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Spotlight

2023 Qingdao Forum on International Standardization

2023青岛国际标准化大会

Exclusive Interview

Wu Chengbing, Director General of Shandong Provincial Administration for Market Regulation: Implementing the standardization strategy for a pacesetter of innovation-driven standardization development

山东省市场监督管理局党组书记、局长吴承丙：坚定不移实施标准化战略 打造标准化创新发展高地

Ad Hoc

Annual report on standardization development released

《中国标准化发展年度报告（2022年）》发布

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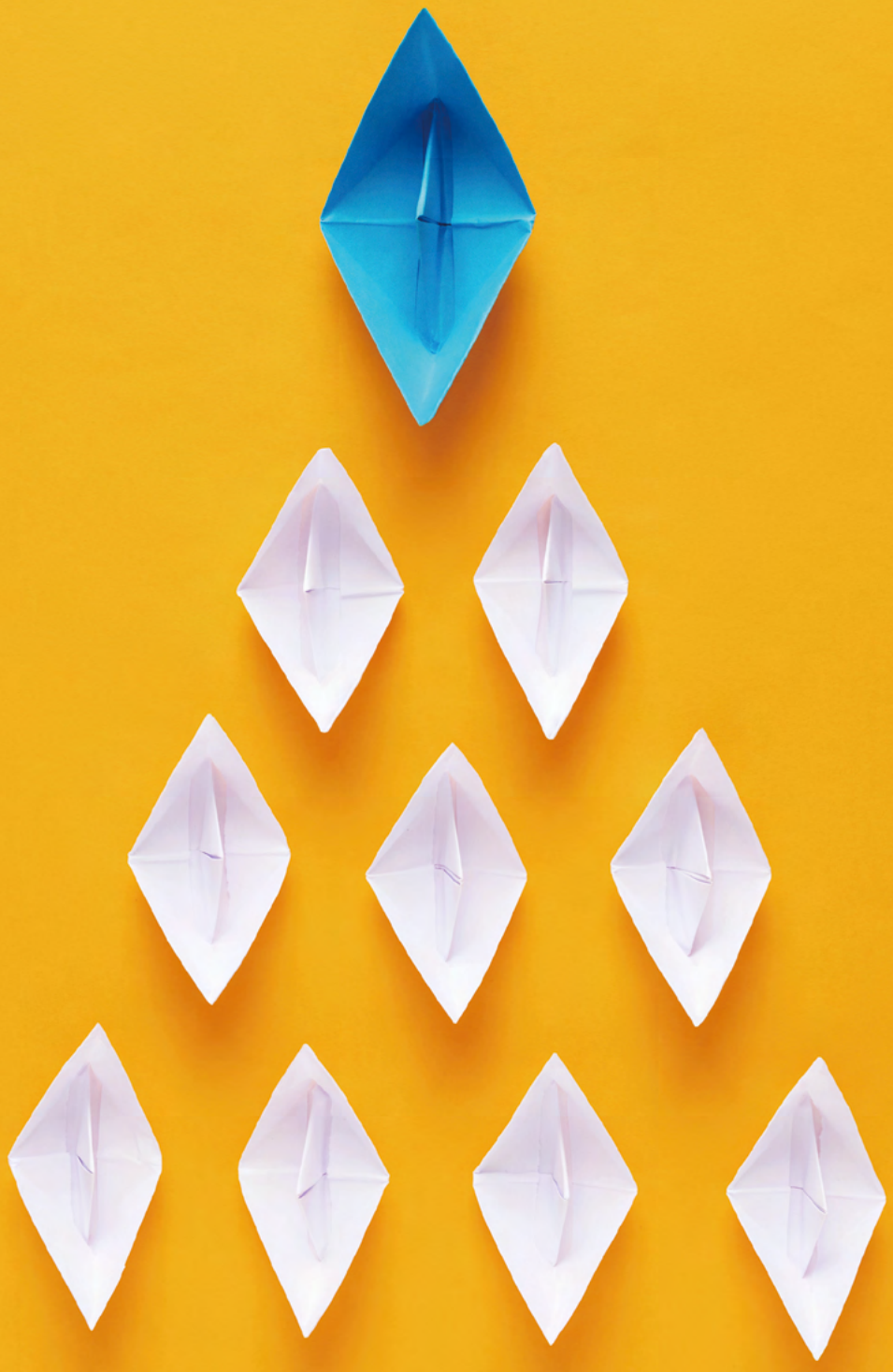
Leading Standards

for High-quality Development

—— 领跑标准助力高质量发展 ——



Operating Body for the Enterprise Standard Forerunner System
China National Institute of Standardization

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Since early this year, we have all witnessed the revitalized international standardization community through more face-to-face communications. In June, two international standardization gatherings took place in China.

In the SPECIAL REPORT column, the International Standardization (Chilin) Forum focusing on the theme of "driving the transition to an all-electric society" was held in Nanjing, capital of East China's Jiangsu province, on June 7-8. Three IEC white papers were released with the concerted efforts of experts from China, Germany, France, the U.S., Japan, Italy and other countries.

In the SPOTLIGHT column, the 2023 Qingdao Forum on International Standardization was held on June 9, which has demonstrated China's experience of standards development, further enhanced the exchanges with the international community, and explored the role of standards in promoting green, low-carbon and high-quality development.

The Qingdao Initiative: International Standards for Green, Low-Carbon and High-Quality Development was released, a MoU was signed by SAC and African Electrotechnical Standardization Commission (AFSEC), IEC Statement on Supporting Capacity Building in China was announced, and the agreement on the International Standardization Training Base (Qingdao) was extended by ISO, SAC and Qingdao Municipal Government.

Besides, in the EXCLUSIVE INTERVIEW column, an interview with Wu Chengbing, Director General of Shandong Provincial Administration for Market Regulation, prior to the Qingdao event, may serve as an overture with insights into the local standardization practice.

The AD HOC column gives an introduction to the *Annual Report on China Standardization Development (2022)*, which was released by SAMR (SAC) in April. It presents the standardization data and standardization priorities in 2022, and gives the prospects for future standardization development.

In the FEATURES column, you can find the list of winners of the second and third prize of the Standard Project Award in the China Standards Innovation and Contribution Award 2022, which was unveiled in late March.

With increasing exchanges and cooperation, a more promising and dynamic undertaking of international standardization is right ahead of us!

International gatherings in China

THE EDITORIAL COMMITTEE
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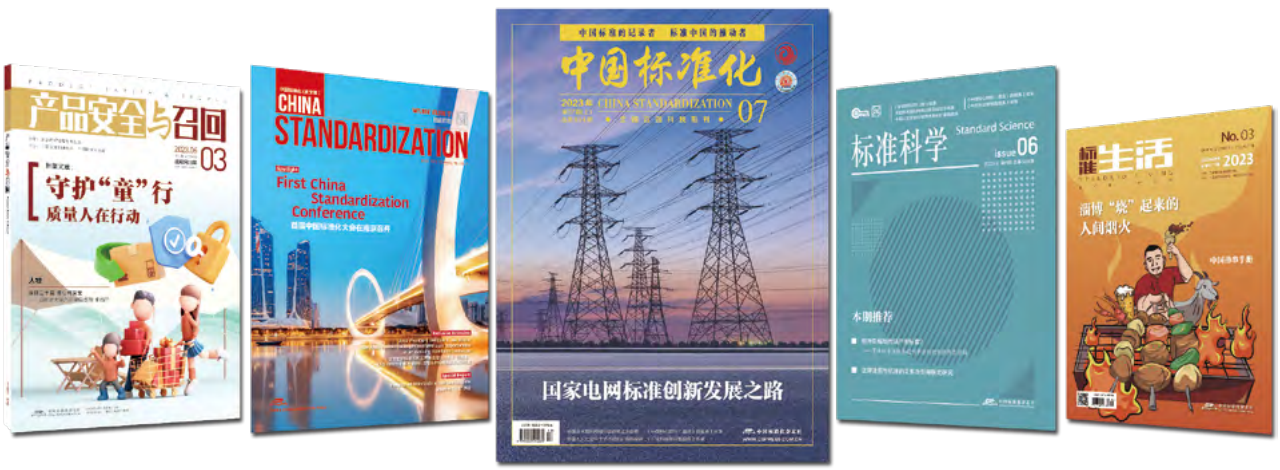

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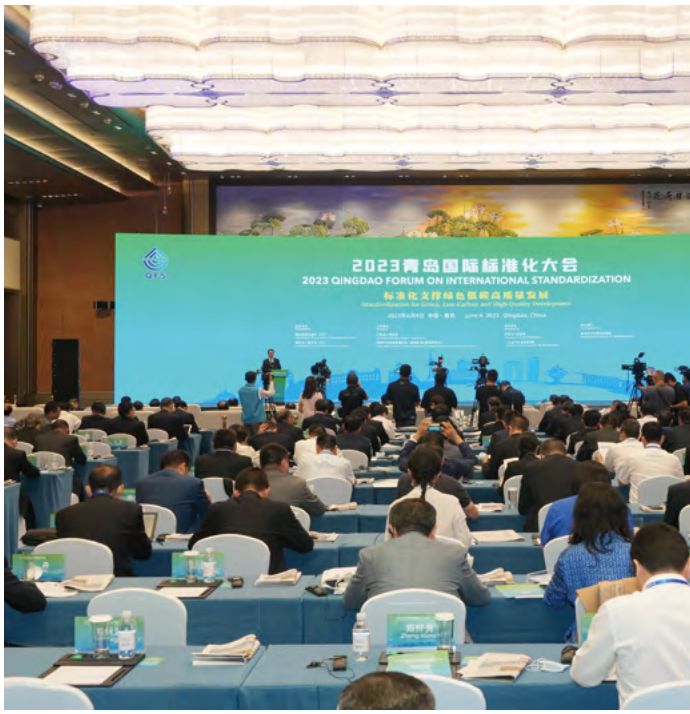
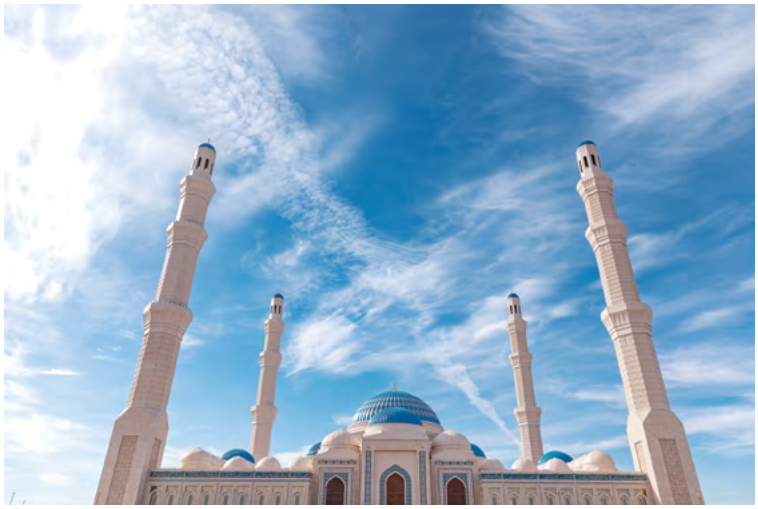
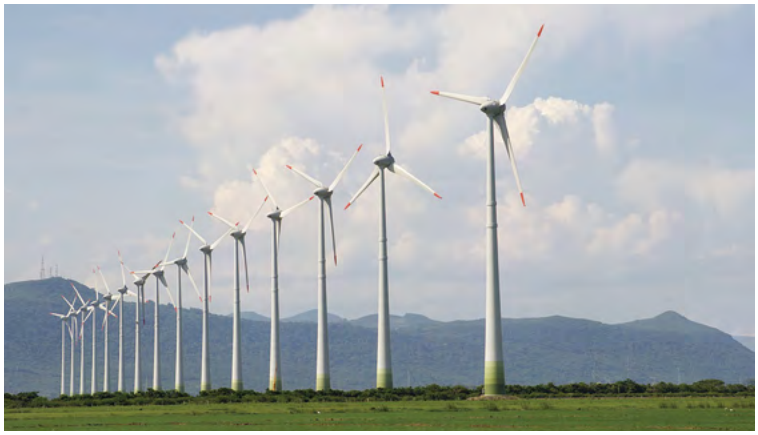




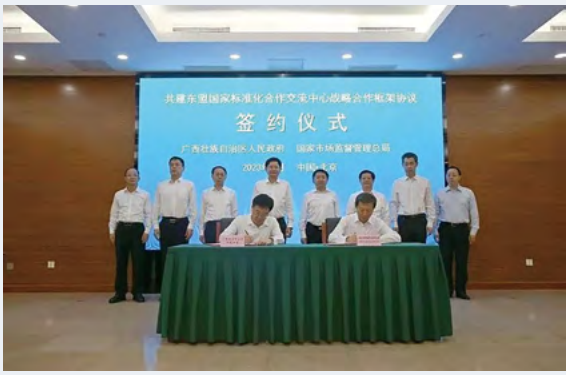


HEADLINE |

SAMR (SAC) and Guangxi sign agreement on strategic cooperation

Tian Shihong, Vice Minister of State Administration for Market Regulation (SAMR) and Administrator of Standardization Administration of China (SAC), and Miao Qingwang, Vice Chair of People's Government of Guangxi Zhuang Autonomous Region, signed the *Strategic Cooperation Framework Agreement on Building the ASEAN Standardization Cooperation and Exchange Center* on June 27 in Beijing, in the presence of Luo Wen, Minister of SAMR, and Lan Tianli, Chair of Guangxi.

Representatives from National Medical Products Administration, SAMR, Guangxi authorities attended the event.



Promotion Center of Automotive Functional Safety Standardization established

Directed by SAC and MIIT, the founding ceremony and first work meeting of the Promotion Center of Automotive Functional Safety Standardization was held on June 13 in Beijing by the China Automotive Standardization Research Institute, China Automotive Technology and Research Center Co., Ltd.

The center, as China's first technical organization in the field of automobile, focuses on functional safety standardization research, which will develop automotive standards, serve the development of automotive industry, and enhance the independent research and development capability of automotive industry.

In the context of the comprehensive promotion of new energy and intelligent connected vehicles in China, the center is established to vigorously cater to the demands of automotive technology and industry development. The core tasks of the center are to popularize the concepts of automotive functional safety and expected functional safety, build the systems of automotive functional safety and expected functional safety, improve relevant theories, promote applications, enhance automotive safety technology and management, and facilitate the high-quality development of China's automotive industry.

Serving as a bridge between the government departments and enterprises, the center will coordinate the problems in the development of enterprises. It will carry out frontier research on acceptance rules of vehicle behavior safety, electric battery system, electric motor system, autonomous driving safety and artificial intelligence, and promote the application of standards on automotive functional safety and expected functional safety. Also, it will facilitate the exchanges and cooperation among relevant industrial standardization organizations at home and abroad, and promote technical cooperation among enterprises.

Promotion meeting on standards for electronics information industry held

The 13th Promotion Meeting on Standards for Electronics Information Industry was jointly held by China Electronics Standardization Association and China Electronics Standardization Institute on June 9 in Beijing.

The Electronics Information Department, Ministry of Industry and Information Technology (MIIT), has put forward 501 standards proposals and promoted the release of 168 standards since the beginning of 2022. Further efforts will be put into the following three aspects.

First, speeding up the development and implementation of standards in key fields, such as integrated circuits, advanced computing, ultra HD video, smart photovoltaics, new energy storage, and electronic materials. Considering standards for the whole industrial chain, relevant authorities will coordinate mandatory national standards, voluntary national standards, sectoral standards and association standards, and encourage enterprises to apply standards, participate in standardization work and cooperate with each other for innovation.

Second, reinforcing standards management and construction of standards technical organizations. Cross-industry and cross-field standards technical organizations will be established to set up relevant technical committees. Their capabilities will be improved to strictly manage the cycle of standards revision, optimize the standardization work procedures, speed up the approval efficiency, strengthen the supervision of the implementation and application of key standards, and enhance the support of standards for the high-quality development of the industry.

Third, coordinately promoting domestic and international standardization. Related stakeholders will follow the latest international development trends, vigorously seek new breakthroughs, give full play to China's technical strength and market advantages, deeply participate in international standardization work, constantly contribute Chinese wisdom, and promote the transformation of international standards in the field of electronics information.

First national standard for quantum information technology published

GB/T 42565-2023, *Quantum computing—Terminology and definition*, the first of its kind, was published by SAMR (SAC), which will be implemented on December 1, 2023.

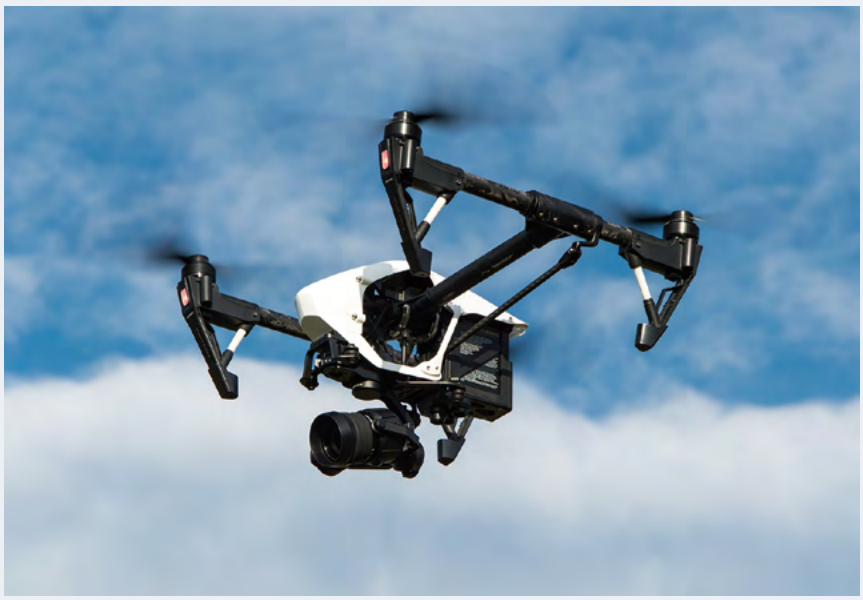
It is also the first national standard developed by SAC/TC 578, *Quantum computing and metrology*, which specifies the terms and definitions related to the general basis, hardware, software and application of quantum computing, and provides guidance for the preparation of scientific research reports, standards development, and technical document development in this field.

The standard helps avoid ambiguity and misunderstanding in the use of terms for quantum computing, reduce conceptual confusion among all stakeholders, and provides a common language for researchers, technicians, enterprises, potential customers, etc. It further boosts the research, exchange and application of quantum computing technology, and provides important support for future compatibility and interoperability, laying a solid foundation for the standardization of quantum computing technology.

As China's first specialized research institution in the quantum field, Jinan Institute of Quantum Technology (JIQT) took the lead in carrying out standardization work on quantum information technology. In 2019, it led the establishment of SAC/TC 578, and held the secretariat. SAC/TC 578 has carried out standards development work in the fields of terminologies, definitions, optical frequency comb, random number generator, etc., with 8 national standards under development and 1 national standard published.

Based on the work of SAC/TC 578, JIQT will continue to play a leading role in standardization, create a comprehensive support platform integrating standards development, verification and innovation, build a national technical standards system for quantum information, and strive to build a national "quantum plus" standards application demonstration center. It will facilitate the output of engineered and industrialized quantum technological achievements by standards.

National standard for civil unmanned aircraft system released



GB 42590-2023, *Safety requirements for civil unmanned aircraft system*, was recently released by SAMR (SAC), which was drafted by MIIT and will be implemented on June 1, 2024.

The global civil unmanned aerial vehicle (UAV) industry has developed rapidly. Due to the characteristics of simple operation and flexibility, UAVs are widely used in agriculture, forestry, electricity, meteorology, marine monitoring, remote sensing and mapping, logistics, emergency rescue and other fields. However, they can be easily modified, which leads to unauthorized operation and casts shadow on national security and public safety. In addition, with the absence of unified quality and safety standards for civil UAVs, the product design of some enterprises is inappropriate, threatening people's lives and property.

GB 42590-2023 is a supporting standard of the *Interim Regulations on the Flight Management of Unmanned Aircraft*, which can effectively guide the design and production of UAVs, regulate the compliance tests of testing bodies, and ensure the safe use of users. It helps enhance the safety of civil UAV products, implement their management requirements, and promote the healthy development of the industry.

The standard is applicable to micro, light and small civil drones, except for aircraft models. It puts forward 17 aspects of mandatory technical requirements and corresponding test methods, such as electronic fence, remote identification, and emergency treatment.

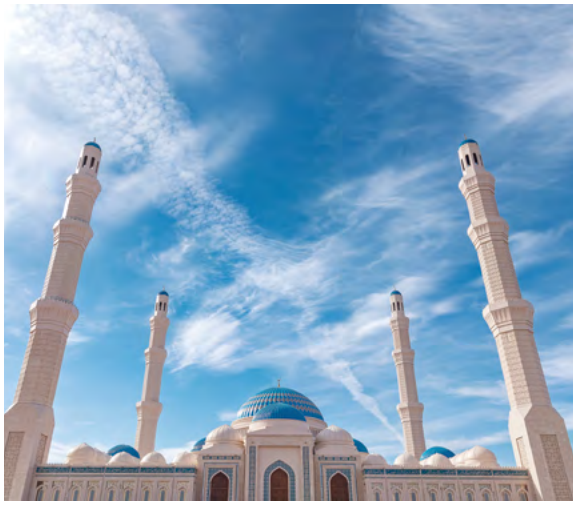
SAMR (SAC) will work with MIIT to comprehensively carry out standards publicity and training, and guide manufacturers to actively implement and comply with the standard.

HIGHLIGHTS |

China and Kazakhstan sign a MoU on standardization cooperation

In the presence of Chinese President Xi Jinping and Kazakh President Kassym-Jomart Tokayev, a MoU on standardization cooperation was signed by the State Administration for Market Regulation (Standardization Administration of China) and the Kazakhstan Institute of Standardization and Metrology on May 17, 2023. The MoU was included in the outcome document for the meeting of the two heads of state.

China and Kazakhstan will enhance the exchanges and sharing of standards information, carry out the research on technical regulations and standardization, promote capacity improvement, and keep close cooperation in international organizations, so as to drive the interconnectivity between the two countries.



Tian Shihong attends the 121st meeting of ISO Council

The 121st meeting of ISO Council was held on June 13-15 in Japan. Tian Shihong, Vice Minister of SAMR and Administrator of SAC, led the Chinese delegation to attend the meeting.

During the meeting, participants reviewed and approved the revised drafts of *ISO Strategy 2030* and *ISO Statutes*, approved the MoU signed with Arab Standardization and Metrology Organization (ASMO) and African Organization for Standardization (ARSO), and reviewed the implementation of the sustainable development project.

They further held seminars centering on enhancing the governance efficiency of the Council, promoting the participation of stakeholders, etc. Tian offered his opinions on many issues, which were highly recognized by ISO President, ISO Secretary-General and members of the Council.

Also, the Chinese delegation held a few working meetings with other members of the Council to discuss issues such as enhancing bilateral and multilateral cooperation, jointly improving the governance of international standards organizations, and developing standards systems.

Chinese expert assumes Chair of ISO/TC 342

Yao Xin, Secretary-General of Commercial Sub-Council of the China Council for the Promote of International Trade (CCPITCSC) and China Association for Standardization Trade in Services Branch, was appointed the Chair of ISO/TC 342, *Management consultancy*, for a 5-year term. It is the first time for a Chinese expert to hold the chair of an ISO technical committee for management.

Management consultancy is one of the 160 sub-sectors of WTO's classification of services, which is also an area that China has been committed to fully opening up, according to the *Regional Comprehensive Economic Partnership Agreement*.

By holding the secretariat of ISO/TC 342, China will better participate in the global economic governance and the development of international standards and regulations. It will provide a technical platform to promote the international operation and management of Chinese enterprises. Also, China will further share its innovative management theories and practices with global stakeholders.

Report on standardization of agricultural technology in SCO member states released

The SCO Forum on Poverty Reduction and Sustainable Development was held on May 29 in the Yangling Agricultural High-tech Industrial Demonstration Zone, Shaanxi province, where the *Report on Integrated Demonstration and Standardization of Agricultural Technology of SCO Member States* was released by the SCO Institute of Modern Agricultural Development.

The report focuses on issues of SCO member states in the field of agriculture, such as divided standards for agricultural technical standards, technical standards barriers in the trade of agricultural products, as well as absence of a mature mechanism for coordination, cooperation and exchanges of agricultural technologies and standards.

Collecting and sorting out approximately 30,000 pieces of trade data of SCO member states in the UN Comtrade Database, the report compares and analyzes the specific differences of trade standards and regulations for agricultural products, including 345 standards released by SCO member states and international standards organizations.

The report develops 9 standards on agricultural technologies, and designs a plan for standards implementation. Besides, it further delineates the concept and typical cases of integrated demonstration for agricultural technologies, and advises on future standardization work in the aspects of organization, policies, international cooperation, talent cultivation, etc.

Implementing the standardization strategy for a pacesetter of innovation-driven standardization development

坚定不移实施标准化战略 打造标准化创新发展高地

Interview with Wu Chengbing, Director General of Shandong Provincial Administration for Market Regulation

访山东省市场监督管理局 党组书记、局长 吴承丙

Editor's note: As a high-level standardization cooperation platform, the 2023 Qingdao Forum on International Standardization took place on June 8-9. This interview with Wu Chengbing, Director General of Shandong Provincial Administration for Market Regulation, prior to the forum, may serve as an overture with insights into the local standardization practice.

Regarding standardization work, what achievements have been made in Shandong province in recent years?

The important speeches and instructions on standardization given by Chinese President Xi Jinping have provided the overall direction for our practice. Positive progresses have been made in recent years, as Shandong has taken standardization work as a fundamental and guiding thread, implemented the standardization strategy, and led the pilot programs on comprehensive standardization reform and innovation-driven standardization development at the national level.

First, establish and improve the institution and mechanism. The provincial standardization strategy steering group and the national technical standards evaluation center have been set up, and tasks regarding the national standardization reform have been undertaken, which serve as the key pillars implementing the standardization strategy.

Second, continuously enhance the platforms. To date, Shandong has held the secretariats of multiple standardization technical bodies, including 9 international ones and 54 national ones. It has taken the lead in building 5 national technical standards innovation bases (home appliances, vegetables, new power systems, etc.) and 32 provincial technical standards innovation centers. Besides, it has supported local universities to provide standardization courses and strengthen disciplinary construction.

Third, further promote the pilot and demonstrative projects. Shandong has carried out the pilot programs of standardization in 9 cities and established 6 pilot areas with innovation-driven standardization development. Besides standards comparison and compliance in industries, it has established 676 national projects and 1,580 provincial projects for standardization pilot and demonstration in such sectors as high technology, modern agriculture and public services.

Fourth, comprehensively establish the standards system for high-quality development. A full-ranging standards system has basically taken shape as Shandong has led or participated in the development of 276 international standards, 9,928 national standards and 13,546 sectoral standards, and published 3,387 local standards.

Fifth, conduct extensive international exchanges and cooperation. Shandong has participated in standards development under the Belt and Road Initiative, hosted the Qingdao Forum on International Standardization (QFS), and built the International Standardization Training Base. All such progresses have paved way for our innovation-driven standardization development at the new starting point.

Typically, we have concluded the achievements into three mechanisms: standardization supply mechanism across all fields, whole-process standardization facilitation mechanism, and all-round guarantee mechanism.

· Serve the strategic tasks and overall situation to establish the standardization supply mechanism across all fields

Focusing on the strategic decisions and plans, Shandong has accelerated the development of the standards system across all fields to serve high-quality economic and social development.

First, centering around the role of standards to guide and support the self-reliance in science and technology and the completeness of the industrial chain in the "top ten industries", and focusing on the next-generation information technology, marine equipment, quantum information, biomedicine and other key industrial clusters and iconic industry chains in Shandong, we have contributed to the standardization breakthroughs in key core technologies, implemented 239 international and national standardization projects, and developed original, basic and application-oriented standards.

Second, implementing the instruction of "creating a model of rural revitalization in Shandong" by President Xi, and targeting at the areas of germplasm resources, well-facilitated farmland, modern agricultural equipment, agricultural green development, agricultural social services, etc., we have initially developed more than 600 standards for modern agricultural industry chain, proposed 70 national standards projects, and proposed more than 200 standards for vegetables.

Third, serving the national strategy of marine management, we have launched 113 research projects

for strategic marine standards, developed 20 sectoral standards and 218 local standards, and built 12 standardization demonstration areas at the national and provincial levels in the marine fields such as Changdao Island of Yantai, for marine pasture, shoreline survey, and marine environment monitoring.

Fourth, comprehensively following the guidelines on the standards system of basic public services, we have developed 213 local standards in 16 areas such as education, sports, culture, social security, healthcare, transport and elderly care, contributing to the provision of basic public services in a balanced, quality, fair and universal manner.

Fifth, promoting international standardization work, we have held the secretariats of ISO/TC 306 on foundry machinery and IEC/TC 129 on robotics for electricity generation, transmission and distribution systems. In addition, we have regularly held the conferences/forums of international standardization organizations in Qingdao. We have strengthened the support for local enterprises' engagement at the international level, setting an example for services and enterprises to go global by leveraging standards.

· Deepen the reform and innovation to build the whole-process standardization facilitation mechanism

Exerting the role of reform, we have explored innovative mechanisms to form the closed-loop standardization promotion system throughout the whole process. We have innovated the standards improvement mechanism. We have implemented the state-level standards comparison and compliance action, and selected and offered favorable support to 3 leading cities, 25 key industries and more than 200 key enterprises. We have also leveraged internationally and domestically advanced standards, created demonstration users of advanced standards, effectively leading the standardization breakthroughs of the whole region.

We have innovated the standards transformation mechanism. We have established the enterprise standards forerunner incubator, international standards innovation projects, and high-end products with quality brands and advanced standards, forming an effective mechanism to include, incubate, cultivate and release high-quality projects. We have constructed 9 national technical standards innovation platforms for areas such as medical devices and new chemical materials, translated and developed 515 advanced standards, submitted 19 international standard proposals, and have 31 national standards projects approved.

We have innovated the standards implementation mechanism. Shandong becomes the first to introduce a provincial regulation on standardization to enhance the implementation of standards. We have carried out over 200 events for local standards promotion and training, and 40 cases of special supervision across the province.

We have also innovated the standards evaluation mechanism. We have pioneered the research on standards implementation performance evaluation in the fields of industry, regional development, trade, and others, gradually building a professional standards evaluation system.

· Optimize the standardization development environment to ensure the all-round standardization guarantee mechanism

From the organization, talent, policy, data and other dimensions, we have further optimized the standardization development environment, and secured a comprehensive, multi-level support system. We have strengthened collaboration to establish provincial-ministerial cooperation mechanism, regional collaboration mechanism, and financial guarantee mechanism.

We have attracted and nurtured talents. With talent attraction, we have established the provincial high-end standardization expert committee, with the first 12 high-level experts, including 5 academicians, now in place to provide forward-looking advice for the province's innovation-driven standardization development. Based on high-level education, we have promoted Qingdao University and Jinan University to set up standardization major for stable supply of standardization professionals, and trained over 1,000 standardization professionals through the QFS and the International Standardization Training Base.

By enhanced data empowerment, we have integrated standardization policies, information, and texts based on the provincial smart supervision platform and the standardization big data public service platform, etc., and provided standards query, testing verification evaluation and services, realizing complete standardization resources, customized solutions for service requests, and overall coordination of resource allocation.

What are the most important tasks in the standardization plan of Shandong this year?

Targeting at "taking the lead and breaking new ground", Shandong is accelerating the building of a robust modern socialist province in the new era, and practically promoting green, low-carbon, and high-quality development. It will take the national pilot for innovation-driven standardization development as the main line, continue efforts in system innovation, project construction, system construction, exchanges and cooperation, capacity building and other aspects, building a pacesetter of innovation-driven standardization development, and leveraging high standards to facilitate high-quality development. There are several pivotal tasks to fulfill.

First, do a good job in pilot work. The national pilot for innovation-driven standardization development is the strategic priority for Shandong. We will focus on enhancing the core competitiveness of the "top ten industries", serving the province's major development strategies, focus on the transformation of growth drivers, green and low-carbon transformation, deep integration of industrialization and digitalization, implement ecological protection and high-quality development of the Yellow River Basin, and ensure full implementation of the pilot work. We will accelerate the breakthrough of key technical standards, assume national key standardization projects, build innovative technical standards transformation platforms, develop international and national standards, improve the standards system for high-quality development, and accumulate replicable and popularized modes.

Second, host the QFS well. The QFS is an important platform for the international exchanges, and an important carrier for gathering and allocating international high-end standardization resources. This year's event in June is committed to building a higher-level platform for international standardization

exchanges, with the signing of agreements on international standards and cooperation.

Third, improve a series of policies and systems. To implement the *National Standardization Development Outline* and the No. 18 Document [2022] released by the State Council, we will develop the guidelines for the integrated development of standardization and technological innovation and promotion of high-quality development of industrial chains, to stimulate the vitality of enterprise standardization, and promote the effective supply of high-quality standards. Meanwhile, we will focus on the hot and difficult issues to improve the standards review system and the management of provincial technical standards innovation centers.

In recent years, what has been achieved in Shandong's international standardization work? Any thoughts for better participation at the international level?

Shandong is at the forefront of opening up with unique advantages in standardization exchanges and cooperation. It has a good working foundation and great potential for development especially in high-end equipment manufacturing, energy and chemical industry, biomedicine, new materials and information technology. In recent years, Shandong has accelerated the internationalization of "Shandong standards", participated in the development of 276 international standards, more than 70 national standards in foreign language versions, held the secretariats of 9 international standardization technical committees and sub-committees, and undertaken the only permanent forum and training base endorsed by the ISO. We have held over 1,000 sessions on international standardization exchanges, comprehensively promoted the introduction of advanced technologies, management experience, market channels, high-end talents and other resources, and successfully facilitated the increasing connectivity of the local real economy with international and domestic quality resources.

To build Shandong into a hub for opening up, we have actively promoted local entities to participate in international standardization activities, and increased international standardization projects. We have held the secretariats of ISO/TC 306 and IEC /TC 129, and the domestic mirror committee for ISO/TC 268/SC 2, creating conditions for advantageous industries and related enterprises to better enter the international market.

In addition, Haier Group participated in more than 100 IEC and IEEE international standards; Haier COSMOPlat led the development of first international standard on industrial internet system functional architecture; Shandong led the development of first ISO international standard on marine survey; Weichai Power Co., Ltd. effectively supported its international M&A business by exporting advanced technical standards system. Jinan 12345 citizen hotline proposed an international standard project on government hotline services; and Jinan Institute of Quantum Technology undertook the operation of the "Focus Group on Quantum Information Technology for Networks (FG-QIT4N)".

To strengthen international standardization work, we should further enhance the awareness of international standardization, smoothen channels for enterprises to participate in international standardization activities, and give full play to the synergistic effect of innovation platforms at all

levels. So, we can gradually make more contribution in international standards development, and promote the "going global" of products with the internationalization of standards.

We should improve the incentive mechanism for enterprises to participate in international standardization, support and guide enterprises to transform their proprietary technologies into international standards, exert the role of state-owned enterprises, promote the integration of standardization and technological innovation, and accelerate the facilitation of technologies, patents, standards. We should highlight the development of talents, leverage the international standardization training base and other platforms, attract more high-end talents of international standardization to meet market demands, and enhance the ability of independent innovation.

Since the Outline was released in 2021, its requirements have been implemented in all places across the country. What progress has been achieved in Shandong?

Shandong has attached great importance to the Outline, and the local departments at all levels have promoted its implementation, grasped the opportunity of the national pilot program, and vigorously carried out the strategy for innovation-oriented standardization development. Based on the actual development, we have improved standardization policies and systems, accelerated the construction of standards system for high-quality development, optimized the standards supply structure, innovated the standardization development platform, stimulated the vitality of market-oriented standards, and enhanced the innovative power of Shandong standards.

Strengthen top-level planning and improve the framework of policy and system. The provincial government issued the opinions on implementing the Outline to promote innovation-oriented standardization development, aiming to accelerate the building of a pacesetter, construct four new areas to promote the in-depth standardization development in all economic and social areas. We have formulated and issued the plan for the division of labor, and specified the task plans, timetables, and roadmaps. We have introduced the guidelines on standardization in key areas such as digital economy and digital countryside, and developed the guidelines on the integration of standardization and technological innovation, as well as the standardization development of industries.

Utilize the location-based advantages to stimulate the vitality of innovation and creativity. Based on respective realities, overall 16 cities in Shandong have formulated plans of action for innovation-oriented standardization development. We have speeded up the promotion of synergetic development of technological innovation and standardization, integrated development of standards and patents, and internationalization of standards, with specified tasks, paths and guarantee measures. Also, we have tapped to fully exert the role of state-owned enterprises to start early and seek greater impact in the development of standards on key core technologies.

Focus on project breakthroughs to drive industrial upgrading and development. Shandong has planned for 320 innovation-oriented standardization development projects, focusing on new generation information technology, high-end equipment, advanced materials, high-end chemicals, new energy equipment and other fields, and set up 32 provincial technical standards innovation

centers to promote the translation of major scientific and technological achievements and disruptive technologies into standards. Regarding the enhancement of industrial foundation, modernization of industry chain, key generic technologies, strategically restrained products, and emerging industries, we have implemented 30 provincial standardization strategic key projects, and made major breakthroughs in meglev power technology, marine investigation, and international standards for industrial internet.

Improve the standards system to support high-quality development. We have optimized the standards supply structure, strengthened the bottom-line role of government-led standards, released the vitality of market-oriented standards, cultivated more brand association standards organizations, strengthened the supply of advanced standards in key areas, promoted the process of internationalization of standards, and built an all-round standards system to support high-quality development. Up to now, Shandong has led and participated in the development of 276 international standards, 9,928 national standards and 13,546 sectoral standards, and issued 3,387 local standards; 511 social organizations have disclosed 3,154 association standards, and 57,195 enterprises have disclosed more than 380,000 product standards through the national platforms.

The biennial QFS, as a high-level platform for standardization cooperation in China, has attracted the attention from both international and domestic standardization communities. How is the preparation, and what achievements will it bring?

The upcoming event is the fourth in a row. It serves as a major international exchange event as well as an important platform for further opening up and promoting international cooperation of industrial technologies through standards.

The 2023 QFS will be held from June 8 to 9 at the Qingdao International Convention Center, hosted by Shandong Provincial People's Government and the State Administration for Market Regulation (Standardization Administration of China), and organized by the Qingdao Municipal Government and the Shandong Provincial Administration for Market Regulation. The forum adopts a "1+5+N" structure, i.e. 1 thematic forum with the theme of "Standardization for Green, Low-Carbon and High-Quality Development", 5 sub-forums focusing on ocean negative carbon emissions, new power systems (green energy), modern green port and shipping, green and low-carbon development of SCODA, and capacity building in standardization, and N standardization activities.

SAC will release standardization outcomes, and sign bilateral cooperation agreements. *Qingdao Initiative: International Standards for Green, Low-Carbon and High-Quality Development* will be released to demonstrate the positive role of standardization in supporting high-quality development.

We will actively support local enterprises to undertake the national standardization subcommittee on intelligent ports, promote the establishment of research center for ocean negative carbon emission international standards, and build the international and national standardization platform for fostering marine competitiveness and developing green port and shipping. The QFS will also provide an opportunity for promoting international standardization cooperation and exchanges on a

larger scale, build a project cooperation platform for international standards exchanges, smoothen the participation at the international level, and promote the exchanges and mutual understanding of international standards.

We will organize high-end standardization experts to visit enterprises and help them deal with challenges in national and international standardization work, encourage enterprises to translate technological innovations into advanced standards in a timely manner, support them to assume the secretariats of national and international technical committees or create standards innovation platforms, and provide guiding advice for their strategy of innovation-driven standardization development. We expect to make breakthroughs in the development of international and national standards in the areas of high-end equipment, new-generation information technology, green technology, modern pharmacy, and other areas, and build on industrial technology advantages to forge advantages in terms of standards, rules, and market, thus bringing greater impetus to enterprises' innovation and creativity.

What do you expect for the future standardization work in Shandong?

President Xi stresses that high standards are essential to high quality. We will unswervingly implement the standardization strategy, take the national innovation-oriented standardization development pilot as an opportunity to accelerate the construction of four new areas, i.e. the pilot area for scientific and technological innovation and standardization, the standardization-driving area for transformation of growth drivers, the standardization-led area for new development paradigm, and the standardization practice area for facilitating common prosperity, to build Shandong into a pacesetter for innovation-driven standardization development.

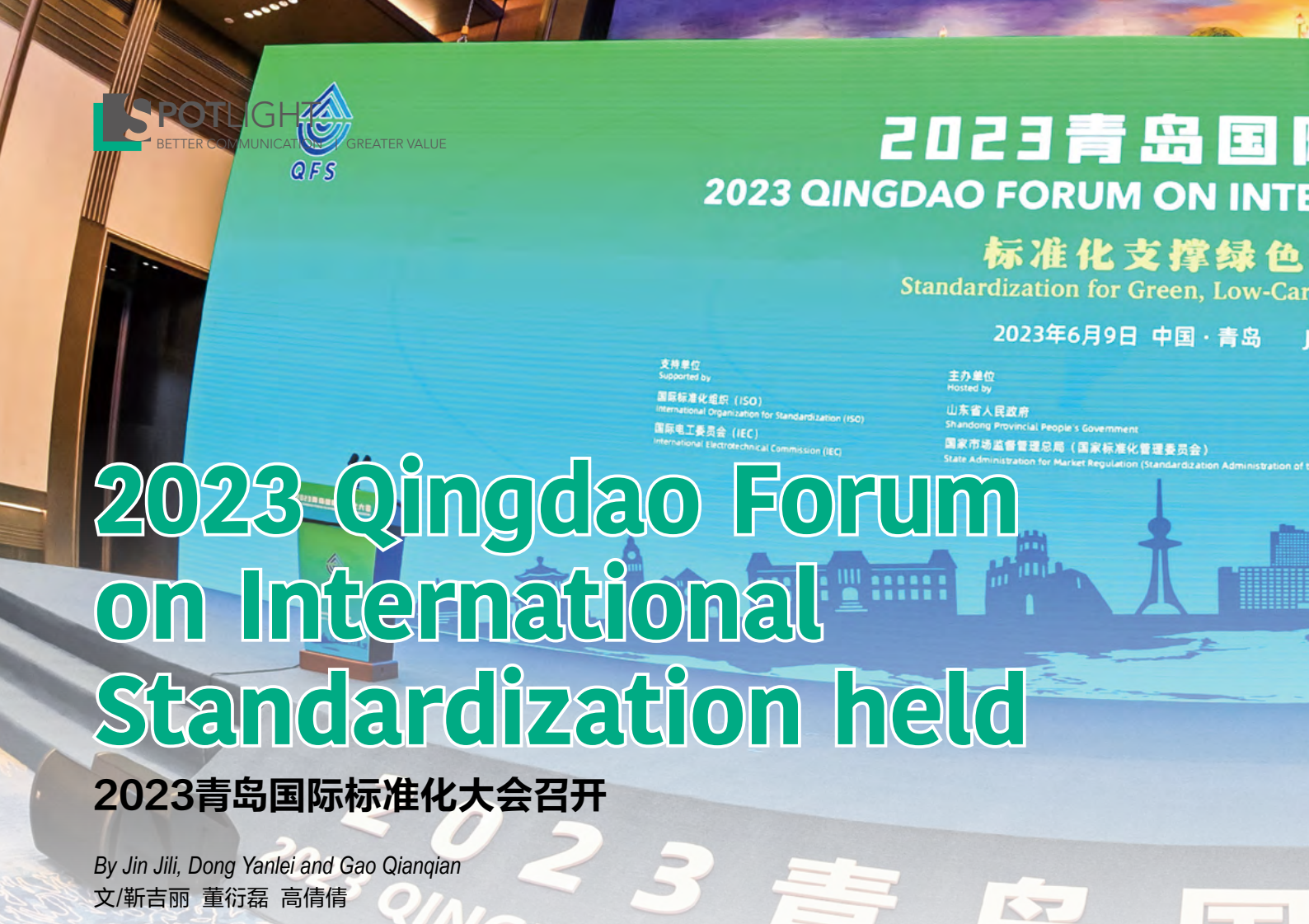
It is important to establish a standardization operation and management mechanism that is in line with international standards to meet the needs of social development, give full play to the advantages of location, industries, and resources, establish a cross-field cross-regional innovation model, and create a more open environment for standardization development.

It is also vital to extensively promote the innovation-driven standardization development across the whole region, increase forward-looking standardization research in key areas of cutting-edge science and technology, improve the standard-essential patent system, and strengthen the protection of intellectual property rights in standards development. We will build an all-round standards system to support high-quality development, with lean government-led standards and more market-oriented standards, where the innovation vitality for market-oriented standards is stimulated to support greater international impact, and the high-quality development of local enterprises, industries, and brands.

Also, we will vigorously tap the dynamics of business entities, and enhance the effectiveness of standardization in promoting technological progress, industrial development, low-carbon transformation, environmental protection and social governance.

编译 / 孙加顺

(Edited and translated by Sun Jiashun based on the interview in Chinese)



2023 Qingdao Forum on International Standardization held

2023青岛国际标准化大会召开

By Jin Jili, Dong Yanlei and Gao Qianqian
文/靳吉丽 董衍磊 高倩倩

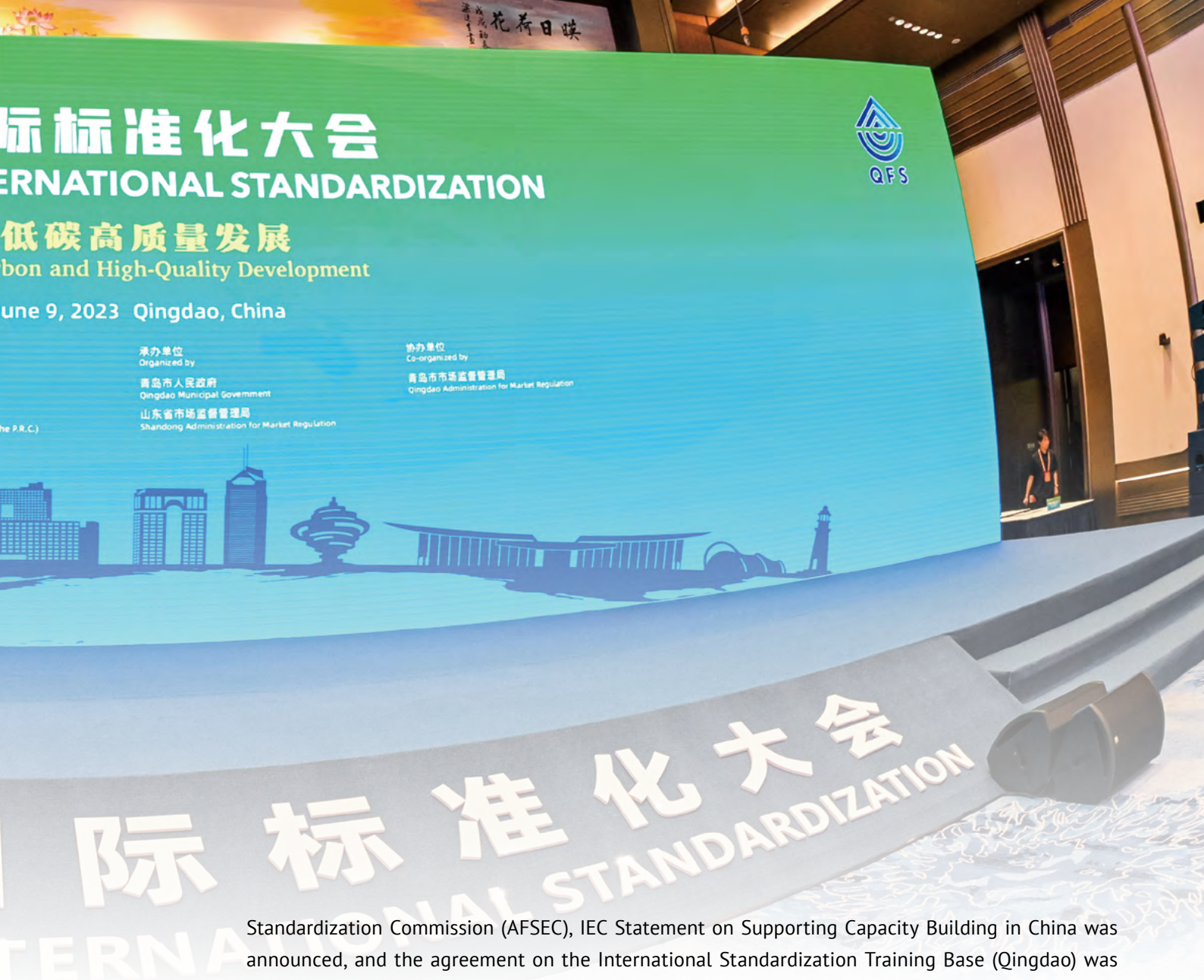
With the theme of "Standardization for Green, Low-Carbon and High-Quality Development", the 2023 Qingdao Forum on International Standardization (QFS) was held at the Qingdao International Conference Center on June 9, which was hosted by SAMR (SAC) and Shandong Provincial People's Government, and organized by Qingdao Municipal Government and Shandong Administration for Market Regulation.

The forum was addressed by Luo Wen, Minister of SAMR, Zhou Naixiang, Governor of Shandong, Sergio Mujica, Secretary-General of ISO, Philippe Metzger, Secretary-General and CEO of IEC, and Ke Liangdong, Vice Chair of China Council for the Promotion of International Trade (CCPIT).

As a specific measure to implement the *National Standardization Development Outline* and the *Outline of Boosting China's Strength in Quality,* the forum was designed to safeguard green production order, support green technological innovation, and promote eco-friendly ways of life with high-quality standards system.

It put forward the high-level institutional opening up of standards to serve and facilitate the global sustainable development, improve the international standards systems, drive the interconnectivity of standards, and build the application scenarios of standards for sustainable development.

During the event, *The Qingdao Initiative: International Standards for Green, Low-Carbon and High-Quality Development* was released, a MoU was signed by SAC and African Electrotechnical



Standardization Commission (AFSEC), IEC Statement on Supporting Capacity Building in China was announced, and the agreement on the International Standardization Training Base (Qingdao) was signed by ISO, SAC and Qingdao Municipal Government.

Besides a series of standardization activities, five sub-forums were convened, covering the topics of standardization & ocean negative carbon emissions, standardization & new power systems (green energy), standardization & modern green port and shipping, standardization for green and low-carbon development of SCODA, as well as capacity building and creating leadership in standardization.

Presided over by Lu Zhiyuan, Deputy Secretary of CPC Shandong Provincial Committee and Secretary of CPC Qingdao Municipal Committee, the opening ceremony was attended by Tian Shihong, Vice Minister of SAMR and Administrator of SAC, Song Junji and Wang Guiying, Vice Governors of Shandong, and Zhao Haozhi, Mayor of Qingdao.

The event attracted representatives from international, regional and national standards organizations such as ISO, IEC, European Committee for Standardization (CEN), AFSEC, Pan American Standards Commission (COPANT) and French Association for Standardization (AFNOR), related ministries and commissions, as well as nationwide market regulation departments, enterprises, research institutes and universities.

Held every two years since 2017, the QFS this year has demonstrated China's experience of standards development, further enhanced the exchanges with the international community, and explored the role of standards in promoting green, low-carbon and high-quality development.

Important outcomes

IEC supports the standardization capacity building in China

At the 2023 QFS, Philippe Metzger, Secretary-General and CEO of IEC, announced the IEC Statement on Supporting Capacity Building in China.

According to the statement, IEC supports the IEC National Committee of China in its efforts to organize an annual national Young Professionals Programme to engage young experts and future leaders, and to use the platform to select Chinese participants in the IEC Young Professionals Programme.

IEC recognizes the efforts of the IEC National Committee of China to organize a Young Professionals Programme that will invite young experts and future leaders from countries in the Asia-Pacific region to be trained and to give the opportunity to strengthen exchanges and cooperation with each other.

IEC supports the IEC National Committee of China in its efforts to train chairs, secretaries, convenors, project leaders and experts to participate effectively in the development of IEC standards. IEC recognizes the IEC National Committee of China in its initiative to set up a center in Nanjing to promote IEC activities.

Agreement on the International Standardization Training Base (Qingdao) signed

An agreement on the International Standardization Training Base (Qingdao) was signed to continue the cooperation of training activities by Sergio Mujica, Tian Shihong and Zhao Haozhi on behalf of ISO, SAC and Qingdao Municipal Government respectively.

Early in 2017, an action plan on establishing the International Standardization Training Base (Qingdao) was signed to organize ISO international and regional training activities, build the platform of international standardization cooperation and exchanges, and establish a think tank of international standardization talents.

Since its establishment, the Base together with ISO has provided 22 standardization training sessions for more than 2,000 trainees and trained 68 standardization officers from 39 developing countries in East Asia, South Asia, Central Asia, Eastern Europe and other regions.

The Base has made efforts to improve international standardization capability and actively contribute Chinese wisdom. It will build itself into a world-class international standardization training base through training activities, intellectual supporting system, talent reserve, research on relevant projects as well as cooperation and exchanges in the international standardization field.

Qingdao Initiative released

To fully leverage the supporting and guiding role of standards in promoting the green and low-carbon development and build consensus on global standardization development, *The Qingdao Initiative: International Standards for Green, Low-Carbon and High-Quality Development* was released by Tian Shihong.

The initiative pointed out, supported by ISO and IEC, SAMR (SAC) joins hands with Shandong Provincial People's Government to hold the 2023 Qingdao Forum on International Standardization themed "Standardization for Green, Low-Carbon and High-Quality Development" to discuss the technical supporting role of international standards for sustainable development and green, low-carbon and high-quality development across the world.

We believe that promoting green and low-carbon development is a crucial link in achieving high-quality development of human society. International standards will play an increasingly important role in promoting the harmonious coexistence between mankind and nature.

We recognize that international standards should play a leading role in advancing traditional industries to the medium- and high-end, fostering and developing emerging industries, optimizing the energy and transportation structure, and facilitating development of the digital economy and society.

We shall join hands to promote the development of international standards in the green and low-carbon field and continuously improve the standards system for sustainable development. And we shall promote the implementation of green manufacturing and green consumption standards, so as to gradually foster green and low-carbon production and lifestyle.

We propose to carry out international and regional cooperation in standardization and contribute to sustainable development of the global economy, society and environment through the exchange and sharing of knowledge and experience in green and low-carbon development.

Cooperation agreement signed by SAMR and Shandong

A cooperation agreement on implementing the *State Council's guidelines on supporting Shandong to strengthen the replacement of old growth drivers with new ones and promote green, low-carbon and high-quality development* was signed by Luo Wen and Zhou Naixiang on behalf of SAMR and Shandong Provincial People's Government respectively.

According to the agreement, the two parties will carry out cooperation in the areas such as reforms to streamline administrative procedures, delegate power and improve government services, quality improvement action, metrology and standards systems on carbon peak and neutrality, new growth drivers of standardization and intellectual property rights, life-circle carbon footprint accounting of key products, as well as high-level platform of international standardization exchanges and cooperation.

Keynote speeches

As a European standardization organization, our purpose is to support the Single Market. We in this year celebrate its 30 years' anniversary. The European standardization system is the foundation of world collaboration and public-private partnership, based on consensus, transparency and expertise.

Indeed, standards are what make the Single Market possible. Each of the European standards replaces the 34 national standards. They provide validity and consistency for the international trade and services, removing the technical barriers to trade, ensuring that products meet the highest standards and quality of safety, and serving new technologies and innovation. These make sure that European standards also play an effective role in achieving the Single Market and green transition, with the cooperation of various industries and other stakeholders.

Stefano Calzolari

President of European Committee for Standardization (CEN)

Zhao Xiangeng

Academician of Chinese Academy of Engineering (CAE)

Standardization plays a leading and supporting role in green, low-carbon and high-quality development by realizing carbon reduction goal, green transformation and upgrading of industries, promoting application of green and low-carbon technologies, and serving as a part of international rules for addressing climate change. The standardization demands are reflected in four aspects, including the construction of related standards system, deep integration of technological innovation and standards, higher international level of standards, and improved management mechanism for standards implementation, supervision and evaluation.

In China, the green and low-carbon standards in key fields such as energy conservation, renewable energy, circular economy, and energy efficiency have taken shape, including approximately 1,800 national standards, 2,300 sectoral standards, 1,900 local standards and 2,900 association standards.

The Pan American Standards Commission (COPANT) encourages members to actively participate in the development of international standards and promote the dissemination and use of these standards in their countries. For this reason, we have created focus groups that follow as a regional viewer in the activities of some technical committees of both ISO and IEC.

COPANT has supported the *London Declaration* to address climate change through standardization, and we have already developed our own climate change action plan. We encourage more members to adhere to the *London Declaration*, and hope that many more will join in the near future.

Kory Eguino

Executive Secretary of Pan American Standards Commission (COPANT)

The high-quality development of China is to adjust the development mode of economy in China, pursue the modernization of China's system and capacity for governance, and address the challenge of the big but not strong manufacturing industry on mid- and low-end technologies.

The institutional opening up of standards is to facilitate the internationalization of Chinese standards in three aspects. First, make Chinese standards aligned to the international standards of ISO, IEC and ITU. Second, realize the mutual recognition of the government-led standards and market-oriented standards in China and the internationally advanced standards. Third, make Chinese standards contribute to the world by sharing the successful social governance mode and management mode and providing Chinese wisdom and solutions through internationalization of standards.

Zhang Xiaogang

President of Chinese Society for Metals and former President of ISO

Bernard Modey

President of African Electrotechnical Standardization Commission (AFSEC)

African Electrotechnical Standardization Commission (AFSEC) was formed in 2008 as a subsidiary body of the African Energy Commission to promote electrotechnical standardization in Africa. AFSEC is made up of 18 national electrotechnical commissions representing 18 African countries. *AFSEC Strategic Plan 2019-2024* identifies AFSEC's mission, ambition, strategic direction, and strategic goals and objectives towards the African future. Currently, AFSEC has six technical committees.

A competitive marketing strategy has been issued with the main objective of providing a platform to enable stakeholders to effectively address the problems of standards, promote the conformity assessment activities as well as increase the number of members. Our strategic goals cannot be realized without the involvement of stakeholders.

At the regional level, CEN and CENELEC are underlying the emergence of the Single Market. Obviously, standards were not very compatible with one another, for instance, the French standards, the German standards and so on. With the help of the European standards, it was possible to replace national standards with European standards which provide a level playing field. This contributes to the emergence of the single market and the development of standardization.

Now at the international level, what is more important is that we've got something consistent with the global value chains. Through this kind of approach with international standards, you can find the solutions for all humanity challenges, for instance the climate change.

Olivier Peyrat

CEO of French Association for Standardization (AFNOR)

Wang Decheng

Chair of the Board of China Academy of Manufacturing Science and Technology Group (CAM)

Since 2000, CAM has been involved in the development of green manufacturing standards. With its leading efforts, SAC/TC 337 was established in 2008. CAM has actively promoted cutting-edge technical standards and coordinated its efforts with international counterparts to facilitate the promotion and application of new technologies and products.

By implementing related standards, the green development concept has been promoted to upstream and downstream enterprises to increase resource utilization rate and improve environmental performance, so as to push forward green and low-carbon development in the whole industrial chain. For instance, a series of standards on green manufacturing has been developed, effectively guiding the green supply chain management system in over 400 enterprises and improving the supply of green products.

In China, Siemens takes digitalization and low carbon as its driving forces. By providing solutions integrating the digital world and the real world, it helps customers in various fields address the challenges of digital transformation and sustainable development. Siemens has contributed to the digital transformation and upgrading of hundreds of Chinese enterprises in dozens of industries.

In 2022, Siemens products and solutions helped customers realize a reduction of 150 million tons of carbon dioxide emission, which was attributed to the application of proper technologies and related standards. More than 70 experts have participated in the development of more than 200 national standards in over 100 standardization technical committees or subcommittees.

Zhan Jingtao

Vice President of Siemens Ltd., China

Chen Lucheng

Chair of the Board of COSMOPlat IoT Technology Co., Ltd.

With Haier's four decades of manufacturing experience, the COSMOPlat industrial internet platform integrating the digital economy and the real economy has been established to enable high-end, digital and green transition of global enterprises and realize sustainable development.

Standards innovation and practice have been made in green, low-carbon and high-quality development by extending green development in both factories and industrial parks, sharing the green transition experiences of pilot programs with more partners, building excellent industrial landscape towards zero carbon emission, and contributing Chinese solution for green and low-carbon development in the context of standards internationalization. So far, COSMOPlat has participated in the development of 10 international standards and 75 national standards.

Sub-forums

Standardization & Ocean Negative Carbon Emissions

Ocean negative carbon emissions (ONCE) are considered to be a promising approach to the goal of the *Paris Agreement* by the end of this century. The Global-ONCE program has evolved into an international network of projects and experts to coordinate research effort in different aspects on ocean-based solutions for climate mitigation.

The Sub-forum on Standardization & Ocean Negative Carbon Emissions welcomed more than 80 representatives from 6 international and regional organizations, related ministries and commissions, related departments in Shandong and Qingdao, as well as 10 universities and 9 research institutes at home and abroad.

The event was addressed by Xiao Han, Director General of Standards Innovative Management Department of SAMR, and Xin Hongmei, Deputy Director-General of Science and Technology Department, Ministry of Natural Resources.

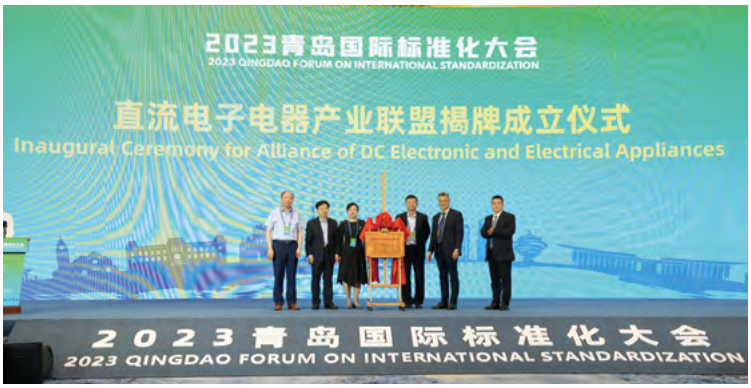
Lectures on ONCE and marine international standards were given by Jiao Nianzhi, Academician of Chinese Academy of Sciences (CAS) and Chief Scientist of Global-ONCE, United Nations Educational, Scientific and Cultural Organization, and Li Yanqing, Chair of ISO/TC 8 on ships and marine technology, respectively.

In the academic report phase, Baruch Rinkevich, Professor of Israel Oceanographic & Limnological Research Ltd., gave a report on blue carbon/biodiversity credits through the establishment of floating reef devices. Lin Ling, Director of Branch of Resource and Environment Research, China National Institute of Standardization, elaborated on the research progress of standardization on greenhouse gas management and carbon neutrality.

Bi Hongsheng, Professor of Maryland University, gave an introduction to the rapid assessment of plankton carbon biomass and standards in coastal water. Chan Lai, Professor of City University of Hong Kong, interpreted the habitat mapping in Hong Kong to support marine spatial planning and carbon neutrality policy. And Lei Yanli, Professor of the Institute of Oceanology, CAS, summarized the construction scheme of international standards for the Global-ONCE program.

The sub-forum serves as an important platform for perfectly integrating standardization, cutting-edge research on ocean related technologies, and sustainable development, providing a promising future for the standards development in the area of ONCE.

Standardization & New Power Systems (Green Energy)



The Sub-forum on Standardization & New Power Systems (Green Energy) was held to discuss the supporting and guiding role of standardization in the construction and development of new power systems with domestic and oversea experts.

The event was addressed by Sun Gang, Chief Engineer of State Grid Shandong Electric Power Company, and Sergo Sagareli, Chair of IEC/TC 129, *Robotics for electricity generation, transmission and distribution systems*.

Sun Gang emphasized that the company has made breakthrough in international standardization by undertaking the secretariat of 1 IEC technical committee and participating in the approval of 2 ISO standards projects and 1 ITU standard project. Sergo Sagareli gave an introduction to IEC/TC 129, which was established in 2021 for the standardization of robotics applied in power systems, with its secretariat held by China.

Xu Haiqing, Deputy Director of Science and Technology Innovation Department, State Grid Corporation of China, shared the innovative practice on interactive development of scientific research and technical standards in the context of new power systems. Wang Zhuo, Deputy Director of Standardization Management Center, China Electricity Council, elaborated on how to contribute to the construction of new power systems through standardization.

Shu Zhenjie, Chief Expert of Chinese Aeronautical Establishment and Academician of Russian Academy of Sciences, explained the application of unmanned system in new power systems and standards internationalization. Wang Weisheng, Chief Engineer of China Electric Power Research Institute, introduced the development and standardization of large-scale new energy grid-connected technology.

Yu Guoxin, Chief Engineer of Advanced R&D Center of Haier Smart Home Co., Ltd., summarized the innovative development of DC household appliance industry brought by green energy revolution. Ma Dejun, Vice Chair of IEC/TC 61, explained the international standardization and industrial development of low-voltage DC system at demand side.

During the event, the launching ceremony of the industrial alliance on DC electronics & electrical appliances was held in the presence of the leadership from Qingdao Branch of China Quality Certification Center, Haier Smart Home Co., Ltd., SDIC-CSSTGC Quality Infrastructure Research Institute Co., Ltd., and National Technical Standards Innovation Base (household appliance).

Standardization & Modern Green Port and Shipping

The Sub-forum on Standardization & Modern Green Port and Shipping focused on the role of standardization in supporting the high-quality development of modern green port and shipping industry, and held in-depth discussions and exchanges to build a globally recognized standards system.

The event was addressed by K. Subramaniam, President of International Association of Ports and Harbors, Lin Qiang, Deputy Director-General of the Department of Science and Technology under the Ministry of Transport, Si Jiajun, Deputy Director of Shandong Transportation Department, Chen Yingming, Executive Vice President of China Ports and Harbors Association, and Huo Gaoyuan, Chair of the Board of Shandong Port Group.

At the event, SPG Qingdao Port Smart and Green Port National Service Standardization Pilot Unit was unveiled, the green port working group under SAC/TC 530 was set up, the national standards on port and shipping were published, and the *Sustainable Development Initiative for the Standardization of Modern Green Port and Shipping* was released.

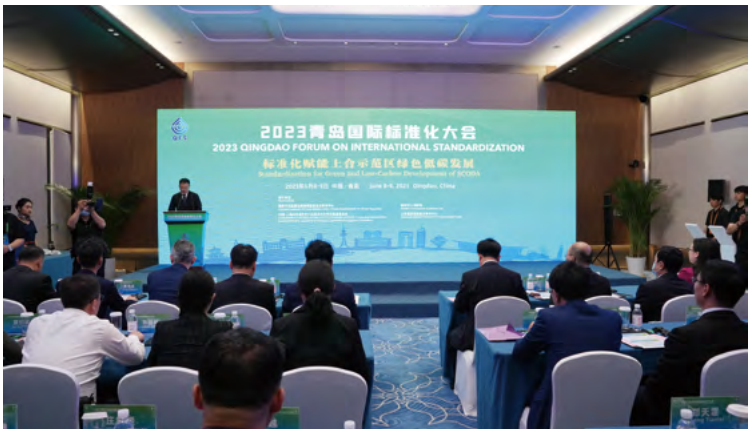
Also, a strategic cooperation framework agreement on standardization was signed by China Ports and Harbors Association, China National Institute of Standardization, Shandong Port Group, China Waterborne Transport Research Institute, China Association for Standardization, and China Classification Society.

In the keynote speech phase, Zhao Xiangeng, Academician of Chinese Academy of Engineering, explained how standardization facilitates green port and shipping step by step, including the status quo of green port and shipping, latest requirements at home and abroad, standardization progress, and relevant policies and suggestions.

Jan Baptist Van Der Borght, Representative of Port of Antwerp, Economic Diplomatic Advisor to the Belgian Embassy, introduced the standardization work and the energy and digital transformation of the Port of Antwerp. Yu Xinli, President of China Association for Standardization, elaborated on the important role of standardization in green port and shipping and the four standardization evaluation methods.

Jia Dashan, Secretary-General of the APEC Port Services Network and Member of Advisory Group of Ministry of Transport, shared the exchanges and cooperation of ports to promote the Asia-Pacific green development. And Li Fengli, General Manager of Shandong Port Group, introduced the standardization innovation practice for high-quality development.

Standardization for Green and Low-Carbon Development of SCODA



The Sub-forum on Standardization for Green and Low-Carbon Development of China-SCO Local Economic and Trade Cooperation Demonstration Area (SCODA) was convened to discuss how standardization promotes the green and low-carbon development of SCODA.

The event was addressed by Liu Shuwen, Deputy Director of National Center of Standards Evaluation of SAMR, and Li Gang, Executive Deputy Director of the Administrative Committee of SCODA.

The cooperation agreement on the Strategic Alliance of China-SCO Local Economic and Trade Cooperation Demonstration Area was signed by the National Center of Standards Evaluation of SAMR, Administrative Committee of SCODA, China Association for Standardization, Jiaozhou Administration for Market Regulation, and standardization research institutes in Shandong, Jilin, Xinjiang and Sichuan.

The letter of intent on establishing the Innovation Alliance of Service Trading Standards was signed by the Administration Committee of SCODA and related research institutes and enterprises in Shandong.

Mateo Ferrero, Counsellor of Department of Trade and Environment, WTO, Chen Hongjun, former Deputy Director-General of Standards Technical Management Department, SAMR, Qian Heng, Researcher of Qilu University of Technology, as well as Cao Lili, Director of Sub-institute of Service Standardization under China National Institute of Standardization, introduced the WTO trade policies, status quo of technical barriers to trade, international standards facilitating green and low-carbon cities, and service standardization and green trade respectively.

Li Li from University of International Business and Economics, Zhao Zhiyou from national subcommittee on hammer and forging machine, and Hou Jie from China Metallurgical Information and Standardization Institute elaborated on the green and low-carbon development in relevant areas.

Lin Changhua from Administration Committee of SCODA, Jamshid Sulaymanov from Chamber of Commerce and Industry of the Republic of Uzbekistan, Gu Minchong from State Administration for Market Regulation, Zheng Tianlei from China Automotive Technology and Research Center Co., Ltd., and Chen Dilin from People's Government of Chibi interpreted how standardization promotes the green and low-carbon development of SCODA.

The sub-forum provides the direction for boosting the standardization construction of SCODA and establishing the new platform for the cooperation of SCO countries.

Capacity Building and Creating Leadership in Standardization

The Sub-forum on Capacity Building and Creating Leadership in Standardization attracted representatives from enterprises, standardization research institutes, universities, and government departments.

It was addressed by Guo Chenguang, Deputy Director-General of Standards Innovative Management Department of SAMR, Zhang Xiaogang, President of Chinese Society for Metals and former President of ISO, and Xia Dongwei, President of Qingdao University.

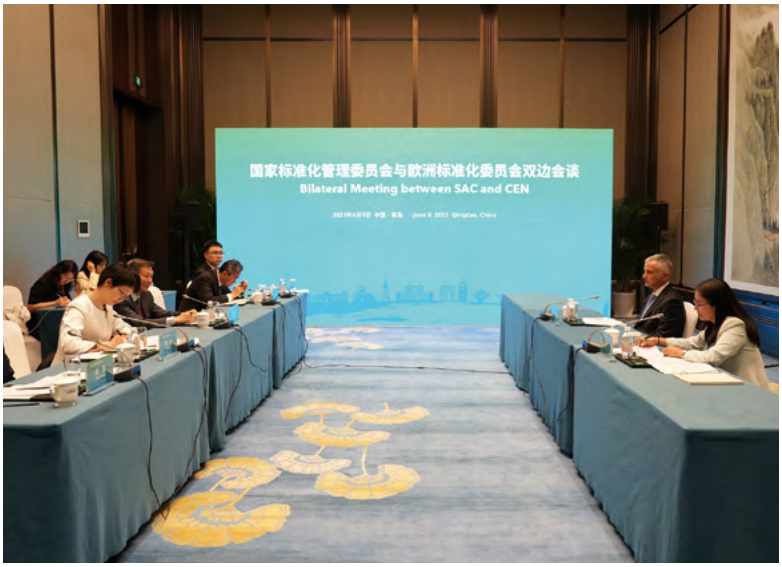
The cooperation agreement on jointly establishing the practicing base of international standardization talent cultivation was signed by Qingdao Institute of Standardization (QIS), COSMOPlat IoT Technology Co., Ltd., and Qingdao University. And another cooperation agreement on standardization in the area of carbon peak and neutrality was signed by QIS, China Standard Certification Co., Ltd., and Mingjian Evaluation Consulting (Qingdao) Co., Ltd.

Keynote speeches were given by renowned experts at home and abroad. Sergio Mujica, ISO Secretary-General, explained the *ISO Action Plan for Developing Countries* and how to enhance the capacity building of ISO members. Zhang Song, Dean of College of Quality & Standardization, Qingdao University, shared the innovative research and practice of standardization talent cultivation in comprehensive university.

Song Mingshun, former President of China Jiliang University and Member of China Standardization Expert Committee, interpreted how standards contribute to the high-quality development of digital trade. Dennis Chew, Director of IEC Asia-Pacific Regional Center, introduced the standardization capacity building in IEC. Pu Jiangbo, Associate Research Fellow of Institute of Biomedical Engineering, Chinese Academy of Medical Sciences, shared his involvement in international standardization as a young expert.

Han Linzhi, Senior Inspector of Standards Innovative Management Department, SAMR, elaborated on the exploration and practice of standardization vocational education in China. Henk de Vries, Professor of Rotterdam School of Management, Erasmus University in Netherlands, shared the cases of innovation and standardization management course design. Andia Persad-Maharaj, Standardization Expert of Trinidad and Tobago Bureau of Standards, as the first winner of ISO Next Generation Award, introduced how to cultivate the future standardization leaders.

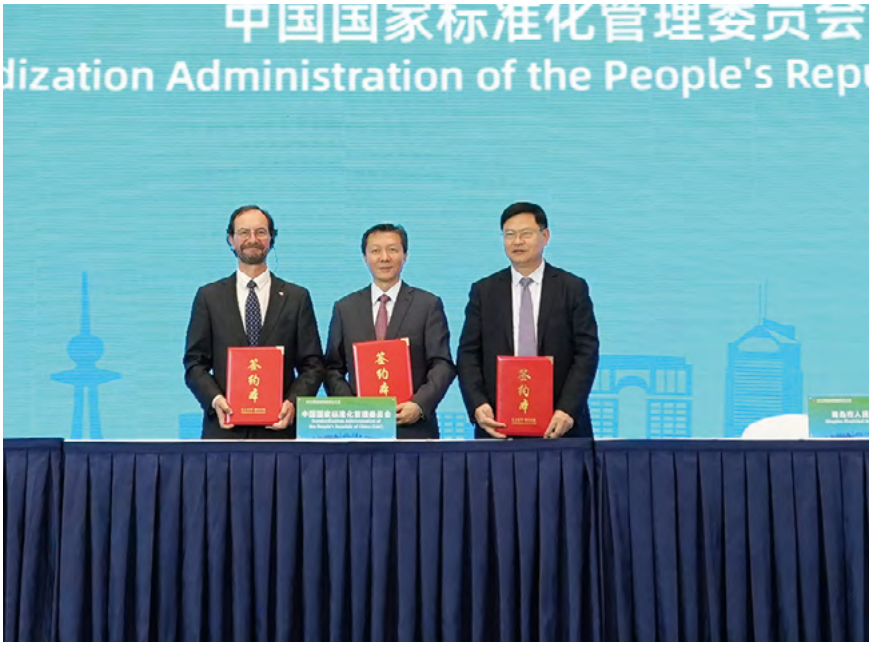
The sub-forum plays a guiding role in facilitating the cultivation and education of standardization talents in China, and provides a high-end communication platform of international standardization education and research.


国家标准化管理委员会与欧洲标准化委员会双边会谈
Bilateral Meeting between SAC and CEN


2023青岛国际标准化大会
2023 QINGDAO FORUM ON INTERNATIONAL STANDARDIZATION


李彦庆
LI Yanqing


山东省人民政府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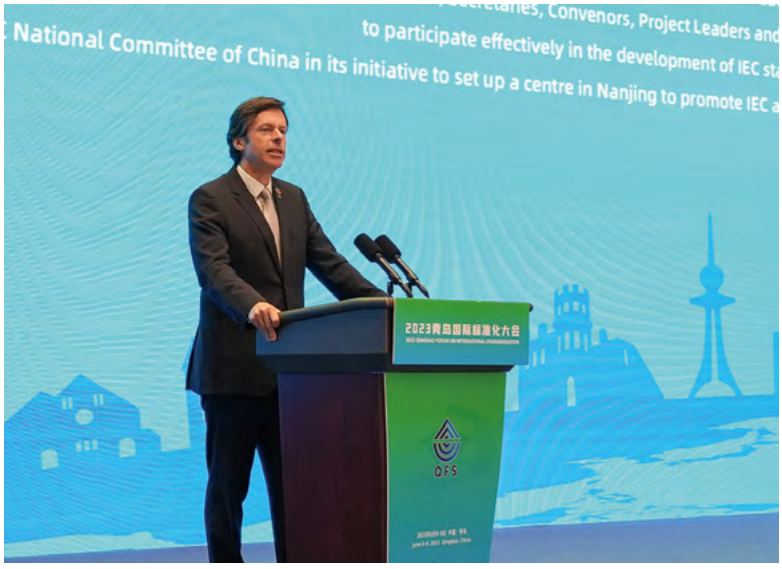
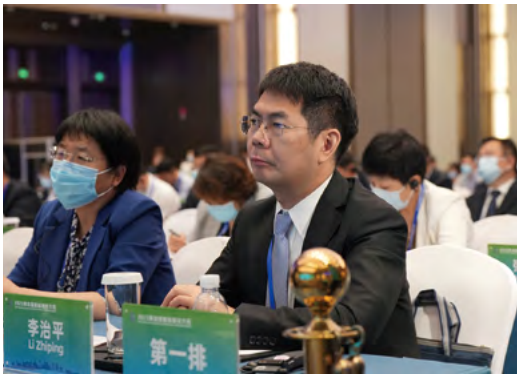

National Committee of China in its initiative to set up a centre in Nanjing to promote IEC
to participate effectively in the development of IEC
2023青岛国际标准化大会
QFS


2023青岛国际标准化大会
2023 QINGDAO FORUM ON INTERNATIONAL STANDARDIZATION


李治平
Li Zhiping
第一排


第六排
第五排

Annual report on standardization development released

《中国标准化发展年度报告（2022年）》发布

The Annual Report on China Standardization Development (2022) was released by SAMR (SAC) in April at a press conference in Beijing, which presents the standardization data in all aspects and standardization priorities in 2022, and gives the prospects for future standardization development.

A glimpse of standardization data

In terms of national standards, **2,266** national standards and **238** national reference materials were published in 2022, bringing the total number to **43,027** and **4,080** respectively.

In terms of sectoral standards, in 2022, **3,501** sectoral standards were filed. By the end of 2022, **73** categories of sectoral standards had been approved, and **78,431** sectoral standards had been filed.

In terms of local standards, **8,600** local standards were filed in 2022, the total number of which hit **61,969**.

In terms of association standards, **17,675** association standards were disclosed on the national platform of association standards information in 2022, bringing the total number to **51,078**.

In terms of standardization technical bodies, in 2022, **35** national standardization technical bodies were established, bringing the total number to **1,319**, including **546** TCs, **756** SCs and **17** SWGs.

In terms of standardization pilot and demonstration, **500** national standardization pilot and demonstration projects were carried out across the country in 2022, the total number of which hit **7,723**.

In terms of standards internationalization, in 2022, China actively promoted the implementation of *London Declaration*, participated in the development of the white paper *ISO and Climate Change*, and drove the establishment of **4** new technical bodies for small hydropower, heating pipe network and so on.

In terms of enterprise standards, in 2022, **470,738** enterprises standards were disclosed on the public service platform of enterprise standards information, covering **721,585** kinds of products. By the end of 2022, **2,621,816** standards had been disclosed by **402,284** enterprises, covering **4,358,182** kinds of products.

In 2022, China vigorously promoted the bilateral cooperation on standardization, signed cooperation documents and action plans with **14** national and regional standardization bodies, and held ministerial conferences and supporting activities on standardization cooperation of BRICS countries. Besides, **8** training sessions for relevant Belt and Road countries were provided for **275** standardization managers in **26** countries. And **335** standards in foreign language versions were published.

Standardization priorities

The standards system for high-quality development was improved. In the field of agriculture, 170 national standards were published in 2022, bringing its total number to 3,928. In the area of food and consumer products, 308 national standards were published. More efforts were put into the development of national standards in key fields such as products for infants, children and seniors as well as medical products. The standardization joint working group for senior-oriented transformation was established to coordinately promote the standards system. Also, 15 national standards on children's products were published, and the level of standards for people's livelihood was enhanced.

A total of 728 national standards on material and equipment manufacturing were published, including more than 60 technical standards on etching machine, additive manufacturing and other products. And 107 national standards on services were published, bringing the total number to 1,304. In the area of social management and public services, 71 national standards were published. Besides, the special plans for 72 national standards on carbon peak and neutrality were issued for further development or revision, and the layout of national standards on ecological progress was further perfected.

The standards innovation capacity of business entities was enhanced. First, strong supply of association standards. In 2022, 17,675 association standards were disclosed. With growing vitality, 470,738 enterprises standards were disclosed in 2022, revealing higher production and operation capabilities and improved status of development.

Second, better leading role of enterprise standards forerunners. By the end of 2022, 2,856 enterprise standards from 1,679 enterprises were recognized as forerunners leading industrial development, supporting high-quality development with higher standards and effective supply of medium and high-end products and services.

Third, more active awareness on standardization development. By the end of 2022, over 50,000 enterprises across the country had carried out the campaign of standards comparison and compliance, publishing over 110,000 pieces of information on comparison results covering 1,800 types of products and services. The conversion rate of international standards in areas such as key equipment manufacturing and new-generation information technology exceeded 90 percent, and the consistency degree of national standards and international standards on major consumer products reached 95 percent.

The efficiency of local standardization development was highlighted. The vitality degree of standards in economically developed areas were relatively higher. By the end of 2022, six provinces and municipalities had released more than 1,000 association standards respectively, including Guangdong, Zhejiang, Shandong, Beijing, Shanghai and Jiangsu. In Shandong, Zhejiang, Guangdong, Jiangsu and Hebei, over 20,000 enterprises made declaration of their enterprise standards. Zhejiang, Shandong and Hebei released over 20,000 pieces of information on comparison results. The number of forerunner enterprises in Guangdong, Shandong, Zhejiang, Jiangsu and Beijing exceeded 100.

The technical support of standardization showed strong advantages. By the end of 2022, 12 areas including Beijing, Shanghai, Jiangsu, Guangdong, Shandong, Liaoning, Tianjin, Zhejiang, Henan, Shaanxi, Sichuan and Hubei had held more than 30 secretariats of national standardization technical committees, in which Beijing held 643 secretariats, accounting for 48.75 percent. Beijing also had 1,887 organizations participating in national standards development, which was the most in the country, followed by Guangdong, Zhejiang, Jiangsu and Shandong.

Besides, the regional coordinated development with standardization was much emphasized, such as the Beijing-Tianjin-Hebei region, Yangtze River Delta, and Guangdong-Hong Kong-Macao Greater Bay Area.

The level of standards internationalization was raised. By encouraging foreign-invested enterprises to participate in the development and revision of national standards, the national technical bodies welcomed 752 members from foreign-invested enterprises. By improving the consistency of national standards and international standards, 792 national standards adopted the international standards of ISO and IEC. China actively participated in international standardization activities, such as the development of ISO's policies on climate change.

In terms of standardization cooperation, China had signed 106 cooperation agreements with 63 national, regional and international standardization organizations by the end of 2022. And 335 national standards in foreign versions were published, covering staple commodities, contracted

overseas projects, energy conservation and low carbon, equipment manufacturing as well as services.

The foundation of standardization work was further strengthened. The supply mechanism of standards was improved by optimizing the coordinated binary standards system of government-led and market-oriented standards, revising the administrative measures for national standards, and reviewing over 6,000 national standards. In 2022, 2,266 national standards were accessible for free, effectively supporting the demands of business entities. Statistical analysis pilot programs were carried out for the implementation of 49 important mandatory national standards, together with the spot check for more than 600 sectoral and local standards.

Progresses were witnessed in standardization talent cultivation. By the end of 2022, 56,697 people had served as members of national technical bodies, and 1,342 people had registered as ISO and IEC experts, receiving more than 30 awards. The major of standardization technology was included in the national vocational undergraduate education in 2022, with relevant majors set up in 14 universities. The education and training system, composed of higher education, vocational education and vocational skill training, had taken initial shape.

Prospects for future development

In the near future, SAC will strengthen the standardization work in four aspects. The construction of the standards system for high-quality development will be strengthened, especially in the areas of emerging technologies, green development and people's livelihood.

Standardization will be enhanced in both supply and demand ends by promoting the interaction between standards and scientific research, strengthening supervision over standards implementation, improving the tracking, supervision and error correction mechanisms for government-led standards, and boosting the application of research findings in standards.

The coordinated promotion of local standardization will be strengthened by narrowing the gap between developed and underdeveloped areas, exerting the leading role of advanced standards, and facilitating common prosperity with improved standardization level.

The institutional opening up of standards will be steadily expanded by participating in the development and revision of international standards, enhancing the application of international standards, promoting the compatibility of national and international standards systems, creating a level playing field of standards development, reinforcing the connecting role of standards in Belt and Road Initiative, strengthening the cultivation of international talents, and facilitating high-level opening up with high standards.

编译 / 靳吉丽

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

International Standardization (Chilin) Forum convened in Nanjing

国际标准化（麒麟）大会在南京召开

By Jin Jili
文/靳吉丽

Focusing on the theme of "driving the transition to an all-electric society", the International Standardization (Chilin) Forum was held in Nanjing, capital of East China's Jiangsu province, on June 7-8, 2023, which was hosted by Nanjing Municipal People's Government, Chinese Society for Electrical Engineering, and China Huaneng Group Co., Ltd.

With the support of IEC, ISO and ITU, the event was guided by SAC, German Commission for Electrical, Electronic & Information Technologies (DKE), and British Standards Institution (BSI).

Role of standards in all-electric society

The forum was addressed by Tian Shihong, Vice Minister of SAMR and Administrator of SAC, Hu Guangjie, Vice Governor of Jiangsu Provincial People's Government, Chen Zhichang, Mayor of Nanjing Municipal People's Government, Philippe Metzger, Secretary-General and CEO of IEC, Seizo Onoe, Director of ITU Telecommunication Standardization Bureau, Tom Duke, Deputy HM Trade Commissioner of British Embassy Beijing, Oliver Hateley, Senior Policy Manager of BSI, Michael Teigeler, Managing Director of DKE, and Li Xiangliang, Vice President of China Huaneng Group Co., Ltd. The opening ceremony was presided over by Wu Wei, Deputy Mayor of Nanjing.

According to Tian Shihong, over the past years, China has actively carried out the green and low-carbon standardization work towards the sustainable development goals by strengthening the top-level design and systematic planning of relevant standards system, laying a good practice foundation for the establishment of an all-electric society.

At present, all-electric society is included in the latest strategic plan and goal of IEC. It is expected that we go hand in hand to accelerate the development of international standards on all-electric society, make concerted efforts to promote the application of such standards, cooperate to cultivate application-oriented standardization talent team with innovative ideas, and pursue mutual benefits and win-win results to enhance cooperation on international standards, making greater contribution to driving the transition to an all-electric society with international standardization and realizing sustainable development, Tian noted.

Taking standards as an important supporting factor of high-quality development, Jiangsu has earnestly implemented the *National Standardization Development Outline*, and vigorously carried out the pilot work on comprehensive standardization reform, making its major standardization indicators top the national rankings. Leveraging this opportunity, it will double its efforts to promote international standardization work, and facilitate innovation in an efficient manner, so as to pursue high-quality development, high-level opening up and high-quality talents with standards, Hu Guangjie stressed.

Chen Zhichang pointed out that standards determine quality. Nanjing will further exert the fundamental, strategic and guiding role of standardization in economic and social development, empower the urban development and accumulate the innovative strengths with standardization, enabling standardization to strongly support its high-quality development.

In the international arena, the core of all-electric society is to rely on the international standards system and use intelligent green electricity, cutting-edge communication and digital technologies to create a decarbonized environment, according to Phillippe Metzger.

Driving international standardization depends on the spirits of cooperation and consensus. Therefore, the cooperation of IEC, ISO and ITU is vital to promote and realize sustainable future, Seizo Onoe emphasized in his address via video.

However, insufficient, unclear and incompatible standards may lead to technical barriers to trade. To promote the coordination of international standards, we should encourage governments and enterprises to carry out technical exchanges on standards, Tom Duke indicated.

Driven by policies, the priorities of energy strategy should be energy security, consumer protection, and utilization of clean energy and net zero infrastructure, to ensure that energy systems are fit for the future development, Oliver Hateley pointed out.

The coupling of electrification and digitalization is the first step for the road towards an all-electric society. Meanwhile, standards are key to the connection of each system, Michael Teigeler stressed.

Three IEC white papers released

During the event, a ceremony was held to unveil the important outcomes, which was presided over by Guo Chenguang, Deputy Director-General of Standards Innovative Management Department, SAMR, and Secretary of IEC China National Committee.

The *Advocacy on International Standardization Lighting the Journey towards an All-Electric Society* was announced by Xiao Han, Director-General of Standards Innovative Management Department, SAMR.

The advocacy puts forward developing international standards that accelerate the decarbonization of energy system, fostering technological innovation, facilitating the application of renewable energy, and providing unequivocal guidance for all stakeholders; strengthening communication and cooperation between IEC members and stakeholders through collaborative mechanism to increase the development and adoption of international standards, in line with market needs; enhancing collaboration and exchanging best practices on standardization, as well as sharing knowledge, experience, technology and cooperation among all stakeholders; and raising awareness of the concept of an all-electric society and sustainable energy among the general public through communication and engagement activities.

Three IEC white papers were released, namely *Zero carbon power system based primarily on renewable energy* (Chinese version), *Multi-energy coupling system*, and *Municipal solid waste to energy: coupling power generation with MSW*. IEC white papers, in a form that differs from international standards, are published by the Market Strategy Board (MSB) of IEC to identify the principal technological trends and market needs in the IEC fields of activity.

These white papers are China's latest outcomes in the participation of IEC standardization work and development of the standards system for carbon peak and neutrality, which is a guiding document of driving the standardization of relevant emerging technologies in the field. They are developed with the concerted efforts of experts from China, Germany, France, the U.S., Japan, Italy and other countries.

With Chinese experts assuming the managers of the projects, energy enterprises such as China Huaneng Group Co., Ltd. and State Grid Corporation of China, relevant industry associations, universities and research institutes have participated in the development of the IEC white papers.

At present, China has become an important participant and contributor to international standardization of IEC by releasing more than 10 white papers and technical reports and developing 384 international standards with leading efforts. In the future five years, China will establish one or two technical committees in the areas of energy and low carbon, making greater contribution in the development of more international standards on carbon peak and neutrality.

In-depth discussions on key issues

Centering on the three key topics including decarbonized power system, energy using in the future and sustainable all-electric society, nearly 500 domestic and oversea experts, scholars and enterprise representatives shared the cutting-edge achievements of innovation-oriented standardization development and looked into the broad prospects of international exchanges and cooperation through 13 keynote speeches and 3 themed panel discussions.

The first round of keynote speeches was moderated by Zhang Gang, former Counsellor of the State Council. When discussing decarbonized power system, Shu Yinbiao, 36th President of IEC, Academician of Chinese Academy of Engineering and President of Chinese Society for Electrical Engineering, gave a speech entitled "Next generation power system: construction principles and enabling technologies".

He believed that the main way to build the next generation power system is to force clean electricity alternatives at both production and consumption ends, which requires the construction of multi-energy complementary & clean energy supply system, modern grid system, intelligent energy consumption system, and national united electricity market system as well as the active promotion of innovation in technical system, industrial system and standards system on new power system.

Alex Whitworth, Head of Asia Pacific Power & Renewables Research at Wood Mackenzie, Rao Hong, Academician of Chinese Academy of Engineering and Chief Scientist of China Southern Power Grid, and Xie Kai, Secretary of Party Committee and Deputy General Manager of Beijing Power Exchange Center, shared the rise of distributed power in Asia and challenges of building a zero-carbon power system, engineering practice of VSC-UHVDC, and power market mechanism adapting to new power system respectively.

The second round of keynote speeches on the energy using in the future was moderated by Johannes Stein, Expert in IEC German National Committee. Frank Woortmann, Vice President of VMM Factory Automation at Phoenix Contact, and Shen Fei, Senior Vice President of Power Management at NIO, explained the new industrial building including a smart DC grid and the promotion coordinated development of electric vehicles and the new power system.

Jim McDonald, President of UK Royal Academy of Engineering, Principal and Vice-Chancellor of University of Strathclyde, and Cao Ke, Head of Presales, AVEVA Greater China, elaborated on the critical requirements for engineering innovation and the system approach to design and implementation and empowering the energy transition with data respectively.

When it came to the sustainable all-electric society, Shawn Paulsen, IEC Vice President and Chair of the IEC Conformity Assessment Board, Zhao Yongzhan, President of Electrification Business Area,

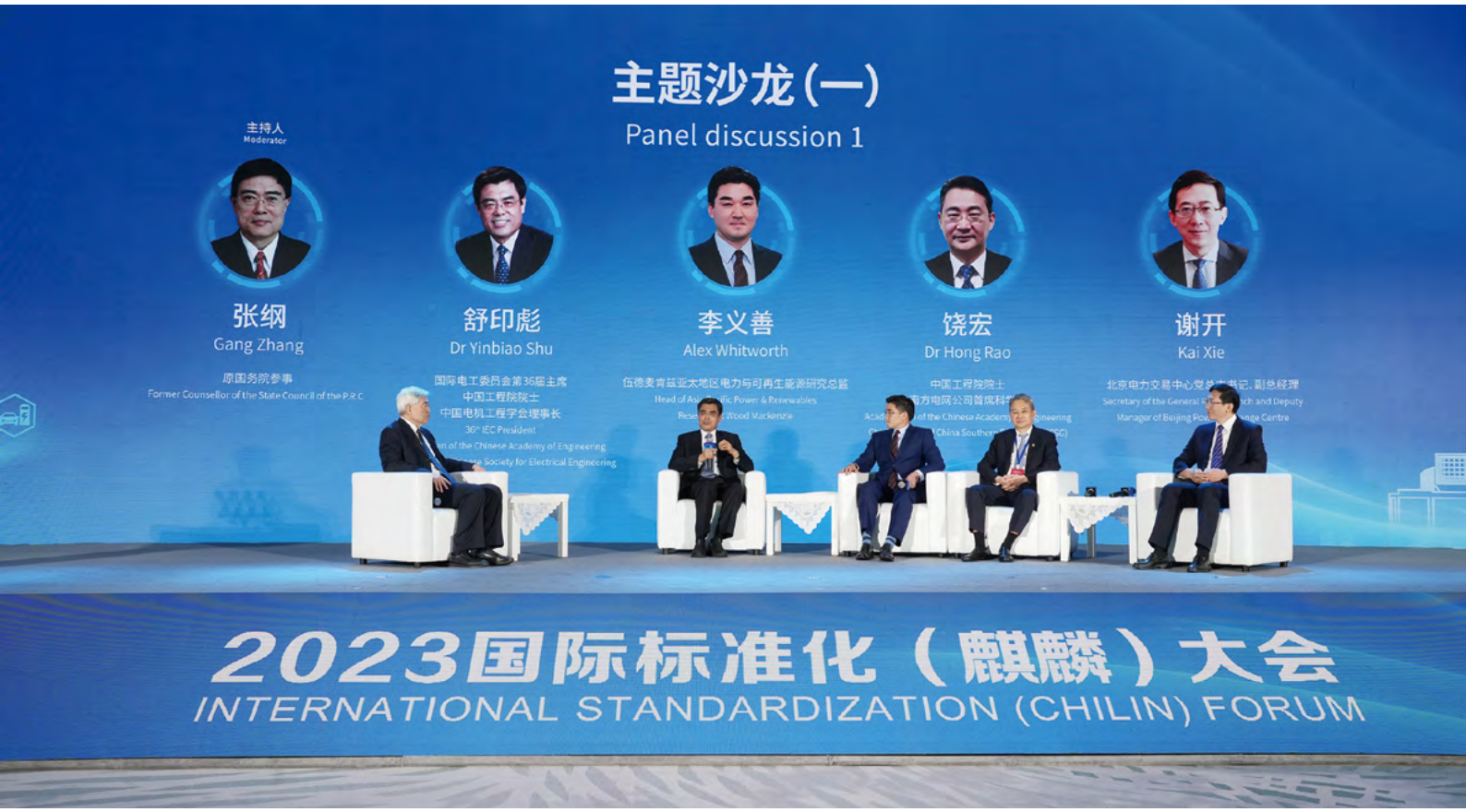


ABB China, and Wan Yang, Head of Sustainability Solutions for the Asia Pacific Region at BSI, who was also the moderator, introduced the role of conformity assessment in an all-electric society, how to enable a low-carbon society, and how standards can help realize net zero respectively.

Zhu Fahua, Chief Scientist of Environmental Protection in China Energy and the Foreign Academician of Russian Academy of Natural Science, and Adam Cohen, Head of Low Carbon Product Standards, Industrial Decarbonization and Emissions Trade, UK Department for Energy Security and Net Zero, probed into the construction and application effect of standards system for atmospheric pollutant control in thermal power plants and the sectoral standards for decarbonization & green steel.

Besides, a professional seminar on international standardization and a workshop of IEC Academy were held on June 8 to discuss the IEC strategy, SMART standards, role of conformity assessment & assurance in an all-electric society, as well as the development trends and international standardization demands of relevant technological areas.

The forum provides a platform where leading experts worldwide can discuss the comprehensive electrification of all sectors and a sustainable and just energy transition, which is necessary to meet the United Nations Sustainable Development Goals and combat the global challenges such as climate change.

China Standards Innovation and Contribution Award 2022 unveiled

2022年中国标准创新贡献奖揭晓

The China Standards Innovation and Contribution Award 2022, the top national award in the standardization field, was unveiled in March 2023, which was given to 60 standards projects, 4 organizations and 8 experts.

The list of organizational and individual winners of the Organization Award, the Outstanding Contribution Award, the Excellent Youth Award and the Lifetime Achievement Award were published on the last issue together with the first prize of the Standard Project Award. Here, you can find the winners of the second and third prize of the Standard Project Award.

Standard Project Award
标准项目奖

The Second Prize (20 items) 二等奖（20项）

No. 序号	Name of standard project 项目名称	Main departments involved 主要完成单位	Main contributors 主要完成人
1	GB/T 37393-2019, *Digital factory—General technical requirements* GB/T 37393-2019《数字化车间 通用技术要求》	Instrumentation Technology and Economy Institute; Shenyang Institute of Automation, Chinese Academy of Sciences; SINOMACH Intelligence Technology Co., Ltd.; Wuzhong Instrument Co., Ltd.; Xi'an High Voltage Apparatus Research Institute Co., Ltd.; Wuxi Institute of Technology; The 716th Research Institute of China State Shipbuilding Corporation Limited 机械工业仪器仪表综合技术经济研究所、中国科学院沈阳自动化研究所、国机智能科技有限公司、吴忠仪表有限责任公司、西安高压电器研究院有限公司、无锡职业技术学院、中国船舶集团有限公司第七一六研究所	Ding Lu, Wang Chengcheng, Wang Chunxi, Song Hong, Li Xin, Liu Shu, Tao Zheng, Dai Yong, Qian Xiaozhong, Liu Zhigang 丁 露、王成城、王春喜、宋 宏、李 歆、刘 曙、陶 铮、戴 勇、钱晓忠、刘志刚
2	DB 11/T 1606-2018, *Evaluation standard for green snow sports venue* DB 11/T 1606-2018《绿色雪上运动场馆评价标准》	Tsinghua University, China Academy of Building Research Co., Ltd., China Architecture Design & Research Group, Beijing Municipal Research Institute of Eco-Environmental Protection, Architectural Design & Research Institute of Tsinghua University Co., Ltd. 清华大学、中国建筑科学研究院有限公司、中国建筑设计研究院有限公司、北京市生态环境保护科学研究院、清华大学建筑设计研究院有限公司	Lin Borong, Zeng Jie, Liu Peng, Zeng Yu, Yang Yongqiang, Li Jinqiu, Xie Linna, Zhang Mingqi, Zhang Zengjie, Wang Chendong 林波荣、曾 捷、刘 鹏、曾 宇、杨永强、李晋秋、谢琳娜、张铭琦、张增杰、王陈栋
3	2 standards including ISO 20760-1:2018, *Water reuse in urban areas—Guidelines for centralized water reuse system—Part 1: Design principle of a centralized water reuse system* ISO 20760-1:2018《城镇集中式水回用系统 第一部分：设计导则》等2项标准	Tsinghua University; China National Institute of Standardization; Tsinghua Shenzhen International Graduate School; Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences; Shenzhen Oceanpower Co., Ltd.; Shenzhen Quality Inspection Association 清华大学、中国标准化研究院、清华大学深圳国际研究生院、中国科学院生态环境研究中心、深圳市海川实业股份有限公司、深圳市质量检验协会	Hu Hongying, Chen Zhuo, Wu Qianyuan, Wu Guangxue, Liu Shuming, Wei Dongbin, Wu Yinhu, Huang Yongheng, Zhang Xiaoxin, Zhu Xia 胡洪营、陈 卓、吴乾元、吴光学、刘书明、魏东斌、巫寅虎、黄永衡、张晓昕、朱 霞
4	GB/T 36296-2018, *Guide for the validation of remote sensing products* GB/T 36296-2018《遥感产品真实性检验导则》	Institute of Geographic Sciences and Natural Resources, Chinese Academy of Sciences; Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences; Aerospace Information Research Institute, Chinese Academy of Sciences; China Centre for Resources Satellite Data and Application 中国科学院地理科学与资源研究所、中国农业科学院农业资源与农业区划研究所、中国科学院空天信息创新研究院、中国资源卫星应用中心	Wu Hua, Lu Jing, Li Zhaoliang, Jia Yuanyuan, Li Xingchao, Tang Bohui, Qian Yonggang, Tang Ronglin, Wang Xinhong, Han Qijin 吴 骅、卢 静、李召良、贾媛媛、李杏朝、唐伯惠、钱永刚、唐荣林、王新鸿、韩启金
5	5 standards including JB/T 13202.1-2017, *Diesel engines—Particulate filter system—Part 1: Technical specifications* JB/T 13202.1-2017《柴油机颗粒捕集系统 第1部分：通用技术条件》等5项标准	Guangxi Yuchai Machinery Group Co., Ltd., Shanghai Internal Combustion Engine Institute, Commercial Technical Center of SAIC Motor, Kailong High Technology Co., Ltd., Zhejiang Yinlun Machinery Co., Ltd., AVIC Xinhang Pingyuan Filter Co., Ltd., Anhui Zhongding Green S&T Co., Ltd. 广西玉柴机器股份有限公司、上海内燃机研究所、上海汽车集团股份有限公司商用车技术中心、凯龙高科技股份有限公司、浙江银轮机械股份有限公司、平原滤清器有限公司、安徽中鼎美达环保科技有限公司	Tang Tao, Ji Weibin, Guo Hua, Li Mingxing, Ban Zhibo, Zhang Xianan, Zhu Lei, Zhao Chuang, Luo Haofeng, Gao Dongxue 唐 韬、计维斌、郭 华、李明星、班智博、张献安、朱 磊、赵 闯、罗浩锋、高冬雪

No. 序号	Name of standard project 项目名称	Main departments involved 主要完成单位	Main contributors 主要完成人
6	GB 31241-2014, *Lithium ion cells and batteries used in portable electronic equipment—Safety requirements* GB 31241-2014《便携式电子产品用锂离子电池和电池组 安全要求》	China Electronics Standardization Institute, Shenzhen BAK Power Battery Co., Ltd., Tianjin Lishen Battery Joint-stock Co., Ltd., Dongguan Amperex Technology Limited, Sunwoda Electronic Co., Ltd., SCUD Electronics Co., Ltd., Vimicro Co., Ltd. 中国电子技术标准化研究院、深圳市比克电池有限公司、天津力神电池股份有限公司、东莞新能源科技有限公司、欣旺达电子股份有限公司、飞毛腿（福建）电子有限公司、北京中星微电子有限公司	He Penglin, Hu Jingping, Cao Xuan, Su Jinran, Chen Zhikui, Wu Yuanming, Li Wuqi, Lin Nengqi, Feng Haiyu 何鹏林、胡京平、曹 璇、苏金然、陈志奎、伍渊明、李武岐、林能其、冯海玉
7	ISO 22447:2019, *Industrial wastewater classification* ISO 22447:2019《工业废水分类》	Nanjing University, Yixing Environment Protection Institute of Nanjing University, INFE Intelligence & Information (Beijing) Technology Co., Ltd., China ENFI Engineering Co., Ltd. 南京大学、南京大学宜兴环保研究院、英飞智信（北京）科技有限公司、中国恩菲工程技术有限公司	Ren Hongqiang, Zhang Xuxiang, Geng Jinju, Jiang Ying, Liu Cheng, Ye Lin, Zhang Yan, Huang Hui, Wang Qing, Quan Xinlu 任洪强、张徐祥、耿金菊、姜 英、刘 诚、叶 林、张 宴、黄 辉、王 庆、全新路
8	ISO 9345:2019, *Microscopes—Interfacing dimensions for imaging components* ISO 9345:2019《显微镜成像部件技术要求》	Ningbo Yongxin Optics Co., Ltd., University of Shanghai for Science and Technology 宁波永新光学股份有限公司、上海理工大学	Mao Lei, Cui Zhiying, Wu Shihui, Qiu Yuanfang, Zhang Huixian, Li Shidan, Zhang Wei, Zheng Chi, Feng Qionghui 毛 磊、崔志英、吴世蕙、邱元芳、章慧贤、李世丹、张 薇、郑 驰、冯琼辉
9	GB/T 36498-2018, *Guidelines for insulation coordination of flexible DC converter station* GB/T 36498-2018《柔性直流换流站绝缘配合导则》	State Grid Economic and Technological Research Institute Co., Ltd., CSG Electric Power Research Institute, Xi'an High Voltage Apparatus Research Institute Co., Ltd., Xi'an XD Arrester Co., Ltd., Wuhan Branch of China Electric Power Research Institute Co., Ltd., Electric Power Research Institute of State Grid Shaanxi Electric Power Co., Ltd., Xi'an Jiaotong University 国网经济技术研究院有限公司、南方电网科学研究院有限责任公司、西安高压电器研究院有限责任公司、西安西电避雷器有限责任公司、中国电力科学研究院有限公司武汉分院、国网陕西省电力公司电力科学研究院、西安交通大学	Chen Dong, Zhao Zheng, Le Bo, Zhao Xiaobin, Cui Dong, Wang Ting, Wei Peng, Zhang Jinbo, He Jimou, He Huiwen 陈 东、赵 峥、乐 波、赵晓斌、崔 东、王亭、危 鹏、张晋波、何计谋、何慧雯
10	ITU-T H.626:2019, *Architectural requirements for video surveillance system* ITU-T H.626:2019《视频监控系统架构》	China Telecom, Beijing Zhongdun Security Technology Group Ltd., Beijing University of Posts and Telecommunication, Zhejiang Dahua Technology Co., Ltd. 中国电信集团有限公司、北京中盾安全科技集团有限公司、北京邮电大学、浙江大华技术股份有限公司	Zhang Yuan, Wang Bingyang, Ma Huadong, Cao Ning, Cui Yunhong, Zhang Haitao, Hu Doudou, Kong Weisheng, Zhang Yanxia, Meng Qingqing 张 园、王冰洋、马华东、曹 宁、崔云红、张海涛、胡豆豆、孔维生、张艳霞、孟卿卿
11	ISO 8124-3:2020, *Safety of toys—Part 3: Migration of certain elements* ISO 8124-3:2020《玩具安全 第3部分：特定元素的迁移》	Technical Center of Guangzhou Customs District, Certification Center of Light Industry Council Co., Ltd., Shenzhen Academy of Metrology and Quality Inspection, Mechanical and Electrical Product Testing Center of Shanghai Customs District, Technical Center of Qingdao Customs District, Industrial Product Test Technology Center of Shenzhen Customs District, Shenzhen University of Technology 广州海关技术中心、北京中轻联认证中心有限公司、深圳市计量质量检测研究院、上海海关机电产品检测技术中心、青岛海关技术中心、深圳海关工业品检测技术中心、深圳技术大学	Liu Chonghua, Chen Liqiong, Tian Yong, Zhang Xia, Huang Lina, Zhang Yanfen, Yu Wenjia, Huang Jie, Mai Baohua, Ouyang Yu 刘崇华、陈丽琼、田 勇、张 霞、黄理纳、张艳芬、于文佳、黄 杰、麦宝华、欧阳雨

No. 序号	Name of standard project 项目名称	Main departments involved 主要完成单位	Main contributors 主要完成人
12	GB/T 37988-2019, *Information security technology—Data security capability maturity model* GB/T 37988-2019《信息安全技术 数据安全能力成熟度模型》	Alibaba (Beijing) Software Service Co., Ltd., China Electronics Standardization Institute, China Information Technology Security Evaluation Center, QAX Technology Group Inc., Lenovo (Beijing) Co., Ltd., The Third Research Institute of Ministry of Public Security, Tsinghua University 阿里巴巴（北京）软件服务有限公司、中国电子技术标准化研究院、中国信息安全测评中心、奇安信科技集团股份有限公司、联想（北京）有限公司、公安部第三研究所、清华大学	Zhu Hongru, Liu Xiangang, Hu Ying, Jia Xuefei, Bai Xiaoyuan, Ye Xiaojun, Li Kepeng, Pan Liang, Xue Yong, Xie Anming 朱红儒、刘贤刚、胡 影、贾雪飞、白晓媛、叶晓俊、李克鹏、潘 亮、薛 勇、谢安明
13	ITU-T L.1210:2019, *Sustainable power-feeding solutions for 5G networks* ITU-T L.1210:2019《5G网络可持续供电解决方案》	China Academy of Information and Technology, Huawei Technologies Co., Ltd., China Tower Co., Ltd., China Mobile Group Design Institute Co., Ltd. 中国信息通信研究院、华为技术有限公司、中国铁塔股份有限公司、中国移动通信集团设计院有限公司	Qi Shuguang, Yu Bin, Zhou Chuanling, Chen Dongxu, Li Yusheng, Han Di, Yu Haibin, Wang Hongbing, Jia Jun, Zhao Ning 齐曙光、余 斌、周传凌、陈东旭、李玉昇、韩 镝、于海滨、王红兵、贾 骏、赵 宁
14	GB/T 37422-2019, *Method and criteria for green packaging assessment* GB/T 37422-2019《绿色包装评价方法与准则》	National Inspection and Testing Center for Packaging Product (Jinan), Qingdao Yongchang Plastic & Metal Co., Ltd., SF Technology Co., Ltd., Jiangsu Caihua Packaging Group Co., Ltd., China National Export Commodities Packaging Research Institute, NESCAFE (China) Co., Ltd., Huangshan Novel Co., Ltd. 国家包装产品质量检验检测中心（济南）、青岛永昌塑业有限公司、顺丰科技有限公司、江苏彩华包装集团有限公司、中国出口商品包装研究所、雀巢（中国）有限公司、黄山永新股份有限公司	Wang Weishan, Su Benyu, Guo Zhenmei, Wang Jun, Zhou Yang, Xu Chao, Xia Yu, Wang Xuetao, Pan Jian 王微山、苏本玉、郭振梅、王 君、周 洋、许 超、夏 瑜、王雪涛、潘 健
15	6 standards including GB 5135.9-2018, *Automatic sprinkler system—Part 9: Early suppression fast response (ESFR) sprinklers* GB 5135.9-2018《自动喷水灭火系统 第9部分：早期抑制快速响应（ESFR）喷头》等6项标准	Tianjin Fire Science and Technology Research Institute of MEM, Guangdong Yongquan Valve Technology Co., Ltd., Lubrizol Management (Shanghai) Co., Ltd., Guangdong Lesso Technology Industrial Co., Ltd., Shanghai Vision Mechanical Joint Co., Ltd., Zhejiang Ruicheng Fire Equipment Co., Ltd. 应急管理部天津消防研究所、广东永泉阀门科技有限公司、路博润管理（上海）有限公司、广东联塑科技实业有限公司、上海威逊机械连接件有限公司、浙江瑞城消防设备有限公司	Yang Zhenming, Li Yi, Luo Zongjun, Bai Diantao, Zhang Qiang, Song Bo, Tian Liwei, Liu Lianxi, Yang Bingjie, Liu Xin 杨震铭、李 毅、罗宗军、白殿涛、张 强、宋 波、田立伟、刘连喜、杨丙杰、刘 欣
16	ISO 37104:2019, *Sustainable cities and communities—Transforming our cities—Guidance for practical local implementation of ISO 37101* ISO 37104:2019《城市与社区可持续发展 改变我们的城市 ISO 37101本地实施指南》	Yudao Engineering Consulting (Beijing) Co., Ltd., China National Institute of Standardization, Smart City International Standard Information Consulting (Hangzhou) Co., Ltd. 御道工程咨询（北京）有限公司、中国标准化研究院、智城国际标准信息咨询（杭州）有限公司	Yang Feng, Dong Shanfeng, Meng Fanqi, Xing Liqiang, Zhang Li, Kang Guohu, Ren Jing, Zhou Qi 杨 锋、董山峰、孟凡奇、邢立强、张 俐、康国虎、任 静、周 琪
17	ISO 21173:2019, *Submersibles—Hydrostatic pressure test—Pressure hull and buoyancy materials* ISO 21173:2019《潜水器 耐压壳体和浮力材料静水压力试验方法》	China Ship Scientific Research Center 中国船舶科学研究中心	Ye Cong, Jiang Xuyin, Li Yanqing, Shi Dongchun, Wang Yao, Wang Kun, Li Wenyue, Chen Peng, Yu Taijun, Wang Dongsheng 叶 聪、姜旭胤、李艳青、施东春、王 瑶、王 琨、李文跃、陈 鹏、喻太君、王东升

No. 序号	Name of standard project 项目名称	Main departments involved 主要完成单位	Main contributors 主要完成人
18	5 standards including GB/T 28827.1-2012, *Information technology service—Operations and maintenance—Part 1: General requirements* GB/T 28827.1-2012《信息技术服务 运行维护 第1部分：通用要求》等5项标准	China Electronics Standardization Institute, Digital China System Integration Service Co., Ltd., Shanghai Baosight Software Co., Ltd., Inspur Software Group Ltd., Guangzhou Nantian Computer System Co., Ltd., Taiji Computer Co., Ltd. 中国电子技术标准化研究院、神州数码系统集成服务有限公司、上海宝信软件股份有限公司、山东浪潮齐鲁软件产业股份有限公司、广州南天电脑系统有限公司、北京信城通数码科技有限公司、太极计算机股份有限公司	Zhou Ping, Li Na, Wang Zhipeng, Zhang Fan, Fan Yong, Liu Ling, Ma Hongjie, Sun Pei, Song Jundian 周 平、李 娜、王志鹏、张 帆、范 勇、刘 玲、马洪杰、孙 佩、宋俊典
19	6 standards including GJB 9615-2019, *Technical requirements for rendezvous and docking of manned spacecraft* GJB 9615-2019《载人航天器交会对接技术要求》等6项标准	Omitted 略	Omitted 略
20	6 standards including GJB 8893-2017, *Natural environmental test methods for military material* GJB 8893-2017《军用装备自然环境试验方法》等6项标准	Omitted 略	Omitted 略

Standard Project Award
标准项目奖

The Third Prize (30 items) 三等奖（30项）

No. 序号	Name of standard project 项目名称	Main departments involved 主要完成单位	Main contributors 主要完成人
1	4 standards including NB/T 20512.1-2018, *Operating licenses extension of nuclear power plant—Part 1: Screening of aging management review and identification of time-limited aging analysis* NB/T 20512.1-2018《核电厂运行许可证延续 第1部分：老化管理审查对象筛选及时限老化分析识别》等4项标准	China Nuclear Power Operation Management Co., Ltd., Research Institute of Nuclear Power Operation, Suzhou Nuclear Power Research Institute Co., Ltd., Shanghai Nuclear Engineering Research & Design Institute Co., Ltd., Nuclear and Radiation Safety Center of the Ministry of Ecology and Environment 中核核电运行管理有限公司、核动力运行研究所、苏州热工研究院有限公司、上海核工程研究设计院有限公司、环境保护部核与辐射安全中心	Tao Jun, Zhang Jiangtao, Gao Xuan, Zhao Chuanli, Luan Xingfeng, Chen Zhilin, Kong Deping, Tao Ge 陶 钧、张江涛、高 轩、赵传礼、栾兴峰、陈志林、孔德萍、陶 革

No. 序号	Name of standard project 项目名称	Main departments involved 主要完成单位	Main contributors 主要完成人
2	GB/T 14372-2013, *Transport of dangerous goods—Test method of acceptance and classification for explosives* GB/T 14372-2013《危险货物运输 爆炸品的认可和分项试验方法》	China National Quality Supervision Testing Center for Industrial Explosive Materials, Industrial Products and Raw Materials Testing Technology Center of Shanghai Customs District 国家民用爆破器材质量监督检验中心、上海海关工业品与原材料检测技术中心	Xu Sen, Shen Zukang, Wu Xiaohong, Chen Xiang, Pan Feng, Liu Dabin, Ni Ouqi, Zhang Xingming 徐 森、沈祖康、吴晓红、陈 相、潘 峰、刘大斌、倪欧琪、张兴明
3	ISO 19614:2017, *Traditional Chinese medicine—Pulse graph force transducer* ISO 19614:2017《中医药 脉象触力传感器》	Shanghai Daosh Medical Technology Co., Ltd., Shuguang Hospital of Shanghai University of Traditional Chinese Medicine, Tianjin Medical Devices Quality Supervision and Testing Center 上海道生医疗科技有限公司、上海中医药大学附属曙光医院、天津市医疗器械质量监督检验中心	Zhou Huilin, Tang Honghao, Xu Xiaoting, Yang Jiangang 周会林、汤鸿浩、徐晓婷、杨建刚
4	T/CPARK 4—2018, *Cylindrical wheels for crane* T/CPARK 4—2018《起重机用碾压车轮》	Henan Kuangshan Crane Co., Ltd., Henan Special Equipment Safety Testing Institute, Henan Shengyuan Crane Machinery Co., Ltd., National Quality Supervision and Testing Center for Bridge Crane and Light-small Hoist, Market Regulation Bureau of Changyuan 河南省矿山起重机有限公司、河南省特种设备安全检测研究院、河南省晟源起重机械有限公司、国家桥架类及轻小型起重机械质量监督检验中心、长垣市市场监督管理局	Ren Haitao, Wang Guofang, Wang Yun, Xue Jianmin, Li Feng, Ma Wenbo, Cui Hongzhe, Ji Hongyun 任海涛、王国防、王 允、薛建敏、李 峰、马文波、崔红哲、姬宏赟
5	ISO 19427:2019, *Steel wire ropes—Pre-fabricated parallel wire strands for suspension bridge main cable—Specifications* ISO 19427:2019《钢丝绳 悬索桥主缆预制平行钢丝索股 规范》	Fasten Group Co., Ltd., China Metallurgical Information and Standardization Institute 法尔胜泓昇集团有限公司、冶金工业信息标准研究院	Liu Lihua, Xue Huajuan, Zhu Weijun, Zhao Jun, Qiang Qiang 刘礼华、薛花娟、朱维军、赵 军、强 强
6	GB/T 35013-2018, *Fitness-for-service assessment of pressure equipment* GB/T 35013-2018《承压设备合于使用评价》	China Special Equipment Inspection & Research Institute, Hefei General Machinery Research Institute Co., Ltd., Nanjing Tech University, East China University of Science and Technology, Beihang University 中国特种设备检测研究院、合肥通用机械研究院、南京工业大学、华东理工大学、北京航空航天大学	Wang Hui, Jia Guodong, Chen Xuedong, Sun Liang, Zhao Jianping, Xuan Fuzhen, Zhang Zheng, Shao Shanshan 王 辉、贾国栋、陈学东、孙 亮、赵建平、轩福贞、张 峥、邵珊珊
7	TB/T 3206—2017, *Technical specification of ZPW-2000 track circuit* TB/T 3206—2017《ZPW-2000 轨道电路技术条件》	CRSC Research & Design Institute Group Co., Ltd. 北京全路通信信号研究设计院集团有限公司	Xu Zongqi, Liu Ruidong, Li Jianqing, Ren Guoqiao, Zhao Zixin 徐宗奇、刘锐冬、李建清、任国桥、赵自信

No. 序号	Name of standard project 项目名称	Main departments involved 主要完成单位	Main contributors 主要完成人
8	GB 31701-2015, *Safety technical code for infants and children textile products* GB 31701-2015《婴幼儿及儿童纺织产品安全技术规范》	Textile Industry Standardization Institute, Textile Industry Science and Technology Development Center, China National Textile Products Quality Supervision and Testing Center, Shanghai Garment Research Institute 纺织工业标准化研究所、纺织工业科学技术发展中心、国家纺织制品质量监督检验中心、上海市服装研究所	Xu Lu, Sun Ximin, Fang Xijiang, Zheng Yuying, Xu Jian 徐 路、孙锡敏、方锡江、郑宇英、许 鉴
9	ITU-T G.9807.2:2017, *10 Gigabit-capable passive optical networks (XG(S)-PON): Reach extension* ITU-T G.9807.2:2017《10G对称无源光网络：距离扩展》	ZTE Corporation 中兴通讯股份有限公司	Yuan Liquan, Yang Jian, Ma Zhuang, Huang Xingang, Zhang Weiliang, Li Mingsheng, Yang Bo 袁立权、杨 剑、马 壮、黄新刚、张伟良、李明生、杨 波
10	GB/T 22239-2019, *Information security technology—Baseline for classified protection of cybersecurity* GB/T 22239-2019《信息安全技术 网络安全等级保护基本要求》	The Third Research Institute of Ministry of Public Security; Information Center of National Energy Administration; Alibaba Cloud Computing Co., Ltd.; Institute of Information Engineering, Chinese Academy of Sciences; New H3C Technologies Co., Ltd. 公安部第三研究所、国家能源局信息中心、阿里云计算有限公司、中国科学院信息工程研究所、新华三技术有限公司	Ma Li, Chen Guangyong, Zhang Zhenfeng, Guo Qiquan, Ge Bowei, Zhu Guobang, Lu Lei, Qu Jie 马 力、陈广勇、张振峰、郭启全、葛波蔚、祝国邦、陆 磊、曲 洁
11	T/CEC 116—2016, *The technical specification for digital input electricity meter* T/CEC 116—2016《数字化电能表技术规范》	China Electric Power Research Institute Co., Ltd., Marketing Service Center of State Grid Zhejiang Electric Power Co., Ltd., Marketing Service Center of State Grid Jiangsu Electric Power Co., Ltd., Marketing Service Center (Metrology Center) of State Grid Hubei Electric Power Co., Ltd., Metrology Center of CSG Guangdong Power Grid Corporation 中国电力科学研究院有限公司、国网浙江省电力有限公司营销服务中心、国网江苏省电力有限公司营销服务中心、国网湖北省电力有限公司营销服务中心（计量中心）、广东电网有限责任公司计量中心	Bai Jingfen, Lin Fantao, Yao Li, Mu Xiaoxing, Xu Yinghui, Li Jun, Pan Feng, Pei Maolin 白静芬、林繁涛、姚 力、穆小星、徐英辉、李 俊、潘 峰、裴茂林
12	ISO/IEC 30141:2018, *Internet of Things (IoT)—Reference Architecture* ISO/IEC 30141:2018《物联网参考体系结构》	China Institute of IoT (Wuxi), China Electronics Standardization Institute, Chongqing University of Posts and Telecommunications, Tongji University 无锡物联网产业研究院、中国电子技术标准化研究院、重庆邮电大学、同济大学	Shen Jie, Liu Haitao, Guo Nan, Wang Quan, Xu Dongmei, Zhuo Lan, Wu Mingjuan, Chen Shuyi 沈 杰、刘海涛、郭 楠、王 泉、徐冬梅、卓 兰、吴明娟、陈书义
13	GB/T 37124-2018, *Quality requirements for gases entering long-distance transportation gas* GB/T 37124-2018《进入天然气长输管道的气体质量要求》	Natural Gas Research Institute of Petro China Southwest Oil & Gasfield Company; China Petroleum West Pipeline Co., Ltd.; China Petroleum Pipeline Engineering Co., Ltd., PetroChina Company Limited; Sinopec Tianranqi Company, Hainan Branch of China National Offshore Oil Corporation Limited 中国石油天然气股份有限公司西南油气田分公司天然气研究院、国家管网集团西部管道有限责任公司、中国石油天然气股份有限公司中石油管道有限责任公司、中国石油化工股份有限公司天然气分公司、中海石油（中国）有限公司海南分公司	Chang Honggang, Cai Li, Min Xihua, Luo Qin, Liu Kai, Pu Hongbin, Deng Chuanzhong, Shi Hao 常宏岗、蔡 黎、闵希华、罗 勤、刘 锴、蒲宏斌、邓传忠、史 昊

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14	GB/T 34879-2017, *Geometrical product specifications (GPS)—Metrological characteristics and guide to uncertainty of measurement for optical confocal microscopes* GB/T 34879-2017《产品几何技术规范（GPS）光学共焦显微镜计量特性及测量不确定度评定导则》	Harbin Institute of Technology; China Productivity Center for Machinery Co., Ltd.; National Institute of Metrology, China; Beijing Ruich Allway Instrument Technology Co., Ltd. 哈尔滨工业大学、中机生产力促进中心有限公司、中国计量科学研究院、北京锐驰恒业仪器科技有限公司	Liu Jian, Li Mengzhou, Ming Cuixin, Chen Gang, Shi Yushu, Tan Jiubin, Wang Weibo, Liu Chenguang 刘 俭、李梦周、明翠新、陈 刚、施玉书、谭久彬、王伟波、刘辰光
15	RB/T 199—2015, *Technical code for evaluating biosafety performance of laboratory equipment* RB/T 199—2015《实验室设备生物安全性能评价技术规范》	China National Accreditation Service for Conformity Assessment; Military Medical Institute, Academy of Military Medical Sciences; Sub-institute of Medical Service Support Technology, Institute of System Engineering, Academy of Military Medical Sciences; Harbin Veterinary Research Institute, Chinese Academy of Agricultural Sciences; Wuhan Institute of Virology, Chinese Academy of Sciences 中国合格评定国家认可中心、中国人民解放军军事科学院军事医学研究院、军事科学院系统工程研究院卫勤保障技术研究所、中国农业科学院哈尔滨兽医研究所、中国科学院武汉病毒研究所	Wang Rong, Zhai Peijun, Zhou Yongyun, Feng Xin, Zhao Siqing, Qi Jiancheng, Wang Guijie, Song Donglin 王 荣、翟培军、周永运、冯 昕、赵四清、祁建城、王贵杰、宋冬林
16	GB/T 28219-2018, *General technology requirements for intelligent household appliances* GB/T 28219-2018《智能家用电器通用技术要求》	China Household Electric Appliance Research Institute, Qingdao Haier Smart Technology R&D Co., Ltd., Gree Electric Appliances, Inc. of Zhuhai, Midea Group Co., Ltd., Changhong Meiling Co., Ltd. 中国家用电器研究院、青岛海尔智能技术研发有限公司、珠海格力电器股份有限公司、美的集团股份有限公司、长虹美菱股份有限公司	Ma Dejun, Zhang Yachen, Feng Chengwen, Su Jing, Zhang Jun, Gao Donghua, Zhao Peng, Chen Jianbo 马德军、张亚晨、冯承文、苏 晶、张 军、高冬花、赵 鹏、陈坚波
17	GB/T 17236-2019, *Operating procedures of livestock and poultry slaughtering—Pig* GB/T 17236-2019《畜禽屠宰操作规程 生猪》	China Animal Disease Control Center (Slaughter Technology Center of the Ministry of Agricultural and Rural Affairs), Circulation Industry Promotion Center of the Ministry of Commerce, Henan Zhongpin Food Co., Ltd. 中国动物疫病预防控制中心（农业农村部屠宰技术中心）、商务部流通产业促进中心、河南众品食业股份有限公司	Wu Han, Gao Shengpu, You Hua, Zhang Jianlin, Wang Min, Zhao Jian, Wang Huiling, Zhang Chaoming 吴 晗、高胜普、尤 华、张建林、王 敏、赵 箭、王会玲、张朝明
18	ISO 21874:2019, *PVD multi-layer hard coatings—Composition, structure and properties* ISO 21874:2019《物理气相沉积多层硬质涂层：成分、结构和性能》	Anhui DOKIN Coating Technology Co., Ltd., Anhui University of Technology, Shanxi Diesel Engine Industries Co., Ltd., Guangdong Dtech Technology Co., Ltd., Guangdong HuiCheng Vacuum Technology Co., Ltd. 安徽多晶涂层科技有限公司、安徽工业大学、山西柴油机工业有限责任公司、广东鼎泰高科技术股份有限公司、广东汇成真空科技股份有限公司	Zhang Shihong, Zheng Jun, Cai Fei, Zhang Lin, Yang Yang, Zhang Tengfei, Chen Jianjun, Wang Junfeng 张世宏、郑 军、蔡 飞、张 林、杨 阳、张腾飞、陈建军、王俊锋

No. 序号	Name of standard project 项目名称	Main departments involved 主要完成单位	Main contributors 主要完成人
19	GB/T 37532-2019, *General technical specification for 120 km/h~160 km/h commuter express of urban rail transit system* GB/T 37532-2019《城市轨道交通市域快线120km/h~160km/h车辆通用技术条件》	CRRC Qingdao Sifang Co., Ltd., Zhuzhou CRRC Times Electric Co., Ltd., Locomotive & Car Research Institute of China Academy of Railway Sciences, Qingdao Metro Group Co., Ltd., Southwest Jiaotong University 中车青岛四方机车车辆股份有限公司、株洲中车时代电气股份有限公司、中国铁道科学研究院机车车辆研究所、青岛地铁集团有限公司、西南交通大学	Liang Jianying, Yang Jihong, Cao Zhiwei, Zhang Hongjiang, Shan Baoqiang, Yang Weijun, Chen Wenguang, Yang Zhongping 梁建英、杨基宏、曹志伟、张红江、单保强、杨伟君、陈文光、杨中平
20	ISO 22055:2019, *Switch and crossing rails* ISO 22055:2019《铁路道岔用钢轨》	Pangang Group Co., Ltd., China Metallurgical Information and Standardization Institute 攀钢集团有限公司、冶金工业信息标准研究院	Guo Hua, Liu Baoshi, Zou Ming, Wang Daiwen, Deng Yong, Han Zhenyu, Yuan Jun, Wang Yujie 郭 华、刘宝石、邹 明、王代文、邓 勇、韩振宇、袁 俊、王玉婕
21	IEC 61108-5:2020, *Maritime navigation and radiocommunication equipment and systems—Global navigation satellite systems (GNSS) —Part 5: BeiDou navigation satellite system (BDS)—Receiver equipment—Performance requirements, methods of testing and required test results* IEC 61108-5:2020《海上导航与无线电通信设备及系统 全球卫星导航系统（GNSS） 第5部分：北斗卫星导航系统（BDS）接收设备 性能要求、测试方法与要求的测试结果》	The 20th Research Institute of China Electronics Technology Group Corporation, China Electronics Standardization Institute, Sun Create Electronics Co., Ltd., Wuhan University 中国电子科技集团公司第二十研究所、中国电子技术标准化研究院、四创电子股份有限公司、武汉大学	Yang Wenhui, Ren Xiaowei, Wu Yan, Chen Qian, Li Zuohu, Qu Yijiang, Liu Hui, Liu Bing 杨文辉、任小伟、吴 燕、陈 倩、李作虎、曲义江、刘 晖、刘 冰
22	ISO 21886:2019, *Space systems—Configuration management* ISO 21886:2019《航天系统 技术状态管理》	China Astronautics Standards Institute 中国航天标准化研究所	Yang Xiaoming, Wei Yonggang, Lu Jing, Chen Qiang, Li Xiaolong, He Meng, Wei Wei, Xu Dongyan 杨晓明、魏永刚、陆 静、陈 强、李小龙、贺 萌、卫 巍、许冬彦
23	ISO 19465:2017, *Traditional Chinese medicine—Categories of traditional Chinese medicine (TCM) clinical terminological systems* ISO 19465:2017《中医药 中医临床术语系统分类框架》	Institute of Information on Traditional Chinese Medicine, Chinese Academy of Chinese Medical Sciences 中国中医科学院中医药信息研究所	Cui Meng, Li Haiyan, Jia Lirong, Dong Yan, Gao Bo, Liu Lihong, Zhu Ling, Yang Shuo 崔 蒙、李海燕、贾李蓉、董 燕、高 博、刘丽红、朱 玲、杨 硕
24	GB/T 37875-2019, *Technical specification for quality evaluation of nucleic acid extraction and purification kits* GB/T 37875-2019《核酸提取纯化试剂盒质量评价技术规范》	National Institute of Metrology, China; Cwbio IT Group 中国计量科学研究院、北京康为世纪生物科技有限公司	Fu Boqiang, Wang Jing, Wang Chunxiang, Chen Minfan, Tang Zhiyu, Niu Chunyan, Dong Lianhua, Gao Yunhua 傅博强、王 晶、王春香、陈敏璠、唐治玉、牛春艳、董莲华、高运华

No. 序号	Name of standard project 项目名称	Main departments involved 主要完成单位	Main contributors 主要完成人
25	5 standards including T/CAS 311.1—2018, *Green supply chain management of electrical and electronic products—Part 1: General rules* T/CAS 311.1—2018《电器电子产品绿色供应链管理 第1部分：通则》等5项标准	China Household Electric Appliance Research Institute, Qingdao Haier Refrigerator Co., Ltd., Qingdao Haier Central Air Conditioning Co., Ltd., Qingdao Haier Laundry Electric Appliances Co., Ltd., Qingdao Haier Air-Condition Electric Co., Ltd. 中国家用电器研究院、青岛海尔电冰箱有限公司、青岛海尔中央空调有限公司、青岛海尔洗涤电器有限公司、青岛海尔空调器有限总公司	Cai Yi, Tian Hui, Li Xiaofeng, Zhang Peipei, Yue Meiyuan, Yang Weixin, Fu Shiwu, Shu Hai 蔡 毅、田 晖、李晓峰、张佩佩、岳美媛、杨伟欣、傅世武、舒 海
26	T/ZZB 0093—2016, *High-purity sputtering titanium target used in integrated circuit* T/ZZB 0093—2016《集成电路用高纯钛溅射靶材》	Konfoong Materials International Co., Ltd., Ningbo Chuangrun New Materials Co., Ltd. 宁波江丰电子材料股份有限公司、宁波创润新材料有限公司	Yao Lijun, Zhu Dongfeng, Pan Jie, Wang Xueze, Song Jia, Yuan Haijun, Zhong Weihua, Qian Hongbing 姚力军、朱东锋、潘 杰、王学泽、宋 佳、袁海军、钟伟华、钱红兵
27	ISO 21600:2019, *Technical product documentation (TPD)—General requirements of mechanical product digital manuals* ISO 21600:2019《技术产品文件 机械产品数字化手册通用要求》	XCMG Machinery Co., Ltd., China Productivity Center for Machinery Co., Ltd., The 38th Research Institute of China Electronics Technology Group Corporation, Xidian University, Beijing Institute of Aerospace System Engineering 徐工集团工程机械股份有限公司、中机生产力促进中心有限公司、中国电子科技集团公司第三十八研究所、西安电子科技大学、北京宇航系统工程研究所	Yan Lijuan, Zhao Zhenglong, Ding Xinxing, Zhang Xiaolu, Zhang Hongqi, Shao Xiaodong, Zhao Bo, Chen Haifeng 闫丽娟、赵正龙、丁新星、张晓璐、张红旗、邵晓东、赵 博、陈海峰
28	GJB 373B-2019, *Fuze design safety criteria* GJB 373B-2019《引信安全性设计准则》	Omitted 略	Omitted 略
29	6 standards including GJB 1446.6A-2018, *Interface requirements for shipboard systems—Part 6: Electronic information—Carrier sense multiple access/collision detection multiple distributed architecture data bus* GJB 1446.6A-2018《舰船系统界面要求 第6部分：电子信息载波侦听多路访问/冲突检测多路复用分布式结构数据总线》等6项标准	Omitted 略	Omitted 略
30	GJB/Z 183-2017, *Guide for military software size measurement* GJB/Z 183-2017《军用软件规模度量指南》	Omitted 略	Omitted 略

New approaches for trustworthy and resilient digital infrastructure

Regulatory leaders from around the world agreed today on a new set of guidelines to secure an inclusive and sustainable digital future for all.

The Best Practice Guidelines adopted at the International Telecommunication Union's Global Symposium for Regulators (GSR-23) in Sharm el-Sheikh, Egypt, define regulatory and economic incentives to stimulate the deployment of digital infrastructure for all people everywhere.

"Tech is moving fast and won't wait for us to catch up," said ITU Secretary-General Doreen Bogdan-Martin. "The engagement and agreement on regulatory guidelines seen in the Global Symposium for Regulators platform show the way forward, ensuring technology can benefit all people and our planet."

In order to advance universal and meaningful connectivity, the guidelines focus on regulatory approaches for rural, unserved and underserved areas as well as emerging technologies.

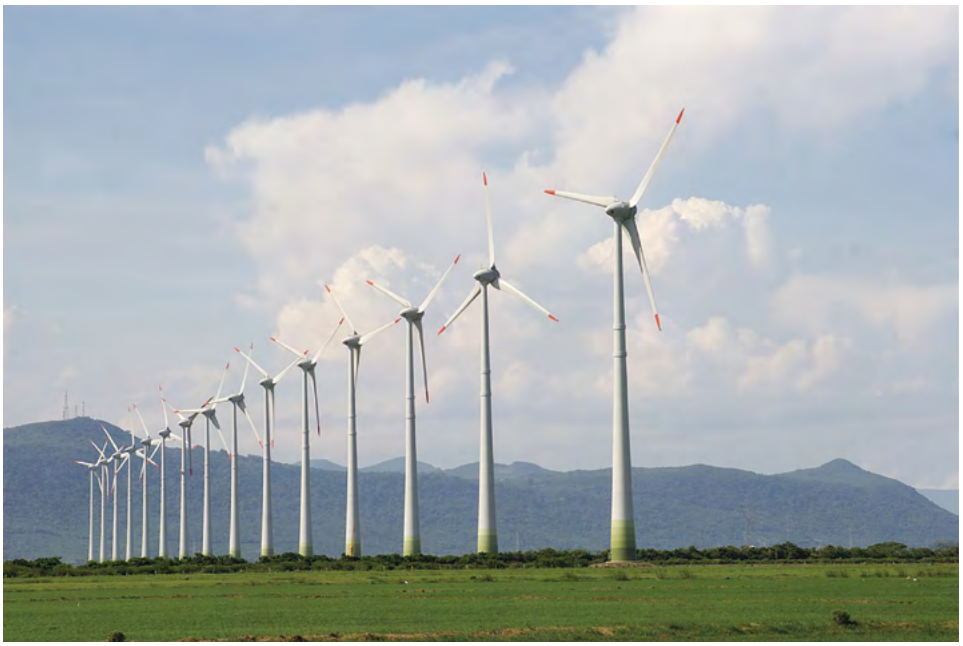
The 2023 Guidelines address and identify incentives that can be used to expand connectivity, and support access, adoption, and use. They also identify novel, innovative, ground-breaking, evidence-based cross-sector digital policy and regulatory principles to support a sustainable digital future for all people everywhere.

Based on contributions from national and regional policy-makers and regulators, regional and international organizations, civil society and the private sector, the guidelines identify collaborative approaches to encourage the development of investor-friendly markets that promote competition while stimulating innovation.

"The true potential of emerging technologies lies in their ability to uplift and empower underserved communities, creating a more inclusive and equitable future," said Eng. Hossam El-Gamal, Chair of GSR-23 and Executive President of Egypt's National Telecommunications Regulatory Authority (NTRA). "This new set of guidelines will facilitate the transition from disconnected to connected to productive users to ensure meaningful contributions to socio-economic development."

(Source: ITU)

CEN and CENELEC highlight the role of standards in supporting the future of clean technology



The *Net-Zero Industry Act* aims to boost investment in clean technologies in the EU, with the goal of reaching at least 40% of annual deployment needs by 2030 for designated strategic net zero technologies. The European Standardization System has the potential to facilitate the uptake of such technologies by providing up-to-date standards that can enable trust, quality and coherence across the Single Market.

To explore these opportunities and challenges in depth, on June 8, 2023, CEN (the European Committee for Standardization) and CENELEC (the European Committee for Electrotechnical Standardization) held a high-level workshop on "Standards: Driving the Future of Clean Tech" in Brussels.

The full-day event was opened by a video message from Annika Andreasen, CEN Vice-President Technical, and a welcoming speech from Elena Santiago Cid, Director General of CEN and CENELEC.

The event was concluded by Ettore Piantoni, Vice-Chair of the CEN and CENELEC Sector Forum Energy Management & Energy Transition (SFEM), and Ronald Boon, the Chair of CEN and CENELEC SABE, who provided a wrap-up and outlined the next steps. In his concluding remarks, Ettore Piantoni emphasized that "standards are powerful instruments that represent the best practices of European industry".

CEN and CENELEC are strongly committed to the twin transition and the move towards climate neutrality in Europe. This stakeholder's workshop was just one of many initiatives in support of these goals. The twin transition is a core driver of the joint *CEN and CENELEC Strategy 2030*, and both organizations are driven to provide the technical solutions that can increase the uptake of clean technologies in Europe.

(Source: CEN/CENELEC)

Global CIGRE Symposium

September 4-7, Cairns, Australia

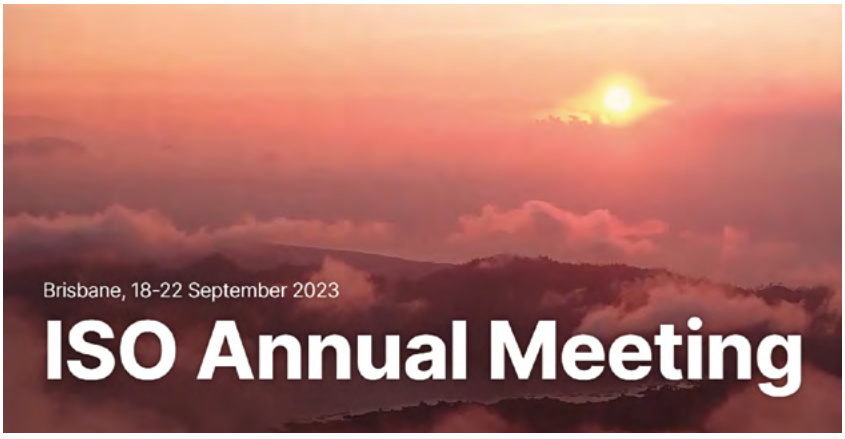
CIGRE Australia is proud to announce that it will be hosting the in-person event, the Global CIGRE Symposium, on September 4-7, 2023. Hosted by the Study Committees C2 and C5, the theme of the Symposium is "The End to End electricity System: transition, development, operation and integration".

The Symposium will focus on the integrated power system and the transformation into the power system of the future. It looks to identify what can be learned from experience and current developments in the power system and the changes that are necessary to move towards a sustainable power system, which are particularly relevant as the world moves to transition the electricity industry to a lower carbon future.

For more information on the event website: **https://cigrecairns23.com.au**

ISO Annual Meeting

September 18-22, Brisbane, Australia



The ISO Annual Meeting is the world's premier event for the international standards community.

This year's edition, under the theme "meeting global needs", comes at a pivotal time for the world. The week-long event offers a chance to engage in constructive dialogue about the most pressing challenges facing our planet today, as well as looking ahead to collaborative solutions.

"The ISO Annual Meeting 2023 is the opportunity to come together to share knowledge and gain new perspectives on how standards can make lives easier, safer and better," said Ulrika Francke, President of ISO.

For more information on the event website: **https://www.iso.org/annualmeeting**

17th edition of Microgrid Global Innovation Forum

September 26-27, London, the U.K.

17th Edition EMEA • ASIA-PAC • LATAM
MICROGRID
GLOBAL INNOVATION FORUM
SEPTEMBER 26-27, 2023 • LONDON

The 17th edition of the Microgrid Global Innovation Forum, September 26-27, 2023 in London, focuses on microgrid advances, case studies and deployments in remote, rural and off-grid environments, as well as in grid-tied scenarios. Organized by the Smart Grid Observer, the event brings together developers, project owners, non-governmental organizations, finance professionals and technology innovators interested in maximizing the effective use of hybrid renewable energy systems. The emphasis is on networking and sharing the very latest technology developments and case studies for advancing microgrids in critical-need applications.

For more information on the event website: **https://www.microgridinnovation.com/EMEA**

ETSI Security Conference 2023

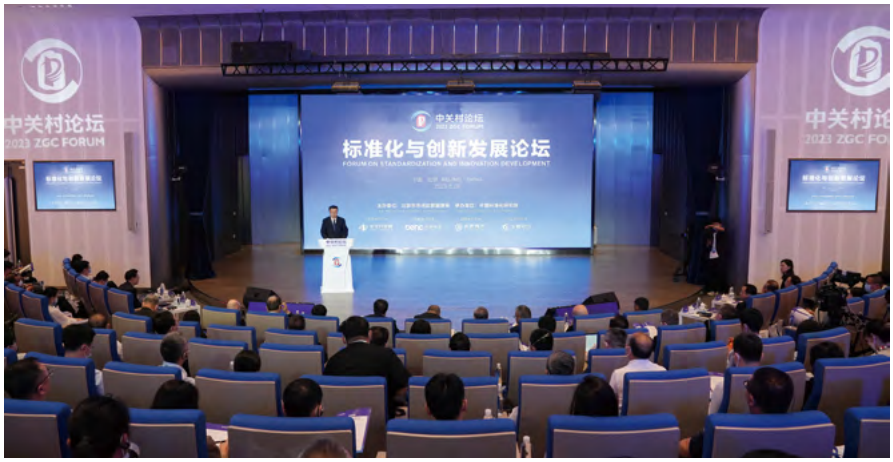
October 16-19, Sophia Antipolis, France

ETSI's annual flagship event on cyber security, the ETSI Security Conference, provides an exceptional opportunity for the security community to come together to exchange with experts, network with peers, and share facts and opinions around the subject of cybersecurity standardization.

The event will cover topics such as global regulation, certification (5G, IoT, GSMA NESAS, mobile handset, cloud), 6G futures, zero trust, AI (inc Open AI and GPT), open source, supply chain security, augmented reality (AR), etc. Also, it will focus on underlying horizontal themes including spotlight on security research, engaging the next generation of engineers and standards makers, and supporting SMEs.

For more information on the event website: **https://www.etsi.org/events/2155-etsi-security-conference-2023#pane-1**

CNIS organizes the Forum on Standardization and Innovation Development



The Forum on Standardization and Innovation Development was successfully organized by China National Institute of Standardization (CNIS) on May 28 at Zhongguancun Exhibition Center in Beijing, which is a parallel forum of the 2023 ZGC Forum, a state-level platform for global sci-tech innovation exchanges and cooperation.

It is the first time for the ZGC Forum to set up a parallel forum on standardization, inviting global experts and scholars to discuss the new trends of standardization development, and outline the future vision of promoting high-tech innovation with high standards. Yu Yingjie, Vice Mayor of Beijing Municipal People's Government, and Huang Guoliang, Chief Engineer of State Administration for Market Regulation, attended and addressed the event.

The forum focused on taking innovation as an important driving force of leading the world's development, strengthening the interactive developing mode of standardization and technological innovation, promoting high-tech innovation with high standards, and facilitating the establishment of an open innovation environment with global competitiveness.

Approximately 20 academicians, heads of international organizations, experts and scholars in the field of standardization at home and abroad were invited to give keynote speeches on hot topics such as the interactive development mode and trend of standardization and scientific and technological innovation and the methods to make China's contribution to the development of global standardization.

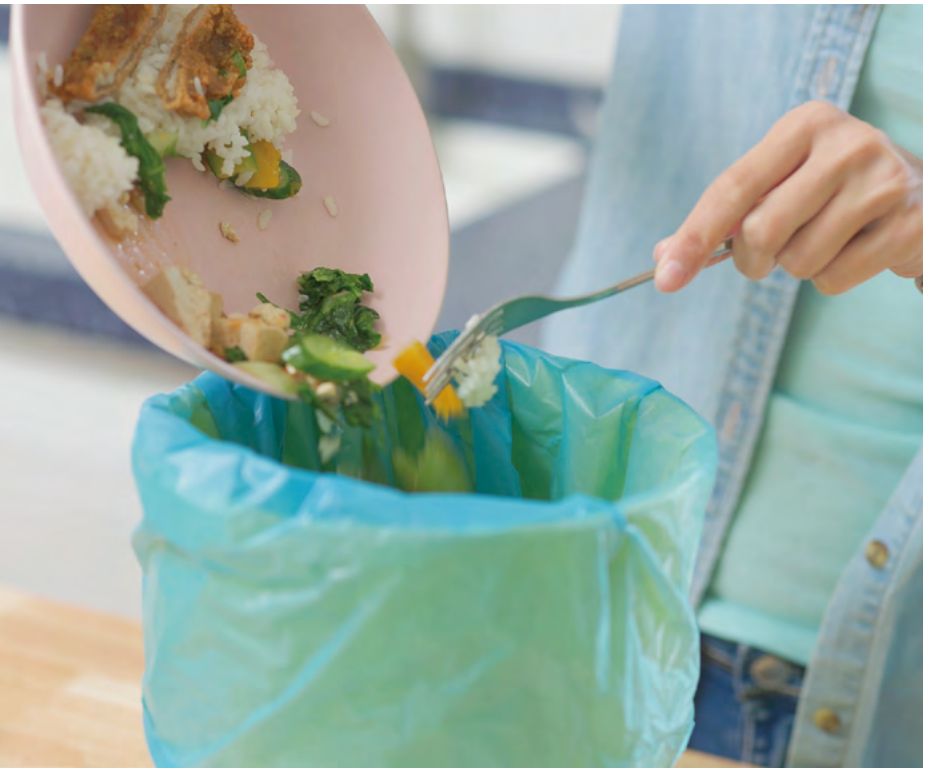
Su Zhongmin, President of CNIS, shared his insights on the interactive development of standardization and scientific and technological innovation, as well as the digital, networked and intelligent transformation of standardization work.

First national standard on anti-food waste published

Practicing economy and opposing waste are in the blood of the Chinese. With the leading efforts of CNIS, GB/T 42966-2023, *General rules for management of anti-food waste in catering*, the first of its kind, was officially released by the State Administration for Market Regulation (SAMR) on June 9.

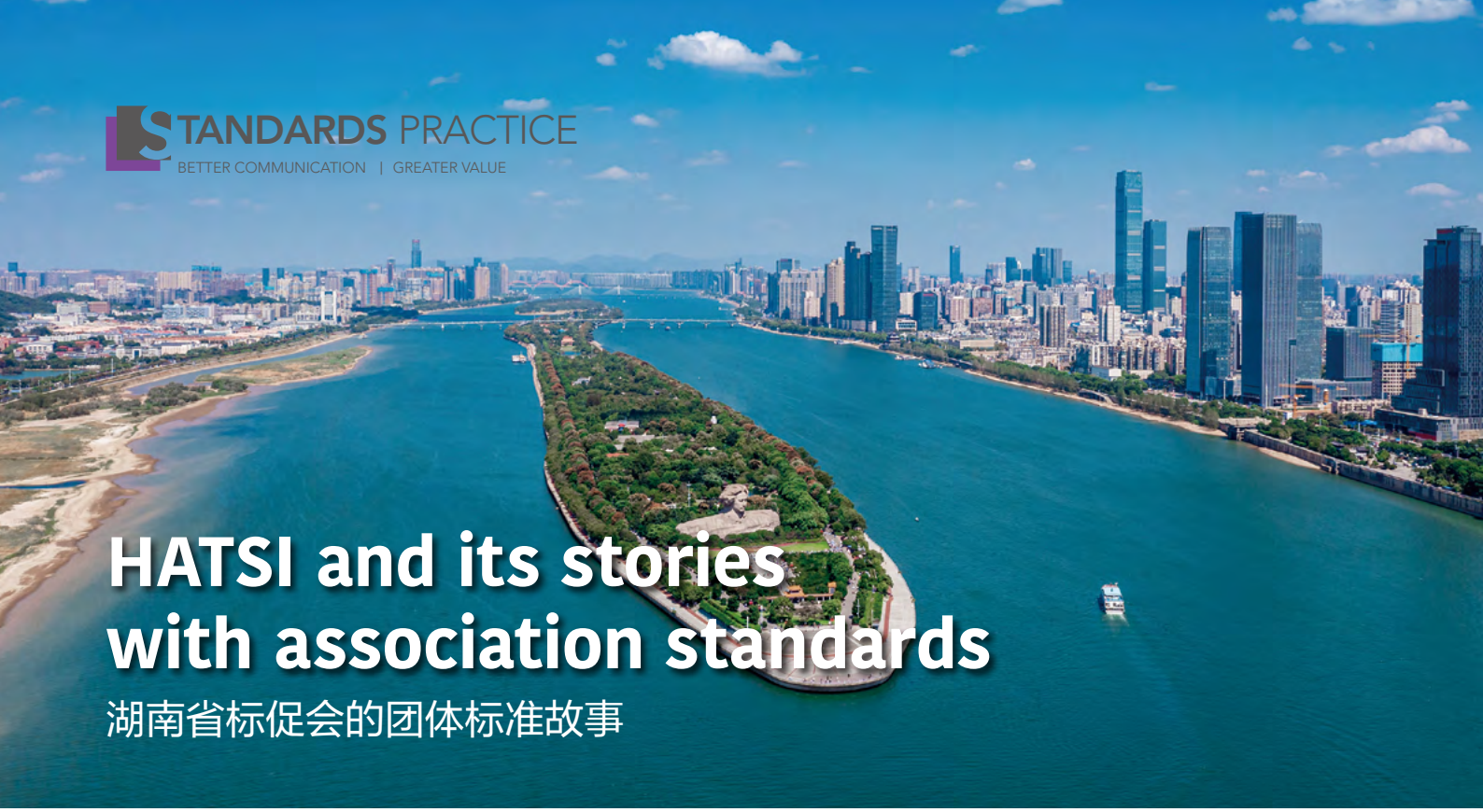
The standard is an important technical support for the implementation of the *Anti-Food Waste Law of China* to eliminate waste in catering, and a specific method to meet the requirements put forward by the 20th CPC National Congress, which are implementing the overall conservation strategy, advocating green consumption, and restraining food waste. It is also an important achievement of CNIS to support SAMR's special campaign on curbing food waste in catering.

Collecting excellent cases of anti-food waste in China's catering industry, the standard puts forward the requirements for various links of catering industry, including anti-food waste management, raw materials, cooking, food supply, employee training, etc., and has established an anti-food waste management system covering the whole process, such as material purchase and storage, cuisine development, and food delivery, which provides comprehensive, systematic and effective operational guidelines for various catering service suppliers.



The standard will help consumers and food suppliers to enhance the awareness of reasonable dining and preparation, further raise the management level of catering services, improve the methods to control food waste, and facilitate the sustainable and green development of the society.

The Food and Agriculture Sub-institute of CNIS is devoted to the standardization research on quality & safety management of food and reduction of food loss & waste, and serves as the domestic counterpart of ISO/TC 34/SC 20, *Food loss and waste*. CNIS will further coordinate domestic and international efforts for the progress in the standardization on reduction of food loss and waste in China.



HATSI and its stories with association standards

湖南省标促会的团体标准故事

Hunan Association of Technology Standards Innovation (HATSI) was voluntarily founded by science and research institutions, universities, certification bodies, social groups, and industry-leading companies in Hunan province in 2020. The association focuses on the development of standardization cause by integrating all sorts of social resources to help the local government to promote and implement standardization strategies, and include latest innovative technical achievements in association standards. HATSI carries out research on standardization, development and revision of standards, training, promotion, technical assessment, and consultation services. Its business mode—turning innovations into patents, patents into standards, and standards into industries—has been promoting a quality development of strategic emerging industries in Hunan province.

HATSI is featured with inter-disciplinary work, full service chain, and broad objects.

Inter-disciplinary work refers to that the standardization services offered by HATSI are cross-industry, especially those for technical innovation and scientific achievements application. It also attracts members from various sectors, provides services covering many fields, and promotes multi-disciplinary application of standards.

Full service chain means that HATSI has covered the whole chain of standardization services for technical innovations, including standards development, promotion and training, assessment, certification, brand building and protection, etc., as well as the full life cycle of products.

Broad objects describe the customer pool of HATSI. Government departments, enterprises, research institutions, and other social groups, all enjoy professional services of HATSI.

Three years upon establishment, HATSI has been active in the development of local standards and association standards in fields such as intelligent manufacturing, engineering machinery, electric vehicle, Internet of Vehicles, and biological and environmental protection. Its efforts in standards system research, research on members, training on standards theories and

implementation have won high praise of relevant government departments, sectoral associations, research institutions, and enterprises. HATSI now has become an important player in Hunan's association standardization work, and contributed to the application of scientific achievements and new technologies, to build a modernized Hunan.

Remarkable achievements

· A contributor in the epidemic prevention and control

In 2020, due to the outbreak of COVID-19, disposable masks became one of the most important supplies, which is indispensable to everyone, including kids. However, there was neither national nor sectoral standard for the production of children's masks then, and only a few manufacturers in Hunan produced small-sized surgical masks as an interim contingency measure for children, where a huge gap of production and supply existed.

HATSI quickly responded to the huge demand of masks, and organized companies to go through procedures of developing association standards on masks in a short period of time, including Hunan Central South Intelligent Equipment Company, Cofoe Medical Technology Co., Ltd., and Sunward Intelligent Equipment Group. Hence the two association standards, T/HATSI 0001-2020, *Technical specification of smart production for protective mask*, and T/HATSI 0002-2020, *Children face mask,* were released. The two standards filled in the blank of association standards on masks, further regulated mask production, lowered manufacturing costs, and improved production efficiency. These association standards promoted the healthy development of relevant industries and people's livelihood, safety, and health care, met the need of epidemic prevention and control, and strongly supported the epidemic prevention and control.

· A promoter of green development

To implement the new development pattern, which is to boost China's economic growth by innovation, coordination, greenness, openness and sharing, in 2020, the Industry and Information Technology Department of Hunan Province issued the *Guideline on Green Design Product Assessment and Management*, a document to regulate relevant evaluation and certification of green design products at the provincial level.

HATSI immediately seized the great opportunity to carry out association standardization work on green products, and held training and sharing workshops about standards application, development, evaluation, and management policies, guided by the Industry and Information Technology Department of Hunan Province. Since its foundation, HATSI has assisted over 20 enterprises in relevant standards development and implementation work, such as BROAD Group, Aerospace Kaitian Environmental Technology Co., Ltd., and Sunward Intelligent Equipment Group, and facilitated the inclusion of 13 green design product standards in the standards pool of Hunan's

Industry and Information Technology Department. These efforts have advanced the standardization for green products, and strongly promoted the green and low-carbon development of emerging industries in Hunan province.

· An active player in the Internet of Vehicles

Internet of Vehicles (IoV) is a crucial part of smart city construction and a rapidly developing & evolving industry. It has gained huge development momentum in Hunan.

In 2016, Changsha city, capital of Hunan province, initiated the deployment of IoV industry.

In 2018, the National IoV Pilot Zone (Changsha) was established.

In 2019, two smart construction projects, 100-kilometer Smart Expressway and 100-square-kilometer Urban Range Open Road, were launched.

In April 2020, the "Torch Plan" and the "Bellwether Plan" were released by Changsha in order to forge the "Changsha mode" of development integrating IoV and intelligent transportation.

The IoV industry and technologies were rapidly developing in Hunan. However, the standardization work on IoV was still imperfect, due to a lack of standards system for IoV, top-level design, standardization platforms, and relevant talents.

Therefore, HATSI paid close attention to the standardization need of IoV industry and took an active role in organizing expert teams to guide the industry development. It carried out research on developing a technical standards system and measures for the IoV development with Hunan features, built a new standards system coordinating national, sectoral, local, and association standards, prepared and set up the Hunan IoV Standardization Technical Committee, and trained talents for relevant standardization work, which advanced the orderly and high-quality development of IoV industry in Hunan.

· An enabler of electronic information industry

In recent years, "creating a national-renowned electronic information industry cluster at a fast speed" has become one of the major targets of Hunan province. It has paid special attention to key fields of integrated circuit, new-type display, intelligent hardware, basic software, etc., and cultivated a batch of ecology-driven enterprises with industrial chain dominance, realizing growth in both industry scale and quality.

However, the foundation of standardization for information industry is still weak in general. Few enterprises have enough awareness of standardization work.

In order to improve this situation and better support the development and innovation of Hunan's electronic information industry, HATSI took the initiative in supporting enterprises to develop and implement advanced standards and further apply technical achievements. CRRC Times Electric Vehicle, Hunan Xiangjiang Intelligence Science and Technology Innovation Center Co., Ltd., GreatWall Information Co., Ltd., CEC Industrial Internet Co., Ltd., and other enterprises were mobilized by HATSI to develop two important association standards for electronic information industry, T/HATSI 0006—2020, *Communication protocol of remote monitoring system for new energy vehicles*, and T/HATSI 0021—2022, *Identification and resolution for the industrial internet—Secondary node application service*

platform—Data interface specification, which helped to accelerate the industry gathering and business ecology cultivation. By offering strong technical support to the industry development, the standards brought new driving forces to Hunan, and promoted its high-quality development.

Future standardization priorities

The *14th Five-Year Plan for Social Group Development*, the *National Standardization Development Outline*, and the *14th Five-Year Plan for Standardization Work in Hunan* have been published, which delineate HATSI's future development. In order to better serve the standardization cause and advance its development, HATSI studied the regulations and relevant policies, and highlighted the future work in the following aspects.

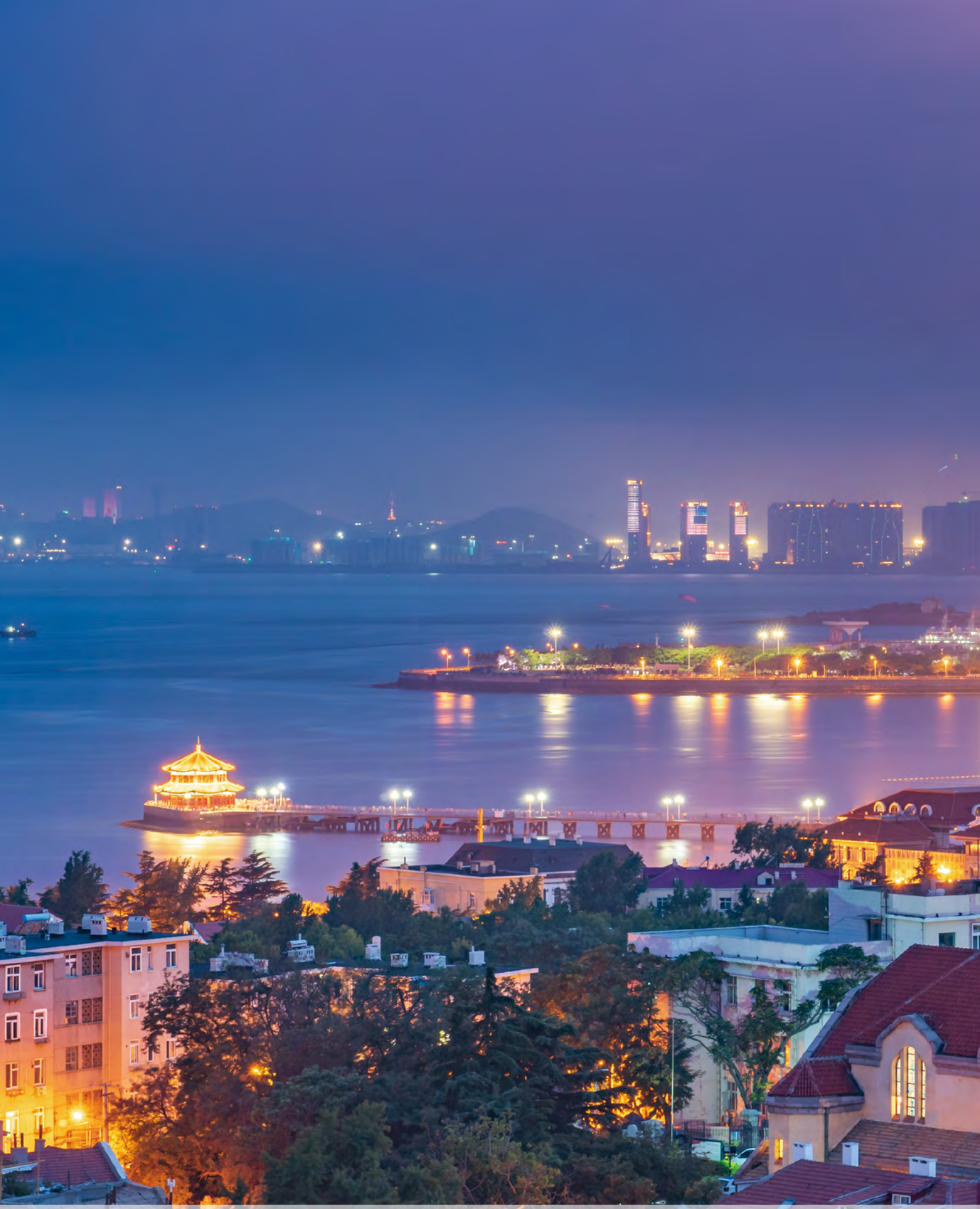
First, aggregating quality resources for development and accelerating scientific and technical achievements application. HATSI will uphold the spirit of the 20th CPC National Congress, and actively practice the resolutions of the economic work meeting of Hunan's CPC Provincial Committee, the provincial "Two Sessions", and the 1st Plenary Session of Provincial Government of Hunan. Equipped with rich resources offered by scientific institutions, social associations, enterprises, etc., HATSI will closely focus on the "3+3+2" industrial clusters, and underpin the building of Hengshan Laboratory of Yuelushan Center for Industrial Innovation. It will turn innovations into patents, patents into standards, standards into industries, and take one step further to build brands of industries.

Second, enhancing the green design work and facilitating development of emerging industries. HATSI focuses on the new business pattern, new industry, and new development mode, especially the 22 emerging dominant industrial chains in Hunan. Following principles of the *Guideline on Green Design Product Assessment and Management*, HATSI puts great efforts in the evaluation of green design products and helps entities in emerging industries and sectors to develop, implement, and promote standardization work for green design products. It will also take an active role in building up new momentum for green and low-carbon products, so as to improve the green level of Hunan's manufacturing industry, and contribute to the implementation of Hunan's "three hubs and four new missions" strategy.

Third, making publicity with greater efforts and boosting coordination and communication. HATSI is going to carry out more publicity activities for association standards, encourage member entities to better implement them, and actively engage in the cultivation plan and application demonstration of outstanding association standards. By setting up and operating portals and WeChat public accounts, HATSI will enrich its contents online step by step and improve its working efficiency in all respects. It will also strive for more support from the local government and more cooperation opportunities from the market in various fields by more communication with member entities.

编译 / 刘宏博

(Edited and translated by Liu Hongbo based on the article in Chinese)



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