

Silk Road spirit

China-Europe freight train service now connects hundreds of cities

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COP28 looks to AI to help fight climate change

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Digging deeper

Archaeologists have unraveled the mystery of water-control system from 5,000 years ago

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CHINA DAILY

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WORLD WATCH

By Khalid Taimur Akram

Governance initiative for AI a visionary global move

The China-proposed Global AI Governance Initiative, announced in October in Beijing at the third Belt and Road Forum for International Cooperation, marks a significant stride forward in shaping the future of artificial intelligence development and governance on a global scale.

Rooted in the recognition of a growing digital divide, the initiative aims to address imbalances in AI capabilities among nations. President Xi Jinping, in his keynote speech at the forum, said China stands ready to increase exchanges and dialogue with other countries and jointly promote sound, orderly and secure AI development in the world.

China's commitment to addressing frontier AI safety issues, including safety evaluations and red-teaming — the testing of an organization's digital security by attempting to infiltrate a computer network — showcases its proactive stance in shaping a secure AI landscape. By aiming to bridge the gap in AI capabilities between nations, China seeks to anticipate additional economic benefits in the Global South and foster global inclusivity.

This initiative revolves around the core principle of a people-centered approach, striving to elevate the well-being of humanity through AI development.

China suggests that all countries should actively support the role of AI in promoting sustainable development and tackling global challenges. In addition, all countries should uphold the principles of wide participation and consensus-based decision-making, adopt a gradual approach, pay close attention to technological advancements, conduct risk assessments and policy communication, and share best practices, according to the initiative.

The Cyberspace Administration of China further solidified the initiative's foundations by releasing a comprehensive statement outlining the mission. Cognizant of the rapid evolution of global AI technology and its associated risks, the CAC outlined multifaceted recommendations, including the establishment and refinement of laws and regulations ensuring privacy and data security, opposition to illegal activities such as theft and tampering with personal information, and the promotion of a testing and assessment system based on AI risk levels.

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INSIDE Africa supported as it seeks economic, climate harmony Global Views, page 13

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Raging conflict



Above: Palestinian firefighters battle a blaze on Saturday after an Israeli strike on Khan Younis in the southern Gaza Strip. Authorities said the ongoing conflict between Israel and the Palestinian Islamist group Hamas had so far claimed over 17,700 lives.

Right: Wounded Palestinians sit on the floor and await treatment on Saturday at Nasser Hospital in Khan Younis. PHOTOS BY IBRAHEEM ABU MUSTAFA / REUTERS

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Chinese companies make big inroads into US markets despite scrutiny, bans

By BELINDA ROBINSON In New York belindarobinson@chinadailyusa.com

Several Chinese companies have made major inroads into the United States, and the "Made in China" brand is now a part of life for a new generation.

The companies are in every industry ranging from social media platforms and electronics to fashion and food. However, even though their products are hugely popular among US consumers, the companies have faced intense scrutiny and probes by US lawmakers.

Video-sharing site TikTok, clothing retailer Shein, e-commerce platform Temu, pork producer Smithfield Foods, and Alibaba's global online marketplace AliExpress are just a few of the very successful Chinese companies in the US.

TikTok, the wildly popular social media platform, has more than 150 million users in the US. With a 22 percent market share, its growth has far outpaced that of rival Instagram, the second-fastest growing social media platform.

Founded in 2012, TikTok launched globally in 2017. It became the most downloaded app in the world last year and has revolutionized video-sharing.

Around 43 percent of TikTok users in the US regularly get news from the site, up from 33 percent in 2022, according to the Pew Research Center.

But with the exponential growth has come scrutiny and bans.

Use of TikTok on government devices and in schools is either restricted or banned over safety concerns in more than 34 states, including Texas, Utah, Vermont and Virginia.

Montana planned to ban TikTok starting 2024, but the move was deemed unconstitutional by a federal court on Nov 30.

Congress has also repeatedly tried to ban the app, terming it a potential national security threat. Lawmakers have claimed that the platform's owner, Beijing-based ByteDance, may use the data it collects to "spy on Americans" or harvest information.

In March, TikTok's Chief Executive Officer Shou Zi Chew testified

at a congressional hearing to assure lawmakers that the company was privately owned and posed no threat.

Among other notable Chinese companies showcasing the "Made in China" brand is Lenovo, the world's largest personal computer maker. Lenovo bought IBM's PC business in 2005 and made strides in the business community, which uses its range of ThinkPad laptops.

The PC maker has global headquarters in Beijing and in Morrisville, North Carolina. It has 6,000 employees in the US and thousands more worldwide.

Lenovo faced a probe by the House Select Committee in October, which suggested that the company could have links to the Chinese government and could be used for "espionage".

However, Lenovo responded in a statement that it had "completed five national security reviews by the US Committee on Foreign Investment ... and was a trusted vendor to multiple US government agencies over many years".

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DISPUTE RESOLUTION SYSTEM SEES HIGH SUCCESS RATE

Thousands of foreign-related conflicts resolved by mediators

By YANG ZEKUN yangzekun@chinadaily.com.cn

In bustling Yiwu, Zhejiang province, a distinctive mediation system has emerged as a savior for businesses involved in foreign trade disputes.

For the past eight years, Sushil, a seasoned foreign trade businessman and mediator, has witnessed this system effectively resolving disputes at an early stage, preventing the collapse of



hundreds of businesses.

Having spent two decades navigating the intricacies of foreign trade in Yiwu, Sushil is well aware that disputes are an inherent part of running a business.

He said that unresolved disputes not only disrupt mutual understanding between different

parties, but also divert crucial time, finance and other resources to complex problem-solving processes.

Recognizing the need for a fast, efficient and easily accessible dispute resolution system to facilitate local development, the authorities in Yiwu established in 2013 the country's first people's mediation committee for foreign-related disputes.

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Economists call for more policy push

Targeted measures expected to boost domestic demand, spur consumption

By OUYANG SHIJIA ouyangshijia@chinadaily.com.cn

China's consumer prices dropped for the second consecutive month in November, indicating the still-weak demand and backing the case for further policy support including a likely reduction in the reserve requirement ratio for banks, economists said on Sunday.

Despite challenges and headwinds, they expressed optimism over the potential for a growth rebound next year given some recent signs of stabilization, expecting to see more measures rolled out to boost domestic demand, spur consumption, help deliver presold homes and help local governments get on the right track on financial issues.

The meeting of the Political Bureau of the Communist Party of China Central Committee, which was held on Friday, indicated that solid steps will be taken to effectively enhance economic vitality, prevent and defuse risks, and improve social expectations as part of the nation's efforts to promote economic growth in 2024.

The meeting emphasized the need to consolidate and enhance the momentum of economic recovery, and strive to promote overall improvement in economic operations to achieve both qualitative and quantitative growth. Further efforts will be made to expand domestic demand to form a virtuous cycle of mutual promotion between consumption and investment.

Data released by the National Bureau of Statistics on Saturday offered the latest official snapshot of the pressures facing the economy, as the country's consumer price index — a main gauge of inflation — dropped by 0.5 percent year-on-year in November after a 0.2 percent dip in October.

The growth in core CPI, which excludes volatile food and energy prices and is deemed a better gauge of the supply-demand relationship in the economy, came in at 0.6 percent year-on-year in November, the same as October.

Xiong Yuan, chief economist at Guosheng Securities, said the drop in consumer prices indicates the still-weak internal driving force, insufficient demand and low confidence, leaving open the possibilities of further interest rate cuts and a reduction in the reserve requirement ratio as early as this month.

"Although the economy is gradually stabilizing, the foundation for recovery is not yet solid," Xiong said. "More policy support is likely this year, including pledged supplementary lending, allocating some of the 2024 quota for local government special bonds in advance and further easing of homebuying curbs in first-tier cities."

Noting that Friday's meeting has set the tone for China's economic work next year, Xiong said the nation will implement expansionary policies to stimulate the economy and will likely set its 2024 annual growth target similar to this year's goal of about 5 percent.

Citing the negative CPI growth and the steps mapped out at the key meeting, Wen Bin, chief economist at China Minsheng Bank, said that expanding domestic demand will be among the key priorities to bolster the economy, and consumption will play a fundamental role in driving economic growth.

"It is essential to expand consumption by increasing household income," Wen said. "Efforts should be made to stimulate purchases of big-ticket items, such as cars and electronics, while promoting consumption in services such as sports, leisure and cultural tourism."

The NBS data showed that China's producer price index, which gauges factory-gate prices, dropped by 3 percent from a year ago in November, following a 2.6 percent fall in October.

Ding Yue, deputy general manager at Zolix, a Beijing-based supplier of optical instruments, said that industrial companies still face pressures amid lackluster demand, expecting to see further steps to boost market confidence and support the growth of the real economy.

Wen, from China Minsheng Bank, said that China's CPI will likely register positive growth in February with stronger policy support, while the PPI may continue to remain in the negative territory for the next few months amid subdued external demand.

Considering the lackluster demand for industrial products, Zhou Maohua, an analyst at China Everbright Bank, said that more steps are needed to boost domestic demand and spur consumption.

"It is advisable for policymakers to roll out measures to encourage consumption of big-ticket items and facilitate smooth domestic production and sales channels," he said.

Moment to treasure



Children pose for a photograph on Friday with a person dressed as a panda at the Berlin Zoo in Germany. The zoo held a farewell ceremony for 4-year-old panda twins Paule and Pit, who were born in Germany, and will be moving to China in mid-December.

REN PENGFEI / XINHUA

PAGE TWO

Disputes: 'Fengqiao model' widens reach

From page 1

The Commission for Political and Legal Affairs, or CPLA, of the Communist Party of China Yiwu Committee said the mediation committee enlisted foreign entrepreneurs based in Yiwu to serve as mediators. A team of 14 mediators from 13 countries has been formed in the city. Between them, the mediators speak nine major languages used worldwide.

As of September, 1,219 foreign-related disputes had been successfully mediated, involving a total amount of 132 million yuan (\$18.6 million), with a success rate of 98 percent.

The foreign mediation model championed by Sushil is a dynamic process designed to resolve business or civil disputes between foreign and local entities. It revolves around mutual discussions, presenting subject details supported by evidence or a preliminary investigation.

Discussions are grounded in law, rights equality, and negotiations that uphold integrity. The mediation committee, known for its speed, and which provides its services for free, has proved to be the epitome of efficient conflict resolution, Sushil said.

Having joined the mediation committee as a volunteer in 2015, Sushil said all foreign mediators are volunteers who act as facilitators to encourage discussion and negotiation between parties, and guide them toward a resolution to their dispute.

Each mediator often starts with primary training involving the mediation process, basic law, legal procedures and studies, and they also witness ongoing mediation cases, he said.

Mediators are assigned cases based on availability and language, Sushil said. The mediation model consists of professionals drawn from the ranks of foreign businesspeople, lawyers, market administrators, shipping experts, the Ningbo Maritime Court, and various organizations and associations.

Sailing delay

In a recent case that Sushil heard, the dispute centered on a delay to the sailing time of a shipment and the buyer's claim of not being provided the promised 21 days of free storage by the shipping line at the port, leading to hefty charges.

With the meticulous presentation of chat records and evidence provided by the applicant, Sushil, using his extensive knowledge of foreign trade, revealed the absence of a formal shipping contract specifying details such as sailing time and destination. The applicant's claim regarding the balance amount was resolved through careful calculations of payments made by the applicant. Eventually, the money was returned to the applicant, and the case was closed.

"I have been involved in different cases and have maintained a harmonious environment to enable comfortable negotiations to resolve cases with mutual understanding. Over the years, I've successfully resolved more than 100 cases," Sushil said.

In recognition of Yiwu's mediation prowess, the city's foreign mediation committee was selected last month by the Commission for Political and Legal Affairs of the CPC Central Committee as one of the 104 "Fengqiao model" units to promote community-level governance.

Sushil emphasizes the importance of mediators being completely honest and using their knowledge in the right way for self and community development, to enable the mediation committee to support economic stability



Top: Officials from Dongbaihu town, Zhuji city, Zhejiang province, meet with local villagers in July to exchange views on livelihood projects and seek suggestions from the residents. XU YU / XINHUA **Above left:** A volunteer police officer (right) visits a trading company in Zhuji to learn about its operational problems. WENG XINYANG / XINHUA **Above right:** Police officers help a resident in need. XU CHENG / FOR CHINA DAILY

and law-abiding cooperation.

The "Fengqiao model", which originated 60 years ago in Zhejiang, and relies on the people to resolve disputes at the community level, has since been promoted nationwide.

Residents are encouraged to address and prevent disputes locally by using legal processes and other effective methods, with the aim of addressing small issues within a village, and also larger conflicts within a town, to prevent them from escalating.

Chen Qingqiang, a member of the Political Bureau of the CPC Central Committee and head of the CPLA of the CPC Central Committee, said during a meeting last month that the "Fengqiao model" in the new era aligns with proactive and preventive governance philosophy, and resonates with the judicial philosophy of prioritizing harmony over litigation.

Economic and social development has brought an overall increase in conflicts, and the complexities of disputes make discovery, prevention and resolution challenging. The focus should be on prevention and mediation at the grassroots level, Chen said.

He stressed the need for grassroots prevention and mediation to foster a safe and peaceful social environment, contributing to rapid economic development and long-term social stability. The CPC Central Committee's CPLA stresses conflict prevention and urges administrative, judicial and law enforcement authorities to investigate the root causes of disputes and enhance governance at source before disputes escalate. Party members, officials and law enforcement staff members should contact communities and villages to listen to public opinion and address their concerns.

The committee highlights the fun-

damental role of mediation in preventing and resolving conflicts, and requires the authorities to integrate mediation into the entire conflict resolution process. It has also called for efforts to standardize public mediation organizations at town and village levels, ensuring they operate lawfully with adequate personnel and effective systems.

In addition, industry regulatory and judicial administrative bodies should enhance guidance on administrative mediation, while adapting to trends in emerging industries such as finance and the internet, the committee said.

The Ministry of Justice said there are some 700,000 people's mediation committees nationwide, covering urban and rural areas. There are nearly 3.2 million mediators in China, with 410,000 working full-time.

From January to September, 11.8 million disputes were mediated across the country, enabling many of them to be resolved at the grassroots level before litigation was launched.

Experience shared

The success of the "Fengqiao model" extends beyond Yiwu to Weizhou island in Beihai, Guangxi Zhuang autonomous region. This popular tourist destination, which attracts millions of visitors annually, faces numerous travel-related disputes, with more than 80 percent of them involving prepayment and operational issues.

In 2020, the local authorities established a conflict resolution service center, which has achieved a dispute resolution rate of 94.85 percent. The number of cases handled by the local court has consistently fallen each year.

Su Youfeng, 37, a mediator at the center for more than two years, has witnessed a significant rise in the number of cases, especially during peak tourism periods such as the National Day holiday. As of last month, the center had handled more

“Successful mediation often requires patience and impartiality. If we do our job properly, a significant proportion of conflicts can be resolved on site.”

Su Youfeng, a mediator at the Conflict Resolution Service Center

than 1,000 cases this year.

A recent case involved a tourist booking a hotel online but encountering problems on arrival. The tourist and hotel operator disagreed on the cancellation policy, as the visitor sought a full refund. After an hour of on-site negotiations, a compromise was reached, with the tourist compensating the hotel.

Disputes are often initially handled at the center, where mediators listen to parties' needs, and conduct mediation and negotiations, Su said, adding that business violations are transferred to local administrative departments for investigation.

"Successful mediation often requires patience and impartiality. If we do our job properly, a significant proportion of conflicts can be resolved on site," she said.

Su emphasizes the importance of psychological resilience for a mediator. She acknowledges that some complaints arise from poor services, so a mediator must maintain legal and regulatory standards to ensure fairness in addressing the root cause of disputes.

"We need to balance the interests of tourists and merchants, and consider reasonable arguments in mediation. Sometimes, both parties accuse us of taking sides, but there is no need for us to do so. Merchants aim to make money, tourists visit areas for leisure purposes, while our goal is to tackle disputes quickly to benefit both parties," she said. Some merchants and tourists who fail to strike an agreement after mediation turn to the judicial procedure, she added.

However, Su said numerous disputes related to tourism cannot simply be resolved through litigation due to the complexity of such cases. In addition, there are no specific measures for many issues, such as the amount that needs to be paid as a fine or refunded for a hotel checkout.

As a result, most disputes are resolved based on trade rules, estab-

lished experience and mutual willingness via mediation, she said.

He Yanling, a professor at Renmin University of China's School of Public Administration and Policy, sees the "Fengqiao model" as a 60-year-old methodology for grassroots social governance in China.

In various local practices, the authorities and public not only simply replicate the original experiences of Fengqiao township, Zhejiang, but adapt them to local conditions to provide a modern governance approach tailored to the grassroots in China, He said.

"A successful model is not defined solely by its early practices, but by the logic and mechanisms that supported those practices at the time. This dynamic aspect gives it vitality, which is what we also need to learn and develop today," she said.

The core of the model lies in resolving conflicts at the grassroots level. Grassroots areas, situated at the end of the administrative power chain, have relatively limited authority and resources, and are where problems emerge.

"The widespread use of local traditional, cultural and community resources is a key factor in the success of the 'Fengqiao model,'" He said.

The model also integrates with the rule of law and government administrative resources by using different mechanisms based on specific situations, rather than rigidly applying a single set of procedures, she said.

The consultation process often includes reasoning, legal considerations, emotions and conscience. To minimize loss, the parties involved may need to compromise a little to resolve conflicts, she said.

"The enduring vitality of the 'Fengqiao model' is deeply rooted in grassroots Chinese society, driven by a cultural inclination toward negotiation and collaboration. Governance approaches should be embedded in this social psychological mechanism for optimal results," she added.

The success of such a model depends on its compatibility with external environments and conditions, He said. She added that with residents' increased mobility and diversified values in modern society, traditional moral and emotional benchmarks in small communities have limited impact, yet legal and deterministic judicial mechanisms are playing an increasingly important role.

People are now more accustomed to resolving issues through cost-effective judicial systems, and that is why the "Fengqiao model" must be deeply integrated with law-based governance, she said.

Police station honored for adopting innovative ways to help the public

By YANG ZEKUN

Hou Hangming, head of Lijiapu Police Station in Anding district, Dingxi, Gansu province, often tells his colleagues: "We must have empathy, and treat the public as if they are our friends and family. This will ensure that we perform our duties effectively, and maintain public satisfaction and tranquility."

In recent years, the police station has introduced a number of proactive and effective measures to address issues that affect residents' daily lives and work. Its outstanding performance won it the honor of being named a "Fengqiao-style police station".

The Ministry of Public Security recently designated Lijiapu Police Station as one of the third batch of 100 "Fengqiao-style police stations" nationwide.

These stations have performed outstanding work in actively exploring innovative approaches that align specialized work to meet the public's needs. The ministry said the stations have improved the new community policing mechanism, integrated themselves with modern urban and rural community governance, and prioritized the prevention and resolution of various conflicts and risks.

For example, Lijiapu Police Station introduced a service that allows the public to easily contact police officers when facing difficulties, such as emergencies that require urgent medical attention, or helping residents with mobility challenges to obtain documents they need.

At Dingyang Livestock Trading Market, the largest such market in Dingxi, language barriers among traders from different provinces often led to complaints and misunderstandings, Hou said.

To address this issue, the police station sent officers to the market to mediate disputes efficiently, conduct daily patrols, and involve market management personnel in mediation. This approach successfully resolved 42 disputes, achieving a 100 percent resolution rate.

Zhang Dingyang, a manager at the market, said: "With officers now stationed in the market, various disputes are resolved promptly, and major conflicts have almost disappeared. Operations at the market are proceeding in an orderly manner, significantly enhancing our sense of security."

Moreover, Lijiapu Police Station introduced the "Five-Party Mediation Mechanism", which also involves the local government, comprehensive management center, judicial office, and court. Hou said this collaborative effort has proved an effective means of resolving conflicts.

The station's dedication to resolving disputes and engaging with the community has deepened mutual understanding and cooperation. Regular joint meetings and effective communication have become standard practices, fostering a more harmonious relationship between the police and the public, Hou added.

To date, the Ministry of Public Security and provincial public security departments have named 1,413 "Fengqiao-style police stations", resulting in public security authorities nationwide resolving some six million disputes annually.

Since 2020, the ministry has urged police stations across the country to interact with the public, resolve their worries and conflicts, and prevent potential risks. Officers visit more than 52 million households of various types every year, and receive over 12 million requests for help from the public.



Officials from Dongbaihu visit households to learn about villagers' land disputes. XU YU / XINHUA

TOP NEWS

G20's climate initiative backed

China supports plan for tripling global renewable energy by 2030, envoy says

By HOU LIQIANG in Dubai, UAE
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China supports the initiative by G20 countries to triple global renewable energy capacity by 2030, said Xie Zhenhua, China's special envoy for climate change.

He also said during a news conference on Saturday on the sidelines of the 28th Conference of the Parties to the United Nations Framework Convention on Climate Change, or COP28, that the world cannot forge ahead with energy transition without considering countries' differing conditions.

COP28, which is being held in Dubai, the United Arab Emirates, opened on Nov 30 and is scheduled to conclude on Tuesday.

The largest contribution of the landmark 2015 Paris Agreement on climate change is that it mapped out the route toward

the world's green, low-carbon transition, for which energy transition is of great importance, Xie said.

To replace fossil energy with clean, highly efficient renewables is a global target that will eventually address the climate crisis, he said.

However, Xie emphasized that the transition will be painful.

During the process, countries are confronted with different national conditions, he said. With different energy structures and available resources, they need to handle the relations between energy and food security and climate actions.

"Only when they are able to properly manage these relations and ensure economic security can they see a smooth transition," he said.

Xie underscored the importance of mutual understanding and cooperation during the global transition.

"I talked with a minister from a petroleum-exporting country. The minister told me that 80 to 90 percent of the country's fiscal revenue is contributed by oil and natural



Xie Zhenhua, China's special envoy for climate change, speaks on Friday during a forum on South-South cooperation on climate change at the COP28 China Pavilion in Dubai, the United Arab Emirates.
WANG DONGZHEN / XINHUA

gas. If oil and natural gas are phased out, how can the country survive and develop? The country has its difficulties," Xie said.

He added that countries should mutually understand and support each other and join hands to seek the best solutions.

"This is our most effective way to go forward," he said.

Parties at COP28 have clashed over a possible agreement to phase out fossil fuels, with some countries resolutely opposing it and others unswervingly supporting it, Xie noted.

"We are still in communication with different parties, hoping to find a solution that is acceptable for all and also could solve problems. We are confident about this," he said.

Xie reiterated China's commitment to further promoting renewable energy.

“China has made significant contributions to energy transition and renewable energy development.”

Xie Zhenhua, China's special envoy for climate change

“China has made significant contributions to energy transition and renewable energy development,” he said.

Thanks to the contributions, the cost for wind power generation around the world has decreased by 80 percent, and the cost of photo-

voltaic solar energy has declined roughly 90 percent, Xie said.

"This has laid a good foundation for large-scale deployment of renewable energy in the world," he said.

The climate envoy also said China has seen its installed capacity for renewable energy surpass that of coal-fired power, which marks a remarkable change in the country's energy structure.

According to China's National Energy Administration, the country's capacity for renewable energy had exceeded 1.3 billion kilowatts by the end of June, surpassing that for coal-fired power for the first time.

"China will make continuous efforts to beef up the development and consumption of renewable energy," he said. "It will strive to replace fossil fuels with renewable energy in a gradual manner."

Latest launch mission marks 500th flight of Long March rockets

By ZHAO LEI
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China used a Long March 2D carrier rocket on Sunday morning to send several remote-sensing satellites into space, marking the 500th launch of the Long March family.

The rocket blasted off at 9:58 am from the Xichang Satellite Launch Center in Southwest China's Sichuan province, spitting red-orange flames and soaring into bright skies, which was caught on video published by the Shanghai Academy of Spaceflight Technology, the maker of the Long March 2D series.

It was China's 59th rocket launch this year and the 13th flight of the Long March 2D model in 2023.

The overall success rate of the Long March fleet is around 97 percent. Of the 500 liftoffs, 297 were carried out by models developed by the China Academy of Launch Vehicle Technology in Beijing and 203 by the Shanghai Academy of Spaceflight Technology.

Both academies are subsidiaries of the State-owned conglomerate China Aerospace Science and Technology Corp, the nation's dominant space contractor.

The Long March 2D is one of the most reliable rockets in China. Since its debut flight in August 1992, the model has been used in 85 flights, all of which have been successful. This has led to it becoming well-known as the "gold medal rocket model" in China's space industry.

The 40.6-meter-tall rocket has a diameter of 3.35 meters and a liftoff weight of 251 metric tons. Its typical tasks are to transport satellites to low-Earth or sun-synchronous orbits.

The launch vehicle is capable of sending a 1.3-ton spacecraft into a sun-synchronous orbit with an altitude of 700 kilometers, or satellites with a combined weight of 4 tons into a low-Earth orbit.

In June, the 76th flight of the Long March 2D series sent a total of 41 satellites into space, setting a new national record for the largest number of spacecraft launched in a single mission.

China launched its first carrier rocket — a Long March 1 — in April

1970 to send its first satellite, Dongfanghong 1, or East Red 1, into space. The mission made China the fifth country capable of building and launching its own carrier rocket to reach Earth's orbit.

It took the Long March family 37 years to conduct its first 100 launches. The next 100 were made in seven-and-a-half years; the third 100 launches in over four years; the fourth 100 launches in two years and nine months; and the most recent 100 missions in only two years.

China has developed and launched more than 20 types of Long March rockets, and 16 of them are in active service.

Zhang Zhi, a senior rocket designer at the China Academy of Launch Vehicle Technology, said that engineers are working on the research and development of the country's next-generation crew-carrying rocket, and the new model, named Long March 10, is expected to be ready for its debut flight around 2027.

"The Long March 10 will be a brand new type of launch vehicle, and will be tasked with launching the country's new-generation manned spacecraft and the lunar landing module," he said.

In addition to the Long March family, there are multiple types of Chinese carrier rockets developed by another State-owned space contractor, China Aerospace Science and Industry Corp, and several private enterprises. So far, Chinese carrier rockets have conducted 564 launches.

The payloads in Sunday's mission — several satellites in the Yaogan 39 series — were manufactured by the Shanghai academy and the China Academy of Space Technology in Beijing, which is also part of China Aerospace Science and Technology Corp.

Remote-sensing satellites refer to those tasked with observing, surveying and measuring objects on land or at sea as well as monitoring weather.

China has so far sent more than 300 civilian remote-sensing satellites into orbit. The Yaogan family is the largest fleet of remote-sensing spacecraft in the country, and their data has been widely used by governments, public service sectors and businesses.

Brands: Temu trying to follow Shein, AliExpress

From page 1

E-commerce giant Alibaba Group was established in the US in 2014. Alibaba's AliExpress features everything from cosmetics to exercise equipment and is a popular destination for US consumers.

Shein, which started in China but is now based in Singapore, has become a huge player among the fashion set, who flock to the website for its \$10 tops, \$9 jeans and \$5 skirts. In November, the fast-fashion brand filed to go public in the US.

Shein makes most of its products in China and ships directly to consumers in the US — its biggest market. The company is valued at around \$66 billion.

The 11-year-old online brand has taken market share from US staple Gap, according to Reuters. In August, Shein partnered with Forever 21, Authentic Brands and mall operator Simon Property Group to expand its market.

Carol Spieckerman, a global retail analyst and president of consultancy firm Spieckerman Retail, said that any big business must integrate its online retail strategies with brick-and-mortar stores to expand its customer base.

Speaking to China Daily, Spieckerman said: "Retailers can't stand still on the e-commerce front. Remaining relevant will require continual improvement, and in some cases, periodic e-commerce overhauls."

Shein also faced questions from US lawmakers. Republican attorneys general from 16 states have probed the company's work practices. Shein said in a statement that it has "zero tolerance for forced labor."

Low-cost retailer Temu is attempting to follow in the footsteps of Shein and AliExpress, according to Coresight Research.

Temu launched in the US in September 2022, and in addition to competing with Shein, it is trying to move into the territory of rival dis-

count retailers Wish and AliExpress.

Temu's goods are made in China and also shipped to customers in the United Kingdom, Australia, New Zealand, France, Italy, Germany, Spain and the Netherlands.

The site offers a range of products from clothes to home improvement goods.

Based in Boston, Temu is owned by PDD Holdings, formerly Pinduoduo, which had been based in Shanghai before moving its headquarters to Dublin, Ireland, earlier this year. PDD also is the parent company of Pinduoduo, an online discount retailer in China.

Goldman Sachs estimated that Temu generates more than \$1 billion in monthly transaction value. It also has quickly become the most downloaded app in the US over shopping giants Amazon and Walmart.

"Temu has rapidly expanded its footprint beyond the US and into a number of international geographies ... where we continue to see

opportunities for growth in the quarters ahead," Goldman Sachs said in an Oct 4 note.

Smithfield, the largest US pork producer, based in Virginia, is owned by China's WH Group, which is based in Hong Kong.

It sells pork under the brands Armour, Farmland and Nathan's Famous. Each year, it slaughters around 30 million hogs and is a major supplier of ham and fresh pork to grocers.

Since WH Group acquired Smithfield in 2013, its annual sales soared from \$13 billion to roughly \$18 billion, according to The Wall Street Journal. It continues to be managed by US executives, and its products are consumed by millions of people in the US daily.

But Smithfield's Chinese ownership led US lawmakers to question its influence on the US food-supply chain.

Smithfield CEO Shane Smith said the fears were "misplaced."

Proposal: Goal is creation of a fair and just AI governance system

From page 1

The CAC's call for collaboration extends to research and development entities, heightened data authenticity and accuracy, and the construction of AI technologies subject to review, monitoring and traceability. Adherence to the principles of fairness and nondiscrimination during data collection, algorithm design, technology development and product application is emphasized, underscoring the need for global commitment to equitable AI technologies.

Furthermore, the CAC encourages nations to enhance information exchange and technological cooperation on AI governance, foster collaboration to prevent risks, and formulate AI governance frame-

works, norms and standards based on broad consensus.

The international community has embraced China's proposal, recognizing its embodiment of the concept of a community with a shared future for mankind. The proposal, covering AI development, safety and governance, not only addresses global concerns but also serves as a reference for global discussions and rule-making, offering a constructive framework for tackling contemporary challenges in the AI landscape.

Acknowledging the need to amplify the voice of the developing Global South in the AI field, China's proposal aims to foster the creation of a fair and just global AI governance system. Simultaneously, Beijing openly advocates global AI

China's vision for global cooperation and governance emerges as a guiding light for the responsible development of this transformative technology.

cooperation, vehemently objecting to certain countries' technological monopolies and unilateral restriction practices that hinder the broader development of AI on a global scale.

As the world's largest consumer and industry application market in

AI, China has been ranking second on the Global AI Innovation Index for three consecutive years, with the nation's core AI industry estimated at over \$68 billion in value, as revealed during the sixth World Artificial Intelligence Conference in July.

Over 30 AI models developed by Chinese enterprises have completed the filing process with cyberspace regulators, with an additional 10 undergoing the same process. The rapid development of AI is projected to create new economic growth areas, accelerating the expansion of digital industries and facilitating the intelligent upgrade of traditional sectors such as education, medicine and transportation.

China's supervision, guided by establishing "red lines" for better

technology application, not only ensures regulatory clarity but also provides a much-needed reference and certainty for Chinese AI startups.

China, serving as a magnet for global AI talent, boasts a thriving AI ecosystem, substantial research funding and opportunities for innovation, attracting top researchers and engineers from around the world.

The international community has responded positively to the Global AI Governance Initiative, with numerous countries expressing eagerness to enhance policy communication and pragmatic cooperation in the field of AI. This global momentum is evident in significant moves taken worldwide, including the establishment of China-US government talks on AI and the recent signing of the Bletchley

Declaration, an unprecedented agreement on AI risk mitigation, during the United Kingdom's AI Safety Summit.

The Global AI Governance Initiative's comprehensive and constructive approach, rooted in principles of fairness, collaboration and responsible innovation, reflects China's commitment to fostering an inclusive and equitable AI landscape. As the world collectively grapples with the challenges and opportunities presented by AI, China's vision for global cooperation and governance emerges as a guiding light for the responsible development of this transformative technology.

The author is executive director of the Islamabad-based Pakistan Research Center for a Community with Shared Future. The views do not necessarily reflect those of China Daily.

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CHINA

Modern & Me
China & Me

Spirit of the Silk Road lives on in Xi'an

A decade of success reflects the city's renaissance as countries and cultures are linked through efficiency and cooperation. **China Daily** reports.



A panorama of the Xi'an Guojiang Railway Station in Xi'an, Shaanxi province, on Nov 28. YUAN JINGZHI / FOR CHINA DAILY

In 2006, when Anita Jumekenova arrived in Xi'an, capital of Shaanxi province, as an 18-year-old from Kazakhstan to study Mandarin, she never imagined that her fate would become so intricately linked with the 3,000-year-old city.

In Xi'an, she not only met her future husband, but also founded a successful company, the Silk Road City, with him. Now, the cross-border e-commerce enterprise is thriving in Xi'an, which Jumekenova considers her second home. "My career is here, my home is here, and my son even has household registration here," she said.

Last year, her company exported Chinese-made goods worth 100 million yuan (\$14 million), mainly to Kazakhstan, while it imported 31 million yuan worth of agricultural products from Kazakhstan, Russia and elsewhere.

Jumekenova's journey into cross-border e-commerce began in 2007, when she started helping people in her home city of Karaganda in Kazakhstan purchase daily necessities from China.

"I mailed the goods directly to Karaganda. The packages took at least a month to get there," she recalled. "A dress bought in summer would arrive in autumn."

In 2015, the slow delivery process prompted a change in strategy, when she began using the Chang'an China-Europe freight train service, which links Xi'an with destinations in Central Asia and Europe.

Compared with direct mailing, the freight train service is not only more cost-effective but also much faster. Leveraging this service and maintaining six warehouses overseas, Jumekenova's company can now deliver goods across Central Asia and Russia three to 10 days after an online order is placed.

Busiest service

The Chang'an train service, departing from or arriving in Xi'an, stands out as the most bustling of the 86 routes of the China-Europe freight train service — a flagship project of the Belt and Road Initiative.

Since the service was launched in November 2013, the Chang'an trains have undertaken more than 20,000 trips, accounting for about a quarter of the total trips across all 86 routes traversed by the China-Europe freight trains. This year alone, the trains have averaged 14.7 trips a day, with one train departing or arriving in Xi'an approximately every 100 minutes on average. This distinction makes the station the busiest in the country in terms of the China-Europe freight train travel.

"The China-Europe Railway Express provides a new choice for international logistics in inland countries in Central Asia," said Yuan Xiaojun, general manager of the Xi'an Free Trade Port Construction and Operation Co.

The cost of using the China-Europe freight trains is approximately 20 percent that of air transportation, while the journey time is about 25 percent that of sea transportation, according to data from the China State Railway Group, the national railway operator.

More than 60 global top 500 companies and more than 200 of China's top 500 companies use the service, according to Yuan.

Expanding its reach, the China-Europe freight train service, including the Chang'an route, links more than 110 Chinese cities with 217 cities in 25 European countries, as well as more than 100 cities in 11 Asian countries and regions.

The efficiency of the Chang'an trains has seen Jumekenova's cross-border e-commerce venture soar to new heights. "Speed is crucial for us," she said. "Without robust logistics,

we couldn't have grown as extensively as we have today."

Reflecting on the company's journey, Jumekenova recalled filling a container in March 2017. "It was like this one," she said during a visit to the Xi'an station in February, pointing at a large red container.

That container held about 200,000 items, including electronics, small household appliances and cellphone accessories, with a total value of approximately 60 million yuan. At times, Jumekenova's company dispatched an entire train, consisting of 50 containers, in one go.

The success story extends beyond the company itself. With over 50 employees in China and Kazakhstan, the company has become a source of livelihood for many. Kuzdeubaev Asylbek Usenuly, a manager at the Kazakhstan subsidiary, earns a monthly salary of KZT 300,000 (\$650), a significant income for a resident of Almaty.

Jumekenova's business also provides better access to affordable, high-quality Chinese goods to people in Kazakhstan, while businesses in Kazakhstan can tap into the vast Chinese market through her company. For instance, Agrofirma, a leading agricultural company in Kazakhstan, exports animal fodder to China through Jumekenova's company, via the returning Chang'an trains.

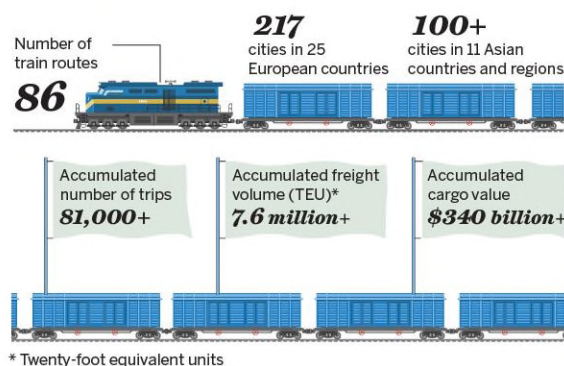
Additionally, more than 2,000 young people in Kazakhstan have partnered with her company, earning commissions by creating and sharing online videos. Influencers such as Eseeva Dana Sabirovna, who has more than 3 million followers on Instagram, find success by livestreaming products for the Silk Road City platform. "It came as a surprise to me that just two months after I began livestreaming their products I received good commission revenue," Sabirovna said.

Looking ahead, Jumekenova wants to develop SRC Shop, her company's cross-border e-commerce platform, into Kazakhstan's premier e-commerce platform. "Wherever the China-Europe freight trains go, we will sell our goods there. That's our wish," she said.

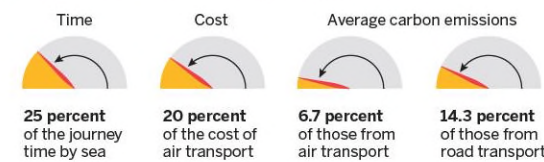
The prosperity of Jumekenova's company aligns with the growing trade ties between China and Kazakhstan. Last year, the volume of railway cargo between the two countries reached 23 million metric tons, a 20 percent rise from 2021. More-

CHINA-EUROPE FREIGHT FACTS

Achievements from 2011 to November 2023



Advantages of China-Europe freight trains



Sources: National Development and Reform Commission, China State Railway Group CHINA DAILY

over, the total trade volume of goods between China and Kazakhstan reached \$31.17 billion last year, up 23.6 percent from 2021.

"China-Europe freight trains have opened a 'gateway to the sea' for Kazakhstan," said Kyraubayev Zhoshykhan, Kazakhstan's consul general in Xi'an.

Balanced trade

As the efficient transportation options bridge the 3,000 kilometers between China and Kazakhstan, a growing number of Chinese companies are expanding their business horizons beyond national borders.

Xi'an Aiju Grain and Oil Industrial Group, an enterprise established in 1934, completed construction of Kazakhstan's largest oil processing plant with an annual capacity of 300,000 tons, in the north of the country in late 2016. The group has also secured 100,000 hectares of land for transnational contract farming in the area.

With the China-Europe Railway Express, the group can now transport wheat or flour from Russia or Kazakhstan in seven days, a significant improvement from two months by sea, said Ye Xiayun, director of the group's general office.

Xia Dong, deputy director of the office, said, "Thanks to the freight train, our company can now import a more diverse range of products, from grains to snacks." He noted that the service facilitates point-to-point transportation between the group's warehouses in Kazakhstan to their storage facilities at the Xi'an station, where rail tracks have been built to the door of their warehouses.

In a significant shift, the Chang'an trains, which once departed with full loads and returned empty, have achieved a more balanced dynamic between exports and imports.

This pivotal transformation occurred in March 2016, when the Aiju group for the first time filled a train for the return trip from Kazakhstan with 2,000 tons of oil.

Last year, the total number of trips made by the Chang'an trains was 4,639, with outbound and inbound trips being nearly equal.

Jumekenova's company also made strides toward achieving a similar balance. In March last year, it celebrated a milestone as the first return train, fully laden with animal feed from Kazakhstan, arrived at the Xi'an station.

Changing cargo

The cargo carried by the Chang'an trains has evolved over time, embracing a more diverse range of goods, including green and cultural products.

A decade ago, the primary exports were bulky machinery and equipment. However, today, the focus has shifted to high-end products such as new energy cars and solar panels. Imports now predominantly consist of high value-added items such as cars, automotive parts, and wine, according to Yuan.

One of the most notable recent endeavors involves the transportation of photovoltaic components. Since early August, 60 trains have been dedicated to carrying nearly 3,000 containers of PV components to Uzbekistan for a 1-gigawatt PV project.

The initiative is expected to generate 2.4 billion kilowatt-hours of clean energy annually, reducing carbon emissions by 2.4 million tons, according to the China Energy Engineering Corp, the project's constructor. Cultural products have also found a place in the cargo mix. On March 7, the Chang'an trains initiated a "culture class" freight line to North Kazakhstan. The special shipment included products crafted using China's intangible cultural heritage techniques.

"The China-Europe freight train helps facilitate the flow of goods between East and West. It also serves as a bridge for cultural communications between East and West," said Dong Xuebing, deputy dean of the Research Center for Regional Coordinated Development at Zhejiang University, in Zhejiang province.

Ancient route revived

The success of the Chang'an trains can be seen as a revival for Xi'an, which was known as Chang'an in ancient times and served as a starting point of the ancient Silk Road.

More than 2,100 years ago, it was from Chang'an, then China's capital, that an envoy embarked on a mission of peace and friendship to Central Asia, laying the foundations for the Silk Road. The historic route facilitated the global exchange of Chinese silk, tea and porcelain, while bringing back spices, glassware, furs, fruit and precious stones.

Reflecting on this rich history, President Xi Jinping proposed the concept of building an "economic belt along the Silk Road" during a visit to Kazakhstan in September 2013.

A month later, in Indonesia, he introduced the idea of constructing the 21st Century Maritime Silk Road. When combined, the proposals evolved into the Belt and Road Initiative.

Over the past decade, more than 150 countries and over 30 international organizations have embraced the BRI framework, ushering in nearly \$1 trillion of investment, creating around 420,000 jobs along its routes and lifting almost 40 million people out of poverty.

Stephen Brawer, chairman of the Belt and Road Institute in Sweden, said the BRI is a historic initiative. "It represents a road for global development and the elimination of poverty," he said.

"It is the basis for cooperation and friendship that the world desperately needs in order to avoid the dangers of expanded conflicts or even global war."

The Chang'an trains act as modern replacements for the ancient camel caravans. They embody the same spirit of cooperation, mutual learning and benefit, but with improved efficiency, and also as a testament to the enduring principles that have defined the Silk Road throughout history.



Online
See more by scanning the code.



Left: A China-Europe freight train loaded with containers is ready to depart from the Xi'an Guojiang Railway Station in Xi'an and head for Germany, on Nov 28. ZOU JINGYI / XINHUA



Middle: Anita Jumekenova from Kazakhstan visits the station for business purposes in February. PROVIDED TO CHINA DAILY



Right: A station worker gives instructions to a crane operator loading containers on a China-Europe freight train in Xi'an on April 16. LIU XIANG / FOR CHINA DAILY

CHINA



Teachers and students from China Agricultural University pose for a group photo with local farmers after the opening ceremony of the Lisasadz Science and Technology Backyard program in Malawi on Nov 7. PROVIDED TO CHINA DAILY

Africans take Chinese agricultural skills home

Malawians launching local version of Beijing university's 'backyard' program

By ZHANG YU in Shijiazhuang
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African students who acquired knowledge through their participation in a Chinese agricultural development program have returned to their home countries, aiming to use what they've learned to help local farmers increase grain yields.

The students participated in the Science and Technology Backyard program, which was launched in 2009 at China Agricultural University in Beijing. During the program, they conducted research in experimental fields in rural areas while working with local farmers and using their acquired knowledge to help Chinese farmers solve agricultural problems.

One of the students, 28-year-old Augustine Talababi Phiri from Malawi, has recently been named head of an STB program in Lisasadz, Kasungu district, in the central region of the Southeast African country.

"We are well on our way to establishing successful STBs that will empower the smallholder farmers of Malawi with the knowledge and tools they need to shape their agricultural futures," Phiri wrote in his work diary on Nov 6, one day after he went back to his home country.

As a graduate student at China Agricultural University, Phiri began studying for his master's degree in September last year and then joined a Sino-Africa Science and Technology Backyard project in Quzhou county

in Handan, Hebei province.

Majoring in resource and environmental sciences and plant protection, he has witnessed or participated in every stage of wheat production in the villages in Quzhou, from land preparation and the sowing of wheat seeds to crop management and harvesting.

The first STB program in Malawi was launched in October last year. Early last month, Phiri and five other students went back to the country with a mission to launch and manage more programs in their homeland.

On Nov 7 and 8, three newly established STBs were unveiled in the country. The four programs have so far carried out some training sessions for local farmers and have promoted agricultural technologies such as organic compost, which can improve soil quality.

"In the initial stages, we are working with 30 farmers, helping them optimize farming technologies, including optimizing seeding," Phiri said, adding that the backyard model from China will be further promoted in Africa.

Phiri, who used to be an agronomist in Malawi's agricultural sector, said that about 80 percent of the country's 20 million people are smallholder farmers.

Due to poor soil quality, limited access to fertilizers and a lack of modern agricultural technologies, the yield for Malawi's main crop, maize, is relatively low. Many farmers are not growing enough food to sustain

themselves, Phiri said in an interview with Hebei Daily.

In 2019, China Agricultural University launched the Sino-Africa Science and Technology Backyard project in Quzhou to cultivate young technology talent for African nations, targeting the pressing production issues faced by smallholder farmers.

In Quzhou, Phiri noticed that farmers often sought help from the program, and the teachers and students were always out in the fields, conducting research with the farmers to determine how to best improve yields.

Among them were Phiri and other African students, who often engaged in conversations with farmers in the fields.

Jiao Xiaoliang, an associate professor in charge of the Sino-Africa project, said such engagement is very necessary.

"The core of the project lies in bringing technicians and farmers together. Only by truly participating in this process and understanding how to disseminate technology to farmers can they make a real impact when they return to Africa," Jiao told Hebei Daily.

To date, the Sino-Africa project has nurtured 72 graduate students in agricultural studies from more than 10 African countries, including Malawi, Ethiopia and Tanzania.

As one of these students, Phiri has already started using the Chinese agricultural development model in Africa.

"I believe the STB model will yield results here and help guarantee that more of our people will have enough to eat," he said.

Researchers give Yellow River Delta's sea grass beds in Shandong a helping hand

JINAN — The receding tide at the mouth of the Yellow River in Dongying, Shandong province, one late-September morning revealed a vast sea grass bed.

Dozens of workers walked back and forth along the shore in the city's Kenli district, gathering Japanese eelgrass seeds to be sown next spring. The seeds, about the size of sesame seeds, were not fully mature, and the workers put them in mesh bags and soaked them in water to allow the eelgrass to continue growing.

"Sea grass seeds are too light and will be easily washed away by the waves when they are fully mature, so collecting them around the time of the Mid-Autumn Festival is the best strategy," said Zhou Yi, a researcher at the Chinese Academy of Sciences' Institute of Oceanology.

Zhou, who has been studying sea grass beds for more than 20 years, visits the special "grassland" in the Yellow River estuary every other month. "This sea grass bed is about 30 hectares in size, and most of it has been restored in the past three or four years," he said.

The Yellow River estuary was once the largest Japanese eelgrass bed in China, and it still appears endless and lush like grassland on

land when the tide is low. In 2019, Typhoon Lekima destroyed about 667 hectares of sea grass beds, leaving large stretches of bare beach.

Zhou Licheng, director of the Shandong Yellow River Delta National Nature Reserve's scientific research center, said sea grass beds play a similar role to forests on land, supporting small fish and crabs that are eaten by a variety of birds. The spread of smooth cord grass, an invasive species native to the United States' Atlantic coast, and frequent typhoons have badly damaged sea grass beds in the Yellow River estuary, Zhou Licheng said, creating breaches in the local intertidal ecosystem.

Smooth cord grass has been identified by the International Union for Conservation of Nature as one of the world's 100 most dangerous invasive species and was one of the earliest invasive species officially recognized as a threat by Chinese authorities.

In order to restore the ecosystem, the reserve has cooperated with the Institute of Oceanology and the Ocean University of China, both in Qingdao, Shandong, and other institutes since last year to promote the repair of sea grass beds. Growing sea grass underwater is quite different

from growing grass on land.

"We have tried direct planting, direct seeding and other methods, but due to the influence of submarine sediment, ocean currents and other factors, the plants and seeds sown can be easily washed away or eaten by marine organisms," Zhou Yi said, adding that after many attempts, the team finally developed a combination of transplanting seedlings and planting "rolled clay balls".

He said the rolled-clay-ball method involved wrapping the seeds in soil, adding necessary nutrients and then using machinery to sow the balls on beaches.

Research has shown that one-third of the world's sea grass beds have been lost due to a combination of human activities and global climate change over the years.

On Nov 28, Dongying's city government announced at a news conference that more than 99 percent of its troublesome smooth cord grass had been eradicated, with 100 hectares of local sea grass beds restored.

Zhou Yi said: "We will explore new ways while observing their results. If this restoration method is proved effective by long-term practice, we will promote it in more places."

XINHUA

Expert helps village crops flourish

By ZHAO RUIXUE
in Gaotang, Shandong
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From monitoring winter wheat to advising farmers on crop health, Du Lizhi, an agricultural expert from Shandong province's Gaotang county, maintains a bustling routine to ensure the prosperity of her native farmlands.

"The wheat is currently growing well, but some of the faster-growing wheat needs to be suppressed before the deep winter to ensure it can stay well throughout the winter," said Du, 59.

To farmers in Gaotang, Du is indeed an expert. Whether it be wheat, corn, vegetables or fruits, she possesses a deep understanding of crop growth and can solve most related problems.

Inside a workstation showcasing agricultural techniques and various crop samples, Du showed visitors a type of sorghum.

"This grain is suitable for planting in saline-alkali soil in our county," she said.

She also demonstrated the benefits of intercropping corn and peanuts, which can increase yields. Du's expertise was developed over a period of 38 years, during which she worked at the grassroots level to learn and promote agricultural techniques after graduating from an agricultural school in 1985.

"To truly engage in agricultural work, it is essential to be close to farmers and farmland," she said, explaining why she chose to work at her hometown's agricultural technology station.

Her first experimental site was her own cotton field. During a year when the town was plagued by a cotton bollworm outbreak, Du used the knowledge she gained in school to curb the outbreak by trapping the insects and spraying



Du Lizhi (right) helps farmers improve vegetable production in a greenhouse in Gaotang county, Shandong province. PROVIDED TO CHINA DAILY

insecticides. As a result, her cotton yield increased, and her neighbors began seeking her advice.

Following Du's guidance, the entire village had a successful cotton harvest the following year. Encouraged by this initial triumph, she decided to dedicate her life to agricultural work.

At first, she focused on the production and cultivation of grain and cotton. However, in 1992, an incident prompted her to expand her expertise. A greenhouse farmer from a neighboring village came to her with a cucumber seedling that had yellowing leaves. But Du had little knowledge of vegetable cultivation techniques at the time and was unable to assist the farmer.

Saddened by the farmer's disappointment, Du resolved to learn about vegetable growing. In addition to reading books about techniques, she visited greenhouses to do field research, braving harsh weather conditions and working late nights.

Whenever she heard about problems with crops, be they grain, cotton or vegetable, she

would rush to the scene to offer support.

Over the past 38 years, Du has traveled to over 600 villages in the county and has written more than 70 agricultural journals. She has become a well-rounded authority on agricultural matters.

In 2018, the county established a workstation for Du to disseminate agricultural techniques and train more agricultural experts.

Thanks to the station, grain production in Ershilipu village has significantly increased. Yields of wheat have risen from a maximum of 4.5 metric tons per hectare to 7.5 tons per hectare, while corn yields have risen from 7.5 tons per hectare to 12 tons.

Du has also been conducting experiments with pesticides for disease and pest control, resulting in the development of highly effective programs.

"Agricultural techniques such as utilizing disease-resistant varieties can reduce the need for pesticides," she said. "I will continue promoting rural agricultural development and contributing to rural vitalization."

Utensils make cooking easier in Xizang

LHASA — Before last year, Cai Shualong had never set foot on the Qinghai-Tibet Plateau, the world's highest plateau, in the Xizang autonomous region. Little did he expect that the stainless steel pressure cooker manufacturing company, where he serves as general manager, would one day open a factory there to produce high-altitude cooking utensils.

Now, the 42-year-old embarks on a 4,000-kilometer journey across the heartland of China every month, shuttling between his company's headquarters in East China's Zhejiang province and Lhasa, capital of Xizang, in Southwest China.

The company's Lhasa factory started production in November last year. So far, it has sold 600,000 high-altitude utensils in Xizang. More than half the items are pressure cookers that use a new patented technology to better meet the real-life needs of people living on the plateau.

In high-altitude regions, the high elevation, low air pressure and low boiling point of water make conventional cooking a time-consuming and laborious process. For example, in Nagchu, a prefecture-level city in northern Xizang with an average altitude of over 4,500 meters, water boils at around 85 C, according to a local restaurant server.

Pressure cookers address this problem, as they increase internal pressure through continuous heating, which raises the boiling point of water and speeds up the cooking process.

The first pressure cooker was invented in the 17th century by French physicist Denis Papin and they gained popularity in the late 19th and early 20th centuries. China's first domestic pressure cooker was produced in the northeastern city of Shenyang, Liaoning province, in 1964.

On the plains, a pressure cooker may just be an option for those looking to improve their cooking. But in Xizang, where the average altitude exceeds 4,000 meters, a functional pressure cooker has become a necessity for almost every household to cook yak meat and mutton as well as dumplings and noodles.

Traditional pressure cookers on the Chinese market have a single pressure release mechanism, and it is not easy to control the



An employee works at a cooking utensil factory in Lhasa, Xizang autonomous region, in November last year. ZHOU DIXIAO / XINHUA

timing and heat when cooking noodles. A slight error can easily lead to the noodles "squirting" out. This occurrence was brought to light in a short video filmed in Lhasa and circulated online. The video captured a man cooking noodles in a pressure cooker, resulting in them splattering all over him.

To solve the problem, Cai's company designed a new pressure cooker utilizing patented "one-button quick release" technology. "It can vent quickly in about a minute, and water will not spray out from the release valve," Cai said.

This pressure cooker also boasts a temperature reminder function, resolving the difficulty of controlling the cooking time and heat while cooking dumplings or noodles.

"When the temperature inside the pot reaches 100 C, it will automatically sound an alarm. If cooking freshly wrapped dumplings, they will be cooked in 15 seconds after the alarm. For frozen dumplings, they will be cooked in two minutes after the alarm," he explained.

In Konglang village in Namling county, Shigatse, 50-year-old Dorje Yaphel said he is very content with his new pressure cooker.

"It heats up quickly and cooks yak meat thoroughly in no time. It's significantly safer and more convenient than the pots we used to have," he said.

The hospitable Dorje Yaphel and his wife, Sonam, offered Xinhua reporters a taste of a big piece of yak meat cooked in their new pressure cooker.

Given the low population density and relatively small market in high-altitude regions, cookware manufacturers generally don't actively target such areas for product development. The transition from the old-fashioned, single-function pressure cooker to the new one incorporating multiple patented technologies — the "metamorphosis" of pressure cookers on the snowy plateau — is mainly due to the strong commitment of local authorities to tackle problems encountered in the daily lives of the people.

While visiting residents, regional officials learned about the many inconveniences faced in using traditional pressure cookers at high altitudes.

As a result, they instructed related departments to expedite the development of high-altitude multifunctional cookware. The initiative gained potent support from industry associations and major enterprises such as Suntrue, leading to a significant transformation in cooking utensils, including pressure cookers, in the region.

In addition to pressure cookers, the high-altitude cooking utensil project encompasses the development and production of kettles capable of boiling water to 100 C, as well as high-altitude steamers that can reach temperatures of up to 135 C.

A highly anticipated "fully automatic buttered tea maker" is also set to hit the market soon.

Wu Qing, deputy director of the China Daily Hardware Technology Development Center, said that nearly 60 years after the debut of the first domestic pressure cooker, the development of new pressure cookers and other cookware specifically designed for use in high-altitude regions is a milestone for China's cookware industry.

The new type of pressure cooker features an engraved logo of the trademark Xue Lian Hua, the rare snow lotus that grows at high altitudes.

Cai said: "This logo looks like the character for 'fire' and also resembles the character for 'prosperity' in Chinese, symbolizing that the people's lives will become increasingly prosperous and thrive."

XINHUA

WORLD

Steed parade

The horse D Beisan is being paraded during the World Arabian Horse Championship at Old Doha Port in Doha, Qatar, on Saturday. The championship is the pinnacle of year-round Arabian horse shows and competitions taking place across the world. NOUSHAD THEKKAYIL VIA GETTY IMAGES



Suicide calls see sharp increase across states

By BELINDA ROBINSON in New York
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The new US National Suicide Prevention Lifeline is struggling to keep up with call volume as it is inundated with desperate people seeking help.

From July 2022 until May 2023, the revamped hotline has been contacted nearly 5 million times — 1 million times on the Veterans Crisis Line — and 2.6 million other phone calls, over 740,000 chats, and more than 600,000 texts, according to an analysis by the Kaiser Family Foundation, or KFF.

The number of people who contacted the line for help increased by 33 percent from May 2022 to May 2023, the KFF said.

However, some communication that was sent to call centers in states nationwide went unanswered due to a lack of staff.

Data obtained by ABC News from Vibrant Emotional Health, the organization selected by the federal government to run the line, shows that in April 2023, states nationwide collectively missed more than 11,000 calls.

Only 15 states were able to answer calls at a rate of 90 percent or above by June 2022 — the benchmark set for the call center to receive federal funding.

From April to May, the answer rate from states ranged from 55 to 69 percent in five states, including Washington, DC, to 90 to 98 percent in 14 states, the KFF said.

Yet, the average wait time for a call to be answered was reduced from nearly three minutes to less than a minute.

Last year, the lifeline was revamped and was renamed the "988 Suicide & Crisis Lifeline". It was also given a three-digit number, "988", along with a text service.

It was relaunched after data from the Centers for Disease Control and Prevention showed many people were struggling with their mental health in the wake of the stress caused by the COVID-19 pandemic. Between 2010 and 2021, 528,805 committed suicide, KFF data shows.

Record number

In 2022, a record 49,449 people took their own lives, according to the CDC's National Center for Health Statistics.

Last year, the suicide rate for men was 1 percent higher than in 2021, at 23.1 per 100,000, compared with 22.8. Among women, it was 4 percent higher at 5.9 per 100,000 compared with 5.7 in 2021.

Bradley Klontz, an associate professor of financial psychology and behavioral finance at Creighton University in Omaha, Nebraska, said that amid the pandemic, men suffered from having fewer natural social interactions.

Lori Pbert, a professor in the Department of Population and Quantitative Health Sciences at the University of Massachusetts Chan Medical School, told China Daily: "The COVID pandemic has taken such a tremendous toll on mental health. We know that stress, isolation, and changes in routine, all affect mental health."

COP28 sets eyes on AI to fight climate change

UN panel launches challenge to deploy tech to support developing countries

By JAN YUMUL in Dubai, UAE
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Expect artificial intelligence to play an inseparable role in combating climate change after the United Nations Climate Change Technology Executive Committee, or TEC, and its collaborators launched a challenge to harness AI-powered solutions for climate action in developing countries.

The grand challenge was part of a high-level event organized by the UN Climate Change Technology Mechanism on Saturday in Dubai, in collaboration with the COP28 Presidency. The move will also focus on least developed countries and small island developing states. The TEC has partnered with Enterprise Neurosystem, a nonprofit open-source AI community.

Attendees, ranging from leaders to UN agencies and business communities, emphasized how AI can be used in transformational climate action in developing nations while at the same time ensuring it does not contribute to the widening digital divide because of unequal access to technology.

Omar Sultan Al Olama, the minister of state for artificial intelligence, digital economy, and remote

work applications in the United Arab Emirates, said that harnessing AI, as a strategic asset to mitigate climate change involved integrating it into national policies and plans.

"These measures and policies should not be viewed in isolation, but rather as a unified global initiative, acknowledging that climate change transcends geographical boundaries and requires concerted global efforts," Al Olama said.

UN Climate Change Executive Secretary Simon Stiell said that the world has been seeing increasing evidence that AI can prove "an invaluable instrument in tackling climate change."

"While we remain mindful of the associated challenges and risks of AI, the Innovation Grand Challenge is a promising step forward in harnessing the power of artificial intelligence and empowering innovators in developing countries," said Stiell.

Digital divide

In dealing with the existing digital divide, Senegal's Minister of Communications, Telecommunications and the Digital Economy Moussa Bocar Thiam said the integration of chatbot voice with local languages in emerging technology

tools could be one of the solutions to fix the gap.

Shantal Munro-Knight, the minister in the prime minister's office of Barbados, said they were partnering with international tech companies to test their ideas in the country while contributing to the island's development.

These ideas include using machine learning and AI to check for the presence of tropical diseases.

"Collaboration, training and technology transfer are key to ensuring that AI contributes effectively to climate mitigation and adaptation for small island developing states," she said.

The high-level event was organized under the Technology Mechanism Initiative on Artificial Intelligence for Climate Action. It is also in line with UN Secretary-General Antonio Guterres' call to develop AI that is reliable and safe and that could supercharge climate action.

"We must manage the risks and seize the promise of artificial intelligence," said Ali Zaidi, an assistant to the president and national climate adviser of the United States.

"By working together, we can responsibly harness the power of this emerging technology to develop AI tools that help mitigate climate change risks, make our communities more sustainable and resilient, and build an equitable clean energy future for all," he added.

Gene-editing for human illness OK'd

By AI HEPING in New York
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The US Food and Drug Administration has approved the first gene-editing therapy ever to be used in humans, for sickle cell disease, a blood disorder that affects about 100,000 Americans, mostly black people.

The agency on Friday also approved a second treatment using conventional gene therapy for sickle cell that doesn't use gene editing. It approved both treatments for patients 12 years and older.

The approvals offer hope of finally living without an affliction that causes excruciating pain, organ damage and strokes.

Red blood cells, which are normally doughnut-shaped, bend into inflexible sickle shapes, causing them to pile up inside blood vessels and prevent the normal delivery of oxygen in the body. Complications include bone deterioration, strokes and organ failure.

Sickle cell experts said that because of the cost, only a small fraction of patients in the US are expected to receive the new treatment, and it won't be available to millions of sickle cell patients overseas, particularly those in Africa.

The FDA estimates that about 20,000 patients — age 12 and older who have had debilitating pain — will be eligible for the therapies.

The gene-editing treatment, called Exa-cel and using the brand name Casgevy, was jointly developed by Vertex Pharmaceuticals of Boston and CRISPR Therapeutics of Switzerland. It is the first treatment to be approved that uses CRISPR, the Nobel Prize-winning gene editing

tool, to snip patients' DNA.

The other treatment, called Lyfgenia and made by Bluebird Bio of Somerville, Massachusetts, uses a common gene-therapy method to add a good hemoglobin gene to patients' DNA.

Casgevy's approval "shows the promise of genetic therapies that seek to treat disease at the source by making a targeted change in a person's DNA," Jennifer Doudna, who shared a Nobel Prize in 2020 for her work helping discover CRISPR, told The Wall Street Journal. "It almost changes the way we define a medicine."

Patients using Casgevy will need expensive, intensive medical care and a long hospitalization.

Some health plans might not cover Casgevy because of its \$2.2 million price to edit a patient's genes; for Bluebird, it will be \$3.1 million.

Living with the disease is also extremely costly. On average, it costs \$1.7 million for those with commercial insurance over a patient's lifetime. Patients themselves may pay about \$44,000 out of pocket on average over the course of their lives.

Most sickle cell patients are insured through Medicaid, noted Dr John DiPersio, director of the Center for Gene and Cellular Immunotherapy at the Washington University School of Medicine in St. Louis. He consults for Vertex and Bluebird.

"If every sickle cell patient in Missouri gets treated, the state couldn't afford it," he told The New York Times.

Some patients also might be deterred by the weeks they would have to spend in the hospital to get treatment, including the chemotherapy that commonly results in infertility.

Agencies contributed to this story.

Israel presses on in Gaza after US veto on truce bid

GAZA/JERUSALEM — Israel ordered residents out of the center of Gaza's main southern city Khan Yunis and pounded the length of the enclave overnight through Sunday, after the United States wielded its UN Security Council veto to shield its ally from a demand for a cease-fire.

Since a truce with Hamas in the two-month-old conflict collapsed on Dec 1, Israel has expanded its ground assault into the southern half of the Gaza Strip, pushing into Khan Yunis, where residents reported fierce battles. Both sides reported a surge in fighting in the north.

An official toll of deaths in Gaza from the Palestinian health ministry in the Hamas-run enclave exceeded 17,700 on Saturday, with many thousands missing and presumed dead under the rubble. The ministry has said about 40 percent of deaths were of children under 18.

On the Israeli side, about 1,200 people were killed, according to Israeli tallies.

On Saturday, 100 trucks carrying unspecified aid entered Gaza through the Rafah crossing with Egypt, said Wael Abu Omar, a spokesman for the Palestinian Crossings Authority. That is still well below the daily average before the conflict.

UN Secretary-General Antonio Guterres, who invoked a rarely-used power last week to call for a cease-fire, said: "We are facing a severe risk of collapse of the humanitarian system."

Despite growing international pressure, the US Joe Biden administration said on Saturday it has approved the emergency sale to Israel of nearly 14,000 rounds of tank ammunition worth over \$106 million.

The sale was announced a day after

the US vetoed a UN Security Council resolution demanding an immediate cease-fire in Gaza, a measure that had wide international support.

The resolution failed to pass at a Security Council emergency meeting held late Friday after the US cast a veto and the United Kingdom abstained, while the other 13 UNSC members voted in favor of the proposal handed in by the UAE and backed by more than 90 UN member states.

Decision slammed

The Palestinian Authority and Hamas slammed on Saturday the US veto.

Palestinian President Mahmoud Abbas denounced on Saturday the US position as "aggressive and immoral, and a blatant violation of all humanitarian values and principles" while thanking those member states that favored the resolution for "siding with justice, peace and human ethics".

Meanwhile, two hospitals in central and southern Gaza received the bodies of 133 people from Israeli bombings over the past 24 hours, the Health Ministry said on Saturday.

Hamas said that day it continued its rocket fire into Israel.

In Gaza, residents reported airstrikes and shelling, including in the southern city of Rafah near the Egyptian border — one area where the Israeli army had told civilians to go.

"We now live in the Gaza Strip and are governed by the American law of the jungle. America has killed human rights," said Rafah resident Abu Yasser al-Khatib.

AGENCIES VIA XINHUA

Red Cross chief lauds China's support

Amid the escalating humanitarian crisis in Gaza, Mirjana Spoljaric Egger, the president of the International Committee of the Red Cross commended China's support for upholding international humanitarian law.

Spoljaric elaborated on the dire situation she witnessed during her recent visit to southern Gaza and called on all parties to the conflict to de-escalate the situation and respect international humanitarian law so that civilian suffering is minimized and avoided.

She praised China's role in calling for support and respect for international humanitarian law, describing China's voice in this as very strong and important.

"We welcome China's voice in support of respect for international humanitarian law," she said.

"This is very important because international humanitarian law was created and adopted to protect civilians in a situation of armed conflict."

XINHUA



Displaced Palestinians are being served food at a distribution point in Deir al-Balah, Gaza Strip, on Saturday. MAJIDI FATHI VIA GETTY IMAGES

Briefly

UNITED STATES
UPenn head quits over antisemitism remarks

The University of Pennsylvania President Liz Magill, who came under fire for her stance on antisemitism on her institution's campus, has "tendered her resignation," according to a message sent on Saturday by the chair of the Ivy League school's board of trustees. Magill has agreed to stay on until an interim president is appointed. Scott Bok, chair of the Philadelphia-based university's board of trustees, said on Saturday. Magill, Harvard University President Claudine Gay, and Massachusetts Institute of Technology President Sally Kornbluth testified before a US House of Representatives committee on Tuesday.

EUROPE
Deal to rein in artificial intelligence agreed

Europe on Friday reached a provisional deal on landmark European Union rules governing the use of artificial intelligence, including governments' use of AI, in biometric surveillance and how to regulate AI systems such as ChatGPT. Friday's deal between EU countries and European Parliament members came after

nearly 15 hours of negotiations that followed an almost 24-hour debate the previous day. The two sides are set to hash out details in the coming days. The accord requires foundation models such as ChatGPT and general-purpose AI systems to comply with transparency obligations before they are put on the market.

JAPAN
PM to replace key govt, LDP lawmakers

Japanese Prime Minister Fumio Kishida plans to make changes to his cabinet and his party executive following media reports that lawmakers received undeclared political funds, the Asahi newspaper reported on Sunday, citing government and party sources. Kishida and his ruling Liberal Democratic Party are facing mounting scrutiny after allegations that party lawmakers, including high-profile members, may have pocketed over 100 million yen (\$693,000) of fundraising proceeds that were left off the books. Chief Cabinet Secretary Hirokazu Matsuno, Industry Minister Yasutoshi Nishimura, and the LDP's policy chief Koichi Hagiuda are to be replaced, the newspaper reported.

AGENCIES VIA XINHUA

By LI YOU

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Chengdu focuses spotlight on homegrown research

Scientific and technological efforts get promotional boost

Chengdu in Southwest China's Sichuan province is ramping up efforts to promote commercialization of its scientific and technological accomplishments by launching innovative policies, aimed at realizing an industrial upgrade.

In July, the city unveiled Several Policy Measures to Further Promote the Commercialization of Scientific and Technological Achievements in Chengdu, a strategy focused on building pilot platforms for the commercialization of scientific and technological achievements and creating industrial aggregation areas for those efforts.

Pilot-scale testing

As key links between laboratory founding and practical application, some of these pilot-scale platforms have received special attention from the local government. One of them is Chengdu Birvice, a high-tech enterprise focusing on pilot-scale testing that has promoted the commercialization of more than 200 scientific research projects since its founding in 2018. It mainly targets commercial service robots, consumer electronics, smart parking and medical equipment, as well as providing professional services such as product design, prototype manufacturing, pilot-scale testing and supply chain design.

One of the projects is a breath-based mosquito trap developed by Tang Chengkang from Sichuan University. Thanks to the one-stop pilot-scale testing and mature services provided by Chengdu Birvice, Tang's research was applied in a number of new scenarios and achieved profitability just six months after the laboratory data was published. The product is now in its third generation, and it has already received an intention of ordering about 20,000 units.

Chengdu Birvice is committed to creating a closed-loop service for technology commercialization based on pilot-scale testing, and along with some State-owned capital, it initiated the first 100 million yuan (\$140,010 million) pilot-scale testing venture capital fund in China.



Clockwise from top left: On Nov 23, more than 140 technology brokers gather at Sichuan Tianfu New Area to attend a training course. A pilot-scale testing platform set up by the Dalian University of Technology Chengdu Research Institute. A view of Tianfu Yongxing Laboratory. A group of visitors examine a scale model at Chengdu Sci-Tech Innovation Eco-Island. PHOTOS PROVIDED TO CHINA DAILY

Efforts from universities

As a major source of scientific and technological innovation, universities are another key partner for Chengdu's industry. Through the signing of cooperative agreements and the establishment of collaborative platforms, the scope of their alliance has been further broadened.

On Nov 22, the Chengdu city government signed a comprehensive cooperation agreement with Shanghai Jiao Tong University that will see the city and the universi-

ty deepen cooperation in areas such as the construction of scientific and technological innovation platforms, commercialization of scientific and technological achievements, and talent introduction and cultivation as well as government staff member training.

Chengdu initiated cooperation with the university in 2020. Over the past three years, significant achievements have been made in core areas such as technology research and achievement commercialization. More than 20 projects have been implemented, and over 50 tech-driven enterprises have been nurtured, with a cumulative output value of

more than 500 million yuan.

As of November, Chengdu has signed cooperation agreements with 20 universities, including Tsinghua University and Peking University, and continues to pursue comprehensive cooperation. In April, the Chengdu Academy for Advanced Interdisciplinary Biotechnology Studies at Peking University launched its operation, becoming China's first and only pioneering cross-disciplinary biotechnology research institute of the university.

A director from the Academy for Advanced Interdisciplinary Studies, Peking University said Chengdu is

continuously improving its ability to lead innovative development, which coincides with the development path of the institute. He said that in addition to abundant resources, Chengdu's penchant for exploration and in-depth understanding of scientific and technological innovation was a major factor in the establishment of the institute.

Since the beginning of this year, Chengdu has held more than 230 special events at well-known universities, helping more than 4,000 scientific and technological enterprises, research teams and institutions realize matchmaking for their projects.

Cultivation of talent

Technology brokers and managers also play critical roles in accelerating the commercialization of Chengdu's scientific and technological achievements by optimizing communication between the supply and demand sides of the industry. In August, the city included technology brokers on its talent classification list for the first time. On Nov 22, the Chengdu science and technology bureau publicly solicited opinions on the Three-Year Action Plan (2023-25) for Construction of Chengdu's Technology Broker (Manager) Professionals.

Xia Chunfen has been involved in the commercialization of scientific and technological achievements for more than 10 years. Daqi Technology, founded by a research and development team from Sichuan University, is one of the companies incubated by Xia. "When we first contacted Daqi Technology, all they had was just a technical description printed on a paper. This research achievement had been 'sleeping' in the laboratory for more than 20 years," she said.

Since 2017, Xia has guided the company in overcoming the difficulties in commercializing its technology, setting up an equity structure and upgrading products.

Since the beginning of 2023, Chengdu has strengthened training of technology brokers and managers. On Nov 23, more than 140 professionals engaged in the commercialization of R&D achievements gathered at Sichuan Tianfu New Area to attend a training course. According to Zhang Limei, one of the organizers, it marked this year's second round of training for junior technology brokers held by Tianfu International Technology Transformation Center, and included trainees from companies and universities, research institutes and government departments.

Up to now, the National Science and Technology Transformation Center's southwest center has conducted 20 such training courses this year. Based on such efforts, Chengdu is expected to recruit around 2,000 technology brokers and managers throughout the year — nearly four times the average training number in previous years.

The Chengdu Science City by Xinglong Lake in Tianfu New Area



City thriving as cradle of high-tech innovation in Southwest China

By HAO NAN

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From policy support to the improvement of the innovation ecosystem, Chengdu in Southwest China's Sichuan province has conducted in-depth implementation of an innovation-driven development strategy in recent years.

The initiative has stimulated the innovation vitality of local sci-tech enterprises, and also injected strong impetus into the city's high-quality development, local officials said.

With its construction of a sci-tech innovation center with national influence, Chengdu is becoming an important source of innovation in China and a hot spot for sci-tech enterprises to make investments. On Nov 30, for example, a groundbreaking ceremony for a 25-gigawatt solar photovoltaic cell and 20 GW solar module project took place in Chengdu, with fixed asset investment reaching 10.5 billion yuan (\$1.47 billion). It is a project of Tongwei Solar, a wholly-owned subsidiary of Tongwei Group.

A global leader in the fields of high-purity crystalline silicon and solar cells, the group this year made the list of Fortune Global 500 companies for the first time.

The growth of Tongwei Group has also driven the rapid rise of the photovoltaic industry in Chengdu.

Zhou Hua, general manager of Tongwei Solar, said the company's products are mainly exported to Turkey, Germany, France, Japan, South Korea and some areas in Southeast Asia.



From left: A mechanical arm is used in the production of Tongwei Solar's high-purity crystalline silicon and solar cells. Chengdu Guibao Science and Technology's plant. PHOTOS PROVIDED TO CHINA DAILY



With the economy recovering after the COVID-19 pandemic and the increasing shortage of energy resources, the demand for new energy products in overseas markets continues to grow.

In the first three quarters, Tongwei Solar exported 5.1 GW of high-efficiency crystalline silicon cell sheets, an increase of 30 percent year-on-year, with the total export volume exceeding \$620 million.

Zhou said Chengdu has always been focusing on building high-level innovation platforms and systems, to better integrate innovation resources and support industrial development with greater efforts.

The city has also carried out various measures to help enterprises overcome technical problems. It has issued a series of preferential policies to support sci-tech companies and talent teams, and boost technological achievement transformation.

"In recent years, Chengdu has continuously optimized the ecosystem for sci-tech achievement transformation by combining such elements as talent, enterprises, universities, research institutions, and investment," Zhou said.

Such efforts have helped Tongwei Solar successfully industrialize its achievements from lab data to actual products, boosting the market application of scientific and technological advances, he added.

For battery production, the core technical difficulty still lies in improving the battery conversion efficiency. Given this background, Zhou said Tongwei Solar plans to build a global research and development center in the city's Shuangliu district. The center will carry out research on high-efficiency crystalline silicon cells and materials, as well as high-reliability modules, photovoltaic testing and analysis,

and new technologies.

The company will also organize a global partner conference and other industry exchange meetings, and proactively participate in the industry exhibitions and forums to explore the cutting-edge technology and development directions in the photovoltaic field.

A partner of Tongwei Solar, Chengdu Guibao Science and Technology is one of the first enterprises in the industry to apply new organic silicon materials to the photovoltaic sector.

Established in 1998, the company has grown into a specialized manufacturer of organic silicone sealants, which have a wide range of application scenarios.

It has obtained more than 320 intellectual property rights, and was listed on China's Growth Enterprise Market in 2009 with an outstanding performance in manufacturing.

The company can now annually

produce 25,000 metric tons of photovoltaic-used sealants, and maintains sound cooperation with some leading photovoltaic enterprises such as LONGI Green Energy Technology and JA Solar Technology. The products have been exported to India, Turkey and other countries and regions.

In the coming years, Guibao said it will implement a diversified development strategy centered on the new material industry, and adhere to a business pattern which takes organic silicon materials as its core, to provide high-end supporting materials for national pillar industries and strategic emerging sectors.

The company also plans to continuously improve its technological innovation capability and promote sustainable development. The aim is to develop Guibao into a well-known international brand, according to the company.

Xgimi Technology, another high-tech company based in Chengdu, designs and manufactures high-performance multifunctional smart projectors and laser televisions.

According to IDC's tracking report on China's projector market in the second quarter of this year, Xgimi has won first place in terms of shipments for five and a half consecutive years.

Since 2018, the company has exported products to more than 100 countries and regions including Germany, the United Kingdom, Russia, Japan and the United States.

"As a local brand, Xgimi has benefited from the city's good business environment and industrial support policies," said the company head.

Recently, Xgimi has been exploring the combination of projection technology with home furnishings, so the technology can be better integrated into the users' daily lives. The company head believes that in the future, smart projectors can not only meet the needs of users, but also predict the needs of users and proactively provide their desired content.

"We will further increase investment in R&D, strengthen independent innovation, and develop a more diversified product portfolio," he said. Also, while maintaining first place in the domestic market, Xgimi will also pour more resources into overseas markets.

Data from the Chengdu science and technology bureau showed that the total number of high-tech enterprises in Chengdu increased to 11,500 in 2022, up 45 percent year-on-year.

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China — irresistible market for pharma MNCs

Vast size, resilient supply chain, favorable policies, growth prospects prove big factors

By LIU ZHIHUA
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For multinational corporations in the pharmaceutical industry, the humongous China market has been an indispensable part of their global plans for decades — and this factor is becoming even more important now than ever before, mainly due to the country's pursuit of high-quality development, experts and business leaders said.

That pursuit has showcased five factors working in China's favor: the ever-growing market size, strong industrial and supply chain resilience, well-thought-out policy support, deepening healthcare industry reform and high-standard opening-up.

These five factors figured constantly in discussions among top executives of pharmaceutical and medical device companies at the sixth China International Import Expo in Shanghai in early November.

Many such companies chose the CIE to launch or showcase their newest medicines, products and first-in-class therapies. Others sought to increase their visibility at the event, with some confirming their participation in future editions of the CIE. Clearly, China is an all-important market for these MNCs.

For instance, US-based biopharmaceutical company Gilead Sciences increased its exhibition area at the expo by five-fold this year, just one year after its CIE debut in 2022. Gilead said it wanted to fully demonstrate innovative products in virology, oncology and other disease areas, as well as the innovative technologies behind many of its star products.

US-based life sciences company Cytiva either debuted or showcased a series of products and solutions. Among them was a solution system purpose-built for the clinical and commercial manufacturing of lipid nanoparticle medicines.

Switzerland-based Alcon, a global eyecare product and service provider, unveiled a slew of new surgical, vision care and dry eye syndrome intervention innovations at the CIE, which included "wavelight plus", a next-generation refractive surgery system launched first in China with additional markets to follow.

"China represents a significant need when it comes to eye health, and a very important market for Alcon," said Rick Kozloski, president of Alcon China.

"Since entering the Chinese market in 1995, we have steadily increased our investment to make innovative eyecare products, treatments and services more accessible to Chinese people."

Flora Zhu, director of China corporate research at Fitch Ratings, said: "China is the world's second-largest pharmaceutical market and the demand for high-quality drugs, where the global pharmaceutical companies have a competitive edge, is strong and will continue to grow, driven by China's aging population, increasing disposable incomes, growing health awareness and rising medical insurance coverage.

"We believe global biopharma companies are likely to benefit from more government support as China is spurring foreign investment in



Eyecare product and service provider Alcon unveils its next-generation refractive surgery system during the sixth China International Import Expo in Shanghai in November. It was first launched in China, with additional markets to follow. PROVIDED TO CHINA DAILY



The booth of Gilead Sciences is seen during this year's CIE in Shanghai in November. PROVIDED TO CHINA DAILY



Visitors gather at the pharmaceuticals and healthcare section during the sixth CIE. PROVIDED TO CHINA DAILY

biopharmaceuticals."

With investment sentiment subdued globally, China's policies to attract and encourage foreign investment, including in the pharmaceutical, healthcare and related industries, have proved timely, experts said.

In August, the State Council, China's Cabinet, released a set of guidelines on further optimizing the foreign investment environment and attracting offshore capital. The guidelines included several provisions related to the pharmaceutical industry, such as encouraging foreign-invested enterprises that have been listed overseas already to conduct clinical trials of cell and gene therapies on the Chinese mainland.

"We believe those measures, if implemented strictly, will help improve foreign investor confidence in China, prompting more domestic-sales-focused foreign companies, including pharmaceutical companies, to continue to invest in China," Zhu of Fitch Ratings said.

"The Chinese government's continued support for drug innovation and a policy environment conducive to the discovery of new drugs will also benefit foreign pharmaceutical companies operating in China," she said.

Zhou Mi, a senior researcher at

the Chinese Academy of International Trade and Economic Cooperation, said China is becoming increasingly attractive to global pharmaceutical investors because they are confident of achieving stable and long-term growth in this market.

"China has a huge market that is expanding fast, which provides a firm ground for global pharmaceutical companies to increase their profitability.

"Besides, as the country expands market access and levels the playing field for all types of enterprises, they could respond more effectively to market demand in China to achieve long-term and stable development," Zhou said.

Jin Fangqian, vice-president of Gilead Sciences and general manager of its China arm, said the company remains committed to the China market and will increase investment here because it has witnessed and benefited from China's high-standard opening-up and pursuit of high-quality development.

"China is one of our three most important strategic markets, and we are very confident about our long-term development in China," Jin said.

Jin further said China's unwaver-

ing commitment to opening-up, improved business climate and increasing market opportunities have encouraged foreign investors like Gilead to deepen roots in the country.

Taking advantage of multiple policy measures in China, Gilead has accelerated new medicine review and registration. It has also benefited from the pilot works of opening-up platforms like the Hainan Boao Lecheng International Medical Tourism Pilot Zone in Qionghai, Hainan province.

The zone is the first and only special medical zone in the country with an independent regulatory system to optimize the approval, Customs clearance, use and supervision of imported medical devices and drugs.

To be sure, there are more factors than just the vast size of the China market that attract pharmaceutical MNCs, experts and business executives said.

Zhou with the CAITEC said China's digital field, especially its e-commerce, has boosted pharmaceutical supply chain efficiency in China. Also, the country's huge population packs numerous advantages for developing rare disease drugs. The low cost and convenient supplies of active pharmaceutical ingre-

dients also enhance China's attractiveness for pharmaceutical investors, he said.

Edward Zhou, president of Cytiva China, the global parent's local arm, said China is becoming a global powerhouse for pharmaceutical manufacturing at an accelerated pace. So, accelerating localization in China has become an important pillar of Cytiva's global growth strategy.

According to the latest edition of the Global Biopharma Resilience Index published by Cytiva earlier this year, China is a fine example of how robust government policy, coupled with a strong scientific culture, can power the growth of the biopharma sector.

The report findings were based on a survey of 1,250 biopharma and pharma executives in 22 countries. They rated countries' capabilities in five key areas: supply chain resilience, talent pool, research and development ecosystem, manufacturing agility, and government policy and regulation.

Among all the developing countries, China scored highest, with outstanding supply chain resilience and excellence in manufacturing.

Its biopharmaceutical supply chain resilience score was higher than that of North America and sec-

ond only to Europe's, demonstrating strong adaptability in the fields of emerging therapies like cell therapy.

At the same time, its biopharmaceutical manufacturing prowess exceeds that of Europe and is only shy of North America's, with more than half of the respondents saying they are increasing investment in digital intelligence technologies, the report showed.

"In the global biopharmaceutical supply chains, ingredients for many drugs are produced in China. If any production problems arise in China, supply chains in many areas could be disrupted. China's position in the global supply chain is becoming increasingly important," Zhou of Cytiva said.

"We are committed to developing our business in China through investment and by providing products, training and other end-to-end services that could make us grow together with the industry," he said.

Jin of Gilead Sciences said the innovation capability of the pharmaceutical industry in China has been growing with the emergence of new products and technologies. This will propel the development of scientific research and diversified health solutions, he said.

Zhu of Fitch Ratings said low R&D and production costs strengthen China's competitive advantages in pharmaceutical R&D and manufacturing. However, sales growth potential rather than the completeness of the domestic supply chain is what attracts global pharmaceutical companies to China.

Different from other manufacturing sectors, such as electronics and textiles and clothing, the pharmaceutical industry does not have a long supply chain. Therefore, pharmaceutical MNCs set up R&D centers and manufacturing facilities in China to serve the domestic market, she said.

Zhou of Cytiva said China also needs to dedicate more resources to cultivating talent and strengthening basic research to propel original innovation.

Why foreign firms love to invest in nation's healthcare

REPORTER'S LOG

By Liu Zhihua

Ever since I started reporting on the pharmaceutical and healthcare industries a decade ago, interactions with medical professionals and MNC executives have always informed my work.

One topic invariably figured in my

conversations and interviews — China's relatively slow record in reviewing and registering new drugs.

A decade ago, compared with developed economies like the United States and the European Union, China on average took an additional seven to 10 years to allow the market launch of a newly developed drug, whereas MNCs have been eager to get their drugs into the huge Chinese market as soon as possible.

A faster new drug approval pro-

cess, industry experts said, will benefit the Chinese people, enabling them to have access to more quality drugs.

Thanks to the country's unwavering commitment to deepening reforms and promoting high-standard opening-up, market access for foreign investors has expanded and become easier, improving the protection mechanism for foreign investment rights and interests, and guaranteeing equal treatment for foreign-invested ventures.

The drug regulatory reforms that

started in 2015 and the volume-based procurement programs initiated in late 2018 have jointly improved drug accessibility and affordability for Chinese patients.

As for MNCs, they have been speaking highly of China's efforts and achievements in this regard. For them, the world's second-largest pharmaceutical market represents huge and growing business opportunities. They think they can launch new products relatively quickly now in China. In some cases, they have launched new drugs and medical

products first in China.

China's manufacturing upgrades and growing supply chain resilience in the pharmaceutical industry, including the ever-improving innovation ecosystem, also support foreign investors' confidence.

Thanks to the recent rounds of reforms that prioritize encouragement to innovation, a large number of biotech startups have been founded to develop homegrown drugs. Around them, venture capital firms and producer services have been developing fast in recent years, jointly creating new growth opportunities for foreign investors.

For instance, many MNCs like

AstraZeneca, Boehringer Ingelheim and Roche have established innovation centers in China, to better cooperate with local innovation forces.

Since the start of the year, Chinese partners and MNCs have struck 28 out-licensing deals with a total transaction value exceeding \$19 billion.

Drugs involved cover disease areas like cancer, rare diseases and immunity diseases, or some of the most challenging areas to develop new drugs.

All in all, it's safe to say China will likely remain a hot investment destination for MNCs because of its vast market, manufacturing resilience and innovation vitality.

BUSINESS



A view of the booth of Cowell Health during the sixth China International Import Expo in Shanghai in November. PROVIDED TO CHINA DAILY

Pharma MNCs boost local ties

Biotech firms, drug distributors, tech startups among partners in China

By LIU ZHIHUA
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Multinational corporations in the pharmaceutical industry are stepping up cooperation with local partners like biotech firms and drug distributors to better tap growth potential in China.

During the sixth China International Import Expo held in Shanghai in early November, German biopharmaceutical company Boehringer Ingelheim announced a strategic cooperation agreement with Chinese high-tech company ChromX Health, to jointly push forward research on interstitial lung diseases, and search for innovative early diagnosis and intervention solutions.

Interstitial lung diseases are a large group of disorders that can cause progressive scarring of lung tissue if not treated on time and effectively, resulting in difficulty breathing or even death.

Boehringer Ingelheim said it would cooperate with leading medical device companies, high-tech startups and patient organizations to develop a patient-centered ecosystem that provides full-circle disease management for ILD patients.

"As a foreign company with a strong presence in China, we hope more local innovation companies

with international competitiveness will join us in contributing to the high-quality development of the ecosystem and bring about long-term benefits to patients," said Chen Xingrong, general manager of human pharma at Boehringer Ingelheim Greater China.

Participating in the CIIE for the first time this year, Cowell Health, one of China's largest investment and operation groups in the healthcare industry, inked a myriad of strategic partnership agreements and kicked off joint projects with 17 big-name pharmaceutical and healthcare enterprises and research institutions from home and abroad.

Nearly half of such agreements and joint projects were signed or carried out together with pharmaceutical MNCs, including AstraZeneca, Novartis, Pfizer and Omron.

Behind the cooperation is Cowell Health's digital technology-enabled medicine distribution and health management capability and China's attractive and growing pharmaceutical market that MNCs are keen to tap.

So far, the company has established more than 15,000 pharmacy chain stores, with smart pharmacies covering more than 330 cities and counties in 18 provincial-level regions across the country. These

pharmacies include direct-to-patient pharmacies, a novel channel for patients to get prescription drugs, and more than 216 designated pharmacies from which patients can buy specialty drugs and get reimbursement from public medical insurance programs.

"Centering on promoting '15-minute healthy living circles', our pharmacy services cover both first-tier cities and small counties, and can maximize the accessibility of innovative drugs and high-quality medical resources for patients," said Li Bo, CEO of Cowell Health.

Leveraging technologies like big data and artificial intelligence, the company has established 27 smart medicine warehouses in collaboration with more than 10,000 drug producers, to forge a resilient smart supply chain, he said.

During the CIIE, AstraZeneca and Chinese biotech firm Ascentage Pharma signed a cooperation agreement on a key phase-3 global clinical trial program for new drug registration.

According to their agreement, they will jointly carry out the phase-3 study to access the safety and efficacy of lisaftoclax (APG-2575), an investigational drug developed by Ascentage Pharma, as first-line treatment in combination with AstraZeneca's Calquence (acalabrutinib) for chronic lymphocytic leukemia or small lymphocytic lymphoma patients who have not received any treatment.

The two parties have already

cooperated on a phase-2 clinical trial program on the combination treatment of the two drugs, which showed satisfactory safety and efficacy results.

Experts said China offers a huge pharmaceutical market. On top of that, the country's intensified policy support for innovation coincides with its pursuit of high-standard institutional opening-up. This backdrop makes such cooperation in the drug industry more beneficial.

Zhou Mi, a senior researcher at the Chinese Academy of International Trade and Economic Cooperation, said MNCs are expected to further ride the current trends in China, like the resilience of the local pharmaceutical supply chain getting stronger and supplies of treatments for major diseases like cancer increasing, in order to strengthen cooperation with local partners and expand growth space.

"Apart from strengthening research and development cooperation, multinational and domestic enterprises are expected to explore more ways to improve medicine logistics efficiency and enhance drug distribution," Zhou said.

According to global market research firm Frost & Sullivan, annual sales revenue of China's pharmaceutical market is expected to expand to 2.06 trillion yuan (\$288 billion) by 2025, and innovative drugs will increase to account for 68 percent of the total market.

'Factory of the world' reinvents itself after slump

GUANGZHOU — Owing to factors like the COVID-19 pandemic and soaring inflation in some Western countries, Dongguan, a manufacturing powerhouse in South China's Guangdong province, has faced a decline in foreign trade in recent years.

In the first half, the GDP of the city, often dubbed "factory of the world", recorded a modest year-on-year growth of 1.5 percent, significantly lower than the national average of 5.5 percent.

To address the challenges, Dongguan is actively pursuing a slew of new measures involving the optimization of economic structures, transformation of production methods, exploration of new markets and a commitment to innovation.

Lucky Harvest Co Ltd, a leading metal mold maker in Dongguan, has ventured into new fields, such as new energy vehicles, communication equipment and photovoltaic energy storage components.

"As a veteran manufacturer in the mold and components industry, Lucky Harvest has the capabilities to seize new opportunities," said Yang Bin, executive deputy general manager of the company.

In the first three quarters, the company achieved an operating income of 3.9 billion yuan (\$544.5 million), up 32 percent year-on-year, with its net profit up 65 percent.

Highlighting the strong technological foundation of Dongguan's manufacturing industry, Ye Kongxin, Party chief of Chang'an township, where Lucky Harvest is located, said this is the driving force behind Dongguan's factories being able to consistently develop new products and explore new areas of growth.

Chang'an, an economic leader among the townships in Dongguan, is home to two main clusters of industries — electronic information and metal molds. Ye said the township aims to cultivate emerging industrial clusters in three areas: NEV supporting industries, intelligent visual technology and digital healthcare.

In recent years, Dongguan Jingbo Photoelectronic Co Ltd has faced operational difficulties due to factors like the pandemic and a downturn in

the mobile phone market.

"International orders significantly decreased, leading to a drop in the company's sales revenue. During the most challenging period, monthly sales decreased by 57 percent year-on-year," said Li Zhijun, general manager of the company.

In response, Jingbo has collaborated with partners in the industrial chain in an effort to overcome technical bottlenecks.

At the end of July, Jingbo made a breakthrough in developing automobile glass covers. Orders soon flooded in and have been fully booked until January.

Li said the collective effort has helped in overcoming the challenges. "The entire supply chain is working together. Through synergies, we reduce costs and weather the difficult times together."

Recent economic data have shown that Dongguan's manufacturing industry has stabilized. The city's industrial electricity consumption increased by 9.9 percent in October, 7.8 percentage points higher than that of September, marking six consecutive months of positive growth since May.

According to Huangpu Customs, which administers Dongguan's foreign trade, in October, Dongguan's foreign trade value reached 102.9 billion yuan, up more than 5 percent year-on-year.

The "factory of the world" is also going through a rapid digital transformation in various sectors to streamline production processes and boost efficiency.

Liang Yangyang, chief economist of the Dongguan Municipal Bureau of Industry and Information Technology, said that over 9,000 large-scale industrial enterprises in Dongguan, or about 70 percent of the total number of large-scale industrial enterprises in the city, have initiated digital transformation.

Fulinmen Shijia, an intelligent home furnishing company in Guangdong, has used digital transformation as a means to tackle the downturn in the real estate industry. As a result, its annual operating income has grown by over 60 percent over the past three years.

XINHUA



A worker operates a production line of new energy vehicle batteries in Dongguan, Guangdong province, in January. PROVIDED TO CHINA DAILY

Known as the "king of snow mountain", these elusive cats live 3,000 meters above high altitude, which is fragile to climate change.

If we can't control climate change, one-third of the habitat will be no longer suitable for snow leopards to survive. To protect the snow leopard, WWF is not only focusing on the species, but also the high mountains where the water resources originated.

www.wwfchina.org

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AD

BUSINESSINSIGHT



EAGLE EYE

By China
Macroeconomy Forum

China's economic tapestry this year has been complex, revealing both challenges and opportunities.

The domestic economy has exhibited a "diversified and weak recovery" in 2023 and the nation's GDP growth rate is expected to reach 5.3 percent for the whole year.

While GDP growth consistently improved in the first three quarters, the predicted two-year average growth of 4.1 percent is notably lower than the pre-COVID-19 levels, indicating a significant gap in demand despite the ongoing economic recovery.

The divergence between GDP and price growth has also been unusual, highlighting insufficient overall demand during the recovery.

When we calculate quarterly GDP, the continued uptrend in quarterly GDP corresponds to a restoration of production.

That is, the restoration on the supply side or production side continued to strengthen, but the consumer price index growth has remained at a low level.

However, new employment drivers continued to emerge despite the weak recovery.

The operation of enterprises and the employment situation have improved to some extent.

In August, September and October, profit growth turned positive and the urban unemployment rate continued to decline.

Sectors like new energy and modern services experienced robust growth, while investments in high-tech industries, which include high-tech manufacturing

Comprehensive approach key to ensuring balanced growth

and services, exceeded 10 percent.

Economic highlights

Notably, there are some highlights in economic operations this year, characterized by fluctuating recovery, deviations from traditional economic recovery patterns, notable economic disparities, and a stark contrast between macroeconomic and microeconomic perceptions.

For example, industries that are in line with the logic of order restoration performed better, while the performance of those that rely more on market forces has been weaker.

Catering and other industries continued to recover, but the performance of the manufacturing industry has been relatively weak.

A large number of private enterprises are concentrated in the lower end of the manufacturing sector, and some private entrepreneurs will think that the economic situation will be more severe, resulting in a slow process of restoring entrepreneurs' confidence.

Several factors contributed to insufficient demand, including a malfunctioning mechanism driving consumption, fundamental changes in the real estate market, and major significant transformations in international trade.

From 1990 to present, international trade has been a global industrial chain based on convenient production, which has led to a large-scale transformation of global industries and major adjustments in the incomes of countries around the world.

As a result, there is now a wave of anti-globalization.

For China, there is a return flow in the industrial chain, and a trend where foreign companies increasingly regard China more as a consumer market rather than a global production base.

Overall, the current lack of demand has been caused by both cyclical and structural problems, and more importantly, structural changes, because China is in a transition period of economic development. Thus, recovery will be slow and not happen overnight.

China is poised for a shift in economic dynamics in 2024. First, there will be a further upswing in the economy from a reversal of cyclical forces and a further acceleration in structural forces.

Second, the economy has entered a phase of new equilibrium. Though it will be difficult to return to the growth rates seen before the pandemic, various industries are expected to enter a balanced growth phase and companies' confidence about an economic recovery will greatly improve.

An important reason for this is that the period of structural adjustment will be accelerated after a reversal of cyclical forces, which will lead to a recovery in confidence.

The recovery in corporate profitability has boosted balance sheet repair.

Judging from their performance during August, September and October, companies' current positive year-on-year profits can be sus-

tainable. Behind this is an overall improvement in volume, price and profitability, and this trend will likely continue in the future.

Employment and incomes have also stabilized. The structural adjustment of households' balance sheets may have bottomed out, which will offer certain support for consumption recovery next year.

In addition, the structural adjustment range of the real estate sector has exceeded the normal levels of the market. With major policy efforts from the government and a partial correction, the decline in real estate investment in 2024 is expected to narrow sharply.

Last, but not least, as the order of international exchanges is restored and the Belt and Road Initiative continues to advance, export growth is expected to return to normal levels next year.

On the structural side, China has paid special attention to new engines of growth.

In recent years, the country has driven the large-scale commercialization of 5G. Unlike 4G, 5G investment does not seem to have many consumer application scenarios. In fact, 5G is more targeted at the industrial end.

Artificial intelligence is also likely to trigger 5G application scenarios, providing a driving force for the early construction of large-scale digital infrastructure.

At the same time, data elements will enter into asset calculations next year, which will further drive

momentum for enterprises.

Considering these factors, the outlook for China's economy in 2024 is positive, with growth rates expected to approach pre-pandemic levels. Both supply and demand sides are expected to continue recovering, gradually reaching a state of balance, accompanied by moderate price growth.

Risk factors

However, there are still risks that demand attention.

Interest rate differentials domestically and internationally could impact financial markets. Liquidity risks in the real estate sector remain a concern, and there is a need to address structural issues in local government debt.

The structural and regional problems of local government debt are prominent, and the behavioral patterns of local governments are mismatched with the current economic dynamics.

Local governments are determined to fight for the economy, but their methods are rushed. For example, in an era of digital economy, R&D has already entered a mode of rapid search, finalization, and iteration.

However, the model of local governments is based on traditional, large-scale cost reduction and scale improvement, which do not match the current economic dynamics.

Our suggestions for policy adjustments are as follows. Regarding policy objectives, I suggest setting the

GDP growth target for 2024 at 5 percent. A multi-year decline in demand will drag down the economy's potential output. Therefore, we must quickly fill those gaps.

We should also balance the economic and social development of 2024 and 2025 well in the 14th Five-Year Plan (2021-25) period.

Detailed recommendations include prioritizing market-oriented reforms, emphasizing short-term countercyclical policies, and maintaining overall macroeconomic stability.

Reform efforts should focus on capital markets and fiscal policies. Countercyclical policies should prioritize employment, implement proactive fiscal measures, optimize spending intensity and structure, and explore further monetary policy adjustments.

Structural policies should be geared toward cost reduction and improving economic efficiency, seizing opportunities like the integration of data assets to repair balance sheets and boost the role of the digital economy.

In the real estate sector, there is a need for balanced policy support. While short-term measures can stabilize the market, the extended focus should be on guiding the industry through a transformation. Relaxing restrictions on real estate in the short term may be considered, to align with current market dynamics.

In short, a comprehensive and coordinated approach, combining short-term stimulus with long-term structural reforms, is essential to ensure sustainable and balanced economic growth next year.

The article is a translation of a recent report of the China Macroeconomy Forum, a think tank in Beijing. The views do not necessarily reflect those of China Daily.

Innovation must go beyond tech into institutional space

MAIN STREET

By Yang Ruilong

Digital technologies have come to characterize the new era in development.

Data are an even more significant factor of production now than in the past for socioeconomic development, where information technology and data science are playing key roles. The digital economy not only promotes the transformation and upgrade of traditional industries, accelerates the rise of emerging industries and changes lifestyles, but also helps reorganize the global factors of production, reshaping the global economic structure and changing the global competition landscape.

The strength of China's digital economy brings it opportunities to overtake its peers in corners in some sectors. However, huge challenges also exist, as many key technologies of the digital economy, such as high-end chips, industrial software, core components and algorithms, are controlled by some developed countries. Worse, some of these countries are weaponizing their technological advantages to suppress China's digital economy.

Given this context, the ability to innovate is very important and wor-

thy of wholehearted efforts. As Joseph Schumpeter, an Austrian political economist who served as the country's finance minister in 1919, once said, innovation is the realization of a new set of factors or conditions of production. So, how can innovation play its role in driving the development of the digital economy?

More than tech

Innovation is generally associated with technology, as ordinary people tend to discuss innovation in terms of technology. However, technological innovation alone cannot overcome developmental bottlenecks in the digital economy, especially vexatious issues like politically motivated export controls on high-end chips, software and algorithms.

China, therefore, needs innovation not only at the technological level, but also at the institutional level, which we think should matter more to the nation.

Here, it's worth noting that the breakout event of the industrial revolution of the 19th century was the development of the steam engine. But it's also important to note that the steam engine was not some act of magic that happened during that specific period. Such equipment had been widely used in the mining industry decades before.

The more important reason for the industrial revolution was the advancement of the bourgeois revolution, which promoted the steam

engine for the transformation of the entire industrial system in the following century.

So, China, which is facing challenges in developing its digital economy, should also consider innovation at the institutional level, as the digital economy has brand new requirements and calls for solutions different from those applicable to the traditional industrial model.

For example, take the issue of data rights confirmation. Data property rights vary a lot from property rights under industrial conditions — they are not completely exclusive, and are renewable, making the confirmation a dilemma involving both the initial data provider and the subsequent data processors who add value.

Such tricky issues will likely arise going forward, making security and privacy of data, monopoly regulations and special arrangements critical to the digital economy, underlining the need to re-examine the complex relationship between antitrust vigilance and innovation.

All of these require fundamental changes to the legal system related to property rights and government regulations.

However, the current set of property rights protection systems and related regulatory systems are mostly based on the conditions of traditional industrialization, which is, to some extent, not suitable for an economy led by digits and cutting-edge high-tech like artificial intelligence.

Mainstay of innovation

There have been discussions over who should play the main role in pushing forward innovation. The mainstream view is that the role is supposed to be played by enterprises, because innovation will always trigger turmoil in the market first and make the market economy appear as if it is in the process of creative destruction, where market players are the ones to blame.

Some people, however, think otherwise. They argue that whoever is striving to achieve innovation in technologies should always shoulder a huge risk, not to mention playing catch-up, which requires continuous investment capacity in research and development.

In addition, in terms of technological innovation in sectors with strong public goods supply characteristics, the market won't function as per some people's wishes. This seems especially true of the digital economy, where breakthrough innovation of some key technologies is by no means easy for individual companies to achieve.

People holding this view consider it clearly out of bounds for market players, as has been evidenced by the technical sanctions imposed by the United States on China to restrict its high-tech development, such as that related to lithography machines and high-end chips, where national strength, supported by not only government units but also research institutions, plays a very important

role. This view, however, is still subject to a lot of skepticism.

In our view, the government and market players should play different roles, and do well in different aspects. It is a bad strategy to simply have either side shoulder innovation exclusively, because innovation itself has different stages. The government and market players should perform their respective duties accordingly, actively yet prudently.

With clarity on the features of each stage of innovation, the government and enterprises should be given proper roles based on their respective leading advantages. In the processes of basic R&D and application, the government and nonprofit bodies such as universities, scientific research institutions and laboratories should play the main role.

The subsequent experimental stage, before promotion, should be completed under joint cooperation between the government and enterprises. In this context, Shenzhen in Guangdong province and Suzhou in Jiangsu province are two cases worthy of study, as they both have established government-market cooperation laboratories.

When it comes to the stages of commercialization and large-scale industrialization, enterprises are definitely the mainstay.

Push for entrepreneurship

There is no doubt that innovation requires entrepreneurs, but when it comes to understanding entrepreneurs, we tend to emphasize the research nature of technology. Innovation is the nature of entrepreneurs,

which is, of course, very important, but the particularity of innovation in the era of the digital economy makes institutional innovation an even more important factor.

In China, there have been efforts to this end, like those to regulate the behavior of market players, and adjust organizational structures and governance frameworks. But we think this is still not enough.

Institutional innovation should also be carried out to change the approach to property rights protection and industrial regulation under the traditional industrial system. Promoting institutional innovation depends not only on entrepreneurs in the market, but more importantly on the government. That's because, with the effect of economies of scale, the government should play its role as a third party to define and protect property rights. We need not only corporate innovators in the market, but also institutional innovators, so as to incentivize and protect technological innovation through institutional innovation.

Institutional innovation should be a process of cooperation between entrepreneurs in the market and institutional entrepreneurs in the government — and both are indispensable.

The writer is a professor at Renmin University of China in Beijing. This article is a translation of a Chinese piece published on the WeChat account of the China Macroeconomy Forum, a think tank. The views do not necessarily reflect those of China Daily.

COMMENT

Editorials

US veto of immediate call for cease-fire has left regional peace and security 'on the precipice'

China joined members of the world community to express deep disappointment and regret over the United States' veto of a United Nations Security Council draft resolution calling for a humanitarian cease-fire in Gaza on Friday. The irresponsible US move has deprived the besieged Palestinians the humanitarian assistance they desperately need.

The draft resolution put forward by the United Arab Emirates and backed by over 90 member states received 13 votes and one abstention from the United Kingdom. The only rejection came from the US, a permanent member of the UNSC with veto power. Its veto has effectively shattered any hope for UNSC action, leaving the world once again helpless in the face of the worsening humanitarian disaster in Gaza.

Fighting between Israel and Hamas resumed on Dec 1 after a seven-day truce expired without any further agreement on an extension between the two belligerent parties. Israeli forces have not only strengthened their occupation in northern Gaza but also entered southern Gaza, where hundreds of thousands of Palestinians were driven by the previous Israeli offensives in the north.

Addressing Friday's UNSC emergency session, Secretary-General Antonio Guterres said there is "a high risk of the total collapse of the humanitarian support system in Gaza", which would have devastating consequences. The UN World Food Programme also warned that half of the

population in Gaza is starving.

More than 17,000 Palestinians have reportedly been killed since the start of Israel's military operations in retaliation to Hamas' surprise attacks on Israel on Oct 7. Yet, the US still chooses to turn a blind eye to what is happening and not stay Israel's hand.

Both Washington and Tel Aviv should know the high moral ground they are claiming, with their assertion that Israel has the right of self-defense and justified cause for retaliation, is built on the immoral and illegal grounds of Israeli forces' collective punishment of innocent civilians.

Going around Congress, the Joe Biden administration said on Saturday that it has approved the emergency sale to Israel of nearly 14,000 rounds of tank ammunition worth more than \$106 million as Israel intensifies its military operations in the southern Gaza Strip, exposing belligerent color of its feathers.

As Zhang Jun, Chinese ambassador to the UN, rightfully pointed out: It is contradictory to tolerate the continuation of the conflict while claiming to care about the safety and humanitarian needs of the people in Gaza. It is self-deceptive to advocate preventing the spillover of the conflict while tolerating its continuation.

All parties should put aside their selfish calculations and concentrate on the common goal of ending the fighting in Gaza, giving the Palestinian people hope for survival, and leaving hope for peace in the Middle East.

Visit can help raise neighbors' ties to new high

President Xi Jinping's visit to Vietnam from Tuesday to Wednesday is expected to further promote mutually beneficial cooperation between the two neighbors and strengthen the bond between them as they seek to cultivate and build on their traditional friendship of "comrades and brothers".

Despite the United States' attempts to drive a wedge between the two countries, under the strategic guidance of their respective leaders, China and Vietnam are not only cherishing their traditional friendship but seeking to raise their relations to new heights.

In doing so, they can help promote regional peace and stability, which are threatened by the disruptive attentions of the US and some of its allies. President Xi has repeatedly stressed the importance of not allowing any country to interfere with the cause of regional unity and pursuit of shared prosperity, and of not letting any force have a chance to sow discord in the region and sabotage the peace and stability that is essential for the region's continued dynamism.

The development causes of both countries have entered a critical stage, and both countries are striving to achieve their respective modernization goals. By helping each other explore their respective modernization paths, they can continue to consolidate mutual trust and work together to share their development dividends.

By continuously deepening their economic, trade, investment and infrastructure construction cooperation, the two countries have reaped mutual benefits. China has been Vietnam's largest trading partner for many consecutive years, and Vietnam is China's largest trading partner among the members of the Association of Southeast Asian Nations. In 2022, the bilateral trade volume was \$234.92 billion.

There is great potential to be tapped by promoting connectivity between the two countries, and giving full play to their geographical proximity and complementary industrial advantages to jointly establish a stable and resilient production and supply chain system. It is anticipated that President Xi's visit will help to further strengthen the alignment between the two countries' development projects, strategies and initiatives.

The traditional friendship between the two countries has withstood the tests of history and the vicissitudes of the present day, providing inexhaustible impetus for the development of bilateral relations. The increasingly active and close exchanges between the two peoples have continuously strengthened the bonds of friendship, laying a solid foundation for the development of closer bilateral ties.

This year marks the 15th anniversary of the establishment of the two countries' comprehensive strategic partnership, and the two neighbors are poised to open a new chapter in their relations.

Paranoid US politician makes joke of himself

Talk of excrement and excretion will often raise a laugh or perhaps a nose twitch of disgust. US senator Rick Scott has managed to achieve both of those by saying that Chinese garlic "poses grave threats to our (the US) national security, public health, and economic prosperity" because it is grown in sewage. His scatological scaremongering has not only made him the butt of jokes but also led to people looking askance at his willingness to stoop so low with his muckraking just to try and smear China.

Senator Scott and his team have evidently not done their due diligence. He referred to "online videos, cooking blogs and documentaries" showing how people in China use sewage as fertilizer. Scott seems not to know that back in 2017, the Office for Science and Society at McGill University in Quebec, which attempts to popularize and explain scientific issues, had already concluded there is "no evidence" that sewage is used as a fertilizer for growing garlic in China. It added that: "In any case, there is no problem with this".

Although it might not sound appealing, animal waste is an effective fertilizer. The fermented waste of most animals commonly seen around a farm serves as good fertilizer for plants because it's a rich source of nutrients. That's true of human waste as well.

It's just part of nature's grand carbon cycle. As the US Environmental Protection Agency points out, throughout history, people who raise

livestock and poultry have used manure as a fertilizer and soil amendment, as it "contains many useful, recyclable components, including nutrients, organic matter, solids, energy, and fiber". It states that today manure is being used "in more ways than ever to mitigate many of the environmental impacts that result when manure is treated as a waste".

In China, garlic is grown in large fields, some of which, such as those in Qixian county, Henan province, can be as large as 46.7 square kilometers, for which all fertilizer must be processed by factories to be spread on garlic or any other plant.

All this information is easily found online, but Scott's team has chosen to ignore the facts in favor of portraying the humble bulbous herb as a ticking time bomb in the stomachs of US diners.

If it wasn't for the fact that they seem to earnestly believe the excreta that emerges from their mouths one might be led to believe that it has become something of a competition among some in the US Congress to see who can come up with the most preposterous notion for a threat from China that the more credulous among the US population are willing to swallow. Unfortunately, rather than being a cozy clubhouse wager, it seems the US politicians uttering such remarks are the gullible embracers of such conspiracy notions.

Chinese garlic is not a threat to US national security or the health of US citizens but having people in positions of power who are willing to give credence to such ordure is.

Li Min



Opinion Line

NASA opening door would be boon for global space research

The "small yard, high fence" policies of the US with regard to China generally extend to space research cooperation. Such research collaborations are barred by a US law that forbids the use of NASA funds for projects with China or Chinese-owned companies, unless NASA certifies to Congress that there is no risk of transferring technology or data to China and Congress gives its approval.

NASA recently emailed planetary scientists saying that it had sent the necessary certification to Congress and agency-funded researchers could apply to the China National Space Administration to use samples of the lunar soil for research. It is believed that analyzing the samples could lead to new scientific insights into the geological history of the moon and potentially inform NASA's future lunar exploration plans, the agency suggested. US

researchers had started lobbying NASA officials to explore the possibility of gaining access to the samples soon after the Chang'e 5 sample return capsule touched down.

The ban on bilateral cooperation was an amendment to NASA's annual appropriations bill by former representative Frank Wolf in 2011, who hoped to prevent China from developing space-related technology and expertise through collaborations with NASA.

When the Wolf Amendment was passed, the gap between China and the US in space technology was still huge. Thus US politicians thought that such "high fences" would maintain the US' advantages in space indefinitely. However, China has made rapid progress despite the US' efforts to hinder its endeavors. Over the past 12 years China has conducted a number of

successful moon missions, including the first landing of a probe on the dark side of the moon. In comparison, 14 years have passed since the US' last moon mission, the Lunar Reconnaissance Orbiter in 2009.

US researchers are hoping the exception sets a precedent. Chang'e 6, which is scheduled to be launched in May 2024, will attempt to return samples from the far side of the moon for the first time. Chinese researchers meanwhile are hoping to get access to Apollo lunar soil samples for comparison purposes. So far NASA has not shared any Apollo samples with China. Instead of building fences, the US should open its doors to space cooperation with China, as that is the best way to build trust and enhance understanding of the Earth and its celestial environs.

—ZHANG ZHOUXIANG, CHINA DAILY

Considerate hospitality will enhance invitation's appeal

China and Singapore are in close communication to implement their mutual visa exemption agreement for holders of ordinary passports early next year, a Chinese Foreign Ministry spokesman said on Thursday. The two sides are discussing the details and plan to introduce relevant policies early in 2024.

It is a sign that China is committed to expanding its visa-free policy, which has further strengthened the connection between China and the world and facilitated the travel and business exchanges of people from various countries. Compared with the rapid recovery and sustained popularity of domestic and outbound tourism, the recovery of inbound tourism has been relatively slow. According to official data,

the number of inbound tourists received by travel agencies nationwide in the first half of the year was 477,800, while the figure for the first half of 2019 was 8.56 million. Extending the visa-free policy will help promote the recovery of the inbound tourism market.

According to reports, the problems facing foreign tourists include difficulties in getting ticket reservations, the lack of foreign language-speaking tourist services, and the difficulties related to the ubiquity of app-based services and payments, which have all reduced the willingness of people to visit China.

The relevant departments and practitioners of tourism in China should provide more convenient and thoughtful services for overseas

tourists. China is renowned for its rich tourism resources and welcoming Chinese hospitality. From a broader perspective, continuously enhancing the attractiveness of the country to overseas visitors is of great significance for improving China's socioeconomic level and developing its modern service industry.

Attracting overseas visitors would not only be a boost for the domestic tourism industry, but also promote cultural exchanges. Therefore, in addition to opening the door and welcoming inbound visitors with the visa-free policy, all sectors of society also need to work together to improve the quality of the invitation to overseas visitors so that tourists truly feel the warmth of Chinese hospitality.

—BEIJING NEWS

What They Say

Public data management key to modernization

In recent years, telecommunications operators have collected, stored and aggregated massive amounts of data, laying the foundation for the modernization of the national governance system and governance capacity. Promoting the authorized operation and open utilization of such public data will help to unlock the value and potential of the data and serve the modernization of national governance.

The current digital transformation of national governance is not deep enough, which has also affected the process of modernization to a large extent.

The lack of high-quality big data in national governance makes it impossible to comprehensively, timely and accurately identify risks and problems. While the ability to analyze big data and apply it to specific application scenarios in

national governance is still not fully utilized.

This means that all aspects of national governance should make full and in-depth use of various digital technologies, so that big data, AI and other technologies can play a greater role in national governance.

Public data held by government departments and enterprises can play a significant role in the modernization of national governance, and how to use the data collected in all aspects of national governance and truly create value has become a crucial issue.

It is necessary to promote the establishment of a unified national top-level design and institutional framework to lower costs and enhance the benefits of the authorized use of public data. Local governments should also explore

effective public data authorization operation models so as to promote model competition and integrated development.

Such a practice will promote the exploration and pilot innovation of public data in the modernization of national governance, and provide more models and path choices to promote the authorized operation of public data.

Public data authorization operation involves ownership definition, product design, pricing mechanisms, income distribution, security and other aspects. It is necessary to establish and improve the data governance system and mechanism, and build an ecological system suitable for public data authorization operation and open utilization. In this way the value of public data can be released.

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COMMENT



China and the World Roundtable | Chinese Economic Growth

Editor's note: Since the beginning of reform and opening-up, China has been committed to injecting new impetus into the economy. What are the key focuses for the year ahead? Three experts offer their insights to China Daily.

Li Yiping

Private firms have to adapt to the times

Given the changes in the economic landscape, private enterprises need to change their mindset, too, and understand the characteristics of the new landscape while aligning their thought processes with it in order to achieve their goals.

To discern these characteristics, they need to compare the new landscape (or the "new paradigm") with the previous one or the "old pattern". The old pattern was characterized by a small base but a high growth rate, a vast industrial space where almost any production activity was profitable because natural resources were inexpensive and labor costs were low. It leveraged traditional and comparative advantages, gained from entering low-end and cheap segments of the supply chains or from being a latecomer to a sector. This gave rise to imitation but



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ensured rapid progress following in the footsteps of established players. During the "old pattern" period, global conditions were favorable for China's industries, not least because developed countries were adjusting their industrial structures, and transferring their excess capacity

which dovetailed with China's economic structural and labor force needs. The era of rapid reform and opening-up witnessed the flourishing of private enterprises, making China the world's second-largest economy with a double-digit growth rate, with labor-intensive sectors' exports being one of key engines. However, as China transitions to the new normal, characterized by moderate and stable growth, the landscape has significantly changed: while the absolute GDP size increases, the growth rate has slowed, and overcapacity plagues low-end industries and the industrial space has diminished. And with resources and labor costs drastically rising and the cost of environmental damage becoming costlier, the notion that comparative advantages can drive growth indefinitely has come in for severe challenge.

In the new landscape, global conditions have become less favorable for China, with Western countries, led by the United States, resorting to unilateralism and protectionism, and restricting China's access to high-end technologies. Making the situation more complex is the rapid development of some neighboring countries, which are now offering cheap labor and attracting international capital away from China. Amid all this, the global economic downturn has further restricted the once booming foreign



MA XUEJING / CHINA DAILY

trade that propelled China's rapid ascent.

To address these challenges, private enterprises need to recognize that economic development in the new landscape hinges on two key factors: penetrating the domestic market while

exploring new international markets; and achieving self-reliance in all sectors of the economy and clearing the technological bottlenecks restraining China's economic progress. The control over high-end technologies is not only an economic imperative but also a matter of

national security.

The traditional model of rapid development has not only lent credence to but also consolidated this approach. Some private enterprises remain fixated on gaining the benefits of latecomer advantages, and thus stick to the old development model that is focused on fast growth and high returns, even at the cost of the environment. This fixation has ossified their mindset, causing them to use old methods to address new challenges, stifling their innovation capacity due to their overdependence on comparative and latecomer advantages.

History provides intriguing cases that warrant reflection. For example, after the first Industrial Revolution, Great Britain's development slowed down as the country remained enamored by outdated methods. Regardless of how advanced and effective the beneficial methods once were, they could not lead the way against the backdrop of new developments, and the production and market they created could not foster continuous growth. Yet the British clung on to the old patterns, allowing the ruthless development of the United States and Germany to surpass them.

For the sustainable and healthy development of private enterprises, it is important that the government and society work together to create a conducive environment, while private entrepreneurs ponder whether to continue fueling the economy with outdated products or whether high-tech innovations can help them manufacture products that meet the demands of the changing times and markets.

Analyzing why enterprises led by individuals such as Ren Zhengfei and Li Shufu never lack funds is illuminating: they offer products that the markets demand, ensuring a continuous influx of funds. Without technological innovation and viable projects, money cannot achieve much.

Observing how entrepreneurs in Western market economies thrive amid the ebbs and flows, we have realized that the entrepreneurial spirit is forged through myriad challenges, and success is achieved by adapting to the changes and addressing the challenges. To thrive, enterprises require not just money but also a forward-thinking mindset along with concrete implementation.

For private enterprises to continue to thrive, they cannot rely on equipment, technologies, workforce quality and management capabilities that bore fruit 30 years ago. And rather than considering economic downturns as disasters, it would be more productive to see them as opportunities for transformation and renewal.

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Christine Bierre

Innovation-driven tech is key to growth

I visited China for the first time in 1994 and was awed by the level of development in cities such as Beijing and Shanghai, in particular their large modernized highways, transportation and buildings. In those years, many of China's friends in the West were worried that China was "allowing" Western financial oligarchs to loot its workforce by establishing labor intensive industries and operating in the many de-taxed industrial parks.

My husband and I had the opportunity to meet with a high-level representative of the Communist Party of China in Shanghai, and in the discussion we had on the issue, he firmly said that China cannot "export the products of cheaper labor forever", intimating that the government had other plans in mind.

Later in the day, he proudly offered to accompany us to a print shop in the city. As we entered a sizable warehouse, our view was blocked by the largest and latest model of the best rotary press Germany had produced in those days. The workers had to climb up on ladders to reach the top of the machine, whose length seemed to disappear in the farther end of the work floor. It took that machine only two hours a day to print all the materials required.



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In the almost 30 years since, several of China's scientific breakthroughs in the area of space research, and more generally the economy, have shaken the entire world. In 2019, China became the first country to achieve the first soft landing on the far side of the moon.

In 2021, the centenary year of the foundation of the CPC, China landed, on the first try, a vessel on Mars and deployed a rover. At the end of 2020, China succeeded in eradicating extreme poverty from the country.

On the socioeconomic front, China has increased life expectancy from 35 years in the 1940s before the People's Republic of China was founded to 78.2 years in 2022, improved the living standards of the people, and raised per capita GDP from \$195 in 1980 to \$12,720 in 2022. These examples show a direct link between innovation-driven high-quality development and improvement of people's living standards. The introduction of high-tech in the production system allows machines to do most of the work, greatly reducing the cost of labor in mass producing goods, which can be sold at relatively lower prices. And the workforce thus displaced can then be engaged in other productive activities.

We see the same model at work in the Xinjiang Uygur autonomous region, which I have had the chance to visit twice, in 2019 and in 2023. The central government intensified efforts in 2000 for the uplift of the region with the "Go-West Policy" and later the Belt and Road Initiative, whose route runs through Xinjiang to Europe. Xinjiang, too, saw the eradication of extreme poverty at the end of 2020.

It was first proposed to upgrade the area by developing the transport infrastructure — railways and roads to and from Beijing to Europe, as well as airports, because profitable trade or sustainable development is not possible without a proper transport infrastructure. And the most audacious infrastructure is perhaps the railway around the Taklimakan desert.

The central government then digitalized the entire area, improving connectivity within the province and facilitating connectivity with the rest of China to conduct trading. It has also digitalized agriculture to promote mass cotton and fruit production, used digital technology to connect to the Beidou satellite system to seed and sow, and use water resources in the most productive way (drop-by-drop irrigation, fertilization and pesticide spraying).

Last August, I visited Payzawat county in Xinjiang where potable water is supplied to households through canals that carry water from melting snow in the mountains, and where drop-by-drop irrigation techniques have also improved the production of fruits. Payzawat is also the largest production base of high-quality plums in China. And the recent introduction of preservation technologies has improved the productivity and the lives of the producers.

Thanks to the introduction of a cold storage system and technologies, the plum-selling period has been extended for farmers, after which the unsold fruits can be turned into dried ones in two to six months. Farmers can then sell them at better prices and thus earn better revenues.

In short, high-tech can promote prosperity for all. A good lesson for the West, which has been focusing on making short-term gains through financial speculation, is that negligence could lead to a financial crisis and to impoverished populations.

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Jia Kang

Real estate sector needs root-cause reforms

The real estate industry, a pillar of China's economy, has become a focus of attention because it is facing difficulties as the country transitions to innovation-driven high-quality development.

After the China Evergrande Group, one of the biggest names in China's property market, began facing severe financial problems, triggering fears of having a domino effect on the property market, the central authorities introduced an array of policy incentives to help property developers meet the sector's different demands.

But to address the apparent risks to the real estate market and accelerate economic recovery, the government should adopt more tailor-made policies including reducing the percentage of down payment for apartments, lowering the mortgage interest rate and adjusting the eligibility criteria for first-time homebuyers.

In fact, the favorable policies have helped stabilize, to a certain extent, the property market despite some cases of breach of contract. The national transaction volume of both new and second-hand residential properties achieved positive growth from January to September this year, while the completion volume of housing increased by 19.8 percent, which is indicative of improved confidence and expectations.

The central authorities have made it clear that the relationship between demand and supply in the real estate sector has undergone fundamental changes. New mortgage lending-related policies and measures to identify first-home buyers have been adopted in some first-tier cities with the aim of lifting administrative restrictions, while some other big cities have withdrawn property-purchasing and property-loaning limitations.

While these moves will stimulate the real estate market's recovery in more third- and fourth-tier cities, measures such as urban village renovation projects, construction of government-subsidized and affordable housing, and optimized supply-demand mechanisms would further improve the housing sector's structure and ensure low- and middle-income individuals have access to affordable housing. China's risk-control measures in the property sector are therefore likely to be successful.

The real estate sector's recovery, however, will be a wave-like and tortuous process, with different cities and regions facing different problems. Hence, it is necessary to reform more mechanisms by treating the root causes, not just the symptoms, of the socioeconomic diseases, so as to ensure the healthy development of the industry.

For example, it is essential to deepen



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reform to address the root cause, which includes the land-use rights and land revenue system, the dual housing program, the cooperative system between business finance and policy finance, and the property tax system.

One reason for the real estate sector to go through ups and downs was local governments' focus on the competitive trading mechanism for land-use rights against the backdrop of an imperfect regional tax system. It was very easy for the local governments, as the holders of the land, to "conspire" with real estate developers and sell plots at high prices to the developers. The developers in turn sold the houses at even higher prices to homebuyers to cover the cost of the land. This kind of "land finance" came into being.

The key to addressing the problems caused by the local governments' "land finance" is reforming the related mechanisms by, for instance, levying property tax, which will ensure local govern-

ments earn stable and relatively sufficient income annually. This can also boost intensive land use and curb the twists and turns of the real estate sector.

The property tax system could help stabilize the market and provide a steady source of revenue to local governments, which can use the income to optimize public services and improve the investment environment. To levy real estate tax, however, local governments have to provide higher-quality public goods and calculate, between intervals, the tax base, which means the local governments have to improve public services. Besides, levying real estate tax would also help redistribute resources, which in turn will promote common prosperity.

Although the collection of real estate tax has been piloted in Chongqing and Shanghai, the central government needs to gradually expand the pilot areas. It should also make efforts to establish long-term mechanisms to minimize risks to the property market and free local governments of their dependency on land revenue. In other words, the establishment of a modern property tax system would facilitate modern governance and high-quality development.

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GLOBAL VIEWS

YU HONGYUAN AND REN KANGHUA

Clean team

China-EU collaboration to advance their green energy transitions can help spur concerted global efforts to attain zero emissions

Ahead of the China-EU Summit, the partnership between China and the European Union centered on the green energy transition has emerged as a focal point. This not only signifies the potential of the collaboration between the two, but also holds the potential to catalyze renewed momentum for climate actions at the ongoing 28th session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP28) in Dubai.

Facing climate change, China and the EU are collaboratively establishing a green partnership, advocating a zero-carbon development model. This entails deepening cooperation across three dimensions: trade and investment in the new energy industry, the development of new energy and power systems, and collaborative efforts to advance more effective global climate governance.

First, sharing common interests and goals in the transition to clean energy, the two sides should concentrate their cooperation on facilitating their mutual transition. This is essential for the successful implementation of the Paris Agreement and the provision of clean, sustainable, and affordable energy to their citizens. China and the EU play pivotal roles as significant investors in global renewable energy. China's clean energy investment witnessed a substantial increase to \$546 billion, nearly 50 percent of the total global clean energy investment, and ranked No 1 in the world in 2022. The EU follows in second place with an investment of \$180 billion. Businesses in China and the EU, both upstream and downstream, should leverage their complementary advantages in green technology, funding and investment models. Joint investments in constructing production bases for clean energy equipment and essential raw material mining and smelting bases in China, the EU and other global regions are recommended. This will contribute to fortifying the resilience and transparency of cross-border supply chains, facilitating the joint

establishment of an open industry chain that aligns with the requirements of the global energy transformation.

Second, China and the EU should foster collaboration and innovation in critical core technologies under the principle of mutual complementarity, mutual benefit and the pursuit of win-win results. In the context of the Paris Agreement, China and the EU have similar needs for the development of clean energy and green industries and technologies, which creates an expansive domain for collaborative efforts in green trade cooperation. Upholding the Paris Agreement constitutes a solid foundation for future cooperation between China and the EU. The government departments, enterprises, scientific research institutions and industrial structures in the field of energy and power in China and the EU are natural partners who can learn from each other and make progress hand in hand. China and the EU have considerable potential for cooperation in building new power systems, clean energy development, integrated development of energy sources, networks, storage, digitization of their energy systems, and the construction of their respective green power markets.

Third, China and the EU have executed and will continue to execute the road map for the China-EU Green Partnership. The EU's energy crisis has resulted in increased demand for green goods from China. There is also important complementary space for the green energy industry between China and the EU. The EU leads the world in



SHI YU / CHINA DAILY

hydrogen energy, offshore wind energy, etc, but its promotion of lithium batteries has been poorly developed for many years. China is impressive in fuel cells, lithium batteries, onshore wind energy, etc,

and has become an important source of photovoltaic panels, power batteries, and rare-earth permanent magnet supplies for the EU. Considering the advancement of clean energy technology in China

and the EU, along with their distinct industry strengths, cooperation in the realm of clean energy technology exhibits significant potential. China and the EU possess the capacity to jointly establish the foundations of a global green supply chain.

It is also vital the two sides collaborate synergistically to advance global climate governance, exerting concerted efforts to realize the effective implementation of the Paris Agreement and the specific measures outlined therein. There exists a longstanding disjunction between the aspirational aims and practical implementation of the outcomes of global climate negotiations. The EU-China Green Partnership endeavors to redress this disparity by injecting fresh momentum in the global energy transition and climate governance agenda. Their partnership gives the EU and China greater autonomy and a stronger voice in global climate governance. The EU sees China as a crucial partner for multilateral climate and energy cooperation and a support for it to maintain its position in global climate and energy governance. The global energy transition has strengthened the interdependence of the clean energy trade between China and the EU.

The EU requires China's support in international platforms such as COP28 to achieve its climate and energy goals. Similarly, China requires the EU's support in sharing responsibilities and remodeling international rules. Notably, China and the EU jointly spearheaded the launch of the Common Taxonomy of Sustainable Finance at COP26. COP28 presents an excellent oppor-

tunity for both parties to collaborate and reach consensus on crucial issues such as intensified climate actions, the decarbonization of energy systems, climate adaptation, climate finance, carbon pricing, and the operation of loss and damage funds.

In furtherance of China's proposition to "triple renewable energy production capacity by 2030" during COP28, EU Commissioner for Climate Action Wopke Hoekstra engaged in discussions with China's Special Envoy on Climate Change Xie Zhenhua in Beijing on Nov 16. Additionally, the 24th China-EU Summit was convened on Dec 7.

China faces external pressures attributable to the foreseeable ambitions of the United States at COP28. In response, China is actively pursuing a transitional partnership with the EU, one specifically focused on green energy initiatives.

There is no doubt that the climate crisis is not something that can be solved by a single country alone. Furthermore, China and the EU have cooperated in clean energy for more than 30 years, and the demand for climate and energy cooperation between the two sides has continued to rise. In the context of the global climate crisis and energy crisis, their complementary advantages are apparent. Establishing a sustainable EU-China partnership to realize their green energy transitions is conducive to advancing the global clean energy transition. Leading the implementation of the Paris Agreement and pursuing the corresponding global climate governance goals will help strengthen global energy governance, promote a just transition, and spur technological innovation.

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WU YUNONG AND FU YIKE

Green industrialization support

China is a vital partner for Africa as the continent seeks to accomplish the goal of economic transformation in harmony with its climate needs

Running along the land of Africa, the Congo, the Zambezi and the Nile rivers, three of the world's largest rivers, power most of the electricity-generating capacity on the continent. As of 2022, the hydropower capacity in Africa reached 38.8 gigawatts but only 7 percent of its potential has been developed. Hydro resources not only serve residents, but also provide energy and electricity for industry.

The world's largest dam has generated hydropower for millions in Zambia and Zimbabwe since the 1960s, with the Export-Import Bank of China providing the \$319-million loan for its upgrading in 2013. However, a lack of rainfall along the Zambezi River has led to the water level of Lake Kariba dropping to a record low of below 1 percent of the reservoir capacity by the end of this year.

Zimbabwe relies on the dam which contributes nearly 70 percent of its electricity. Some major cities in the country are experiencing rolling blackouts that can last for up to 20 hours per day, leading to a rethinking of the value of hydropower. Meanwhile, the abnormal drought also led to a cholera outbreak across Zimbabwe due to the lack of clean water. The official figure shows nearly 6,000 cases and 123 suspected deaths by October this year.

The recent cross-issue effects related to climate change in Zimbabwe are only the epitome of the continental challenges. Africa has suffered widespread losses and damages, including biodiversity loss, higher mortality and morbidity from heat waves, and reduced food production, which are all crucial to its economic growth.

Africa is making efforts to address the challenges. For example, in early September, Kenya host-

ed the inaugural Africa Climate Summit and UNFCCC Africa Climate Week in Nairobi. The Nairobi Declaration states that Africa must "accomplish the vision of economic transformation in harmony with Africa's climate needs". It set out clear action goals, including increasing renewable energy capacity from 56 GW in 2022 to at least 300 GW by 2030.

To fulfill the climate agenda, African countries must think strategically and design an engagement approach to communicate, negotiate and collaborate with multiple partners, especially with China, a world-leading player in green industries and a close friend of Africa.

China has provided \$25 billion in loan financing to Africa's clean energy sector since 2000. Since the Eighth Forum on China and Africa Cooperation in 2021, China-Africa cooperation on climate change has reached new heights with the launch of the China-Africa Declaration on Climate Change. The climate consultancy Development Reimagined has tracked public announcements and we found that 95 projects with contributions from China have been initiated since the FOCAC, covering renewable energy, climate-friendly infrastructure, clean technology and transportation areas, as well as capacity building.

However, the to-do list is still long for the climate cooperation between China and Africa, especially since Africa expects a more sustainable approach to building climate-resilient economies from its infancy while China is also adapting to the pains and gains from green transitions.

First, environmental goods manufacturing and trading that contributes to the energy transition and green development is crucial for Africa's green industrialization

and the world's climate actions, which should be prioritized by both sides.

A recent report by Development Reimagined found that as the leading global manufacturing hub, China is the top environmental goods exporter, accounting for 17.3 percent of global volume in 2020, while African nations only accounted for 1 percent. Some African countries are now taking steps to localize the opportunities by banning raw material exporting and providing incentives for renewable energy products investments, leaving a policy window for Chinese manufacturers to expand their business in Africa. Africa possesses critical minerals such as bauxite, cobalt, lithium and more, which provide a unique opportunity to leverage Africa's strategic role in the global renewable and clean technologies manufacturing supply chain. Thus, African stakeholders should prioritize the technology transfer and job creation in the contracts on minerals development, ensuring that local communities benefit from it and it drives actual progress on industrialization and economic development.

Second, unlocking climate financing through an innovative approach remains crucial, especially for large-scale green energy and infrastructure projects. Analysis shows that National Determined Contributions (NDCs) from African countries are more robust than the global average, while finance access is far behind. To take meaningful climate actions, Africa needs \$2.8 trillion, implying more than 90 percent of Africa's annual GDP, leaving significant financing gaps. Take 2020 for an example, the annual climate finance is \$30 billion, accounting for 12 percent of the amount needed. During the third Belt and Road Forum for International Cooperation in Octo-

ber in Beijing, China launched a new Green Investment and Finance Partnership (GIFF) to promote green energy. China could consider strategically targeting a high proportion of the new funding to unleash Africa, which only accounts for about 3 percent of the world's installed renewables-based electricity generation capacity in 2021. It is also crucial to accurately calculate the performance of those projects, especially when it comes to hydro-power projects.

Last but not least, the recent Belt and Road Forum also demonstrated that Chinese stakeholders are now navigating more granular interests from the host countries in the context of building more "small yet smart" projects. Though recent data shows that there was no green finance issued from Chinese development banks in 2022, Development Reimagined data tracks that Chinese private sector has been participating in green development in Africa proactively, showing some breakthroughs compared to the traditional engineering, procurement and construction models. For example, in Africa, Huawei is launching smart clean energy solutions and research labs for solar energy in cooperation with local academia. The consultancy's recent report on Chinese overseas climate investment has also revealed that Africa is not yet the

major destination for Chinese foreign direct investment compared to Asia, meaning there is huge potential for Chinese private sectors to explore. More initiatives to connect different kinds of Chinese investments into the targeted African projects should be addressed to create solutions based on African contexts and further unlock the potential from bottom to up, leading to solid and innovative cooperation.

The Global Stocktake at the 28th Conference of the Parties to the United Nations Framework Convention on Climate Change emphasizes the urgency of implementing adaptation solutions and address-

ing loss and damage — areas where many African nations find themselves at the forefront of the climate crisis, which further emphasizes the significance of shaping a climate-resilient economy, not just for Africa but also the world as a whole.

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LIFE

Song Dynasty poet is star of new stage production

Dance piece based on work of Su Dongpu currently on tour after performances in Beijing and Shanghai, **Chen Nan** reports.

Dancer, choreographer, painter and visual artist Shen Wei often looks to the past for inspiration.

One of his epic productions, *Scroll Painting*, which was performed as part of the opening ceremony of the Beijing 2008 Summer Olympics, was viewed by billions of people around the world. In the breathtaking piece, dancers performed against the backdrop of a constantly changing giant LED scroll displaying Chinese ink paintings. Shen pushed the presentation to new boundaries with his modern choreography, which seemed to replace the brush with the human body, presenting a new vision of an old art form.

His latest offering, a contemporary dance production called *Dongpo: Life in Poems*, turns to Chinese traditional culture and history once again, this time to focus on Su Dongpo, a Song Dynasty (960-1279) poet, whose work is still celebrated in China today.

Shen, who lives between New York and Paris, was approached by the China Oriental Performing Arts Group to participate in the production in November 2021, while he was working in his studio in Paris.

For months, he researched Su, reading his poems and learning about the man, who was a master of many classical literary and artistic forms, including poetry and essays, as well as calligraphy and painting.

"History is a good source of ideas, and leaves much room for the imagination," Shen said in Beijing, the day after the show was held in the capital between Dec 1 and 3.

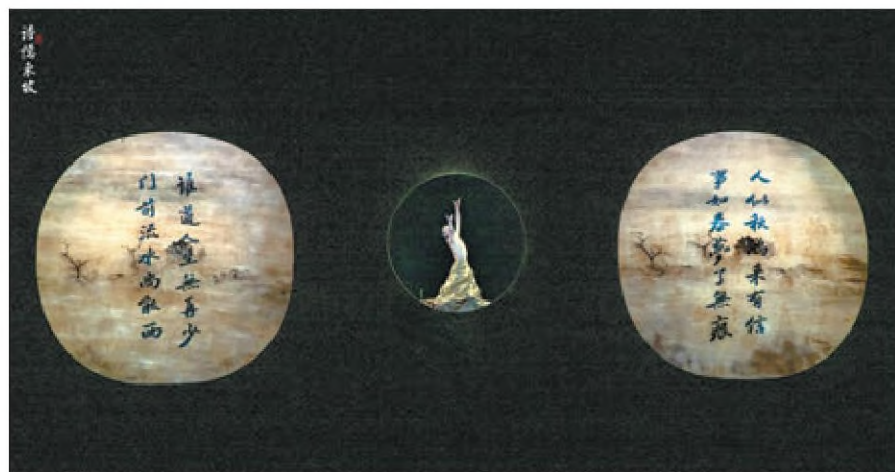
He adds that he was hesitant to get involved at first because Su Dongpo is a Chinese cultural icon.

"As I learned about his private and political life, I was intrigued by the man and his work," says Shen, who put all his other projects aside and devoted himself to the production for close to two years.

"I always enjoy the process of preparing for a new project. I've never devoted so much time and energy to one as I have with *Dongpo: Life in Poems*. It even appeared in my dreams," he says.

Shen approached Su less as a character from history and more for what he represents in a much broader cultural context, and Shen wore multiple hats, serving as the show's director, choreographer, scriptwriter, costume designer, visual artistic director and set designer.

Also known as Su Shi, Su Dongpo was born in Meishan in Sichuan province. At a young age, he performed brilliantly in the imperial examinations and began a long and distinguished career as an official in various governmental positions, where he experienced a series of political setbacks, including appointments to minor posts in distant locations.



Above: A scene from artist Shen Wei's contemporary dance production, *Dongpo: Life in Poems*, that features lines of poems by the Song Dynasty (960-1279) poet Su Dongpo and one of his paintings.

Left: Shen doing his research in his studio.

Below: Dancers perform in the production, which was staged in Beijing from Dec 1 to 3.

PHOTOS PROVIDED TO CHINA DAILY



Despite such hardships, Su remained optimistic in his private and political life. That optimism can also be seen in his poems, many of which vividly describe his experiences.

Shen selected 15 of Su's poems after reading around 2,000 of them, and these became the base of the six acts into which the production is divided, each of which touches on a different aspect of the poet's life, including his painful parting with his beloved wife. Famous lines were displayed onstage in calligraphic form.

Working with Chen Qigang, Shen combined pieces by the composer, including *Enchantements Oubliés*, *Itinéraire d'une Illusion* and *Jiang Tcheng Tse*, with *guqin* (Chinese zither) pieces performed by *guqin* soloist Zhao Xiaoxia.

Other than poems, Shen made use of Su's ink paintings, *Xiaoxiang Bamboo* and *Stone Picture*, as well as his own paintings, *Untitled No 8*, *No 6* and *No 11*, in creating the stage set.

"The training Shen gave the dancers was unique because he has his own system. He didn't tell us to perform with our bodies, but with our hearts," says Su Peng, one of the lead dancers. "Like the production itself, which was a new and mind-opening visual and sound experience, the process of working with Shen was also very different and rewarding."

Dongpo: Life in Poems, premiered in Shanghai this July, was performed in Chengdu, Sichuan province, last weekend, and will be performed in Xi'an, Shaanxi province, on Friday and Saturday.

Feedback has been varied. Some theatergoers have been wowed by the production, saying that they had never seen anything like it before, while others have said that the production was challenging for them to understand.

"I was prepared for the different reactions. I hope that people will keep an open mind about art. It's like listening to a bird singing or smelling the fragrance of flowers, a very personal experience," Shen says.

"What I hope people gain from my work is a glimpse of the beauty of Chinese culture, and to be able to engage in a sense of the unknown. Researching Su Dongpo and the Song Dynasty was like a process of decoding the past. I want the audience to do the same when they watch the production, and decode the information I put in it about Su."

Over the course of his decades-long career, Shen has made a name on the international dance scene for his lyrical, visually alluring contemporary productions infused with Eastern and Western sensibilities.

His passion for Chinese history and culture dates back to childhood. Born in Hunan province in 1968 to Chinese opera professionals, he trained from a young age in the rigorous practice of Chinese opera, ink painting and calligraphy, and was a performer with a Hunan art troupe between 1984 and 1989.

In 1989, he began to study contemporary dance in the American Dance Festival program at the Guangdong Dance Academy. In 1992, he became a founding member of the Guangdong Modern Dance Company, the country's first contemporary dance company.

In 1994, he won first prize for choreography and performance at a national modern dance competition, and then moved to New York on a scholarship from the Nikolais/Louis Dance Theater Lab.

In the 1990s, Shen turned his attention to filmmaking, while continuing to pursue dance theory, choreography and painting, and, in 2000, founded his own company, New York-based Shen Wei Dance Arts.

Last year, he was honored with an American Dance Festival Award for lifetime achievement.

The China Oriental Performing Arts Group plans to stage *Dongpo: Life in Poems* at the Kennedy Center for the Performing Arts in Washington DC next March. Dancers from Shen Wei Dance Arts will also participate.

"We might not always understand different cultures, but we can appreciate performance, and we can appreciate art. That's the beauty of movement. And that's the beauty of dance," he says.

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What's on

Colorful wind



Having grown up in Changchun, Jilin province, oil artist Wang Jianguo centers his work around the distinctive landscapes and social life of northeastern China. His semi-figurative and semi-abstract style transmits feelings of nostalgia, peace and poetry. An ongoing solo exhibition at the Yunnan Art Museum, *Soft Wind on the Earth*, brings dozens of Wang's oils to Kunming, in which he introduces people in the southwest to the changing views of the northeast through the four seasons, including expanses of farmland

stretching for miles, villagers at work, and the snowcapped peaks of Changbai Mountain. Wang has a particular focus on Changchun, the city of his childhood memories, as well as the many industrial sites that are no longer in use, reminding visitors of the region's history. Zhang Lujiang, an oil painter and a close friend, says behind every shade and stroke lies a deep attachment to Wang's hometown, which nurtures Wang's life and art, as well as his hope of doing justice to the region by making its beauty known to more people. The exhibition ends on Jan 7. 9 am-5 pm, closed on Mondays. 118 Wuyi Lu, Wuhua district, Kunming, Yunnan province. 0871-6316-3665.

Dream moments

In the early 20th century, Qi Baishi set out from his native Hunan province on several extensive journeys across the country in search of artistic inspiration. Between 1906 and 1909, he traveled to Guangdong



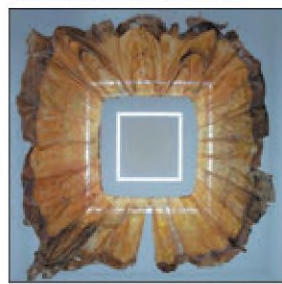
province and Hong Kong on four occasions, and was impressed by the region's flora and folk customs, which he found different to those in Hunan. Later, moving to Beijing in search of better career opportunities, he was supported by friends from Guangdong who wrote articles about his work and introduced it to other members of the city's art circles. The connection between the artist and Guangdong is marked in *Moment of Fantasy*, an exhibition running at the Shenzhen Art Museum until Dec 23. Drawing on pieces from the collection of the Beijing Fine Art Academy, it centers on Qi's reforms to Chinese painting and how his experiences in Guangdong

influenced his work.

10 am-6 pm, closed on Mondays. 32 Donghu Yijie, Donghu Park, Aiguo Lu, Luohu district, Shenzhen, Guangdong province. 0755-2542-6069.

Under the skin

Heidi Bucher: *Beyond the Skins*, an exhibition about the Swiss artist now on at the Red Brick Art Museum, has been extended to Jan 21. Bucher (1926-93) was known for her use of latex to make work that



reflected on family structure, individual memory and the collective experience of history and society. The exhibition offers a retrospective on her career by showing drawings, collages, images and the wearable sculptures for which she is famous. Yan Zi, Red Brick Art Museum's curatorial assistant, says that Bucher's art is like a fossil imbued with an energy that has enabled it to thrive and stand the test of time to leave a deep, indelible mark.

10 am-5:30 pm, closed on Mondays. 100 meters west of the intersection between Maquanying Xilu and Shunbai Lu, Cuigezhuang, Chaoyang district, Beijing. 010-8457-6669.

Ease and delicacy

The Song Art Museum's ongoing exhibition, *Unconstraint Behind Meticulousness*, teams up three young artists known for the meticulous detail in their work. Their delicate brushwork makes their paintings a mental pleasure, and,



beneath the nuanced, precisely delimited colors, their work ushers viewers into a universe of relaxation. Li Yousong's paintings reflect his solid training as an architect, and his work also has a cinematic feeling. Wang Lu likes to use the textures of iron, paper and wood to present semi-realistic, semi-fantasy scenes. Li Huashuai impresses with his layering of shades of blue, which evoke ease and slight sadness. Curated by Zeng Zirong, the exhibition runs until Jan 17. 10 am-6 pm, closed on Mondays. Gelasi Lu, Tianzhu town, Shunyi district, Beijing.

LIFE



Discovery helps solve ancient water mystery

Archaeologists unravel procedure from 5,000 years ago, **Wang Ru** reports.

Archaeological discoveries at the Chenghe site in Jingmen, Hubei province, have revealed an elaborate water-control system from about 5,000 years ago, the National Cultural Heritage Administration said in Beijing on Nov 29.

Chenghe is a site of Qujialing (3300 BC-2600 BC) and Shijiahe (2500 BC-2000 BC) cultures in the middle reaches of the Yangtze River. It is the middle-sized site of a city that covered an area of 700,000 square meters, says Peng Xiaojun, an associate researcher at the Institute of Archaeology, Chinese Academy of Social Sciences.

Previous excavations have identified city walls, large-scale courtyard-like architecture, areas for sacrificial ceremonies, pottery production and residences, as well as tombs to the north of the city. They have also found an artificial water system including three water gates to control the flow of water.

The discovery was listed as one of the top 10 archaeological discoveries of 2018, as announced by the National Cultural Heritage Administration.

However, some questions still confuse archaeologists. For example, the city was built by the Chenghe River and its tributaries, which flowed outside the city. But since there was a hillock between the city site and the tributaries, how did people in ancient times get water from outside the city to pass through the hillock and enter?

In the latest round of studies from 2019, archaeologists revealed they found an artificial ridge to the northeast of the city, which

stretched across the valley of the tributaries of the Chenghe River. It measures about 260 meters in length from north to south, and is 39 meters at its widest point from east to west. Its maximum visible height is 6.5 meters.

Based on explorations, archaeologists speculate that this ridge was a dam built by people of the Qujialing Culture, dating back about 5,000 years. "It was used to intercept water from the tributaries, raising the water level and creating a reser-

voir. Then, water could enter the city through artificial channels built through the hillock," says Peng.

Smaller dams have also been found in moats around the city to store water, he adds.

An artificial ridge belonging to the early period of Qujialing Culture in the west of the site is inferred to be part of a wall to prevent flooding.

"The discoveries enhance our understanding of ancient people's control over water. In the early

period, they built a wall to intercept water, and later they built dams to make use of water. That reflects the changes in their ideas of water management," says Peng.

Zhang Chi, an archaeology professor at Peking University, says the Chenghe site's system of water management is not rare in sites located in the middle reaches of the Yangtze River, but the one in Chenghe is the most complete ever found.

According to Liu Jianguo, a

researcher at the Institute of Archaeology, CASS, the people of Chenghe built dams to intercept natural river channels, preventing droughts and draining floods, which was a reasonable way of managing and allocating water resources, and is an outstanding example of prehistoric water management in the Jiangnan Plain in Hubei.

"For agricultural settlements in the middle and lower reaches of the Yangtze River, the need to plant rice



required people to control water. ... Controlling water was an important driving force for the development of Chinese civilization there," says Liu.

More than 300 tombs have been found in the Wangjiabang cemetery to the north of the city ruins, where painted pottery, lacquerware and jade *yue* axes have been unearthed.

According to Peng, the site is the largest and most well-preserved Qujialing Culture cemetery discovered to date. Two other cemeteries have also been found in the neighboring area, suggesting there was a tomb area to the north of the city.

Various types of tombs provide clues to understanding the funeral rituals of the Chenghe people. For example, in the early period there was a type of tomb in which there was a large shared pit, within which there were two or more smaller pits, arranged in parallel, in which a number of people were buried. In the later period, there were tombs that only belonged to one person.

"It shows differences in funeral rituals of the Qujialing Culture people. ... It reflects the complexity of the social structure and the phenomenon of social differentiation in the Qujialing Culture, and provides new evidence for exploring the process of Neolithic civilization in the middle reaches of the Yangtze River," says Peng.

Contact the writer at wangru1@chinadaily.com.cn



Top left: A decorated pottery cup found in a tomb at the Chenghe site in Jingmen, Hubei province. Middle: Some pottery items unearthed from a tomb in the Wangjiabang cemetery to the north of the city ruins at the Chenghe site. Above: A bird's-eye view of the Chenghe site. PHOTOS PROVIDED TO CHINA DAILY

Colored glaze helps to shine light in France on Chinese fortress

PARIS/TAIYUAN — In Houetteville Castle in Normandy, France, colored glaze products from China have been on display for more than half a month, and many people have come here to see these exquisite artworks from the East.

The company overseeing the Shanxi Zhangbi Ancient Fortress was invited to participate in the Salon International du Patrimoine Culturel at the Louvre Museum in Paris from Nov 2-5. In just a few days, this ancient fortress with a history of more than 1,600 years attracted thousands of people, and its colored glaze cultural products were popular at the expo.

"To let more people know about these exquisite artworks, I advised Lu Yang, the head of Zhangbi Ancient Fortress scenic spot, to display them at our castle in Normandy after the expo, and then tour Europe," says Nathalie Geslin-Yu, president of the Club Des Chateaux Chinois de France (Chinese owners of French chateaux club), a French castle organization. "The brilliant colors and oriental shapes of the cultural products attract people. I

bought a collection myself"

The colored glaze pieces are handmade and include ceramics, models of buildings and sculptures. Colored glaze items were widely used to decorate palaces, temples and pagodas in ancient China because of their color and different shapes.

"The artwork has elegant lines and gorgeous colors, which is highly appreciated and collectible," says Bai Huaibin, an expert in traditional colored glaze production who participated in the expo.

Lu says the most popular exhibit at the expo is a representation of Xie Zhi, a one-horned mythical creature reputed to be able to distinguish between good and evil. This do-eyed creature has long been popular in China, even before it made its appearance in France.

"Xie Zhi was often placed on the roofs in ancient times and is a symbol of bravery and justice. Now they often appear at the gates of courts and procuratorates," says Lu, who mentioned that Xie Zhi resembles the unicorn in Western culture, a creature that symbolizes purity and



Lu Yang, head of the Zhangbi Ancient Fortress scenic spot, introduces Xie Zhi, a one-horned mythical creature and a popular colored glaze exhibit at the Salon International du Patrimoine Culturel at the Louvre Museum in Paris.

SCREENSHOT FROM XINHUA VIDEO

is believed to suppress anything morally degraded.

In Jiexiu city, North China's Shanxi province, where Zhangbi Ancient Fortress is located, there are many colored glaze items that are hundreds of years old, among which the components on the top of the Kong Wang Hall in the fortress are particularly exquisite.

Rebuilt in 1631, the roof of the hall is decorated with differently shaped yellow, green, and blue glaze components, such as dragons, phoenixes, peonies and warriors. In addition, the two peacock blue tablets located under the eaves of Kong Wang Hall are the only Ming Dynasty (1368-1644) colored glaze tablets to have been found in China so far.

The reason why these components were well-preserved is closely related to the fortress' military purpose. Lu says that in ancient times, Zhangbi Ancient Fortress was located in the border zone between the northern nomads and the central plains. To resist foreign enemies, the ancients built a military and civilian castle with tall walls and underground tunnels, which could be used in wartime to ready troops, and to store grain during peacetime.

Gong Hua, secretary-general of the World Castle Association, says that when it comes to castles or fortresses, many would think of Europe, but China actually also has many castles, especially in Shanxi province, and the numerous castles in the Fenhe River and Qinhe River basin are comparable to the world-famous French Loire Valley castle group.

"This exhibition gives the European public access to Chinese castles for the first time through videos and cultural and creative artworks. The original introduction video, without any explanation, was watched by many visitors from beginning to

end. Many people have expressed interest in going to China to see more castles," Gong says.

Lu says that during the expo, French castle owners, European cultural heritage industry associations, companies and castle lovers had extensive exchanges with him on the protection of historical buildings, cultural tourism industry development and other topics.

"France has many cultural protection and development enterprises. ... I hope we can continue to expand cooperation areas in the future," says Lu.

"Castles are an important part of world cultural heritage and a common topic between Chinese and foreign cultures," says Gong, adding that they will take the opportunity of the 60th anniversary of the establishment of diplomatic ties between China and France and the Year of Culture and Tourism between China and France next year to promote cultural connectivity between the two countries through cultural exchanges and cooperation.

XINHUA

CULTURE

Authentic Chinese garden growing lasting legacy

Horticulturalists create special world in heart of England, **Zheng Wanyin** reports in Manchester.

On Aug 21, sunshine bathed Greater Manchester, which is so often doused in drizzle, no matter the season.

When Eva Falck-Wall Simpson walked into the Royal Horticultural Society's Garden Bridgewater in Worsley, from the south, and meandered along its stream in a northerly direction, a newly completed Chinese pavilion on the bank of the waterway immediately caught her eye.

Simpson is a frequent visitor to the garden, which is 10 kilometers west of central Manchester, England, and has attracted millions of visitors since its opening in 2021. She decided to make a quick sketch of the authentic Chinese-style structure that had recently taken shape.

"I've seen it when they've been building it," she says. "You get a sense of calm when you come here. It is like one of the buzzword, mindfulness, as you just sink into the garden."

The pavilion, which is surrounded by woodland, is hexagonal. Its roof, converging in a crown on top, appears in stone grey, as it is made from brick and tiles fired by Chinese kilns. The six rings of columns that support the head are brick red and made of Chinese fir and stone.

It was on that day in August that the pavilion, named Qing Yin, which refers to bright and clear music, was unveiled to the public. A carving on the structure reads: "Why must exquisite music come from stringed and bamboo instruments? Clear sounds echoing between mountains and rivers are more moving."

All materials used in the construction of the pavilion were shipped to the United Kingdom, and put together piece by piece to be the focal point of the Chinese Streamside Garden, another classically inspired Chinese-style piece of architecture in its early years at Garden Bridgewater.

When completed, it will be the first true Chinese garden of significance in the UK, with 11 distinct garden spaces over a 2.8-hectare area.

Carefully designed by Chinese artisans and horticultural experts, the garden draws inspiration from a real Chinese garden and integrates profound Chinese philosophical ideas into its composition.

It also marks a representative Sino-British cultural exchange project, celebrating close collaboration between the two nations in garden arts, which was not suspended during the COVID-19 pandemic.

The story started in 2018 at a breakfast table.

100 percent bona fide

The initial plan of the Royal Horticultural Society, or RHS, was to create an oriental garden within the Garden Bridgewater.

In May 2018, when Lee Kai Hung met Sue Biggs at a breakfast served at the RHS Chelsea Flower Show, a century-old gardening festival held in London, the retired Hong Kong businessman and philanthropist said to then director-general of the RHS: "Look, change the oriental garden to a Chinese garden, and I will raise the finance for you."

Lee, who is 88 this year, has been committed to improving the UK's understanding of China for many years.

His charity, the Lee Kai Hung Foundation, which was established in 1992, has endowed the Manchester China Institute at the University of Manchester, and the Lee Kai Hung Chinese Culture Gallery at the Manchester Museum.

When the deal on the Chinese Streamside Garden was done, a founding and working committee, comprised of prominent members of the Chinese community in Manchester and England's Northwest, was soon established by Lee to raise the first 500,000 pounds (\$606,249). Lee himself donated 1.8 million pounds to the RHS in 2020.

"It is the first time that the Chinese community has worked so closely and successfully with a UK mainstream cultural institution," says Gerry Yeung, executive chair of the Chinese Streamside Garden Founding and Working Committee.

The China Flower Association, as the coordination unit on the Chinese side, and the Yangzhou Classical Garden Construction Company, as the contractor, also joined the project to turn the vision for the garden into a reality.

"A genuine Chinese garden has its design philosophy to follow. First, harmony should be achieved between humans and nature by utilizing the existing terrain to create gardens. As the saying goes: 'Though made by man, it appears as if created by heaven,'" says Jiang Zehui, president of the China Flower Association.

Jiang explains that "the so-called nature in a Chinese garden is, in fact, a more humanized one", pointing out that the rocks, the



Top: The Qing Yin Pavilion stands as the focal point of the Chinese Streamside Garden in Worsley, a village in Greater Manchester, England. JOSH KEMP-SMITH / ROYAL HORTICULTURAL SOCIETY.

Above: The theme throughout the garden is a celebration of the four seasons. NEIL HEPWORTH AND RICHARD BLOOM / ROYAL HORTICULTURAL SOCIETY



Clockwise from left: Lee Kai Hung, chair of the Chinese Streamside Garden Founding and Working Committee, cuts the ribbon with Clare Matterson, director-general of the RHS, to declare the Qing Yin Pavilion officially open on Aug 21. JOSH KEMP-SMITH / ROYAL HORTICULTURAL SOCIETY. Eva Falck-Wall Simpson sketches the Qing Yin Pavilion on the day of its unveiling. ZHENG WANYIN / CHINA DAILY. The RHS welcomes members of the Chinese Streamside Garden Founding and Working Committee and a delegation of horticulturalists from China to Garden Bridgewater in February 2019 to work on plans for the Chinese Streamside Garden. ROYAL HORTICULTURAL SOCIETY

ponds, the plants and the architecture, recognized as the four features of a traditional Chinese garden, are usually not randomly composed but have their symbolic associations, which reveals another layer of the Chinese design philosophy: meanings are beyond what has been expressed.

In the Chinese Streamside Garden, more than 1,000 plants of Chinese origin will be planted to reflect a common theme: a celebration of the four seasons.

An identical space can have different scenery as a result of seasonal changes, while at the same time, some of the gardens are

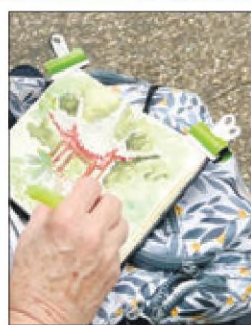
meticulously designed to highlight the splendor of particular seasons, according to Jiang. For example, the "Autumn Fireworks", full of deciduous trees and shrubs, will create a golden panorama in the fall.

The Chinese horticultural experts who took part in the project derived the idea for the garden from Geyuan, a private residential garden in Yangzhou, in East China's Jiangsu province, which is known for its seasonal rock gardens, with four rockery areas, each representing a single season.

Stones of different hues and shapes are piled up to paint a colorful landscape in the garden.

“It is the first time that the Chinese community has worked so closely and successfully with a UK mainstream cultural institution.”

Gerry Yeung, executive chair of the Chinese Streamside Garden Founding and Working Committee



that are considered to be essential for ancient Chinese scholars to master.

"The construction of the pavilion is intended for visitors to understand the historical connection between nature and self-development of Chinese literati," say the artisans from the Yangzhou Classical Garden Construction Company.

"For centuries, the natural world has long been conceived by Chinese scholars as a place for self-cultivation. Men escape to mountains to purify their spirit and find renewal, with a series of poems, songs and paintings being created to reflect the viewers' mental world. And the garden, as a miniaturized landscape, is superb for scholars to concentrate on arts."

Three additional pavilions are set to follow around October 2025, representing chess, calligraphy and painting, the three remaining artistic talents. The four interlinked pavilions will eventually form the Yangzhou Scholar's Garden, the beating heart of the Chinese Streamside Garden.

"It is the first time ever that a Chinese design, Chinese manufacturers, Chinese craftsmen, came to the UK and made a genuine classic garden," says Yeung.

A testament to ties

When proposed, the Chinese Streamside Garden was also expected to be a symbol of Sino-British cultural exchanges, celebrating the strong horticultural links between the two countries, which date back hundreds of years.

For the past five years, the RHS has been working closely with the Chinese side to develop a unique fusion of Chinese and British horticulture.

China has historically made a significant contribution to British horticulture through the introduction and development of Chinese native species, especially during the 19th and early 20th centuries, when plant hunters discovered a plethora of varieties in China and transported them back to the UK, according to Marcus Chilton-Jones, curator of Garden Bridgewater.

The latest report on the state of the ecology and environment in China released by the Ministry of Ecology and Environment in May 2023 suggests that a total of 39,330 botanical species have been discovered in China.

"The plants that are endemic, indigenous to the UK is only 1,500, and because of that lowness of biodiversity within British gardens, the whole industry was historically reliant on the importation of plants from other parts of the globe," says Chilton-Jones.

Since the original introduction to the UK, plants with Chinese ancestry, such as southern Indian azalea, panicle hydrangea and snakebark maple, were hybridized to evolve into diverse varieties and began to influence local gardening traditions.

To showcase that interesting fusion, RHS experts carefully designed a meadow around the Qing Yin Pavilion, where a range of Chinese and British plants, which look very similar in forms, colors and textures, blend harmoniously.

"It is only when you get in close and look at the details that you see a point of difference," says Chilton-Jones.

The horticultural design also aims to bring the Chinese Scholar's Garden into the public eye in a "soft, subtle but delightful way", as the curator puts it.

"So, visitors, when moving up toward the Chinese garden from the southern side, get a very soft transformation, build up intensity, become more and more overt. Where the magic happens is at the beating heart of the place, the Scholar's Garden, which is overtly Chinese in every way.

"It will be there after this build-up that ends with a crescendo, this unveiling of a surprise in the middle, and that should delight visitors and create a sense of wonder."

For Chilton-Jones, the garden design is an example of how "the best of British design combines with the best of Chinese".

Soon, more areas featuring China-UK horticultural ties will be built, including the "Fusion Forest".

"We still have many things to celebrate," says Clare Matterson, director-general of the RHS, who adds that the Qing Yin Pavilion is just the beginning.

On the day of its unveiling, a ceremony featured a dancing dragon puppet manipulated by a group of performers, alongside the resounding drums and gongs that drew large crowds to the Chinese Streamside Garden.

People come and people go, while the garden, as a gift from the Chinese community, as an iconic expression of Chinese culture by the Chinese and British garden experts, and as a testament to China-UK friendship, will stand in the UK for many generations to come.

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