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Spring Festival Address

Forging Ahead in the Year of Dragon

As we celebrate the Chinese New Year, it is an apt time to reflect on the bygone year.

In 2023, as part of its innovation-driven development strategy, China has seen major achievements in science and technology. They include the domestically-developed C919 large passenger airline entering into commercial service, the first domestically-built large cruise ship Adora Magic City completing its maiden voyage, and the two spacecrafts Shenzhou 16 and 17 successfully sending taikonauts to the Chinese space station, where the space mission baton was passed to them by the crew of Shenzhou 15.

We are delighted to have reported the feats of a more open, inclusive, dynamic and innovative China to a much wider readership at home and abroad.

The past year yielded notable results for Science and Technology Daily too. We celebrated a milestone with our 100th issue and we thank our loyal readers for their congratulatory notes.

We also produced a new in-depth interview video series, Youth on Tech, where young scientists from around world discussed the trending sci-tech topics. In this way, we are trying to build closer connections among Gen Zers, those born in the 1990s and early 2010s, of different nationalities and cultural backgrounds. We believe frank and candid talk among young people will enhance mutual understanding and trust in bilateral relations, contributing to building a community with a shared future.

In order to present a true, multidimensional and panoramic image of China, our journalists have fanned across the country to cover how the Chinese government is serving the people and how the people are creating a better life for themselves with their diligence.

To bridge the East and the West, we have dedicatedly reported about foreign experts working and living in China, and provided information on how to visit and reside in China.

The dragon symbolizes luck and success. At the beginning of the Year of the Dragon, we would like to extend our heartfelt gratitude to you. Your unwavering support and engagement gave us vivid and inspiring stories.

We would also like to send you lots of positive vibes and hope they bring you plenty of good luck and success.

The Editorial Office



Tourists attend the Universal's Chinese New Year event at Universal Beijing Resort. (PHOTO: VCG)

China Open for Foreign Talents Around the World

China's development is open, and the country welcomes talents from all over the world, Chinese Premier Li Qiang said in Beijing on February 4.

Li made the remarks when meeting with the 2023 Chinese Government Friendship Award winners and the representatives of foreign experts that work in China ahead of China's Lunar New Year.

Li extended New Year wishes and sincere greetings to the foreign experts and their relatives, and thanked them for their long-term care and support for China's development.

He also listened carefully to the experts' opinions and suggestions on China's development and government work.

Experts from Switzerland, Germany, Brazil, the Republic of Korea, Thailand, Russia and other countries made speeches on scientific and technological innova-

tion cooperation, green development and personnel training.

Li commended the important role of foreign experts in promoting China's economic and social development and people-to-people exchanges.

Noting that China is advancing its modernization drive with high-quality development in an all-round way, Li said China is a vibrant land of development full of opportunities, which will provide broad space for foreign experts and other talents for their own development.

He expressed the hope that foreign experts would continue to participate deeply in China's development, give full play to their talents on the big stage of Chinese-style modernization, and continue to serve as a bridge of communication between China and the rest of the world.

The Chinese government will con-

tinue to improve relevant policies, further facilitate personnel exchanges, strengthen the protection of intellectual property rights and other rights and interests, and create a better environment for foreign talents to work and live in China, Li said.

Prior to the meeting, Chinese State Councilor Shen Yiqin presented the Friendship Award to the honorees and delivered a speech at the awarding ceremony, which was held at the Great Hall of the People.

The Friendship Award is an award to commend foreign experts who have made outstanding contributions to China's reform and development. Fifty foreign experts received the 2023 Chinese Government Friendship Award.

Source: XINHUA

China-Brazil Ties in 50 'Golden Years'

International Cooperation

By LIANG Yilian

On January 23, the Chinese Embassy in Brazil released a logo jointly designed by China and Brazil to commemorate the 50th anniversary of the establishment of their diplomatic relations this year.

For 50 years, the two countries have worked together in various areas and made substantial achievements.

Agricultural cooperation

China has been Brazil's largest trading partner, export market and source of trade surplus for 15 consecutive years. Brazil is China's largest trading partner in Latin America.

Agricultural products like soybean and beef comprise a major part of the China-Brazil trade. According to the Brazilian Embassy in China, over 20 percent of the agricultural products China imported in 2022 were from Brazil.

In 2022, China imported a total of 2.69 million tonnes of beef, of which 1.11 million tonnes were from Brazil, accounting for 41 percent of the total beef imports, which made it China's largest foreign beef source, according to the General Administration of Customs of China.

Beyond trade

The China-Brazil partnership goes beyond trade, ranging "from soybean to space."

In December 2019, the China-Brazil Earth Resources Satellite-04A, jointly developed by the two countries, was successfully launched.

In August 2021, the space agencies of the five BRICS nations - Brazil, Russia, India, China and South Africa - signed an agreement for cooperation on BRICS remote sensing satellite constellation for economic and social development.

Brazilian President Luiz Inacio Lula da Silva's state visit to Beijing in April 2023 resulted in 15 agreements and over 10 billion USD of Chinese investment. The cooperation between the two countries has expanded from trade to space collaboration, research and innovation, digital economy, information technology, automotive industry and renewable energy.

Next golden 50 years

China and Brazil will take the 50th anniversary of their diplomatic relations as an opportunity to forge the next "golden 50 years" of bilateral relations, Chinese Foreign Minister Wang Yi said on January 19.

Wang, also a member of the Political Bureau of the Communist Party of China Central Committee, made the remarks during a joint press conference.

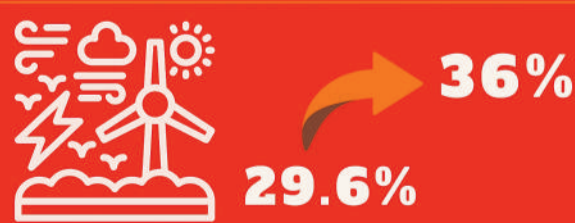
He called on both sides to jointly lift the China-Brazil comprehensive strategic partnership to a new level and make it a model of unity, cooperation, mutual benefits and win-win results among major developing countries.

"Our relationship with China is extraordinary, and it has become more mature and stronger over time," President Lula said when he visited China in April 2023. "Nobody can stop Brazil from continuing to develop its relationship with China."

New Graphic

Editor's Pick

Progress in Clean Energy (2022-2023)



The proportion of wind and solar power in China's total installed capacity



The proportion of coal power in China's total installed capacity fell below 40 percent

Source: China Electricity Council
Designed by YAO Yilu / Science and Technology Daily

Bringing Mangrove Forests Back to Life

By LIN Yuchen

Mangrove forest trees with their characteristic red bark serve as vital "marine green lungs." They mitigate coastal erosion, purify seawater, and provide habitats for diverse marine life. Yet despite their importance, global mangrove ecosystems are facing a decline in area and functionality.

A report by the United Nations Environment Programme in April 2023 revealed a 3.4 percent decrease in global mangrove coverage since 1996, with a net loss of 5,245 square kilometers. However, China has emerged as one of the few countries to witness a net increase in mangrove areas in recent years.

Restoring mangrove ecosystems

Professor Lu Changyi at Xiamen University, Fujian, has been at the forefront of mangrove research since the

1980s. His pioneering work, alongside his mentor, Professor Lin Peng, laid the foundation for mangrove conservation and restoration in China.

"In the early years, we found that the mangrove plant species surviving in the Xiamen and Zhangzhou areas were very limited. The coastline soil types were diverse, and the living environment was complex. Only by increasing biodiversity could mangrove communities become more stable," said Lu.

In 1987, Lin Peng's team began introducing mangrove varieties from Hainan province to the Jiulong River estuary in Fujian.

"We spent six years overcoming the technical difficulties of mangrove introduction through artificial domestication and natural selection, allowing cold-resistant varieties such as *Avicennia marina* and *Bruguiera gymnorrhiza* to successful-

ly cross five dimensions and ultimately survive in Fujian," said Lu. Based on this practice, the research team was the first to propose using physiological and biochemical indicators as the basic principles for mangrove northward migration and afforestation site selection in China.

They established a technical system based on indicators such as tree species, tidal levels, tidal flow, salinity and soil for selecting suitable afforestation sites. This system, like a manual for mangrove northward migration, provided theoretical foundations and technical support for mangrove afforestation and ecological restoration in China.

Harmonious conservation and livelihoods

However, the journey towards mangrove conservation hasn't been devoid of challenges.

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Brazilians check out agricultural machinery made in China in Brazil on February 2. (PHOTO: XINHUA)

WECHAT ACCOUNT



E-PAPER



'Chunyun' Carries the Great Reunion of Chinese People

Voice of the World

Edited by QI Liming

China's Spring Festival travel rush is the year's busiest period of mass migration, with a record nine billion domestic trips expected to be made. As the largest periodic migration in human history, about 80 percent of the trips will be self-driving road trips, also a record, with the remainder being by rail, air and water.

The Spring Festival travel rush kicked off on January 26, and nearly 11 million trips were made by rail on the same day. A total of 480 million rail trips are expected to be made nationwide during the 40-day travel period, a 38 percent jump from 2023.

Next-level rail travel

China, originally a latecomer to modern transport, now has the world's largest high-speed railway and expressway network, and world-class port clusters. By the end of 2022, the total length of China's transportation network had exceeded six million kilometers. Key transportation indicators, including passenger and freight volume, and business volume of postal and express services, rank first worldwide.

Evgeny Semaykin, a Russian who has lived in China for two decades and traveled on various types of available public transport, said that transport, in particular, is one of the sectors that



Train attendants in traditional clothes cope with the Spring Festival travel rush with a smile. (PHOTO: XINHUA)

hold great significance to China and the world. "I believe the transition of China's transport [infrastructure] could be [the means by which] to track the country's development progress and its contribution to the world," said Semaykin.

The country's comprehensive transport infrastructure ensures the convenient travel of people and the efficient flow of commodities, turbocharging the entire world's economy. "I am impressed by China's emphasis on infrastructure," he added.

According to *Nikkei Asia*, China's high-speed rail network spanned 42,000 km at the end of 2022, being the longest in the world and 13 times the size of Japan's Shinkansen bullet train network.

Anthony W.D. Anastasi, an American PhD candidate at the School of Politics and International Relations at East China Normal University, said that the U.S. needs to go down China's public transport route. The convenient subway system in big cities like Shanghai, and the country's expansive rail network, make car ownership unnecessary.

"During my years in Shanghai, I have never had the need to own a car.

Shanghai's 19-line, 802 km-long subway system is an incredible way to get around. Not only has it saved me money, when compared to my life in South Florida, but it has also made me healthier, thanks to walking more," said Anastasi.

He said when traveling outside Shanghai, instead of taking a plane or driving an immensely long distance, like he would have done in the U.S., he takes a train. China's traditional train and high-speed rail system is sufficiently developed, quick and very convenient. "My return to the U.S., after spending so much time in China, has made it obvious that the U.S. should take a page out of China's book and invest massively in public transport," said Anastasi.

Many merits of modern transport

In Anastasi's article published in *South China Morning Post*, he concluded with the many merits of a sound and safe public transportation system. Investing in public transport can fuel economic growth, and by expanding public transport infrastructure, a country could generate millions of immediate job opportunities across construction, operations and maintenance sectors.

Additionally, accessible public trans-

port connects low-income earners to employment centers, empowering them to secure jobs they previously could not reach. This inclusivity not only boosts individual livelihoods, but also expands the overall labor force, fostering productivity and driving long-term economic growth.

Embracing a public transport system like China's offers a sustainable solution that would help combat climate change and create a more beautiful environment.

A robust public transport system can profoundly improve mobility, connectivity and overall well-being. Efficient public transport also offers affordable and convenient travel options, enabling families to reunite more easily and fostering connections between communities.

In addition, it encourages domestic tourism, allowing individuals to explore different regions within the country, broadening their horizons and nurtured a stronger sense of national unity. Moreover, prioritizing public transport can lead to safer roads and a reduction in traffic-related accidents and fatalities.

Comment

China's Economic Performance Shows Stronger Resilience

By GONG Qian

China's economy achieved remarkable recovery in 2023, with the GDP growing 5.2 percent year on year to 126.06 trillion RMB (about 17.71 trillion USD), hitting the target of 5 percent annual growth, according to data released by China's National Bureau of Statistics (NBS) on January 17. This powerfully rebuts the argument that the "Chinese economy has collapsed."

According to the NBS, industrial output rose 4.6 percent in 2023 compared to a year earlier. The total value added of industrial enterprises above designated size increased by 4.6 percent. Among the 41 industrial categories, 28 maintained growth, and the average growth rate of the 10 key industries exceeded five percent, said China's Ministry of Industry and Information Technology on January 19.

Driven by a series of steady growth policies and measures, China's industrial economy continues to accumulate internal momentum for good, and the development potential is still huge.

With a strong industrial foundation, China has become the only country in the world to have all industrial categories listed in the UN industrial classification, said Kang Yi, commissioner of the NBS.

According to Kang, the value added of China's manufacturing industry accounts for nearly one-third of the world's, and the proportion of goods exports takes up one-seventh. In addition, China's infrastructure networks including transportation and communications have been improving steadily while other areas such as education and medical care have been strengthened. Capacity building in key areas such as food and energy security, industrial chain and supply chain has also achieved effective results. This enables China's economy to be more resilient and lays a solid foundation for stable and long-term economic development, said Kang.

China's economy will show gradu-

al improvement in 2024, propelled by manufacturing and consumption amid a structural shift towards high-quality growth drivers, according to Liu Peiqian, Fidelity International's Asia economist, the *South China Morning Post* reported.

Liu said manufacturing has become a pillar of the next phase of development. China is one of the world's biggest manufacturing hubs, with its value-added "contributing to close to 30 percent of the global outlook."

This is reflected by the robust export performance of the "new three" — electric vehicles, lithium batteries and solar cells. They have emerged as the new engines for growth and exports, accounting for 4.5 percent of the country's total exports, according to the General Administration of Customs.

Consumption is still the main engine of economic growth. Retail sales of consumer goods grew 7.2 percent, setting a new record of 47.15 trillion RMB, according to the NBS. Final consumption contributed 82.5 percent of overall GDP growth.

"It is expected that consumption will maintain a steady growth trend in 2024," said Xu Hongcai, deputy director at the China Association of Policy Science's Economic Policy Commission. International exchanges including international tourism are likely to increase significantly, which can increase overseas business travel and international trade opportunities and is conducive to expanding exports and creating jobs, Xu added.

This year, the path to world economic recovery is bound to be uneven with geopolitical uncertainties and raging conflicts in some parts of the world. Nevertheless, China will seek new drivers of growth through sci-tech innovation, transformation and upgrading. It will continue to increase investment in the digital economy, artificial intelligence and green technology, while ensuring its policies to stabilize growth, thus providing more certainty and stability to the world.



A train attendant during the Spring Festival travel rush. (PHOTO: XINHUA)

Smart Robots: Good Helper for Travel Rush

Hi! Tech

By QI Liming

In the "great population migration" of the 2024 Spring Festival travel rush, the intelligent robot is indispensable. In recent years, more and more robots have appeared in airports and railway stations to provide passengers with high-quality services and make their travel experi-

ence as comfortable and convenient as possible.

Intelligent service robots for passenger transport have been put into use at some stations along the Beijing-Zhangjiakou high-speed line. The robot not only provides services such as station navigation and checking train arrival and departure times, but also helps passengers carry large heavy luggage.

The intelligent service robot has a closed storage box and can transport

luggage weighing up to about 100 kg for passengers. After putting the luggage in the storage box, passengers can scan a QR code or use face recognition, then the robot carrying the luggage will follow the passenger while in the station. Passengers can also let the robot "lead the way" to the designated ticket gate.

The robot "coworkers" are not only ubiquitous in the waiting hall, but also in the high-speed rail commodity warehouse. Intelligent goods distribu-

tion robots dramatically improve the efficiency of warehousing. They can move and carry specified goods in a planned route.

After all the goods in the warehouse are entered into the system by batch, each batch will generate a different serial number. The goods distribution robot can accurately find goods according to the serial number, and shorten any backlog time, significantly improving the efficiency of high-speed rail goods distribution.

Spring Festival Brings Joy to the World

By Staff Reporters

The Lunar New Year, or Spring Festival, is the oldest and the most important traditional festival in Chinese culture. It's a time for family reunion and new year festivities, which is now celebrated not only in China but also around the world.

On December 22, 2023 (local time), the 78th UN General Assembly adopted a resolution by consensus to officially list the Spring Festival as a UN floating holiday from 2024, which means it will be celebrated at the UN too.

It is estimated that the Lunar New Year is a public holiday in almost 20 countries and is celebrated in various ways by about one-fifth of humanity. Traditional Lunar New Year activities

are organized in nearly 200 countries and regions. The festival has become a global cultural event, bringing joy to people around the world.

Many Asian countries such as Singapore, Malaysia, Indonesia, Vietnam, and Thailand set up public holidays during the Spring Festival.

In Malaysia and Singapore, the eating of yusheng/ye sang (raw fish salad) is one peculiar custom. Made with different vegetables, salmon, dumpling wrappers and seasoned with hoisin sauce and other condiments, the salad is delicious, but it is also part of a ritual that families love. The salad is placed on the middle of the table and everyone is supposed to use chopsticks to toss it up in the air to attract good fortune.

Meanwhile, in the U.S., UK, Japan

and other countries, Chinese communities will hold various forms of celebration, attracting many residents to participate.

In London, the Celebration of the Lunar New Year will be held on February 11, in Trafalgar Square, Chinatown and other landmarks, where there will be activities including lion and dragon dances, parade floats, performances, and food stalls. It is expected to attract over 700,000 overseas Chinese in the UK, students, rep-

resentatives from Chinese and British organizations, as well as the British public and tourists from all over the world.



The Chinese Embassy in Laos hosts Lunar New Year reception for overseas Chinese on February 1. (PHOTO: XINHUA)

Bringing Mangrove Forests Back to Life

From page 1

Lu Changyi's leadership in the construction of the Xiatanwei mangrove forest faced resistance from local villagers, who were concerned that the construction of the mangrove forest would affect their income and livelihoods.

These fishermen's resistance was not malicious, but stemmed from a lack of understanding of the value of mangroves.

In the eyes of researchers, mangroves are breeding and habitat grounds for various fish species, and building mangrove forests means protecting fishery resources. In the long run, mangroves can provide fishermen with a more stable and sustainable income.

Additionally, as a unique ecosystem, mangroves have high aesthetic value, which is significant for improving the local environment and developing ecotourism.

To address this, Lu volunteered to raise awareness among the locals. Carrying a prepared film projector, he would find a wall in the village and borrow a bedsheet as a makeshift screen.

When villagers came out to cool off in the evenings, he would promote the benefits of mangroves to them. The local villagers have finally changed their minds through these efforts.

Public awareness raised

In August 2020, the Ministry of Natural Resources and the National Forestry and Grassland Administration jointly issued an action plan, stating that by 2025, efforts will be made to create and restore 18,800 hectares of mangroves. It is estimated that China's mangrove area will reach 36,000 hectares by 2025.

Wang Wenqing, director of the Mangrove Ecology Professional Committee at the Ecological Society of China, said that he was pleased to see that most of the suggestions and opinions that have been proposed by many experts were adopted.

"The action plan sets a target of 18,800 hectares of new mangrove areas, with the restoration area of degraded forests reaching 9,750 hectares, which exceeds the afforestation area. This is a positive shift," said Wang. The implementation of this plan marks a transition in China's mangrove conservation efforts from focusing solely on increasing mangrove areas to enhancing the structure and function of mangrove wetland ecosystems.

"China's scientific research achievements in mangroves rank among the top in the world. Four out of the top five institutions, in terms of the number of mangrove papers published globally each year, are from China," said Wang.

LIFE IN CHINA

Folk Arts Make Spring Festival Colorful

By Staff Reporters

The most important holiday for the Chinese people is Spring Festival, also known as Lunar New Year. It is a time when all family members gather and celebrate together. The festival is also observed in some East Asian and South-east Asian countries and regions. The Lunar New Year in 2024 will begin on February 10.

Time-honored traditions

The Spring Festival involves many traditions, some of which are still followed today, but others have been updated with the development of technology.

Preliminary Eve is the 23rd day of the 12th lunar month. People offer sacrifices to the kitchen god at this time. However, most families now prepare delicious food for the occasion.

People start preparing for the New Year after the Preliminary Eve. This is referred to as "seeing the New Year in." Before the New Year, people thoroughly clean their homes and their clothes, bed-clothes, and then start decorating their clean rooms to create a festive and joyful atmosphere.

Spring Festival couplets are pasted on each side of the front door, highlighting Chinese calligraphy with black characters on red paper. Displaying the Chinese character FU (which means "blessing or happiness") is essential.



The Chinese character FU. (PHOTO: VCG)



The Xiling Temple Fair held at Jiefang Road in Yichang, Hubei province. (PHOTO: VCG)

Usually, the character is pasted upside down on the door between the couplets, because the "reversed FU" is homophonic with the phrase "Good luck arrives" in Chinese pronunciation.

Everyone dresses up when they wake up on New Year's Day. The day begins with people greeting their parents and grandparents. Then, as a New Year's gift, each child will receive money wrapped in red paper, also known as lucky money, which usually represents the new year's wishes from parents.

Fireworks were once the most popular Spring Festival custom. People believed that the sound could help drive away evil spirits. However they have been either entirely or partially prohibited in most cities after being considered unsafe, noisy, and the cause of environmental pollution.

Intangible heritage shines

With the Year of the Dragon commencing on February 10, Chinese find themselves at the crossroads of tradition and reality. The New Year not only

marks the beginning of spring, but is also a time of introspection about the richness of intangible cultural heritage related to the Spring Festival.

Chinese New Year pictures, or Nianhua, a form of colored woodblock print, have a long history dating back to the Western Han Dynasty. Nowadays, Nianhua's cultural and artistic value makes it a reflection of Chinese people's daily lives.

Originating in the Western Han Dynasty (206 BC- 24 AD) more than 2,000 years ago, Chinese lanterns are an ancient traditional handicraft, which integrate different skills, including painting, paper-cutting and paper binding. It is a Chinese custom to hang red lanterns in the New Year, which symbolizes peace and prosperity.

The temple fair, also known as Miaohui in Chinese, is a traditional cultural event that features all kinds of Chinese folk arts during the Spring Festival. The fair is usually held at temples or adjacent to them, hence the name.

Popular lion dancing

The dancing lions, along with the sound of drums, cymbals and gongs, signal the approaching Spring Festival in China. This performance is popular in Guangdong province.

The Guangdong Lion Dance, which was listed as a national intangible cultural heritage in 2006, is a combination of martial arts, dance and music. It originated as the royal lion dance during the Tang Dynasty (618-907) and was later introduced to the south by migrants from the north.

It developed into its modern form during the Ming Dynasty (1368-1644). In traditional Chinese culture, lions are regarded as a symbol of integrity, power and prosperity, which can protect humans and livestock from the evil and disease.

This art form is not only popular in south China's Guangdong province, but also in other parts of the country and with overseas Chinese, making it a cultural bridge for Chinese who are seeking their national roots.

Spark of iron flowers

What makes the Spring Festival so vibrant is not just lion dancing and fire-crackers. The Datiehua folk art, which means "striking iron flower," was listed as a national intangible cultural heritage in 2008. This folk art involves splashing molten iron to create sparkling streaks of light, which simulate fireworks. The performance is a traditional way of celebrating the Spring Festival.

The history of Datiehua can be traced back to the Spring and Autumn periods (770BC—476AD), with the emergence of the mining and iron-smelting industry in China. At first, Datiehua was just used for sacrificial rituals by craftsmen in their own industry. However, in the Song Dynasty, it gradually evolved into a traditional folk celebration.

Dialogue

Assist to Fulfill China's Pharmaceutical Dream

By BI Weizi and LONG Yun

Ten years ago, Israeli biopharmaceutical expert Yehuda Zelig had no idea that he would forge an unbreakable bond with China, a country 6,000 kilometers away from his home, and dedicate himself to helping realize the Chinese dream of developing its own insulin.

Over the past decade, Zelig has helped Chinese companies overcome many difficulties in insulin R&D and production, breaking the monopoly of some foreign companies in the Chinese insulin market. He and his Chinese colleagues are looking for solutions to the world's problem of new insulin, in the belief that their research in China will bring more fruitful results. He was awarded the Chinese Government Friendship Award in 2019.

Sharing is caring

After graduating from Tel Aviv University with a master's degree in life sciences, Zelig decided to pursue a career in biopharmaceuticals, which were at the forefront of the fight against certain cancers and autoimmune diseases. Over the next 20 years, his hard work gradually took him from R&D technician to R&D engineer, and then to senior executive positions in a number of internationally renowned biopharmaceutical companies.

In 2009, the chairman of a biotechnology company in Hefei met Zelig while visiting Israel, and the two hit it off. "Since then, I have been working in China, traveling between China and Israel nearly 10 times a year on average, hoping to introduce the most advanced insulin production technology to China," said Zelig.

Insulin products have high technical barriers, making the insulin industry a competitive field in which only a handful of technology companies who have mastered high-end gene recombination technology can participate. Since the early 1990s, China's insulin market has basically been monopolized by multinational companies, with product supply and pricing power in the hands of foreign parties. Therefore, developing insulin drugs has become a common dream for practitioners in the Chinese pharmaceutical industry.

"I don't want to keep this technology to myself. I am willing to share this technology with more people and benefit more Chinese people," said Zelig, adding that improving the quality of life for more people is what motivates him.

Typically, the development of an innovative drug takes decades and costs billions of dollars. Zelig's team brought internationally advanced insulin manufacturing technology to China, shorten-



Yehuda Zelig. (COURTESY PHOTO)

ing the product development cycle and reducing capital investment. "It took us only seven years to set up a facility, which is a very short time," he said, adding his Chinese colleagues are quick learners.

Open minds drive pharmaceutical progress

Besides technology, Zelig also introduced his Chinese counterparts to Western pharmaceutical standards and regulations to facilitate international cooperation. "You have to understand not only the language of biotechnology, but also a lot of things like law and society," he said, adding that open-mindedness and mutual understanding play an increasingly important role in the modern world, where international cooperation provides an essential framework for addressing global challenges that transcend borders.

According to the WHO, the number of people with diabetes rose from 108 million in 1980 to 422 million in 2014. The prevalence of diabetes has been rising rapidly throughout the world.

Against this backdrop, harnessing the collective wisdom of people from different cultures in cutting-edge research is the way to go. "Integration between countries and people leads the way to great products in a more efficient way," said Zelig, adding that not isolating oneself in one's own lab and collaborating with other people are the basic principle of scientific research.

Zelig revealed that his team is currently working intensively on insulin, which he called "a global problem." According to him, the successful development of the new insulin medicine has a potential to significantly improve the quality of life for people with diabetes.

XU Jie from the Department of Science and Technology of Anhui province also contributed to the article.

Letter to the Editor

Learning to Make Dumplings on New Year's Eve

By John Thomas Arants

As this year's Spring Festival approaches and my friends and colleagues head home to celebrate with their families, memories of holidays spent with my friend, Mu Laoshi come to my mind. Two years ago, he invited me to join his family celebrations on Chinese New Year's Eve. I gladly accepted.

When I arrived, three generations were bustling around the kitchen, preparing jiaozi (dumplings). They welcomed me and immediately put me to work. I was nervous, I'm not a great cook and I had never prepared jiaozi before, but Mu's mom was a great teacher. We rolled out the wrappers, filled them with pork and diced vegetables, then folded them and squeezed them shut.

Everyone in Mu's family was an ex-

pert at it, even his 10-year-old daughter. They took the ends of the wrapper between their thumbs and forefingers and pressed them together creating a tight seal. They even shaped the wrappers, creating a little wave pattern around the outside of the jiaozi. They looked great.

Mine did not look quite so beautiful. Some of the jiaozi were understuffed and therefore too small. Some were overstuffed and difficult to close. And all of them seemed ready to fall apart as soon as they hit the boiling water. I knew they looked bad, but Mu and his family had only kind words, encouraging me and occasionally helping. They were very kind and even though my jiaozi were not perfect, I enjoyed the process of making them.

Mu's mom boiled the jiaozi and the rest of us set the table, putting out

bowls and chopsticks, preparing the vinegar and soy sauce dip, with just a dash of chilly pepper to give it a little extra kick. When the jiaozi were ready, they were put in the center of the table, on three large plates. I was welcomed and treated more like a friend than a guest, and it never felt like I was foreign at all.

The jiaozi were delicious, maybe the best I had ever had. We ate and talked and laughed. But I noticed Mu's daughter eyeing the jiaozi suspiciously. I knew that one of the jiaozi held a lucky coin inside, and I assumed she was looking for it, but then she started pointing at all the jiaozi that didn't look quite so perfect, saying, "That's one of John's. And that's one of John's. And that one." In the end, all of us laughed and everyone said that my jiaozi tasted just as

good as the rest.

All in all, it was a great and fun evening. We ate, we watched the annual CCTV Spring Festival Gala, and the Mu family shared stories that spanned generations. The entire home was filled with laughter and joy. And as I took it all in, learning more about my friends and Chinese culture as a whole, I found that I missed my family more and less at the same time.

Because Christmas with my family is very much the same, our home is filled with laughter and joy and stories told from grandparents to grandchildren. It was a great way to end the year. And an even better way to start the next one.

This author is an American teacher at Xi'an International Studies University.

Traditional Eastern Wisdom

Yongle Porcelain: Pinnacle of Ancient White China

By ZONG Shihan

Yongle porcelain, also called sweet white porcelain, was produced during the Ming Dynasty's Yongle period (1403-1424), and features a special glaze giving a smooth and creamy appearance. This kind of porcelain was described in ancient times as "white like congealed fat, immaculate like piled-up snow," denoting the highest level of ancient Chinese white porcelain.

The earliest white porcelain emerged during the Northern and South-

ern Dynasties (420-589). With the advancement of raw materials selection and purification techniques, white porcelain reached its peak in the Ming Dynasty, creating the Yongle sweet white porcelain.

In terms of raw materials, the sweet white porcelain was primarily made of porcelain stone, supplemented by kaolin clay, which had the advantage of good plasticity and high stability during firing, making it easy to produce an eggshell porcelain. In terms of purification, craftsmen reduced the content of

calcium and iron in the glaze, and increased the content of potassium to enhance the whiteness and transparency of the porcelain.

The unique feature of the sweet white porcelain is that it has reached a form of semi-bodiless ware with paper-thin texture, leaving only a thin body and a layer of transparent glaze. The production process of the semi-bodiless ware is extremely strict, with one cut less resulting in too thick porcelain and one cut more resulting in it being discarded.

The sweet white porcelain is most commonly seen in the form of bowls, dishes, small pots, high feet goblets, and plum bottles. Many designs also draw inspiration from foreign cultural elements as China had frequent cultural and trade exchanges with Europe and other Asian countries in the early Ming Dynasty. Based on the extensive absorption of Western pottery, silverware, enamelware and other elements, the innovative design of the sweet white porcelain made it more beautiful and unparalleled, becoming the peak of the white porcelain.

Expats Activity

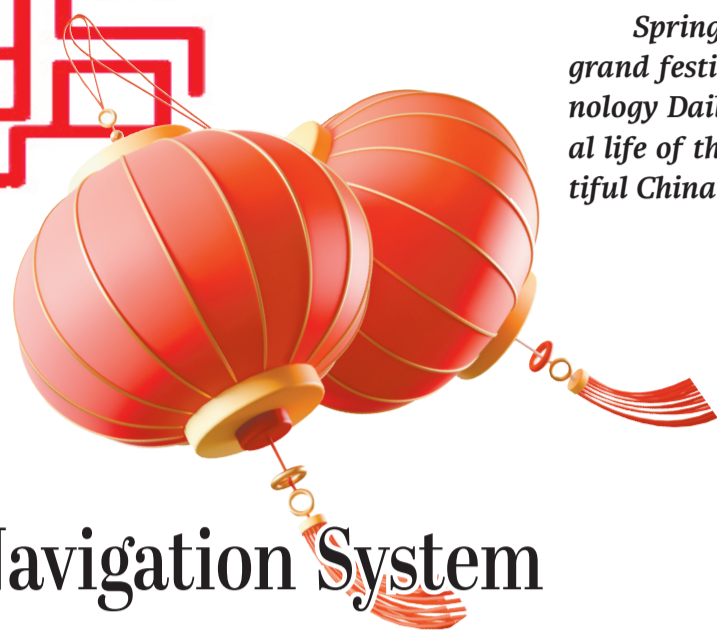


On February 2, the Shandong Provincial Department of Science and Technology organized a vibrant Spring Festival event for foreign experts and their families.

The event not only facilitated a lively exchange among the foreign experts in Shandong, but also helped them to understand and integrate more deeply into the local community and discover the charm of China and the Chinese.

Peter Monka, a Slovakian expert from the Qingdao University of Technology, shared the story of his five-year journey in China, "In China, I have discovered one big secret that the greatest wealth of this country is its wise, skilled and hardworking people."

(PHOTO: The Shandong Provincial Department of Science and Technology)



Editor's Note

Spring Festival, also known as the Chinese New Year or Lunar New Year, is the grand festival in China. In celebration of the 2024 Spring Festival, Science and Technology Daily reporters visited some regions to cover their robust development and real life of the grassroots. We would like to share with our readers a picture of a beautiful China.

Rail Navigation System Upgraded to Keep Travelers Safe

By CHEN Chunyou & WEI Yichen

China's Spring Festival travel rush is considered the largest annual human migration in the world. China's transport network, high-tech and comprehensive, has made going home for the much-awaited annual family reunion convenient and time-efficient for millions of travelers.

It is well-known that Fuxing, dubbed the "bullet train", can cover more than 5,800 meters in one minute. However, not many know about the "brain" behind this high speed marvel — the automatic train protection (ATP) system that guides the train.

The ATP system receives real-time information about the road conditions ahead through its speed sensor and antenna and provides voice prompts for the driver, Xiong Yuhao, a staff at a maintenance base of Nanchang East Railway Station in Jiangxi province in east China, told *Science and Technology Daily*.

The ATP system automatically controls the high-speed train so that it runs safely at a specified speed during bad weather, such as typhoons and heavy snow. "So it is very important for driving," Xiong added.

When the parameters of the bridges, tunnels, curves and other facilities on the train route change, the navigation data has to be updated accordingly to adapt the train to the new driving environment.

After a train arrived at the station, Xiong and his colleagues started the maintenance work to debug the train's equipment and upgrade the navigation accuracy.

He opened the door of the navigation cabinet at the back of the cab, removed the integrated navigation "chip", and began importing the reset software program to upload the data.

When the progress bar on the screen jumped to 100 percent, Xiong hit the keyboard to enter the instructions and called out the corresponding navigation mod-

ule to test whether the function was normal. Lines of data code constantly popped up, and rows of indicator lights flashed up and down. "Each item must be repeatedly checked," Xiong said.

The total data that had to be upgraded at that time amounted to nine million characters. Xiong called it "equivalent to the total number of characters in a small library's book collection".

"If there is data deviation, the train will be delayed. Even if it is by one minute, it may have a major impact on the overall rail transportation," he explained. To make the uploading accurate and smooth, Xiong watched the display screen like a hawk so that he wouldn't miss any detail, however small.

In addition to data updating, Xiong has to ensure that the navigation system is not malfunctioning. If there is a glitch and it is not dealt with in time, it will delay the departure of the train.

To improve his emergency response ability, Xiong has learned circuit programming by himself. He used to copy the professional term codes over and over again to form a muscle memory. "High-speed train navigation needs frequent upgrading, so our technical skills have to keep up," he said.

The passenger flow is expected to rise this Spring Festival holiday. The railways have increased the number of night high-speed trains and trains on popular lines to meet the growing travel needs, which means the navigation maintenance workload has doubled.

Xiong and his workmates had to update the navigation data for more than 60 high-speed railways from 6 pm the previous day to 8 am that day. However, they said they didn't feel tired.

"These high-speed trains go to faraway places, taking people home for family reunions. When they reach home safely, we feel relieved," he said proudly, looking at the bullet trains leaving the depot.

Accurate Weather Forecasts for National Winter Games

By LI Linxu & FU Lili

The Spring Festival has begun, while the opening ceremony of China's 14th National Winter Games is also about to lift the curtain.

The Games, which will officially kick off in Inner Mongolia autonomous region on February 17, will be the largest of its kind with the participation of more than 3,700 athletes.

To ensure smooth running of the Games, thousands of volunteers, workers and staff are ramping up preparation efforts for the Games, including weather forecasts.

Snow sports are quite dependent on meteorological conditions, said Shi Shaoying, deputy director of the Inner Mongolia Meteorological Observatory. If the temperature is too cold, it will not only affect the physical mechanism of athletes, but may lead to athletic injuries. Besides the temperature, the wind velocity, visibility and quality of snow also have an impact on athletes' performance.

To provide precise weather forecasts for the Games, the meteorological service team is leveraging the experience of the Beijing Winter Olympics in light of local conditions.

"Each site has its own temperament, so we have to get familiar with it as soon as possible," said Wang Ying, deputy director of the Hulun Buir Meteorological Observatory, and the person in charge of weather forecasts for the competition area of Zhalantun.

The area, located in the southeastern foothills of the Greater Khingan Mountains, will host events such as ski mountaineering, freestyle skiing and snowboarding.

Fifteen automatic meteorological monitoring stations, a laser anemometer radar, and a microwave radiometer have been set up at key points of the area to record real-time changes of meteorological elements at minute scale.

Since last December, the team members have been walking along the venues daily to inspect the stations, note the wind variations, and observe the cloud changes.

For a qualification competition recently held in the area, they precisely predicted the starting and ending time of a snowfall, with only 0.1 millimetre variance in the magnitude of rainfall forecast.

As the Games are just around the corner, the team is ready to provide precise weather services for the participants.

Modern Tech Adds Flavor to Chinese Oolong Tea

By ZHONG Jianli, FU Xiaobo & LIU Zimo

When looking for the perfect Spring Festival gift, what springs to mind? Tea fits the bill to a T.

Originating in China some 5,000 years ago, tea stands as a symbol of hospitality and goodwill. Now it is forging closer bonds between Chinese on both sides of the Taiwan Strait.

Chen Lianfeng, a tea entrepreneur from China's Taiwan, was pouring golden-yellow tea into delicate cups at the 2024 Cross-Strait Tea Culture Festival held in Xiamen, Fujian province, on January 19.

"We hope to offer everyone the finest tea with the highest quality," Chen said.

This year marks Chen's ninth year of business on the Chinese mainland. In 2015, he relocated with his family to Yongfu, a town in Fujian's Zhangping city. The latitude and moist mountainous climate there are similar to the environment of the Alishan Mountain Range in Taiwan, making it an ideal place for cultivating high-mountain oolong tea.

Chen established a tea cooperative locally, integrating modern equipment, tea garden management and marketing with local production, bringing superior oolong varieties from Taiwan. Currently, the cooperative has 113 members.

"We have adopted modern technologies to place a premium on the quality and flavor of the tea," he said. The advanced automated irrigation system, capable of self-detecting humidity, coupled with an automatic fly-

catching system that has markedly reduced the need for chemical pesticides, ensures both efficiency and safety.

The use of various technological advancements on the standardized tea processing line, such as full-daylight withering devices for the oolong tea, novel indoor tea withering machines and automated tea leaf sorting, has significantly improved the controllability of tea production.

"Mechanized production saves costs and enhances production efficiency and hygiene standards. For instance, while a worker can pack only 20 to 30 pounds of tea leaves a day, in our packaging process, a single machine can pack over 100 pounds," Chen said. "Modern mechanized production is likely the future trend of the tea industry, and we hope to pass the cost savings on to consumers, giving more people the opportunity to enjoy affordable high-quality tea."

Chen's cooperative is exploring more marketing channels, particularly e-commerce, and has launched flagship stores on online trading platforms.

Thanks to his efforts, numerous households on the mainland are drinking Taiwanese high-mountain oolong tea. In 2021, the cooperative's tea products received the "Most Popular Spring Festival Gift Award" at the 14th Cross-Strait Agricultural Products Fair in Quanzhou.

To Chen, the tea is more than a cuppa. "The fragrant oolong tea is a link bridging the two sides of the Taiwan Strait, which share the same origin and kinship," he said.

Zero-carbon: a New Calling Card for Village

By CHEN Chunyou & HAN Rong

In Zhang Baomin's home, the lights, television, induction cooker, electric kettle, heaters and other electric appliances all run on solar power, even the agricultural equipment in his apple orchard, such as weeders, electric saws and sprayers.

Zhang lives in Zhuangshang, a village in Yuncheng city, Shanxi province in north China. When we walked into the village after a snowfall, the sign "China Zero-carbon Demonstration Village" at the entrance was particularly eye-catching in the snow.

Zhuangshang was awarded the title by the Global Environment Facility, the United Nations Development Programme, and China's Ministry of Agriculture and Rural Affairs in April 2023. In the past, people's first impressions of this village used to be "remote" and "ancient", but now it is being widely talked about for its zero-carbon initiative.

Zhang and his wife were preparing the Spring Festival holiday food for the family and guests in the kitchen, including fried oil cakes and fried doughnuts. An assortment of household appliances bubbled away on the stove. A black rectangular device below the power socket, connecting the power cord, caught our attention.

"This is an arc-extinguishing module attached to the photovoltaic (PV), energy storage, direct current (DC) and flexibility (PEDF) distribution system installed in the village. It ensures the safe use of the DC generated by the distribution system for household appliances," Zhang told *Science and Technology Daily*.

The transformation dates back to 2019 when the Shanxi Guochen DC Power Distribution Engineering Technology Co. and a research team led by academician Jiang Yi from Tsinghua University jointly piloted the technology in Zhuangshang's 27 households, with an in-

stalled capacity of about 250 kilowatts.

To put it simply, the PEDF distribution system refers to laying PV panels on the roof of each house to provide flexible services for the external power grid, according to Han Yufei, office director of Shanxi Guochen.

The electricity generated by these households not only meets their basic daily needs such as cooking and heating, but the surplus power can also be used for Internet surfing and transportation.

Zhang pointed to a large rectangular iron box on the bedroom wall. Commonly known as the "DC power supply," it was a multi-terminal energy router. "The iron box below is for on-site energy storage," he said. "The excess PV power that is not used during the day is stored through it, storing 10 kWh of electricity per day, which is enough for use at night."

Because of the low-carbon initiative, life in Zhuangshang has undergone new changes. The villagers are concerned not only about their crop yields but also care about the environment.

"In the past, we went to town by oil-consuming tricycles, which emitted black smoke. It costs over 10 RMB for a round trip of 40 kilometers. Now, with electric tricycles, it only costs a little over 2 RMB," Zhang said.

The village is also transforming its abandoned cave dwellings into PV courtyards, and barren slopes and wasteland into PV corridors.

According to official statistics, as of January 25, the PEDF distribution system in Zhuangshang had generated revenue of more than 1.5 million RMB, saving over 1,900 tons of standard coal and reducing carbon dioxide emissions by 4,900 tons.

Zhang has new plans for the Lunar New Year. "The air conditioners and kitchen hood at home are old items bought a few years ago and don't support the use of DC power," he said. "I will buy some latest appliances after selling the apples from the orchard so that it is more convenient to use this clean electricity."

