

# Promoting Biotech Standardization Cooperation



By YU Haoyuan

In the context of global economic integration and rapid technological development, standardization has become a pivotal factor in promoting sustainable economic development.

On December 13, a large group of global experts convened to discuss this collaboration at the China-CEECE (the Central and Eastern European Countries) Standardization Exchange Event on Science, Technology and Innovation, hosted by the China Science and Technology Exchange Center (CSTEC) and organized by China Jiliang University, in Yiwu, Zhejiang province. The focus was on advancing global standardization in biotech-related fields.

## Deepening cooperation

Synthetic biology and biomanufacturing, current hot fields in technological innovation, have vast potential for applications. There is a rising demand for biopharmaceuticals, bio-sensing-based testing, and in vitro diagnostics.

This is where biological standardization comes into play. "Standardization is essential for normalizing, scaling and commercializing biomanufacturing technologies. It is crucial for fostering international cooperation and technical exchanges," Professor Chen Yongqiang, director of the publicity department at China Jiliang University, said.

Bron Kislser, chair of the International Organization for Standardization (ISO) Health Informatics Technical Committee Genomics Sub-Committee, said that global standards for chemical research and translation research have been implemented in chemical trials all around the world. However, achieving data accuracy remains a challenge.

"Biological standardization faces numerous challenges due to the complexity of the technologies involved, the



Experts at the meeting launched the International Alliance for Bioscience Standards, committing to deepening cooperation in standardization. (COURTESY PHOTO)

interdisciplinary nature, and the need for global coordination," said Zheng Yuguo, academician of the Chinese Academy of Engineering. Key issues that need to be addressed include how to establish a comprehensive yet flexible standard system that meets the needs of different fields and applications, and how to rapidly respond and update standards to keep pace with the development of biotechnology.

To address such challenges, the International Alliance for Bioscience Standards (IABS) was established at the event, aiming to create unified global bio-related standards.

Experts expressed their willingness to deepening their cooperation in standardization through this alliance.

## Facilitating exchanges

"Unified standards can not only improve production efficiency and product quality in biomanufacturing, ensure product safety and traceability, but also promote global product trade and technological exchange, facilitating the healthy development of the biomanufacturing industry," Zheng explained.

Midhat Jasic, honorary professor of nutrition at the University of Tulza in Bosnia and Herzegovina, said that, "A unified standard is a powerful tool for globalization, facilitating knowledge exchange and improving life globally."

Nirmala De Zoysa, senior deputy director of the Sri Lanka Standard Institution, highlighted the significant contribution of international standardization to promoting international trade, enhancing product quality and safety, and supporting sustainable development goals.

Turkish expert Servet Atayeter, manager of the ISO Food Committee's Fruit and Vegetable Products Subcommittee, also emphasized the essential need to establish unified standards for the biotechnology field globally.

"It enhances collaborations among countries," he said, adding that, "Comments from countries are very important at every [standardization] stage. The establishment of the IABS could be beneficial and result in a win-win situation."

Shigeyuki Tanaka, vice professor of Setsunan University, noted that a unified standard within an industry is crucial for fostering friendly relations and cooperation among countries, promoting unity and collaboration. "If there is an opportunity to participate in the development of global [industry-specific] unified standards, both the Japanese government and non-governmental organizations should be very proactive in engaging with the IABS."

## High expectation

"China is a key player in international standard-setting organizations, such as those under the United Nations, contributing to global standards across various sectors including food safety, health and organic food production," Midhat said.

Regarding further cooperation, Gao Xiang, director general of the CSTEC, outlined CSTEC's proposals to promote mutually beneficial scientific innovation.

According to Gao, CSTEC suggests three key initiatives to enhance collaboration in biomanufacturing standardization. These include strengthening reciprocal exchanges through multi-level educational programs to foster mutual learning and trust; optimizing the joint cultivation of talent through collaborative R&D projects and internships; and capitalizing on the opportunity to co-establish international biomanufacturing standards, accelerating the progression from basic research to applied demonstrations to drive high-quality development in related industries.

International cooperation and open sharing are more critical now than ever, Gao Jin, vice mayor of Yiwu, said. "We anticipate that cooperation and exchanges will be enhanced within the field, the sharing of knowledge and technology will be strengthened, and alignment and integration throughout the industry chain will be promoted."

This column is written in cooperation with the China Science and Technology Exchange Center (CSTEC).

## Policy

# Guideline to Make Cities More Resilient

By ZHONG Jianli

In a move to enhance city resilience, China has released a guideline to promote the construction of new-type urban infrastructure.

By focusing on the construction of information platforms, smart facilities and innovative application scenarios, the guideline aims to drive the digital transformation of urban infrastructure.

The overarching goal is to create an efficient and intelligent urban infrastructure system that continuously improves the resilience of urban facilities, management capabilities and spatial layouts, thereby fostering safe urban development.

One of the key tasks listed in the guideline is the intelligent enhancement of municipal infrastructure. Local governments are encouraged to upgrade essential services such as water supply, drainage, power supply, gas, heating and fire safety systems through digital transformation and smart management approaches tailored to local conditions.

The guideline encourages the development of urban infrastructure that supports intelligent connected vehicles. This includes establishing integrated perception systems along city roads, buildings and public facilities. The plan also emphasizes the advancement of "5G+vehicle networking," enhancing assisted and autonomous driving capabilities through smart perception systems

embedded in urban road networks.

The policy proposes developing smart residential areas and enhancing the management of residential buildings through intelligent technologies, thus improving people's living conditions and increasing efficiency.

The development of digital home systems is recommended, which will be realized by utilizing the Internet of Things, cloud computing, big data and AI to create interconnected home environments. This approach will help accelerate the establishment of a unified ecosystem that enhances the usability and safety of smart home devices.

In addition, the guideline advocates development of smart construction and building an intelligent construction industrial system.

Efforts will be made to promote the industrialized, digitalized and green transformation and upgrading of the construction industry. Advanced technologies such as Building Information Modeling are highlighted as essential tools for improving design, construction and operational efficiencies.

Through these measures, China will construct resilient cities that not only incorporate advanced technologies into urban living but also set a benchmark for future development. Ultimately, this effort represents a crucial step toward creating a more adaptive, efficient and sustainable urban infrastructure landscape, enhancing the quality of life for its inhabitants.



The newly renovated residential square with permeable ground in Qinhuangdao city, Hebei province in north China. (PHOTO: XINHUA)

# Lhasa High-tech Zone Ignites Plateau Economy

## Case Study

By YANG Yuhang & ZHONG Jianli

On entering the industrial area of the Lhasa High-tech Zone in Xizang autonomous region in northwest China's Qinghai-Xizang Plateau, one is greeted by a landscape of neatly arranged modern factories.

Here, technology-driven enterprises are flourishing, establishing an innovation hub that is bringing prosperity to the plateau's economy.

## Convenient, efficient services

To better serve enterprises in the Lhasa High-tech Zone, the government service center has upgraded its facilities and services.

"The processes in the center are clear and the services considerate," Dolma, a representative of a local enterprise, said. She noted that in the past, handling business matters required visiting multiple departments and filling out numerous forms. Now, the one-stop service offered at the government service center significantly reduces time and effort.

Tashi, a staff member at the service center, said that the center continuously optimizes service processes and improves service quality. It has implemented one-stop processing, intelligent tax guidance and a 5G network, making it more convenient for businesses and the public to handle their affairs.

With its ongoing efforts to create a sound business environment, the Lhasa High-tech Zone has been included in the 100 Best Business Environment Cases of Chinese Development Zones.

## Stimulating innovation

Private enterprises play a crucial role in driving economic development. To stimulate the innovation of the private economy, the Lhasa High-tech Zone continues to enhance service support, providing comprehensive and multi-faceted services for enterprises.

Li Peng, head of a private start-up, said that the zone holds quarterly entrepreneur forums, allowing businesses and the government to communicate

face-to-face and addressing many practical issues effectively.

"The governmental support for private enterprises is growing stronger, filling us with confidence for the future," said Li.

Chodron, an investment promotion officer of the Lhasa High-tech Zone, explained that the zone has established a dedicated service mechanism for enterprises, arranging dedicated personnel to oversee all procedures and provide comprehensive service support. Additionally, they organize entrepreneur forums and policy briefings to facilitate communication between businesses and government.

Current data shows that the Lhasa High-tech Zone is home to five companies listed on major boards, 63 national-level high-tech enterprises, 266 district-level technology-based small and medium-sized enterprises, and two national-level "little giant" enterprises, with a total of over 26,000 business entities.

With a focus on technological innovation, the Lhasa High-tech Zone is attracting an increasing number of technology-driven enterprises, positioning itself as a new engine for high-quality development of the plateau area.



A view of the Lhasa High-tech Zone. (PHOTO: XIE Wanying)

# Sichuan's Blueprint to Champion AI Industry Chain

## AI Ripples

By ZHONG Jianli, LIU Xia, TENG Jipu

In its latest efforts to become a key player in China's rapidly evolving AI landscape, Sichuan province in southwest China has released an overall work plan for the growth of the AI industry chain from 2024 to 2027.

The plan sets specific targets including the creation of over 10 influential industry large models, the achievement of more than 100 original and disruptive core technologies, and the expansion of the AI technology enterprises to over 2,000. By 2027, the industry is projected to reach a scale of 200 billion RMB, with total computing power exceeding 40,000 petaFLOPS.

Emphasizing innovation and collaboration across multiple sectors, Chengdu and Mianyang have been identified as the two primary hubs for AI development, with Deyang and Suining among 11 other areas targeted for collaborative growth.

The plan features eight key areas of focus, including technological innovation in AI, enhancement of advanced computing power and data supply capabilities, cultivation of large model clusters, and

the development of intelligent robots.

To drive technological innovation, the plan proposes significant implementation of AI technology projects, focusing on areas such as advanced computing power, brain-like intelligence, intelligent robotics and drone systems.

Aiming to nurture a cluster of large models, the plan will address key industries, including intelligent manufacturing, disaster prevention and reduction, and advanced nuclear energy, promoting the development of widely applicable industry-specific models.

As a complementary effort to the plan, the provincial science and technology department, in collaboration with related departments and cities, is also working on the "AI Industry Chain Map of Sichuan Province."

This comprehensive mapping initiative will focus on depicting the foundational, technological and application layers of the AI industry chain in Sichuan, highlighting the development advantages and industry characteristics of major cities like Chengdu and Mianyang.

In addition, it will detail the industries of computing power, industry-specific large models, robots and drones, analyzing upstream and downstream components, industry trends, key enterprises, strengths and weaknesses, and core technologies.

# BeiDou Navigates an Innovative Future

From page 1

The next generation will likely incorporate quantum navigation, AI and enhanced data-sharing technologies, setting new benchmarks for precision

and efficiency in satellite navigation.

BeiDou's evolution from a regional system to a globally operational network reflects China's dedication to innovation, perseverance and collaboration. With

over 400 organizations and 300,000 scientists contributing to its development, BeiDou embodies the collective effort of a nation committed to progress.

As it continues to push technologi-

cal boundaries, BeiDou has become a shining example of how innovation can serve humanity, offering advanced services that bridge the gap between space and everyday life.