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Spotlight

National Standardization Work Conference

全国标准化工作会议

Exclusive Interview

How cybersecurity standards support the EU legislation

网络安全标准如何支持欧盟立法

Special Report

China maps out an outline to boost its quality strength

《质量强国建设纲要》

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China National Institute of Standardization (CNIS), founded in 1963, is affiliated to the State Administration for Market Regulation (SAMR). It is a national research institute for scientific research and services in basic and general, cutting-edge and comprehensive standardization areas.

By far, CNIS has built a standardization scientific research base covering more than 40 research fields in 14 major research sectors, 3 national key laboratories for market regulation as well as 7 professional laboratories, effectively supporting the high-quality economic and social development.

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Spring, the lovely time of making and implementing plans

One of the most important standardization events in China—the annual National Standardization Work Conference was held on February 28 in Beijing, which summarized the standardization work in 2022 and arranged the key tasks this year.

SAMR Vice Minister and SAC Administrator Tian Shihong stressed that we should promote standards application in all economic and social sectors, facilitate the high-level openness to promote the standardization development at both national and international levels, and reinforce efficient governance to transform the standardization development towards quality and efficiency.

Another important standardization meeting was also convened in February in Europe. The Cybersecurity Standardization Conference 2023 took place in Brussels, Belgium to discuss how European standardization supports the EU cybersecurity legislation, which was jointly organized by ENISA, CEN, CENELEC and ETSI. The EXCLUSIVE INTERVIEW column presents readers the highlights of the meeting and insightful speeches given by renowned experts.

Just as CENELEC President Wolfgang Niedziella said, "European standardization plays a key strategic role in strengthening Europe's collective resilience against cyber threats and ensuring that all citizens and businesses can benefit from trustworthy and reliable products, services and processes."

Recently, China released the *Outline of Boosting China's Quality Strength*, a national strategic guiding document that sets the goals of improving the overall quality of products, services and projects and raising people's sense of satisfaction by 2025. The SPECIAL REPORT column will help you have a brief understanding of the Outline.

The STANDARDS PRACTICE column showcases how Taizhou city in Zhejiang province has carried out the standardization practice of government services to realize scientific management, reduce redundant efforts and improve service efficiency and quality. As a result, standardized government services have saved over 380,000 hours a year, and Taizhou ranked the top in the business environment evaluation of Zhejiang in 2021.

Spring is the time of making plans and launching projects. Let's embrace the beautiful spring and go ahead with the plans!

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(The list is in no particular order)

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Meeting on national standards comparison and compliance action held in Foshan

The meeting on the national standards comparison and compliance action was held on March 3 in Foshan, South China's Guangdong province.

Organized by the Special Office of Standards Comparison and Compliance of China Standard Science and Technology Group Co., Ltd. (CSSTGC), the meeting was attended by Xu Jianjun, Director of Local Standards Division, Standards Innovative Management Department of State Administration for Market Regulation (SAMR), Zheng Wentao, Director of Standardization Division of Guangdong Administration for Market Regulation, Gu Bancai, Director-General of Market Regulation Bureau of Foshan, and representatives from market regulation departments, technical institutions, industry associations and enterprises in Foshan.

At the meeting, the representative from the Special Office introduced the processes of the standards comparison and compliance pilot projects. Also the participant from Market Regulation Bureau of Foshan reported on how Foshan promoted the standards comparison and compliance action, and put forward opinions and suggestions. The attendees discussed the difficulties and problems in their work, and advised on how to continuously carry out the standards comparison and compliance work.

Xu Jianjun stressed that the standards comparison and compliance action is an important measure to implement the policies of the central government. By comparing with advanced standards and improving the quality of products and services, it is an effective driving force to adopt advanced foreign standards and promote the application of Chinese standards overseas.

Market regulation departments at all levels, technical institutions and enterprises in Guangdong province will support the action, optimize the pilot projects and promote the application of standards comparison results, so as to improve product quality and boost industrial development, said Xu.

2nd China Digital Carbon Neutrality Summit Forum convened in Chengdu

Themed "Digitalization leads green development", the 2nd China Digital Carbon Neutrality Summit Forum was held on February 25 in Chengdu, Sichuan province, gathering experts, scholars and industry representatives to discuss the latest trend and innovative practices of carbon peak & neutrality goals empowered by digitalization.

The forum was hosted by the Informationalization Development Bureau of the Cyberspace Administration of China, and Cyberspace Administration of Sichuan, under the guidance of the Cyberspace Administration of China, National Development and Reform Commission, Ministry of Ecology and Environment of China, and People's Government of Sichuan Province. Four parallel forums were held during the event, which are themed "green and low-carbon development of digital technology enterprises", "green, low-carbon and digital life", "digitalization and carbon neutrality investment & financing and high-quality development", and "regional development of digital carbon neutrality".

Protecting the ecological environment and tackling climate change is a common challenge faced by all humans. For example, the popular artificial intelligence program ChatGPT consumes 190,000 kWh of electricity for one training session and releases 85 tons of carbon, according to Ru Peng, Deputy Director of Think Tank Research Center, Tsinghua University.

China has devoted to enhancing economic and technical cooperation, speeding up coordinated digital and green development, advancing the transition and upgrading of energy, and promoting green economic and social development.

However, the gap of coordinated digital and green standards is still quite large, said Yang Meng, Deputy Director of Authentication Center of China Electronics Standardization Institute. There are approximately more than 3,000 national and sectoral standards for greenness and low carbon, only 1 percent of which are related to digitalization.

Further effort will be paid to develop standards on the coordination of digitalization and greenness, which can empower each other and better facilitate China's development.

Voluntary national standards for classification and codes of assets released

The Standardization Administration of China (SAC) has published a newly revised voluntary national standard, GB/T 14885-2022, *Basic classification and codes of fixed assets and other assets*.

Supported by SAC and organized by the Ministry of Finance, it took 3 years to complete the revision of GB/T 14885, which adopted the opinions of all sectors of society and industry administrative departments.

The standard offers a basis for deepening the reform of the budget management system, regulating and reinforcing the basic information management of state-owned assets, realizing the unified macroprudential and lifecycle management of assets, and improving the informatization level of asset management.

The standard divides fixed assets into seven categories, including houses and structures, equipment, cultural relics and exhibits, books and archives, furniture and appliances, special animals and plants, and materials, which are classified into 75 subcategories and nearly 3,000 types.

With exhaustive classification, the standard helps avoid ambiguity and crossover, and clarify different types of assets. It also unifies the coding rules, providing basic support for integrating asset management into budget management. During business links like asset management, budget planing and implementation, government procurement and accounting, asset inventory information can be easily extracted according to their classification and code, which will also benefit financial accounting.

It also gives guiding rules for the basic classification and code expansion and mapping of fixed assets and other assets in the appendix, which allows users to expand codes catering to their demands.

Sectoral standards publicized at World Digital Education Conference

Themed "Digital Transformation and Future of Education", the World Digital Education Conference was held in Beijing on February 13-14. Fruitful achievements in education were announced, including sectoral standards for the digitalization of education.

Focusing on platform, data, resources and literacy, 7 sectoral standards were publicized during the conference. In terms of education platform, JY/T 0641-2022, *Smart education platform—Basic functional requirements*, specifies the fundamental functions of all kinds of smart education platforms at all levels, providing pivotal reference for the establishment and management of smart education system.

Three sectoral standards are related to education data, including JY/T 0633-2022, *Common education data*, JY/T 0637-2022, *General personnel data in education system*, and JY/T 0639-2022, *Common data specification for primary and secondary schools*. They define the high-frequency, common and core data elements of education management, which will comprehensively support data aggregation and safe sharing of education system, provide necessary guarantee for education management and decision-making, and help enhance education governance.

In terms of resources, JY/T 0644-2022, *Basic classification codes of digital education resources*, and JY/T 0650-2022, *Smart education platform—Technical requirements for digital education resources*, expound the requirements of the construction and application of various digital educational resources.

As for literacy, JY/T 0646-2022, *Digital literacy of teachers*, describes the digital literacy in five aspects that future teachers should possess, namely the awareness of digitalization, knowledge and skills of digital technology, digitalization application, digital social responsibility and professional development. It is expected to promote the in-depth integration and innovative application of digital technology and education & teaching.

It is believed that digital education will carry forward education transformation, where standardization work calls for more attention and participation. Working with experts from the ISO/IEC JTC 1/SC 36, *Information technology for learning, education and training*, Chinese experts have participated in the development of 22 international standards on digital education, shared experience in digital campus, Internet of Things (IoT), digital twin, digital literacy, etc.

Association standard on management and evaluation of carbon reduction talent training

China has set the carbon peak & neutrality goals, that is to reach the peak of carbon dioxide emission by 2030, and realize carbon neutrality by 2060.

The goals have had a profound impact on China's economic and social development, with new industries emerging and current industries transforming. Now, there is a shortage of talents for carbon finance, carbon accounting, carbon auditing, carbon asset management, carbon insurance and so on, so it is necessary to develop standards in these fields.

Drafted by the Carbon Neutrality Committee of China Energy Conservation Association (CECA) and relevant institutes and enterprises, association standard T/CECA-G 0220-2023, *Specifications for the management and evaluation of talent training in the field of carbon emission reduction*, was officially published on February 10, which fills the gap in this field.

The standard stipulates the basic requirements of training institutions in the field of carbon emission reduction, training organizational process, training content, teachers' qualification and training quality management and evaluation. It provides the reference for organizations to carry out recruitment, evaluation, capability enhancement, etc.

Association standards have received more attention for its quick response to innovation and market demands. Over 20 enterprises, institutes and other organizations have participated in the development of the standard, including China Quality Certification Centre and China National Institute of Standardization, who jointly contribute to the high-quality and orderly development of talent training in the field of carbon emission reduction.

CECA will facilitate the promotion and implementation of T/CECA-G 0220-2023, to build a supply chain of professional talents on carbon emission reduction that meets the needs of enterprises, and establish an evaluation mechanism.

Standards system of park city released in Sichuan

Southwest China's Sichuan province has made great strides in the standardization of park city. The *Sichuan Tianfu New District Park City Standards System (Version 1.0)* was officially published recently, which is the first standards system of park city in China.

Covering over 290 standards, the standards system consists of 4 subsystems, namely "planning first", "building a happy homeland", "promoting value transformation" and "improving governance efficiency".

Approved by SAC in December 2021, Tianfu New District became China's first and sole national comprehensive standardization pilot of park city, which denotes that China's park city construction has entered the era of standardized and scientific development.

Taking city as a zoetic organism, and adhering to the concept of full-cycle management, Tianfu New District has accumulated rich experience in the pioneering exploration of park city.

During its park city construction, Tianfu New District highlights the importance of innovation, and builds the standards system based on investigation and research. Researchers conducted study on existing planning, construction effect, management mechanism and application scenario in the 16 fields of park city, including safety resilience, natural ecology, park community, ideal block, innovation, grassroot governance, intelligent governance, etc.

The park city standards system adheres to the latest urban development paradigm in the new era, and refers to the cases of other cities excellent in sustainable development. It provides a referable, replicable and applicable standardized construction scheme for the transformation of city in China.

HIGHLIGHTS |

Luo Wen addresses the High-Level Policy Dialogue of UNESCAP

The High-Level Policy Dialogue on Trade Facilitation through International Standards and Mutual Recognition of Agricultural Machinery Testing was held by the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) on February 21-22. Luo Wen, Minister of SAMR, was invited to address the opening ceremony via video.

China has always adhered to economic globalization, promoted trade and investment liberalization and facilitation, and boosted regional cooperation, stressed Luo Wen.

Standards and conformity assessment serve as a vital technical basis for global economic & trade exchanges and industrial cooperation, and affect 80 percent of international trade. Fair use of standards and conformity assessment will reduce trade barriers and promote trade facilitation. Therefore, China has deeply participated in management, technologies, standards and rules of global governance in the field of quality infrastructure, and vigorously contributed to opening-up and trade.

Luo promised that China will continue to support the initiatives of the ESCAP, promote sustainable and inclusive trade, strengthen regional integration and competitiveness, facilitate regional cooperation on innovation and technology, and realize sustainable development.

By utilizing trade facilitation toolkit including internationally recognized standards and conformity assessment, China will further share experience in reducing technical trade barriers, expanding the free flow of products and services on a wider scale, and supporting sustainable development.

Tian Shihong attends the 120th ISO Council Meeting

The 120th Meeting of ISO Council was held on February 21-23 in Geneva, Switzerland. Tian Shihong, Vice Minister of State Administration for Market Regulation (SAMR) and Administrator of Standardization Administration of China (SAC), led the Chinese delegation to attend the meeting.

During the meeting, attendees listened to the report on work progresses since last session, reviewed the implementation of ISO's regional participation policy and the sustainable development project, studied the strategy implementation plan of ISO Strategy 2030, and approved the 2023 budget and plan to hold the annual meeting. On behalf of China, Tian Shihong put forward suggestions on vital topics, including ISO strategy implementation and assessment framework, regional participation policy, promoting ISO's brand value, sustainable development projects, standardization roadmap, strategic management of the Council, etc., which were highly recognized by Sergio Mujica, Secretary-General of ISO, and members of the Council.

Before the meeting, the Chinese delegation visited the Swiss Electrotechnical Committee (CES) for in-depth exchanges on bilateral cooperation on electrotechnical standardization, mutual participation in international standardization activities and so on.

The delegation held meetings with President of ISO, President of IEC, and representatives from other ISO Council members such as the U.K., Germany and France, to enhance bilateral and multilateral standardization cooperation, smooth China's participation in international standardization activities, etc.

Established in 1947, ISO is the leading international organization in standardization area with a membership of 167 national standards bodies. SAC participates in international standardization activities of ISO on behalf of China, an ISO member and permanent member of the ISO Council. As the core governance body of ISO, the ISO Council is responsible for the organization's constitution, policies, development strategies, financial plans and other significant issues.

HIGHLIGHTS |

ISO sets up ISO/TC 342 on management consultancy

According to the announcement of Technical Management Board of ISO (ISO/TMB), ISO/TC 342, *Management consultancy*, was approved to be established in February, with SAC holding its secretariat.

The founding of ISO/TC 342 was proposed by China Council for the Promotion of International Trade Commercial Sub Council (CCPITCSC), in order to regulate the international standardization of management consultancy.

China will further participate in the international standardization work on modern service industry and trade in services, offering an international standardization platform that promotes the internationalized management of enterprises and supports the upgrading of their management.

APEC workshop on water-conservation standards held online

On account of uneven distribution of water resources, population growth, climate change, etc., the Asia-Pacific Economic Cooperation (APEC) economies generally face the challenge of water shortage and related problems.

To enhance cooperation and exchanges in water-conservation standardization, the APEC Workshop on Best Practices Sharing of Water-Conservation Standards and Evaluation on Their Benefits was held virtually on February 2-3.

The workshop was organized by the Resource and Environment Sub-institute, China National Institute of Standardization (CNIS), a great contributor of this project. It was attended by 50 representatives from non-governmental organizations (NGOs) and 8 economies, including Australia, Japan, the U.S., Thailand, Malaysia, the Philippines, Singapore and China.

Presided over by Bai Xue, Researcher from CNIS, the workshop invited 9 experts from Australia, the U.S., Japan, Thailand, China and NGOs to share the standardization progress and implementation effect in areas of water efficiency of products, sustainable water management, irrigation water management, and recycled water reuse.

During the roundtable discussion, the attendees fully exchanged their views on issues such as mutual recognition of water-efficiency standards and labels, promotion of sustainable water management certification, and implementation and evaluation of water-saving standards in the Asia-Pacific region.

Representatives reached a consensus that standardization work on water efficiency of products, sustainable water management and water reuse is a technical backbone of water resource management, and it is necessary to vigorously promote regional mutual recognition of standards or labels. They expected that further cooperation in these areas will be carried out in the future.

The workshop will further facilitate APEC economies to exchange and cooperate in the field of water resource and share practical experiences and research achievements in water-saving standards, which will support the green and sustainable development in the region. CNIS will further exploit the advantages to promote green and low-carbon standardization, and share China's advanced practices with global partners.

ISO publishes revised standard for ground support equipment and relevant systems

Aerospace is always a pursuit of humans, not only out of desire for knowledge, but also out of persevering ambition. Ground support equipment (GSE) and relevant systems are of vital significance, which is fundamental to space system programs and projects. Though there are standards for ESG, the standards for ESG inspection and maintenance are necessary to perfect the whole process.

ISO 14625:2023, *Space systems—Ground support equipment for use at launch, landing or retrieval sites—General requirements*, was published recently, where Beijing Aerospace Automatic Control Institute, China Academy of Launch Vehicle Technology has contributed leading efforts.

Thanks to years of work, the standard specifies the general characteristics, performance, design, test, checkout, maintenance, safety, reliability, maintainability and quality requirements for GSE, and systems intended for use at launch, landing or retrieval site. The standard can ensure the performance of GSE before launch, which will simplify the launch process, reduce costs, decrease latent risks and raise launch success ratio.

ISO 14625:2023 is developed by ISO/TC 20/SC 14, *Space systems and operations*. It bespeaks that China's experience and achievements in design, inspection, recondition, maintenance, quality control and relevant aspects of GSE have won international recognition in the field of aerospace. The complete process of GSE, such as design, production and testing, can accord with this standard in the future.

How CYBERSECURITY standards support the EU legislation

网络安全标准如何支持欧盟立法

By Cao Xinxin
文/曹欣欣

Photo: CSP

Cybersecurity Standardisation Conference 2023 was hosted by the European Union Agency for Cybersecurity (ENISA) jointly with the European Standards Organizations (ESOs) – CEN, CENELEC and ETSI. The 7th annual conference was held in a hybrid form with the theme of "European standardization in support of the EU cybersecurity legislation", attracting more than 1,600 participants on site and online from the European Union and the international sphere.

Given the latest development in cybersecurity policies, the conference gathered leaders and experts from the European Commission, ESOs, ENISA and representatives of business and industry sectors to share their insights into how European standardization support the EU cybersecurity legislation.

The event was opened with insightful speeches given by leaders from the European Standards Organizations, Ms. Elena Santiago Cid, Director General of CEN and CENELEC, Mr. Wolfgang Niedziella, President of CENELEC, Mr. Luis Jorge Romero, ETSI Director-General, Mr. Andreas Mitrakas, Head of Market Certification and Standardisation Unit at ENISA, as well as Ms. Christiane Kirketerp de Viron, Head of Cybersecurity and Digital Privacy Policy Unit at the European Commission.

The conference consisted of four panels, each with a specific topic discussed by five speakers. After delivering keynote speeches and sharing their understandings of the topic, the speakers answered questions from present attendees.

The first panel focused on the future of EU standardization from regional and international perspectives. The second panel discussed the Cyber Resilience Act, a game changer, and how standards can support it. The Electronic Identification and Trust Services for Electronic Transactions in the Internal Market (eIDASv2) and digital identities were the topics of the third panel, while the final panel gave an overview of the landscape of the EU cybersecurity legislation.

Here, we present the highlights of keynote speeches at the conference and share the experts' insights with our readers.

About ENISA

The European Union Agency for Cybersecurity (ENISA) is dedicated to achieving a high common level of cybersecurity across Europe. ENISA contributes to EU cyber policy, enhances the trustworthiness of ICT products, services and processes with cybersecurity certification schemes, cooperates with Member States and EU bodies, and helps Europe prepare for the cyber challenges of tomorrow. The Cybersecurity Act gives mandate to the European Union Agency for Cybersecurity to monitor developments in the area of standardization. The work of the Agency builds on the on-going standardization work of the European Standardization Organizations – CEN, CENELEC and ETSI, as well as the Cybersecurity Coordination Group (CSCG).

About CEN and CENELEC

CEN (European Committee for Standardization) and CENELEC (European Committee for Electrotechnical Standardization) are recognized by the European Union (EU) and the European Free Trade Association (EFTA) as European Standardization Organizations responsible for developing standards at European level. These standards set out specifications and procedures in relation to a wide range of materials, processes, products and services. The members of CEN and CENELEC are the National Standardization Bodies and National Electrotechnical Committees of 34 European countries. European Standards (ENs) and other standardization deliverables adopted by CEN and CENELEC are accepted and recognized in all of these countries.

About ETSI

ETSI (European Telecommunication Standards Institute) provides members with an open and inclusive environment to support the development, ratification and testing of globally applicable standards for ICT systems and services across all sectors of industry and society. It is a non-profit body, with more than 950 member organizations worldwide from 64 countries and five continents. The members comprise a diversified pool of large and small private companies, research entities, academia, government, and public organizations. ETSI is officially recognized by the EU as a European Standards Organization (ESO).

Photo: CSP

Ms. Christiane Kirketerp de Viron
Head of Cybersecurity and Digital Privacy Policy, European Commission

Cyber challenges we are facing and how standards can help

I think one of the major challenges we are facing is not only a constantly increasing level of sophistication, but also a number of cyberattacks against our critical infrastructure and businesses. Companies do not patch even if the patch is available, and the information doesn't flow properly across the borders.

The second challenge is the digital transformation of our society and economy. We are investing billions of Euros in the digitalization. But we also need to invest in cybersecurity. If we only pump money into all nice things in digital, but we forget about security, then every Euro we are investing is actually making us weaker. It is a huge challenge for us to actually increase the investments in cybersecurity.

The third fundamental challenge is to stay ahead of the curve with the technological developments. In these days, everyone is talking a lot about ChatGPT and how it is affecting our lives. We can see that ChatGPT can actually help anyone become a cybercriminal. Technological development will create a certain reality for us and the EU has to stay ahead of the game. We cannot allow ourselves to not be technologically sovereign in this domain, if we want to defend ourselves.

This is where standards come to. We need European harmonized standards to ensure the successful implementation of the Cyber Resilience Act (CRA). Standardization has become increasingly strategic for it. We are seeing more and more ethical aspects in standardization, which are used as a way to protect our values in the EU.

I am also very optimistic that we will be able to join efforts internally in the European market, and also with international like-minded partners to really push ahead another global standardization agenda.

Benefits of standardization for the European single market


Photo: CSP

Ms. Elena Santiago Cid
Director General of CEN and CENELEC

This year is the 30th anniversary of the European single market. What we have learned from the last three decades is the benefits of European harmonized standards and the beauty of standardization. When we publish a European standard and it is adopted identically in all the country members of CEN and CENELEC, we can throw conflicting national standards away to realize the harmonization for Europe.

Standards have a higher value because they can support legislation, reduce compliance cost and increase competitiveness, security, safety, health and environmental protection.

We are acting together to respond to the challenges in front of us. Those challenges are not only for the European market. They are global challenges. And we should not undermine the importance of cooperation with the international standards organizations. We should also understand that developing a standard is a strategic decision. What do we want for Europe? What do we want to get in the world? We are very happy to share the European values, and through standardization we can do that. One of the objectives of the CEN and CENELEC Strategy 2030 is to spread the outreach of European standardization, and also to influence the international standardization with the European standards and by spreading European values.

Given the fragmentation in the market, I want to emphasize the importance of having harmonization in Europe, not only legal harmonization, but also voluntary harmonization, because it can increase the competitiveness of our industry. And by adopting the national delegation principle, CEN and CENELEC help to reach out to all the different stakeholders.

Cybersecurity is something that affects all of us. We need to raise awareness, and give the opportunity to all those that are affected and have something to say to contribute to the standards making process. So the 34 members of CEN and CENELEC have the responsibility to reach out to all the national stakeholders in their own languages, because diversity or richness of Europe sometimes may jeopardize or delay the development of standards that need to be timely delivered.

Mr. Wolfgang Niedziella
CENELEC President

European standardization plays a key strategic role in strengthening the resilience against cyber threats

Cybersecurity is a top priority for the EU. In December 2020, the European Commission adopted a new EU cybersecurity strategy. Since then, several acts and proposals have been adopted by the European Commission, such as the Delegated Act to the Radio Equipment Directive (RED), the Chips Act, the Data Act, and the proposal for the Cyber Resilience Act (CRA). Most of these pieces of legislation require supporting standardization.

That is no surprise that cybersecurity standardization is one of the priorities in the present CEN and CENELEC work program, which is also in line with our CEN and CENELEC Strategy 2030. Through our stakeholders' network, CEN and CENELEC ambitions are to create consensus-based standards to generate trust, fulfill market requirements, enable market access and innovations for a better, safer and more sustainable Europe.

European standardization plays a key strategic role in strengthening Europe's collective resilience against cyber threats and ensuring that all citizens and businesses can benefit from trustworthy and reliable products, services and processes. The European and international standardization community have been active in the development of standards to contribute to the cyber protection of users and organizations. CEN and CENELEC can reach ISO and IEC with their links, and common standards can be applied worldwide.

International standards adopted in Europe are complemented by all European deliverables to match the specific European needs. CEN and CENELEC are building a strategic architecture of standards, mitigating cyber risks, enabling innovation into operability, fostering quality and supporting compliance with European legislation. In this context, it is important to maintain the current European standardization system. Over the past 30 years, it made its way to support a robust, single market and heavily contributed to ISO and IEC through the Vienna and Frankfurt agreements.

This is why it is also important to constantly look for opportunities to further develop the European standardization system to harmonize standards globally. For example, by cooperating with other organizations in the world, we take advantages of opportunities to support European policy initiatives, such as the EU-US Trade Technology Council (TTC) or the upcoming EU-India TTC, and share visions and align with other big economies where there are common interests.

Key role of standards in the CRA

Photo: CSP

Ms. Maika Fohrenbach
Policy Officer, Unit for Cybersecurity and Digital Privacy, European Commission

The CRA was published on September 15, 2022. While we are working towards the adoption of the CRA, we are also getting on full speed on preparing its implementation, where standards will play a fundamental role.

The CRA is the first EU legislation setting horizontal cybersecurity obligations for economic operators, and increasing the responsibility of manufacturers for the cybersecurity of the products on the EU market.

One of the core obligations for manufacturers is to meet a set of essential cybersecurity requirements when placing their products on the market. And these essential requirements focus on technology neutral objectives and have to be further specified into technical specifications.

Another important obligation for manufacturers is to demonstrate compliance with these essential requirements by applying conformity assessment procedures where standards play an important role because they will define the evaluation methodologies that can be used for these conformity assessment procedures.

So how are these standards developed and what is their role? The Commission requests and is already preparing the development of harmonized standards, because they provide a key advantage, both for manufacturers by providing legal certainty and for market surveillance authorities. Once you see that a manufacturer applies harmonized standards, it is much easier to attest that the manufacturer is compliant with the CRA.

The harmonized standards typically need to be requested by the Commission and are developed by the European standardization organization. We have already started the preparatory work and we are also glad to hear that CEN and CENELEC have started a mapping exercise of existing standards that could provide the basis for the CRA.

The key role of the harmonized standards is that they can provide the presumption of conformity. So it is sufficient for a manufacturer to say that I have applied these standards and no further detail justification need to be provided on how it actually meets the essential requirements.

It is very important to stress that harmonized standards are tools for manufacturers to demonstrate compliance, and they are always voluntary. They can typically be based on international standards, European standards, national standards, widely used technical specifications, etc.

We will define the road map for the standardization of the CRA in close collaboration with all relevant stakeholders, in particular, with the European standardization organizations. Currently it is foreseen that we will need two years to develop the first set of standards, but the work doesn't necessarily stop after these two years. Nevertheless, we definitely have an ambitious target ahead of us.

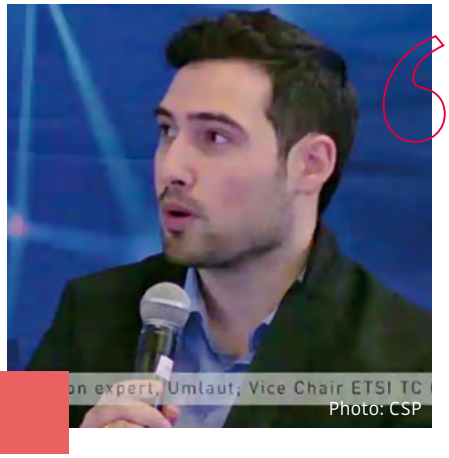

Photo: CSP

Mr. Samim Ahmadi
Cybersecurity Standardization Expert of Umlaut, Vice Chair of ETSI TC Cyber

How to make standards support the CRA

According to the data, we can see that the number of standards and organizations dealing with standards are exponentially growing over the years. The result is that we have lots of cybersecurity standards. And it is a huge challenge for us. We have to figure out which standards are now important or which standards can be reused to meet the needs of the CRA?

The scope of the CRA is about cybersecurity for products with digital elements, which is very huge. There is a majority of cybersecurity standards having touch points with the CRA. So we have to make the gap analysis of all these standards of different organizations to see: are these standards enough to meet the needs of the CRA? To what extent do these standards support the CRA?

We also have to figure out who will look for these standards because it will take a lot of time to do so. Are there standards contradicting to each other? Maybe the standard published last year is more appropriate, because it better meets the needs of the current problems than the standard published 10 years ago.

Much time is needed to make this gap analysis. But we are working together with ESOs and the industries to address this issue. The ESOs are also working to figure out which standards have a relation to the CRA and where are the touch points? How can we combine them? How can we make a uniform standards framework based on that? There are different work streams in CEN and CENELEC. Let's see what will happen in the future.

National Standardization Work Conference held in Beijing

全国标准化工作会议在京召开

By Jin Jili
文/靳吉丽

Photo: CSP

Photo: CSP

The annual National Standardization Work Conference was held in Beijing on February 28, 2023. By fully implementing the guiding principles of the 20th National Congress of the Communist Party of China (CPC) and the *National Standardization Development Outline*, the conference summarized the standardization work in 2022 and deployed the key tasks this year.

Tian Shihong, Vice Minister of State Administration for Market Regulation (SAMR) and Administrator of Standardization Administration of China (SAC), attended the event and delivered a work report.

Tian fully affirmed the results achieved in the standardization area in the past five years, in particular last year. He emphasized that we should stimulate the vitality of market entities to drive the standards supply in a mode with equal stress on government-led and market-oriented standards, support the high-quality development to promote standards application in all economic and social sectors, facilitate the high-level openness to promote the standardization development at both national and international levels, and enhance efficient governance to transform the standardization development towards quality and efficiency.

He also put forward the requirements on strengthening the Party's leadership in standardization work, enhancing the standards development in emerging technological fields and the standardization level of industries, exerting the supporting role of standardization in green development, developing more safety standards in needs, increasing the standards supply in areas concerning people's wellbeing, enhancing the international cooperation on standardization, deepening the standardization reform and innovation, as well as improving the standardization work system.

During the event, speeches were given by Sheng Qiuping, Vice Minister of Commerce, and Zhong Zhiyu, Chief Engineer of Ministry of Water Resources. Held in hybrid form, the event was attended by representatives from relevant departments in Cyberspace Administration of China and the State Council, Equipment Development Department of Central Military Commission, standardization departments in related organizations and industrial associations, departments affiliated to SAMR, as well as market regulation departments across the nation.

Standardization contributes to a modern socialist country in all respects

为全面建设社会主义现代化国家贡献标准化力量

Tian Shihong, Vice Minister of SAMR and Administrator of SAC, gave a work report at the annual National Standardization Work Conference. The report made an overview of the standardization work in 2022 and the achievements in the past five years, showcased how to achieve high-quality standardization development based on the guiding principles of the 20th National Congress of the Communist Party of China (CPC), and introduced the standardization priorities in 2023. Here are some highlights of the report.

Standardization work in 2022 and five-year achievements

Remarkable achievements were made in the standardization work of 2022, a crucial year in the development process of the Party and the country.

· The Party's leadership in standardization work was comprehensively strengthened. The report to the 20th CPC National Congress proposed specific requirements on steadily expanding the institutional opening up of standards and improving the standards system supporting green development. Xi Jinping, General Secretary of CPC Central Committee, gave instructions on standardization work, requesting in-depth reforms in accordance with the rules, regulations, management and standards related to high-level economic and trade agreements. Issued by the CPC Central Committee and the State Council, important policies including the *Outline of Boosting China's Quality Strength* set new tasks and requirements for standardization work. By implementing the instructions, SAMR, SAC and related departments published a batch of important national standards covering restricting excessive packaging of commodities, evaluation of loss in grain reserves, residue limits of agricultural and veterinary drugs, smart logistics, etc. The Party committees and governments in Shanxi, Liaoning, Shandong and other areas made special studies to deploy local standardization work.

· The implementation of *National Standardization Development Outline* presented a good start. The inter-ministerial joint meeting on standardization coordination and promotion under the State Council strengthened overall plans and coordination, and approved the action plan on implementing the Outline. **By coordination and cooperation,** Ministry of Emergency Management, Ministry of Civil Affairs, Ministry of Commerce together with SAMR released the standardization action plans on personal protective equipment and elderly care and household service. And Ministry of Industry and Information Technology, Ministry of Agriculture and Rural Affairs, National Rural Revitalization Administration and other departments compiled the working programs on high-end equipment manufacturing and rural revitalization, and the Equipment Development Department of Central Military Commission formulated the outline of military standardization development. All these laid a good foundation for leading overall improvement with major breakthroughs.

Local governments actively responded by releasing opinions for implementing the Outline successively. Shanghai and Shandong took the lead in launching pilot projects on standardization innovative development, Beijing issued the Capital Standardization Strategy 2035, and Henan made policies to support "Standardized Henan". These facilitated the effective integration of standardization work with local development. **To stimulate the initiatives of enterprises,** SAC, State-owned Assets Supervision and Administration Commission of the State Council and All-China Federation of Industry and Commerce jointly released guiding opinions, organized the conference on quality improvement and standards innovation in central enterprises, and held the private economy standards innovation week. By strengthening the responsibilities in promoting quality standards innovation, bolstering the cultivation of association standards and facilitating the forerunners of enterprise standards, the development of over 80 percent of national standards has been led or participated in by enterprises.

· Standardization supported new strides in sci-tech innovation. Focusing on the strategic priorities of innovative development, Ministry of Science and Technology

deployed NQI, digital technology and other standardization research tasks in the national key R&D plan in 2021-2025. Leading specialized and sophisticated SMEs participated in the development of over 1,500 national standards. **To meet the urgent needs for transforming innovation achievements into standards,** more than 30 national standardization technical committees were established in areas such as integrated circuits and medical equipment, more than 20 national technical standards innovation centers were established in areas such as smart grids and smart manufacturing, and over 1,600 sci-tech innovation achievements were transformed into standards. **In terms of emerging industries, cutting-edge technologies and advantageous fields,** the action on new material standards were continuously implemented, and the standards in urgent needs for core technologies such as etchers and additive manufacturing were published. Over 130 standards were developed in the area of new infrastructure construction such as IPv6 and industrial internet. Affiliated societies of China Association for Science and Technology made breakthroughs in international standards on stem cells, graphene oxide, etc.

· **Standardization led new progresses in industrial development.** **To boost rural revitalization,** the national standard on general rules of well-facilitated farmland construction was revised, the national standards for socialized services in agricultural technical extension were published, 134 national agricultural standardization demonstration zones were established, and the standardization pilot projects for comprehensive rural reform and new urbanization were launched. **To support manufacturing optimization and upgrading,** Ministry of Industry and Information Technology took the lead in advancing the standardization project on stabilizing key industrial chains, and studied the standard catalogue of industrial chains such as industrial machine tool, agricultural machinery equipment, and rare earths; National Medical Products Administration facilitated the collaborative development of national and international standards on new molecular diagnostic technologies; National Energy Administration accelerated the development of technical standards for novel energy storage and hydrogen energy. **To facilitate the development of modern service industry,** People's Bank of China, China Securities Regulatory Commission and other departments strengthened the construction of digital financial standards system; Ministry of Commerce and Ministry of Culture and Tourism promoted the standards development for green takeout food and tourism homestay; General Administration of Sport of China and Heilongjiang drove the standards development for winter sports, involving 300 million people in ice and snow activities in the post-Winter-Olympics era.

· **Standardization supported new breakthroughs in green transformation.** **To achieve the goals of carbon peak and neutrality,** nine departments including National Development and Reform Commission and Ministry of Housing and Urban-Rural Development jointly issued the implementation plan for the carbon peak and neutrality standards and metrological system, and Tianjin and Guangdong formulated their own implementation plans. **Focusing on the key tasks of environmental pollution prevention and control and ecological protection,** Ministry of Natural Resources and National Forestry and Grassland Administration stepped up optimizing the standards system, Ministry of Water Resources drove the strict implementation of standards on water quotas for high water consumption industries, and Ministry of Ecology and Environment strengthened the standards development for air pollutant emission in key industries. **To actively lead green production and consumption** and further improve mandatory standards on restricting excessive packaging of food and edible agricultural products, Ministry of Finance promoted the application of advanced standards in the government procurement of green building materials, and State Post Bureau developed the standard

for express electronic waybills, constantly popularizing the green and low-carbon production and lifestyle.

· Standardization contributed to new achievements in social construction. To raise the level of public service standards, the governmental function transformation office and e-government office under the General Office of the State Council worked hard to promote the one-stop government services and the national integrated platform on government services, Ministry of Education, Ministry of Human Resources and Social Security and other departments released standards on digital textbooks for primary and secondary schools, public employment and social insurance, and National Government Offices Administration released 12 paradigm pilots of government standardization. **To safeguard the standard baseline of security,** Ministry of Justice and Ministry of Public Security issued standards for identifying explosives and forensic evidence, National Health Commission organized the revision of standards on drinking water and indoor air quality, and Cyberspace Administration of China actively promoted the development of standards on data security and personal information protection. **To improve the standards guaranteeing life quality,** a campaign to protect children and help seniors was carried out, and the standards for seniors' capability assessment and children's watches were released. China Disabled Persons' Federation drafted the standard on the classification of winter para sports athletes. The People's Bank of China organized the formulation of regulations for building barrier-free environment in bank outlets to provide more care for special groups.

· International cooperation on standardization entered a new stage. Taking an active part in standardization global governance, China contributed more wisdom to the strategies and reforms of international standards organizations, and put forward international standards proposals in areas such as sustainable cities and communities and climate change solution. China promoted the establishment of technical bodies in areas such as small hydropower, heat supply network, oil and gas extraction and metaverse, and assumed secretariats in the technical bodies on boiler and pressure vessels, brain-computer interfaces, etc., with experts serving as Chairs. **International cooperation on standardization was strengthened** with the signing of 14 bilateral cooperation agreements, of which 3 agreements were included in the achievements of high-level visit of Chinese President Xi Jinping. Standardization cooperation was also incorporated into the intergovernmental cooperation agreements signed between China and eight countries. Bilateral and multilateral events were successfully held, such as the Meeting between Heads of BRICS National Standardization Bodies. **The opening up of standards was significantly improved** with 752 members from foreign-invested enterprises newly added in domestic technical committees. It was for the first time that China and Russia jointly formulated and published the standard for civil aircraft and achieved mutual recognition. The standards on hydropower and highway were further adopted in overseas projects.

· New progresses were made in standardization reform and innovation. The new standards system was improved with the revision and publication of *Administrative Measures for National Standards* and the review of more than 6,000 standards. New standard codes for industries such as government office affairs and market regulation were added, and the standards scopes for 50 industries including finance and judiciary were optimized. The Beijing-Tianjin-Hebei Region formulated an implementation plan for promoting regional collaborative standardization. The opinions on promoting high-quality development of association standards was issued. **The supervision of standards implementation was advanced** with the statistical analysis of key compulsory national standards implementation on a trial basis. Ministry of Civil Affairs and Ministry of Ecology and Environment carried out the

implementation assessment of key standards. Spot checks were carried out to address the problem of out-of-scope development of a number of industrial and local standards. **The number of standardization talents was growing** as Ministry of Education first included standardization major in the national vocational education undergraduate list. A total of 33 Chinese experts were awarded the Thomas Edison Award and 1906 Award of IEC and the Excellence Award of ISO.

Over the past five years, historical achievements and transformations have been made in the deep reform and innovation of national standardization work. **The top-level design of standardization has been gradually improved.** The CPC Central Committee and the State Council released the *National Standardization Development Outline*, revised and implemented the *Standardization Law of China*, and issued supporting regulations. **The vitality of standardization has been fully unleashed.** Mandatory standards have been streamlined, and voluntary standards systems have been continuously improved. Growing out of nothing, the number of association standards has surpassed 49,000. The number of enterprise standards has exceeded 2.6 million, including 3,100 standards developed by forerunner enterprises. The government-led standards take on a new look, and the market-oriented standards are thriving. **The standards system for high-quality development has been accelerated.** The "Standardization Plus" actions have been extensively carried out. The penetration rate of standardized agricultural production has exceeded 30%, the conversion rate of international standards in key equipment manufacturing and next-generation information technology has reached over 90%, and the consistency degree of standards on major consumer goods with international standards has risen to 95%. The standardization of social administration and public services has basically achieved full coverage. **International cooperation on standardization has been further promoted.** China held the 83rd IEC general meeting successfully. The country now ranks among the top three in the world for comprehensive contribution rate of international standardization. Chinese standards have been widely used overseas. 60% of national technical committees have been involved by foreign-invested enterprises. A work pattern for coordinated standardization development at home and abroad has taken shape. **The foundation for standardization development has been much strengthened.** The standards review and evaluation system was established and put into operation. National standards have realized full-text disclosure, with a reduction of development period from 36 months to 22 months. A total of 115 technical committees were established, covering manned spaceflight, robot and other areas. The national technical committees now have more than 50,000 experts and more than 150 academicians. The standardization research capability has been raised with the inclusion of standardization strategy research projects in the brand projects of the Chinese Academy of Engineering. The technical support of standardization has become more prominent together with more significant governance efficiency. **The responsibilities of standardization in overcoming difficulties have been demonstrated.** Putting people and their lives first, the industrial standards for poverty alleviation have been developed to improve the economy in poverty-stricken areas. The standards on environmental quality and pollutant emission have been published to help make the sky bluer, mountains greener and water cleaner. All-out efforts have been made to support epidemic prevention and control, rapidly release national standards on personal health information codes and children's masks, and contribute to the international standard on nucleic acid testing of COVID-19 with a leading role. All standardizers have showed a good spirit by facing difficulties head-on and taking active actions.

Leading high-quality standardization development

The Report to the 20th CPC National Congress provides the clear direction and the fundamental principles for the standardization work in the new era through a series of strategic arrangements. By following the guiding ideas, national standardization work should focus on the strategic requirements of Chinese modernization, take the implementation of the Outline as the principal line, and rapidly realize the transformations in the following four aspects.

First, stimulate the vitality of market entities to drive the standards supply from the government-led mode to the mode with equal stress on government and market. The Report pointed out to "unswervingly consolidate and develop the public sector and unswervingly encourage, support, and guide the development of the non-public sector", "enhance the core competitiveness of state-owned enterprises", "move faster to help Chinese enterprises become world-class outfits", "build a unified national market". We should maintain a better integration of effective market and capable government to advance the innovation of standardization management, institution and services, encourage market entities to participate in standardization and fully unleash their standardization dynamism, and facilitate a more balanced and sustainable new binary standards system.

On the one hand, we will improve the quality and efficiency of market-oriented standards. We will accelerate the cultivation of association standards, enabling social organizations to develop more original technical standards that fill market gaps. We will improve the new enterprise system of standards innovation to cultivate forerunners with innovation capability, making standards as an important factor for improving the competitiveness of enterprises. **On the other hand, we will optimize and upgrade government-led standards.** Government-led standards still serve as the foundation of the new standards system with deep structural reform. National Forestry and Grassland Administration has explored good experience by making systemic optimization and structural restructuring of relevant standards and reducing over 3,600 standards to about 1,500 ones. We will implement customized policies to streamline government-led standards and leave space for market-oriented standards.

Second, support high-quality development to transform the standards application from industrial trade to all economic and social sectors. As the Report said, "To build a modern socialist country in all respects, we must, first and foremost, pursue high-quality development." We should put new development philosophy in place and focus on the requirements of Chinese modernization, to better meet people's needs for better lives, accelerate the construction of the standards system supporting high-quality development, and push forward all-round standardization in depth.

In terms of innovation-driven development, we will exert the role of standardization in promoting sci-tech innovation and self-reliance, strengthen the standards research in key technical areas, and improve the evaluation mechanism and service system for transforming sci-tech achievement into standards. **In terms of expanding domestic demand,** we will guide the supply and demand via standards, and build a comprehensive standards system for consumption products, services, platforms and environment to ensure people's capability and willingness of consumption. **In terms of building modernized industrial system,** we will enhance the development of basic standards to lay the foundation of modern industry, apply advanced standards to improve the resilience and safety of industrial chain, and accelerate standards upgrading to integrate new technologies and business forms in traditional industries and strengthen the leading position of advanced industries. **In terms of green development,** we will improve the standards system supporting green

development, enhance the coordinated standards supply in major areas such as carbon reduction, and facilitate the green and low-carbon development with ecological priority in an economical and extensive way. **In terms of promoting digital transformation,** we will accelerate the standards development in key areas and on new infrastructure and industrial digital integration, improve the main standards in major fields of data element management, and actively participate in international regulations and standards on data flow and security.

Third, facilitate the high-level opening up to push forward the standardization development with domestic driving forces towards the one mutually promoted at national and international levels. The Report put forward "high-standard opening up" with "institutional opening up with regard to rules, regulations, management and standards". We should drive the opening up of standardization work in broader scopes by cooperation and mutual benefits.

On the one hand, we will accelerate the "bringing in" with a global outlook. We will keep pace with high-level international economic and trade rules to harmonize the national and international standards system and facilitate the construction of new development pattern with dual circulation. We will follow the principle of consistency to ensure the foreign-invested enterprises to participate in China's standards development, support the settling of international standards organizations in China, and encourage training and communication of international professionals in China. **On the other hand, we should take the initiative of "going global".** we will use standards as an international common language to deeply participate in the governance of international standards organizations, enlarge the international expert team, and increase the standards development in advantageous and emerging areas. We will also strengthen the international communication and cooperation on standardization, and contribute to the international application of Chinese technologies, products, equipment, projects and services with standards.

Fourth, enhance efficient governance to transform the standardization work mode from highlighting quantity and scale to featuring quality and efficiency. The Report proposed "translating our country's institutional strengths into effective governance" and "modernizing China's system and capacity for governance". We should promote the modernization of the system and capacity for standardization governance in the following fields.

In terms of improving the technical level of standards, we will accelerate the transformation of sci-tech innovation achievements in standards, ensure the participation of relevant stakeholders with industrial consensus, and enhance the lifecycle management of standards for upgrading and improvement. **In terms of facilitating the digital development of standards,** we will actively explore the path to digital transformation, promote the digitalization of content, process and application model of standards, and enhance the advancement of standards. **In terms of strengthening standards implementation,** we will implement the supporting standards mechanisms for citation of standards and policies in regulations, and carry out the standardization pilot and demonstration projects, making standards an important tool in industrial upgrading and management, market access and quality supervision. **In terms of consolidating the foundation for development,** we will expedite the establishment of world-class standardization research institutes, national quality standards laboratories and national technical standards innovation centers. We will establish a multi-tiered and diversified standardized education and training system to strengthen the construction of various talents, providing the driving force for high-quality standardization development.

Standardization work plan of this year

In 2023, following the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, we will fully adhere to the spirits of the 20th CPC National Congress, earnestly implement the decisions and deployment of the Central Economic Work Conference, the CPC Central Committee and the State Council, and thoroughly implement the *National Standardization Development Outline* to boost China's strength in product quality. Focusing on expanding domestic demand, deepening the supply-side structural reform and building a unified domestic market, we will prioritize the work in following nine aspects:

· **Strengthening the Party's overall leadership and keeping to the right political direction.** We should thoroughly study, promote and implement the spirits of the 20th CPC National Congress, wholeheartedly implement the instructions and instructions of General Secretary Xi Jinping and the decisions of the CPC Central Committee, and put the Outline in place to reach effective results, as it is an important tool of facilitating high-quality development and helping build a modern socialist country in all respects.

· **Emphasizing the development of standards on emerging technology and speeding up the transformation of scientific and technological achievements.** We will make full use of the standardization means to realize the country's self-reliance and strength in high-level science and technology. **First,** we will improve the mechanism of transforming scientific and technological achievements into standards, so as to enhance the linkage between major science & technology projects and standardization work. **Second,** we will strengthen standards development in high-tech and key fields, such as machine tool, semiconductor devices, etc. **Third**, we will highlight the overall plan of standards in strategic, emerging industries to carry out the standardization navigation project of new industries and the standardization special actions on new-type infrastructure, put more efforts into the development of standards for new materials, processes and products, and steadily promote the development of domestic standards and international standards simultaneously. **Fourth,** we will increase the connection between standards for the upstream and downstream of the industry chain, and carry forward key industry projects that stabilize industrial chain via standardization, to deal with the breaking points and choke points.

· **Raising the standardization level of industries to provide a solid foundation for the modern industrial system.** We will continue to take the "Standardization Plus" action to reach bigger success in boosting the development of real economy. **First**, we will carry out the standardization action for rural vitalization and establish a sound standards system for the whole modern agricultural industry chain, to raise the standardization level of agriculture. We will also put more emphasis on the development of standards for village environment improvement and village governance to help build livable and beautiful villages. **Second**, we will speed up the upgrading of industrial standards by implementing the high-end equipment manufacturing standardization projects, improving the standards system of intelligent connected vehicles as well as artificial intelligence, and putting more efforts into the development of standards on smart, green and service-oriented manufacturing. **Third**, we will scale up the coverage of service standards, improve the standards for the productive service sector such as cold chain logistics and digital finance, and improve standards for life service sector, like cultural

tourism, sports and entertainment, better meeting people's diversified demands for high-quality lives.

· **Improving the standardization work for green development to help build a beautiful China.** We will constantly put environment protection first, insist on the path of green development, and facilitate economic and social development in a green, low-carbon way paved by standards. **First,** we will gradually improve the standards system supporting the green transformation and development of industries, accelerate the development of green life standards such as the prevention of food waste and excessive packaging of commodities, improve standards on green products, green factories, green parks and green finance, the conservation and intensive use of natural resources, and water consumption ration. **Second,** we will continue to optimize standards for ecological system protection and restoration, improve standards for air, soil, water, noise, solid waste pollution prevention, and speed up the development of ocean and wetland ecology restoration standards to raise the diversity, stability and sustainability of the ecological system. **Third,** we will actively put in place the carbon peak & neutrality standards implementation plan, update energy saving standards at higher speed, and develop carbon emission accounting standards.

· **Buttressing the safety net of standards to plan development and safety as a whole.** We will strengthen the supply of safety standards and solidify the standards foundation for national security and social stability. **First,** we will lay more emphasis on the overall planning and coordination of national production safety standards, and issue working rules to reinforce the coordination of the safe production standardization work. **Second,** we will carry out the public security standardization project, strengthen the development of standards for hazardous chemicals, emergency management, special equipment, etc., and raise the level of standards for personal protective equipment. **Third,** we will improve social governance standards by putting more effort into the development of standards for public security, criminal law enforcement, forensic science, judicial expertise, etc. **Fourth,** we will complete the cybersecurity standards system and develop national standards for key information infrastructure safety, smart TV data security, personal information protection, etc., to effectively address new cybersecurity threats and respond to the new cyber situation.

· **Increasing the supply of standards on people's livelihood to improve the quality of people's lives.** Adhering to the people-centered developmental concept, we will address the issues most concerned by the people and continue to increase standards level. **First,** we will strengthen the supply of standards related to the elderly and children, implement the elderly care and household service standardization actions, improve service standards for the travel and consumption of the elderly, and speed up the development and revision of mandatory standards for children's furniture and toys. **Second,** we will improve public service standards by carrying out the project of constructing the fundamental public service standards system, and publicizing and promoting standards on government review and approval, government services, community governance, etc. **Third,** we will improve medicine and health standards, and accelerate the development and revision of standards on traditional Chinese medicine application, new-type medical apparatus and instruments, rehabilitative appliance, etc. **Fourth,** we will improve consumer product standards to promote the harmonization between Chinese consumer product standards with international ones, develop standards for the quality grading of bulk consumer goods, and accelerate the development of food quality standards.

· **Enhancing the international standardization cooperation to steadily realize the greater openness of standards systems.** We will follow the global governance concept and implement the standards internationalization leap project to persevere in holding dialogues and consultations to share resources, learn from each other

and seek cooperation and mutual benefits. **First,** we will be more involved in global governance by sending more Chinese experts to participate in relevant international organizations. **Second,** we will put more effort into the development of international standards for digital technology, brain-computer interface, carbon peak and neutrality, etc., as well as the research on international standards for sustainable electrified transportation and so forth. **Third,** we will actively expand the bilateral and multilateral cooperation, including enhancing the communication on standards with other BRICS countries and deepening the regional standardization cooperation such as the Northeast Asia and Asian-Pacific region, to develop partnership with mutual benefits. **Fourth,** we will lay a solider foundation for the standardization communication and cooperation with countries along the Belt and Road, organize high-end international standardization meetings, and translate more national standards into foreign languages.

· Deepening the standardization reform and innovation to stimulate its internal driving force. We will fully exert the role of the standardization coordination and promotion mechanism to intensify reform. **First,** we will raise the scientific management level of standardization by establishing a more unified and authoritative mandatory national standards system, enhancing the fundamental theory research, improving standards quality, shortening the cycle of standards development and revision, and strengthening the normative management of sectoral and local standards. **Second,** we will explore to set up a standardization coordination working group for Yangtze River Delta region, and carry out the national standardization innovation pilot projects in cities and provinces such as Shanghai, Shandong, Zhejiang and Heilongjiang, to promote the innovative development of standardization in regions, provinces and cities. **Third,** we will continue to release the vitality of market entities, including cultivating standards-innovative companies, carrying out the enterprise standards forerunner activity and standards comparison & compliance work, and cultivating a group of excellent association standards organizations. **Fourth,** we will strengthen the supervision of standards application, including establishing the statistic analysis and reporting system of the implementation effects of mandatory national standards, formulating the guidelines on strengthening standards application and supervision, and establishing the national database of standards application.

· Improving the standardization work system to consolidate its developmental foundation. We will expedite building the standardization work system that lays a foundation and focuses on priorities to develop the standardization undertaking with Chinese characteristics and international harmonization. **First,** we will complete the standardization mechanisms and systems by revising the *Sectoral Standards Administrative Measures* and *Enterprise Standardization Promotion Measures*, and establishing the standards financing and credit enhancement system. **Second,** we will set up a group of technical organizations in urgent needs focusing on emerging technology integration, greenness and low carbon, and promote the establishment of national quality and standards laboratories and national technical standards innovation centers. **Third,** we will put more effort into team building, including formulating the plan of special action on standardization talent cultivation, promoting the construction of international standardization talent training centers, and establishing the database of international standardization experts. **Fourth,** we will enhance the publicity, education and training on standardization to create a good atmosphere of "learning, honoring, using and complying with standards".

编译/靳吉丽 曹欣欣

(Edited and translated by Jin Jili and Cao Xinxin based on the Report in Chinese)

SPECIAL REPORT
BETTER COMMUNICATION | GREATER VALUE

China maps out an outline to boost its quality strength

中共中央 国务院印发《质量强国建设纲要》

Quality, as a key factor for improving international trade, industrial development and people's wellbeing, has increasingly become the focus of economy, trade, technology, culture and other sectors. At present, the quality development in China still lags behind its economic and social development.

Therefore, the foothold of national development must be shifted to quality and efficiency improvement by cultivating new economic advantages with technologies, standards, brands, quality and services as the core. As a result, the *Outline of Boosting China's Quality Strength* was jointly released by the Central Committee of the Communist Party of China and the State Council on February 6, 2023.

Main targets

According to the Outline, by 2025, China will achieve initial results in increasing its quality strength by further improving the overall quality level, influence of Chinese brands and people's sense of quality gain and satisfaction, and exerting the prominent role of quality in promoting economic and social development.

Improving the economic quality and efficiency. The economic structure will be optimized together with better innovation capability, major progresses in building a modern economic system, declined energy consumption per unit of GDP, and strengthened new economic drivers and new quality advantages.

Enhancing the quality competitiveness of industries. The quality bottleneck restricting industrial development will be broken, and the overall modernization of industrial and supply chains will be improved. The quality and efficiency of primary, secondary and tertiary industries will be improved, including higher popularity rate of agricultural standardized production, the manufacturing quality competitiveness index reaching 86, and better service supply that effectively satisfy the demands for industrial and consumption upgrading. The scale of quality competitive industries will be expanded with newly established leading industrial clusters.

Improving the quality of products, projects and services. The supply and demand of quality will be more adaptive. The pass rates of routine monitoring of agricultural product quality and safety and food sampling inspection will reach over 98%, and the pass rate of manufacturing product quality will arrive at 94%. The compliance rate of project quality spot check will increase, the pass rate of consumer product quality will support high-quality life, and the service quality satisfaction will be comprehensively improved.

Making more progresses in brand building. The promotion and supporting systems of brands will be completed to increase brands' influence. In a better social environment, emerging and leading enterprises will create more Chinese brands with good quality and outstanding advantages.

Making quality infrastructure more modern and efficient. The mechanism and system of quality infrastructure management will be improved with reasonable layout. Metrology, standards, certification, accreditation, inspection and testing will reach coordinated development at a higher level with the establishment of national laboratories on quality and standards as well as quality infrastructure integrated service centers.

Improving the quality governance system. Policies, regulations and supervision systems on quality will be further improved, and the mechanism for major quality and safety risk control will be more effective, together with improved quality management. Growing talent teams, technical personnel with reasonable structure and number, and the public with higher accomplishment will create a better environment for quality development.

By 2035, China will have a more solid foundation of quality development, with prevailing advanced quality culture, and stronger comprehensive strength of quality and brands.

The role of quality in economic growth

The Outline highlights the important role of quality in economic growth and puts forward specific measures to drive industrial development.

• Promoting economic growth with quality and efficiency

1) Innovation-driven quality development will be strengthened. The integrated quality innovation system will be established to make coordinated efforts to boost technological, management and institutional innovation in quality field. The basic and original research will be enhanced to implement key quality projects for industrial and supply chains and make breakthroughs in important quality technologies and equipment. The digital action on quality management will be carried out for the information-based, networked and intelligent transformation of whole-process management of quality design and others. Intellectual property protection will be strengthened to provide better public services. The professional quality service system will be built to push forward technical research, standards development and industrial application, and smooth channels for innovation outcome transformation and application.

2) Green-oriented quality development will be pursued. The action on resource efficiency improvement in key industries and products will be launched to speed up breakthroughs in major carbon reduction technologies and facilitate low-carbon transformation of energy-intensive industries. Green design, manufacturing and building will be fully implemented to harmonize standards, certification and labeling systems of green products, and develop green supply chains. Technical standards will be optimized to achieve green and efficient recycling of resources. The system of carbon peak and neutrality, standards and metrology will

be established to form internationally recognized mechanisms of carbon measurement standards, carbon monitoring and effect evaluation. The standards system of ecological restoration of national geographical space will be set up and implemented. The system of promoting green product consumption will be established to popularize the eco-friendly way of life.

3) Quality development will be enhanced to benefit people. The action on shared quality benefits will be initiated to follow the trend of consumption upgrading, encourage enterprises to make product innovation, upgrade services and quality, facilitate quality improvement and market expansion of new consumption models, and meet diversified demands at all levels. Activities will be held to facilitate the integrity and self-discipline of market entities, create a safe consumption environment, and enhance after-sale services. Diversified quality relief mechanisms will be improved to encourage enterprises to buy quality related insurances, improve the quality deposit system, provide compensation for consumption disputes and publicize consumer complaint information, so as to safeguard consumers' rights.

• Enhancing the quality competitiveness of industries

1) The quality support of industrial foundation will be strengthened. Focusing on the quality defects of industrial foundation, projects on quality improvement in different sectors will be implemented to make breakthroughs in key fields. The R&D and application verification of key common technologies will be conducted to increase the stability, consistency and applicability of material's quality. Performance indicators of basic parts and components will be improved to enhance their reliability, durability and advancement. Basic manufacturing process will be deeply integrated with quality management, digital intelligence and network technologies to increase the agility and precision of manufacturing. The project-oriented software development will be supported to make breakthroughs in key technologies on industrial quality analysis and control software. The fundamental capacities of industrial technologies such as technical innovation and standards development will be strengthened to accelerate the advanced process of industrial foundation.

2) The quality competitiveness of industries will be enhanced. Industrial quality upgrading will be driven to strengthen the overall quality management of industrial chain and the quality control in key phases and fields. The action on standards comparison and compliance will be initiated to improve the quality and efficiency of traditional industries and boost the development of emerging industries. The variety cultivation, quality improvement, brand building and standardized production in agriculture will be pushed forward to comprehensively raise the quality and efficiency of agricultural production. The technical and quality upgrading of traditional manufacturing industry will be accelerated, and the coordinated innovation of technologies, quality and management will be strengthened in strategic emerging industries to promote the high-end, intelligent and green development of manufacturing, and develop the service-oriented manufacturing. New forms and modes of services will be rapidly formed to create new service scenarios, new business and management modes, transforming productive services to professionalized and high-end

services in the value chain, and driving consumption services towards high quality and diversity. Quality standards, quality monitoring and market environment of services will be improved. New technologies will be further adopted for the integrated development of modern services with advanced manufacturing and modern agriculture.

3) The leading role of quality in industrial clusters will be improved. Leading and pillar industries will be supported to apply advanced technologies, make quality innovation and upgrade quality infrastructure. The institutional innovation of industrial cluster quality management will be strengthened to create a healthy environment for quality development. Platforms of quality standards innovation and cooperation will be established to enhance the R&D of innovative technologies, develop advanced standards and promote excellent quality management practices. Cradles for technologies, quality and management innovation will be established to cultivate leading industrial clusters with excellent quality.

4) New edges of regional quality development will be gained. The policy guidance on quality will be strengthened to integrate regional quality development with productivity layout, regional advantages, environmental bearing capacity and social development demands. The leading role of quality reform and innovation in the eastern region will be exerted to enhance new edges of quality competitiveness. Characteristic industries in central and western regions will be guided to facilitate the quality upgrading of regional pillar industries. The quality development environment in the northeastern region will be optimized to promote the transformation, upgrading and quality revitalization of industries. The mechanism of regional cooperation and mutual assistance will be improved to drive the coordinated quality development. Strong quality provinces will be established to facilitate the further development of strong cities and industries on quality and set role models for building quality strength.

Improving the quality of products, projects and services

The Outline takes the quality improvement of products, projects and services as a top priority to increase the country's quality strength.

• Accelerating the upgrading of product quality

1) The quality and safety of agricultural products, food and drugs will be strengthened. The strictest requirements for food safety will be implemented for supervision in an all-round way. The quality and safety of agricultural products will be improved by developing standards for the interconnectivity of quality monitoring and tracking, constructing high-quality agricultural product bases, promoting the certification management of green food, organic agricultural products and good agricultural practices, and facilitating the standardization pilot programs in the full industrial chain of modern agriculture.

The food safety strategy will be implemented. The food industrial layout will be optimized to accelerate the technological transformation and upgrading. The standards system of food safety will be improved to encourage food manufacturers to establish and implement the hazard analysis and critical control point system, and strengthen the control of quality and safety in their production and operation. The system for safety regulation of agricultural products and food will be rapidly established to enhance the credibility and intelligent supervision. The lifecycle management of drugs and vaccines will be reinforced to accelerate the technical R&D and quality standards upgrading of chemical raw medicine and Chinese herbs, and increase the quality and curative effect consistency of generic drugs with original and patent drugs. The cold chain

logistics facilities of agricultural products, food and drugs will be strengthened to improve the information-based tracking system and achieve the whole-process traceability of key products.

2) Categories of consumer products will be optimized. The action for improving the quality of consumer products will be put in place to upgrade relevant standards, improve the R&D design and production quality, and facilitate the variety increase, quality improvement and brand building. Personalized customization and flexible production will be popularized to strengthen the innovation of traditional consumer products, and drive the product quality reform. The R&D of prospective functions of products will be reinforced to enlarge the supply of high-quality new consumer products, promote the high-end quality certification, and lead the consumption demands with innovation. The evaluation and grading of the nutrition of agricultural products will be carried out. The consumer product supply for special groups will be increased to enhance the safety requirements, functional adaption and convenient use. Advanced international standards will be adopted to make products with the same quality sold in the domestic and foreign market. The export of excellent consumer products will be encouraged to improve the quality and value of exported products. The quality and safety supervision catalog of consumer products will be formulated to strictly supervise important consumer products with serious quality problems or related to people's health and safety of lives and property.

3) The quality of industrial products will be promoted towards mid-to-high end. Industrial design will play a leading role in quality improvement to develop high-quality manufacturing, and the whole-process quality control will be enhanced. The fundamental research on application and R&D of cutting-edge technologies will be strengthened, and the integrated design of function, performance and reliability in complex systems will be enhanced to improve the manufacturing capability and quality level of major technical equipment. The testing and evaluation system of the first major technical equipment will be established to enhance the capacity building and original technologies and industrialization of equipment. The system of major project equipment supervision will be improved to ensure the quality, safety and investment benefits. The intelligent transformation of traditional equipment will be accelerated to develop high-quality intelligent equipment for common use. The plan on quality reliability improvement will be implemented to improve the reliability of products and their parts and components.

- **Improving the quality of construction projects**

1) The project quality assurance will be strengthened. All parties shall shoulder their responsibilities for project quality, with construction enterprise taking the primary responsibility and survey, design, construction and supervision units taking entity responsibility. The system of making written commitment to lifelong responsibility of engineering quality, permanent label system, quality information files and other systems will be strictly implemented to improve the traceability of quality responsibility. The legal person responsibility system for construction projects will be put in place to ensure reasonable construction period, cost and quality. The project quality management standardization will

be promoted to implement the project construction post responsibility system, and strictly control the whole-process quality. The quality warranty system for construction projects will be improved to strengthen the operation and maintenance management. The all-round quality supervision of construction projects will be enhanced to improve the quality supervision and inspection system, strengthen the team building of project quality supervision, explore the implementation of government purchased services and entrust social forces to assist project quality supervision and inspection. The bidding and tendering system for construction projects will be improved to include the project quality of enterprises in the evaluation of bidding and tendering, and strengthen the supervision over contract performance after bidding.

2) The quality of building materials will be improved. The R&D and application of new building materials will be accelerated to upgrade traditional building materials and improve their performance and quality. Green building materials will be developed, and the standards, certification and evaluation system will be improved to advocate the application of green building materials. Enterprises will be encouraged to establish the lifecycle quality control system of assembling building parts and promote the supervision of their manufacturing. The lifelong responsibility of building materials production and supply units will be implemented to strictly enforce the quality responsibility of building material users, and enhance the whole-process quality management of key building materials. The supervision of building materials quality will be strengthened to enhance the quality supervision and random inspection of key building materials, and implement the response treatment and quality traceability of defective building materials. Special actions for improving building materials in key areas will be carried out to promote the all-round quality improvement in the industry.

3) The construction industry in China will be upgraded. The quality management system of modern project construction will be established to build Chinese construction brands. Technical standards on project consulting services will be improved to encourage the development of full-process project consulting and professional services. The review and verification mechanism of engineering design schemes will be perfected to highlight regional features, national characteristics and styles of the times, and provide quality, safe, durable and environmental-friendly engineering design products with social recognition. The forward-looking research and investment in the R&D of advanced construction technologies will be increased to accelerate the R&D and application of digital technologies, and carry out R&D, review and promotion of engineering construction methods. The advanced quality management models and methods will be used to set role models of quality projects. The advanced construction equipment and intelligent construction methods will be promoted to improve the quality and safety of construction projects. Green buildings will be constructed by using renewable energy and building resources to achieve low carbon emission and energy conservation throughout the whole construction process.

• **Increasing the supply of good services**

1) The professional level of productive services will be improved. Professional agricultural services will be developed. Technical services on industrial design, inspection and testing, intellectual property and quality consultation will be improved to drive the deep integration of industrial chain with innovation chain and value chain. The inclusive, green, technical innovation and supply chain-oriented financial development will be promoted in a coordinated way to achieve the quality upgrading of real economy. Multi-modal transport, intelligent logistics and supply chain logistics will be actively developed to improve the service quality of cold

chain logistics, optimize the channel of international logistics, and increase the facilitation of customs clearance. New forms and models of online sales and live streaming e-commerce will be regulated. New forms of foreign trade such as overseas warehouse will be rapidly developed. The service capability of modern logistics, production control and information data will be strengthened to increase the advantages of industrial chain. The after-sale service of major equipment, special equipment and durable consumer goods will be strengthened to improve their installation, repair and maintenance.

2) The quality of life services will be upgraded. The quality and safety of catering services for the public will be improved. Housekeeping services will be enriched to cultivate excellent service brands. The professional and standardized development of property management and housing rental services will be promoted. Tourism management and services will be improved to regulate the order of tourism market, improve tourism consumption experience, and develop high-quality tourism projects. The emergency rescue services for household life and outdoor tourism will be improved. Public transport will be developed to guide the standardized development of personalized travel services. Airlines and airports will be encouraged to comprehensively establish the passenger service quality management system and improve aviation services. Sports events, community fitness and other services will be actively fostered to improve the quality of services in public sports venues. The standardized and orderly development of new models such as online shopping and mobile payment will be promoted and the diversified and integrated development of retail formats will be encouraged. Local areas where conditions will be supported to build new consumption experience centers. The life service quality supervision will be strengthened to ensure that people enjoy high-quality lives.

3) The quality and efficiency of public services will be improved. The construction of facilities for public services will be strengthened to improve service quality. Integrated, one-stop, online, and cross-provincial handling of government affair services will be promoted to increase the convenience of services. A high-quality education system will be established to improve the quality and scope of basic public education, vocational education, and higher education. The digitalization of public cultural venues will be boosted to integrate online and offline services. The public service platforms for employment and entrepreneurship at grassroots level will be established to improve public employment services. The construction of standards and evaluation systems for elderly care service quality will be strengthened to increase the effective supply of services. The medical quality management system will be completed to improve urban and rural medical service networks, and gradually expand the services provided by urban and rural family doctors. Monitoring, early warning and handling mechanisms for public health emergencies will be improved, and the establishment of laboratory testing networks will be strengthened. Public hygiene at ports will be enhanced to prevent and control the cross-border spread of infectious diseases. Greater efforts will be made to make public facilities more convenient and accessible for the elderly and children.

Driving the quality development at all levels

The Outline also keeps a close eye on the quality development at all levels in China through overall planning, coordination and effective mechanisms.

• Raising enterprises' capability in quality and brand development

1) The quality technical innovation and application will be accelerated. Enterprises will strengthen their dominant role of innovation, increase investment in quality technical innovation, promote the application of new technologies, processes and materials, and facilitate the development of product category and quality improvement. Enterprises will be encouraged to establish quality technical innovation centers, and facilitate the R&D and application of advanced quality technologies. Enterprises will be supported to lead the establishment of quality technical innovation consortium, implement major quality improvement projects, and jointly make breakthroughs in common quality technologies on industrial chain and value chain. Small and medium-size enterprises will be encouraged to raise their quality technical innovation capability.

2) The overall quality management will be improved. Enterprises will be encouraged to develop and implement the production and management strategy focusing on quality, innovate the ideas, methods and tools for quality management, and apply the new quality management system covering all participants, elements, process and data. The application of new generation of information technology and quality assurance in enterprises will be reinforced to establish the digital and intelligent quality control model, and implement the evaluation of quality control capability of suppliers. Enterprises will be guided to carry out digital upgrading of quality management, experience exchange of role models, the education and training on quality, etc. The chief quality officer system of enterprises will be improved, and the team building of quality managers, engineers and technical experts will be enhanced.

3) National and international renowned brands will be created. The mechanism for brand cultivation and development will be improved to create good Chinese brands. Enterprises will be encouraged to implement the quality brand strategy, establish the brand cultivation management system, and improve the lifecycle management of brands. The research on theory and value evaluation of brands will be carried out to improve standards on brand value evaluation and promote brand value evaluation and application of evaluation results. National and local time-honored brands will be determined to improve their directory system. Series of activities of Chinese Brands Day will be well organized. Enterprises will be supported to enhance the protection of brands and their rights, and illegal activities will be cracked down on to create a good business environment.

• Establishing high-level quality infrastructure

1) The quality infrastructure management will be optimized. The national quality infrastructure management system will be established for the hierarchical and classified management. The reform and innovation of metrology technical bodies will be deepened to construct the national measurement system. The dual structure of government-issued standards and market-oriented standards will be improved to increase the quality and efficiency of standards supply, and drive the coordinated development of national and international standardization. The market-oriented reform of inspection and testing bodies will be deepened to strengthen the functional positioning and specialization of public welfare organizations, and promote the intensive operation and industrial development of for-profit organizations. The reform of qualification examination and approval systems for inspection, testing and certification bodies

will be implemented. The supervision of inspection, testing and certification bodies will be strengthened to regulate their behaviors. Quality infrastructure operation will be monitored and evaluated, and the management of technical service bodies will be improved.

2) The capacity building for quality infrastructure will be strengthened. National, regional and industrial quality technical service institutions will be reasonably, and the quality infrastructure with complete systems, optimized structure, high efficiency and practicality will be established. Actions on improving quality infrastructure capacity will be carried out to make breakthroughs in key technologies of quantized measurement and flat value transfer, build standards digital platforms, develop new standardized service tools and models, strengthen the R&D of inspection and testing technology and equipment, and accelerate the development of certification and accreditation technology research in a systematic and integrated manner. The national laboratory of quality standards will be rapidly established to carry out the research on and verification of advanced quality standards, inspection and testing methods, high-end measuring instruments, inspection and testing equipment and facilities. The mechanism of brand cultivation, development, protection in inspection, testing and certification industry will be improved to create well-known brands. The investment in intangible assets such as metrological verification and calibration, standards development and implementation, inspection, testing and certification, will be increased to encourage all parties to participate in quality infrastructure construction.

3) The efficiency of quality infrastructure services will be improved. A campaign on boosting quality infrastructure will be launched to provide measurement, standardization, conformity assessment and other technical services in key areas, and share data, instruments, equipment and other resources to better meet market demands. The "Standardization Plus" action plan will be further implemented to facilitate the in-depth standardization development in an all-round way. The partnership plan for expanding quality infrastructure will be implemented to build a collaborative service network, establish an integrated service center for quality infrastructure, and provide one-stop services for quality upgrading of industrial clusters and industrial chains. The integration of metrology, standards, certification and accreditation, inspection and testing and other elements in regions will be supported, and the complementary and coordinated development of elements across regions will be encouraged. The public service system of technical trade measures will be established to strengthen the tracking, research and judgment, early warning, evaluation and response measures of technical barriers to trade and animal and plant health quarantine measures. National and international connectivity in quality standards, inspection and quarantine, certification and accreditation will be strengthened for the integrated development of domestic and foreign trade.

• Promoting the modernization of quality governance

1) The rule of law on quality will be strengthened. Laws and regulations on product safety, product liability, and quality infrastructure such as the Product Quality Law will be improved. Illegal behaviors will be cracked down on to promote cross-industry and cross-regional cooperation on supervision and law enforcement.

Lawsuits on public interest and class action over quality will be supported to effectively enforce the punitive compensation system of product quality. Mechanisms for product and service quality guarantee and dispute handling will be improved to put in practice the third-party arbitration of quality disputes. Publicity and education will be strengthened to popularize the laws concerning quality.

2) Policies and systems on quality will be improved. The quality statistical indicator system will be improved for quality statistical analysis. Diversified and multi-level quality incentive mechanisms will be completed to improve the national quality incentive system, and local governments are encouraged to provide incentives for organizations and individuals with advanced quality management and outstanding performance. Standards and rules for quality grading will be established to grade the quality of products and services. A sound quality disclosure system will be established to encourage enterprises to make quality commitments and disclose their standards. Government procurement policies and bidding and tendering systems will be perfected to establish sound trading rules, strengthen procurement demand management, and form a procurement system featuring demand orientation, high quality and reasonable price. The financing and credit enhancement system that covers quality, standards, brands, patents and other factors will be improved to provide more financial services for quality improvement, technological transformation and equipment renewal, and increase the financial support for the quality innovation of micro, small and medium-sized enterprises. Quality relevant content will be included in the compulsory education, and quality-related disciplines and specialties will be strengthened in institutions of higher learning. Systems of vocational training and professional title for quality-related technical personnel will be improved to cultivate personnel on quality technology, research and management. The quality policy evaluation system will be established to enhance feedback and follow-up improvement.

3) The effectiveness of quality supervision will be optimized. The new regulatory mechanism will be improved. Innovation will be made in quality supervision pattern to improve the market access system, deepen the reform of production license and mandatory certification system of industrial products, and strengthen the all-round supervision. Products and key services related to people's health, safety of life and property, public safety, and ecological and environmental security will be strictly regulated. The system for supervision and random inspection of product quality will be improved to supervise and inspect the quality of industrial and consumer products, establish the national mechanism for joint random inspection, and implement the random inspection of key products in enterprises nationwide. The product quality and safety risk monitoring mechanism and product injury monitoring system will be improved to identify, assess and dispose quality and safety risks. The mandatory reporting system of product quality and safety accidents will be improved to investigate and handle major quality and safety accidents. Product recall management system and mechanism will be perfected to strengthen the recall technical support and the defective product recall management. The quality and safety traceability system of key products will be established to improve standards on quality and safety traceability, and strengthen the sharing of data, and form the quality and safety traceability chain. Anti-counterfeiting supervision and management of products will be strengthened. A sandbox supervision system for quality and safety will be established to provide fault-tolerant and error-correcting space for the development of new products and business forms. Comprehensive governance of market order will be strengthened to create a fair market environment. The quality and safety of import and export commodities will be strictly

monitored and supervised to improve the early warning and rapid response mechanisms for the quality and safety risks of import and export commodities. More efforts will be put into the fight against counterfeits and shoddy products in key areas. Quality supervision of goods on online platforms will be strengthened to improve the coordination mechanism for cross-region and cross-industry supervision, and facilitate the integrated online and offline supervision.

4) Social governance on quality will be promoted. New models for quality governance will be developed to improve a diversified governance mechanism and strengthen the grassroots governance, key responsibilities of enterprises and industrial self-discipline. Quality improvement actions will be implemented to mobilize industries, regions and enterprises to strengthen quality management and upgrading in an all-round way. Organizations and front-line staff will be supported to hold quality activities for the public. The bridging role of industry associations, chambers of commerce, institutes and consumer organizations will be exerted to provide technical services such as standards development, brand building and quality management, and facilitate the integrity and self-discipline on the quality of industries. Consumers will be guided to participate in quality promotion, social supervision and other activities. The publicity and guiding role of news media will be exerted to spread advanced quality concepts and best practices. Social forces will be mobilized to participate in the construction of quality culture and create films, TV programs and literary works that reflect quality culture. The National Quality Month and other activities will serve as a carrier to initiate quality actions, and create a favorable atmosphere of quality development for all.

5) International cooperation on quality will be strengthened. Bilateral and multilateral cooperation and exchanges will be carried out, such as the dialogues and consultations with international and regional organizations and relevant countries and the cooperation on quality education and training, cultural exchanges and talent cultivation. Based on the implementation of the Regional Comprehensive Economic Partnership Agreement, platforms on trans-regional measurement technology transfer and standards information will be built for the interconnectivity of quality infrastructure. Early warning and coordination mechanisms of trade quality disputes will be improved, and the development of rules and standards related to technical trade measures will be actively participated in. Mechanisms of cross-border consumer dispute settlement and law enforcement and supervision cooperation will be established to carry out bilateral and multilateral cooperation. China Quality Conference will be regularly held, and international quality conferences will be actively hosted or participated in.

Apart from the above-mentioned measures, the Outline also highlights seven important projects covering regional quality development, the upgrading of key product quality, the quality management of construction project, service quality improvement, Chinese brand building, quality infrastructure upgrading as well as quality and safety supervision. Unswerving and all-out efforts will be made in China's pursuit of high-level quality development.

编译/靳吉丽

(Edited and translated by Jin Jili based on the Outline in Chinese)

Improving government services to create a better business environment in Taizhou

台州全政务链标准化打造更优营商环境

Taizhou, a city in East China's Zhejiang province, though not known to many, has set out on one of the most important stages of China's economic reforms. As the cradle of private economy and the birthplace of the first joint-stock company in China, Taizhou has a private economy accounting for over 99% of the total, which makes it a perfect pilot city for the innovation and comprehensive reform of private economy.

Taizhou's economy ranks the 6th in Zhejiang province, whose GDP has come to the 4th place of China in 2022, right after Guangdong, Jiangsu, and Shandong. Zhejiang is striving to boost its economy to a higher level, so is Taizhou.

Back in 2015 and 2017, the State Council and the provincial government of Zhejiang had issued the *Work Plan of Deepening the Standardization Reform* and the *National Pilot Programs on Standardization Reform in Zhejiang Province* respectively, in which Zhejiang standards were required to provide leading benchmark and critical support for the nation's standards systems in all sectors, including manufacturing, environment, people's livelihood, service, agriculture, governance, etc. Taizhou was chosen as one of the pilot cities and challenged by a thorough reform of its entire government service chain.

After years of efforts to integrate standardization into the full process of government services, Taizhou has built a high-quality service pilot known for its standardized administrative approval service, which greatly promoted the development of private economy and optimized Taizhou's investment environment. Taizhou has spearheaded the development of 1 national standard, GB/T 38227-2019, *Specification for agency services of investment projects construction approval*, participated in the setting of 4 national standards and 6 provincial standards, and released 5 local standards. Training sessions on business and standardization were given to over 7,000 government service practitioners and more than 380 government service institutions in and out of Zhejiang. Taizhou Administrative Service Center has won the national titles of "Top 100 Service Halls" and "Best 10 Service Halls" in two consecutive years, and become the first unit in government service area winning 5A Standardization Good Conduct in China. As the training and practice base for government service standardization, Taizhou has provided experience on duplicable high-quality development cases that are easy to be promoted. It is also listed as one of the top 10 cities of innovation and reform of China.

Facing the problems head-on

Government services cover a wide and complex business scope for both individuals and organizations. They are often intertwined and trivial, but always essential. And they must be delivered in a comprehensive, detailed, and meticulous way, covering all possible scenarios with varied solutions, so that clients could have a satisfactory experience rather than a time-consuming disappointment.

Lu Chunlin, Head of Approval Division of Administration Service Center of Taizhou, said that, they've collected and summarized difficulties faced by citizens and enterprises when they came to the hall, and the core problem was always about efficiency. For example, to found a foreign trade company, you need to apply for 11 certificates in 7 service windows and wait for over 30 working days with 12 institutions involved to finish all administrative procedures. What a waste of time and energy, let alone the potential market opportunities missed during that period.

Then how did Taizhou solve the problem? When it comes to improving efficiency, standardization is always the key. Standardized government service enables people to realize the scientific management of government affairs, reduce redundant efforts, minimize waste of energy, and establish an optimal order to benefit the whole society. Lu and his colleagues, and many staff working at the front line, made great efforts to improve service efficiency, service quality, and service image. They've integrated standardization into the following three aspects:

Building a standards system covering the entire government affairs service chain

Lu introduced how Taizhou build a standards system across the entire government affairs service chain. First, by "applying the same standard for the same issue", Taizhou builds one standards system with 596 standards, covering every scenario for both individual and enterprise.

Second, Taizhou analyzed relevant service items and integrated those in large demands and with high frequency into one-stop service package, which is coordinated by multiple departments. As a result, 92 one-stop service packages are provided to citizens and save a great amount of time.

Third, the government developed and applied several standards to clarify service item lists that could be processed at service centers at the 6 levels including bank, enterprise, village, township, county and city. A network of standardized business operations across the whole city was built.

Fourth, a cross-region government service standards system was set up, covering **110 regions**

in 19 provinces with close economic ties. The system has settled **over 60,000 items of government affairs**.

All these measures helped to connect all aspects of Taizhou's government affairs as one and provide a neat and clean service chain to clients.

Standardized on-site management

In order to ensure government services delivered in an efficient and humanistic way, Taizhou's administrative service hall applied the **"1+3+3+X" mode**:

- 1 guidance center
- 3 windows for acceptance, collection, and complaint services
- 3 zones for self-service, consultancy, and online processing
- the special "X" service zone including green channel, service guarantee and assistance for specific groups

If you visit Taizhou's administrative service hall, you will see tidy office supplies on the tables of service windows in a clean and bright environment. Employees there have adopted scenario-based standardized management. All items in the hall must be easy to be found, used, and managed, and should be put in a fixed location in specific amount. With the help of 3 standard lists of "finding out problems, assigning duties, and rectification", they are able to promote the application of on-site management standards and carry out follow-up optimization in real time.

Developing standards for professional team building

To consolidate the current achievements, Taizhou needs to find a long-term solution that ensures a sustainable development of standardized services. For many citizens and enterprises, the administrative service hall represents the local government. The behaviors of service personnel reflect the vigor of local governance. Therefore, Taizhou developed 11 standards for positions to promote the comprehensive team building among receptionists of township, county, and city administrative halls. **Over 3,011 training**

courses were provided to **more than 40,000 trainees**. A teaching team was built together with many bases for both training and internship. All these measures help to keep government services consistent and coherent.

Meanwhile, a comprehensive data bank about staff, experts, training materials, and test information was formed, which accelerated the building of an all-round performance assessment. Employees working on the front line were greatly motivated by clerical skill contests organized based on the national occupational skill standards for clerks. They have made meticulous efforts to collect complaints, provide consultancy for legal issues, coordinate different departments, optimize procedures and resolve issues from the perspective of clients.

As a result, service personnel can feel the humane spirit in daily work and are mobilized to devote themselves to it. Government service position in Taizhou is no longer a job but a long-term commitment, in which people could find honor, pride, and sense of involvement. It has laid a solid foundation for a long-term and sustainable development of government service.

Embracing digital transformation

Digital transformation has become an unstoppable trend in all sectors and in people's daily life. It is clear that whoever embraces new technology first during a technological evolution will get a development edge. Embracing digital transformation and practicing self-renovation are tasks that government service workers must accomplish in the digital age.

Back in 2003 when Chinese President Xi Jinping served as Secretary of Zhejiang Provincial Party Committee, he proposed building a "Digitalized Zhejiang", making digital and information transformation an important driving force for realizing leapfrog development in Zhejiang economy. And in 2016 at the G20 Hangzhou Summit, Xi reiterated the importance of digital economy. Innovation is the only way out for China and for all companies. As of February 2022, **over 1.6 million enterprises** enjoy access and services on China's industrial Internet platforms.

Taizhou reshaped its governance methods, measures, and mechanisms through digital reform, and realized a transformation from post-event response to precautionary operation, and from fragmented treatment to lifecycle and precise management. It continues to put efforts into improving standards on "Internet + Government Service", updating all facilitates of administrative hall, and developing digital service standards, such as the *Guide for building 5G unitary office in hand,* and *Specifications on hall data collection*.

It is easier to proceed regular applications on cellphone through apps. As of today, there are **220 apps** in the "Zheliban" portal, including **77 popular service apps**, covering medication, education, housing, travel, tourism, and other aspects of people's life, providing services for **242,000 active users per day in average on a 24/7 basis. Over 93.72%** of Taizhou residents have registered through the portal.

By connecting online portal, smartphone apps, and self-service machine, and the service windows with a unified service standard, Taizhou is able to apply and promote its "One Network for All Matters" working mode, or "Government Service 2.0" as Lu puts it. So people can finish most of their applications online or on smartphone and deal with the rest and complex issues at the nearby administrative hall. The system covers **162 items** about personal livelihood or company production. Now, **over 96.42% of all applications** are completed by "Government Service 2.0" and **92.21% of them** are solved right after application, **saving over 380,000 hours for the public in a year.** For example, the "One Matter" app settles all trivial matters for individuals and companies, including household registration, medical insurance settlement, company cancellation, vehicle insurance and accident response.... A digital transformation based on people's demand brings a strong sense of happiness to Taizhou citizens.

Through the standardization pilot program, Taizhou has created a sound business environment by promoting the reform of "streamlining administration and delegating powers" in government service. **Over 50%** of applications are now proceeded at the township halls and below. The staff team becomes more efficient. The number of window service personnel is halved, **80%** of which have a bachelor's degree. The average salary of receptionists above the county level increased by **91.75%**; the turnover rate dropped **from 50% to less than 10%,** increasing work efficiency **from 40.75% to 76.23%.** Both individual and company clients enjoy the high-quality government service and are happy to devote themselves to the fast development of private economy of Taizhou.

In 2022, the market entities in Taizhou **reached 821,800, with a growth rate of 10.86%**, ranking the first place of Zhejiang province. Taizhou became the top in the business environment evaluation of Zhejiang in 2021. All these efforts have contributed to a better investment environment for private economy, facilitating the healthy and sustainable development of business environment in the Yangzte River Delta region.

文/刘宏博

(Written by Liu Hongbo based on the Chinese article by Zhang Haixing, Li Bin and Zhang Peiyu)

CEN and CENELEC welcome the new roadmap on hydrogen standardization

On March 1, CEN and CENELEC's Director General, Elena Santiago Cid, received from the hands of Maive Rute, the European Commission's Chief Standardization Officer, the new Roadmap on hydrogen standardization. CEN and CENELEC welcome the publication of this important document and are committed to collaborating to the roll out of large-scale hydrogen solutions across the EU.

The Roadmap represents a flagship moment in the EU's efforts to facilitate the transition to more sustainable energy and transport systems. It provides a comprehensive overview of standardization gaps, challenges and needs across the whole hydrogen chain, together with the steps already taken by the industry. It also includes a set of recommendations to streamline and accelerate the standards developing process, in line with the European Standardization Strategy.

The Roadmap has been developed by the European Clean Hydrogen Alliance, set up by the Commission to bring together industry and other stakeholders to support the large-scale deployment of clean hydrogen technologies by 2030.

In the words of Thierry Breton, European Commissioner for the Single Market, the objective of the plan is to "provide businesses with a stable regulatory and standardization framework, so as to ensure Europe's technological sovereignty in this area and contribute to its decarbonisation. It also creates the conditions to allow EU standards to become global benchmarks for hydrogen technologies".

Elena Santiago Cid, CEN and CENELEC's Director General, commented: "Through this Roadmap, the European Commission shows once more its trust in the strategic role played by standards in fostering the dissemination of a promising new technology. On the 30th Anniversary of the Single Market, this is another good reminder of the power of standards in the making of Europe. At CEN and CENELEC, we are committed to helping turn the vision of a fully decarbonised energy system into reality".

(Source: CEN/CENELEC)

International standards help to overcome technical barriers to trade

Named "Thematic session on Regulatory Cooperation between Members on Climate Change", the event, which took place in Geneva on March 7, gathered several high-level speakers, including the Chair of the IEC System for Certification to Standards Relating to Equipment for USE in Renewable Energy Applications (IECRE), Alistair Mackinnon.

One of the key takeaways of the session was that, while everyone agreed that the fight against climate change is an absolute priority, the proliferation of different national standards and benchmarks on environmental goods, as well as government regulations, can be technical barriers to trade, especially for emerging countries. Only International Standards can help to overcome these barriers.

Alistair Mackinnon explained the role of IEC International Standards and Conformity Assessment, notably regarding wind turbines, highlighting the work of Technical Committee 88, which prepares standards for wind energy systems.

"The sector has witnessed a sea change over the last 40 years. The renewable energy sector is now a multi-million dollar business and it has become global. A wind turbine can be designed in Denmark, manufactured in China, and deployed on the East or West Coast of America," he emphasized.

He encouraged countries from around the world to join IECRE as members. "Most of our members come from Europe and the North American continent. Our Asian colleagues also make important contributions, but we would like to see African and South American countries take part as well," he said.

He recognized that cost, notably for travel, could be a barrier to participation for some countries and called out to the WTO to perhaps find some sort of solution to reduce these barriers.

(Source: IEC)

6G Symposium Spring 2023: Beyond The Hype

April 24-26, London, U.K.

As the ITU defines 6G vision, usage scenarios and requirements more clearly, work begins to develop the wide variety of technology enablers. Beyond technical challenges, we must also build clarity around how to commercialize the new capabilities. The telecoms sector needs confidence that investment will be profitable—not more hype!

The 6G Symposium Spring 2023 will bring together the international community to build consensus on key issues and further the momentum towards 6G. Join the symposium for essential debates, updates and technical demonstrations moving beyond hype to concrete action and strategies.

For more information on the event website: **https://www.6gworld.com/6gsymposium-spring-2023**

7th International Hybrid Power Plants & Systems Workshop

May 23-24, Faroe Islands

The 7th International Hybrid Power Plants & Systems Workshop offers a prime opportunity to discuss the future of hybrid power systems.

One challenge of island grids and micro-grids is to maintain the balance between production and consumption. Diesel generators are still frequently used for this task. Due to the unavoidable dependence on fuel price and delivery options, and the environmental impact, alternatives are being sought. Wind and solar power are independent of imported fuels and environmentally friendly, and therefore the logical choice for island and micro-grids. However, these renewable energies are dependent on variable resource availability; hence their maximum production capacity is subject to natural fluctuations.

It is therefore important to develop strategies for how to align production and consumption in the best possible way and to find the perfect combination of conventional and renewable energy. Participants will look at applications in a variety of locations and operating environments with a focus on system design, operating experience, business models, economics, and implementation issues.

For more information on the event website: **https://hybridpowersystems.org**

Qingdao Forum on International Standardization

June, Qingdao, China

青岛国际标准化论坛
QINGDAO FORUM ON
INTERNATIONAL STANDARDIZATION

Held biennially since 2017, the Qingdao Forum on International Standardization (QFS) is a high-level standardization cooperation platform, where global standardizers gather for in-depth discussion.

The forum consists of one conference themed "standardization supporting green, low-carbon and high-quality development", five parallel sessions on "standardization and ocean negative emission", "standardization and new power system (green energy)", "standardization and modern green port and shipping", "standardization boosting green low-carbon development of China-SCO Local Economic and Trade Cooperation Demonstration Zone", and "standardization talent cultivation and capability construction", as well as other standardization activities.

2023 IEEE International Symposium on Electromagnetic Compatibility, Signal & Power Integrity

July 31-August 4, Michigan, the U.S.

The EMC+SIPI 2023 leads the industry in providing state-of-the-art education on EMC and Signal Integrity and Power Integrity techniques.

The Symposium will feature technical sessions, interactive workshops/tutorials, standards sessions, experiments and demonstrations, technical exhibition, as well as social events that provide valuable opportunities to network and continue on the successes from this year's event.

The 2023 symposium committee is working closely with the technical exhibition participants to provide an opportunity to learn how their solutions can help you with your work and research.

The EMC topics include standards, measurement techniques and test procedures, instrumentation, equipment and systems characteristics, interference control techniques and components, education, computational analysis, and spectrum management, along with scientific, technical, industrial, professional or other activities that contribute to this field.

For more information on the event website: **https://emc2023.org**

Workshop on guidance for event sustainability evaluation held

The Public Security Sub-institute of China National Institute of Standardization (CNIS) held a workshop to discuss a national standard under development, *Guidance for event sustainability evaluation*, on February 27.

The workshop was presided over by Dr. Yang Feng from CNIS, and attended by over 20 experts from CNIS, General Planning Department of Beijing Organizing Committee for the 2022 Olympic Winter Games, Institute of Science and Development of Chinese Academy of Sciences, Beijing Academy of Science and Technology, Remin University of China, Nankai University, Beijing Municipal Research Institute of Eco-Environmental Protection, Shanghai Institute of Quality and Standardization, etc.

The standard project is proposed and managed by SAC/TC 567, *City sustainable development*, based on a local standard of Beijing, DB 11/T 1892-2021, *Guidance for event sustainability evaluation*, whose development was participated in by CNIS. Referring to the International Olympic Committee (IOC) Sustainability Strategy, Olympic Agenda 2020, as well as relevant international and national standards, the standard drafters learn from actual sustainable practices of large-scale activities like previous Olympic Games.

The standard delineates the requirements and indicators for the sustainability evaluation of events, which is aimed at enhancing organizers' ability to manage the sustainability of events and providing reference for the sound sustainability evaluation of large-scale activities.

The development of this standard will be coordinated with the preparation of relevant international standards, sharing China's experience in the ideas of sustainable development, sustainability management and technical solutions like establishing information feedback platform when holding the Winter Olympic Games and other events.

New ISO standard for public information orientation system published

ISO 28564-4:2023, *Public information guidance systems—Part 4: Installation and assessment*, was published in February, which was developed by ISO/TC 145/SC 1/WG 5, *Public information guidance systems*.

With its secretariat held by the Fundamental Standardization Sub-institute of CNIS, the WG 5 gathers 29 experts from 8 countries, including China, the U.S., the U.K., Japan and South Korea. Established in 2006, the working group has carried out fruitful work on international standardization of public information guidance system. The working group has developed other three standards in this field, which are ISO 28564-1:2010, *Public information guidance systems—Part 1: Design principles and element requirements for location plans, maps and diagrams*, ISO 28564-2:2016, *Public information guidance systems—Part 2: Guidelines for the design and use of location signs and direction signs*, and ISO 28564-3:2019, *Public information guidance systems—Part 3: Guidelines for the design and use of information index signs*.

ISO 28564-4:2023 specifies the principles, requirements and methods for the installation of public information guidance systems, and provides guidelines on the assessments of the outcomes of public information guidance systems. Its development refers to two Chinese voluntary national standards, GB/T 15566.1-2020, *Public information guidance system—Setting principles and requirements—Part 1: General principles*, and GB/T 38604-2020, *Public information guidance systems—Assessment requirement*.

The working group will further work on the international standardization of public information guidance system. Also, Chinese experts will keep sharing latest research achievements and learning from oversea peers.

Brief analysis of the development status of international standardization of park city

简析公园城市国际标准化发展现状

By Li Xiaowen, Zhang Qiang, Wen Mengchuan, Ren Yan
文/李小雯 张强 文萌川 任雁

Abstract: Park city is relatively a new thing, and there is no term or definition of park city at present. The park city development reflects the thoughts of ecological progress and governance in urban planning and construction, which indicates the direction of urban construction in the new era. This paper reviews the development and standardization of global park cities, expounds the feasibility of promoting the construction of park city by means of standardization, and explores the development path of park city standardization.

Keywords: park city, governance, standardization

In the earlier paper titled "Exploration on the mode of park city—Taking 10 typical urban development patterns as examples" published on the Nov./Dec. Issue of 2022, 10 typical international park cities were selected from the five continents of the world, and the practical exploration made by 10 cities such as Tokyo, London and Moscow in the field of park cities was reviewed. The in-depth analysis of the development mode of these cities and understanding of the relevant standards and standardization will be helpful for the subsequent proposal and development of international standards for park city.

Similar and different modes of building park cities

Most cities focus on the development of urban planning and ecological construction, mainly presented as sustainable city[1], garden city, ecological city and other development models. For example, Singapore is known as a "garden city", Tokyo as an "ecological city", London as an "oxygen enriched city", Moscow as an "oasis city", Brisbane as a "green heart and smart city", and Vancouver as a "livable city". All these cities have

different ways of development.

Looking at the development of park city in typical cities around the world, the similarities lie in that they respect nature, improve the ecological background, and take the comfort and convenience of citizens as the principle. Meanwhile, they attach great importance to raising citizens' awareness of environmental protection. For instance, Tokyo and London have adopted the green points, personal planting and other policies, to fully mobilize people to actively participate in green ecological construction.

However, each city has its own priorities in urban planning, public facilities construction, ecological maintenance and other measures. For example, Adelaide has integrated the concept of ecological harmony and sustainable development into urban construction from the beginning of urban planning; Brisbane does not classify urban green space and organically combines natural elements with urban facilities; Singapore classifies parks for management; New York and Vancouver take the construction of park system as the focus of their public facility construction, and have their own style in the construction of park system[2]; Curitiba and Zenata focus on improving the urban public transport system, and take measures such as recycling garbage and sewage to protect ecology; and Moscow has incorporated ecological protection into the law enforcement and management system.

Standardization of park cities

There are several international standards related to the construction of park cities. For example, ISO/TC 268, *Sustainable cities and communities*, has published 42 international standards by February 2023, including ISO 37106: 2021, *Sustainable cities and communities—Guidance on establishing smart city operating models for sustainable communities*. These standards specify the concept of sustainable development and elaborate indicators in the aspects of smart community, smart city, urban services and quality of life.

In terms of standardization exploration, some cities have made standardization attempts in park-city-related fields. For example, Singapore has developed the garden city development plan and green space indicator, divided the park categories into regional, town, community and city parks so as to manage them separately.

London has issued a series of policies related to the green belt, and carried out the classified and detailed planning of urban areas, community building, green infrastructure (London Green Network), sustainable design and other aspects. The city has signed the London National Parks City Charter in 2019, and published it as a construction standard, demonstrating the support for making the city greener, healthier and wilder. London declared itself a National Park City.

Moscow has made urban planning in the aspects of protecting nature and green layout, and built an integrated greening system for urban and rural areas and an ecological green corridor system for urban areas. New York City has a large number of parks but a dense population, resulting in a relatively small amount of green space per capita. To address this problem, New York released the PlaNYC 2030 first in 2007 and updated it in 2011, which brought together over 25 city agencies to work toward the vision of a greener, greater New York.

Compared with the international sustainable development city, pastoral city and ecological city, the concept of park city, first proposed in China, has richer connotation. It includes not only the importance of ecology and nature, but also the overall planning of culture, economy, society and other aspects. It is the organic integration of ecological value, life value, aesthetic value, humanistic value and economic value. As the development of park city involves a wide

range of areas, there are relatively complex conditions and a huge number of related matters that need to be standardized, the standardization of park city is facing many problems. It is urgent to improve the comprehensive standards system of park city, and use standards as the technical tool to construct the park city in a standardized and orderly manner, so as to form a healthy and long-term development mechanism.

The research on park city standards has only been carried out by ISO/TC 268. Up to now, there is no international standard to direct the urban construction of parks. The exploration of international standards in the field of park city is relatively simple.

Conclusion

Park city is a new model of urban development that adheres to the principles of taking a people-centered approach and ecological civilization as the guide, organically integrates the park and urban space, and strives to build a composite system that is suitable for life and production, and integrates nature, economy, society and humanity.

In general, the concept of park city, as a new concept of urban construction[3], is of pioneering significance in global urban planning and construction. However, the international research in this field is still few and unitary at present. As a universal tool to strengthen social management and improve public services, standardization is an important means to promote the scientific, standardized and refined urban construction and management. Therefore, implementing standardization can fundamentally fill a gap in the park city construction, promote the orderly development of park city construction, and ensure the quality and efficiency of the park city construction.

It is suggested to timely carry out the research on relevant international standards, actively propose international standard proposals on park city, such as terminology, park city construction and evaluation management, establish a park city project committee, and promote the development of international standards and national standards simultaneously, so as to improve the consistency of standards, and drive the internationalization of park city.

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3. Articles should be written in English: the article of category one within 2,500 words, academic paper within 2,800 words;
4. The elements of an article should include: title, abstract and keywords in both Chinese and English, Chinese and English names of authors, main content, references, brief introduction to the first author (in three or four sentences);
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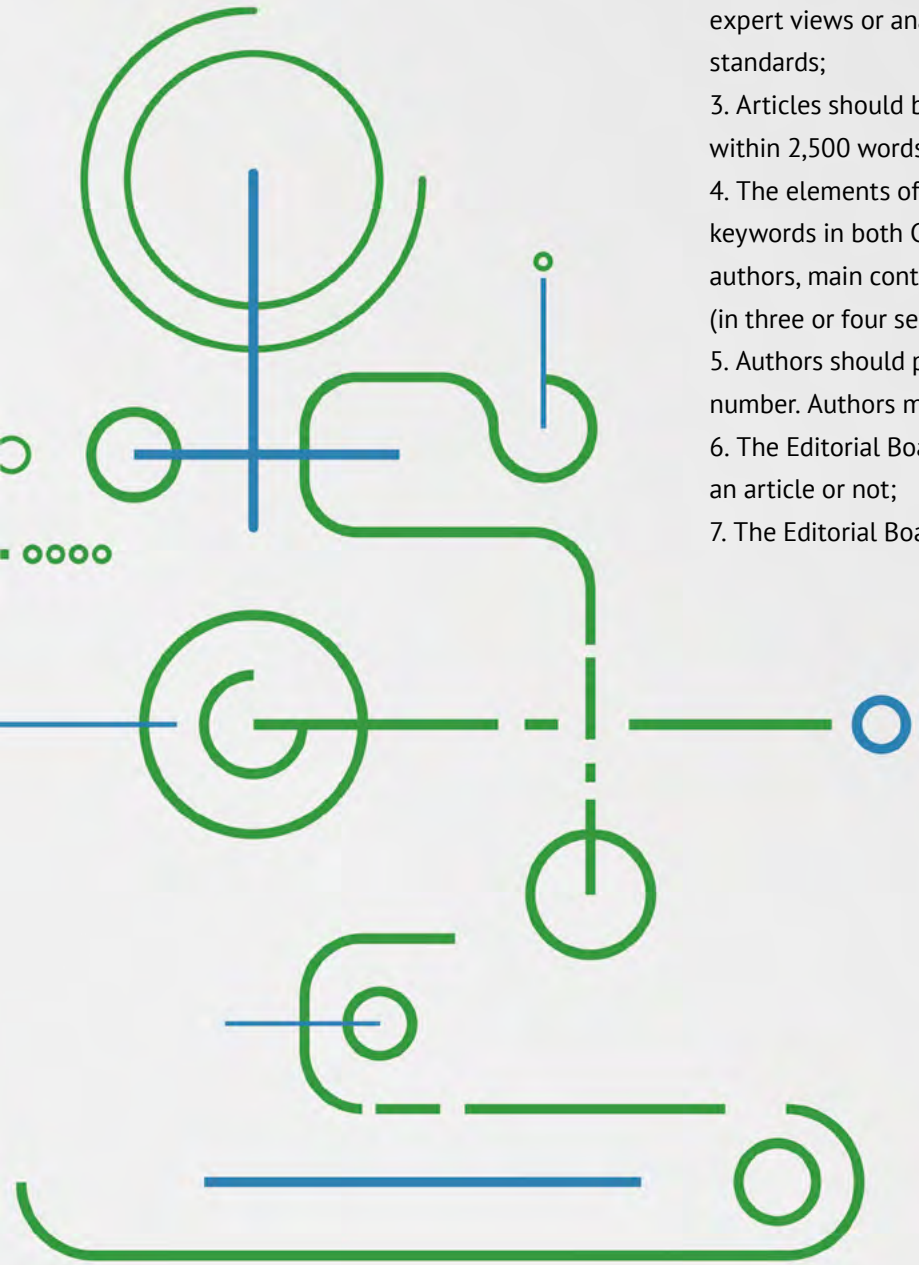

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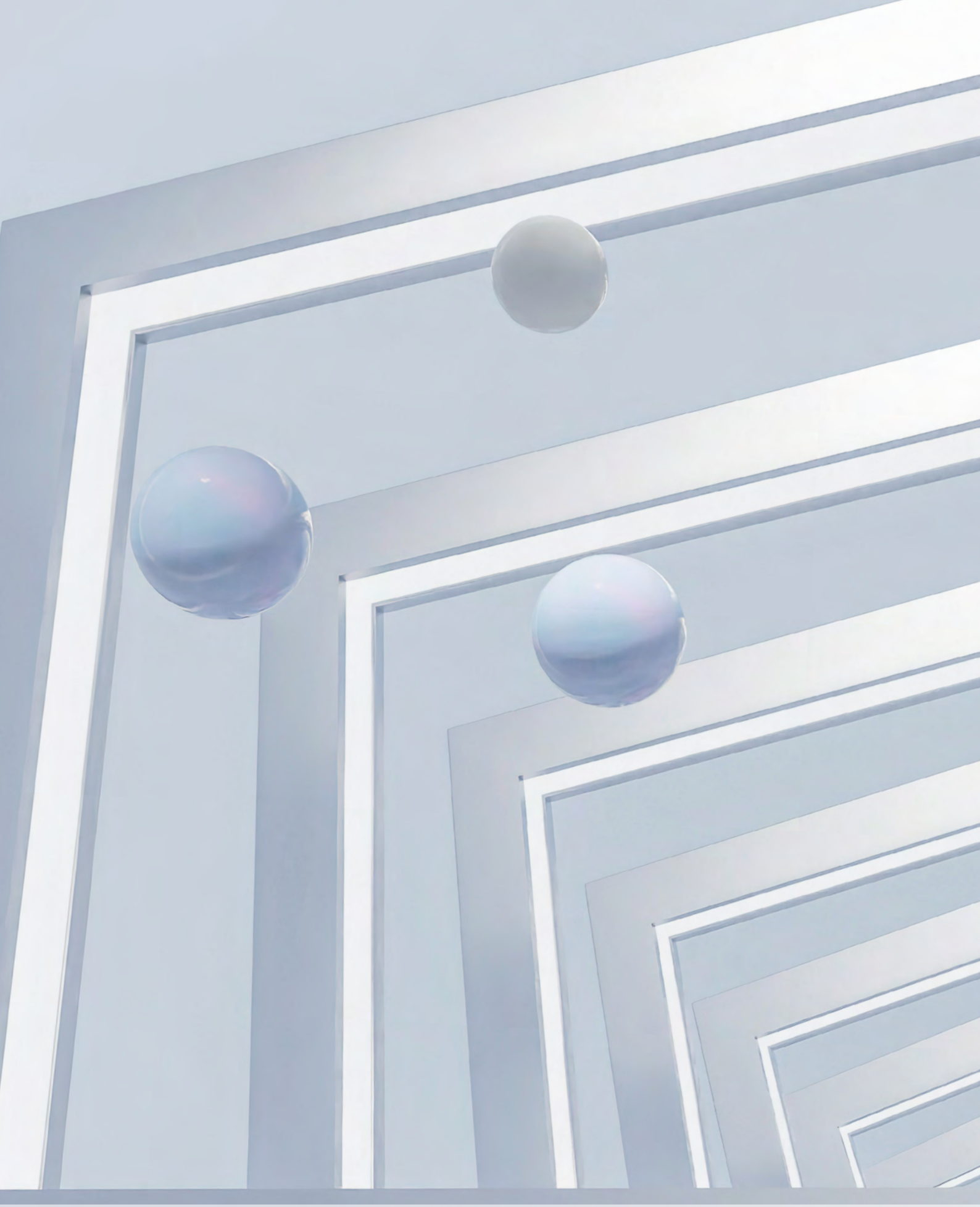

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