



SESEC IV

China Standardisation

Newsletter

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Takeaways

CEN-CENELEC Presented at the 2021 Qingdao Forum on International Standardization

On 27 and 28 July, the 2021 Qingdao Forum on International Standardization was held jointly by Shandong Provincial Government and the Standardization Administration of China (SAC). Elena Santiago Cid, CEN/CENELEC secretary-general, was invited to present, during the opening session of the Forum, a video message on international standardization for sustainable development goals (SDGs).

China Introduces the Data Security Law, to Be Implemented in September

On 10 June 2021, the Data Security Law (DSL) was passed by the National People's Congress Standing Committee. It will be effective as of 1 September 2021, leaving a very short window for companies to take the necessary measures to adapt to the new data security regime, indicating the country's intention to improve the regulations on data security.

China Revises Its Measures for Cybersecurity Review

On 10 July 2021, the Cyberspace Administration of China (CAC) – i.e. China's top cyberspace regulator – announced the revision of the Measures for Cybersecurity Review (effective since 1 June 2020), soliciting public comments until 25 July 2021. The awareness of protecting data security was not sufficient when many Chinese firms got listed in the US in the past. Given the rising risks, the revision is seen as in line with China's national interest to strengthen cybersecurity-related laws and regulations.

MIIT Strengthens the Supervision of Automobile Data Security

From 22 June to 2 July 2021, MIIT called for public comments on the Notice on Enhancing the Network Security of Internet of Vehicles (IoV) (Intelligent Connected Vehicles). The Draft outlines systematic requirements for multiple actors, including local departments of industry and information technology, bureaus of communication management, China's three leading telecom operators, IoV enterprises, and intelligent automotive manufacturing enterprises.

China Plans to Deepen 5G Application

On 5 July 2021, the Ministry of Industry and Information Technology (MIIT) published the Action Plan for 5G Application alongside another 9 ministries including the Cyberspace Administration of China, the National Development and Reform Commission, and the Ministry of Commerce and Ministry of Housing and Urban-Rural Development.

China will Launch Its National Carbon Emission Trading Market

On July 14, 2021, during the regular policy briefing of the State Council Information Office, Zhao Yingmin, Vice Minister of the Ministry of Ecological and Environment (MEE), and Li Gao, Director General of the Department of Climate Change of MEE, introduced the current status of the national carbon emission trading market, and in particular the launch of online transactions.

SESEC IV Webinar 29: China Standards 2035-Some Updates from SESEC

Since the China Standards 2035 project is considered the driver to promote the standardization strategy in China, it has attracted much attention all over the world. As a result, SESEC will hold the online event 29. Dr. Betty XU will briefly introduce some updates on the China Standards 2035. Welcome to join us! Looking forward to your participation!



Horizontal Issues

1. CEN-CENELEC Presented at the 2021 Qingdao Forum on International Standardization

#CEN-CENELEC

On 27 and 28 July, the 2021 Qingdao Forum on International Standardization was held jointly by Shandong Provincial Government and the Standardization Administration of China (SAC), in an offline-online hybrid format. The objective of the 2021 edition of the Qingdao Forum was to promote exchanges and mutual understanding of international standardization practices, and to facilitate all-round cooperation involving technology, markets, talents, and projects. Under the theme of “Standards for Sustainable Development”, the forum attracted around 300 attendees from SDOs, colleges, research institutes and the industry – including more than 30 experts from



ISO, IEC, ITU, CEN/CENELEC, DIN, and FAO.

Elena Santiago Cid, CEN/CENELEC secretary-general, was invited to present, during the opening session of the Forum, a video message on international standardization for sustainable development goals (SDGs). In her speech, Elena explained the role and ambition of CEN and CENELEC, emphasizing the significance of voluntary and consensus-based standards for economic recovery. “Our commitment to sustainable development is proven by the priority given to the achievement of SDGs within the CEN and CENELEC strategy 2030 – adopted in November 2020”, Elena said. She also explained in detail the two approaches of CEN and CENELEC, at the EU and international levels, to support the single market, optimize the development of standardization solutions, and adopt global results at local and regional level. By illustrating practical examples for SDG6 “Clean water and sanitation”, SDG7 “affordable and clean energy”, SDG13 “climate action”, and for a series of projects in planning stages, CEN/CENELEC provides a clear direction and model for Chinese standardization efforts concerning SDGs.

Elena's address was highly appreciated and appraised by the participants. In addition, during the Qingdao Forum other key topics related to sustainable development were broadly discussed, such as China's 2035 standardization strategy, digital transition of standards to promote sustainable development, standardization supporting the sustainable development of modern agriculture, and the standardization of intelligent manufacturing.

2. SESEC Expert Participates in Training for CNCA on the EU's Conformity Assessment System

#Conformity Assessment #Training



On 16 July 2021, Dr. Betty Xu, director of the Seconded European Standardization Expert in China (SESEC) project, was invited by the Certification and Accreditation Administration of China (CNCA) to give a lecture during its first edition of the Lecture Hall on Quality Certification. Dr. Xu provided a comprehensive training on the European conformity assessment system to nearly a hundred experts and scholars actively involved in the certification and accreditation field.

Specifically, Dr. Xu firstly introduced the European standardization system and its latest development. She then elaborated on the legal framework of the European standardization and conformity assessment system, i.e., the New Legislative Framework (NLF). After that, she explained in detail the three core regulations under the NLF: (i) Regulation (EC) 765/2008; (ii) Decision (EC) 768/2008; and (iii) Regulation (EU) 2019/1020. The main content covered includes the principles of European conformity assessment, relevant bodies, procedures, assessment modules and modes, as well as practical examples of application and implementation.

The training lasted nearly three hours and provided to the participants a complete and clear understanding of the European standardization and conformity assessment system, which was highly appreciated. Participants of the training included experts and leaders from the Department of Certification Supervision and Regulation of SAMR, including Director-General LIU Weijun, Deputy Director-Generals BO Yumin and LI Chunjiang, Second-level Inspectors HE Xiaoqun and GE Hongmei.

SESEC has long been committed to promoting mutual understanding between Europe and China in the field of standardization and conformity assessment, building a solid bridge for communication and exchanges. In the future, SESEC will continue to contribute to EU-China standardization and conformity assessment cooperation.

3 SESEC Attended the ETSI-CCSA Executive Meeting on Global Standardisation Partnership Project

ETSI

On 21 June 2021, the European Telecommunications Standards Institute (ETSI) and the China Communications Standards Association (CCSA) held their executive meeting, which was co-hosted by ETSI Director General Mr. Luis J. Romero and CCSA Secretary General Mr. WEN Ku. During the meeting, the two sides signed a new Cooperation Agreement to extend their long-lasting partnership in the two global standardization projects 3GPP and OneM2M.

Together with standards development organizations from Japan, South Korea, India and the USA, CCSA and ETSI are partners in both 3GPP – which produces the standards for mobile communications such as 5G – and OneM2M – which develops common standards for an open service layer for the development of IoT applications, independent of the underlying connectivity standards and protocols.

ETSI Director General Mr. Luis J. Romero and CCSA Secretary General Mr. WEN Ku met for the first time and addressed the meeting. Mr. WEN Ku stressed that “CCSA attaches great importance to the long-term partnership with ETSI. After more than 20 years of fruitful cooperation, both sides and the international ICT industry have benefited from it. With this upgrade of the MoU to a cooperation agreement, I am confident that the cooperation between the two sides will reach a new level. I look forward to the cooperation to give new impetus to the standardization work of both sides and bring more value to the world ICT industry”.

In his address, Luis Jorge Romero recognised that “ETSI and CCSA have worked together very

successfully from the beginning, exchanging information and collaborating to build the world as we know it. This is the result of a very friendly and solid cooperation. Over the years, our cooperation has proven its value. I am confident that upgrading MoU to a Cooperation Agreement will help further expand the opportunities for cooperation”.

Fourteen experts attended the meeting, including Dr. Betty XU, the Director of SESEC Project; Adrian SCRASE, ETSI CTO; Margot DOR, ETSI Director of Public Affairs; YANG Zemin, former Secretary General of CCSA; WANG Zhiqin, Chairman of TC5; and HE Guili, Chairman of TC11.

Other participants from the European side are:

- Luis Jorge ROMERO, Director General of ETSI
- Adrian SCRASE, Chief Technology Officer ETSI
- Roland HECHWARTNER, Chair of oneM2M Technical Plenary
- Magnus MADFORS, Board Member ETSI
- Margot DOR, Director of Public Affairs of ETSI
- Laurent VELEZ, Technical Officer at ETSI (supporting oneM2M)
- Xavier PIEDNOIR, Head of External Relations at ETSI
- Laure POURCIN, InDiCo Project

Under their new Cooperation Agreement, ETSI and CCSA will extend the long-lasting partnership, facilitating further exchanges as well as enabling ways to improve cooperation in the ground-breaking and promising field of pervasive digital connectivity and IoT technologies.

4. SESEC Expert Compares Standardization Systems in the EU and China #Standardization Systems

Invited by the National Board of Trade Sweden, on 16 June 2021, Dr. Betty Xu, director of the SESEC project, joined the webinar “China: regulations, standards, innovation and trade”. The purpose of the webinar was to increase the understanding of European companies of China’s regulatory system, and to discuss means to foster innovation and boost trade.

As one of the keynote speakers, Dr. Betty Xu compared the EU and China’s standardization systems, identifying the main challenges and opportunities that China’s system will bring to EU businesses. Specifically, she firstly outlined the unique Chinese standards system, which features a combination of government standards and market standards, each group featuring numerous types of standards. Then, Dr. Betty Xu indicated the similarities and differences of the system with its EU counterpart, including in the concept and usage of standards, operation mechanisms of standardization systems, organization and implementation of standardization work, as well as their participation modes in international standardization activities. Based on these analyses, Dr. Betty Xu pointed out the challenges facing European enterprises intending to enter the Chinese market – which include the high complexity of the standards system, the possibility of overlapping and duplication among standards, potential technical barriers to trade caused by association standards being adopted by government’s policies and regulations, and hence the high compliance costs. To address these challenges, Dr. Betty Xu provided the following advices from the perspective of standardization: (i) leveraging international standardization platforms to facilitate technical harmonization, (ii) paying attention to the development of association standards in China, especially those from cutting-edge technical areas, (iii) continuously urging China to deepen its standardization reform to ensure the fairness, openness, transparency of government standardization.

Experts from the Utrikespolitiska Institutet, CEN-CENELEC, and industry, attended the meeting and shared their insights on this topic.

5. SAC Approves 17 ISO Mirror Technical Organisations in China #SAC #ISO

On 17 June 2021, Standardisation Administration of China (SAC) made available the list of 17 mirror technical organisations for ISO technical committees (TCs) in China to the public. The detailed information is as follows:

No.	TC Number	Name	Mirror Technical Organisation
1	ISO/TC20/SC17	Airport Infrastructure	China Academy of Civil Aviation Science and Technology
2	ISO/TC35/SC16	Chemical Analysis	Changzhou Coating Chemical Research Institute of China National Offshore Oil Corporation
3	ISO/TC51	Pallets for unit load method of materials handling	China Federation of Logistics & Purchasing
4	ISO/TC71/SC4	Performance requirements for structural concrete	China Academy of Building Research

5	ISO/TC71/SC8	Environmental management for concrete and concrete structures	China Academy of Building Research
6	ISO/TC107/SC9	Physical vapor deposition coatings	Wuhan Research Institute of Materials Protection
7	ISO/TC148	Sewing machines	China Sewing Machinery Association
8	ISO/TC149	Cycles	China Bicycle Association
9	ISO/TC149/SC1	Cycles and major sub-assemblies	China Bicycle Association
10	ISO/TC186	Cutlery and table and decorative metal hollow-ware	China Daily Hardware Technology Development Center
11	ISO/TC260	Human resource management	China Association for Professional Managers
12	ISO/TC316	Water efficient products – Rating	China National Institute of Standardization
13	ISO/TC321	Transaction assurance in E-commerce	Hangzhou Institute of Standardization (Hangzhou International Exchange Center for Standardization)
14	ISO/TC322	Sustainable finance	China National Institute of Standardization
15	ISO/TC329	Consumer incident investigation guideline	China National Institute of Standardization
16	ISO/TC331	Biodiversity	China National Institute of Standardization
17	ISO/TC333	Lithium	China Nonferrous Metals Industry Standard Measurement and Quality Research Institute

6. Key Points of Automotive Standardization Work in 2021

#Automotive Standardization

On June 28, 2021, MIIT released the *Key Points of Automotive Standardization Work in 2021*, aimed at providing guidance to the standardization work within the automotive industry in the next year.

In terms of top-level design in standardization, this document requires to:

1. Establish the “14th Five-Year Plan” standard system for new energy vehicles and intelligent connected vehicles and clarify specific objectives for different stages.
2. Issue the *China Standardization Roadmap for Electric Vehicles* (Version 3) and initiate the revision of the Advanced Driver Assistance System Standard Roadmap (Version 2).
3. Build the Intelligent manufacturing standard system for the automotive industry, covering basic commonality, key technologies, and segmented applications.

In terms of specific standardization work, the document points out that the future focus of work will be on new energy vehicles, intelligent connected vehicles, and automotive electronics; at the same time, efforts will be made to conduct simultaneously research on green, low-carbon, and intelligent manufacturing standards. In particular:

1. In the field of new energy vehicles, the release and implementation of standards on safety requirements will be promoted, such as conductive charging and post-crash.
2. In the field of intelligent connected vehicles, the establishment and development of mandatory national standards will be accelerated for vehicle information security, software upgrades, and data storage system for automated driving.
3. In the field of automotive electronics, the development and revision of basic pillar standards will be enhanced, such as functional safety, expected

functional safety, functional safety review and evaluation methods, ASIL graded methods, etc. At the same time, the conversion of international standards will be advanced, such as the environmental assessment of electric drive system regulations and the electrical requirements of 48V power supply system.

4. In the field of green and low-carbon, pre-research will be initiated to establish the next phase of fuel consumption evaluation methods and target standards for passenger vehicles, as well as of limit standards for the energy consumption rate of electric vehicles. The revision of light and heavy commercial vehicles' limit standards for fuel consumption will continue to be promoted, and the review and approval of test method standards for energy consumption and driving range will be completed. Research on a series of standards will be conducted for carbon emissions and accounting methods on the full life cycle of vehicle manufacturers and products.

5. In the field of intelligent manufacturing, research and development will be conducted for basic standards for terms and definitions, requirements for maturity assessment of intelligent manufacturing capabilities, automotive industry identification application guidelines, and key technology-related standards for large-scale personalized customization, new energy vehicle digital workshops, safety management requirements of industrial control system. Data collection, circulation and analysis, production technology and procedures, virtual simulation, digital system, large-scale customization, and other related standards research will be conducted.

In terms of international cooperation and harmonization of standards and regulations, the document requires to (i) actively use multilateral and bilateral cooperation mechanisms, (ii) leverage on

China's leadership in relevant international standards organizations, (iii) deeply participate in the formulation and harmonization of technical regulations under the framework of each working group, (iv) promote the release and implementation of the second phase of the Electric Vehicles Safety Global Technical Regulation, (v) promote the improvement of the intelligent connected vehicle regulatory framework and the formulation of specific technical regulations, and (vi) focus on promoting the establishment of international standardization projects led by China.

Similar to Europe, the Chinese automotive industry is also rapidly undergoing digital and green dual transformation. In terms of digitalization, intelligent networking has been regarded as a key area that can realize curve overtaking in China; its standardization work will become a priority of the entire industry, as the development of some of these standards – particularly mandatory standards – will provide support for the future access system of intelligent connected vehicles, and at the same time will become an entry barrier for the future industry. In terms of green transformation, China closely tracks the European emission standards in the field of traditional automobiles, promoting the development of the next phase of national emission standards; on the other hand, it strives to build and improve the supply of new energy vehicle standards and focuses on the direction of electric vehicles.

While advancing domestic standardization, China is also actively carrying out international standardization arrangements. This document fully reflects the current focus of China's international standardization activities, as well as China's demand for leadership or promoter status in these fields.

SESEC translated the document, click here: [Key Points of Automotive Standardization in 2021](#) for details.

7. SAMR Determines the Fields for the Enterprise Standards ‘Forerunner’ Evaluation in 2021

#SAMR

On June 15, 2021, SAMR issued the *Key Areas for the Implementation of the Enterprise Standards ‘Forerunner’ system in 2021*, which expanded the ‘forerunner’ products and services to 202 items, a 10% increase compared to the 184 items of 2020.

Since the release of *Opinions of Eight Departments Including the State Administration for Market Regulation on Implementing the Enterprise Standards “Forerunner” System* in 2018, the scope of ‘forerunner’ products has been expanding steadily each year. However, the growth in 2021 was slower compared to the previous year (2020 experienced an increase of 84% compared to 2019), which reflects a series of difficulties and challenges that the “forerunner” scheme is facing. Specifically, according to the analysis of China National Institute of Standardization (CNIS), these are:

1. Inconsistent enterprise standard-setting capabilities and disclosure levels. Currently, many enterprises lack guidance in standardization work, standard development is not standardized, while performance or functional indicators are not widely published, or in some cases are inconsistent for similar products; at the same time, many published standards are, in practice, national or industrial standards implemented by the enterprise, while others often with lower requirements than that of national or industrial standards. All these factors are negatively affecting the development of evaluation work.
2. There are both national and local ‘forerunner’ systems, with different evaluation methods and requirements. Many provinces such as Shandong and Zhejiang have formulated specific implementation plans for their own enterprise standards ‘forerunner’ schemes, and release their own lists. But there are differences in the implementation mechanism and basis of various ‘forerunner’ systems, therefore the published lists may cause conflicts and confusion to the public. It will be important to solve such issues and maintain coordination between the local ‘forerunner’ schemes and the one at the national level, thus developing unified standards for the evaluation of forerunners.
3. There are differences in the policy support and implementation of the ‘forerunner’ system across the country, which result in very different degrees of participation in different regions and enterprises, thus affecting the wide implementation of the system.

In general, there are still many issues to be solved in the implementation of the current enterprise standards ‘forerunner’ system, and further analysis is required to achieve fairness in evaluation without hindering fair competition.

8. Meeting of Sino-German Sub-Working Group on Industrie 4.0 / Intelligent Manufacturing

Intelligent Manufacturing

The Sino-German Commission for Standardisation Cooperation Commission’s Sub-Working Group Industrie 4.0/Intelligent Manufacturing (SWG I4.0)

met on 13 July 2021. Its main goal is the joint development of standards in the field of Industrie 4.0. It also aims to expand cooperation in international standardisation organisations, such as the

International Electrotechnical Commission (IEC) or the International Organization for Standardization (ISO).

Around 100 participants from ministries, industry and research institutions joined this meeting, where they discussed topics such as digital twin/management shell, IT security, network communication and edge computing. Likewise, the technical expert groups (TEGs) discussed artificial intelligence (AI) in industrial applications, functional safety, predictive maintenance and use cases.

The Sub-Working Group is chaired jointly by the German Federal Ministry for Economic Affairs and

Energy (BMWi), the Chinese State Administration for Market Regulation (SAMR) and the Chinese Ministry of Industry and Information Technology (MIIT). On a technical level, the work is led by the German Standardisation Council Industrie 4.0 (SCI 4.0) and the Chinese National Intelligent Manufacturing Standardisation Administration Group (IMSG).

The 12th plenary session of SWG I4.0 is expected to be held in November 2021. The event will take place as part of the 9th Annual Meeting of the Sino-German Standardization Cooperation Commission (SGSCC).



Laws and Regulations

9. China Updates Railway Radio Management Measures

#Railway Radio

On 30 June 2021, the Ministry of Industry and Information Technology (MIIT) and the Ministry of Transport published the updated [Measures for the Administration of Railway Radio](#), which will be effective starting from 1 October 2021 and will replace the former Measures implemented since 1996.

The Measures stipulate a series of actions and responsibilities that railway transport enterprises in China should take, for instance: application for the radio frequency use permit, payment of radio frequency use fees, application to the radio regulatory authority for the radio station license, etc. Note: in China, railway transport enterprises are defined as enterprises whose products involve railway transportation, and also include Chinese railway administrations.

For railway radio transmission equipment manufacturers and importers, the Measures stipulate provisions similar to those of the [Radio Regulation of the People's Republic of China](#):

- Radio frequencies used by railway radio transmission equipment under research shall comply with the relevant provisions for radio frequency allocation;
- The production or import of railway radio transmission equipment for domestic sale and use shall comply with the laws and regulations

on product quality, national standards, and shall be certified with radio type approval;

- The sale of railway radio transmission equipment with type approval shall be filed with local radio regulatory authorities.

It is noteworthy that, according to the updated Measures, in order for radio stations to be installed and used on foreign trains passing through the territory of China, an agreement must first be signed between MIIT Radio Administration Bureau and the corresponding overseas radio authority. According to SESEC's research, China has already signed cooperation MOUs on radio frequency management with Vietnam and Russia, but not yet with any other European country – in spite of the fact that 2021 marks the tenth anniversary of the China-Europe Railway Express, which every day sees an increasing number of trains shuttling between Europe and China. Although more agreements on radio management between China and foreign countries can be expected in the future, with the updated Measures, at current stage all radio stations on foreign trains must be first approved by MIIT Radio Administration Bureau before they can be used.

The full list of the 67 legislative items in Chinese is available at:

http://gkml.samr.gov.cn/nsjg/fgs/202104/t20210401_327476.html

10. China Introduces the Data Security Law, to Be Implemented in September 2021

#Data security

On 10 June 2021, the *Data Security Law* (DSL) was passed by the National People’s Congress Standing Committee. It will be effective as of 1 September 2021, leaving a very short window for companies to take the necessary measures to adapt to the new data security regime. The enactment of the DSL only took a little more than one year, with two rounds of reviews by China’s top legislative body and public comments in June 2020 and April 2021, indicating the country’s intention to improve the regulations on data security.

Most part of the content of the final version of the DSL is consistent with the previous second draft. Still, there are some changes which may have a significant impact on the operations of enterprises, both in China and globally.

Main changes:

- The introduction of the National Data Security Coordination Mechanism, which will coordinate work related to national data security and formulate the Catalogue for Important Data;
- Industries are encouraged to develop association standards on data security;
- The data-based intelligent public services should meet the needs of the elderly and the disabled;
- A new term, “national core data”, is incorporated to define data concerning national security, lifeline of national economy, important livelihood of people, and vital public interests;
- The addition of one article stipulating that, when collecting and using data, governmental agencies shall keep confidential the personal privacy, personal information, trade secrets and confidential business information, and shall not illegally disclose such data;
- Warnings or fines will apply to those who illegally provide important data abroad.

Highlights:Data Security Regime

The DSL introduces a comprehensive data security regime, structured on five pillars:

1. Data categorisation and classification

China will establish data categorisation and classification in accordance with the significance of data in economic and social development, and the level of impact on national security if the data is damaged, leaked or illegally used.

2. Data security risk assessment, report, information sharing and rapid alert

China will establish such system to strengthen data security risk information acquisition, analysis, and rapid alert.

3. Data security emergency handling

Relevant departments in China should initiate emergency plans to eliminate hidden dangers and risks for security, and publish relevant warning information in time in case of data security incidents.

4. Data security review

China will set up a data security review system for the data processing activities that (may) impact national security.

5. Data export control

Data that fall into the category of ‘controlled items’ is subject to export control.

Cross-border Data Transfer

When processing important data collected and generated in China, the Critical Information Infrastructure Operator (CIIO) shall follow the requirements stipulated in the *Cybersecurity Law – specifically Article 37: Personal information and important data collected and produced by CIIOs during their operations within the territory of the People’s Republic of China shall be stored within China. If it is necessary to provide such information and data to overseas parties due to business requirements, security assessment shall be conducted in accordance with the measures developed by the national cyberspace administration in conjunction with relevant departments of the State Council*).

If the data processor is not considered as a CIIO, it should follow the administrative measures for the transfer security of important data – which will be formulated by the national cyberspace administration and other relevant departments of the State Council, to deal with the data collected and generated in China.

Analysis:

- The DSL encourages, for the first time, industry organisations to develop association standards and guide the industry on the strengthening of data security protection.
- Though “important data” and “national core data” are introduced, the DSL does not provide any guidance on how such data shall be determined. It is expected additional supporting regulations will follow, to offer more indication on these concepts.
- The DSL does not make clear when and how the National Data Security Coordination Mechanism will be established.

The translated version of the DSL is available [here](#).

SESEC will follow up on the implementation of the DSL and the enactment of the *Personal Information Protection Law*.



Cybersecurity

11. China Revises Its Measures for Cybersecurity Review

#Cybersecurity

On 10 July 2021, the Cyberspace Administration of China (CAC) – i.e. China’s top cyberspace regulator – announced the revision of the Measures for Cybersecurity Review (effective since 1 June 2020), soliciting public comments until 25 July 2021.

Since the Data Security Law (DSL) was recently released and is going to be implemented from September 2021, the Measures were revised to incorporate this law as their legal basis, and to specify the protection of core data, whose concept was first determined in DSL. While the majority of the Measures remains unchanged, the revised version tightens grip on data transfer and all foreign public listings.

For instance, the currently implemented Measures require that critical information infrastructure operators (CIIOs) undergo through cybersecurity review when purchasing network products and services that (may) affect national security. However, the revised Measures stipulate that cybersecurity review also applies to data processors and operators who have personal information of more than one million users and are going to list abroad. This is the main change in the Measures, and it is particularly noteworthy as in the Chinese market many Internet platforms have stored information of over 10 million or even 100 million users: the reduced threshold of a million users means that almost all platforms operating in China which aspire to sell shares abroad will need to go through a cybersecurity review.

The revised Measures followed a series of regulatory actions taken against internet firms over cybersecurity protection, among which the most notable is a cybersecurity review of Didi just days after it launched an IPO in the United States, on grounds of “serious violations of the law and regulation” in its collection and use of personal information.

The awareness of protecting data security was not sufficient when many Chinese firms got listed in the US in the past. Given the rising risks, the revision is seen as in line with China’s national interest to strengthen cybersecurity-related laws and regulations.

The full text of the revised *Measures for Cybersecurity Review* is available at:

http://www.cac.gov.cn/2021-07/10/c_1627503724456684.htm

12. A New Plan for China’s Cybersecurity Industry Development Calls for Comments

#Cybersecurity

On 12 July 2021, the Ministry of Industry and Information Technology (MIIT) issued the Three-year Action Plan for High-quality Development of the Cybersecurity Industry (2021-2023) , with the possibility to submit public

comments by 16 July. The objective of the Action Plan is to support the high-quality development of the cybersecurity industry, enhance its competitiveness, and guide the overall development of the industry.

Specifically, the Action Plan specifies the following goals to be achieved by the cybersecurity industry by 2023:

- The scale of cybersecurity industry has exceeded CNY 250 billion, with a compound annual growth rate of over 15%
- Breakthroughs have been made in a number of core cybersecurity technologies, reaching advanced levels
- A number of small and medium-sized enterprises (SMEs) have developed rapidly in the field of the Internet Connected Vehicles, the Industrial Internet, the Internet of Things and smart cities
- The investment in cybersecurity on telecommunications and other key industries have accounted for 10% of the investment in information technologies.

In addition, the Action Plan outlines 19 key tasks for cybersecurity development, which focus on aspects such as: i) the supply of cybersecurity products, services and innovation, especially on the security on 5G, cloud, artificial intelligence and data; ii) the cybersecurity development both in traditional industries and emerging industries; iii) increasing the investment in the promotion of new products and services; iv) the cultivation of cybersecurity experts; and v) the collaboration among cybersecurity enterprises to foster a fair market environment for competition.

Apart from this Action Plan, China also issued other documents in the cybersecurity field, showing that the country is making efforts to gradually perfect its cybersecurity scheme. An example are the revised *Measures for Cybersecurity Review* and [Provisions on the Management of Network Product Security Vulnerability](#) in July 2021, which stipulate that no organization or individual shall take advantage of the security vulnerabilities of network products to engage in activities endangering network security, and shall not illegally collect, sell or release information about security vulnerabilities of network products.



Information Security

13. MIIT Strengthens the Supervision of Automobile Data Security #MIIT#Data Security

From 22 June to 2 July 2021, the Ministry of Industry and Information Technology (MIIT) called for public comments on the *Notice on Enhancing the Network Security of Internet of Vehicles (IoV) (Intelligent Connected Vehicles) (Draft for Comments)*.

The *Draft* outlines systematic requirements for multiple actors, including local departments of industry and information technology, bureaus of communication management, China's three leading telecom operators, IoV enterprises, and intelligent automotive manufacturing enterprises.

Specifically, for IoV companies, the *Draft* outlines five main requirements, namely to:

1. Implement enterprises' main responsibilities on network security, formulate IoV network security management system and operational procedures, appoint personnel responsible for network security, and conduct regular compliance evaluation and risk assessment.
2. Establish enterprises' IoV identity authentication and security trust mechanisms, enhance the application of business passwords, and conduct security assessments.
3. Develop network security monitoring mechanisms and technical means, regularly monitor and analyse operational security, traffic and behavior of intelligent connected vehicles, networking systems, etc. In addition, relevant network logs should be kept for at least six months in accordance with relevant regulations.
4. Establish network security emergency response mechanisms, formulate emergency pre-proposals for network security incidents, and carry out regular emergency drills.
5. Carry out network security defense ratings for the affiliated network facilities and systems in accordance with relevant standards, and file them with provincial-level telecommunication departments.

For IoV platforms, the *Draft* outlines three main requirements, namely to:

1. Obtain the operating permission for any telecom services involving online data processing, transaction processing and information services; implement relevant national regulations on the security protection of critical information infrastructure.
2. Conduct network security inspection for Over-the-Air (OTA) service and Software Package and discover service and product security vulnerabilities in time.
3. Establish IoV security management systems covering APP development, launch, usage and update, etc., and enhance the security capabilities, such as identity authentication, communication security and critical data protection.

In terms of data security, the *Draft* outlines four main requirements, namely to:

1. Establish the data asset management ledger, implement data classification and rating management, improve the protection of personal information and important data, and conduct on a regular basis data security risk assessments.
2. Insist on the principle of 'Least Privileged' in data collection, taking effective technical measures to protect the entire data lifecycle. Timely respond to data security incidents, report to provincial-level departments of telecommunication and of industry and information, cooperate with relevant supervision and provide necessary technical support.
3. Clarify the security management and responsibility requirements relating to data sharing and utilization, assess the qualifications and capabilities of data partners, and conduct supervision as well as management on the use of data sharing.
4. If it is necessary to provide data overseas for operational reasons, data should first pass the data outbound security assessment, and should be reported to provincial-level authorities of telecommunication, industry and information.

It is noteworthy that the Draft was released one day after MIIT published a call for public comments on the *Guidelines for the Establishment of the IoVs Online Security Standards System (Draft for Comments)*. The *Guidelines*, which are in turn based on the *National Guidelines for the Establishment of Industry Standards System for IoVs* as well as the actual requirements of online security, aim to establish a unified and coordinated framework for the standards system.

This *Guidelines* outline the standards framework of IoV online security, based on six pillars: (i) general and basic commonality, (ii) terminal and facility security, (iii) network communication security, (iv) data security, (v) application service security, and (vi) security assurance. The Guidelines also put forward 97 standardization plan – which are yet to be implemented. In addition, the document also emphasizes the need to strengthen exchanges and cooperation with the International Organization for Standardization (ISO), and to actively participate in the development of international standardization activities of international organizations, such as the 3rd Generation Partnership Project (3GPP), the European Telecommunications Standards Institute (ETSI), and the European Committee for Standardization (CEN). Such efforts will contribute to the conversion and consequent integration of Chinese domestic standards with international ones.

In short, both documents, the *Draft* and the *Guidelines*, reflect the intention of the Chinese government to systematically advance the establishment of the IoVs network security supervision system. This is even more evident when combined with the *Regulations on Automobile Data Security Management (Draft for Comments)* issued by Cyberspace Administration of China (CAC). These regulatory requirements will bring new compliance requirements to related enterprises. Overseas stakeholders should pay close attention to the progress of the IoVs network security supervision system, not hesitating to provide feedback on their concerns.



Intelligent manufacturing

14. Integration of New Generation Information Technology and Manufacturing: CESI's Standardization Work

Information Technology # Manufacturing



In June 2020, the 14th meeting of the Commission for Deepening the Reform of the CPC Central Committee adopted the Guiding Opinions on Deepening the Integrated Development of New Generation Information Technology and Manufacturing Industry. The Opinions position the integrated development of new generation information technology and manufacturing industry as a key element for deepening reforms.

After the meeting, Xinhua ZHAO, President of CESI, published a signed article on China Electronics News, titled *Accelerating the Construction of a High-level Integration Development Standard System and Promoting the Integration of New Generation Information Technology and Manufacturing Industry*. Considering the increasingly prominent role of standards in supporting industrial development, in promoting scientific and technological progress, and in regulating social governance, as well as the role of standardization as a key link and bridge in the integrated development of the industrial chain, the article highlights out that the integration of the new generation of information technology and manufacturing industry has promoted the continuous innovation of standard research and service mode. CESI has made remarkable achievements in open source, platform service and tool innovation, for instance:

- CESI's construction of the magnolia open source community has brought together a high concentration of technological resources in the fields of cloud computing, big data, and industrial internet. Based on a pattern of "open source + standards", it aims to jointly create a new consensus in the conversion of mature open source achievements into standards; it also aims to promote application and innovation experience, shortening the period of research and development of the standard.
- The industrial Internet standard management public service platform built by CESI brings together the knowledge of more than 1,000 published national standards; while the industrial APP aggregation platform brings together more than 2,000 types of industrial APP and industrial software products that meet the standard requirements. These platforms are aggregates of reusable standard knowledge, providing to

relevant actors substantial experience and knowledge needed in the process of standard-development and revision.

- CESI established CPS, industrial software/APP, cloud computing, blockchain and other testing capabilities that have been recognized by CNAS. These provide external heterogeneous protocol compatibility, industrial software/APP product quality, cloud services, industrial blockchain system and other testing tools. These tools promote the application and implementation of standards, not only facilitating relevant actors to use the standards, but also contributing to the popularization and large-scale dissemination of standards.

The article points out that it is necessary to build a high-level standards system for the integration of new generation information technologies within the manufacturing industry, increasing the supply of such standards, and giving full play to the role of standards in contributing to industry and technological development. In this context, CESI will:

- Accelerate the establishment of standardization institutions and organizations for integrated development, clarify work objectives, open communication channels, and form a standardization work pattern in which all parties can promote each other. The National Technical Committee for Standardization of Information Technology (TC28) is actively establishing a standardization organization for integrated technologies and applications, and promoting the formation of a working pattern featuring the active participation of all relevant parties based on the top-level design of the standards system.
- Aim to develop a number of important technical standards urgently needed by the industry, especially focusing on industrial Internet platforms, the data dictionary of the industrial Internet platform, and the implementation guide of the digital transformation of the manufacturing industry. We will encourage leading enterprises to focus on key issues of independent technology research and development, and build a technology standards system that meets the needs of the market and innovation. Leverage on the different advantages of national standards, industry standards and association standards to improve the speed and level of technical standards supply. Finally, the standardization research and development model will be innovated, the instrumentalization and modularization of standard results, and lower the threshold of application and promotion.
- Supported by the standard management service platform, the knowledge graph project will be launched, decoupling the basic principles, methods, technologies and quality requirements of the standard development. The efficiency of the standardization development will be increased, while the standard test verification capabilities will be expanded, and key standard test verification methods and tools deployed. The scientific nature, applicability and integrity of standards should be verified; advanced, economical and practical standard results should be formed.
- Strengthen international exchanges and cooperation, and improve the benchmark mechanism of the integrated development standard strategy with developed countries, such as Germany's Industry 4.0 and the United States' Industrial Internet. Make full use of the domestic counterparts of ISO, IEC, ITU and other international organizations for standardization, and actively promote the internationalization of standardization achievements. Support domestic enterprises to lead or substantially participate in the formulation of international standards, organize and form regional standardization organizations based on national strategies, promote the internationalization of Chinese standards, continuously enhance the influence of Chinese standards in international and regional organizations, and consolidate China's voice in international standardization work.

Source: <http://www.cesi.cn/202105/7476.html>

15. SESEC Policy Briefing – China National Intelligent Manufacturing Standardization Guideline 2021

Intelligent Manufacturing

In July 2021, the Ministry of Industry and Information Technology (MIIT) called for public comments on the “Guidelines for the Construction of the National Intelligent Manufacturing Standard System (2021 Edition) (draft for comments)”. The deadline for submitting comments is August 5, 2021. SESEC made the briefing as below.

To implement the requirements for standardization indicated in the National Standardization System Construction Development Plan (2016-2020) and the Intelligent Manufacturing Development Plan (2016-2020), MIIT and the Standardization Administration (SAC) issued the Guidelines for the Construction of the National Intelligent Manufacturing Standard System in 2018 and then 2021. The objective of the Guidelines is to promote the development of intelligent manufacturing standardization and provide support for the implementation of the standardization projects, as well as Industry transformation and upgrading.

The Guidelines were first compiled in 2015 and then revised in 2018 by the **General Group of National Intelligent Manufacturing Standardization** – which is led by the China Electronic Standardization Institute (CESI), and is combined with experts from MIIT, research institutions, industry, universities, testing labs, etc. CESI is the core driven force of standardization work in China’s electronic and information technology sector, providing key support to the formulation of relevant policies and regulations. The standardization activities in intelligent manufacturing led by CESI mirror IEC/SyC SM (IEC Systems Committee Smart Energy) and the ISO/TMB/SMCC (ISO Technical Management Board Smart Manufacturing Coordination Committee).

Since the release and implementation of the Guidelines, China has completed 285 national standards for intelligent manufacturing. The published standards and those are under drafting cover nearly the whole manufacturing life cycle and production chain. However, following the quick development of new technologies in recent years, such as 5G, artificial intelligence and digital twin, the manufacturing industry in China is witnessing the emergence of new products and new models. This is combined with new growing demands for standardization for intelligent manufacturing, covering aspects such as management of Intelligent supply chains, etc. At the same time, the demand for standardization in specific technical fields keeps increasing. Under such situation, in 2020, the General Group of National Intelligent Manufacturing Standardization started to organize the revision of the 2018 edition of the Guidelines.

Besides CESI, who is the leader organization, the process involved various actors, including 5 deputy leader units (the Instrumentation Technology and Economy Institute (IETI), China National Institute of Standardization (CNIS), China Academy of Information and Communication Technology (CAICT)); key technical committees such as SAC/TC28, SAC/TC124, SAC/TC159, and SAC/TC260; scientific research institutions such as the China Productivity Center for Machinery, the China Academy of Machinery Science and Technology, the Beijing Research Institute of Automation for Machinery Industry; as well as industry associations like the China Machinery Industry Federation, and the China National Light Industry Council.

Five Foreign invested enterprises, including **Siemens, Mitsubishi Motors, Schneider, Phoenix Contact, and Rockwell**, also joined the revision as members of the editors.

The main changes in this revision include:

- For basic common standards, a “personnel capacity” subsystem was added. It consisted of “capacity evaluation” and “capacity requirements” standards; The “inspection and test” subsystem was also changed from the previous “test items” and “test methods”, to “inspection and test requirements”, “inspection and test methods” and “inspection and test technologies”.
- In intelligent equipment standards, the “identification and sensing” subsystem is divided into “sensors and instruments”, and “cognitive and identification equipment”; “additive manufacturing” is changed to “additive manufacturing equipment”; while “inspection and testing equipment” was added.
- For intelligent factory standards, the “intelligent logistics” subsystem was changed to “factory intelligent logistics”; while the “intelligent factory construction” was deleted.
- The “intelligent supply chain” subsystem was added.
- In terms of intelligent service standards, “other new modes” were added, and the relevant branches of “operation and maintenance service” and “network collaborative manufacturing” were modified according to the standard system and revision.
- In intelligent enabling technology standards, two subsystems of “digital twin” and “blockchain” were added; the branch of “artificial intelligence” and “industrial big data” was modified in the light of technology application,
- In industrial network standards, two new branches: “industrial network integration” and “industrial network resource management” was added.
- In industry application standards, the ten key areas of the 2018 edition were modified, by including shipping and marine engineering equipment, building materials, petroleum textile, steel, railway, aerospace, automobile, non-ferrous metals, electronic information, power equipment, etc.

Meanwhile, in July 2021, MIIT also called for public comments on the ***Guidelines for the Standardization of Industrial Internet (2021 Edition) (draft for comments)***. the background of this document is as below.

In January 2019, MIIT and SAC published the “***Guidelines for the Standardization of Industrial Internet***”, to fulfil the requirements of the “***Guiding Opinions on Deepening “Internet + Advanced Manufacturing” to Develop the Industrial Internet***” (issued by the State Council), and the “***Industrial Internet Development Action Plan (2018-2020)***” (issued by the Industrial Internet Working Group under MIIT”).

The Guidelines were compiled by the **General Group of the National Industrial Internet Standards** led by the China Academy of Information and Communication Technology (CAICT). CAICT is an important player in the field of ICT sector and plays a crucial role in supporting the formulation of Telecommunication policies, regulations and the standardization. The standardization activities in the field of industrial internet led by CAICT mirrors ITU-T SG13 (International Telecommunication Union SG13 Future Internet) and SG20 (Internet of Things and applications), as well as 3GPP, etc.

After 2019 version published, 3 other key policy documents related to 5G + industry digitization +industrial internet were published:

- In November 2019, MIIT proposed the strengthening of ‘5G + Industrial Internet’ technical standards”.
- In December 2020, MIIT’s Industrial Internet Working Group further issued the Action Plan for Industrial Internet Innovation and Development (2021-2023),
- In May 2021, MIIT released the Internet of Things and Radio Frequency Guidelines (2021 edition)

Aiming to implement the above documents, and at the same time to adapt to new technologies and applications such as 5G, AI, digital twins and industrial parks, the **General Group of the National Industrial Internet Standards** led the revision and updating on the ***Guidelines for the Standardization of Industrial Internet (2021 edition)***.

Similarities and differences between “Guidelines for the Construction of the National Intelligent Manufacturing Standard System (2021 Edition) (draft for comments)” and “Guidelines for the Standardization of Industrial Internet (2021 Edition) (draft for comments)”

The fact that the two documents were released simultaneously by MIIT, and that they present numerous similarities, generated confusion among not only overseas industry players, but some Chinese industry as well. However, significant differences can be identified by the main drafting organization and drafting background of the two documents.

The construction of the national intelligent manufacturing standard system put forward by the first document involved all aspects of intelligent manufacturing – including technology, equipment, factory, supply chain, service, application, safety, evaluation and so on; however, it did not involve the application of advanced mobile communication technologies (such as 5G) – reflecting the lack of technical strength by the key drafting leader, CESI.

As China is committed to give full play to the role of 5G and its application is bringing crucial changes in manufacturing processes, the integration of 5G with intelligent manufacturing becomes inevitable. For this reason, CAICT built a standard system for the industrial Internet, placing 5G as the core – as seen in the Guidelines for the Standardization of Industrial Internet.

In terms of the referenced standards, the intelligent manufacturing system developed by CESI referred hardly any standards from the tele-communication system; while in the Industrial Internet standardization system made by CAICT, 5G and tele-communication standards are the key.

Overall, the two Guidelines maintain a different focus. The ***“Guidelines for the Construction of the National Intelligent Manufacturing Standard System”*** focus on most fields of intelligent manufacturing, while the ***Guidelines for the Standardization of Industrial Internet*** focus on the application of new generation of mobile communication technology into traditional manufacturing processes.

For ***Guidelines for the Construction of the National Intelligent Manufacturing Standard System***, China team of Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, kindly made the full translation and the comparison of the 2021 version vs. 2018 version, please click [here](#) for the full text in English.



Digital Transformation

16. The Three Year Plan for Developing China's New Data Centers # Data Centers

On 4 July 2021, the Ministry of Industry and Information Technology (MIIT) released the [Three-year Action Plan for the Development of New Data Centers \(2021-2023\)](#) to support accelerated innovation in the newest generation of information technology.

Background

With the rapid development of 5G, cloud computing, artificial intelligence, and other next-generation information technologies, the integration of information technology and traditional industries is accelerating. As the physical carrier of information systems in various industries, the humble data center has become an indispensable pillar in the infrastructure and plays a crucial role in the development of the digital economy.

Compared with traditional data centers, new data centers are characterized by high levels of technology, strong computational power, extreme energy efficiency, and high security. As digitalization becomes more widespread, new data centers can better support the next generation of information technology.

Goals

- By the end of 2021, the average utilization rate of data centers should be raised to above 55%, and the Power Usage Effectiveness (PUE) of newly built large data centers should be reduced to below 1.35.
- By the end of 2023, a new type of data center should be formed with a reasonable layout, advanced technology, green with a low-carbon footprint, and computational power in line with the growth of the digital economy.
- By the end of 2023, the annual growth rate of the numbers of racks used in national data centers should be maintained at about 20%, and the average utilization rate should be raised to more than 60%.

Conclusion

To implement the Action Plan, in addition to the need for basic telecommunication enterprises, third-party data center and Internet enterprises to play to their respective advantages in both the construction and operation of new data centers. Furthermore, a healthy and orderly development environment is also indispensable. China will continue to take actions to guide and promote the development of new data centers.



17. New Policies Promote 5G Applications in the Energy Sector

#5G # 5G in digitalization of industry

On June 11, 2021, the National Development and Reform Commission (NDRC), the National Energy Administration (NEA), the Office of the Central Cyberspace Affairs Commission (CAC), and the Ministry of Industry and Information Technology (MIIT), jointly issued the *Implementation Plan for the Application of 5G in the Energy Sector* (hereinafter referred to as the “Plan”). The aim is to promote 5G technology R&D and applications in the energy field.

The Plan first clarifies the development goals to be achieved within the next 3 to 5 years, namely:

- Based on smart power plants, smart grids, smart coal mines, smart oil and gas, integrated energy, smart manufacturing and construction, expand a batch of typical 5G application scenarios, build a batch of 5G industry or virtual dedicated networks, and explore and form a batch of competitive business modes that can be replicated and easily promoted.
- Develop a batch of special technology and supporting products that meet specific requirements of 5G applications in the energy sector, develop a batch of technical standards that are urgently needed, study and establish relevant technology innovation platforms, public service platforms and security protection systems, and significantly reinforce the fundamental supporting role of 5G applications industry in the energy sector.

On the basis of the 5G application scenarios to be expanded, the Plan requires to accelerate the R&D of 5G special technologies in the energy sector, such as key common technologies, special technologies and supporting products, and the same time establishing technology standard systems for 5G application in the energy field, promoting its test and verification, and building relevant technology innovation platforms. This exercise may include: (i) conducting research on the virtual interactive application platform based on 5G network to realise applications such as equipment testing, production training, video surveillance, expert supports, etc; (ii) focusing on the issues of weak 5G signal and coverage in coal mines, electric power stations and other industries; conducting R&D for special technologies involving underground unmanned driving, HD video transmission, industrial remote control, intelligent robot inspection, virtual interaction, etc.; and (iii) supporting products involving 5G base stations for coal mines, customized core networks, real-time communication terminals, and IoT gateways.

In terms of safeguarding measures, the Plan calls for a greater support, specifically through leveraging on the leading role of the central budget, and at the same time encouraging more investment from the society. The Plan also requires local energy authorities and relevant central enterprises to perform well in implementation, and to accelerate the promotion of 5G applications in various regions and enterprises according to local conditions. Finally, energy and ICT enterprises are explicitly encouraged to launch coordinated innovation and to develop related standards for cross-industry applications – based on 5G network construction, network security, and special technology, supporting products, integrated applications, etc.

18. China Plans to Deepen 5G Application

#5G

On 5 July 2021, the Ministry of Industry and Information Technology (MIIT) published the [Action Plan for 5G Application](#) alongside another 9 ministries including the Cyberspace Administration of China, the National Development and Reform Commission, and the Ministry of Commerce and Ministry of Housing and Urban-Rural Development.

The integrated application of 5G is an important engine for promoting digitalization, network application, and intelligent transformation. This Action Plan is formulated to promote the comprehensive and coordinated development of 5G to empower various industries. It is proposed in the Action Plan that, by the end of 2023, the penetration of individual 5G users should exceed 40 percent, with more than 560 million users. More than 35 percent of large industrial enterprises should apply 5G technology among vertical industries. There should also be more than 18 5G base stations per 10,000 people and more than 3,000 virtual private networks provided for the 5G industry.

The Action Plan also specifies the 15 sectors that should be integrated into using 5G technology, including information consumption, integrated media, industrial Internet, Internet of Vehicles, intelligent logistics, intelligent port, intelligent mining, smart power, intelligent oil and gas operation, intelligent agriculture, intelligent water conservancy, smart education, Wise Information Technology of Medicine (WITMED), cultural tourism, and smart city, in order to:

- i) promote the upgrading of information consumption;
- ii) deepen the integration of 5G and various industries, and;
- iii) facilitate services of the people's livelihood.

The development of 5G technology is based on its security. The Action Plan states that enterprises should incorporate the 5G application security risk assessment into the 5G application R&D and promotion. China will improve the security standard system for 5G applications, via support enterprises in strengthening their capabilities in 5G application security assessment, testing and certification, and supporting self-assessment and third-party assessment of 5G application security.

19. China Speeding up Large-scale Application of IPv6

#IPv6 #

On 27 July 2021, the Cyberspace Administration of China (CAC) released the [Notice on Accelerating the Large-scale Deployment and Application of Internet Protocol Version 6 \(IPv6\)](#). The biggest problem with IPv4 is the lack of network address resources, which seriously restricts the application and development of the Internet. The use of IPv6 will not only solve the problem of the network address resources, but also solve the obstacles encountered when a variety of devices are connected to the Internet.

The Notice puts forward specific goals for both 2023 and 2025:

By 2023:

- Number of active IPv6 users to reach 700 million;
- Number of IPv6 connections to the Internet of Things to reach 200 million;

- IPv6 traffic to account for 50% of mobile network traffic;
- IPv6 traffic to account for 15% of Metropolitan Area Network traffic.

By 2025:

- China's IPv6 network scale, user scale, and traffic scale to rank first in the world;
- IPv6 to be supported across networks, platforms, applications, terminals, and industries;
- Number of active IPv6 users to reach 800 million;
- Number of IPv6 connections to the Internet of Things to reach 400 million;
- Mobile network IPv6 traffic to account for 70%,
- Proportion of IPv6 traffic on Metropolitan Area Network to reach 20%.

In addition to various measures to support the application of IPv6, China will promote standardization of innovations in the large-scale deployment and application of IPv6, and strengthen research and development of IPv6 standards. At the same time, China will also promote the development of national, sector, and association standards to establish an IPv6 standard system.

China will strengthen co-operation with international standardization organizations such as the Internet Engineering Task Force (IETF) and European Telecommunications Standards Institute (ETSI), and actively participate in the development of international standards related to IPv6.



IoT

20. MIIT Releases Guidelines on Radio Frequency Usage of Industrial Internet and Internet of Things

#MIIT # Industrial Internet #IoT / M2M



On June 1, 2021, MIIT released a new version of the *Guidelines on Radio Frequency Usage of Industrial Internet and Internet of Things*. The purpose of the Guidelines is to guide industry users to choose suitable radio communication technologies according to the characteristics of application scenarios, improve the adaptability of industrial applications and frequency resources, and

improve the efficiency and benefits of frequency resources. By standardizing frequency usage and station setting, the risk of harmful radio interference is reduced, and the safe and stable operations of related wireless communication systems and the safe production of industrial enterprises are safeguarded.

With the rapid development of radio communication technology, the industrial Internet and the Internet of Things have played an increasingly significant role in upgrading and enhancing traditional industries, and now play an important role in supporting the transformation of the real economy into a digital, network-based and intelligent one. At the same time, the wide application of wireless communication technology and the large-scale connection of production factors have led to a substantial increase in the demand for spectrum. Cases of non-standard use of frequency behavior and mutual interference have occasionally occurred, which also bring risks and hidden dangers to the safe production of industrial enterprises. Therefore, MIIT issued these Guidelines to achieve its dual goals of encouraging innovation while strengthening regulation.

The Guidelines have three main contents. Firstly, they define the principles of “utilization in accordance with the law”, “coordinated development” and “encouraging innovation”, and stress the importance of giving full play to the role of 5G technology and the industry. Secondly, it classifies and analyzes the relevant requirements of national radio management for the use of radio frequencies, radio stations and radio transmitting equipment, including licensing subjects, application requirements, frequency bands and technical standards, etc. Finally, the annex of the Guidelines indicates, for reference, the different frequency of use of the industrial Internet and the Internet of Things in different scenarios.

In regards to wireless communication technology, the Internet industry and the application problems of the Internet of things, the Guidelines point out that the demands for extensive industrial Internet and Internet of

things show characteristics like ubiquity, individualization, customization, diversity of technical systems and standards. Wireless communication technology choices need to fully consider application scenarios, the service objects, security control, and operating costs, among other factors. In order to meet the variegated needs of users, particularly in terms of sharing, dedication, convenience, security, individuality, generality, wide area and local area, etc., wireless communication can flexibly adopt one or more technology combinations of public mobile communication systems, private mobile communication system, 2400MHz, 5100MHz and 5800MHz frequency band wireless access system (WLAN) and micro-power short-distance radio transmission equipment. The Guidelines specify, for various technologies, the frequency use range, administrative licensing requirements for frequency use, frequency occupancy fee, interference coordination and other requirements.

Source: https://www.miit.gov.cn/xwdt/gxdt/sjdt/art/2021/art_809aa3fa613944caa23d17dcca15bfd8.html



ICV

21. New Developments in Supervision and Standardization of Intelligent Connected Vehicle in 2021

#ICV

From July 6 to 8, 2021, the National Technical Committee of Auto Standardization (SAC/TC 114) held the 7th International Symposium on Technologies & Standards and Regulations for Intelligent Connected Vehicles (ICV2021) in Cangzhou, Hebei province. The meeting provided an overview of China's recent progress in the supervision and standardization work for intelligent connected vehicles (ICV). Specifically:

1. Entry requirements:

- In April 2021, MIIT issued the “Guidelines for the Administration of Access by Intelligent Connected Vehicle Producers and Products (Trial Implementation)”, outlining entry requirements for ICV producers and products with qualified autonomous driving and highly automated driving functions.
- Three mandatory national standards were approved and are expected to be released in late 2022: (i) General technical requirements for software update of vehicles; (ii) Technical requirements and test methods for the cybersecurity of complete vehicles; and (iii) Intelligent and connected vehicles – Data storage system for automated driving.
- Functional security is involved in the market access management requirements for vehicles and related products, including mandatory standards such as GB 21670, GB 17675, GB 21670, and GB 12676.

2. Regulatory dynamics:

Between May and June 2021, MIIT and CAC issued a number of documents for certain key fields:

- Identity authentication: MIIT Notice on Carrying out the Pilot Work of IoV Identity Authentication and Security Trust.
 - Internet of Vehicles Card: MIIT Notice on Enhancing Management of Real-Name Registration of IoV Cards (Draft for Comments);
 - Network Security: MIIT Notice on Enhancing the Network Security of Internet of Vehicles (IoV) (Intelligent Connected Vehicles) (Draft for Comments);
 - Data Security: Several Provisions on the Administration of Automobile Data Security (Draft to Solicit Comments).
- #### 3. Development of government standards:
- Research and development were carried out for more than 80 standardization projects, in line with the Guidelines for the Construction of Internet of Vehicles Standard System (Intelligent Connected Vehicles) and the Key Points of Intelligent Connected Vehicles Standardization Work in 2020.
 - The ‘14th Five-Year Plan’ Standard System Planning for Intelligent Connected Vehicles was completed; while the new standard module of “Resource Management and Information Service” was added into the Guidelines for the Construction of Internet of Vehicles Standard System (Intelligent Connected Vehicles) – which includes four aspects of standards including operating systems, computing platforms, functional software, and data application.

- Standardization of components required for key vehicle features, such as equipment including vehicle radar, navigation, and camera; in-vehicle high-speed network; vehicle chips, etc., has become the priority.

4. Association standards:

- The China Association of Automobile Manufacturers (CAAM) Big Data Committee is in the process of developing standards for Data Format and Definition of Intelligent Connected Vehicles.
- The Telematics Industry Application Alliance (TIAA) has issued, or is currently in the process of developing, multiple standards for ICV, such as Data Security and Sharing Reference Architecture of Intelligent Connected Vehicles, Interference Interception and Avoidance Specification for Vehicle Wave Radar, Security Requirements for Sharing Data of Intelligent and Connected Vehicles, etc.
- The China Industry Innovation Alliance for Intelligent Connected Vehicles (CAICV) has issued,

or is currently in the process of developing, over 20 standards for ICV, including Cooperative Intelligent Transportation System; Vehicular Communication; Application Layer Specification and Data Exchange Standard; IOV Insurance Innovation & Data Intelligent Application Related Data Collection Requirement; Technical Specifications for the Operation Safety Test of Intelligent Connected Vehicle; etc.

5. Internationalization of standards

- In June 2021, the China Automobile Standards Internationalization Centre (Geneva) was established, with the aim to facilitate and promote more in-depth participation in and coordination with the international standardization activities of the United Nations, ISO, and IEC.

During the symposium, NTCAS also held the first-ever Exhibition on the Standardization Achievements of ICVs, showcasing to participants and visitors China's recent core projects and development in the field of ICV standards.

22. Updated Rules to Regulate China's ICV Road Test

#ICV

On 27 July 2021, the Ministry of Industry and Information Technology (MIIT), the Ministry of Public Security (MPS) and the Ministry of Transport (MoT) published the [Rules for Road Test and Demonstration Application of Intelligent Connected Vehicles \(Trial\)](#), which will replace the 2018 Rules for ICV Road Test and take effect from 1st September 2021.

The Rules apply to both road tests and demonstration applications of ICVs within the territory of China. 'Road test' refers to the automatic driving function test of ICVs carried out on designated sections of highways (including expressways), urban roads, specific regions, and other roads used for social

motor vehicles, while demonstration application refers to the operation activities of ICVs carrying people or goods on these roads which have the effect of a trial operation. The ICVs used in road tests or demonstration applications should be passenger vehicles, commercial vehicles, or special operation vehicles (excluding low-speed vehicles and motorcycles).

The applicants for the road test or demonstration application should be legal entities registered in China. Before applying for the road test, the autonomous driving function of road test vehicles shall be tested by third-party testing institutions accredited by the state or province to engage in automobile related

business (third-party testing institutions shall disclose testing service items and charging standards to the public). If the vehicle to be tested is an imported motor vehicle, the applicant shall provide the compulsory product certificate for imported motor vehicles, the inspection list attached to the vehicle, and the import certificate. For those who have not obtained the compulsory product certificate, the following shall be provided:

i) a declaration that the vehicle meets the conditions for safe operation and;

ii) a compulsory inspection report of the corresponding vehicle issued by the state-approved third-party testing organization.

According to the Rules, if foreign invested ICV manufacturers need to conduct road tests or demonstration applications in China, they should either be China-registered legal entities, or assign their distributors in China to apply. SESEC will follow up on the upcoming detailed rules on ICV development in China.



RoHS

23. CNCA Calls for Membership for the China RoHS Conformity Assessment Technical Expert Group

#Conformity Assessment #RoHS



To support China's conformity assessment of the restricted use of hazardous substances contained in electrical and electronic products (RoHS), CNCA will establish a technical expert group for RoHS conformity assessment. A call for membership for the expert group was launched from June 29 to July 15, 2021, which was open to all relevant units engaged in RoHS conformity assessment – including but not limited to: industry management departments; standardization technical organizations and research institutes; certification agencies and testing agencies; industry organizations, manufacturers, sellers, etc. can recommend technical experts.

More details on the application and submission method are available (in Chinese) at:

http://www.cnca.gov.cn/zw/tz/tz2021/202106/t20210629_65182.shtml

Background:

China's conformity assessment system for the management, control and restricted use of hazardous substances contained in electrical and electronic products is also known as China RoHS. Based on the European RoHS system, China RoHS is composed of policies, regulations and a series of standards, including the *Implementation Arrangement of the Conformity Assessment System for Restricted Use of Hazardous Substances contained in Electrical and Electronic Products* and the *Management Catalogue of Electrical and Electronic Equipment Subject to Restrictions on Use of Hazardous Substances (First Batch)*.



Blockchain

24. New Guiding Opinions to Accelerate Blockchain Development in China Released #Blockchain

As a key element of new generation information technology, blockchain is a new type of database software integrated with multiple technologies, such as distributed network, encryption technology and smart contracts, which is expected to solve the problems of trust and security in cyberspace. To promote the deep integration of blockchain and the economy, and accelerate the application of blockchain technology and industrial development, on 7 June 2021 the Ministry of Industry and Information Technology (MIIT) and the Cyberspace Administration of China (CAC) jointly issued the [*Guiding Opinions on Accelerating and Promoting Blockchain Technology Applications and Industrial Development*](#).

The Guiding Opinions indicate the goals of blockchain development, both over the short-term and long-term. Specifically, it is planned that by 2025, the competitiveness of China's blockchain industry will be among the world's most advanced; three to five internationally competitive enterprises and a number of innovation-leading enterprises will have been cultivated, and three to five blockchain industry clusters will have been established; in addition, the blockchain standards system will have been preliminary established. By 2030, blockchain will have reached a deep integration with the Internet, big data, artificial intelligence and other new generation of information technologies, and extensive application in various fields.

These objectives will be achieved by promoting the following main tasks:

- Leveraging the role of blockchain when optimizing business processes, reducing operating costs and building a trusted system, specifically aimed at i)improving supply chain efficiency; ii) establishing a product traceability system covering raw material suppliers, manufacturers, testing institutions, users and other relevant actors in the fields of food and medicine, key parts and components, and equipment manufacturing; and iii) realizing the traceability of data collection, sharing and analysis.
- Improving the application of blockchain technology in public services, such as digital identity, data storage and certificate, and urban governance; establishing a government data sharing platform based on blockchain technology to support the development of smart cities.
- Promoting the establishment of a blockchain standardization organization and a blockchain standards system; accelerating the development of key and urgent standards, and encouraging the development of association standard; participating in global blockchain standardization activities and international standard-setting.
- Supporting the integrated development of blockchain and other technologies, including blockchain+industrial Internet, blockchain+big data, blockchain+cloud computing, and blockchain+artificial intelligence.

Finally, the Guiding Opinions also point out that China will build an international cooperation and exchange platform for blockchain, and strengthen international cooperation on blockchain in technical standards, open source communities, and talent training. Combined with other supporting policies like tax incentives and preferential government procurement for blockchain enterprises, a big leap forward can be foreseen in blockchain industry.



Carbon Emission

25. China will Launch its National Carbon Emission Trading Market

#NMPA #Medical Devices

On July 14, 2021, during the regular policy briefing of the State Council Information Office, Zhao Yingmin, Vice Minister of the Ministry of Ecological and Environment (MEE), and Li Gao, Director General of the Department of Climate Change of MEE, introduced the current status of the national carbon emission trading market, and in particular the launch of online transactions. Specifically:

1. On July 7, the State Council executive meeting delegated MEE to launch the national carbon emission trading market, by starting online transactions.
2. In late 2017, the State Council issued the *Plan for the Establishment of a National Carbon Emissions Trading Market*, which put forward the establishment of a nationally unified trading market for carbon emissions. Since 2018, MEE issued the *Administrative Measures for Carbon Emissions Trading (Trial Implementation)*, specifications on enterprises GHG emission verification, and refined the administrative systems on emissions registration, trading, settlement, etc. At the same time, MEE has actively coordinated with the Ministry of Justice to promote the legislation process of the *Interim Regulations on the Management of Carbon Emissions Trading*.
3. MEE indicated the power generation industry as the first one to be included in the national carbon emission market. At the initial stage of the market, only spot trading of allowances will be carried out between key emission units in the power generation industry; in conjunction with the ongoing carbon emission intensity management system, the benchmark law will be adopted to allocate and issue the first batch of allowances for key emission units in the power generation industry across the country. Against this backdrop, and in order to further reinforce the data quality management before taking online transactions in the national carbon market, MEE specifically issued the *Guidelines of Enterprises GHG Emissions Accounting and Reporting-Power Generation Facilities and the Guidelines of Enterprises GHG Emissions Reporting Verification (Trial Implementation)*, with the objective to regulate the accounting and reporting of key emission units in the power generation industry, at the same time putting forward strict requirements over the process and content of data verification conducted by the provincial authorities. At present, the system has included over 2,000 key emission units in the power generation industry, and it is expected that the carbon emissions of the first batch of enterprises included in the carbon market will exceed 4 billion tons, making it the largest carbon market for the GHG coverage in the world.
4. At present, through the national pollution discharge permits administration information platform, MEE established the GHG emission information management system of key enterprises; it also guided and supported Hubei province and Shanghai municipality to complete the establishment of their national carbon emission rights registration and trading system, which passed the system testing and acceptance.
5. As for next steps, MEE will continue to improve supporting systems, promote the introduction of the *Interim Regulations on the Management of Carbon Emissions Trading*, and further improve relevant technical

regulations, standards, and management systems. On the basis of the healthy operation of the carbon market in power generation industry, MEE will gradually expand the market coverage to more high-emission industries, enriching transaction varieties and trading methods as needed, ensuring the stable and effective operation and healthy and sustainable development of the national carbon market, thus effectively giving full play to the role of market mechanisms in controlling GHG emissions and realizing China's goals of emission peak and carbon neutrality.

Annex

SESEC IV Webinar 29: China Standards 2035-Some Updates from SESEC

Time and Date: 10:00- 11:00 am Brussels time, Thursday, 16 September 2021

Presenters: Dr. Betty XU

Language: English

The “China Standards 2035” project was officially launched on 1 March 2018 and is scheduled to be completed in two years. On 14 January 2020, the “China Standards 2035” project Conclusion Meeting was held. The project team reported the overall situation of the project work, the research situation of each topic and the second-phase research plan. The experts attending the meeting had a concentrated discussion on the national standardization development strategy research plan.

Since the China Standards 2035 project is considered the driver to promote the standardization strategy in China, it has attracted much attention all over the world. As a result, SESEC will hold the online event 29. Dr. Betty XU will briefly introduce some updates on the China Standards 2035. Welcome to join us! Looking forward to your participation!

Detailed information is as follows:

SESEC IV Webinar 29

Topic: “China Standards 2035-Some Updates from SESEC”

Time and Date: 10:00- 11:00 am Brussels time, Thursday, 16 September 2021

Presenters: Dr. Betty XU

Language: English

Please register your participation to SESEC IV Webinar 29 via following links:

<https://yxmc.webex.com/yxmc-en/onstage/g.php?MTID=ee995b81fea1aa4ec1cdbdb3f572e8e60>

See the Annex-Analysis on Policies and Standards on the Development of AI in China.

Introduction of SESEC Project



The Seconded European Standardization Expert in China (SESEC) is a visibility project co-financed by the European Commission (EC), the European Free Trade Association (EFTA) secretariat and the three European Standardization Organizations (CEN, CENELEC and ETSI). Since 2006, there has been three SESEC projects in China, SESEC I (2006-2009), SESEC II (2009- 2012) and SESEC III (2014-2017). In April 2018, SESEC IV was officially launched in Beijing, China. Dr. Betty XU was nominated as the SESEC expert and will spend the next 36 months on promoting EU-China standardization information exchange and EU-China standardization cooperation.

The SESEC project supports the strategic objectives of the European Union, EFTA and the European Standardization Organizations (ESOs). The purpose of SESEC project is to:

- **Promote European and international standards in China;**

- **Improve contacts with different levels of the Chinese administration, industry and standardization bodies;**
- **Improve the visibility and understanding of the European Standardization System (ESS) in China;**
- **Gather regulatory and standardization intelligence.**

The following areas have been identified as sectorial project priorities by the SESEC project partners: Internet of Things (IoT) & Machine-to-Machine(M2M) communication, communication networks & services, cybersecurity & digital identity, Smart Cities (including transport, power grids & metering), electrical & electronic products, general product safety, medical devices, cosmetics, energy management & environmental protection (including eco-design & labelling, as well as environmental performance of buildings).

SESEC IV China Standardization and Technical Regulation Bimonthly Newsletter

SESEC IV China Standardization and Technical Regulation Bimonthly Newsletter is the gathering of China regulatory and standardization intelligence. Most information of the Monthly Newsletter was summarized from China news media or websites. Some of them were the first-hand information from TC meetings, forums/workshops, or meetings/dialogues with China government authorities in certain areas.

In this Bimonthly Newsletter

In this Bimonthly Newsletter, some news articles were abstracted from Chinese government organizations. All new published standards, implementation or management regulations and notice are summarized; original document and English version are available.

Abbreviations

SAMR	State Administration for Market Regulation	国家市场监管总局
CAS	China Association	中国标准化协会
CCC	China Compulsory Certification	中国强制认证
CCSA	China Communication Standardization Association	中国通信标准化协会
CEC	China Electricity Council	中国电力企业联合会
CEEIA	China Electrical Equipment Industrial Association	中国电器工业协会
CELC	China Energy Labeling Center	中国能效标识中心
CESI	China Electronic Standardization Institute	中国电子标准化研究所
CMDSA	Center for Medical Device Standardization Administration	医疗器械标准管理中心
CNCA	Certification and Accreditation Administration of China	中国国家认证认可监督管理委员会
CNIS	China National Institute of Standardization	中国国家标准化研究院
CNREC	China National Renewable Energy Center	中国国家可再生能源中心
EPPEI	Electric Power Planning and Engineering Institute	电力规划设计总院
IEC	International Electrotechnical Commission	国际电工委员会
ITEI	Instrumentation Technology and Economy Institute	机械工业仪器仪表综合技术与经济研究所
MEE	Ministry of Ecology and Environment	中国生态环境部
MIIT	Ministry of Industry and Information Technology of People's Republic of China	中国工业和信息化部
MoH	Ministry of Health	卫生部
MoHURD	Ministry of Housing and Urban-Rural Development	住房与建设部
MOT	Ministry of Transport	中国交通运输部
MOST	Ministry of Science and Technology	中国科学技术部
NDRC	National development and reform commission People's Republic of China	中国国家发改委
NIFDC	National Institute of Food and Drug Control	中国食品药品检定研究院
SAC	Standardization Administration of China	国家标准化管理委员会
SGCC	State Grid Corporation of China	国家电网
TC	Technical Committee for Standard Development	标准化技术委员会