine of the University of Science and Technology of China, said that President Xi's remarks on Chinese modernization has abundant and profound connotation, and Chinese modernization cannot be separated from the modernization of science and technology.

Working toward people's life and health, said Zhou, biomedicine practitioners should shoulder the responsibilities bestowed by time, propose more sci-tech solutions, and endeavor to contribute to the realization of high-level self reliance and self strengthening in science and technology.

"Building green, low-carbon and clean cities is an integral part of Chinese modernization, and also our responsibility and mission," said Chen Shaohua, deputy director of Institute of Urban Environment, Chinese Academy of Sciences, adding that his institute will devote itself to scientific research and propose new thoughts and measures to solve problems, making new contributions to building China into a modern socialist country in all respects.

In his speech, Xi also noted that the 20th CPC National Congress will envision the two-step strategic plan for building China into a great modern socialist country, with a focus on outlining strategic tasks and major initiatives for the next five years. The next five years are crucial as China sets out to build itself into a modern socialist country in all respects, and doing a good job during this period is of vital importance to achieving the Second Centenary Goal, Xi said.

Li Haibo, deputy general manager of the department of rural revitalization finance, Agricultural Bank of China (ABC), said that President Xi's speech offered guidance for their work in the next step. Guaranteeing national food security and a supply of key agricultural products are of top priority to ABC to promote rural revitalization, said Li, proposing that they will continuously innovate products and service models, dedicating their efforts to achieving the Second Centenary Goal.



The Gladandong Snow Mountain, located at the source area of the Yangtze River, Qinghai-Xizang Plateau. (PHOTO: XINHUA)

Editor's Pick

Sci-tech Improves Qinghai-Xizang Plateau Ecosystem

By WANG Xiaoxia

The Qinghai-Xizang Plateau (QXP) and its surrounding mountains, often termed the Third Pole, are home to more than 1,500 lakes and contain the headwaters of numerous major rivers in Asia. As the natural habitat of rare wild animals and the gene bank for plateau species, the plateau is an important ecological security barrier for China and even Asia at large.

The first comprehensive expedition to the QXP under the Chinese Academy of Sciences (CAS) was launched in 1973, pioneering future large-scale scientific expeditions to the plateau. It was also the first systematic scientific expedition to the plateau in human history.

Since then, scientific research on the plateau has developed from partial, single-subject, domestic research to integrated, comprehensive research involving international cooperation. Scientists' highland research has played a support-

ing role in the region's environmental improvement.

Scientific research unveils mysteries

So, just how did the plateau ecosystem and biodiversity evolve, and how does climate change affect its ecological security? These are some of the questions concerning the conservation of plateau ecological safety barrier and biodiversity. Nowadays, we are getting closer to the answers.

To monitor eco-environmental changes on the plateau, China has set up a relatively complete monitoring network, offering long-term located monitoring of changes of the plateau ecosystem and thus revealing laws for and causes of changes in the ecosystem and environmental factors.

During the second comprehensive scientific expedition to the plateau, Chinese scientists revised the uplift chronology of the Lunpola Basin in central QXP. Paleontologists have determined

that subtropical forests once existed on the high-altitude plateau about 47 million years ago.

An international research team from the Xishuangbanna Tropical Botanical Garden and the Institute of Vertebrate Paleontology and Paleoanthropology of CAS discovered that a Shangri-La forest once occupied a deep central Tibet-an valley.

Meanwhile, China's "Jimu-1" No.3 airship reached an altitude of 9,032 meters on May 15, 2022 over Mount Qomolangma, breaking the world record for airship atmospheric scientific observation.

This was also a world first to observe the changing characteristics of the most critical parameters, such as water vapor and greenhouse gases in the Mount Qomolangma region and over the mountain, which will provide scientific support for the global response to climate change, said Yao Tandong, researcher from CAS. See page 2

6.3 Trln RMB: Trade with BRI Countries Soars in H1

By Staff Reporters

In the first half of 2022, the trade in goods between China and countries along the Belt and Road Initiative (BRI) reached 6.3 trillion RMB, increasing by 17.8 percent compared with that of last year, according to Yang Tao, deputy director of the comprehensive affairs department of the Ministry of Commerce speaking at a press conference on July 29.

The non-financial outward foreign direct investment in BRI countries reached 65.03 billion RMB, going up by 4.9 percent. And the real investment in China from BRI countries hit 45.25 billion RMB, rising by 10.6 percent.

"We have deeply explored the trade potential with BRI countries, encouraged importing goods of good quality, and accelerated the development of new business formats of foreign trade such as cross-border e-commerce and overseas warehouses," said Yang, adding that outward investment and cooperation have been optimized to attract investment from BRI countries.

Different programs of economic and trade cooperation with BRI countries have also witnessed progress. The "Silk Road E-commerce" mechanism was further promoted to establish e-commerce cooperation with more countries.

Some activities were held to explore

new channels for trade for BRI countries, including an online shopping festival for quality products from Africa, livestream e-commerce for featured commodities from members of Shanghai Cooperation Organization, and promoting products from BRI countries both online and offline.

In terms of the construction of New International Land-Sea Trade Corridor, China and Singapore jointly issued a co-operation plan. China also promoted the construction of joint demonstration zones for economic innovative development with ASEAN countries, and deepened cooperation of "Two Countries, Twin Parks" program with Indonesia, the Philippines and Malaysia.

5G Empowers Int'l Communication Capacity in Multimedia Era

By QI Liming

The year 2022 is a crucial one for the large-scale deployment of 5G applications and the comprehensive iterative upgrading of this technology. This is evident at the Media Forum of 2022 World 5G Convention, held both online and offline, adopting the theme of "5G empowers international communication capacity."

President of *Science and Technology Daily (S&T Daily)*, Zhang Biyong said, "S&T Daily has been paying close attention to the dynamic development of the integration between 5G technology and media, guiding global media on multiple levels, dimensions and channels. S&T Daily always upholds scientific spirit when reporting openness and innovation, digital security, ecological protection and climate change," adding that "We are trying to influence international media in an objective manner, clear up misunderstandings, making the whole world have a better knowledge towards China's scientific progress and smart solutions."

Director of China International Communications Group (CICG), Du Zhanyuan shared four viewpoints on the future development of 5G media and the empowerment of 5G technology, noting that "We need to build the 5G ecology of the international communication."

The pivotal role of 5G in communication

"I would like to share four observations that will lead to the success of international communication in the 5G era. First, confidence and determination. Second, commitment and bold actions. Third, seeking and adapting to changes. Fourth, enhanced cooperation," said Zhao Jianguo, deputy editor-in-chief of *Guangming Daily*.

"As a news outlet, firstly we will focus on mobile communication and enhance immediacy, enabling exchanges between China and the rest of the world to spread faster and further. Secondly, we need to make our exchanges more social and interactive to make them more approachable and accessible. Thirdly, we should focus on visualization and make it more vivid, so as to make foreign exchanges more active," said Sun Shangwu, deputy editor-in-chief of *China Daily*. See page 2

WEEKLY REVIEW

Scientific Report Based on Tianwen-1 MEPA Released

Researchers from CAS and their collaborators have reported a solar energetic particle event observed by the Mars Energetic Particle Analyzer (MEPA) carried on China's Tianwen-1 spacecraft. As the first scientific report based on MEPA, the paper was published in the *Astrophysical Journal Letters*.

Reusable Experimental Spacecraft Launched

China successfully launched a reusable experimental spacecraft on August 5. The spacecraft will test reusable technologies and in-orbit service technologies as planned during its flight, and will return to its scheduled landing site in China after a period of in-orbit operation.

New Way to Lower Lipid Levels

A research team from Wuhan University found that inhibiting the receptor ASGR1 in liver could decrease lipid levels in serum and liver, thereby reducing cardiovascular disease risk, according to a study published in the journal *Nature*.

Test Site Built for ICVs

The construction of a test site for intelligent and connected vehicles (ICVs) was completed in the central Chinese city of Wuhan on August 5. It covers a total area of 87.5 hectares, and incorporates cutting-edge technologies such as big data, AI and 5G, to provide R&D, testing and authentication services for ICVs.

2022 World 5G Convention



Part of the 2022 World 5G Convention, the 5G and Media forum was held both online and offline on August 9 in Harbin, northeast China's Heilongjiang province. Some participants and organizers pose together during the forum. (PHOTO: S&T DAILY)

WECHAT ACCOUNT



E-PAPER



To-do Lists Set for Carbon Peaking Goal in Industrial Sectors

By LI Linxu

As the largest contributor to China's energy consumption and carbon dioxide emissions, industrial sectors play a pivotal role in achieving the goals of carbon peaking and neutrality.

To speed up the sectors' green and low-carbon transition, an implementation plan was recently released by three government bodies including the National Development and Reform Commission (NDRC).

Targeting the goal of carbon peaking, the plan laid out a detailed roadmap to cut emissions in industrial sectors.

By 2025, for industrial enterprises with an annual revenue of 20 million RMB or more, their energy consumption per unit of value-added is expected to drop by 13.5 percent from 2020.

Meanwhile, their carbon dioxide emissions per unit of value-added should decline faster than society as a whole.

Statistics show that the country's energy intensity, energy consumption per unit of GDP, decreased 28.7 percent from 2011 to 2020, one of the fastest reductions in the world.



A demonstration project of carbon dioxide capture and sequestration in Yulin city, Shaanxi province. (PHOTO: VCG)

By 2030, the energy consumption and carbon dioxide emission intensity will decrease further in industrial sectors.

By then, a modern industrial system characterized by high efficiency, green, circular and low-carbon will be basically established, according to the

plan.

It is a follow-up policy to an action plan for reaching carbon peaking released by the State Council last year.

The implementation plan set forth a series of key tasks such as adjusting industrial structure, advancing energy conservation and emission cut, promoting

green manufacture, developing a circular economy, accelerating green and low-carbon technological change, and pressing forward with digital upgrades.

It will strive to make innovations and breakthroughs in major low-carbon technologies, processes, and equipment. Great efforts will also be made to apply these advanced technologies.

Key industrial sectors, such as steel, construction materials, petrochemical, and nonferrous metals, are urged to apply green and low-carbon technologies, and develop a more sustainable green industrial and supply chain.

These sectors are expected to be gradually enrolled into the country's compliance emission trading scheme.

International cooperation is also highlighted in the plan, calling for actively taking part in global industrial green and low-carbon development, and deepening exchanges and cooperation in green technologies, equipment and trade.

Policy exchanges will be enhanced through bilateral and multilateral mechanisms to promote industrial green and low-carbon development, said the plan.

Case Study

Hainan Aims to Spearhead Biomedical Industry Development

By Staff Reporters

As one of the four pillar industries of south China's Hainan province, the biomedical industry is encouraged to accelerate development. Relying on the key industrial parks of the Hainan Free Trade Port, the province is vigorously promoting integrated development of the industry, university, research institute, and medical organization.

Having been involved in the pharmaceutical industry for more than 30 years, Liu Wenmin, chairman of Qilu Pharmaceutical (Hainan) Co., LTD. witnessed the rapid development of the pharma industry in the New Drug Innovation Park of Haikou National High-tech Industrial Development Zone, also called Haikou Medical Valley.

Adhering to the strategy of "science and technology innovation plus internationalization," Liu's company is speeding up the construction of a high-end intelligent processing and manufacturing center. The company's research institute has attracted more than 120 high-end talents, and its annual R&D investment accounts for nearly 10 percent of the annual revenue.

The company's development cannot be achieved without the good policies of Hainan province.

The province's 14th Five-Year Plan for High-tech Industry has listed modern

biomedicine as a strategic emerging industry. In the *Opinions on Offering Special Measures to Relax Market Access to Support Development of Hainan Free Trade Port*, released by the National Development and Reform Commission and Ministry of Commerce, high-end medical institutions, medical equipment, and imported drugs are encouraged to be developed in the province.

In addition, Hainan has signed an agreement with the Ministry of Science and Technology and the National Health Commission, to be a pilot area for the transfer of achievements of major new drug development projects.

To promote the pilot work, Hainan has taken targeted measures to promote the launch of a number of major projects. Focusing on the Haikou high-tech zone and Boao international medical tourism area, the province endeavors to perfect public infrastructure and service platforms.

"It is crucial to strengthen the weak points of innovation in the medical industry and establish efficient public infrastructure and service platforms, which benefits both the international competition and the self-improvement of the pharmaceutical industry chain," said Li Jinsong, deputy director of the Science and Technology Department of Hainan province.

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Bird's eye view of Haikou National High-tech Industrial Development Zone. (PHOTO: VCG)

Legal Framework to Ensure Fair Competition in Digital Economy

By ZHONG Jianli

The amendment to the *Antimonopoly Law of China* came into force on August 1, which highlighted the importance of encouraging innovation, and promoting fair competition in the digital economy.

The amendment, adopted by the 35th standing committee session of the 13th National People's Congress in June, states that China will create a unified, open, competitive and orderly market system, and foster a fair, transparent and predictable environment for market participants.

The amendment makes specific provisions on antitrust regulations in the digital economy.

visions on antitrust regulations in the digital economy.

As the most important form of the digital economy, platform enterprises are closely related to economic and social development. It is necessary to accelerate the establishment of a fair competition review mechanism and drive the high-quality development of the digital economy.

The revised law stipulates that platform enterprises must not use data and algorithms, technology, capital advantages, and platform rules to conduct monopolistic behavior.

One revision of the law is to include "encouraging innovation" into the

legislative purpose.

China's high-quality development is indispensable to scientific and technological innovation. However, being innovative could sometimes have an impact on the existing competition mechanism and order.

Therefore, it is important to deal properly with the relationship between competition and innovation. To create a level playing field for innovation and motivate enterprises to innovate, efforts are needed to strengthen anti-monopoly and further promote the implementation of fair competition policies.

Another highlight of the amendment is that the country will employ the

amended law to build a higher-level open economy.

China is expected to accelerate the establishment of a sound competition policy system for bilateral and multilateral free trade agreements, strengthen anti-monopoly exchanges and cooperation with countries and regions along the Belt and Road Initiative, and build a high-level international exchange and cooperation platform for fair competition.

In addition, the country will actively participate in global competition governance, contribute to the formulation of international competition rules, and safeguard the legal rights and interests of Chinese enterprises that operate globally.

China's High-speed Railway Standards Go International

By LI Linxu

Two more Chinese standards have become internationally recognized in the field of high-speed railways.

Based on global experience, the

standards introduced China's overall design concepts, key parameters and advanced technologies in the design and construction of high-speed railways.

The two documents, covering the topic of infrastructure and energy in the

design of a high-speed railway respectively, are the first international standards in their corresponding fields.

The infrastructure standard contains the design of the overall design, railway alignment, earthworks, bridges, tunnels, track, stations, rolling stock maintenance facilities, maintenance facilities for infrastructure, energy, communication and signalling, and environmental protection.

The energy standard includes the design of basic requirements, the traction power supply and traction substation, the overhead contact line system, the electric power system, and the supervisory control and data acquisition system.

These two standards have been published by the International Union of Railways (UIC) recently.

UIC, founded in 1922 in France and known by its French initials, is an international association with 210 members, aiming to promote railway transportation and cooperation globally.

International standards are an important technical foundation for international trade, said Huo Baoshi, chairman of UIC's Intercity and High-speed Committee, adding that China's involvement in setting international standards showcases its strengths in building high-speed railways that will help the country's railway to go abroad.

These two standards come after the first China-led standard which was published by UIC last November, dealing with the design of signalling and communication systems as well as their supporting equipment and facilities for high-speed railways.



CR400AF "Fuxinghao" High Speed EMU in Chongqing. (PHOTO: XINHUA)

Sci-tech Improves Qinghai-Xizang Plateau Ecosystem

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Eco-system restored

With China's efforts in scientific observation, artificial breeding and nature reserve construction, the plateau has witnessed development of a healthier eco-system and the repopulation of various wild species.

Sci-tech has played a strong supporting role in controlling the ecosystem degradation of the Sanjiangyuan region, known as the source of China's two largest rivers, the Yangtze River and Yellow River.

A technical system for restoring degraded alpine meadows has made big

breakthroughs in relevant research, winning a Class-II prize in the National Award for Scientific and Technological Progress. A technique for cultivating breeder seeds of forage grass has also provided high-quality seeds for controlling typical degraded pastures and artificial grass planting.

Biodiversity progress

There are 155 nature reserves established in the QXP, accounting for 57.56 percent of China's total land nature reserves, roughly covering all the unique and fragile ecosystem and rare species of the plateau.

Compared with that of the mid

1990s, the population of Tibetan antelopes has risen from 50,000-70,000 to more than 200,000, while the population of black-necked cranes has increased from 1,000-3,000 to about 7,000. The valley along the middle section of the Yarlung Zangbo River and the Zoergai Grassland have become the world's largest wintering ground for the world's only alpine crane species.

Tibetan red deer, which was deemed extinct internationally in the early 1990s, has been rediscovered by Chinese scientists during expedition. With nature reserve established, its pop-

ulation has increased to about 800.

The population of snow leopards, wild yaks, Yunnan snub-nosed monkeys and other animals is on the rebound. The existence of snow leopards, as the QXP ecosystem's flagship species, could indicate how healthy the local ecosystem is.

"Some local residents over 60 years old said they had heard of snow leopards, but no one had ever seen them," said Zhao Changhong, director of Beishan Forest Farm in Qinghai province, where snow leopards have been repeatedly captured by infrared cameras since September 30, 2020.

5G Empowers Int'l Communication Capacity in Multimedia Era

From page 1

New requirements for international communication in 5G era

"The 5G era has put forward new requirements for international media communication. Firstly we need to deepen the thinking of Internet of Things and strengthen the exploration and application of new platforms. Secondly, further improve the 'precision' of information services, especially the planning ability. Thirdly, accelerate the depth of integration with the technology industry, so as to better meet the needs of the audience," said Yu Yunquan, dean of Academy of Contemporary China and World Studies.

"The COVID-19 pandemic showed the crucial role which new technologies play in international communications and information exchange. Online formats of interaction are developing rapidly; virtual international events bring together thousands of participants from all over the world, and bilateral online meetings with partners have become something common," said Vasily Pushkov, director of International Cooperation, Sputnik News Agency and Radio.

"People working in the media industry are paying closer attention to data from the audience. The increase of

the number of views, shares, likes and videos played directly affects the entire industry," said Zhao Sha, China Media Development Director of PR Newswire.

5G empowers the media industry of the future

"The fast transmission and ultra-low latency of 5G technology will revolutionize the digital media industry, particularly in two aspects: how news is collected and how it is delivered. With the popularization of 5G technology, we will continue to optimize the delivery and experience of news in the digital era," said Emilio Saldaña, head of science and technology for TV channel 22 in Mexico.

Experts and professionals in international communications, media and 5G technology applications are gathering in Harbin, Heilongjiang province from August 10 to 12, to jointly discuss the in-depth integration of 5G technology and international communication from the perspective of globalization.

Director of Science and Technology Department of Heilongjiang province, Zhang Changbin and President of Heilongjiang Daily Press Group, Zhang Chunjiao attended the forum and gave specified viewpoints concerning local multimedia industry.

Voice of the World

China, Indonesia Building Closely Connected Future

Edited by TANG Zhexiao

As the first head of state received by China since the Beijing Olympic Winter Games in February, Indonesian President Joko Widodo's visit on July 25 to 26 attracted global attention.

Indonesia's online news website Zonajakarta said it proved China's importance for Indonesia, and the two sides' common expectations to build a China-Indonesia community with a shared future.

During the visit, the two sides issued a Joint Press Statement on the bilateral meeting, signed a Memorandum of Understanding on jointly promoting cooperation on the Silk Road Economic Belt, the 21st Century Maritime Silk Road Initiative and the Global Maritime Fulcrum, as well as other cooperation documents in areas as vaccines, green development, cyber security and ocean development.

"The Indonesia-China cooperation is not only beneficial to Indonesians and Chinese, but also to all the peoples of East Asia," said Jusuf Wanandi, senior fellow and co-founder of Indonesia's leading think tank.

China and Indonesia are at similar development stages, have shared inter-



Workers at the construction site of the Jakarta-Bandung High-Speed Railway, designed with "China Standard" and will be furnished with equipment manufactured in China. (PHOTO: XINHUA)

ests, and a closely connected future. Building a China-Indonesia community with a shared future is the common aspiration and expectation of the two peoples.

In recent years, the China-Indonesia relationship has enjoyed robust growth, demonstrating great resilience and vitality. Especially since the outbreak of COVID-19 pandemic, China and Indonesia have supported each other in

fighting the virus.

China took the lead in providing anti-pandemic assistance to Indonesia. More than 80 percent of COVID-19 vaccines in Indonesia came from China. Five Chinese vaccine companies have worked with Indonesia in research and development, procurement, filling, and production through four different technologies.

Indonesia's Foreign Minister Retno

Marsudi expressed gratitude and appreciation for the vaccine support given by the Chinese government, Sinovac and the Red Cross Society of China.

In future, China is expected to continue to fully support Indonesia in building a regional vaccine production hub, and step up public health cooperation with Indonesia.

Tech cooperation with Indonesia has also been strengthened.

According to the *Financial Times*, China's tech investment in Indonesia is experiencing a sharp spike. Stephanie Davis, managing director of Google's south-east Asia and south Asia business, said, "The Chinese remain very important investors particularly in the e-commerce space."

Besides taking an active part in the development of Indonesia's North Kalimantan Industrial Park, China has been expanding cooperation in cultivating new growth drivers in the digital economy and green development, among other areas.

President Widodo said Indonesia will work with China to keep deepening their comprehensive strategic partnership and make still greater contributions to regional peace and global development.

Opinion

Sino-ASEAN Cooperation Enjoys Broad Prospects

Edited by QI Liming

According to the report by independent think-tank Asia Society Policy Institute (ASPI), China has deepened its ties with Association of Southeast Asian Nations (ASEAN) during the COVID-19 pandemic at a pace that the U.S. failed to match.

The promise of vaccines, pandemic aid and high-level conversations among leaders increased China's influence and strengthened its ties with regional countries.

China's heavily promoted pandemic aid, especially the supply of vaccines when these were in very short supply from the West, won gratitude from people in the region.

The high-level bilateral and regional diplomacy kept up a brisk pace, while the focus of the region's other major partners was at home. China's ability to contain the pandemic in 2020 and 2021 and keep its economy open to lift bilateral trade, positioned China as the road to economic recovery.

The country met the region's needs through broad diplomatic and material support, looking outward while the U.S. and its allies were mostly looking inward.

In this regard, firstly, China was willing to provide medical assistance and vaccines in large numbers, while the U.S. and its partners were prioritizing domestic needs.

China was the first country to deliver vaccines to hard-hit Southeast Asia, having donated more than seven million doses across nine Southeast Asian countries by the time the first donation from the U.S. was delivered in July 2021, according to Bridge Consulting and the Kaiser Family Foundation, which provided vaccine tracking data on China and the U.S. respectively.

Secondly, the gravitational pull of China's economy, its geographical proximity and growing infrastructure connectivity, and the sustained attention and engagement across Southeast Asia in re-

cent years have seen its presence, role and influence grow considerably.

In the 2022 ISEAS-Yusuf Ishak Institute State of Southeast Asia Survey, which surveys government, business, and civil society elites, nearly 77 percent of respondents saw China as the most influential economic power in the region.

Thirdly, trade with China grew during the pandemic and ASEAN became China's largest trading partner. The pandemic did not prevent China-Southeast Asia from a bilateral trade increase. In 2020, ASEAN displaced the EU and became China's top trading partner, which continued in 2021.

The strong growth in trade with China was driven by a combination of factors, including China's success in containing the pandemic in 2020, and strong consumer demand.

Last but not least, China's investments and grants in Southeast Asia, as indeed across the world, are often in the form of large infrastructure projects, many of which form part of the Belt and Road Initiative (BRI).

These include high-speed railways in Indonesia and Thailand, as well as the Estrella-Pantaleon Bridge in Manila, which opened to the public in July 2021.

From 2020, even though some of these investment and construction programs were impacted due to the pandemic, investment has recovered mildly since 2021, and construction has improved more quickly.

A report released by Japan's Ministry of Foreign Affairs found that China is more trusted than Japan in ASEAN, which was seen as quite astonishing to Japan's media.

Based on the *Results of the 2021 International Public Opinion Survey on Japan*, when asked which country will be an important partner in the future, 48 percent of respondents said China, followed by Japan with 43 percent. It is the first time Japan has been overtaken by China in this survey since 2007.

Hi! Tech

On Your Marks
Get Set for 5.5G Era

The 5.5G network, also known as 5G-Advance approved by the 3GPP standards, is an improvement to the 5G network which contains features that will transform the telecommunications field.

10 Gbps user experience

5.5G will provide a 10 Gbps experience through MIMO technology that boasts larger bandwidth, higher spectrum efficiency, and higher-order modulation.

Diversify computing

5.5G technology will refine computing architecture, increasing computing efficiency by 10-fold through chip engineering and full peer-to-peer interconnection architecture.

Lift existing limits in storage architecture

Future storage performance will be improved by 10-fold through data-centric hardware and software architecture and diversified data application acceleration engines.

Advance L4 highly autonomous driving networks

It will accelerate breakthroughs in ADN technology, enabling an even faster connection between transport systems and offer new application options.

Business scope goes beyond connectivity

The 5.5G core networks will redefine architecture and foundational technologies to enable new service scenarios.

Developments in green technology

The innovative solutions for green sites, green networks and green operations will empower operators to cut energy consumption per bit in 5.5G era.

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RCEP Adds Momentum to Multilateral Trade

Comment

Edited by QI Liming

The Regional Comprehensive Economic Partnership (RCEP) involves China and 14 other Asia-Pacific nations, covering nearly a third of the global population and about 30 percent of the world's gross domestic product.

Tariffs on more than 65 percent of trade in products reached zero under the RCEP agreement after it took effect on January 1.

RCEP aims to diminish deglobalization

The RCEP is the largest new multilateral trade deal since the 1990s and continues Asia-Pacific's economic integration in a time of broad deglobalization.

In December 2021, the United Nations Conference on Trade and Development predicted that RCEP's tariff reductions would immediately boost intra-regional trade by nearly two percent, equivalent to about 42 billion USD, upon taking effect.

The RCEP's share of global GDP is

also increasing rapidly as several members are large and fast-growing emerging markets. Swiss economists Jessie Guo, John Zhu, Yaxin Chen and Weijia Yao anticipate in a project that the RCEP's share in global GDP will reach nearly 35 percent in 2030. For most RCEP countries, researchers also expect that the increase in export volumes will directly boost demand for trade and shipping.

It is estimated that the RCEP could add approximately 4.5 percent (720 million USD) to marine insurance premiums across the Asia-Pacific region in 2030, and grow credit & surety insurance business by about 4.4 percent (1.29 billion USD) in the same year, with the majority of the incremental business coming from China and Japan.

China's efforts in building an efficient RCEP

China already has an existing free-trade agreement (FTA) with all members of ASEAN, as well as individual deals with RCEP members South Korea, Japan, Australia, Singapore and New Zealand.

China considered that RCEP would serve as "powerful leverage" for keeping trade and foreign investment stable this year, as it will expand exports of

Chinese products while helping speed up China's industrial transformation.

Wing Chu, Hong Kong Trade Development Council, said that in addition to tariff reductions and eliminations, RCEP also provides other measures such as customs cooperation and facilitation, the removal of non-tariff technical barriers, and e-commerce facilitation.

"China can help advance trade liberalization among RCEP members, which would help developing countries in the region conduct trade in a more efficient manner," he added.

According to Swiss senior insurance economists, additional investment in manufacturing facilities and infrastructure is also expected, as regional supply chains adjust to take advantage of opportunities created by the RCEP.

This should generate new business for engineering and liability insurance during the construction phase of these facilities and property lines in the operational phases. Employment and wage increases in trade and construction related sectors will support growth in society.

Cambodia's impressive performance on RCEP

Take Cambodia as an example, the

country's total export to other member countries of the RCEP totaled 3.28 billion USD in the first half of 2022, up 10 percent year-on-year, according to the Cambodian Ministry of Commerce.

The top three importers of Cambodia in the period were Vietnam, China, and Japan, with export values reaching 1.17 billion USD, 612 million USD, and 542 million USD, respectively.

Cambodia's exports to RCEP member countries in the first half accounted for 28.8 percent of the country's total export turnover.

Meanwhile, the total import-export turnover between Cambodia and RCEP countries peaked at 16.24 billion USD, up 9 percent over the same period last year.

Penn Sovicheat, Undersecretary of State and Spokesman of Cambodian Ministry of Commerce, affirmed that RCEP is a contributing factor to Cambodia's exports in the first six months of 2022.

According to Governor of the National Bank of Cambodia (NBC) Chea Chanto, the Southeast Asian country's economy is expected to grow 5.3 percent in 2022, mainly thanks to increased exports of garments, bags and footwear.

Decoupling Sci-tech Cooperation:
Harm All Parties

By TANG Zhexiao

The U.S. House of Representatives Nancy Pelosi, who recently completed her provocative visit to China's Taiwan region, tweeted on July 30, "Today, our nation took a monumental step forward to equip America to meet and beat the challenges of the 21st Century with the CHIPS & Science Act."

The act, which was signed by US President Joe Biden on August 9, aims to boost domestic manufacturing of semiconductor chips and help the U.S. to compete with China.

Certain provisions in the act restrain normal sci-tech cooperation between China and the U.S., and China is firmly against it, according to Chinese Foreign Ministry Spokesperson Zhao Lijian.

"China-U.S. science and technology cooperation serves the interests of both sides and promotes the progress of humanity. Imposing restrictions and seeking decoupling will only hurt others and oneself alike," said Zhao.

Chinese Ministry of Commerce also said on August 1 that this act will distort the global semiconductor supply chain and disrupt international trade. China will monitor the progress and implementation of the act, and take strong measures to safeguard its legitimate rights when necessary.

There is no doubt that moves like decoupling and cutting supplies run

counter to market rules and could only lead to self-isolation and backwardness.

So, why did the U.S. administration still choose to pass this act?

It's all about retaining its monopoly in the scientific field under the guise of boosting its semiconductor manufacturing and increasing competitiveness.

The U.S. is no longer as competitive as it once was in this field. It still leads the world in chip design, but the global share of semiconductors produced domestically has declined from 37 percent in 1990 to 12 percent today, said Bloomberg.

It is up to the U.S. to fix its deficiencies in chip industry and develop itself. However, it should by no means block normal technological and people-to-people exchanges and cooperation with China, or undermine China's legitimate development rights and interests.

China and the U.S. are the two biggest economies in the world. It is no doubt that to enhance cooperation in science and technology between two countries is conducive to the well-being of humankind.

The U.S. administration should correctly view China's scientific progress and China-U.S. ties in scientific sectors.

Only by stopping unjustifiable suppression and restrictions of Chinese tech companies, can two sides jointly contribute to normal exchanges and cooperation, as well as global sustainable development.

LIFE IN CHINA

Developing Concrete Cooperation for Academic Exchanges

By BI Weizi

Luc Taerwe is a member of the Royal Flemish Academy of Belgium, and a senior professor in the field of concrete structures at Ghent University (GU). He has also been a Chair Professor at Tongji University, Shanghai since 2018.

He recently spoke to *Science & Technology Daily* to introduce some of the most important cooperation projects between China and Belgium, and the latest development trends in the construction industry.

Science & Technology Daily: What's your first impression of China? How did you start the cooperation with Chinese counterparts?

Luc Taerwe: The first time I travelled to China was in 2004. When I arrived in Shanghai I was really impressed by the city size, the traffic density, the lively atmosphere, the Chinese food and last but not least, the variety in building styles. At that time the Oriental Pearl TV Tower and the Jin Mao Tower were the only high-rise structures in the Pudong area.

For my first visit to China, I was contacted by Prof. Yuan Yong of Tongji University to visit the Siping campus and its test facilities. Yuan is a renowned expert in the field of underground construction. I was very impressed by the test facilities at Tongji in the field of civil and structural engineering and the high level of research that was being performed. Prof. Yuan and I discovered that we had many common research interests and this was the start of a long-lasting and intensive scientific cooperation.

As director of the China Platform of GU, what role do you think the Platform plays in strengthening cooperation and exchanges between Tongji and Ghent University?



Professor Luc Taerwe. (COURTESY PHOTO)

As far as I know, Ghent University is the only Belgian University with a specific China Platform that coordinates the cooperation with Chinese universities and scientific institutes, both in the fields of research and education. The Platform was established in 2006. We are also the only Belgian University with a representative office in China. This office facilitates the exchange of information with Chinese universities and Chinese organizations like the China Scholarship Council (CSC).

The China Platform offers support to staff members who want to set up cooperation with Chinese colleagues and also to exchange students in both directions. Ghent University has more than 100 cooperation agreements with Chinese universities, which means that we have established a very broad academic network.

All these efforts resulted in the fact that we have about 750 Chinese students at GU, and Chinese students are the biggest group of international students at GU.

One of the most successful achievements to mention is the establishment

of 11 Joint Laboratories with different Chinese Universities in different research disciplines. Personally, I am involved in the Joint Lab for industrialized construction with Tongji University.

As an accomplished expert in the field of Concrete Structures, could you please introduce the latest development trend in the construction industry?

In recent years, there is a trend to move from classical construction, which is very labor intensive, to smart construction in which the latest technologies are applied. Taking an example of precast concrete, the concrete elements are cast in a factory whilst being assembled at the building site. In this way, the quality of the elements are much better as the manufacturing is almost independent of the weather conditions and the tolerances on the dimensions are smaller, compared to the on-site casting. Moreover, the construction speed can be increased.

Another trend is sustainable construction, where reduction of the CO2 footprint is the main concern and this is for the complete life cycle of a con-

crete structure, from cradle to grave, including recycling after demolition. Applied to buildings, we speak about the "green building concept" where also the energy consumption during use is considered.

It is also a trend to use other binders apart from cement. It is known that a lot of CO2 gets into the atmosphere during the production of cement. By replacing a part of the cement by other materials, the CO2 emission related to concrete can be significantly reduced.

What do you think of China's efforts in achieving green and sustainable development of construction?

All the trends I just mentioned, are the results of recent scientific and technological developments. However, a lot of issues still need to be solved if we want to make the applications in daily construction practice possible. At many universities in China, I could see that high-level experimental facilities have become available with up-to-date research equipment, especially in some important laboratories. In this way China will be at the forefront of the development of the new and advanced building materials and construction techniques.

In what ways do you think people's livelihood has been improved by scientific and technological development in China?

In the past, many Chinese people were living in rather old traditional houses with little comfort, especially in rural areas. During the last decades, a lot of investments were made in new housing projects, where people can now live in a much more comfortable way. Also, the infrastructure (highways, high-speed railway lines, bridges) has evolved tremendously at a very high speed, which is really a unique achievement at the international level.

Service Info

China-made Vaccines Safe, Effective

By Staff Reporters

In order to contain the spread of COVID-19, China launched a nationwide mass vaccination campaign in early 2021. By the end of July, more than 3.4 billion COVID-19 vaccine shots had been administered on the Chinese mainland, according to the National Health Commission (NHC).

Among those aged 60 and above, 89.6 percent have received at least one dose, while the full vaccination rate and booster vaccination rate are 84.7 percent and 67.3 percent respectively.

The leaders of the Communist Party of China and the central government have all been vaccinated with the domestic COVID-19 vaccines, Zeng Yixin, vice-minister of NHC, said during a news conference held on July 26, noting that Chinese leaders attach great significance to the pandemic control work and have tremendous confidence in the domestically developed COVID-19 vaccines.

Zeng added that all three vaccines developed domestically had obtained emergency use authorization from the World Health Organization, and over 100 countries have approved Chinese-made shots for public use. Some countries take China-produced vaccines as the only ones that can be used on under-age children.

Moreover, Zeng said that the leaders of more than 30 countries, including Turkey, Serbia, Cambodia and Chile, have been vaccinated with Chinese vaccines. All of these facts demonstrate that vaccinations made in China are widely approved by the global community, he emphasized.

Data collected during the mass vaccination campaign showed that China-produced vaccines are safe, Feng Zijian,

executive vice president and secretary general of the Chinese Preventive Medicine Association, said at the press conference.

According to Feng, as of May 30, a total of 238,215 side effect cases following vaccinations had been reported, equal to an incidence rate of 70.45 per one million shots.

Overall, the rate of side effects after administering Chinese COVID-19 vaccines was lower than that of other normal vaccines, including polio and flu vaccines, administered in China in 2020. Feng noted that there had been no safety issues over Chinese shots reported in overseas countries and regions, fully demonstrating the safety of China's vaccines.

Regarding developing vaccines against Omicron, China is currently conducting monovalent and multivalent vaccine research and development against Omicron variants through multiple technical routes. "Chinese vaccines still protect against severe illness and death caused by Omicron variants," Feng told reporters.

As to rumors against use of China's COVID-19 vaccines, Wang Fusheng, an academician of the Chinese Academy of Sciences, emphasized at the press conference that COVID-19 vaccines do not cause leukemia or diabetes, nor do they cause tumor spreading or antibody-dependent enhancement, as some critics had claimed. The ingredients used in the vaccines are safe for humans.

Wang further noted that clinical monitoring and statistical data show that in the four years before and after the COVID-19 outbreak, the number of visits and hospitalizations for diabetes and leukemia are virtually the same, with no significant changes.

Traditional Eastern Wisdom

Hani Rice Terraces: a Model of Harmony Between People and Nature

By BI Weizi

Hani Rice Terraces, the system of Hani rice-growing terraces, are mainly located in Honghe prefecture, Yunnan province, China, with a total area of over 160,000 acres and a history of more than 1,300 years. In 2013, the Terraces were listed as a World Heritage Site, since "The resilient land management system of the rice terraces demonstrates extraordinary harmony between people and their environment, both visually and eco-

logically" as stated by the UN agency.

The Hani people are a mountainous agricultural people and have shown great wisdom and ability in cleverly utilizing the mountain climate, soil and water resources. With forests on top of mountains collecting rainfall water, villages were usually built in the middle of the mountain about 1000 meters below the forests, with terraces on the bottom, and the intricate water system of canals and ditches running through them. This structure of "four degrees of co-con-

struction" of forest, villages, terraces and water supply creates a high degree of integration between humans and nature, and reflects the characteristics of compound agriculture with reasonable structure, complete functions, various values and strong self-regulating ability.

Ecological interactions also play a pivotal role in the Hani Rice Terraces system with a maximum vertical span of 1500 meters, a maximum slope of 75 degrees, and a maximum field area of 2828 square meters. The main crop of the ter-

racess, red rice, is cultivated on the basis of a complex, integrated farming and breeding system. In this system, ducks fertilize the young rice plants, while chickens and pigs provide fertilizer for more mature plants. Buffaloes plough the fields for the next year's planting, and snails eat up pests in the water.

For more than a thousand years, Hani Rice Terraces have made full use of and follow the traditional agricultural methods, creating a rich and splendid terrace culture of the Hani people.

Multi-Media

Tech for Better Life in China-EP.3



From poverty alleviation to rural revitalization, what is the secret of China's success?

Michael Hermann, China representative of Humana People To People, said China's effort on alleviating poverty is a complete and hard action, not just a slogan.

Having been in China for 17 years, Hermann believed that it's a combination of extensive initiatives, such as establishing e-commerce stations and launching loan support for rural residents, and the Chinese government's comprehensive planning and the joint efforts of society and individuals, that make China succeed.

For more details, please scan the QR code above.

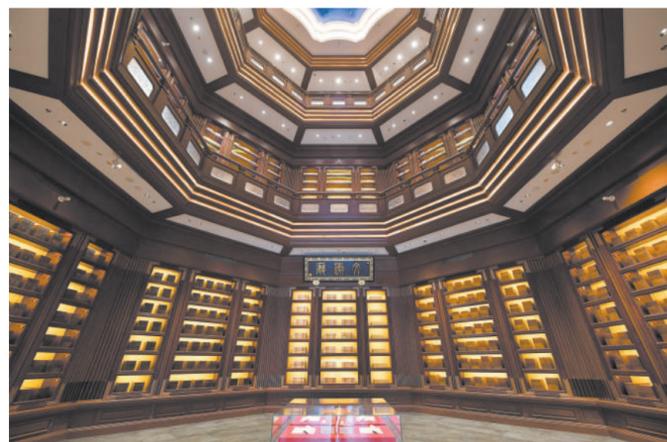
Hainan Aims to Spearhead Biomedical Industry Development

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Wang Lidong, general manager of Hainan Chang'an International Pharmaceutical Co., LTD. said, "Preferential fiscal and tax policies, convenient platforms, sound business environment, and policies for expert shave created better conditions for enterprises to develop in Hainan."

Furthermore, to solve the difficulty in importing items for biomedical research and development, the Haikou government, together with other related departments, is formulating an innovative mechanism for joint supervision of imported items for biomedical R&D, which is expected to be announced and implemented soon.

PHOTO NEWS



The National Archives of Publications and Culture for preserving bibliography resources was inaugurated on July 23. Besides the main archives in Beijing, there are three other branches in Xi'an, Hangzhou, and Guangzhou respectively. All of them will be responsible for inheriting and preserving national bibliography resources. The picture shows an interior view of the National Archives of Publications and Culture in Beijing. (PHOTO: XINHUA)

Recently, the Zhejiang Recreational Vacation of Foreign Experts was held in the city of Ningbo. Co-sponsors of the event included the Zhejiang provincial Bureau of Foreign Experts and the Ningbo municipal Bureau of Science and Technology. Nearly forty foreign professionals from 22 countries were invited to participate in a series of academic exchanges. Ningbo has placed tremendous emphasis on providing international talents with high-quality service. In 2021, Ningbo was ranked among the top ten most attractive Chinese cities in the eyes of foreign talents. (PHOTO: Ningbo Science and Technology Personnel Management Service Center)

