

INSIGHTS

Long-term Sci-tech Collaboration Preferable

Voice of the World

Edited by QI Liming

The U.S. State Department announced extension of the Science and Technology Agreement (STA) with China for another six months, a spokesperson told VOA on March 7. This is the second short-term renewal initiated by the U.S. government since the agreement expired in August 2023. The STA was previously renewed at five-year intervals.

Nature magazine commented that there is too much talk about the risks of collaboration, and too little about the benefits when talking about the renewal of the China-U.S. decades-long science pact.

Scientific research is not opportunistic, and a second short-term extension of the STA is not conducive to the contributions of long-term and stable scientific collaboration and exchanges between the two nations' scientists. It would do no good to the educational and scientific exchanges that have such potential to help meet the many challenges faced by China, the U.S. and the world. Wisdom and forward thinking must prevail.

STA benefits the world

According to *Nature*, the landmark 45-year-old STA has yielded historic achievements in research collaboration and student exchanges between the two countries.

John Holdren, a physicist at Harvard University in Cambridge, Massachusetts, and a science adviser to former U.S. president Barack Obama, said that the agreement was designed to ensure the benefits would be mutual.



A viewer visits the exhibition area of a Chinese company during the 2024 Consumer Electronics Show (CES) in Las Vegas, the United States. Chinese companies have unveiled a series of new tech products and solutions at this year's CES. (PHOTO: XINHUA)

Those benefits are both national and global.

For example, collaboration between the two countries on environmental protection includes projects to monitor and improve air and water quality, as well as watershed protection, and projects to reduce electronic waste benefiting both countries in different ways. The U.S. Environmental Protection Agency called its relationship with China "one of its most significant."

When it comes to global challenges, researchers in China, the U.S. and Europe are cooperating extensively on studying the role of nature in human prosperity. This work is foundational to ongoing efforts to incorporate nature into how economies are valued.

Another notable, but little-known project, aims to reduce the risk of nuclear proliferation. Since 2009, China and the U.S. have been working together to convert a type of nuclear research reactor, which has been supplied to a number of countries. In a small way, this cooperation has contributed to a safer world, *Nature* concluded.

Scientists value U.S.-China sci-tech collaboration

According to *Chemistry World* magazine, Tara Drozdenko, director of the global security programme at the Union of Concerned Scientists, argued that scientific cooperation and exchange between the U.S. and China is "making irreplaceable contributions" in areas like air

and water quality, cancer research and reduction of electronic waste.

Karen Mancl, professor emerita of food, agricultural & biological engineering, Ohio State University and fellow of Woodrow Wilson Center for International Scholars, released an article (U.S.-China Science and Technology Agreement is Rooted in Agriculture) on February 26.

In the article, she first summarized the achievements in agriculture since the signing of the STA, and then detailed the key areas of breakthroughs in Sino-U.S. agricultural cooperation.

"Fifty years of success demonstrates the need for continued agricultural collaboration. Even today, U.S. and Chinese agricultural scientists are eager to collaborate and have much to share to tackle climate impacts and adaptation in agriculture, food safety, plant and animal diseases, as well as the threats to food production from invasive species," she said.

Drozdenko made a statement on February 27, saying, "Science is an inherently collaborative enterprise and continued progress depends on the routine sharing of information, ideas and experience. The U.S. President Biden should get the science and technology cooperation agreement with China renewed without further damaging delays."

"Failing to reach an agreement on such a routine and practical matter would be a mistake," said Drozdenko. "This agreement is not about politics — it has been continued through many administrations and phases of the U.S.-China relationship, because both countries have understood the vital importance of exchange and cooperation in solving our biggest challenges," she said.

Comment

'Small Circles' Is Worsening Global Digital Divide

By YIN Ximing & ZHANG Beibei

In late February, 10 countries issued a joint statement on 6G development principles. They included the U.S., UK, Australia, Japan and South Korea. At the same time, tech giants such as Nvidia, Amazon, Microsoft and Samsung formed the "AI-RAN" (artificial intelligence-radio access network) alliance.

The AI-RAN alliance is led by the U.S. and other Western countries and excludes China. What is their intention? RAN is the key to mobile communication technology. The U.S. is aggressively positioning itself in next generation mobile communication technology. By leveraging the collective strength of the alliance, it aims to create a "small circle" around itself and effectively exclude China.

After collaborating with Europe, India, Australia, Japan and Middle Eastern countries in the development of AI, Washington is seeking to seize the opportunities arising from the deep integration of AI with mobile communication technology to assert its dominance in 6G technology research, standardization and regulation, thus claiming a significant stake in the AI and digital era.

However, from the global view of technological progress, excluding China will hinder global 6G innovation and development. As a next-generation mobile communication technology, 6G is more complex than 5G, with diverse and heterogeneous applications, which makes global cooperation of paramount importance. Excluding China will severely hamper the development of wireless communication network technology and industry.

Market size is a critical factor influencing technology innovation. As one of the world's largest communications markets, China plays a pivotal role in nourishing the wireless communications industry. Therefore, the absence of Chinese companies will significantly limit the global application contexts of new technologies and hinder

global industry support and technology adoption.

In addition, mobile communication technology has evolved from 1G to 6G and is becoming increasingly complex. Leveraging AI technology to improve RAN performance, and addressing uncertainties and challenges in technology selection and innovation requires extensive practical experience from global enterprises.

China's journey from catching up during the 1G-4G era to leading in the 5G era demonstrates its deep technology accumulation and successful innovation practice. Excluding Chinese enterprises will hinder the deep integration and emergence of AI-RAN innovation, leading to multiple technical standards and market fragmentation. This will harm global inclusive development.

By contrast, China's response has been to advocate a digital civilization community and promote an open, inclusive new ecosystem for global digital-driven development. By leveraging the advantage of its huge market and abundant application contexts, China can shape the fusion development of AI and RAN, contributing to the global digital economy.

Western countries and global firms should not create "small circles" in the AI era to prevent the greater risk of a global digital divide. At the same time, Chinese firms should continue exploring new directions for the fusion of AI and RAN, accelerate AI-driven initiatives, deepen cooperation with international enterprises, promote unified international standards, and contribute to the global mobile communication industry's prosperity and progress.

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Chinese Innovation Wins Widespread Recognition

Opinion

By TANG Zhexiao

China's Two Sessions have sent positive signals of the country's economic pickup, proposing to strive for more innovative breakthroughs and give more input impetus to the development of the new quality productive

forces.

China aims to become a major innovative power and has made significant progress, *Pakistan Today* observed, adding that its high-quality hi-tech products are welcomed by the global market.

Last year, exports of the "new three items," namely, electric vehicles, lithium-ion batteries, and photovoltaic products, exceeded one trillion RMB, with a year-on-year increase of 30 per-

cent, according to the Ministry of Foreign Affairs. Last year also witnessed accelerated development of the digital economy, with half of the nation's population using 5G.

In various recent government files, sci-tech innovation is seen as the main driver of the economy.

Bloomberg noted that the Government Work Report says China will increase the budget for scientific and technological research by 10 percent to 370.8 billion RMB in 2024 to promote "national champions" and give enterprises a central role in spearheading advances.

According to CNN, "The emphasis on self-reliance in science and technology comes after the United States tightened control over the export of cutting-edge technologies to China, especially in the field of AI."

China is pledging to harness all resources to speed homegrown scientific breakthroughs, Bloomberg reported.

Responding to the unfair export limits, abuse of market rules and restrictions by U.S.-led Western powers, China has made a push for technological self-reliance and given full rein to the leading role of innovation.

A report released by the Australian Strategic Policy Institute says China is leading the Western powers in research

output in 37 of 44 technological areas considered critical to economic growth over the coming decades, from AI to robotics.

"Risks ahead but China's economy is to stay on a long-term, tech-led course," *The Star* of Malaysia commented.

British vlogger Jason Lightfoot, who posts regular videos on YouTube as part of a series called *Living in China*, said, "China's technology and innovation are leading the world." One of his videos show China's amazing 3D printing technology and how far it has come in terms of innovation, convenience and creativity via a tour of a 3D printer company. China's amazing tech is shocking the world, the introduction to the video says.

According to the Cyberspace Administration of China, China's digital economy reached 50.2 trillion RMB in 2022, accounting for 41.5 percent of the country's GDP and ranking second in the world.

Chinese fintech is a significant force in this. Private fintech enterprises like Huawei, Baidu and Tencent are helping the economy to "grow at an unprecedented rate and influencing the global economy," the China-Britain Business Council said.

not have to be assembled and works immediately after being unfolded. Its drying capacity is no less than the traditional dryer's.

With 3D hot air flowing around the clothes, it has two-temperature shift buttons for controlling the temperature. The dryer can remove mites, mildew and odor via its UV lamp plus a 360° thermal cycle without any damage to the clothing.

In addition to garments of daily use, the dryer can dry inner wear, baby clothes, and sheets as well.



A technician is assembling 3D printing devices in a 3D printing industrial park, Xingtai city, Hebei province. (PHOTO: XINHUA)

New Clothes Dryer Makes Life Easier

Hi! Tech

By QI Liming

Huinantian is the Chinese term for a local meteorological phenomenon in spring, caused by the meeting of cold

and warm air currents. The humidity in the air rises sharply, and it is hot and damp outdoors and cold and damp indoors. During this period, it is very difficult to dry clothes. Almost every household uses clothes dryers.

While traditional dryers are large and expensive, the new practical portable folding dryer is multi-functional and

can dry clothes as well as remove bacteria from them. It consists of a cloth cover and the main machine. The cover is made of thermal insulation fabric, which is smoother, tougher and more durable than traditional fabrics, and can be disassembled for washing.

The dryer is as small as a makeup box and can be stored easily. It does



As a next-generation mobile technology, 6G is more complex than 5G. (PHOTO: VCG)

Technology Opens Up New Paths in Life Sciences

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"As a specialist in otolaryngology, I have witnessed China's steady progress in disease diagnosis and treatment for over 20 years," she said. The integration of disciplines such as audiology, genetics, imaging and data science has expanded new industrial paths from finding the source of diseases to preventing and treating them.

Zhang explained how personalized diagnosis and treatment can be created for patients by leveraging sensing technology, surface biometrics and other techniques. This will also improve treatment efficacy and safety, while using AI algorithms to analyze and diagnose medical images can enhance diagnostic accuracy and efficiency. China is developing large-scale AI models in the health sector, Zhang said.

Big data enable smart healthcare decision-making

Shifting the focus from treatment to healthcare is an essential mission in the future. As data elements accumulate and are mined, new ways of disease pre-

diction and health maintenance are becoming possible.

"Combined with TCM smart wearable devices and big data analysis, the public can receive comprehensive health management services, including dietary advice and exercise guidance." Zhang said AI, by leveraging a large amount of medical data and its computing power, can even help predict the risk of disease occurrence, providing personalized health advice for individuals.

However, Wu Xiaoke added "Without sufficient data, the level and scope of AI application will be limited." "Isolation" of medical data still exists, with many data sets difficult to converge into big data. He suggests promoting medical data sharing and integration, allowing more data in the health field to flow smoothly.

"The rapid development of cutting-edge technologies such as synthetic biology is fueling industry transformation," noted Wang Qiuju, adding that setting up national mega-science projects and initiatives in life sciences is crucial to promote basic innovation in China.