中国标准化（英文版）
CHINA
STANDARDIZATION
NOV./DEC. VOLUME 106
BIMONTHLY
2020
NO.6
ISSN 1672-5700/CN11-5133/T

Protecting the Planet with Standards

标准保护地球

CHINA STANDARDIZATION PRESS

中国标准化（英文版）
CHINA
STANDARDIZATION

NOV./DEC. VOLUME 106
BIMONTHLY
2020
NO.6

ISSN 1672-5700/CN11-5133/T

COPYRIGHT

Address
Building No.51 Tiantong Zhongyuan,
Changping District, Beijing, China 102218
Website
www.cspress.com.cn

Editorial Department
Tel: +86 10 57711697 / 57711693
Fax: +86 10 57711660
E-mail: caoxx@cnis.ac.cn
Subscription & Advertisement
Tel: +86 10 57711666 / 57711663

Printing
Beijing Bohaisheng Printing Co., Ltd.
Legal Adviser
Zhao Xiaotian, Beijing Tianchi Juntai Law Firm
Tel: +86 10 61848131

For more information

Administrated by
State Administration for Market Regulation (SAMR)

Hosted by
China National Institute of Standardization (CNIS)
China Association for Standardization (CAS)

Published by
China Standardization Press Co., Ltd. (CSP)

Serial Number:
CN 11-5133/T ISSN 1672-5700
General Distributor:
Beijing Bureau of the Distribution of Newspapers and Magazines
Subscription:
Post offices across the nation
Postal Subscription Code: 80-136
Overseas Distributor: China International Book Trading Corporation
Distribution Number: BM5708
Publishing date: November 10, 2020
Advertisement Operation License:
Advertisement Registration No. 20190002,
Market Regulation Bureau of Changping District, Beijing, China

Price
Domestic: RMB ¥50.00
International: US $30.00

THE EDITORIAL COMMITTEE
OF CHINA STANDARDIZATION PRESS

CONTENTS

HEADLINE |

The 26th China Yiwu Fair ends in success

The 26th China Yiwu International Commodities (Standards) Fair was held in Yiwu, Zhejiang Province and online from October 21 to 25, 2020, accommodating over 3,400 booths. Standards become a more prominent feature of this year's event, with an exhibition hall specially set up.

More than 1,500 booths displayed the standards used by their products, and 20 national standards including GB 38995-2020, *Infant feeding bottles and teats* were released at the Fair. Tian Shihong, SAMR Vice-Minister and SAC Administrator attended the opening ceremony and praised the way standards have been promoted at the themed exhibition hall.

Another highlight of the grand event is livestream selling, a prevalent business mode adopted by nearly 70 percent of exhibitors, in the context of Covid-19 epidemic prevention and control. By the end of October 25, the Fair has attracted 106,000 visitors on site and 160 million viewers through the online platform or livestreaming channels.

An intended turnover of seven online matchmaking conferences with foreign buyers from the UK, Malaysia, Chile, etc. reached USD 4.66 million. Following China's dual circulation strategy, the Fair has devoted great efforts to expanding the domestic market, with the number of domestic buyers topping 42,000, up 8 percent year on year. Besides, 19 special booths for promoting poverty alleviation through consumption received purchase orders worth about USD 1.97 million.

During the five days, a dozen related activities took place, including the 7th Market Procurement Fair for Merchants from Other Provinces, the Belt and Road Conference on Innovation Driven Development of Small Commodities in Yiwu, the 3rd China Goods Design Award of China Small Commodity City in Yiwu, etc.

Empowering industries in the digital era

Data management experts met on September 21, 2020 in Beijing and online at the 2020 National Big Data Standardization Conference and the 7th plenary meeting of the big data working group of National Information Security Standardization Technical Committee (SAC/TC 28), sharing and exchanging the progress and prospects in the area.

The working group has developed 33 national standards on big data and updated white papers on big data standardization and industrial big data on a regular basis since its inception in 2014, contributing enormously to the big data industrial development.

The event celebrated the release of the *2020 Edition of White Paper on Big Data Standardization* and the latest *Analysis Report on the Data Management Development*. It also initiated a batch of pilot areas for the implementation of national standards on disclosure and sharing of administrative data, and announced a list of first-batch enterprises whose products conform to GB/T 38673-2020, *Information technology—General requirements for big data computing systems*. And the *2020 Edition of White Paper on Unstructured Data Management Solutions* was released to promote the implementation of GB/T 36073-2018, *Data Management Capability Maturity Assessment Model (DCMM)*.

The event was attended by over 70 experts and leading representative in the area on site and about another 700 online, including Mei Hong, head of the working group and Academician of China Academy of Sciences, and leading representatives from MIIT, SAMR, China Electronics Standardization Institute, Renmin University of China, local data management offices and related enterprises. They provide valuable insights into big data strategies of major countries and regions, the importance of data governance, and future direction of the area.

Guiding the development of standard reference materials

National Advisory Committee of Experts on Standard Reference Materials was inaugurated and its first working conference convened on September 18, 2020 in Beijing. The event brought together more than 30 members and representatives from a variety of areas closely linked with the management, development and application of standard reference materials.

The advisory committee as a high-level think tank will provide demand-oriented guidance for the policy development, overall planning, research priorities, discipline construction and talent training, etc. in the area, improving the decision-making capacity in related work.

The event approved the Charter for the Advisory Committee, defined its structure and responsibilities, and awarded engagement letters for committee members. Academician Wang Haizhou was appointed as Chairman. Its secretariat is held by CAS.

Platform established to facilitate integration in the Yangtze River Delta region

A coordination platform was recently initiated in Shanghai to enhance cooperation on international standardization in the Yangtze River Delta (YRD) region, which was jointly established by Provincial Administrations for Market Regulation of Zhejiang, Jiangsu and Anhui, with the support of SAC. The three provinces have agreed in 2019 to establish an integrated working system in the YRD region, especially in the areas of tourism, social administration and public services, and have jointly released three harmonized local standards.

Through the new platform, the three provinces can make full use of industrial, technical and talent advantages and share standards resources, providing strong support for the national strategy for integrated development of the YRD region. The first batch of 21 pilot programs have been released, covering cables used for 5G, new materials, intelligent nuclear power and other key areas.

The platform website (**http://bzwx.cnsis.org.cn/csjxzpt**) was launched at the meantime, providing regional standards information and latest news about international standardization to promote cooperation and exchanges.

Enterprise standards “forerunner” system complemented

Pressing problems exist in the implementation of enterprises standards “forerunner” system since its introduction in June 2018, according to an investigation conducted by the Enterprise Standards “Forerunner” Alliance. The number of performance or functional indexes enterprises have disclosed are too small, the disclosed indexes of the same type of products are inconsistent or even lower than the requirements of national or industry standards, “forerunners” are evaluated with different methods and bases, to name a few.

To this end, China National Institute of Standardization (CNIS) in joint hands with related associations have developed a series of association standards to help better evaluate enterprise standards “forerunners” and pave the way for the implementation of the system. Those standards will be a necessary complement to the *Plan for Implementing the Enterprise Standards “Forerunner” System* issued by SAMR in 2018. They are composed of T/CAQP 015-2020, *General rules for drafting enterprise forerunner standards* and a series of evaluation requirements for forerunner standards for a specific type of products or services. They not only provide guidance for enterprises in developing standards, but also help regulate and guide the third parties in evaluating those forerunners.

The first batch of 27 such standards in the field of household appliances have been released at a ceremony held on October 28, 2020 in Nanjing under the auspices of China Energy Conservation Association and Suning Group. The standards drafted with the collaborative efforts of nearly 30 leading enterprises are an important step forward to promote the high-quality development of the area.

Baby stroller performance to be certified

China Toys & Juvenile Products Association (CTJPA) recently released the *Specifications for assessing the performance of baby stroller,* adding requirements for the usability and comfort of the essential product, a lack in the current standards framework. Eleven manufacturers have announced to have their products certified based on the new association standard.

The demand for medium and high-end baby strollers continues to increase in the Chinese market, according to CTJPA President Liang Mei. Besides, it's also a focal point of supply-side reform to improve product quality and address consumers' diverse individual needs. The new standard introduces indices in regard to safety, durability, usability, functionality and comfort, five dimensions of baby strollers, providing basis for their performance assessment.

Besides, the products of 11 manufacturers will be tested according to the new standard on top of conforming to GB 14748-2006, *Safety requirements for wheeled child conveyances* and obtaining China Compulsory Certification (CCC) certification. Qualified products will be granted a "performance certificate" and be labeled with "Best Choice Symbol" plus assessment scores in the five dimensions. This allows customers to make informed decisions depending on their needs.

CTJPA plans to concentrate resources on the promotion of baby strollers with "performance certificate" and guide consumers to choose the right product. The implementation of the new standard is expected to practically advance quality improvement of baby strollers and contribute to healthy development of the industry. The document will be updated timely to respond to consumers' needs and the global advancement of the industry.

First standards collection for geo-authentic medicinal materials published

Geo-authentic or *daodi* medicinal materials are produced and assembled in specific geographic regions with designated natural conditions and ecological environment. They prove to have higher quality and better, more stable efficacy, through hundreds of years of clinical practice.

But now disordered exploitation and unregulated production of *daodi* medicinal materials bring challenges to the inheritance and protection of their cultivation and processing technology. Standardization is a critical solution out of the dilemma.

An important step is the recently published *Collection of standards on geo-authentic medicinal materials*, including more than 150 kinds of geo-authentic medicinal materials elaborately selected based on modern needs, literature research and field studies. Academician Huang Luqi at China Academy of Chinese Medical Science led the efforts in the breakthrough.

The collected standards already released by the China Association of Chinese Medicine in August 2019 set out detailed requirements for the origins, plant morphology, history, authentic producing area, growing conditions, and quality characteristics of those medicinal materials. "It is an important move to establishing a technical standards system for the production of geo-authentic medicinal materials and a quality rating system", an expert commented.

New ICV standardization requests released

Nine standardization requests were released at the 6th International Symposium on Intelligent and Connected Vehicles (ICV) Technologies, Standards and Regulations jointly held by National Technical Committee of Auto Standardization (SAC/TC 114) and National Technical Standards Innovation Base for Automobiles on September 15-16 in North China's Tianjin municipality.

Those documents include research reports on the needs of standards on automatic drive, advanced driver assistance system, connection function and application, and information security. As a quick response to the fast advancement of automotive technology, they will provide valuable reference for the development of future national standards.

HIGHLIGHTS |

Tian Shihong attends the virtual 43rd ISO GA

On behalf of SAC, Tian Shihong, SAMR Vice-Minister and SAC Administrator, attended the online meeting of the 43rd ISO General Assembly and the 113th ISO Council Meeting during September 21 and 24, 2020.

At the ISO GA, ISO Secretary-General Sergio Mujica delivered the annual work report, and ISO President Eddy Njoroge gave a keynote speech. At the event, ISO Strategy 2030 was released together with the voting procedures of ISO Vice-Presidents (2021-2022) on technology and finance and ISO Council members (2021-2023).

The annual implementation report on ISO risk management policy was approved at the ISO Council meeting, where members discussed the project on regional engagement policy and capability building, implementation plan and measurement system of ISO Strategy 2030, and important topics such as proactive research framework and organizational governance.

During the meetings, Tian proposed suggestions on implementation measures of ISO Strategy, regional engagement policy and proactive research framework, which were highly praised by ISO Secretary-General and other ISO Council members.

China-South Asia standards cooperation enhanced

The third China and South Asia Standardization Cooperation Meeting was held on September 25, 2020 in virtual form, welcoming representatives from national standardization bodies in countries such as Afghanistan, Bangladesh, Nepal, Pakistan and Sri Lanka.

SAMR Vice-Minister and SAC Administrator Tian Shihong and other representatives introduced the latest national standardization work and shared the experience on facilitating epidemic control with standardization.

During the meeting, representatives agreed to enhance standardization cooperation between China and South Asian countries, and reached broad consensus on the topics including establishing stable cooperation mechanism, promoting mutual recognition of standards related to epidemic control, strengthening cooperation in international standards development and adoption, as well as setting up a platform for standards information in China and South Asia.

SAC and BSI promote strategic exchanges

The video seminar on Sino-UK standard-related strategies was held on October 16, 2020, which was attended by Tian Shihong, Vice-Minister of SAMR and Administrator of SAC, and Scott Steedman, Director of Standards of BSI.

The two sides made in-depth exchanges on the strategic topics including standards system framework, supporting role of standards in regulations and management mode for association standards.

Tian fully confirmed the importance of the seminar, and proposed further bilateral exchanges on related key topics.

CNIS supports CEM11

Under the auspices of CNIS, the forum on promoting the improvement of industrial energy efficiency and the use of clean energy was held virtually on September 15, 2020, as part of the Clean Energy Ministerial 11 (CEM11). The event was attended by representatives from some 30 countries, regions and international organizations.

The forum summed up the achievements of Energy Management Working Group (EMWG) in improving global energy efficiency in its 10 years' history, and also recognized the contribution of winners of CEM Energy Management Leadership Awards for 2020. Attendees held in-depth discussions on a wide range of topics such as international cooperation on green low-carbon transformation of high-energy consuming industries.

After commissioned by the Resources and Environment Department of National Development and Reform Commission (NDRC), the Branch of Resource and Environment Research of CNIS has been active in promoting domestic and international exchanges of information on energy management as well as technical cooperation. It will continue to support green low-carbon initiatives and actions of CEM, enhance exchanges of best practices and foster technical cooperation in the area, and help improve energy efficiency and promote green development in key energy consumption organizations.

HIGHLIGHTS |

Innovation Base adds power to metallurgical industry

National Technical Standards Innovation Base for international standardization of metallurgical engineering is officially put into operation after passing the acceptance test by SAMR on September 8, 2020.

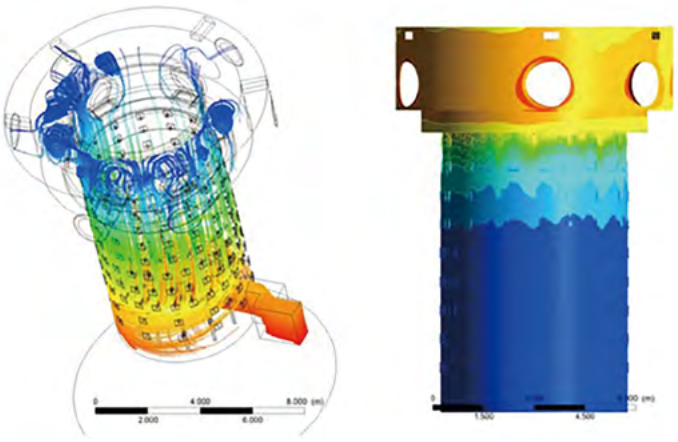
China Metallurgical Group Corporation (MCC) has undertaken the construction of the Innovation Base since its initiation was approved in March 2018, with the collaborative efforts of 38 related associations, steel manufacturers, standards institutions and universities.

In the past two years, the Innovation Base has prioritized the standards development and implementation of core metallurgical technologies, closely catering to the actual needs. A number of proposals for international standards it submits have been approved as ISO or IEC standards.

Besides, it has promoted the circulation and application of 2,148 metallurgical Chinese standards in the Belt and Road countries including Vietnam and Malaysia. An open and sharing platform for international standardization begins to take shape, fostering innovation by integration of industry, education, research and application.

Cui Gang, Director-General of the Standards Innovative Management Department, SAMR, spoke highly of the Base's active participation in international standardization activities. He also put forward four suggestions on its future development. First, the Base shall integrate related resources and make the industry greener, more intelligent and digitalized, supporting high-quality industrial development. Second, by maintaining close links with industry chain, the Base shall complete the standards system for metallurgical construction, operation and services. Third, the Base shall create an incentive system for standards innovation, strengthen talent training and enhance exchanges and cooperation with foreign or international standards organizations, to participate more actively in the development of standards in key metallurgical areas. Last, the Base shall promote standards cooperation with different areas and industries, providing high-quality services for up-stream and down-stream enterprises.

New ISO standard makes nuclear power plants safer



The first international standard on the thermal insulation design of reactor coolant system was published on October 26, 2020 through Chinese experts' efforts over the past two years.

ISO 23466: 2020, *Design criteria for the thermal insulation of reactor coolant system main equipments and piping of PWR nuclear power plants*, specifies the basic requirements for the design of thermal insulation. The component, which serves a number of important functions such as minimizing heat loss of reactor and primary coolant circuit, reducing radiation exposure and improving operational condition, is critical to the safety of nuclear power plants with pressurized water reactor (PWR).

The document was developed by the Nuclear Power Institute of China and the Institute for Standardization of Nuclear Industry, subsidiaries of China National Nuclear Corporation (CNNC). It has been successfully applied in Hualong-1, China's third-generation nuclear reactor design.

Improving language-learning services for post-pandemic era

ISO 29991:2020, *Language-learning services—Requirements*, was published on September 25, 2020, which was developed by a working group led by experts from CNIS. The revised standard was originally published in 2014 with the major contribution of China.

The document specifies the design, assessment and publicity of language-learning services, language-learning resources and accessibility, language-learning environment, and information provided for customers. The new edition highlights the requirements for language-learning services through distance learning or blended learning, contributing Chinese standardization solutions to the development of global education services under the COVID-19 pandemic.

A new chapter unfolds
for standardization in Qingdao
再接再厉，青岛国际标准化工作书写新篇章

Interview with Wu Rujun,
President of Qingdao Institute of Standardization (QIS)
访青岛市标准化研究院院长 吴如军

By Cao Xinxin and Liang Li 曹欣欣 梁丽

When 2020 comes to an end, Qingdao in East China's coastal Shandong province is now making preparation for 2021 Qingdao Forum on International Standardization.

China Standardization spoke to Wu Rujun, President of Qingdao Institute of Standardization (QIS) to get more details about the Forum and remarkable progress made by Qingdao in the standardization field.

In the past two years, what achievements have been made by Qingdao when participating in international standardization activities?

Wu Rujun: Up to now, experts from Qingdao have made great contribution to the development of 13 international standards, including 4 ISO standards, 5 IEC standards and 4 other international standards, and participated in the development and revision of 148 international standards. Qingdao also holds 26 international and national technical committees and subcommittees, ranking the top among the 5 municipalities specially designated in the state plan of China.

In 2019, NajingTech, a high-tech company focusing on the R&D of quantum dot new materials located in Qingdao, made great efforts to the IEC standard proposal on the quantum dot display, which was finally approved by IEC. Mr. Cui Kai, veteran expert from Haier Group, one of the world's largest household appliance manufacturer headquartered in Qingdao, became the convenor of ISO/TC 37/WG 10 on technical communication.

Haier Group also made great contribution to the development of IEC 63139:2020, *Electrical household and similar cooling and freezing appliances - Food preservation*, the first of its kind, which was released in June 2020.

The coastal city has also actively participated in the international standardization work about rubber and tyre. Mesnac Company, a high-tech group focusing on rubber and machinery businesses established with the technical support of Qingdao University of Science and Technology, has participated in the development of 4 ISO standards on RFID electronic tag for tyre, all of which were released this year. In this way, Mesnac helps facilitate technological advance in the global tyre industry.

Can you share with us the plan of 2021 Qingdao Forum on International Standardization?

As of now, Qingdao Forum on International Standardization has been successfully held twice respectively in 2019 and 2017. Tian Shihong, Vice-Minister of State Administration for Market Regulation (SAMR) and Administrator of Standardization Administration of China (SAC) praised the Forum to the skies, "The forums are very successful and influential, which have received positive comments from the international standardization community. It is rare to see a city hosting a meeting on international standardization, but Qingdao made it possible. More importantly, the Forum has its own characteristics."

We are now making preparation for the Forum next year. In June, Dr. Zhang Xiaogang, former ISO President paid a special visit to Qingdao and gave constructive suggestions for the preparation. A month later, Qingdao Administration for Market Regulation held a video meeting with Dr. Zhang and officials from SAMR to discuss the plan of the Forum. Later in August, Luan Xin, Deputy Mayor of Qingdao and Zhang Jie, Director-General of Qingdao Administration for Market Regulation held a meeting with Tian Shihong to discuss the preparation plan.

The Forum is set to be held at the end of June or the beginning of July 2021, which is themed on "Protecting the planet with standards", the same as the theme of 2020 World Standards Day. Three sub-forums will be held, with two additional activities – the award ceremony of international standardization outstanding contribution award, and a panel discussion about standardization strategies. IEC President Dr. Shu Yinbiao is expected to attend and address the Forum. Taking the Covid-19 pandemic into consideration, the Forum is projected to be held both virtually and on site.

The 2021 China-UK Standardization Cooperation Meeting is also due to be held in Qingdao with the consensus between Tian Shihong and Dr. Scott Steedman, Director of Standards, British Standards Institution (BSI) .

Dr. Zhang Xiaogang once suggested, the Forum shall be hosted as "a globally unique, high-end standardization meeting". We will try our best to invite more renowned officials and experts from international standardization organizations and regional standardization bodies and foreign associations to spark up heated, insightful discussions at the next year's Forum.

QIS is responsible for the work of the International Standardization Training Base (Qingdao). How was training carried out this year?

The International Standardization Training Base (Qingdao) is the first and sole ISO training base established with the joint efforts of ISO and its members.

The Training Base restarted its work as soon as the Covid-19 pandemic was alleviated in China, providing training courses for some 64 trainees from research institutes, companies and government in Shanxi province. It also invited Xu Fang, Director of International Standards Department, Haier Group to give free online training courses about how standards boost business innovation, which won popularity with attendees.

The 2018-2020 ISO Training Project at the Base is to be completed at the end of this year. We are now discussing with ISO Central Secretariat about the 2021-2023 training plan.

I want to share a story with you, which well reflects the rewarding results of the Base. Guo Xin, Secretary of ISO/TC 41/SC 3, *Conveyor belts* and teacher at Qingdao University of Science and Technology, participated in the ISO training in 2019 and said, "All the training classes are given by ISO experts. In classes, I discussed the work process and technical solutions with experts from ISO, Bosnia and Herzegovina, Armenia, Ukraine, and other countries. The training will play a vital role in facilitating our participation in international standard development, and addressing disputes on standard development and dealing with different opinions. It will definitely help me do the secretariat work of ISO/TC 41/SC 3 well."

What progress has been made in international cooperation?

As of the end of October, we have recommended several Chinese experts to join in the global think-tank of Underwriters Laboratories (UL) and participate in the development and revision of UL standards in areas such as household appliance, VRAR, automatic drive, robot, unmanned truck, radar, etc.

QIS has also assumed the secretariat of the working group on household appliance standards of the UL. It is one of the projects in the Memorandum of Understanding signed between SAC and UL in 2019.

How does QIS provide better services for SMEs?

Along with technological advance, the awareness on standardization is increasingly raised at private small and medium enterprises (SMEs) in China, and most of them have great enthusiasm for participating in international standardization activities. However, some are not familiar with the procedures of international standards development or rules of international organizations. The communication with domestic technical committees also needs to be improved.

For this reason, QIS puts forward the plan of establishing the "public service platform for international standardization proposals" to help SMEs participate in international standardization activities.

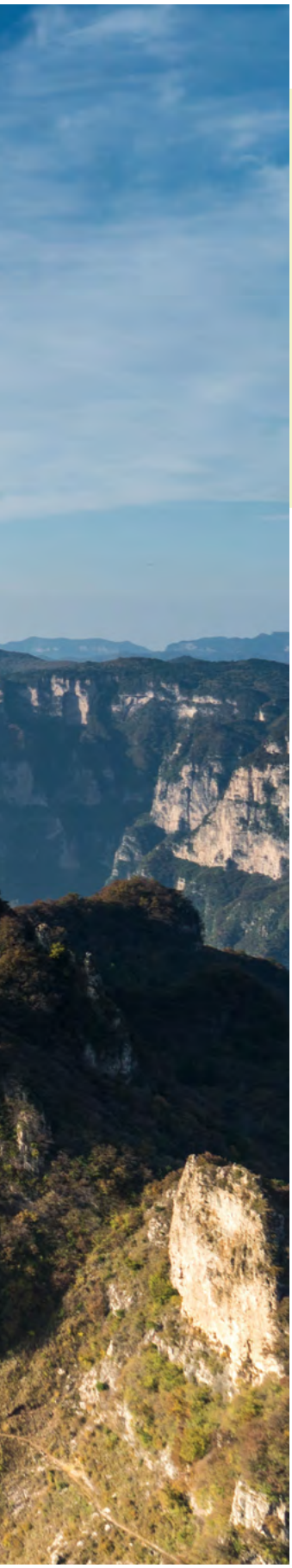
World Standards Day 2020 celebrated in Taiyuan

2020年世界标准日主题活动在太原举办

By Jin Jili 靳吉丽

World Standards Day is celebrated on October 14 every year as a festival for standardizers across the globe, which is jointly established by IEC, ISO and ITU as a means of paying tribute to the collaborative efforts of thousands of experts worldwide who develop the international standards.

There are various activities and events celebrating the WSD 2020 across China, among which the themed celebration is the most attractive and highly anticipated.



Themed celebration in China

The themed celebration in China for this year's WSD was held on October 14 in Taiyuan city, capital of North China's Shanxi province, which was co-organized by SAMR, SAC and the People's Government of Shanxi Province and undertaken by the Shanxi Administration for Market Regulation.

The event was addressed by Lin Wu, Governor of Shanxi, Tian Shihong, Vice-Minister of SAMR and Administrator of SAC, Peng Youdong, Vice-Administrator of National Forestry and Grassland Administration, and Wang Haizhou, Academician of Chinese Academy of Engineering.

At the event, IEC President Shu Yinbiao read the message of this year's WSD from IEC, ISO and ITU. The theme of World Standards Day 2020 is "Protecting the planet with standards".

The annual themed activity for WSD continuously increases the public awareness of standards, which ensure product quality, improve governance efficiency and guarantee economic and trade cooperation, Lin Wu said in his address.

Standards are also of great significance in protecting the planet and driving green development. We shall give full play to the role of standards in the ecological development in Shanxi by promoting green production mode and creating green living space and ecological environment, Lin pointed out.

Positive progress has been made in China's standardization work in the aspects such as facilitating ecological development, protecting natural environment, driving energy conservation and consumption reduction, and contributing to epidemic control and resuming work and production, according to Tian Shihong.

We shall rapidly improve the standards on ecological system governance to build beautiful and livable homeland, continuously optimize the standards on environmental protection to win the battle against pollution, further promote the resource saving and recycling to lead industrial transformation and upgrading, as well as actively participate in international standards cooperation to contribute to the global sustainable development goals, Tian added.

At the event, China Standards Innovation and Contribution Award, the highest standardization award biennially in China, and ISO Excellency Award and IEC 1906 Award, annual awards of ISO and IEC respectively, were granted to excellent domestic standardization experts in various fields.

New research center of CNIS launched

To celebrate the WSD 2020, the Transformational Development Research Center of CNIS was launched in Taiyuan on the same day, marking that the transformational development and standardization reform of Shanxi province would be supported and promoted by CNIS, a national standardization research institute.

The nameplate of the research center was unveiled by Tian Shihong and Wu Wei, Vice Governor of Shanxi. The event was attended by the leaderships from SAMR, CNIS as well as local government and related departments in Shanxi.

According to CNIS, the research center will help establish the national reform experimental area for resource-oriented economic transformation in Shanxi, facilitate the rising power of central areas and promoting the economic transformation and high-quality development in Shanxi.

The research center is an important move of CNIS to look to the future, remain open, seek more cooperation and keep competitive edge in standardization research services. It will also help facilitate the application and integration of scientific and technological achievements in the key fields of Shanxi province.

Central and western regions highlighted

A symposium on standardization work in central and western regions taking place on October 14 in Taiyuan, where participants from market regulation departments in 20 provinces, autonomous regions and cities exchanged experiences on how to enhance standardization work and promote transformational development with standards.

Tian Shihong and Wu Wei addressed the event. And Zhang Gang, Vice Chair of China Standardization Expert Committee and former Counselor of the State Council, shared his insights on standardization work.

Since the standardization work reform started in 2015 in China, the central and western regions have recognized the critical role of standardization in economic and social development, which can help optimize business environment, enhance mechanism openness, facilitate high-quality development and improve regulation rules, Tian Shihong said.

Apart from the themed celebration and other activities in Taiyuan, various events were held in many cities across the country such as Shanghai, Yiwu and Shenzhen, covering rich topics in multiple forms. All these activities are expected to raise people's awareness of standardization and make the planet a better place with standards efforts.

Colorful celebrations for WSD nationwide

全国各地标准日庆祝活动精彩纷呈

By Jin Jili 靳吉丽

Amid festive atmosphere, various activities and events were organized in September and October across the country in honor of the World Standards Day 2020, featuring the latest progress in key fields and priorities of national standardization work.

Shanghai publishes its first white paper on standardization

To embrace the 51st World Standards Day, Shanghai organized its celebration activity on October 20, which was attended by the representatives from SAMR, government departments in Shanghai and market regulation departments in Shanghai, Jiangsu, Zhejiang and Anhui.

During the event, the city published its first white paper on standardization work, showcasing the effect of standardization work in Shanghai over the past few years. The white paper is composed of facts and figures, comprehensive report, 9 special reports and 14 standardization practices. It also incorporates multiple measures adopted to promote high-quality development of the Yangtze River Delta (YRD) region.

A collaboration platform for international standardization in the YRD region was officially launched, the first of its kind in China jointly established by the market regulation departments in Shanghai, Zhejiang, Jiangsu and Anhui.

The platform, supporting the delivery of the national strategy on integrated development of the YRD region, announced the first batch of 21 pilot projects covering key industries such as electric cable in 5G, new materials and smart nuclear power. According to the white paper, the regional development was effectively facilitated by the coordinated standardization work mechanism together with multiple regional coordinated local standards.

The white paper indicated that Shanghai published 119 local standards, approved 124 standardization pilot projects, and further improved the local standards system for promoting high-quality development in 2019. By the end of 2019, 400 association standards and 27,789 enterprise standards have been disclosed through self-declaration system, and 54 forerunner enterprise standards have been released, providing the effective supply of market-oriented standards and supporting the industrial transformation and upgrading.

Promoting integrated development of Yangtze River Delta

The symposium on standardization for integrated development of the YRD region was held on October 20 in Hangzhou, capital of Southeast China's Zhejiang province, which was addressed by Tian Shihong, Vice-Minister of SAMR and Administrator of SAC.

At the event, a report was given on the basic ideas of the standardization work for integrated development of the YRD region. Participants held heated discussion on the topics including standards system framework, standards supply and standardization organization establishment for integrated regional development.

Promoting the integrated development of the YRD region is an important national strategy. We should fully recognize the role of standardization in supporting and guiding the integrated development of the region, and set a good example for national standardization work, Tian pointed out.

Standardization shall serve the overall economic and social progress, injecting new vigor for the high-quality development of the YRD region. And the area shall take the lead in the innovation of standards system, standards supply and management as well as integrated standardization work mechanism, so as to achieve new progress and make new breakthrough, Tian stressed.

Cui Gang, Director-General of Standards Innovative Management Department of SAMR, presided over the event, which was attended by the representatives from the Office for Yangtze River Delta Cooperation, market regulation departments in Shanghai, Jiangsu, Zhejiang and Anhui as well as related research institutions.

National technical standards innovation base established in Yiwu

The third Small and Medium-sized Enterprise Standardization (International) Conference was convened in Yiwu city, Southeast China's Zhejiang province, on October 20, with the theme of "trusted, convenient and efficient—standardization facilitates domestic and international cooperation".

Since this year, Yiwu has focused on the key problems in high-quality development, fully implemented the "standardization+" action, built itself into a "city of standards" in faster paces, and promoted the deep integration of standards with market, industry and city governance, said Wang Jian, Mayor of Yiwu.

At the event, the national technical standards innovation base (Yiwu) was unveiled, and officially came into service. The innovation base, approved by SAC in 2017, is the first of its kind in Zhejiang and has successfully passed the expert acceptance of SAMR.

In the future, it would address the standardization demand and weakness of small commodities worldwide, enhance the construction of standards system and promote the internationalization of standards, and continuously provide services for standardization work in leading industries and various enterprises.

Besides, a strategic cooperation agreement on standardization subject was signed between China Jiliang University and Dali University at the China (Yiwu) Standards City Development Forum on October 21.

And the five-day 26th China Yiwu International Commodities (Standards) Fair attracted over 1,600 foreign businessmen from foreign trade organizations and representative offices stationed in China. This year's fair featured 3 standard-themed exhibition areas covering 3,400 booths in more than 10 fields, which showed the innovation capability of standards.

Exploring standards certification in Shenzhen

To embrace the annual festival of global standardizers, Shenzhen Office for Leading Group of Standards Work organized the commemoration meeting for 2020 World Standards Day on October 15 in Shenzhen, South China's Guangdong province.

At the event, certificates were granted to the third batch of representatives of Shenzhen standards think tank and the enterprises certified by Shenzhen standards. Meanwhile, the standardization technical committee on food in Shenzhen was established with certificates conferred to its members.

As the first innovative city of standards internationalization in China, Shenzhen has well leveraged the fundamental and strategic role of standards in the urban governance system and governance capability modernization.

The city has so far developed 6,827 standards, cultivated 957 association standards, and published the first administrative measures on local association standards in China. It has also promoted the certification of Shenzhen standards, set an example of high-end products and high-quality services in each industry, developed and released 312 food standards, and built a golden brand of food safety in Shenzhen.

On the occasion of the 40th anniversary of Shenzhen economic special region, higher requirements are put forward for its standardization work, including further implementing "standards+" strategy, consolidating the standardization basis in key fields, actively integrating the standardization coordinated development in Guangdong-Hong Kong-Macao Greater Bay Area, and continuously improving the openness level of Shenzhen standards.

Standardization on private economy to be promoted

The meeting on promoting the standardization work on private economy was jointly held on October 10 by All-China Federation of Industry and Commerce (ACFIC) and SAMR in virtual form.

At present, private enterprises and individual businesses account for more than 90 percent of the over 123 million market entities in China. And private enterprises boast over 70 percent of the technical innovation achievements in China. As the main practitioners of standardization, private enterprises have become an important force in standards innovation.

Private enterprises need to raise their awareness of standardization, improve the quality of products and services, and drive the conversion of old and new growth drivers by applying advanced standards. And they shall improve the innovation effort of standardization and focus on improving standardization of brands, ACFIC President Gao Yunlong pointed out.

Promoting private economy standardization is a major measure of ACFIC and SAMR to complement the weaknesses in private economic development and effectively implement standardization strategies, which is also an important task for facilitating high-quality development of economy, said Zhang Gong, Secretary of the Party Committee and Minister of SAMR.

According to Zhang, market regulation departments shall make every effort to optimize business environment of private economy, guide the transformation and upgrading of private enterprises, facilitate their orderly operation as well as support their participation in international standardization activities.

During the event, SAMR Vice-Minister and SAC Administrator Tian Shihong and Party Member and Vice-President of ACFIC Lu Yong signed a strategic cooperation agreement. Zhao Dejiang, Party Member and Secretary General of ACFIC announced the establishment of the ACFIC standardization work committee, with former ISO President Zhang Xiaogang assuming the Chair.

Driving standardization comprehensive reform to a higher level

The symposium for exchanging with pilot work on national standardization comprehensive reform was held in Yiwu on October 21 to put national decisions and deployments on standardization work reform in place.

During the event, representatives from Zhejiang, Shanxi, Jiangsu, Shandong and Guangdong provinces reported the latest progress of pilot work on national standardization

comprehensive reform. Representatives from Wuhan, Shenyang, Xuchang and Rugao cities and Yangshuo county reported on the pilot work of innovation pioneer region for national standardization reform.

Comprehensive reform is important to implementing national standardization work reforms, Tian Shihong pointed out.

All organizations undertaking the pilot work have actively innovated and improved work mechanism, set typical demonstration examples, explored successful experience and made staged achievements. They were required to drive standardization comprehensive reform to a higher level, according to Tian.

Tian also emphasized, they shall insist on top-level design to well study and compile the future five-year standardization development plan; insist on reform innovation to further improve the government-led, market-oriented and multiple-governed coordination mechanism, optimize the participation in standardization work and stimulate the standards innovation vigor in various market entities and social organizations; facilitate technical innovation, high-level openness, high-quality development and efficient governance with high standards to support overall national development.

Enterprise standardization to be enhanced in an all-round way

The seminar on national special action on standards comparison and compliance of 10,000 enterprises in 1,000 industries in 100 cities across the country was held in Wenzhou, Southeast China's Zhejiang province, on October 22.

It is necessary to facilitate high-level openness, high-tech innovation and technical breakthrough and support standards development as well as enhance standards mechanism-oriented openness in relatively backward sectors through the special action, Tian Shihong pointed out in his address.

Since the special action was initiated three years ago, positive progress has been made, with pilot work implemented in 167 cities. More than 17,000 enterprises involving 816 product and service categories have participated in the action and released 34,000 pieces of standards comparison results, Tian said.

Standards comparison and compliance work shall be transformed from pilot first to overall enhancement, from short-term special project to long-term mechanism, from top-down to bottom-up approach for the next step, he added.

During the event, Liu Hongsheng, President of CNIS, gave a work report on the special action, representatives from Zhejiang, Guangdong and Shandong provinces exchanged their work, and representatives from leading enterprises shared their experience.

Facilitating high-quality development of meteorology through standards

China Meteorological Administration has organized various celebrations on meteorological standardization to embrace this year's World Standards Day.

The activities included a thematic article published on China Meteorological News and a column of meteorological standards on the portal of meteorological standardization (http://cmastd.cmatc.cn/res/wsd/index.html).

The column collects interpretation videos on more than 50 national and sector standards related to meteorology, and highlighted the publicity of over 10 standards such as GB/T 34302-2017, *Warning level for surface ozone*.

On October 14, 14 national standardization technical committees and subcommittees and the Meteorological Officials Training Institute under China Meteorological Administration held a celebration activity, disseminating standardization through a questionnaire on standardization knowledge Q&A and posters of World Standards Day 2020.

Over the past few years, the meteorological department and standardization organizations in China have actively developed and implemented the standards in the aspects such as air quality and protection and utilization of water resources, solar energy and wind energy, making great contribution to the protection of the planet.

So far, there are currently 191 national standards, 532 sector standards, 664 local standards and 17 association standards related to meteorology in China.

2020 China Standards Innovation and Contribution Award unveiled
2020年中国标准创新贡献奖揭晓

This year's China Standards Innovation and Contribution Award, the highest national award in the standardization field, was unveiled at the themed celebration for World Standards Day 2020 in Taiyuan, capital of North China's Shanxi province, on October 14.

The Standard Project Award goes to 60 standards projects, the Organization Award goes to 4 organizations, and the Outstanding Contribution Award and the Excellent Youth Award are awarded to 4 experts and 3 experts respectively. Here, a full list of winners is presented to recognize the organizations and individuals with outstanding contribution to the standardization work at industrial, national and international levels.

STANDARD PROJECT AWARD 标准项目奖

The First Prize (10 items) 一等奖（10项）

No. 序号	Name of standard project 标准项目名称	Main departments involved 主要完成单位	Main contributors 主要完成人
1	GB/T 34000-2016, *China shipbuilding quality standard* GB/T 34000-2016《中国造船质量标准》	China Institute of Marine Technology & Economy, Hudong-Zhonghua Shipbuilding (Group) Co., Ltd., Dalian Shipbuilding Industry Co., Ltd., Jiangnan Shipyard (Group) Co., Ltd., Shanghai Waigaoqiao Shipbuilding Co., Ltd., CSSC Shipbuilding Technology Research Institute, China Classification Society 中国船舶工业综合技术经济研究院、沪东中华造船（集团）有限公司、大连船舶重工集团有限公司、江南造船（集团）有限责任公司、上海外高桥造船有限公司、上海船舶工艺研究所、中国船级社	Li Qiang, Xia Yongfeng, Ma Yulong, Cai Qianya, Geng Haiping, Wang Yun, Li Tianyu, Liu Fang, Ren Kangxu, Jiang Botao, Wang Zhongqiang, Yang Yubo, Zhao Jianguo, Liu Wei, Dai Xiaohu 李强、夏勇峰、马玉龙、蔡乾亚、耿海平、王云、李天煜、刘芳、任康旭、姜波涛、王忠强、杨玉波、赵建国、刘伟、戴小虎

2	9 standards including IEC 62820-1-1: 2016, *Building intercom systems—Part 1-1: System requirements—General* IEC 62820-1-1: 2016《楼寓对讲系统 第1-1部分：系统要求 总则》等9项标准	The Third Research Institute of Ministry of Public Security, First Research Institute of the Ministry of Public Security, Xiamen Leelen Technology Co., Ltd., Fujian Aurine Technology Co., Ltd., Xiamen Dnake Intelligent Technology Co., Ltd., Zhongshan Aomin Electronics Co., Ltd., Guangzhou Anjubao Technology Co., Ltd., National Testing Supervision Center for Quality of Security & Safety Alarm System (Shanghai), National Testing Supervision Center for Quality of Security & Safety Alarm System (Beijing) 公安部第三研究所、公安部第一研究所、厦门立林科技有限公司、深圳市视得安罗格朗电子有限公司、福建省冠林科技有限公司、厦门狄耐克电子科技有限公司、中山市奥敏电子有限公司、广州市安居宝科技有限公司、国家安全防范报警系统产品质量监督检验中心（上海）、国家安全防范报警系统产品质量监督检验中心（北京）	Rong Ling, Chen Chaowu, Shi Juling, Tang Guangyao, Zhang Dayong, Chen Mi, Zhuang Wei, Qiu Jintao, He Chengming, Xie Guiqiu, Zhang Jiguo, Chen Ping, Jiang Hesong, Chen Xuli, Zhang Bo 戎玲、陈朝武、施巨岭、汤光耀、张达勇、陈谧、庄伟、仇锦滔、何成明、解桂秋、张济国、陈平、姜鹤松、陈旭黎、张波
3	3 standards including ISO 19740: 2018, *Optics and photonics—Optical materials and components—Test method for homogeneity of infrared optical materials* ISO 19740: 2018《光学和光子学 光学材料和零部件 红外光学材料均匀性测试方法》等3项标准	China Ordnance Industrial Standardization Research Institute, Hubei New HuaGuang Information Materials Co., Ltd., Kunming Institute of Physics, Xi'an Institute of Applied Optics 中国兵器工业标准化研究所、湖北新华光信息材料有限公司、昆明物理研究所、西安应用光学研究所	Mai Lvbo, Hu Xiangping, Yang Jing, Xu Guangyi, Wang Lei, Mu Rui, Wang Wuchang, Hu Zhong, Xue Jingwei, Zheng Yuan, Shi Jifang, Xu Hui, Liu Boyu, Du Ying, Tang Xueqiong 麦绿波、胡向平、杨静、徐光以、王雷、木锐、王武昌、胡忠、薛经纬、郑元、史继芳、徐惠、刘播雨、杜颖、唐雪琼
4	5 standards including GJB 8925-2017, *Evaluation method of long-range rocket launcher readiness* GJB 8925-2017《远程火箭炮完好性评定方法》等5项标准	Omitted 略	Omitted 略

5	6 standards including GB/T 18759.3-2009, *Electrical equipment of machines—Open numerical control system—Part 3: Fieldbus interface and communication protocol* GB/T 18759.3-2009《机械电气设备 开放式数控系统 第3部分：总线接口与通信协议》等6项标准	National Center for Quality Inspection and Testing of Machine Tools, Shenyang Institute of Computing Technology Co., Ltd., CAS, Shenyang Zhongke CNC Technology Co., Ltd., Beijing KND CNC Technique Co., Ltd., GSK CNC Equipment Co., Ltd., Kede Numerical Control Co., Ltd., Wuhan Huazhong Numerical Control Co., Ltd., Shandong University, Beihang University, Beijing Institute of Computer Technology and Application 国家机床质量监督检验中心、中国科学院沈阳计算技术研究所有限公司、沈阳中科数控技术股份有限公司、北京凯恩帝数控技术有限责任公司、广州数控设备有限公司、科德数控股份有限公司、武汉华中数控股份有限公司、山东大学、北京航空航天大学、北京计算机技术及应用研究所	Huang Zuguang, Yu Dong, Yin Zhenyu, Yang Hongli, Hu Yi, Xue Ruijuan, Chen Hu, Hu Tianliang, Yang Tangyong, Du Ruifang, Zhang Chengrui, Jiang Zheng, Liu Yanqiang, Ren Qingrong, Wang Dawei 黄祖广、于东、尹震宇、杨洪丽、胡毅、薛瑞娟、陈虎、胡天亮、杨堂勇、杜瑞芳、张承瑞、蒋峥、刘艳强、任清荣、王大伟
6	9 standards including ISO 18668-1: 2016, *Traditional Chinese medicine—Coding system for Chinese medicines —Part 1: Coding rules for Chinese medicines* ISO 18668-1: 2016《中医药 中药编码系统 第1部分：中药编码规则》等9项标准	Shenzhen Municipal Health Commission, Shenzhen Traditional Chinese Medicine Hospital, Shenzhen Institute of Standards and Technology, School of Chinese Medicine of Hong Kong Baptist University, Shenzhen Luohu District Traditional Chinese Medicine Hospital, Jiangxi University of Traditional Chinese Medicine, China National Traditional Chinese Medicine Co., Ltd., Shanghai Institute of traditional Chinese Medicine, Shenzhen People's Hospital, Guangdong Yifang Pharmaceutical Co., Ltd. 深圳市卫生健康委员会、深圳市中医院、深圳市标准技术研究院、香港浸会大学中医药学院、深圳市罗湖区中医院、江西中医药大学、中国中药有限公司、上海市中医药研究院、深圳市人民医院、广东一方制药有限公司	Liao Liping, Wu Peikai, Lv Aiping, Xu Meiqu, Li Jing, Zeng Qingming, Lan Qingshan, Li Zhiwen, Xu Ganlin, Yi Bingxue, Li Shunmin, Sun Yong, Li Haiyan, Yuan Wenpeng, Wei Mei 廖利平、吴培凯、吕爱平、徐美渠、李静、曾庆明、兰青山、黎志文、徐甘霖、易炳学、李顺民、孙勇、李海燕、原文鹏、魏梅
7	7 standards including GB/T 30582-2014, *Risk-Based-Inspection and assessment methodology of external damage for buried steel pipelines* GB/T 30582-2014《基于风险的埋地钢质管道外损伤检验与评价》等7项标准	China Special Equipment Inspection & Research Institute, China University of Petroleum (Beijing), Shenzhen Gas Group Co., Ltd., Beijing University of Technology, Institute of Safety and Environmental Protection and Technical Supervision of PetroChina Southwest Oil & Gasfield Company, PetroChina Pipeline Inspection Technology Co., Ltd., Changqing Branch of China National Petroleum Corporation, Sinopec Sales Co., Ltd. 中国特种设备检测研究院、中国石油大学（北京）、深圳市燃气集团有限公司、北京工业大学、中国石油西南油气田安全环保与技术监督研究院、中油管道检测技术有限责任公司、中国石油天然气集团公司	He Renyang, Wang Junqiang, Liu Sanjiang, Yang Yong, Li Yuzhong, Shuai Jian, Han Fei, Wang Xinhua, Gao Jian, Huang Hui, Li Pei, Li Shuhua, Men Jianxin, Sun Wei 何仁洋、王俊强、刘三江、杨永、李育忠、帅健、韩非、王新华、高健、黄辉、李佩、李曙华、门建新、孙伟

8	10 standards including Q/GDW 11547-2016, *Technical guide for designing unified power flow controller station* Q/GDW 11547–2016《统一潮流控制器工程设计导则》等10项标准	State Grid Jiangsu Electric Power Co., Ltd., NR Electric Co., Ltd., China Energy Engineering Group Jiangsu Power Design Institute Co., Ltd., China Electric Power Research Institute, Xi'an XD Transformer Co., Ltd., State Grid Economics and Technology Research Institute (Beijing), State Grid East China Branch, Nanjing Electric Engineering Design Co., Ltd. 国网江苏省电力公司、南京南瑞继保电气有限公司、中国能源建设集团江苏省电力设计院有限公司、中国电力科学研究院、西安西电变压器有限责任公司、国网北京经济技术研究院、国网华东分部、南京电力工程设计有限公司	Li Qun, Liu Jiankun, Li Peng, Lin Jinjiao, Kong Xiangping, Dong Yunlong, Xie Zhenjian, Pan Lei, Wang Fenshao, Yuan Yubo, Zhou Zhicheng, Li Yan, Zhu Dongsheng, Gao Lei, Wu Peng 李群、刘建坤、李鹏、林金娇、孔祥平、董云龙、谢珍建、潘磊、王粉芍、袁宇波、周志成、李妍、朱东升、高磊、吴鹏
9	8 standards including GB 21551.1-2008, *General requirement of antibacterial and cleaning function for household and similar electrical appliances* GB 21551.1–2008《家用和类似用途电器的抗菌、除菌、净化功能通则》等8项标准	China Household Electric Appliance Research Institute, Haier Group, China CDC National Institute of Environmental Health, Midea Group Co., Ltd., Ningbo Fotile Kitchenware Co., Ltd., Guangdong Canbo Appliance Co., Ltd., Beijing Yadu Environmental Protection Technology Co., Ltd., Shanghai Institute of Measurement and Testing Technology, KingClean Electric Co., Ltd. 中国家用电器研究院、海尔集团公司、中国疾病预防控制中心环境与健康相关产品安全所、美的集团股份有限公司、宁波方太厨具有限公司、广东康宝电器股份有限公司、北京亚都环保科技有限公司、上海市计量测试技术研究院、莱克电气股份有限公司	Ma Dejun, Yao Xiaoyuan, Li Yi, Lu Jianguo, Zhu Yongding, Zhu Yan, Gao Baohua, Zheng Chongkai, Zhang Xiao, Shi Yanling, Cai Xingming, Jiang Feng, Zhao Shuang, Shen Hao, Qiu Zhaoyun 马德军、姚孝元、李一、鲁建国、诸永定、朱焰、高保华、郑崇开、张晓、时妍玲、蔡星明、姜风、赵爽、沈浩、邱兆云
10	7 standards including GB/T 20001.5-2017, *Rules for drafting standards—Part 5: Specification standards* GB/T 20001.5–2017《标准编写规则 第5部分：规范标准》等7项标准	China National Institute of Standardization, China Academy of Machinery Science and Technology Group Co., Ltd., Instrumentation Technology and Economy Institute, China Household Electric Appliance Research Institute, Centre Testing International Group Co., Ltd., China Post Science and Technology Co., Ltd. 中国标准化研究院、机械科学研究总院集团有限公司、机械工业仪器仪表综合技术经济研究所、中国家用电器研究院、华测检测认证集团股份有限公司、邮政科学研究规划院	Bai Dianyi, Du Xiaoyan, Wang Yiyi, Yu Xinli, Pang Zhenghu, Liu Shenzhai, Ouyang Jinsong, Li Jia, Qiang Yi, Zhang Liang, Zhang Zhiyun, Ma Dejun, Lu Xilin, Xiao Yujing, Liu Zehua 白殿一、杜晓燕、王益谊、于欣丽、逄征虎、刘慎斋、欧阳劲松、李佳、强毅、张亮、张志云、马德军、陆锡林、肖玉敬、刘泽华

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 标准项目名称	Main departments involved 主要完成单位	Main contributors 主要完成人
1	2 standards including GB/T 28588-2012, *Specifications for the continuously operating reference station using global navigation satellite system* GB/T 28588–2012《全球导航卫星系统连续运行基准站网技术规范》等2项标准	National Geomatics Center of China, Jiangsu Province Surveying & Mapping Engineering Institute, National Research Center of Satellite Positioning System Engineering and Technology, Tianjin Institute of Surveying and Mapping Co., Ltd., Hunan Institute of Geomatics Sciences and Technology, Guangdong Institute of Land & Resource Surveying and Mapping 国家基础地理信息中心、江苏省测绘工程院、国家卫星定位系统工程技术研究中心、天津市测绘院、湖南省测绘科技研究所、广东省国土资源测绘院	Wu Junli, Chen Ming, Song Yubing, Liu Hui, Li Zhicai, Zhang Peng, Zhang Zhiquan, Yin Haohua, Sun Zhanyi, Liu Wenjian 武军郦、陈明、宋玉兵、刘晖、李志才、张鹏、张志全、尹昊华、孙占义、刘文建
2	GB/T 51232-2016, *Technical code for assembled steel structure building* GB/T 51232–2016《装配式钢结构建筑技术标准》	China Institute of Building Standard Design & Research, Zhejiang Southeast Space Frame Group Co., Ltd., Research Institute of Standards and Norms of Ministry of Housing and Urban-Rural Development of China, Baosteel Building System Integration Co., Ltd. (Shanghai Baosteel Architectural Engineering Design Co., Ltd.), Zhejiang University, Zhejiang Green Building Integration Technologies Co., Ltd., Tsinghua University 中国建筑标准设计研究院有限公司、浙江东南网架股份有限公司、住房和城乡建设部标准定额研究所、宝钢建筑系统集成有限公司（上海宝钢建筑工程设计有限工程）、浙江大学、浙江绿筑集成科技有限公司、清华大学	Yu Yinquan, Liu Dongwei, Wang Zhe, Zhou Guangen, Yao Tao, Zhou Xiangyin, Sun Xudong, Zhu Qian, Tong Genshu, Wang Qiong 郁银泉、刘东卫、王喆、周观根、姚涛、周祥茵、孙绪东、朱茜、童根树、王琼
3	SL 258-2017, *Guidelines on dam safety evaluation* SL 258–2017《水库大坝安全评价导则》	Nanjing Hydraulic Research Institute, Dam Safety Management Center of the Ministry of Water Resources, Hohai University 南京水利科学研究院、水利部大坝安全管理中心、河海大学	Sheng Jinbao, Peng Xuehui, Wang Zhaosheng, Xiang Yan, Zou Ying, Luo Shaoze, Gu Peiying, Wang Jian, Long Zhifei, Zhou Kefa 盛金保、彭雪辉、王昭升、向衍、邹鹰、骆少泽、顾培英、王健、龙智飞、周克发

4	4 standards including T/CNS 3-2018, *Scratching-repassivation test method in high temperature high pressure water for metallic materials used in nuclear power plants* T/CNS 3–2018《核电厂金属材料高温高压水中划伤再钝化试验方法》等4项标准	Institute of Metal Research of Chinese Academy of Sciences, Institute for Standardization of Nuclear Industry, Nuclear Power Institute of China, Shanghai Jiao Tong University, Institute of Science and Technology of State Power Investment Co., Ltd., Shanghai Nuclear Engineering Research & Design Institute Co., Ltd., China Institute of Atomic Energy 中国科学院金属研究所、核工业标准化研究所、中国核动力研究设计院、上海交通大学、国家电投集团科学技术研究院、上海核工程研究设计院有限公司、中国原子能科学研究院	Han Enhou, Zhang Zhiming, Tan Jibo, Wang Jianqiu, Wu Xinqiang, Wang Jiazhen, Li Xiaohui, Zhang Hongwei, Jiang E, Li Yifeng 韩恩厚、张志明、谭季波、王俭秋、吴欣强、王家贞、郦晓慧、张宏伟、姜峨、李毅丰
5	3 standards including GB/T 29490-2013, *Enterprise intellectual property management* GB/T 29490–2013《企业知识产权管理规范》等3项标准	National Intellectual Property Administration, China National Institute of Standardization, Chinese Academy of Sciences, Ministry of Education 国家知识产权局、中国标准化研究院、中国科学院、教育部	He Hua, Ma Weiye, Lei Xiaoyun, Yan Qing, Yue Gaofeng, Zhou Jing, Zhang Yan, Tang Heng, Liu Haibo, Wang Yan 贺化、马维野、雷筱云、严庆、岳高峰、周静、张艳、唐恒、刘海波、王燕
6	8 standards including GJB 8271.1-2015, *Assessment methods for land-launched cruise missile weapon system performance—Part 1: Range* GJB 8271.1–2015《陆基巡航导弹武器系统性能评定方法 第1部分：射程》等8项标准	Omitted 略	Omitted 略
7	GJB 8896-2017, *Earth's surface spatial grid and code* GJB 8896–2017《地球表面空间网格与编码》	Omitted 略	Omitted 略
8	IEC 62849: 2016, *Performance evaluation methods of mobile household robots* IEC 62849: 2016《家用移动机器人性能评估方法》	China Household Electric Appliance Research Institute, Ecovacs Robot Co., Ltd., Suzhou Suxiang Robot Intelligent Equipment Co., Ltd., Suzhou Aotemin Robot Technological Service Co., Ltd., Zhejiang University (Zhejiang Lab), Chongqing University of Posts and Telecommunications, Shenzhen Silver Star Intelligent Technology Co., Ltd. 中国家用电器研究院、科沃斯机器人股份有限公司、苏州苏相机器人智能装备有限公司、苏州傲特敏机器人技术服务有限公司、浙江大学（之江实验室）、重庆邮电大学、深圳市银星智能科技股份有限公司	Ma Dejun, Qu Weixin, Zhou Wei, Sun Lining, Zhu Shiqiang, Zhang Yi, Wu Meng, Tang Youhong, Zhang Guodong, Gao Xiang 马德军、瞿卫新、周唯、孙立宁、朱世强、张毅、吴蒙、唐又红、张国栋、高翔

9	19 standards including IEC 60404-13: 2018, *Photovoltaic devices— Part 13: Electroluminescence of photovoltaic modules* IEC 60404-13: 2018《磁性材料 第13部分: 电工钢片（带）的密度、电阻率和叠装系数的测量方法》等19项标准	Baoshan Iron & Steel Co., Ltd., China Metallurgical Information and Standardization Institute, Beijing Shougang Co., Ltd. 宝山钢铁股份有限公司、冶金工业信息标准研究院、北京首钢股份有限公司	Huang Wangya, Hu Shoutian, Zhou Xing, Chen Xiao, Guo Xiaolong, Shen Jie, Gong Jian, Zhang Weixu, Hou Jie, Hu Ling 黄望芽、胡守天、周星、陈晓、郭小龙、沈杰、龚坚、张维旭、侯捷、胡聆
10	13 standards including GB/T 32353-2015, *Interface specifications of real-time dynamic monitoring system for power systems* GB/T 32353-2015《电力系统实时动态监测系统数据接口规范》等13项标准	NARI Technology Co., Ltd., North China Power Engineering Co., Ltd. of China Power Engineering Consulting Group, China Electric Power Research Institute, Power Dispatching and Control Center of State Grid Corporation of China, Beijing Sifang Automation Co., Ltd., North China Electric Power University, National Time Service Center of Chinese Academy of Sciences 国电南瑞科技股份有限公司、中国电力工程顾问集团华北电力设计院有限公司、中国电力科学研究院、国家电网有限公司国家电力调度控制中心、北京四方继保自动化股份有限公司、华北电力大学、中国科学院国家授时中心	Yu Yuehai, Zhang Daonong, Bi Tianshu, Xu Yong, Li Qiang, Lu Jinjun, Huang Xin, Wang Yongfu, Shi Bonian, Wang Liang 于跃海、张道农、毕天姝、许勇、李强、陆进军、黄鑫、王永福、时伯年、王亮
11	2 standards including ISO 19699-1: 2017, *Superabsorbent polymer —Sodium polyacrylate resin for absorbing blood —Part 1: Test methods* ISO 19699-1: 2017《吸收血液用聚丙烯酸钠高吸收性树脂 第1部分: 测试方法》等2项标准	Shandong Haoyue New Materials Co., Ltd., Beijing Technology and Business University, China National Institute of Standardization, East China University of Science and Technology 山东昊月新材料股份有限公司、北京工商大学、中国标准化研究院、华东理工大学	Yang Zhiliang, Sun Hui, Fu Qiang, Yang Yang, Yao Meiqin, Zhou Xiaodong, Ma Xiaoou, Zhu Xianghua, Huang Zhigang, Han Dandan 杨志亮、孙辉、付强、杨阳、姚美芹、周晓东、马晓鸥、朱翔华、黄志刚、韩丹丹
12	GB 27421-2015, *Mobile laboratories—General requirements for biosafety* GB 27421-2015《移动式实验室 生物安全要求》	China National Accreditation Service for Conformity Assessment, Academy of Military Medical Sciences, Tianjin National Bio-Protection Engineering Center, Chinese Center for Disease Control and Prevention, Harbin Veterinary Research Institute of CAAS, China Animal Disease Control Center, Shanghai Institute of Materia Medica of 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、天津国家生物防护装备工程技术研究中心、中国疾病预防控制中心、中国农业科学院哈尔滨兽医研究所、中国动物疫病预防控制中心、中科院上海药物研究所	Lv Jing, Qi Jiancheng, Zhao Siqing, Lu Jinxing, Wu Donglai, Wang Rong, Qian Jun, Lu Bing, Zhou Yongyun, Li Wenjing 吕京、祁建城、赵四清、卢金星、吴东来、王荣、钱军、陆兵、周永运、李文京

13	6 standards including GB/T 34139-2017, *Technical specification of converters for high-voltage direct current (HVDC) transmission using voltage sourced converters (VSC)* GB/T 34139-2017《柔性直流输电换流器技术规范》等6项标准	China Southern Power Grid Institute of Sciences Co., Ltd., China Southern Power Grid, Xi'an High Voltage Apparatus Research Institute Co., Ltd., Tsinghua University, XJ Electric Co., Ltd., Xi'an Power System Co., Ltd., Beijing Sifang Automation Co., Ltd. 南方电网科学研究院有限责任公司、中国南方电网有限责任公司、西安高压电器研究院有限责任公司、清华大学、许继电气股份有限公司、西安西电电力系统有限公司、北京四方继保自动化股份有限公司	Rao Hong, Li Xiaolin, Li Yan, Xu Shukai, Zhu Zhe, Huang Ying, Hu Zhilong, Li Weiwei, Yuan Zhichang, Hao Junfang 饶宏、黎小林、李岩、许树楷、朱喆、黄莹、胡治龙、李巍巍、袁志昌、郝俊芳
14	9 standards including GB/T 33190-2016, *Electronic files storage and exchange formats—Fixed layout documents* GB/T 33190-2016《电子文件存储与交换格式版式文档》等9项标准	China Electronics Standardization Institute, Information Center of the General Office of the CPC Central Committee, Fujian Foxit Software Development Co., Ltd., Beijing Suwell Technologies Co., Ltd., Founder Apabi Technology Co., Ltd., Beijing Sursen Electronic Technology Co., Ltd., Beijing Electronic Science and Technology Institute 中国电子技术标准化研究院、中办信息中心、福建福昕软件开发股份有限公司、北京数科网维技术有限责任公司、北京方正阿帕比技术有限公司、北京书生电子技术有限公司、北京电子科技学院	Gao Lin, Li Haibo, Chen Yajun, Miao Zongli, Gao Peng, Fang Chunyan, Zhang Jing, Zhou Ping, Dong Jian, Wang Lei 高林、李海波、陈亚军、苗宗利、高鹏、方春燕、张静、周平、董建、王雷
15	8 standards including GB/T 26533-2011, *General rules for Auger electron spectroscopic analysis* GB/T 26533-2011《俄歇电子能谱分析方法通则》等8项标准	Tsinghua University, Xiamen University, Institute of Chemistry of Chinese Academy of Sciences, National Institute of Metrology, Zhongshan University 清华大学、厦门大学、中国科学院化学研究所、中国计量科学研究院、中山大学	Yao Wenqing, Li Zhanping, Wang Hai, Wu Zhenglong, Chen Jian, Cen Danxia, Zhao Zhijuan, Shi Haiyan, Xie Fangyan, Liu Fen 姚文清、李展平、王海、吴正龙、陈建、岑丹霞、赵志娟、时海燕、谢方艳、刘芬
16	2 standards including GB/T 34890-2017, *Geometrical product specification (GPS)—Acceptance and reverification tests for digital photogrammetry 3D coordinate measuring system* GB/T 34890-2017《产品几何技术规范（GPS）数字摄影三坐标测量系统的验收检测和复检检测》等2项标准	National Geometric Quantity Measurement Station of Major Technical Equipment, China Productivity Center for Machinery, Erzhong (Deyang) Heavy Equipment Co., Ltd., Zhengzhou Chenway Technologies Co., Ltd., Zhengzhou University 国家重大技术装备几何量计量站、中机生产力促进中心、二重（德阳）重型装备有限公司、郑州辰维科技股份有限公司、郑州大学	Duan Ling, Li Yanan, Ming Cuixin, Shi Sucun, Huang Guiping, Zhang Linna, Shi Xiaobing, Wang Weifeng, Deng Shuiping, Yu Su 段玲、李亚男、明翠新、史苏存、黄桂平、张琳娜、石小兵、王伟峰、邓水平、余苏

17	GB/T 34019-2017, *Ultra-high pressure vessels* GB/T 34019–2017《超高压容器》	China Special Equipment Inspection & Research Institute, Zhejiang University, Inner Mongolia North Heavy Industries Group Co., Ltd., Henan Zhongyuan Special Equipment Manufacturing Co., Ltd., Zhejiang Academy of Special Equipment Science, Special Equipment Safety Supervision Inspection Institute of Jiangsu Province, Sinopec Engineering Incorporation 中国特种设备检测研究院、浙江大学、内蒙古北方重工业集团有限公司、河南中原特钢装备制造有限公司、浙江省特种设备科学研究院、江苏省特种设备安全监督检验研究院、中国石化工程建设有限公司	Shou Binan, Zheng Jinyang, Chen Zhiwei, Yang Guoyi, Xu Ruibing, Guo Weican, Fan Zhixia, Li Longjun, Li Tao, Ma Xin 寿比南、郑津洋、陈志伟、杨国义、许锐冰、郭伟灿、范志霞、李隆骏、李涛、马歆
18	6 standards including GB/T 28618-2012, *Remanufacturing—General technical requirements for mechanical products* GB/T 28618–2012《机械产品再制造通用技术要求》等6项标准	China Productivity Center for Machinery, Army Armored Force College of PLA, Hefei University of Technology, Shanghai Customs District P.R. China 中机生产力促进中心、中国人民解放军陆军装甲兵学院、合肥工业大学、中华人民共和国上海海关	Zhou Xinyuan, Qiu Cheng, Yu Helong, Liu Bohai, Xi Daoyun, Yao Jukun, Sun Tingting, Zheng Handong, Wu Yiwen, Shi Peijing 周新远、邱城、于鹤龙、刘渤海、奚道云、姚巨坤、孙婷婷、郑汉东、吴益文、史佩京
19	2 standards including ISO 20729: 2017, *Natural gas—Determination of sulfur compounds—Determination of total sulfur content by ultraviolet fluorescence method* ISO 20729: 2017《天然气 硫化合物测定 用紫外荧光光度法测定总硫含量》等2项标准	Petro China Southwest Oil & Gasfield Company Gas Research Institute, Petro China Southwest Oil & Gasfield Company, China National Petroleum Corporation, China Petroleum and Chemical Corporation, China National Offshore Oil Corporation, National Institute of Measurement and Testing, National Institute of Metrology 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、中国石油天然气股份有限公司西南油气田分公司、中国石油天然气集团有限公司、中国石油化工股份有限公司、中国海洋石油集团有限公司、中国测试技术研究、中国计量科学研究院	Zhou Li, Luo Qin, Chang Honggang, Yue Hong, Chen Xiaohong, Li Guangyue, Xia Fang, Li Xiaohong, Shen Lin, Ding Sijia 周理、罗勤、常宏岗、乐宏、陈效红、李广月、夏芳、李晓红、沈琳、丁思家
20	GB 25502-2017, *Minimum allowable values of water efficiency and water efficiency grades for water closets* GB 25502–2017《坐便器水效限定值及水效等级》	China National Institute of Standardization, Anhui Institute of Product Quality Inspection and Testing, China Building Material Test & Certification Group (Shaanxi) Co., Ltd., JOMOO Kitchen & Bath Co., Ltd., Huida Sanitary Ware Co., Ltd., Xiamen Luda Industrial Co., Ltd., Foshan Shunde Lehua Ceramic Sanitary Ware Co., Ltd. 中国标准化研究院、安徽省产品质量监督检验研究院、中国建材检验认证集团（陕西）有限公司、九牧厨卫股份有限公司、惠达卫浴股份有限公司、路达（厦门）工业有限公司、佛山市顺德区乐华陶瓷洁具有限公司	Zhu Chunyan, Bai Xue, Zhu Shuangsi, Wang Yujie, Shang Bei, Lin Xiaofa, Wang Yanqing, Xu Chuankai, Yan Bangping, Cheng Xiaomin 朱春雁、白雪、朱双四、王玉洁、商蓓、林孝发、王彦庆、许传凯、严邦平、程晓敏

The Third Prize of Standard Project Award will be provided in the next issue.

ORGANIZATION AWARD 组织奖

Academy of Forensic Science
司法鉴定科学研究院

Shanghai Electrical Apparatus Research Institute (Group) Co., Ltd.
上海电器科学研究所（集团）有限公司

Zhejiang Institute of Standardization
浙江省标准化研究院

Natural Gas Research Institute of PetroChina Southwest Oilfield Branch
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

INDIVIDUAL AWARD 个人奖

Liu Xuetao from Beijing Institute of Standardization
刘雪涛 北京市标准化研究院

Zhang Hongqi from No. 38 Research Institute of China Electronics Technology Group Corporation
张红旗 中国电子科技集团公司第三十八研究所

Gao Xuelong from Qingdao Administration for Market Regulation
高学龙 青岛市市场监督管理局

Wu Ruifeng from Unit 91054 of the Chinese People's Liberation Army
吴睿锋 中国人民解放军91054部队

Ren Cuiying from China Metallurgical Information and Standardization Institute
任翠英 冶金工业信息标准研究院

Zhang Liang from Machinery Industry Beijing Eletrotechnical Institute of Economic Research
张亮 机械工业北京电工技术经济研究所

Bai Xue from China National Institute of Standardization
白雪 中国标准化研究院

Cultivating quality culture of excellence to improve employee engagement

培养优秀质量文化 让员工用心做事

By Wang Haidong, Gao Yong, Wang Lizhi and Liu Jie
王海东 高勇 王立志 刘杰

Since the 18th National Congress of the Communist Party of China, the Party Central Committee has made a series of decisions and deployments to improve quality and boost dividends of development, carry out quality improvement initiatives, promote supply quality, and build China's strength in quality. Therefore, China is experiencing rapid economic and social development and is entering into the stage of high-quality development. And the quality of products, service and construction, and people's life has all been greatly improved. Quality has become a hotspot in the management of different types of organizations.

In recent years, a lot of excellent enterprises and organizations in China focus more on cultivating a quality culture of excellence while improving organizational management, hoping to improve management efficiency and quality competitiveness.

Quality culture, an emerging concept in recent years, has raised widespread concern among some enterprises and organizations, but little is known about its systematic literature review both at home and abroad. Therefore, a comprehensive understanding of the quality culture is necessary to improve quality management and quality competitiveness of organizations.

Quality culture and industrial civilization

Quality culture, a typical representative of modern human culture, originated from industrial civilization. The industrial revolution that began in the 1760s in the Great Britain marked the beginning of human society from the traditional agricultural society to the modern industrial one. For more than two centuries, manual labor has been replaced by a large number of newly-invented machines and equipment and the cottage industry system replaced by the factory system, thereby achieving large-scale production of industrial products. The industrial revolution brought about the birth of factory and a new working class.

During the industrialization around the world, when improving production technology, factory owners have also continuously put forward high requirements of quality for workers. They guided and urged workers to abide by rules and have diligent and meticulous work attitudes to improve production efficiency, product quality and competitiveness by various means, such as publicity and guidance, training, rules and regulations, and disciplinary system (see Figure 1). In the course of implementing these quality practices, some quality-related cultural phenomena, namely quality culture, have been developed among workers in organizations.

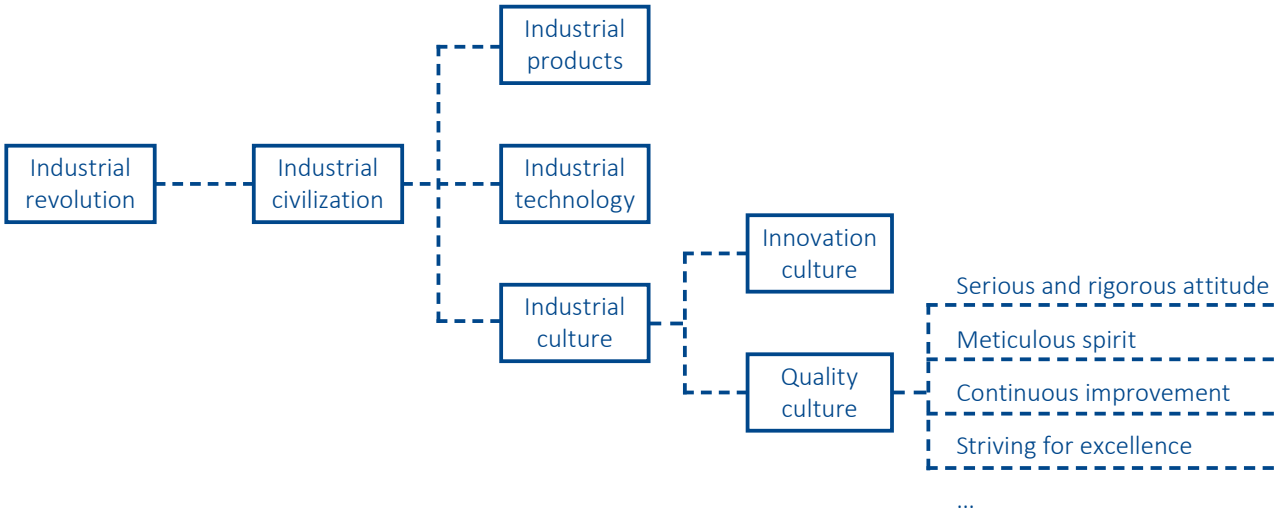


Figure 1: Quality culture and industrial civilization

Then, what is quality culture? There is no uniform definition. According to the process of developing quality culture, and commonly recognized descriptions of quality and culture, quality culture is defined as: the thinking, beliefs, awareness and habits related with quality and relevant norms, regulations and behaviors that are created in the process of meeting customers' needs and expectations for achieving organizational value shared and recognized by the organization and its staff.

Quality culture of excellence, summarized from social development practices, is a general term of quality cultures, which is widely recognized. It can help organizations achieve their values by meeting customers' needs and expectations. It includes a series of thinking, beliefs, awareness, habits and behaviors, such as serious and rigorous attitude, meticulous spirit, continuous improvement, striving for excellence, etc.. The connotation of quality culture derives from quality values, that is, how an organization and its staff understand quality. For example, what role does quality play in the organizational development, and how to continuously improve quality?

Quality value is the core of quality culture and is manifested by it. There are many manifestations of quality values, such as quality beliefs, quality spirit, quality behavioral norms and regulations that many organizations usually advocate. During the development, organizations consciously and systematically summarize and refine the quality beliefs and spirit from practices, develop quality behavioral norms in a systematic and standardized way, and continuously measure, evaluate and improve them, which can be called quality culture cultivation.

Relationship between quality culture and organizational culture

Quality culture is a part of organizational culture and an indispensable foundation of modern management, especially quality management.

The quality culture of excellence can help an organization carry out total quality management (TQM) better and easier. Quality should be an important element of organizational culture (see Figure 2). Organizational culture plays a decisive role in developing quality culture. The mission, vision and values of an organization can identify the positioning and role of quality in an organization, ensuring the direction of an organization's quality culture. Therefore, cultivating the quality culture is also a process of improving quality and realizing the values, mission and vision of an organization. It can encourage the organization to improve quality.

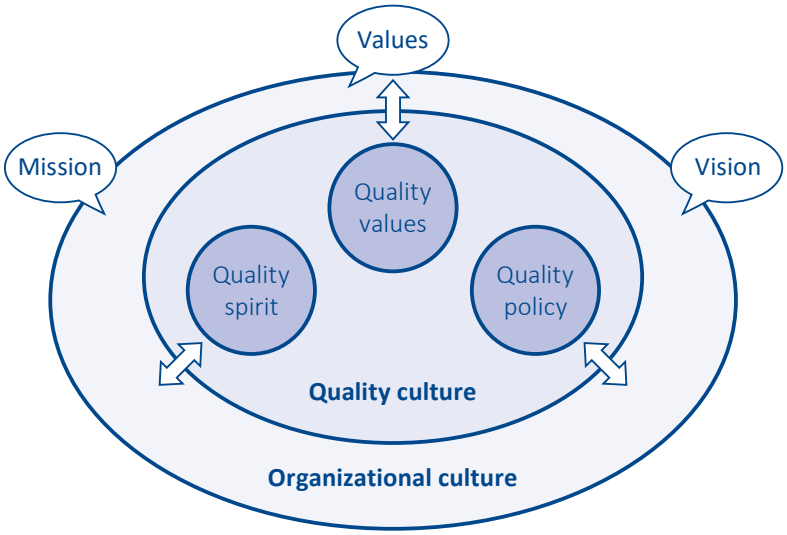


Figure 2: Relationship between quality culture and organizational culture

Quality culture and quality management are closely linked (see Figure 3). On the one hand, quality culture is the cultural basis of quality management. It has an important impact on the establishment, operation and maintenance of quality management systems, the effective implementation of related rules, and the application and innovation of tools. It will be easier for an organization with a quality culture of excellence to improve quality management and more effectively implement quality management system. Cultivating a quality culture of excellence can become an endogenous driving force for organizations to achieve TQM.

On the other hand, quality management is an external manifestation of quality culture; quality culture is embedded in the process of quality management and its results. Quality management systems, rules, tools and methods, beliefs, and behaviors are all specific manifestations of quality culture.

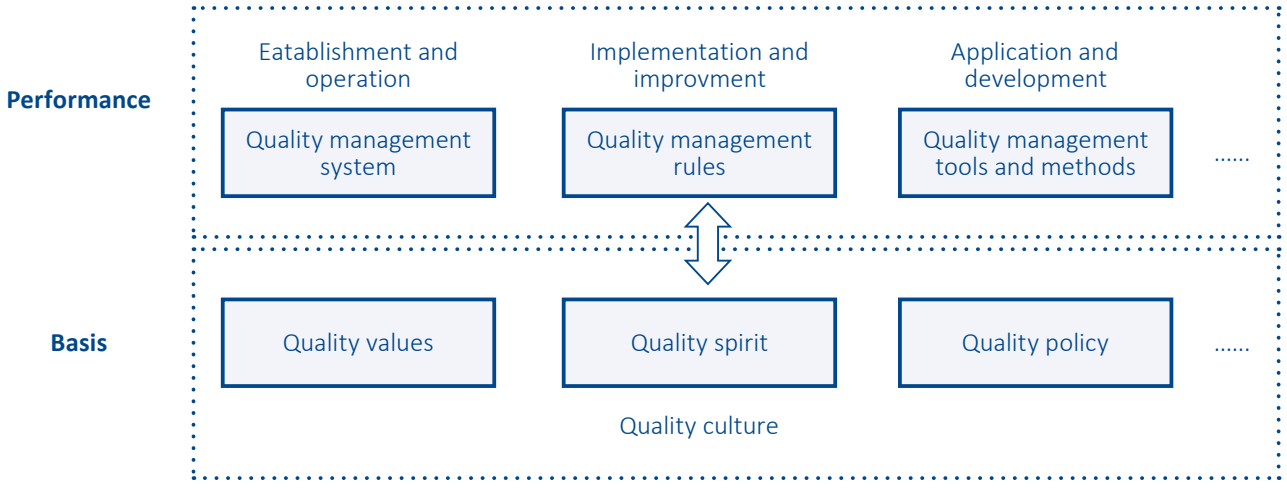


Figure 3: Relationship between quality culture and quality management

Layers of quality culture

Quality culture in organizations is manifested in different layers: spiritual, behavioral, institutional, and material (see Figure 4). In general, the spiritual layer is more difficult to be created and changed than the latter three. They also have an influence on each other. If the quality value is not recognized by employees in the spiritual layer, it is impossible for organizations to actively implement this value through behaviors.

Principles for cultivating excellent quality culture

Management in any organizations is essentially an issue of cultures, and quality management is no exception. Quality culture plays a vital role in establishing and implementing quality management systems, focusing on quality, striving for excellence, promoting the effective application of quality management methods, improving employees' engagement and competences, and promoting employees' career development.

Although the quality culture of each industry and every organization has its own individual characteristic, the approach to cultivating quality culture has a lot in common. So do the rule, principle and process of quality culture itself. Summarizing and refining these common rules, principles and processes can help organizations create quality culture in an effective way. Organization could follow the following basic principles to create a quality culture of excellence (see Figure 5).

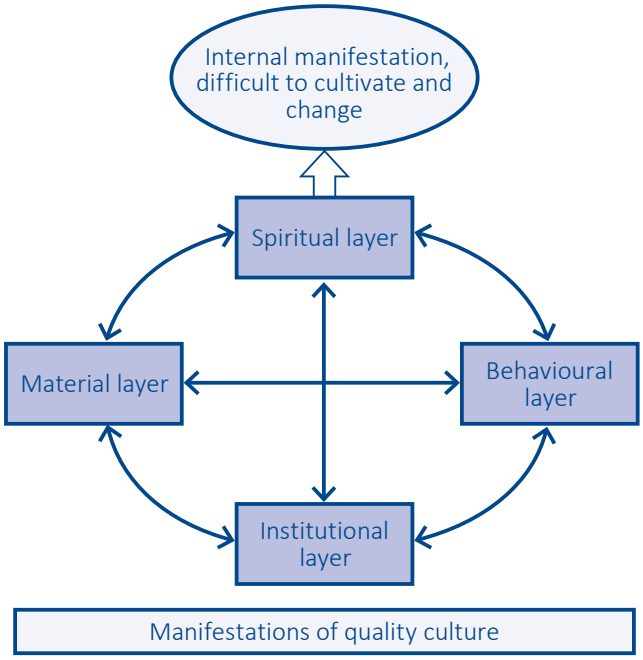


Figure 4: Layers of quality culture

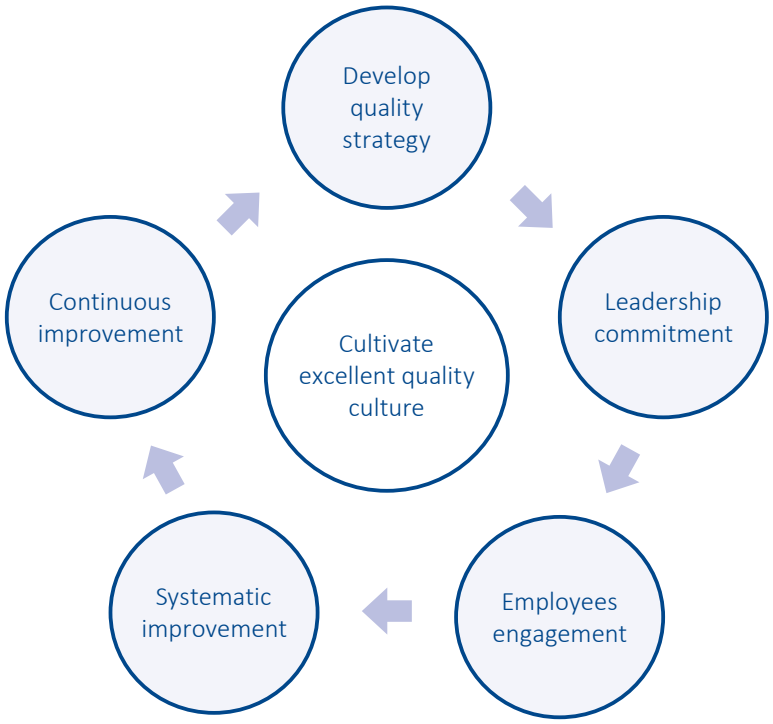


Figure 5: Principles for cultivating excellent quality culture

• Develop quality strategy. Developing a quality strategy is a prerequisite for an organization to cultivate a quality culture. Only when quality is considered as a generally accepted, key element of core competitiveness in the strategy, can the organization create a quality culture of excellence and provide cultural support for an organization to implement quality strategies.

• Leadership commitment. Leaders should firmly support and actively participate in the cultivation of quality culture. They should determine the objectives of quality culture and the organization's quality values and quality spirit according to its development goals and strategic planning, and provide necessary resources and guarantee for the quality culture cultivation.

• Employees engagement. All employees should be engaged in creating quality culture. They must recognize its importance and align with the organizational quality culture in their mindset. Therefore, it is necessary to motivate and encourage all employees to participate in the process.

• Systematic improvement. Creating a quality culture involves employees at all levels and is related with all aspects of the organization's operations and all rules and regulations of the organization. Therefore, strategic thinking and systematic methods should be applied to promote the cultivation of quality culture in a systematic way.

• Continuous improvement. Organizations should adopt PDCA method to identify existing problems in the process, to improve the effectiveness of cultivation timely. The cultivation of quality culture is a process that needs continuously measuring and improving.

Conclusion

An organization's understanding of quality culture is not only a process of promoting quality culture, but also a process of reaching consensus among all employees. After recognizing the importance of quality culture, all employees are willing to compare their own behaviors, and increase awareness of the organization's quality values, continuously improving their behaviors and abiding with the quality strategy. With a quality culture of excellence, employees will commit themselves to work and actively pursue high-quality work processes and results.

References

1. Juran, J.M. (2003), *Quality Control Handbook (5th revised edition), Renmin University of China.*

2. Peter F. Drucker. (2006), *The Practice of Management, China Machine Press.*

About the author:

Wang Haidong is Deputy Director-General of the Bureau of Quality Development, State Administration for Market Regulation (SAMR), Chairman of the National Technical Committee for Quality Management and Quality Assurance Standardization (SAC/TC 151) and project leader of ISO/TC 176/SC 3/WG 25, *Guidance to understand and improve quality culture.* He has been engaged in quality management research and policy making for over 20 years.

Preventing the spread of infection

A new ISO committee for biocidal surfaces has been formed to ensure we are fit for the battle against germs.

Biocidal surfaces are a valuable tool for infection prevention and control because they destroy or inactivate unwanted pathogens, thus contributing to a cleaner environment. However, the performance of such surfaces can vary, giving rise to the need for effective guidelines and test methods to ensure they are up to scratch.

The newly created ISO expert committee ISO/TC 330, *Surfaces with biocidal and antimicrobial properties*, aims to resolve such inconsistencies by developing internationally agreed requirements and guidance. Its purpose is to develop standards for test methods to assess the biocidal performance and efficacy of any surfaces with antimicrobial activities, and their compatibility with different disinfectants and cleaning agents.

(Source: ISO)

ETSI launches DECT-2020 new radio interface for IOT

The European Telecoms Standards Institute (ETSI) has announced the launch of an updated DECT (Digital enhanced cordless telecommunications) standard to support a wide range of wireless IoT applications. Developed by ETSI in the 1990s, the DECT standard is implemented in more than a billion short-range communication devices around the world. The new set of DECT-2020 New Radio (NR) standards are designed to provide a slim but powerful technology foundation for wireless applications deployed in various use cases and markets, said ETSI.

DECT-2020 NR supports mesh communication, with low latency communication links, enabling massive machine-type communications (mMTC) for industry automation without a need for infrastructure investments. It also supports ultra-reliable low-latency communications (URLLC) for professional wireless audio applications with point-to-point or multicast communications.

(Source: ETSI)

ITU updates global radio regulations

The International Telecommunication Union (ITU) published the 2020 ITU Radio Regulations — the international treaty governing the global use of radio-frequency spectrum and satellite orbits — which enables innovative ways to promote access to affordable broadband technologies.

The ITU Radio Regulations facilitate equitable access to and rational use of the natural resources of the radio-frequency spectrum and geostationary satellite orbits. They also ensure the availability of the frequencies provided for distress and safety purposes and assist in the prevention and resolution of cases of harmful interference between the radio services of different administrations. Further, the regulations facilitate the efficient and effective operation of all radiocommunication services and, where necessary, regulate new applications of radiocommunication technology.

The 2020 ITU Radio Regulations will come into force for all signatory parties on January 1, 2021.

(Source: ITU)

The Standards Council of Canada marks 50th Anniversary

October 7, 2020 marks the Standards Council of Canada's (SCC) 50th Anniversary as Canada's respected voice and advisor for standards and accreditation nationally and internationally. To recognize this milestone, SCC is launching a 50th Anniversary program and a modernized brand that will lead SCC into its next 50 years.

Over the next year, SCC website will feature various themes to highlight the current and emerging role of standards and conformity assessment, each of which will feature the work of Canadians and how it impacts Canada. The new logo features interlocked shapes that represent collaboration and harmonization, themes that are at the core of SCC's work.

Since the signing of the Standards Council of Canada Act on October 7, 1970, SCC has been promoting the development of effective and efficient standards that protect the health, safety and well-being of Canadians while helping businesses prosper.

(Source: SCC)

The 15th International Congress of IRPA

On-site: January 18-22, 2021, Seoul, Korea
Online: January 18-February 5, 2021

The 15th International Congress of International Radiation Protection Association (IRPA) will be held both online and offline. All sessions will be available to click and play from January 18, 2021 until February 5, 2021.

Under the theme of "Bridging Radiation Protection Culture and Science -- Widening Public Empathy", IRPA15 will provide invaluable opportunities to discuss and strengthen the correlation between Radiation Protection culture and science, and share developing scientific knowledge and related experiences in radiation protection not only among experts but also with the public.

Participants will have the opportunity to hear from the key international players, including ICRP, IAEA, WHO, NEA and many others, on their current programmes and priorities.

For more information on the event website: **https://www.irpa2020.org**

ITU GSS 20

February 22, 2021, Hyderabad, India

The fourth Global Standards Symposium will bring together thought leaders in the standardization sphere.

The GSS is a one-day event where ministers, regulators, heads of other international, regional and major national standards bodies, and industry from the different regions of the world will discuss global ICT standards challenges, with a focus on the intersection of the ICT sector with other vertical sectors such as health care, utilities, and transport.

A steering committee will be convened to help draft the report of the GSS conclusions to WTSA-20, to be held on February 23 to March 5, 2021, Hyderabad, India.

For more information on the event website: **https://www.itu.int/en/ITU-T/wtsa20/gss/Pages/default.aspx#**

The 5th Hydrogen & Fuel Cells Energy Summit

March 17-18, 2021, Porto, Portugal

This two day event hosted by Active Communications International (ACI) will bring together key industry stakeholders from all facets of the hydrogen industry to discuss the required economical and infrastructural innovations for a sustainable future energy carrier.

The key discussions will involve monetisation, latest technology implementations, material optimisation, production and transportation with case studies presented from across Europe. With incredible advances recently in hydrogen it is the best time to explore this booming industry.

Additionally, this event will include a Site Visit to CaetanoBus' Ovar Workshop.

For more information on the event website:

https://www.wplgroup.com/aci/event/hydrogen-fuel-cells-energy-summit

NextGen SCADA Global 2021

March 24-25, 2021, Virtual Conference

At this year's NextGen SCADA Global 2021 you will hear from leading smart utilities from across the globe, on how they are driving more seamless integration of their new SCADA systems using standards such as CIM as well as proprietary methods to achieve system integration with a wider range of OT and IT systems.

You will gain insights into the advanced functionalities being leveraged to fine-tune priorities such as fault location and restoration. And you will get to grips with how modern SCADA systems are supporting a more complex, dynamic, and distributed grid.

This programme consists of 24 x case-studies, 8 x technology innovation presentations, 8 x live Q&A panel sessions, a 90-minute roundtable discussion session, and more. There is no better place to gather the latest SCADA/EMS/DMS implementation, integration, and optimisation information.

For more information on the event website:

https://www.smartgrid-forums.com/forums/nextgen-scada-global/?utm_source=IEC%20listing&utm_medium=web&utm_campaign=SCADA20IECW

China Standardization Development Report

中国标准化发展年度报告（2019）

Preface

Standards, as a universal language, play an increasingly important role in facilitating trade, boosting industrial development, advancing scientific and technological progress and improving social governance, with the deepening economic globalization. Standards promote coordinated development and interconnectivity of the world, boosting innovation and leading progress.

The year of 2019 is the starting year of the third stage of deepening standardization reform, which is critical to the establishment of a standards system supporting high-quality development. Chinese President Xi Jinping sent a congratulatory letter to the 83rd IEC General Meeting held successfully in China, receiving many praises. In 2019, China has published 2,021 national standards and set up 41 national standardization technical organizations in the fields such as blockchain technology. Totally, 4,880 sector standards, 7,238 local standards and 6,227 association standards have been developed and registered. And 55,962 enterprises have disclosed more than 370,000 enterprise standards through self-declaration system. China has assumed 7 new secretariats and leadership positions at international standards organizations such as IEC/TC 127 on low-voltage auxiliary power systems for electric power plants and substations, and additionally signed 11 bilateral or multilateral standardization cooperation agreements. Standardization work in 2019 was booming with new breakthroughs and achievements in theoretical, practical and institutional innovation, getting a firm foothold for high-quality economic and social development.

Here, the report on China's standardization work in 2019 is released to summarize the work last year, share experience and wisdom, and make people both at home and abroad know more about the nation's standardization work.

Leadership remarks

1. Congratulatory letter from Chinese President Xi Jinping to the 83rd IEC General Meeting

We share a common goal of seeking green, low-carbon and circular development. As artificial intelligence, big data, 5G and other new technologies become deeply integrated with such sectors as new energy generation and electric vehicles, there emerge urgent needs for the development and application of related international standards and for closer international cooperation in the standards community.

China highly values standardization work and actively promotes and adopts international standards, driving high-tech innovation, facilitating high-level openness and leading high-quality development through advanced standards. China will continue to support and participate

in international standardization activities, and collaborate with other countries to improve the international standards system and governance structure, to give full play to the role of international standards in global trade and governance.

–Except from the congratulatory letter from Chinese President Xi Jinping to the 83rd IEC General Meeting on October 21, 2019

2. Remarks of State leaders on standardization work

We need to strengthen cooperation on technical standards in the energy area and promote mutual recognition and alignment of energy standards in the two nations.

–Chinese President Xi Jinping delivered a speech at the China-Russian Energy Business Forum held in St. Petersburg, Russia on June 7, 2019

We need to stay open and inclusive, pursue open, green and clean cooperation, and keep aligned with generally accepted international rules and standards. We need to pursue high standards, improve people's lives and promote sustainable development, advancing Belt and Road cooperation.

–Chinese President Xi Jinping addressed the closing ceremony of China-France Economic Forum on November 6, 2019

We shall improve standardization of household management services, implement inclusive and prudential regulation, and accelerate the construction of pre-employment health checkup, third-party certification and other systems, to promote the healthy, sustainable development of the industry.

–Chinese Premier Li Keqiang made arrangements for further advancing the development of elderly care and household management services industry and announced to extend preferential tax policies for community in-home services including elderly care, childcare or household management services at a State Council Executive Meeting on May 29, 2019

Data overview

In 2019, we further improved the standards system and continued cutting down government-driven standards. More than 300 mandatory standards were streamlined, voluntary standards further optimized and 2,665 sector standards and 5,411 local standards abolished. The market was bursting with increasing vitality to develop standards, with a 63.5% and 9.8% increase year-on-year respectively in the number of association standards published and the number of standards enterprises disclosed through self-declaration system. Government-driven and market-driven standards complement each other, increasing the diversity of standards supply.

1. National standards

Among the 2,021 national standards published in 2019, 106 are mandatory and 1,915 are voluntary; 1,448 are newly developed, and 573 are revisions. The overall number is 636 less than that in 2018. At the meantime, 143 national reference materials are developed and 68 are replicated, totaling 211, 120 more compared to 2018.

By the end of 2019, China has published 38,347 national standards, including 2,131 mandatory standards and 36,216 voluntary ones. It also has 1,785 national reference materials.

2. Sector standards

A total of 4,880 sector standards were registered in 2019, 619 more than in 2018. By the end of 2019, 70 kinds of sector standards have been approved, with 65,998 standards registered.

3. Local standards

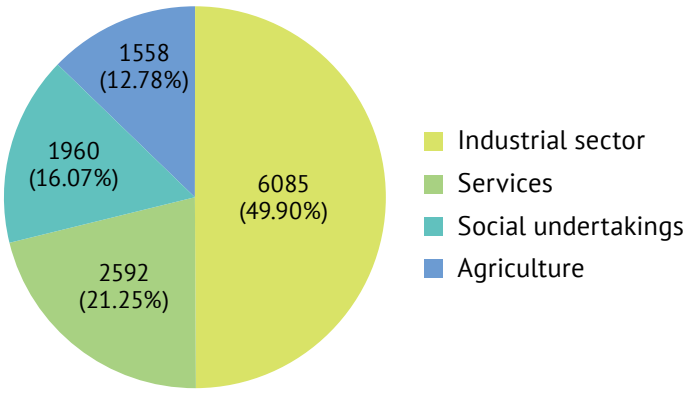
A total of 7,238 local standards were registered in 2019, 3,529 more than in 2018. By the end of 2019, altogether 42,881 local standards have been registered.

4. Association standards

In 2019, 963 associations disclosed 6,227 association standards at the National Information Platform for Association Standards. Compared to 2018, 41 more associations were registered at the Platform, and 2,418 association standards were disclosed.

By the end of 2019, altogether 3,042 associations have disclosed 12,195 association standards at the Platform.

Distribution of association standards by sectors



5. Enterprise standards

In 2019, 55,962 enterprises have registered at the National Information Platform for Enterprise Standards and disclosed 373,131 enterprise standards through self-declaration system, involving 651,795 kinds of products. Compared to 2018, the number of registered enterprises decreases by 5,228, while 33,283 more standards have been disclosed, involving additionally 34,436 kinds of products.

By the end of 2019, altogether 268,894 enterprises have registered at the Platform and 244,217

enterprises have disclosed 1,269,641 enterprise standards through self-declaration system, involving 2,175,732 kinds of products.

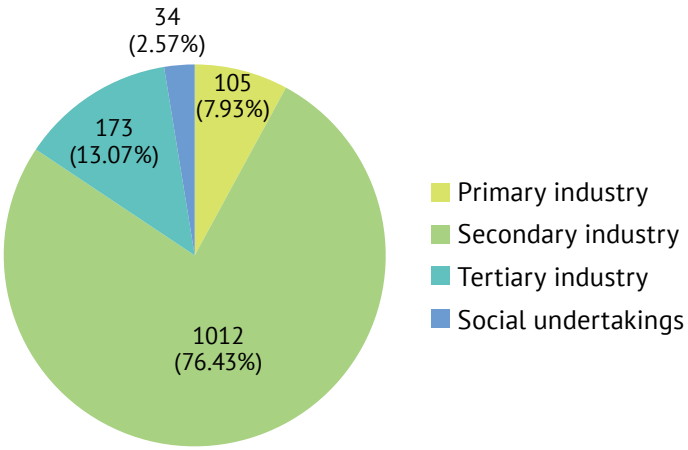
6. Technical organizations

China set up 8 national standardization technical committees, 22 subcommittees and one working group in 2019.

By the end of 2019, China has altogether 1,324 national standardization technical organizations, including 552 technical committees, 760 subcommittees and 12 working groups.

More representatives from foreign enterprises have been enrolled in those technical organizations to increase the diversity in its composition and fully implement the Foreign Investment Law. By the end of 2019, the number of participants from foreign enterprises have reached up to 3,053.

Distribution of standardization technical organizations by type of industry



7. Standards internationalization

China assumed 3 new chair and vice-chair positions and 4 secretariats at ISO and IEC, and submitted 238 proposals for international standards, including 150 for ISO, 77 for IEC and 11 for ISO/IEC JTC 1 on information technology.

In 2019, China signed 11 bilateral or multilateral standardization cooperation agreements, including the cooperation agreement signed between SAC and Nepal's national standards body at the presence of leaders of China and Nepal. It published 141 foreign language versions of national standards in the areas of materials, energy & power, freight logistics, agriculture, space science, laboratory equipment, land resources, etc.

By the end of 2019, China has altogether assumed 73 chair and vice-chair positions and 88 secretariats at ISO and IEC, signed 97 bilateral or multilateral standardization cooperation agreements with 54 international, regional or national standards organizations, and published 721 foreign language versions of national standards.

Deepening reform

1. Streamlining mandatory standards

In 2019, China published 106 mandatory national standards such as GB 18265-2019, *Basic*

requirements of safety technology for enterprise handling hazardous chemicals business and GB/T 38600-2019, *Basic specification of service safety for senior care organization*. Some mandatory sector standards on electric power and medical appliances have been converted into mandatory national standards. National Development and Reform Commission (NDRC), Ministry of Public Security, the Ministry of Transport (MOT) and the Ministry of Ecology and Environment (MEE) have actively advanced the streamlining and revision of mandatory national standards to facilitate the integration of annul review (of general functions), annual inspection (of safety technically) and emission check of motor vehicles.

2. Continuously optimizing voluntary standards

China set a higher threshold for the approval of proposals for voluntary national standards, with projects rejection rate up to 52%. It launched 2,145 voluntary national standards projects, in which 37% were standards to be revised.

The registration management procedure and information system for sector standards have been improved, and sector standards further reviewed and downsized, with 2,665 abolished. Registration of sector standards has been further standardized. In the sectors of fire rescue, emergency management and national commodity reserve, 3 new codes of sector standards have been created. Through self-check and downsizing of local standards in 31 provinces (autonomous regions and municipalities), 5,411 local standards were abolished.

3. Cultivating association standards

The *Management Regulations for Association Standards* issued by SAC and the Ministry of Civil Affairs (MCA) set requirements for the development, implementation and supervision of association standards. Associations have actively participated in related work, with 12,000 association standards published by more than 3,000 associations, covering the areas of intelligent transport, shared economy and elderly care services. The random check on association and enterprise standards in 2019 is an innovative way to promote the self-renovation of standards management system.

4. Boosting vitality of enterprise standards

The enterprise standard "forerunner" system has been implemented across the nation, with more than 360 ranking lists of product and service standards released, and 315 enterprise standards of 245 enterprises elected "forerunners" of 2019. People's Bank of China has vigorously promoted related work on financial services among financial institutions. Great progress has been made in the special action of standards comparison and compliance in 10,000 companies of 1,000 sectors in 100 cities, with 13,734 standards comparison results involving 4,659 companies of 800 sectors in 140 cities.

5. Comprehensive reform of local standards

Shanxi, Zhejiang and Jiangsu provinces have carried out the standardization comprehensive reform pilot program, contributing 11 pieces of practicable and applicable phased experience. The Beijing-Tianjin-Hebei region has released 8 regional harmonized standards; standardization cooperation mechanism in the Yangtze River Delta has been improved; the construction of standardization research center for Guangdong-Hong Kong-Macao Greater Bay Area further promoted; New Belt & Road Standardization Strategic Alliance has developed 4 featured standards. Hainan, Zhengzhou, Yiwu and other cities have been exploring standardization innovation on the topic of cities.

Standards systems

1. Agricultural standards

China has introduced the top-level design for agricultural and rural standardization work in the new era. The State Council forwarded the *Guiding opinions of SAMR and MARA on strengthening agricultural and rural standardization work*, providing standardization support for implementing rural revitalization strategy. In 2019, China published 113 national standards for ensuring the quality and safety of agricultural inputs, preventing and controlling animal and plant diseases, and grading the quality of agricultural products. It has been making efforts to establish a whole-industrial-chain standards system for the total-factor, whole-chain and multilayer modern agriculture. Tibet and Qinghai have promoted the development of national standards to support industries such as highland barley to facilitate poverty alleviation. It has accomplished the construction of 268 national agricultural standardization demonstration areas, gaining a wealth of experience of agricultural standardization demonstration and popularization. The Ministry of Agriculture and Rural Affairs (MARA) has promoted the construction of standard orchards, vegetable and tea gardens, and livestock, poultry and aquaculture farms. National Food and Strategic Reserves Administration issued the *Opinions on standardization reform in the area of food and strategic reserves to promote high-quality development* and proposed to establish high-quality and efficient modern grain circulation system and a national unified food and strategic reserves system.

2. Industrial standards

Regarding food and consumer products, food quality standards have been downsized. Ministry of Industry and Information Technology (MIIT), Ministry of Commerce (MOC), National Health Commission, National Intellectual Property Administration and other departments have proposed 1,393 national food standards and made the plan of developing and revising 390 national food standards to advance the establishment of national food quality standards system. MIIT has

also accelerated the development and revision of mandatory national standards for household appliances, children shoes, lighting appliances, etc. In response to the needs of customized, intelligent and green development, China has promoted the development of standards for the design and production quality control of customized consumer products, home service robotics, and green product assessment of kitchen and toilet hardware. It has released standards for popular consumer products such as electronic toilet, smart household appliances and jewelry made of precious metals.

Regarding equipment manufacturing, NDRC, MIIT and National Energy Administration (NEA) introduced standardization policies and measures to promote the deep integration of advanced manufacturing industry and modern services industry, improve the design capability of manufacturing industry, promote the standardization in smart manufacturing, industrial internet, integration of industrialization and informationization, energy internet and other areas, and upgrade standards in manufacturing industry.

Ministry of Science and Technology, and Chinese Academy of Engineering have carried out the action of standards guiding the development of new material and additive manufacturing and promoted the establishment of standards system for emerging industries. Ministry of Housing and Urban-Rural Development has completed the development and revision of GB/T 50378-2019, *Assessment standard for green building* and others. MEE has advanced the development of quality standards for recycled copper and aluminium products. NEA, National Nuclear Safety Administration and State Administration of Science, Technology and Industry for National Defence have jointly promoted nuclear standardization work.

3. Service standards

In the modern services industry, seven ministries and commissions including SAMR, NDRC, State Post Bureau have jointly promoted the development of green packaging standards for delivery industry. MCA has vigorously promoted standardization of elderly care services and applied standards in the implementation of the *Senior Citizens' Rights Guarantee Act*, and *Administrative Measures for Nursing Home*. National standards for geographic names, Chinese translation of foreign geographic names and others have been completed.

People's Bank of China, China Banking Regulatory Commission, and China Insurance Regulatory Commission have finished the mid-term evaluation of the financial standards innovation pilot programs. NDRC, MOC, and All-China Women's Federation have jointly promoted the standardization of household management services. MOT has developed national standards for urban railway transit facilities and operation. General Administration of Sport has facilitated the implementation and popularization of winter sports standards, supporting the Olympic Winter Games to be held in China in 2022.

Regarding ecological civilization, China released 24 mandatory national standards on energy efficiency and water efficiency of air conditioner, indoor lighting LED light, dish washing, etc., and completed the evaluation of 37 national standardization pilot programs on circular economy in 2019. Ministry of Housing and Urban-Rural Development revised GB/T 19095-2019, *Signs for classification of municipal solid waste*. Ministry of Natural Resources has promoted the development of national standards in such areas as real estate, marine industry and green mining. MEE has promoted the development of national standards on emission limits of air pollutants and toxic and harmful substances limit in fertilizers in pharmaceuticals, coating, ink, adhesive substance and other areas. In addition, establishment of standards systems has been greatly facilitated in the national ecological civilization experiment zones in Jiangxi, Guizhou and Hainan provinces.

4. Standards for social undertakings

Regarding social governance, we have implemented the State Council's deployment of streamlining administrative approval, optimizing government services and promoting disclosure of government affairs, published related national standards such as GB/T 38227-2019, *Specification for agency services of investment projects construction approval*, and advanced national standardization pilot programs on the disclosure of government affairs at the grassroots level. Seventeen ministries and commissions jointly formulated the *Guideline on the disclosure of government affairs at the grassroots level in key areas*.

The Cyberspace Administration of China revised GB/T35273-2020, *Information security technology—Personal information security specification*. NDRC and Ministry of Finance have applied a series of national standards on the coding rules of the unified social credit identifier for organizations to construct the social credit system. Ministry of Public Security has promoted the development of national standards on explosive substance and equipment. Ministry of Justice has facilitated the establishment of standardization technical bodies including those on lawyer services. Ministry of Emergency Management published 40 national standards in such areas as safe production, fire fighting and hazardous chemicals. Moreover, National Government Offices Administration has announced the second batch of 20 standardization pilot projects on government affairs.

Regarding public services, we have implemented the *Guiding opinions on establishing and improving the standards system of fundamental public services* issued by the General Office of the CPC Central Committee and the Information Office of the State Council. We have promoted the development of more than 100 national standards on public culture, labor management and protection, urban transport, etc., and published more than 40 national standards on disabled care services, safe use of public sports facilities, personal account management of urban and rural residents' basic endowment insurance, etc. SAMR, NDRC and Ministry of Finance have launched

the national fundamental public services standardization pilot programs in more than 50 cities and counties. Ministry of Human Resources and Social Security has actively promoted the pilot program. Fujian province took the lead in implementing the *Standards system for fundamental public services*.

Regarding rural areas and new-type urbanization, we focused on rural inhabited environment improvement, rural governance and development of new countryside, promoting the development of standards for rural toilet construction and renovation, rural garbage disposal, rural sanitation services, village affairs management and supervision, evaluation of featured township, and new urban areas. GB/T 38353-2019, *Specification for construction and management of public toilets in rural areas*, and GB/T 38354-2019, *Specification for service and management of rural electronic commerce service stations*, have been published to facilitate effective rural governance. We have accomplished the construction of 50 national rural comprehensive reform standardization pilot programs and 16 new-type urbanization standardization pilot programs, gaining a wealth of advanced standardization experience that can be replicated and popularized in the areas of beautiful village construction, rural property-rights trading, development of new-type countryside and integrated development of industry and cities.

Cultural Environment

1. Strategic research

Led by dozens of CAE academicians and participated by more than 300 experts, the strategic research project came up with an overall report that counts more than one million words based on field surveys into over 100 enterprises across 22 provinces/autonomous regions/municipalities, over 100 symposiums and seminars as well as communication and exchanges with more than ten international standards organizations and national standards bodies.

The report features forward-looking and innovative views and conclusions from the perspectives of strategic positioning and objectives for standardization, standards system, standardization system and mechanism, standards implementation and standards internationalization, etc.

2. Collaborative innovation

Efforts were strengthened in summarizing and promoting the experience of the first attempt to transform scientific and technological results into technical standards, with 14 national technical standards innovation bases approved to be built in the fields of intelligent manufacturing foundation, civil aviation, automobile, CNC machine tools, etc.

By the end of 2019, an overall of 42 national technical standards innovation bases were reported to transform 101 advanced technical results into 36 international standards, 115 national

standards and 185 association standards. Efforts were also made to promote the transformation of achievements of national major scientific and technological projects into technical standards, with a total of 193 national standards based on such projects throughout the year.

3. Publicity and promotion

A total number of 1,804 standards are newly open in full text to the public on a more robust national standard full text disclosure system. Information service platforms for industry standards and local standards have been established. International and bilateral standards information platforms have enabled effective docking of Chinese standards with ISO and IEC standards as well as German, French, Spanish and other foreign standards.

National Public Service Platform for Standards Information provided more than 180 national and sector standards to Kazakhstan, Russia, Sweden, etc. Publicity films about safety technical specification for electric bicycle and guidelines on avoiding earthquake danger for primary and middle schools were made and published to promote and publicize relevant national standards knowledge during events such as World Standards Day, Disaster Prevention and Mitigation Day, etc.

4. Implementation and application

The online feedback platform for national standards implementation information is launched, and standards implementation information feedback processing function is added to the national standards development and revision system, increasing the convenience and efficiency of information feedback and processing. The linkage mechanism has been initially established between standardization and law enforcement inspection and quality management to promote the sharing of standard development and implementation information. The further improved evaluation for national standards implementation effect helped to complete the evaluation of the implementation effect of key national standards in the field of wood-based panels and cosmetics, providing direct basis for the revision of relevant standards.

The number of legal persons and other organizations in the unified social credit code database exceeded 100 million to a total of 101.92 million, up 26.75% over the previous year. The registration coverage was further expanded to cover more than 30 types of institutions. Efforts were strengthened in the construction of the national commodity database with more than 100 million items, ranking the first in the world.

5. Development of talents

The Ministry of Education and other departments actively promote the construction of standards disciplines and expand vocational education and science popularization activities related

to standardization. Nearly 10 colleges and universities including Qingdao University have opened courses for standardization majors, enrolling more than 1,000 undergraduate students. China Jiliang University, Guangdong Open University and other five universities joined hands to form a strategic alliance for the construction of standardization disciplines. Shenzhen Technology University has started the embedded teaching exploration of "X + quality and standard". More than 170 experts participated in technical management related training for chairs, secretaries or conveners of ISO technical organizations. Activities were organized to recommend and select IEC young experts and international standardization talents.

International Cooperation

1. International contribution

Successfully hosting the 83rd IEC General Meeting. More than 3,800 delegates from over 100 countries attended the meeting, the largest in recent years. The General Meeting has achieved fruitful results, announcing the new IEC General Secretary and determining the leadership and members of the management board. During the meeting, more than 20 management meetings were held, including the IEC plenary, more than 800 technical meetings of over 90 technical committees/ sub-committees and over 200 workgroups in various professional fields, discussing and promoting the development and revision of more than 1,000 international electrical and electronic standards and the mutual recognition of four major IEC conformity assessment systems.

More than 1,100 Chinese experts participated in the meeting; for the third year in a row, a Chinese expert was elected as an IEC young professional leader; also the first Chinese version of IEC international standard was officially released. During the event, China held 23 bilateral and multilateral talks and signed five standardization cooperation documents.

· Extensive involvement in the governance of international standards organizations. Chairman of the Board of China Huaneng Group Shu Yinbiao took office as the 36th IEC President, the first Chinese expert to this position in the history of IEC. Representatives from China continued to serve in key management bodies at ISO and IEC, and actively participated in the development of strategies, policies and rules of such organizations.

· More participation in development of international standards. Chinese enterprises and social organizations are strongly encouraged to participate in international standardization activities, by translating and publishing the Chinese version of ISO/IEC Guidelines together with guidebook for enterprises to participate in international standardization work, disclosing information about relevant mirror technical bodies to the public and formulating express procedures for international participation of enterprises and social organizations.

· Consistently improving international standards system. In 2019, China saw extensive cooperation internationally in areas such as new energy, new materials, quantum computing, intelligent manufacturing, electrical and electronics. Also, experts and institutes from China assumed leading positions and secretariats at international technical bodies including ISO/TC 295 and IEC/TC 127.

2. Bilateral and multilateral cooperation

In 2019, China actively participated in the activities of regional standardization organizations such as COPANT, CEN/CENELEC, PASC and ARSO, and strengthened the exchange and cooperation with the organizations and countries in these regions. Bilateral/multilateral meetings were held under the standardization cooperation mechanism between China and Germany, the U.K., Northeast Asia, Canada, Russia, etc. to facilitate the collaboration in specific fields like electric vehicles, smart cities, intelligent manufacturing and so forth. Overall 98 bilateral talks on standardization were held throughout the year.

Central Asian Standardization (Shaanxi) Research Center, South Asian Standardization (Chengdu) Research Center and BRICs Standardization (Zhejiang) Research Center were well prepared and officially approved to be established, while Shanghai North American Standards Research Center was approved to change its name to American Standardization (Shanghai) Research Center. By the end of 2019, altogether 12 regional standardization research centers were established, including Heilongjiang China-Russia Standards Research Center and Jilin Northeast Asian Standards Research Center, etc. providing support for international cooperation. These research centers are authorized by SAC to carry out bilateral and multilateral exchanges and cooperation.

3. The Belt and Road Initiative

· International consensus on the role of standards for the Belt and Road Initiative

In April 2019, a themed symposium was organized during the paralleled “policy communication” session at the 2nd B&R Forum. The effort has push forward the inclusion of "international cooperation in Small Hydropower" and other 3 projects into the final achievement list of the B&R Forum.

· Compatability of standards

Efforts were made in promoting the conversion of 8 Chinese standards into Mongolian national standards, inclusion of 232 China-Russia civil aviation standards into the mutually recognized standards catalogue, signing and implementation of the China-Brazil standardization cooperation in engineering machinery as well as the recognition of the first batch of mutually recognized list of engineering machinery standards.

· Overseas demonstration of standards effects

Efforts were made in pushing forward the establishment and positive effects of the cement standards demonstration zone in Mongolia, metallurgy standards demonstration zone in Papua New Guinea and agriculture standardization demonstration zones in Vietnam, Laos, Cambodia, Myanmar, etc.

· Sharing of standards information

Efforts were made in pushing forward establishment of national standards information platform that as a bridge for standards connectivity enables the retrieval of standards information of 35 B&R countries and 5 international and regional standardization organizations. The Ministry of Ecology and Environment officially launched the information platform of B&R ecology and environment big data service (Chinese/English), and uploaded part of relevant standards from countries along the B&R such as Russia, Kazakhstan and Thailand.

· Capacity building and mutual support

Altogether 10 standardization workshops were held to support the capacity building of foreign countries, like the workshop on food and agricultural products standardization management personnel from developing countries. The workshops were attended by 235 trainees from 31 countries like Jordan, Kenya, Zambia, Uzbekistan, Belarus, Cuba, or regional and international organizations.

Exemplary Cases

1. Standardization boosts coordinated development of Beijing-Tianjin-Hebei region.

Not only a major national strategy, the coordinated development of Beijing, Tianjin and Hebei is also a realistic requirement for the construction of world-class urban agglomerations with international competitiveness. The Capital Standardization Committee is taken as the prime platform to actively explore regionally coordinated standardization cooperation mode in this region, and it is planned to make first breakthroughs in key areas such as transportation integration, ecological environment protection, industrial upgrading and transfer, endeavored to support the high-quality development of the whole region.

· First, efforts are strengthened in overall planning and coordination and top-level design. Beijing has set up the Capital Standardization Committee to establish the standardization coordination mechanism of the capital as well as the standardization coordination of the Beijing, Tianjin and Hebei. After the institutional reform in 2019, the Capital Standardization Committee is recomposed by 40 member units including the State Administration for Market Regulation, the National Development and Reform Commission, the Ministry of Science and Technology, the Ministry of Industry and Information Technology and the National Health Commission, as well as market regulation administrations of Tianjin and Hebei, and 33 municipal bureaus of Beijing. It is

designed to integrate the collaborative efforts at the state, regional and municipal levels to jointly promote standardization work.

· Second, full play is given to the role of "3 + X" standardization cooperation mechanism. The "3 + X" regional collaborative standards cooperation mechanism was established to join the efforts from standardization administrations and industry administrations of Beijing, Tianjin and Hebei in standards development. The three places have reached regional coordinated standards cooperation agreement in the the fields of safety production, engineering construction, social credit and other fields. A total of 54 collaborative standards for this region have been issued in the fields of transportation, health, ecological environment, production safety, market regulation, commerce, human resources, cultural tourism and engineering construction.

· Third, breakthroughs are made in key areas. To support the preparations for the Winter Olympic/Paralympic Games and implement the concept of "green Olympic Games", standard for evaluation of green snow sports venues is developed to carry out comprehensive evaluation for snow sports venues from the perspectives of ecological environment, resource saving, human cultural facilities, management and innovation, etc. The standard helps to promote the green development of snow sports venues, and provides strong technical support for the large scale construction of venues for the Winter Olympic Games in Yanqing district of Beijing and Zhangjiakou city, etc.

· Fourth, high quality standards support the regional coordinated development. To promote the integrated development of transportation, the technical requirements for the application of electronic toll collection system in parking lot improves the transaction process of electronic toll collection in parking lot. According to the standard, the cloud-based central system of parking charge management in Beijing, Tianjin and Hebei has been built. At present, the system has been applied to 282 parking lots, such as Daxing Airport, Beijing West Railway Station and Beijing South Railway Station, with an overall 80 million transactions processed so far.

To promote the orderly transferring of industries not suitable for the Capital, the "technical specifications for work safety grading assessment" series are developed to ensure the production safety of enterprises, and prevent and control the possible transfer of production safety risks in the process of industrial adjustment in Beijing, Tianjin and Hebei.

According to the "human resource service specification" series developed to precisely serve the regional flow of talents, five human resource service agencies in Beijing and three in Hebei have passed the AAAAA level assessment, which helps to form a new pattern of complementary advantages and coordinated development of human resource services in Beijing, Tianjin and Hebei.

2. Standards support quality risk dynamic monitoring of e-commerce products

E-commerce has become a vital industry in China and an important field affecting the high-

quality development of the whole society. While innovating business models and creating consumer demand, e-commerce industry requires timely detection of quality risks, scientific analysis and assessment of quality risks, through effective source tracing and accurate implementation of troubleshooting, so as to realize dynamic tracking and optimize the quality risk management and control of e-commerce products. To this end, Hangzhou Institute of Standardization, China Jiliang University, China National Institute of Standardization and other seven units have jointly developed the national standard GB/T 37538-2019, *Specification for online monitoring of E-commerce transacting commodity*, which was issued on June 4, 2019 and officially took effect on January 1, 2020.

Based on the idea of process management and the needs of stakeholders, the development of GB/T 37538-2019 absorbs advanced experience of international standards and mature methods of risk identification, specifies the requirements for online monitoring process, quality risk point confirmation and quality monitoring result evaluation of tangible products quality in e-commerce transactions, and provides technical support for risk early warning and control for the quality of e-commerce transaction products. The standard has been effectively implemented by relevant administrative departments like Hangzhou National Center for Monitoring and Handling of the Quality of E-commerce Products, by third party agencies like Zhejiang Fangyuan Testing Group, as well as by e-commerce platforms like Alibaba, Netease and Zhejiang Jishang Yanxuan E-commerce Company, etc.

The release and application of GB/T 37538-2019 has bridged the gap of the e-commerce industry, which will help promote the effective application of risk information based on big data, standardize online monitoring activities, and gradually realize accurate, efficient and dynamic supervision of e-commerce transaction products quality, so as to promote the healthy development of e-commerce industry and ensure the rights and interests of consumers.

3. Standards promote sustainable development of green packaging industry

Issued for implementation on May 10, 2019, GB/T 37422-2019, *Green packaging evaluation methods and guidelines*, provides a complete evaluation system for green packaging, and the specific basic requirements and index system requirements for the evaluation. The basic requirement is qualitative evaluation while the evaluation index system requires quantitative evaluation, with evaluation score to decide the grades. The evaluation index set covers the whole life cycle of products and considers the common requirements of packaging products, while the scoring system in the standard provides effective quantified evaluation of green packaging. After the standard was released, the FOCUS program of CCTV featured a themed broadcasting as "green standard in place for packaging".

GB/T 37422-2019 belongs to fundamentally important standards, which is of great significance for structural transformation and sustainable development of the packaging industry. First, it leads

the development of green packaging technologies. A large number of enterprises have carried out research on reduced design, intelligent reuse system and recycling technology according to the requirements of the standard. Technical upgrading will certainly contribute to the development of the industry. Second, it creates remarkable economic benefits. The standard has been applied to more than 100 representative enterprises to help packaging production reduce costs and increase efficiency in just one year. Third, it brings back huge social benefits. Evaluation for green packaging helps to prolong the life of packaging from being discarded early, maximize the utilization of resources, and greatly reduce the pressure of garbage classification.

4. CNTAC develops association standards to support green manufacturing

To meet the requirements of "implementing green manufacturing project", "developing unified standards, certification and identification system for green products" and "building up a green manufacturing standard system" underlined in the government documents of Made in China 2025, Overall Institutional Reform Plan for Ecological Civilization and Industrial Green Development Plan (2016-2020), China National Textile and Apparel Council (CNTAC) has carried out the development of association standards for green design textile products that focus on the product lifecyle and integrate the whole process from design, production, use, logistics and discarding, etc.

In 2019, seven green design products evaluation standards were developed respectively for polyester polyester, quilt fabric, leather clothing, cashmere products, wool worsted products, knitted printing and dyeing fabrics, and cloth art products. After they were released for implementation, all the seven standards were included into the “green design products standards list” and taken as basic requirements for application for industrial green design products by MIIT.

The standards were also applied in over 20 textile enterprises, with over 90 kinds of products on the green design products list of MIIT, providing strong support to the stage-based construction of the MIIT green manufacturing system. The development and implementation of textile green design products standards provide basic technical guarantee for accelerating the supply of green design textile products, guiding green production and green consumption, and promoting green development of the industrial chain.

5. First international standard proposal for AI industrial application approved at IEC

In October 2019, IEC/SC 65E on industrial process measurement control and automation approved the international standard proposal "Industrial automation equipment and systems - predictive maintenance" led by China and established the predictive maintenance working group (WG 12) with Chinese expert from the Instrumentation Technology and Economy Institute (ITEI) serving as the Convener.

Predictive maintenance is based on real-time monitoring of operation status of devices to

predict its future work status by combining large data, artificial intelligence and other means, so as to achieve fault diagnosis, life prediction, equipment maintenance and management. As one of the most typical applications of artificial intelligence (AI) technology in the field of intelligent manufacturing, predictive maintenance is known as "Light of Future Factories" in the industry. Especially for the core equipment or parts with high value and difficult to maintain, it is of great significance to ensure the continuity of production, improve the safety of production and reduce the cost of production and maintenance.

"Industrial automation equipment and systems - predictive maintenance" is the first international standard for artificial intelligence to be applied in the field of intelligent manufacturing equipment operation and maintenance. The standard defines the concept and scope of predictive maintenance, provides functional structure model, process, method, infrastructure interface of predictive maintenance, and gives guidelines for predictive maintenance data requirements. The successful approval of this international standard proposal indicates the global recognition of the intelligent operation and maintenance related technologies of China. It will provide application scenarios for China's vigorous artificial intelligence technologies and vital guidance for the transformation and upgrading of China's traditional manufacturing industry to service-oriented manufacturing industry, and promote the high-quality development of intelligent operation and maintenance industry of core equipment.

6. International standards for energy saving assessment of thermal power plants support industrial development

Led by Chinese experts, ISO 50045:2019, *Technical guidelines for energy saving assessment of thermal power plants*, was developed by the ISO technical committee on energy management and energy conservation (ISO/TC 301) and officially released in March 2019.

Accurate evaluation of the effects of energy-saving transformation projects is the focus of attention of the parties contracted for energy-saving technical service projects in thermal power industry. The purpose of this standard is to provide a universally applicable energy-saving evaluation framework for thermal power plants, including evaluation principles, operating procedures, evaluation indicators and calculation methods, which covers unit energy-saving evaluation, unit equipment efficiency, index calculation, analysis and report. It can be used to predict the energy-saving potential of existing thermal power units before energy-saving transformation, or to evaluate the energy-saving effect after energy-saving transformation, which gives important guidance for energy-saving evaluation of thermal power plants. This standard specifies the basis and method for the evaluation of energy-saving effect of thermal power plants after energy-saving transformation, and provides technical basis for relevant parties (owners, energy-saving service companies, third-party energy-saving evaluation institutions, etc.) of thermal

power energy-saving technical transformation projects in thermal power industry.

Based on this standard, energy savings evaluation system of thermal power plants has been developed and partially applied with good results achieved in the preliminary planning and energy savings accounting of various energy-saving technical transformation projects of Datang Group, for instance, power station industrial steam supply, cold end waste heat utilization, flue gas waste heat utilization, motor frequency conversion and cold end optimization. What's more, the standard drafting organizations already adopted the evaluation system in the standard since its development started to guide several thermal power plant energy-saving transformation projects, especially the planning and implementation of energy management contracting projects, amounting to more than CNY 300 million contract value according to incomplete statistics.

7. Standards mutual recognition promotes China-Russia civil aircraft joint development

"Developing standards before making civil aircraft". At the beginning of the project of China-Russia joint development of long-range wide-body airliner, the China-Russia cooperation on mutual recognition of civil aircraft standards was started immediately and promoted quickly, opening up the standardization working channel for joint development of civil aircraft. In 2019, MIIT and SAC worked with the Russian ministry of industry and trade and the Russian agency for technical regulation and metrology jointly organized and carried out the bilateral cooperation on mutual recognition of civil aircraft standards, and worked innovatively on standards mutual exchange and recognition, standards development and revision collaboration, achieving fruitful results. The mutually recognized list of China-Russia civil aircraft standards signed in March 2019 by the China-Russia civil aircraft standards workgroup was included in the outcomes of the Second Belt and Road Forum. The list contains 232 standards mutually recognized by China and Russia, including 181 Chinese standards and 51 Russian standards, already recommended for use by the development team of long-range wide-body airliner. In the same year, the China-Russia civil aircraft standards workgroup launched the joint revision of Russian standards in the fields of aircraft noise control and general quality properties, with two Russian standards completed smoothly in just a few months.

The mutual recognition and cooperation of China-Russia civil aircraft standards has been strongly supported by civil aircraft development enterprises, scientific research institutes and professional standardization institutions of the two countries. The project team is composed of more than 40 experts from China and Russia, and an additional large number of experts participated in the translation, comparison and analysis of the standards. The active participation of stakeholders ensures wide representativeness and full industry consensus over the mutual recognition and cooperation and outcomes, providing strong support for the civil aircraft joint development of projects. Such practice not only explores a pathway for standardization cooperation based on the bilateral industrial cooperation, but also carries out innovative work in the joint development and

revision of standards, with practical experience gained to be reproduced and promoted.

8. National technology standards innovation bases serve the standardization, industrialization and marketization of scientific and technological innovations

The national technical standards innovation base (household appliances), under the guidance of the municipal government of Qingdao and the management of Qingdao Administration for Market Regulation, supported by Haier Group for specific construction work, is committed to promoting scientific and technological innovations, accelerating the development of standards driven by market demand, and actively boosting the standardization, industrialization and marketization of innovation achievements. The base boasts the standards innovation mode featuring a "technology-patents-standards linkage system", which takes user demand as the focus, technological innovation as the driving force, patents as the mechanism and standards as the basis to realize joint innovation in an open industrial innovation ecosystem. This mode works to ensure the advanced nature of standards content and the diversity of standards supply, effectively support the synergy of industry, academia and research institutes, promote the industrialization, marketization and internationalization of innovation achievements through standards innovation, and share benefits in the form of base alliances.

By integrating the upstream and downstream of the household appliance industrial chain, the base gathers more than 100 units, including 75 upstream and downstream enterprises, 9 academic institutions, and 23 research institutes and testing institutions. In terms of standards innovation resources, a global standard network has been established through joint participation of ten Haier R&D centers in five major regions and covers 26 international, national and regional standards organizations like IEC and ISO, ensuring the smooth internationalization path of innovation achievements.

The innovation base has carried out work comprehensively in the key fields of intelligence, energy saving, wireless power transmission, intelligent manufacturing, user experience and so forth, and has incubated six major alliances, including phase change energy storage industry innovation alliance, wireless power supply industry alliance, household appliances ergonomics technical standards alliance, internet of clothes ecological alliance, household appliances intelligent manufacturing innovation strategic alliance and internet of foods ecological alliance. These alliances are flexibly employed to rapidly develop standards urgently needed by the market. Up to now, the innovation base has developed 7 international standards, 46 national standards and sector standards, and 48 association standards. In addition, the base has supported 9 experts to undertake 16 leadership positions and 83 registered experts at international standards organizations.

(Translated by CSP, not as the equivalence of the official document in Chinese released by SAC.)

ISSN 1672-5700

Overseas Distributor: China International Book Trading Corporation
Distribution No: BM5708
Postal Subscription Number: 80-136
Price: $30.00 ¥50.00