

INSIGHTS

Composing New Chapter of China-Russia Sci-tech Cooperation

Voice of the World

Edited by TANG Zhexiao

China and Russia are each other's biggest neighbor and comprehensive strategic partners of coordination. Under this all-round and multi-tiered cooperation framework, the two sides have had a long and fruitful history in science and technology cooperation spanning several decades.

Cooperation in science and education, such as academic exchange and joint scientific research programs have been promoted in recent years.

The journal *Nature* said China has now become one of Russia's top academic partners in recent years, publishing around 17 percent of Russia's international co-authored papers in 2021, nearly double compared with 2012.

According to Russia's Ministry of Education and Science, more than 30 thousand Chinese citizens are studying at Russian universities as of 2022.

Meanwhile, Irina Panchenko, associate professor of the Siberian State Industrial University, has completed an internship at China's Wenzhou University, before heading the laboratory of electron microscopy and image processing in Russia.

Russian scientists, together with Chinese colleagues, have successfully conducted research on the calculation of atomic fractions of components forming high-entropy alloys of metal systems, said Panchenko.

On the space front, China National Space Administration and Russia's space agency Roscosmos inked a deal in November 2022 to strengthen bilateral space cooperation in 2023-2027.



Established in 2016, Shenzhen MSU-BIT University is the first Sino-Russian cooperative university. (PHOTO: XINHUA)

According to Roscosmos, the two sides signed an agreement on cooperation in creating an international scientific lunar station, which will conduct scientific research and service lunar rovers and a hopping robot.

Moreover, a cooperation deal on mutually supplementing Russia's Glonass and China's BeiDou global satellite navigation systems, was reached in 2022.

The reciprocal agreements indicate a growing level of trust and cooperation between Moscow and Beijing, said analyst Alexander Gabuev, senior fellow and chair of the Russia in the Asia-Pacific Program at the Carnegie Moscow Center.

Even though the Biden administration imposed tough sanctions on Beijing and Moscow's hi-tech sector, seeking to sever them from semiconductor, super-computing and AI technologies, the Chinese and Russians are likely to make progress in this field nonetheless, according to Russia's Sputnik news.

"Obviously the West would be very frightened of that because of the power of AI and IT," said Thomas W. Pauken II, a consultant on Asia-Pacific affairs and a geopolitical commentator, adding that, "It's going to be hard for the world to accept that, but obviously, there are advantages for China and Russia to move forward."

Pauken expressed confidence that China-Russia cooperation will result in the development of joint high-tech clusters, as well as innovation in the science and high-tech field.

Practices have proven that there

are great potential and broad prospects for China-Russia cooperation in sci-tech innovation.

According to the joint statement of China and Russia released in March, the two sides will deepen mutual cooperation in the field of sci-tech innovation, expand talent exchanges, focus on frontier areas of science and technology and joint research on common issues of global development, and explore new cooperation models in the fields of AI, Internet of Things, 5G, the digital economy and low-carbon economy.

Just as every new year starts with spring, there is reason to expect that China and Russia will open a new chapter of sci-tech cooperation and make greater contributions to the global community.

Comment

A Thaw in PV Products Trade Serves China and U.S.

By GONG Qian

An official in clean energy matters at the White House has confirmed that U.S. imports of solar panels from China are increasing. "We're seeing more shipments coming through," the official told Reuters.

Trina Solar and Jinko Solar, two Chinese photovoltaic panels manufacturers, also confirmed that they are passing customs clearance in the U.S. without problems or difficulties, said China's Yicai Global news service.

Previously, the U.S. issued a ban on imports from China's Xinjiang Uygur Autonomous Region, which went into effect in June of 2022. Since then, shipments of photovoltaic products have been stuck at ports and detained for examination.

This move immediately affected the U.S. solar industry at that time. "Installations [in 2022] were significantly depressed due to supply chain constraints", said Michelle Davis in a press release. Davis is the principal analyst and lead author of U.S. Solar Market Insight Q4 2022 report by the Solar Energy Industries Association (SEIA) and Wood Mackenzie.

According to the report, solar accounted for 45 percent of all new electric generating capacity additions through Q3 2022 in the U.S., the most of any electricity source. But in the Q3 of 2022, solar capacity in the country de-

creased by 17 percent compared to the same quarter in 2021.

According to the *Financial Times*, "State-imposed restrictions on cross-border trade could also significantly hinder plans to build a green energy infrastructure," said RWE, the fourth-largest renewable energy player in the U.S. in its annual report. "We see an elevated risk of this being the case in the USA," said the company.

The recent thaw in Chinese shipments, on the one hand, is more like a matter of expedience for Washington to ease domestic energy development woes than a policy change toward China.

On the other hand, it showcases that China has irreplaceable technological and production advantages in the U.S. market and global solar industry. Trina Solar told Reuters that more than 900 megawatts of its solar panels have cleared U.S. customs in the last four months. That's about enough capacity to power more than 150,000 homes.

Earlier in March, SEIA and Woodmac said they expect U.S. Customs and Border Protection (CBP) to release more detained shipments in the coming months and this will help accelerate deliveries to the U.S., according to Recharge, a business news website covering the global renewable energy industry.

A thaw in trade would further demonstrate that cooperation rather than confrontation can best serve the interests of China and the U.S.

U.S. Attempts to Shift Supply Chains Facing Defeat

Opinion

By QI Liming

U.S. manufacturers Adam and Amy Fazackerley shifted production of their drawing organizers for cosmetics to Cambodia from China in 2019. This was in response to U.S. tariffs aimed at curbing Chinese imports. A few years later, they have begun to move their operation back to China.

Their imports from Cambodia now face tariffs as well, eating up any profits their company makes. The shipping costs in China and its unmatched ability to manufacture large numbers of products quickly mean they can't afford not

to go back.

"We are a small business. We try not to complain, we try to adapt," said Adam Fazackerley. By moving manufacturing away from China, he and his wife believed they were doing what successive U.S. administrations and Congress had signaled they wanted. "And you screwed us," he said.

When it comes to the second quarter of this year, more and more U.S. manufacturers are moving back to China, as the renewal of the Generalized System of Preferences (GSP) has delayed for around three years. According to *The Wall Street Journal*, the GSP program has expired more than a dozen times since it came into force in 1975, but has usually been swiftly renewed.

This time, the renewal, which

should be in 2020, has been complicated by political wrangling over how to decide which countries should be eligible for GSP benefits, as well as procedural hurdles linked to broader disagreements in Congress over trade and China. The root cause of this phenomenon is that the U.S. has put "counter China" as its core purpose, even at the expense of its own development and the well-being of the American people.

"The economic conflict between the U.S. and China is more of a tech war than a trade war," said David Dollar, a senior fellow at Brookings. As America's tech crackdown on China intensifies, the scope of the fallout is snowballing.

According to *South China Morning Post* on March 1, the "re-shoring" cam-

paign waged in recent years to bring manufacturing jobs back to the U.S. from China is largely ineffective, and a related "near-shoring" bid to shift production to Mexico and Canada, away from America's economic rival, has yet to yield dividends.

Although some American lawmakers and corporations call for a U.S.-China "decoupling" of trade flows, this is easier said than done, wrote Dollar, whether from China to North America, or from China to other Asian countries.

In view of this, the U.S. lawmakers should reverse their thinking, and put aside the unilateralism. Compared with the containment on China at all costs, U.S. government should focus on self-development issues.

Research Box

Why has China been Passing the U.S. in Science and Technology?

The most frequently cited causes of China getting ahead are money, ideology and brains. Let's see Professor John F. Copper's answer:

Already China's economy is bigger than America's if measured in purchasing power parity. Certainly, China's currency will remain stable and in terms of it being a global currency will obviously grow. Trade is more and more conducted in China's yuan, especially in oil and other resources.

Another factor is the difference in ideologies and government planning in the two countries. In China the government makes specific plans to improve science and technology, names those plans, and works with determination and drive to realise the goals set.

In the U.S. planning improve-

ments in science and technology are influenced by equity concerns that distract in terms of time and efficiency to reach objectives, not to mention the extra costs involved.

Third, is the component of progress in science and technology called brains. The top universities in China outshine America's best in genius students, and China has nine times the number of advanced students pursuing STEM majors compared to the U.S. according to recent data.

British scientist Joseph Needham several decades ago in a still famous book entitled *Science and Civilisation in China* wrote that in the past China produced half of the innovations and breakthroughs in the world in science. Perhaps history is repeating.

—John F. Copper, professor of international studies at Rhodes College, Memphis, Tennessee, U.S.

Hi! Tech

Mobile CT: Convenience for Patients, Medical Staff

By GONG Qian

After a decade of effort, Chinese researchers from Sichuan Provincial People's Hospital and the University of Electronic Science and Technology of China have jointly invented an intelligent robotic mobile computed tomography (CT).

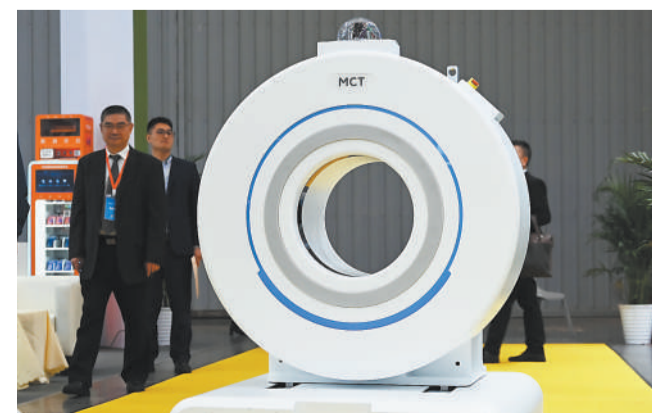
Different from the traditionally large and heavy CT machines, the newly invented device is only 135 cm tall and 260 kg in weight. It features low radiation and low energy consumption. It also features functions such as man-machine dialogue, voice control, route planning, target positioning, three-dimensional imaging, and intelligent diagnosis.

This new kind of CT machine can directly move to the ward to take CT ex-

aminations for patients and can upload the results in real time after receiving instructions. With its help, patients no longer have to take tests in the exam rooms where the traditional CT machine is located in a fixed position.

The new machine will significantly improve the efficiency of disease examination and treatment, reducing

medical expenses and the burden on medical personnel.



The intelligent robotic mobile computed tomography is exhibited at the 10th China (Sichuan) International Health and Elderly-care Industry Expo from March 16 to 18, 2023. (PHOTO: VCG)

Say No to Fukushima's Wastewater

By QI Liming

Japan unilaterally decided to pour around 1.3 million tons of contaminated water from the destroyed Fukushima nuclear power plant into the sea: enough wastewater to fill around 500 Olympic-sized swimming pools. In addition, the contaminated groundwater in multiple locations in no-go zones near the plant and less independent cross-checks on the water samples are equally worrying.

If highly radioactive water escaped and dispersed into the sea, it could become impossible to trace, a concern not only for Japan but also for countries in the Pacific, University of Tokyo Radiologist Katsumi Shozugawa said, adding that, "There should be a continuous, science-based effort to show other countries that it's thoroughly handled, which I think is lacking the most."

Cross-checks are another concern.

The Tokyo Electric Power Company says water samples are shared with the International Atomic Energy Agency and the government-funded Japan Atomic Energy Agency, but experts would like to see independent cross-checks.

Meanwhile, scientists said health impacts from consuming tritium and other radioisotopes through the food chain may be worse than from drinking it in water, and thus further studies are needed.

Shozugawa said his analysis of groundwater in multiple locations in no-go zones near the plant has shown that tritium and other radioactive elements have been leaking into groundwater.

The Manila Times said on March 23 that the unilateral plan of the Japanese government to discharge the Fukushima wastewater into the Pacific is akin to a disregard for Japan's adherence and compliance with international law on the

protection of the environment, which is a set of principles that aims to curb pollution and depletion of natural resources.

Embodied in the basic principles of International Environmental Law is the idea that we are one ecosystem, that we are interconnected, and that the polluter must pay. Hence, all countries, including Japan, must comply with and respect these basic principles of International Environmental Law.

Environmental groups, including Friends of the Earth, oppose the release. They have proposed long-term storage of the water by solidification, as used at the Savannah River waste repository in the U.S.

Attention should be paid to the words published on Pasifika Environews website, a geojournalism website managed by the Pacific Islands News Association: "The world's dumping ground for nuclear waste doesn't want Fukushima's wastewater!"