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Xiong'an: Future City for High-quality Development

Edited by WANG Xiaoxia

Within only six years, a new city broke ground, sprouted and grew in northern China. Xiong'an New Area has gone from blueprint to reality and is an example of what the modern urban future could look like.

In line with China's high- quality development path, Xiong'an has been committed to innovation- driven growth, and played an important role in coordinated development of the Beijing- Tianjin- Hebei region with growing connectivity and advanced infrastructure.

Over the past six years, Xiong'an has completed a total investment of over 540 billion RMB (about 78.1 billion USD), incorporating a developed area of approximate 120 square km and over 3,500 buildings constructed, including the headquarters of big SOEs like Sinochem Holdings, China Satellite Network Group and China Huaneng Group. Over 3,000 enterprises registered in Xiong'an have a background of investment from Beijing, signaling that Xiong'an is taking over Beijing's non- capital functions and providing a Chinese solution to "big city malaise," such as overcrowding, pollution and traffic congestion.

Apart from SOEs, research institutes and many innovative and vibrant high- tech enterprises have settled in Xiong'an, said Feng Jianping, director of comprehensive planning of Hebei Science and Technology Department. Focusing on intelligent equipment, new- generation information technology, aerospace, medical health and new materials, Xiong'an is promoting the forming of advanced industrial clusters.

To draw more high- level talent and startups, the area will continue to deepen the reform of the administrative approval system to provide service with simpler procedure, higher efficiency, lower cost and welcoming attitude, said Wang Yanwei, head of the reform and development bureau of the Xiong'an New Area Administrative Committee.

A sound ecological environment is an important embodiment of Xiong'an's high- quality development. In the past six years, Baiyangdian Lake, the largest wetland ecosystem in northern China, has carried out the largest systematic ecological management in its history. The water quality in Baiyangdian has been raised from poor Class V (the lowest of China's five-tier water assessment system) to Class III. The number of wild bird species in the wetland has reached 252, 46 more than before the establishment of the new area. In addition, over 31,000 hectares of land have been afforested since the launch of a massive afforestation project in 2017, and the forest coverage rate in Xiong'an has increased from 11 percent to 34 percent.

Local people have also benefitted from the construction of Xiong'an New Area. In the completed residential areas, about 120,000 people have moved into new homes. To assist the new residents with work and skills, training programs are being launched to help the relocated people catch up with rapid development and find new jobs.

The audience watch a robot football game during the seventh World Intelligence Congress in north China's Tianjin, May 20, 2023. (PHOTO: XINHUA)

Editor's Pick

Saline-Alkali Land to Yield More Crops

By Staff Reporters

On May 5, the National Technology Innovation Center for Comprehensive Utilization of Saline Alkali Land was officially inaugurated.

It is jointly built by the Chinese Academy of Agricultural Sciences and 18 saline land research institutions and enterprises, focusing on saline- alkali land biological breeding, capacity enhancement and ecological utilization.

According to a joint plan, it will take about 3 years to cultivate more than 80 new varieties of grain, oil, forage and special economic crops that are resistant to moderate salinity, and to increase the comprehensive capacity per unit area by more than 25 percent.

Saline- alkali land results from salt accumulation in soil and the increase of salt content in the soil will affect crop growth. According to statistics of the UNESCO and FAO, saline- alkali land in the world is around 954 million hectares, of which 99.13 million hectares are based in China. The formation of alkaline and alkaline soil in China is mostly related to the accumulation of carbonates, causing the alkalinity to be generally high, and plants struggle to survive in areas with severe saline soil.

China has been gathering advantageous resources for efficient management of saline- alkali land. Its efforts have witnessed progress in terms of the comprehensive utilization of saline-alkali land nationwide.

Creating a new ecological cycle

Dongying city in Shandong province has been taking a balanced model to utilize saline-alkali land. Considering local weather patterns, several salt- tolerant forage grass species were first selected specifically for crop rotation. Researchers then worked to construct low- salt habitats in the forage grass root zone, causing soil salinity to decrease from the previous 11 percent to 2.6 percent.

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International Cooperation

STB Project: Replicable Model for Agricultural Cooperation

By LU Zijian

Science and Technology Backyard (STB) was originally put forward by China Agricultural University (CAU) in 2009 as a new model for nurturing post-graduate students who study agriculture within the country. One of the criteria was that students had to stay in rural areas for two years to deal with grass roots situations farmers face daily.

STB has now evolved into a successful international cooperation model. More than 60 students from 12 African countries have been admitted to the Sino-Africa STB Project, and two STBs have been established in Malawi.

"The knowledge is pragmatically useful as the theories can be tightly integrated with practices in agricultural production. The farmers can acquire skills. More social benefits are brought about to both China and African countries," Jiao Xiaoqiang, project leader and associate professor at CAU, told *Science and Technology Daily*.

According to Jiao, the African students will study theoretical knowledge on campus for half a year, then go to the STB experimental station in Quzhou county, Hebei province and stay there for an entire growing and harvest season. After that, they are expected to go back to their home countries to practice and popularize what they have learned, before coming back to China for their graduation thesis.

Saturnin Zigani, a student from Burkina Faso, taught the skills and methods of planting millet he learned in China to his parents and neighbors. Millet serves as the staple food in Burkina Faso, but the production is generally low and after Zigani's intervention, millet yield doubled from only two tons per hectare to four tons.

Jiao said that the increase of millet yield means they don't have to change it for other high-yield varieties.

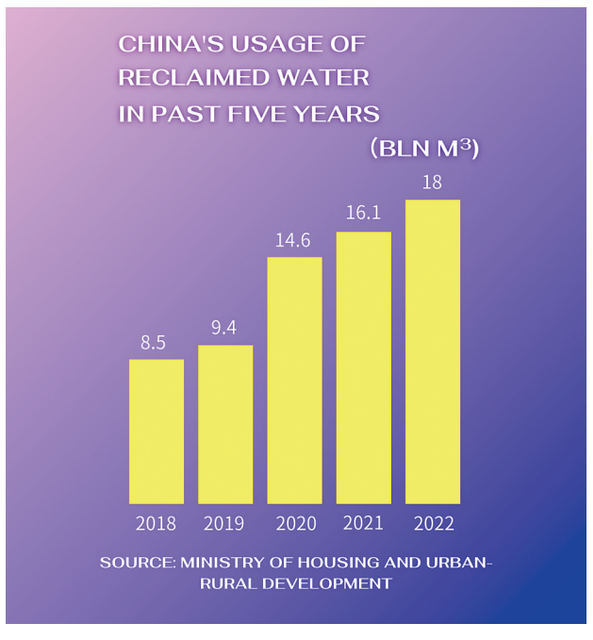
A Zambian student, Ngula David Muttendango, who worked in a large agricultural company before being admitted to the STB project, was aware that the crop yield of the company was much better than that of small farmers, and he wanted to change the situation.

Guided by Jiao, the student conducted experiments in the lab while sharing the agriculture technology with farmers at the same time. This knowledge exchange led to an improvement in the crop yield of the local farmers in Quzhou he worked with.

The Sino-Africa STB project was established in 2019. At that time, Zhang Fusuo, academician at the Chinese Academy of Engineering, who set up the first STB in Quzhou with his colleagues, began to think about whether the STB model could be applied to other countries, where small farmers play a key role in agricultural production.

Zhang's idea resonated with the Bill and Melinda Gates Foundation, who sent representatives to visit Quzhou to gain more insight into the agricultural growth model. The World Bank and the Food and Agriculture Organization of the United Nations are other interested parties who have also offered their support to this project.

New Graphic



Nature Index: China Ranks First

By LIN Yuchen

The latest Nature Index data show that Chinese authors made the greatest contribution to high-quality natural science research in 2022, ranking first for the first time in terms of share of publications in high-quality journals, surpassing the United States.

The Nature Index is produced and published regularly by Springer Nature Publishing Group, a leading international science and technology publisher. It tracks scientific papers published in 82 high-quality journals and reflects the global high quality research output and collaboration based on the number and proportion of papers published by the relevant institutions, countries or regions.

A paper published entirely by Chinese researchers will bring 1 "share" in the index to China. According to the Nature Index analysis, from January to December 2022, Chinese authors ranked first with 19,373 "shares" of contributions, compared to 17,610 for the United States.

Since the Nature Index was first introduced in 2014, China's "share" has increased rapidly. China has become the leading country in physical sciences and chemistry in 2021. The latest data from January to April 2023 show that China has also surpassed the U.S. in earth and environmental sciences for the first time. Currently, the U.S. ranks first only in the "share" of life sciences category.

In recent years, several measures of research performance have shown a shift in the share of global research contributions. For example, a 2018 National Science Foundation dataset shows that China published the most papers that year, and a 2022 report from Japan's National Institute for Science and Technology Policy says that between 2018 and 2020, China accounted for a more share of the top 1% of most-cited papers than the U.S.

The Nature Index also shows that the total number of scientific papers in 2022 was nearly 25,200 in the U.S. and more than 23,500 in China, based on the original sum of all articles with at least one author from a specific country/region.

WEEKLY REVIEW

Macao Science 1 Sent into Space

China successfully sent two satellites of Macao Science 1 on May 21 into space for space exploration. This is the first space science satellite program jointly developed by the Chinese mainland and Macao, and is also the first scientific exploration satellite placed in a near-equatorial orbit to monitor the geomagnetic field and the space environment.

Researchers Prove Presence of Ocean on Mars

A research team led by Xiao Long, professor from the China University of Geosciences, Wuhan, for the first time found petrological evidence of marine sedimentary rocks on the surface of Mars through the scientific data captured by Mars rover Zhurong. Relevant research has been published in the journal *National Science Review*.

Clawed Microrobot for Precision Medicine Developed

Scientists from the Harbin Institute of Technology have developed a swimming microrobot, inspired by tardigrades. It may significantly improve the efficiency of targeted drug delivery in blood vessels and bring a new insight into the precision medicine, such as treating malignant tumors.

National Science and Technology Week Begins

The 29th National Science and Technology Week themed "Love Science and Advocate Science" runs from May 20 to 31. It features China's major sci-tech achievements and includes a series of activites such as weather sci-tech knowledge contest.

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Promoting Integration of Sci-tech, Vocational Education

By CHEN Chunyou

Since the integration of education and sci-tech is essential for high-quality development, a good ecosystem has been established to advance this integration among vocational colleges by related departments and organizations, with the purpose of creating platforms for them to communicate.

In mid-May this year, a symposium focusing on promoting the integration of sci-tech and education by vocational colleges, was held in Weifang, Shandong province. Delegates shared their insights on this topic.

A symposium on promoting the integration of sci-tech and vocational education is held in Weifang, Shandong province in mid-May. (PHOTO: S&T Daily)

Lin Yu, deputy director general of the Department of Vocational and Adult Education from the Ministry of Education, said integrating sci-tech and education needs the overall deployment of education, science and technology, and human resources from departments at both the national and local levels.

Meanwhile, Xu Zhilong, editor-in-chief of Science and Technology Daily, called for efforts to be made to create an ecosystem for sci-tech innovation, which will meet the current challenges in attracting and nurturing innovative personnel.

In order to enhance the interaction of vocational colleges with related industries and sci-tech resources, Lin suggested that high-quality innovation platforms and collaborative innovation centers could be built in industrial parks, enterprises and colleges.

In addition, vocational colleges should establish an open regional practice center based on local advantages, with the aim being to tackle technological challenges and improve technical processes and products, he said.

A modern vocational education community for the integration of sci-tech and education was launched at the symposium, which was composed of 110 vocational colleges and enterprises. It called for establishing an efficient-research-results-oriented transformation mechanism, where enterprises will actively expedite the industrialized application of new technologies.

Some colleges have benefited from this mode and got win-win outcomes. For instance, a research team, led by Guo Yong, an expert in applied chemical technology from Tianjin Vocational College, developed water filtration technology that relied on the organic materials extracted from tobacco stalks.

This technology was embraced by Tianjin Aozhan Chemical Technology Co., Ltd. and Tianjin Huaqing Huanyu Environmental Protection Technology Co., Ltd., generating an economic benefit of 150 million RMB.

Another success story is from Weinan Vocational & Technical College in Shaanxi province. Based on its animal husbandry and veterinary professional advantages, the college established a practice teaching base with a local enterprise, with the aim of reinforcing the industrial chain and cultivating specialists in breeding, forage nutrition, disease control and goat milk products development. Currently, the goat dairy industry has become a backbone industry in the province's Fuping county.

At the symposium, over 200 technological innovation and talent needs were put forward to higher vocational colleges. This will further expand matching opportunities for colleges and enterprises, and maximize mutual advantages.

New Demo Zones Unveiled for IPR Protection Hubs

Policy

By LI Linxu

As part of its efforts to build an IPR powerhouse, China has unveiled the first batch of cities and regions which were selected to construct demonstration zones for IPR protection.

Tianjin's Binhai New District, Shanghai's Pudong New Area, Jiangsu's Nanjing and Suzhou, and Sichuan's Chengdu are on the list.

Zhejiang's Hangzhou and Ningbo, Guangdong's Guangzhou and Shenzhen, and Anhui's Hefei are also on the list.

The ten cities and regions are tasked with comprehensively strengthening IPR protection and advancing high-quality development, according to a notice released by the China National Intellectual Property Administration (CNIPA).

They are urged to reinforce the overall deployment of IPR protection in light of local conditions.

Efforts will also be made to further reform the system and mechanism of IPR protection.

More resources will be made available to help build the demonstration zones into IPR protection hubs, so as to drive the country's overall IPR protection to a new level, and further invigorate the vitality of innovation and creativity across society.

This is an important initiative to build a first-class business environment, said an official from CNIPA, adding that a series of policy measures, such as fast coordinated IPR protection and centralized review of patent applications, will be rolled out by relevant departments to support the construction of such demonstration zones.

In recent years, China has made historic achievements in the field of IPR protection. The country has given more prominence to IPR protection, introduced a series of major policies, actions and plans, and implemented a strict IPR protection system.

By 2035, China's IPR competitiveness will rank among the top in the world, according to a 15-year plan jointly released by the CPC Central Committee and the State Council in 2021.

The move to construct demonstration zones of IPR protection is a follow-up to implementing the spirit of the 20th CPC National Congress, which vowed to strengthen the legal protection of IPR, in order to establish a foundational system for all-around innovation.

An aerial view of Tianjin's Binhai New District, one of the first batch of cities and regions selected to construct demonstration zones for IPR protection. (PHOTO: VCG)

Exchange & Cooperation

Innovative Youth Share a Future in Ningbo

By ZHONG Jianli

An initiative was launched to promote exchanges between young sci-tech experts of China and Central and Eastern European countries (CEECs), during the 2nd China-CEEC Forum for Young Science & Technology Talents in east China's Ningbo city on May 19.

Themed "Innovative Youth Share the Future," the forum aimed to accelerate innovation cooperation between China and CEECs through young sci-tech talents.

Sun Jian, speaking at the forum on behalf of Zhang Guangjun, vice minister of science and technology, said young talent is the fresh blood for sci-tech innovation and global development, so it's necessary to deepen cooperation between youth in different disciplines from different countries.

Ivica Šušak, state secretary of the Ministry of Science and Education of Republic of Croatia, holds similar views. He said both China and CEECs are facing the three challenges of modernization, environmental protection and economic revitalization through technological innovation. International cooperation can make it easier for countries to obtain information and resources to solve these problems.

In his keynote speech, Li Xin, deputy director-general of the Department of Foreign Expert Services of Ministry of Science and Technology (MOST), introduced China's efforts to facilitate young people in international exchanges by providing various kinds of programs, so as to tap the potential of global youth.

During the forum, the China-CEEC Innovation Cooperation Research Center announced an initiative to promote exchanges and cooperation of young sci-tech talent between China and CEECs, which proposes to foster mutually beneficial cooperation, build open channels of communication, enrich the global innovation network, and gather the power of youth for sci-tech innovation.

In addition, an award ceremony was held for winners of the 1st China-CEEC Youth Innovation and Entrepreneurship Competition. Earlier, 27 teams from China and CEECs participated in the final roadshows of their projects, covering three major fields of digital innovation, life and health, and advanced materials.

Zeljko Kanovic, an associate professor at Serbia's University of Novi Sad, whose team won the third prize, told *Science and Technology Daily* that it was a great experience cooperating with his Chinese partners and taking part in the competition, and he expects more exchanges between researchers of the two countries in future.

China, CEEC Enhance Materials & Chemistry Collaboration

By ZHONG Jianli

To promote science, technology and innovation (STI) exchanges between China and CEECs, the China-CEEC Materials and Chemical Innovation Cooperation Network was established during a roundtable conference held in Ningbo city, on May 18.

"Thanks to the joint efforts of the sci-tech communities of China and CEECs, the areas of cooperation among relevant parties keep expanding over the decade. Fruitful results have been achieved in people-to-people exchanges, research platform building, joint R&D, enterprise innovation, as well as the transfer and application of STI achievements," said Gao Xiang, director general of China Science and Technology Exchange Center (CSTEC) when addressing the Round-table Conference on Materials and Chemical Innovation Cooperation.

Ma Jianjiang, deputy director of the General Office of Ningbo Municipal Government, said materials and chemical industry is one of the key areas of cooperation between China and CEECs. Boasting strong advantages in such specialized fields as new chemical materials, new metal materials, and magnetic materials, Ningbo will facilitate more quality enterprises, research institutions, experts and scholars to achieve win-win cooperation in the city.

During the conference, the China-CEEC Materials and Chemical Innovation Cooperation Network was launched, with the aim of further promoting information sharing and international cooperation in the field of advanced materials and chemical engineering.

As this year marks the beginning of the second decade of STI cooperation between China and CEECs, the Network will be committed to jointly building innovation cooperation platforms for China and CEECs, and carrying out various kinds of academic or research cooperation and exchanges, including those for young scientists.

Neli Stoyanova Koseva, scientific secretary-general and first assistant to the president of the Bulgarian Academy of Sciences, said they "highly acknowledge the support of China to promote and encourage international cooperation among scientists from all over the world."

She added that innovations unlocked by materials and chemical research could contribute to achieving the United Nations Sustainable Development Goals (SDGs), such as zero hunger, good health, clean water and clean energy.

Janusz Lipkowski, full member and former vice president of the Polish Academy of Sciences, highlighted the importance of innovation in realizing a country's development strategies, while looking forward to more pragmatic cooperation between China and CEECs.

During the dialogue session, representatives of institutions from different countries introduced their latest achievements in materials and chemistry, shared prospects for future international cooperation, and exchanged views on how to build joint research platforms and carry out more exchanges between researchers.

As the first event of the China-CEEC InnoShare 2023, the roundtable conference was hosted by CSTEC and Ningbo Science and Technology Bureau.

90 Land Ecosystem Observation Stations to Be Established

By CHEN Chunyou

In recent years, the changes in ecological environment have adversely affected the survival of humankind. To help understand this trend, many countries have carried out comprehensive studies on the relationship between humans and nature, and between geosphere and biosphere, as well as their impact on global changes.

Researchers found that single observation site, and local and discontinuous observation data are no longer suitable for analyzing the development and changes of land ecosystems and their impact on global climate change. It is therefore necessary to establish a networked observation system integrating data from a single watershed, a region, and even a nation, so as to produce more precise data that can be used in research and decision-making.

According to a recent plan released by the National Forestry and Grassland Administration, China has decided to build an additional 90 land ecosystem observation stations, bringing its total number of such stations to 310 by 2025 and forming a network of national land ecosystem observation stations with global influence.

The observation stations will be set up and distributed via eight categories, namely forest, grassland, wetland, desert, urban areas, farmland protected forest, bamboo forest and national parks, said the plan.

The plan outlines methods for strengthening the information collection and sharing capabilities of these newly built stations. More efforts will be made to improve basic infrastructure, such as observation instruments and facilities, and enhance the real-time transmission of data.

In addition, the observation stations older than 10 years will get support in upgrading old instruments, to improve their ability in automatic high-accuracy data collection and data transmission.

In response to major national and regional ecological issues, researchers will rely on these observation stations to conduct long-term positioning observations and research, and regularly release observational data and evaluation reports on the land ecosystem, so as to serve the high-quality development of the forestry and grass industry, said the plan.

Saline-Alkali Land to Yield More Crops

From Page 1

The planted forage grass, such as sugar sorghum and triticale, are combined with local advantageous forage species like reeds and wild soybeans to form balanced nutrition formula for sheep breeding. Researchers also used livestock and poultry breeding manure, adopting highly efficient aerobic anaerobic dual-use microbial fermentation strains and automated fermentation devices to promote adequate compost fermentation, and achieved 100 percent utilization rate of agricultural organic waste.

Returning bio-organic fertilizer to the field can promote the formation of soil agglomerates, while adding forage planting can quickly improve the basic arable strength of saline-alkali land. Using this model, in the course of planting grass for sheep, farmers can fertilize grass with sheep manure and eventually maximize the utilization rate of ecological cycle model.

Bringing economic and environment balance

Since 2012, Daan city in Jilin province has been ameliorating saline-alkali land by planting rice.

"In nine out of 10 years this area is in drought. Evaporation is almost four times the amount of rainfall, causing accumulative effects of salts within the soil to surface," said Li Jinyou, a staff member at the Natural Resources Bureau of Daan city, adding that another serious issue is that no control system is placed to prevent accumulated salt on the soil surface from spreading to other places and then causing wide salinization.

Researchers first levelled the uneven saline land, covered it with sandy soil and then started rototilling. They added soil amendments, washed the whole field with water and then planted rice to cure alkali.

Once these unused saline alkali lands are transformed into arable land, it can be traded on a balance-of-occupancy land trading platform, backed by a national land and resources management system. These arable lands can then be sold through platforms to increase the region's budget, and the trading price is generally the sum of decades of income from the occupied land or surrounding arable land when it is fully planted.

China-Central Asia Summit Offers New Blueprint of High-quality Cooperation

The China-Central Asia Summit is held from May 18 to 19 in Xi'an, capital of northwest China's Shaanxi province. (PHOTO: VCG)

Voice of the World

Edited by TANG Zhexiao

The China- Central Asia Summit which was held on May 18- 19 in Xi'an, northwest China's Shaanxi province, marks the first major diplomatic event that China host this year.

The six countries jointly signed the *Xi'an Declaration* of the China- Central Asia Summit, adopted a list of summit outcomes, determining to work together to rise to challenges and foster a closer China- Central Asia community with a shared future.

Aktilek Musaeva, Kyrgyzstan's Ambassador to China, said that the China-Central Asia Summit is an important dialogue platform between China and Central Asian countries.

The foreign ministers of the five Central Asian countries, Kazakhstan, Tajikistan, Uzbekistan, Kyrgyz and Turkmenistan, said that developing relations with China is a priority of their respective diplomatic agendas and that they will maintain high-level exchanges with China, promote Belt and Road cooperation, deepen people-to-people exchanges, fight terrorism, separatism and extremism, and usher in the next 30 golden years of China-Central Asia relations, according to Kazakhstan's *The Astana Times*.

Over the past decade, China and these five Central Asian nations have jointly implemented a number of major projects, which have benefited the region and its people in various ways.

Some examples of these are completion of the China-Kazakhstan Horgos International Border Cooperation Center and the China- Kazakhstan Logistics Base in Lianyungang, providing a gateway to the Pacific for Central Asian countries. The Chinese- built tunnel of the Angren- Pap railway line in Uzbekistan, the longest tunnel in Central Asia, which has saved local residents the trouble of climbing through the mountains or taking a detour via neighboring countries.

The China- Kyrgyzstan- Uzbekistan highway, which has become an important international transportation route that runs smoothly through the region's mountainous terrain. Vladimir Norov, former Uzbekistan foreign minister, said the railway allows goods from China to reach Europe several days faster.

This year also marks the 10th anniversary of the Belt and Road Initiative (BRI) proposed in Kazakhstan in 2013.

The BRI is actively seeking alignment with the Central Asian countries' development strategies, carrying out a series of win-win projects that bring tangible benefits to the people in the region.

These projects, including establishing the China- Central Asia Agricultural Cooperation Center and the Luban Workshop (a Chinese vocational workshop program training talent overseas), were planned for the betterment of the people.

Kubanychbek Taabaldiev, a Kyrgyz professor of international relations at Ala- Too International University, noted the close ties between countries in the region and China is China's success, not only in the economic field or through introduction of new digital technologies, but also in poverty eradication and the improvement of civil society conditions.

Shavkat Alimbekov, leading researcher at International Institute for Central Asia, said in an interview with *Global Times* that the China- Central Asia Summit will give new impetus to the high-quality construction of the Belt and Road Initiative.

"One of the key aspects of this cooperation is the development of the 'Green Silk Road,' that is, the use of green development technologies, innovative solutions and advanced technologies to achieve environmental efficiency and sustainability," said Alimbekov.

In January, 2022, China and the five Central Asian countries jointly announced to build a China- Central Asia community with a shared future.

The China- Central Asia Summit, held at the starting point of the ancient Silk Road, is set to reinvigorate the millennia- old trade route, ushering in a promising outlook for China- Central Asia cooperation and contributing to an increasingly closer China- Central Asia community with a shared future.

Comment

Decoupling from China: There's More to Lose than to Gain

By QI Liming

China's economy will grow 5.3 percent this year, up from the 4.8 percent forecast in January. That's according to a United Nations projection released in a mid- year update of its *World Economic Situation and Prospects 2023* report on May 16.

China's economy is steadily recovering after the pandemic and remains strong, instilling confidence in its economic future, according to Hamid Rashid, lead author of the mid-year report.

However, as recovery of the world's economy continues to be a struggle, politicians in some countries smear and suppress China for political purposes, even at the cost of their own country's economic recovery, which is unwise.

No one can benefit from decoupling

As Canadian media CBC News reported, economists worry growing conflict with China will make Canada and the world poorer. Analysts said that the "Cold War" effect could slow down economic recovery and weaken dialogue on crucial issues.

"Even as we need more international co- operation on multiple fronts, we are facing the spectre of a new Cold War that could see the world fragment into rival economic blocs," warned IMF Managing Director Kristalina Georgieva earlier this year. "This would be a collective policy mistake that would leave everyone poorer and less secure."

Bank of Canada governor Tiff Macklem raised the issue in testimony to Canadian Senate Standing Committee on Banking, Commerce and the Economy in April after discussions in Washington.

"The reality is we have all benefited tremendously from an increasingly integrated global trade and investment system and if that goes in reverse, that will certainly have a cost to global growth," Macklem told senators.

Looking at Canada specifically, Danielle Goldfarb, vice- president of global affairs, economics and public policy at the Toronto-based research company RIWI, said as an open trading economy, a decline in global trade could hit the country hard.

Growing domestic markets as a priority

Not all the traditional American allies are considering following Washington's lead in pursuing economic "decoupling" from China however, since these countries would prefer to see their own markets growing.

The Strategist, the commentary and analysis site of Australian Strategic Policy Institute (ASPI), reported that in Western Europe, France and Germany are showing an unwillingness to join their allies (U.S.) in decoupling from China. French President Emmanuel Macron's recent comments that Europe should not get "caught up in crises that are not ours" demonstrate this.

China is one of France and Germany's major trading partners outside of Europe and a significant export market for luxury goods and pharmaceuticals.

Genevieve Donnellon- May, the Asia-Pacific analyst at *The Red Line* podcast and researcher at the Oxford Global Society, said that given all the evidence, making a show of decoupling from China could cause significant repercussions for France and Germany. The costs of decoupling outweigh the benefits for the two governments.

American companies dependent on China's economy

According to CNBC, U.S. companies like Procter & Gamble, Starbucks and MGM Resorts International all said that China's recovery is boosting their overall sales, as consumers in their home markets tighten their belts. With its large population and swelling middle class, China is a desirable market for many multinational companies that have seen their U.S. businesses mature.

Meanwhile Piper Sandler analyst, Korinne Wolfmeyer, called Coty one of her favorite beauty stocks in a note to clients recently, following Coty's quarterly earnings report. She in part cited its China performance.

"We are remaining cautiously optimistic on China for the beauty market in the near term, but for COTY specifically, we view the company's strategic investments in the region and key product launches as a driver of market out- performance," she wrote.

'Hostile' US Policies On China Risk Dividing World: Stiglitz

Research Box

"Hostile" US policies on China risk splitting the world into two blocs, said Nobel- winning economist Joseph Stiglitz, urging the West to offer investment not "lectures" to developing countries.

"It would be a good idea for the other G7 countries to try to put pressure on the United States to say, 'what you're doing is forming the world into two blocs, and that will be hard,'" the professor said on the sidelines of Group of Seven ministerial talks in Japan.

"We may be in some kind of strategic competition, but that doesn't mean that we have to be quite so hostile."

Stiglitz warned that competition between US Democrats and Republicans to look tough on China could undermine international action on climate change and other global crises.

And he argued that recent moves by Washington, which is attempting to limit Chinese influence on critical supply chains, could not be explained simply by concerns over Beijing's political system.

The West meanwhile is investing "very little" in developing economies, compared to countries like China, said the former World Bank chief economist. "There's a joke that we give them lectures about what to do, and they give them money," he said.

— *Katie Forster, Barron's, 12- 05- 2023*

Don't View Sci-tech Collaboration with Narrow Mindset

Opinion

By ZHU Rongsheng

Recently, high- level officials from China and the U.S. held intensive discussions to bring bilateral relations back on to a steady and upward trajectory. During a meeting with U.S. Ambassador to China William Burnsin in Beijing on May 8, Chinese State Councilor and Foreign Minister Qin Gang emphasized the importance of avoiding a downward spiral in China- US relations. Qin said that the U.S. should not talk about communication while continuously suppressing and containing China.

In recent years, the U.S. government has pursued an offensive foreign policy towards China, including a trade war, and decoupling in high-tech chains, which has inevitably led to a deterioration in China-US relations.

However, the stable development of China- US relations has a deep influence on the global order. One major concern is whether sci-tech cooperation can be reestablished. In the view of the confrontation and prolonged competition between the two great powers, Antonio Guterres, Secretary- General of the United Nations, has expressed his concern that geopolitical competition will push the world order into two systems, dominated by China and the United States respectively.

While Chinese and U.S. government officials have engaged in strategic communications to maintain a stable relationship, the polarization of U.S. parties could pose significant challenges to those efforts. In the U.S. foreign policy decision- making system that carries out whole- of- government strategic competition with China, the U.S. Congress persistently anchors the narrative of the "China threat" and reinforces the so-called "anti- China Political Correctness of containing China." The key U.S. lawmakers are embarking on a path of dependence against competition with China.

The U.S. Congress had an intensive debate on the "China Competition Act"and promoted the adoption of the *CHIPS and Science Act*, and the *Inflation Reduction Act*. The "China Competition Act" promotes heavily subsidization to technology industries, precisely decouple technology chains against China, and attempts to lock China in the lower end of the industrial chain and encourage the friend- shoring global supply chains.

On May 3, Senate Majority Leader Chuck Schumer launched an upgraded version of the "China Competition Act 2.0 Initiative" limiting the flow of advanced technology to China, and curtailing the flow of investment to China to ensure U.S. global leadership in high technology. The initiative puts more emphasis on strengthening the technological investment and advantage of the United States through non- market means.

What would it cost for the U.S. to force technology decoupling? In April, IMF released its latest *World Economic Outlook* report. According to the report, the decoupling policy implemented by the U.S. government and the previous "China Competition Act" in Congress will produce a "slowing growth in cross-border flows" effect. The IMF predicts that this could reduce global growth by two percent. And the U.S. will take a large share of the loss.

In addition to the long- term economic damage, the U.S. Congress's obsession with upgrading the "China Competition Act" will also be detrimental to the development of science and technology, and the growth of social welfare it brings.

In *The Chip Wars*, Chris Miller brilliantly reveals, from the perspective of history, that the U.S. has always been unable to achieve complete independence in the innovation of high- end technologies such as chips. It has to rely on the lithography machines of the Netherlands, the silicon wafers of Japan, the manufacturing of China's Taiwan, as well as the huge processing and consumer market of China.

This means that only in the "big circle" of the interdependent global system can we enjoy the benefits of scientific and technological progress, and by deliberately creating a "small circle" for the one's own absolute security it is difficult to have a future.

Science and technology is an important engine driving economic and social welfare. Deepening sci-tech ties between countries will improve people's well - being. From the lens of history, both China and the U.S. have benefited from global opening- up and cooperation in science and technology. It is better for policy makers to see the benefits of sci- tech exchanges and cooperation for people of all countries, rather than a zero-sum mentality obsessed with maintaining hegemony.

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AR Glasses Benefit Hearing Impaired People

Hi! Tech

By TANG Zhexiao

According to the World Health Organization, nearly 20 percent of the global population are currently living with hearing loss. To assist with this challenge, Beijing LLVISON Technology has developed an augmented reality (AR) eyeglasses named LEION Hey that can transcribe and display spoken words to the wearer across the lenses.

After comparing and testing materials from more than 20 suppliers globally, the research team found Ultem resin, which is a tough, lightweight, and non-halogenated flame - retardant material. With the help of Ultem resin, researchers lowered the overall weight of the AR glasses to 79 grams.

LEION Hey's stems contain both a lithium- ion battery and computer chip, enabling rapid automatic speech recognition and multi- language translations in milliseconds.

It has its own AI algorithms and a collection of more than 100,000 minutes of real voice data in different scenarios such as venues, restaurants and streets. With the Mic array for beamforming, the sound recognition rate of the glasses can reach above 85 percent within five meters in a downtown environment, and the data text can be displayed on the glasses within 500 milliseconds.

Additionally, using a dual waveguide lens and single direction virtual screen, the glasses can both be used to see clearly and protect privacy.

According to LLVISON, the next-generation of LEION Hey is expected to use a certified renewable, bio- based grade of Ultem resin.

LLVISION

The AR eyeglasses LEION Hey, which can transcribe and display spoken words across the lens. (PHOTO: LLVISON)

Computing a Path to Success

Dialogue

By GONG Qian

Computer scientist Thomas Weise remembers the time 13 years ago when his family and friends did not think that his decision to move to China was a good idea. But Dr. Weise's mind was made up as he wanted to spend some time abroad to grow as a person: face new challenges, learn new points of view, and get some experience beyond his research field. China seemed like the perfect place for these ambitions.

"China was always interesting to me. It is a country with a very different way of life," the 42-year-old German told *Science and Technology Daily*. On his arrival at his new home, Weise began his two-year work as a postdoctoral fellow at the University of Science and Technology of China (USTC) in Hefei, Anhui province, after completing his PhD in Computer Science in Germany in 2009. He joined Professor Yao Xin's team, which is well-known for its expertise in evolutionary computing.

Initially, Weise was anxious about working and living in China. But he found himself warmly welcomed and kindly received by all the people he came into contact with. "I immediately liked the work environment in Hefei. I felt deep respect for my colleagues, who were really outstanding researchers and from whom I could learn a lot," said Weise, adding that, "The PhD, MSc and BSc students here all were hard-working, kind and really smart."

German computer scientist Thomas Weise reads Science and Technology Daily English Edition. (PHOTO: Gong Qian/S&T Daily)

Two years later in 2011, Weise became an associate professor of the USTC-Birmingham Joint Research Institute (UBRI) in Intelligent Computation and Its Applications. "I really enjoyed working there as I had learned to do my job there sufficiently well," he said.

Weise went on to embrace a big chance to build a research group from scratch at Hefei University. This meant to him not only a new challenges, but also a next career level move - to become full professor and team leader. From 2016, he has been the director of the Institute of Applied Optimization of the School of Artificial Intelligence and Big Data at Hefei University.

After living and working in China for well over a decade, Weise believes that China's research environment is very dynamic and competitive. The country also offers good sources for funding, both for basic and applied sciences, he said.

Meanwhile, he describes the country's research environment as highly professional, saying that China has clearly defined performance metrics, funding sources with fixed deadlines, and a clear ranking of universities, journals and conferences, which allows for a fair assessment of researchers in China. "I like this," said Weise.

But it also meant that he needed to adapt to the academic performance metrics, which are very different from those in his home country. "While I honestly was a good PhD student in Germany, it took some time to become an acceptable researcher in China," said Weise.

Currently, he is working on a new optimization technique which has theoretical/mathematical properties that no other technique has. According to him, this work is now gaining traction. In April, a research group from the Netherlands went through the process to basically re-implement algorithms produced by Dr. Weise's team and ran a lot of experiments, just to see if the team's findings were accurate. "They confirmed our results exactly," said Weise.

Previously in 2020, Weise received the Friendship Award from the Hefei government for his outstanding contributions to local sci-tech development and China-Germany cooperation.

"I want to spend the rest of career and the rest of my life here in Hefei," said Weise. His team currently has nine members who are all researchers with PhD. "We are still growing. My goal is that we eventually become a good research group, and we can make good contributions to our society and earn a good reputation, both at home and abroad," he added.

Expats Activity

Special Class Sparks Passion for Science

By WANG Xin & LONG Yun

As a prelude to the National Science and Technology Week 2023, the themed activity "Foreign Expert Science Class" was held on May 13 and 14, attracting over 260 on-site attendees.

Professor Katsumi Tanigaki, a chief scientist at the Beijing Institute of Quantum Information Science, delivered an enlightening lecture titled "Emerging Quantum Information Science and Technology in Physics." With expertise in the field, the Japanese scientist elaborated on the origins, applications, development, and future prospects of quantum information, which combines quantum physics and information technology as an interdisciplinary study.

Professor Frederic Genty makes his speech during the event. (COURTESY PHOTO)

Professor Frederic Genty, the dean of the Sino-French Institute of Engineering and Technology at Beihang University, provided a valuable insight into the world of engineering with the lecture titled "Exploring the Role and Contributions of Engineers."

Drawing inspiration from Gustave Eiffel, the creator of the Eiffel Tower, Genty shed light on the vital role played by engineers and inventors across various industries. He highlighted their contributions to spheres such as aviation and deep-sea submersibles, particularly during the second and third industrial revolutions. His lecture emphasized how engineers consistently push the boundaries in their own fields, creating significant value and benefiting humanity at large.

The event was filled with vibrant and frequent interactions between the lecturers and the audience. The experts' engaging explanations ignited curiosity and a genuine thirst for knowledge among the attendees. Additionally, the experts encouraged young individuals to develop practical skills, enhance their scientific literacy, and cultivate an innovative mindset.

Professor Katsumi Tanigaki delivers his speech during the event. (COURTESY PHOTO)

The themed activities have successfully organized nearly 60 lectures and have gathered foreign experts from over 20 countries, covering diverse fields such as chemistry, physics, aviation, engineering, materials and other sectors. They have received praise from all sectors of society for their valuable contributions to science and knowledge dissemination.

This article is also contributed by Foreign Talent Research Center, MOST.

Embracing Diversity, Enhancing Understanding

By Eva Yin

For the 13th year, a festival aimed at strengthening cultural exchanges between Chinese and international students, while also creating a friendly platform for mutual respect, understanding, and inclusiveness, known as the International Cultural Festival of Tianjin University(TJU), kicked off on its Weijin Road campus on May 13.

Themed "Diversified TJU, Harmony and Development," the festival consists of three major parts, namely artistic performances, a food court, and a cultural exhibition. More than a thousand students gathered to enjoy the cultural feast.

As the event commenced, Malaysian students studying at TJU took the stage and presented an energetic and captivating performance of their intangible cultural heritage known as the Twenty-Four Festive Drums. The drummers, with their movements, created a powerful and rhythmic sound that resonated with the enthusiastic audience.

The foreign students gather at the International Cultural Festival of TJU. (PHOTO: TJU)

It was also a brand new experience for Nicole Kueh Shian Maun, a Malaysian student majoring in environmental engineering at TJU and one of the performing drummers. "We are very grateful to the university for providing such a good opportunity for us to tell our Chinese peers what our country is like. And we are glad to learn about many other cultures and get to know many friends," she said.

The International Cultural Festival is not only a celebration of diversity but also an opportunity for students to broaden their horizons and learn from each other. The festival provides a platform for students to showcase their talents, share their cultural traditions, and create lasting connections. It also encourages dialogue and interaction, fostering a spirit of cooperation and harmony.

This article is contributed by TJU.

Service Info

Minhang Opens Expats Service Center

By Staff Reporters

More than 30 international experts from over 10 enterprises rooted in Minhang district, Shanghai, gathered at a foreign talent salon event, witnessing the establishment of Minhang's first Foreign Talent Service Center.

Innovation is the driving force, and talent is the primary resource. The Foreign Talent Service Center will conduct a series of activities to deliver detailed and accurate policy interpretation for foreign experts living in China, striving to build an exchange platform and provide efficient, convenient, and high-quality services for them.

During the salon, a policy interpretation session was held to help enterprises and experts understand policies and conduct business conveniently. Relevant departments explained the policies related to foreign employment permits and other relevant requirements. Attendees expressed their appreciation for this targeted policy interpretation, applauding its rich and practical content.

Furthermore, the interactive and communicative functions of the center were also highlighted. International experts showed a strong interest in Chinese traditional culture through experiencing traditional handicraft activities, gaining a more intuitive understanding of folk handicrafts, and appreciating the enduring charm of Chinese culture.

The establishment of the center in Minhang district marks a significant step towards attracting and supporting foreign experts in Shanghai. With its commitment to innovation and the provision of quality services, the center will create a dynamic platform for exchange and cooperation, fostering the growth and development of foreign experts in the region.

Qingyuan Optimizes Foreign Affairs Service

By Staff Reporters

Qingyuan city, Guangdong province, witnessed the establishment of its first industrial park Foreign Affairs Service Station (FASS) on May 12. This move has been welcomed by local enterprises as they are allowed to handle foreign-related affairs right on their doorstep. One business owner expressed delight after submitting the application materials for an APEC business card, saying, "It's great to have this foreign affairs service station. We can now handle foreign-related matters without leaving the industrial park."

The tasks of FASS in the industrial park include promoting overseas processing of APEC business cards, providing consultations on foreign policies and laws, and utilizing this platform to connect various resources in order to serve the industrial park and foreign-related enterprises. This initiative aims to further optimize the investment and business environment in Qingyuan.

After the unveiling ceremony, relevant departments and institutions gave detailed introductions about the policies that affected various enterprises. "This year, our company is vigorously expanding its market and securing orders. The information and policy shared in this presentation were like a timely rainfall for us," said a business owner.

And before that on May 10, to fully serve the city's high-quality economic and social development, the Foreign Affairs Office of Qingyuan Municipal Government established another FASS in a community where there is a concentration of foreign residents. The effectiveness of each FASS will be evaluated, and the model is expected to be gradually rolled out to other places as required.

To Know About Iodine Deficiency

Science Outreach

By Staff Reporters

Since the introduction of salt iodisation in China to prevent and control iodine deficiency disorders, serious diseases such as cretinism and endemic goiter caused by iodine deficiency have become relatively rare. However, as the incidence of thyroid nodules has gradually increased in recent years, some people began to question the existing iodisation control measures.

To clarify some pertinent concerns, Liu Peng and Fan Lijun from the Chinese Centre for Disease Control and Prevention address people's concerns about iodine deficiency and its treatment.

What are the health consequences of iodine deficiency?

The effects of iodine deficiency at different stages of life are different. To foetuses and infants, it can interfere with their normal brain development, resulting in severe cases of cretinism, deafness and mental retardation; to children and adolescents, it can affect their intellectual and physical development, causing motor, visual and auditory impairment and most importantly, goiter; as a result, adults can suffer from goiter and hypothyroidism.

How to treat iodine deficiency?

Treatment for iodine deficiency usually involves increasing your iodine intake. In some parts of the world, many people don't get enough iodine because the natural environment, such as regions away from the sea and at higher altitudes, contains very little iodine, and the human body has a limited ability to store iodine. Therefore, the people with iodine deficiency should be corrected on a long-term, daily basis, such as eating an iodine-rich diet and iodized salt, taking iodine-containing supplements, among which iodized salt is the safest and most effective measure recommended by the World Health Organization to control iodine deficiency disorders.

Do people suffering from thyroid disease need iodine supplements?

People with an overactive thyroid should avoid eating excessive amounts of iodine-rich foods and medicines. If radioactive iodine is used to treat hyperthyroidism, iodine-rich foods such as seaweed should be avoided for at least 7 days. Patients with hypothyroidism who have had their thyroid gland removed or who have residual thyroid tissue may be able to follow a normal iodine diet.

It is important to note that thyroid disorders are caused by different factors and pathogenesis, and that the need for iodine supplementation in patients with different thyroid disorders is subject to medical advice.