

Comments of the American National Standards Institute on FR Doc. 2021-24090, Request for Information on the Study on People's Republic of China (PRC) Policies and Influence in the Development of International Standards for Emerging Technologies

December 6, 2021

The American National Standards Institute (ANSI) welcomes the opportunity to provide its input to the National Institute of Standards and Technology (NIST), towards the Study on PRC Policies and Influence in the Development of International Standards for Emerging Technologies.

ANSI respectfully submits the following comments addressing the five topics included in the Request for Information (RFI):

- 1. The participation of the People's Republic of China in international standards-setting organizations over the previous 10 years, including leadership roles in standards drafting technical committees, and the quality or value of that participation;
- The effect of the standardization strategy of the People's Republic of China, as identified in the "China Standards 2035" plan on international bodies engaged in developing and setting standards for select emerging technologies, such as advanced communication technologies, or cloud computing and cloud services;
- 3. Whether international standards for select emerging technologies are being designed to promote interests of the People's Republic of China as expressed in the "Made in China 2025" plan to the exclusion of other participants;
- 4. How previous practices used by the People's Republic of China while participating in international standards-setting organizations may foretell how the People's Republic of China is likely to engage in international standardization activities of critical technologies like artificial intelligence and quantum information science, and what may be the consequences;
- 5. Recommendations on how the United States can take steps to mitigate the influence of the People's Republic of China and bolster United States public and private sector participation in international standards-setting bodies.

Overview

ANSI is a federation whose members are government agencies, trade associations, standards developing organizations, professional societies, companies, academic and international bodies, and consumer organizations. ANSI represents the interests of more than 270,000 companies and 30 million professionals worldwide. As the voice of the U.S. standards and conformity assessment system, ANSI empowers its members and constituents to strengthen the U.S. marketplace position in the global economy while helping to assure the safety and health of consumers and the protection of the environment.

The U.S. standardization system is fundamentally built on the needs of the marketplace, where users decide which standards best meet their needs, and in which standards development venues they wish to work. Ultimately, the U.S. standardization community supports the fact that there are multiple paths to



global relevance – as articulated by the World Trade Organization Technical Barriers to Trade Agreement – and that it is the marketplace that decides the utility or applicability of any given standard.

Voluntary consensus standards for products, processes, and services are at the foundation of the U.S. economy and society. The United States has a proud tradition of developing and using voluntary standards to support the needs of our citizens and the competitiveness of U.S. industry in world markets.

ANSI oversees the creation, promulgation, and use of thousands of norms and guidelines that directly impact businesses in nearly every sector: from acoustical devices to construction equipment, from dairy and livestock production to energy distribution, and many more. ANSI is also actively engaged in accreditation – assessing the competence of organizations determining conformance to standards.

The Institute promotes the use of U.S. standards internationally, advocates U.S. policy and technical positions in international and regional standards organizations, and encourages the adoption of international standards as national standards where they meet the needs of the user community. ANSI is the sole U.S. representative and dues-paying member of the two major non-treaty international standards organizations, the International Organization for Standardization (ISO), and, via the U.S. National Committee (USNC), the International Electrotechnical Commission (IEC). As a founding member of the ISO, ANSI plays a strong leadership role in its governing body while U.S. participation, via the USNC, is equally strong in the IEC.

ANSI is a permanent member of both the ISO Council and Technical Management Board. ANSI and its members participate in more than 75% of ISO Technical Committees (TC) and Subcommittees (SC) and administer 15% of TC and SC Secretariats. ANSI's USNC is a permanent member of the IEC Council Board, Standardization Management Board, and Conformity Assessment Board. The USNC participates in over 94% of IEC TCs and SCs, and administers over 13% of TC and SC Secretariats.

1. The participation of the People's Republic of China in international standards-setting organizations over the previous 10 years, including leadership roles in standards drafting technical committees, and the quality or value of that participation;

One of the key tenets of the World Trade Organization (WTO) Agreement on Technical Barriers to Trade (TBT), which both China and the U.S. have accepted as WTO members, is reliance on international standards. Active participation in international standards-setting helps inform a country's ability to adopt and reference international standards, and is therefore encouraged as best practice. ANSI has strongly supported this message with all of its counterpart organizations around the world, including with China, and has dedicated activities aimed at increasing China's participation in international standards setting, as a path to avoid unique national standards. Over the past 10 years, ANSI and others have observed a notable increase in Chinese participation and interest in leadership in international standards-setting organizations.



Since the implementation of the revised China Standardization Law in 2018, the Chinese government has increased its publication and promotion of its international standards-setting engagements. Various documents are published online annually by the State Administration for Market Regulation (SAMR), in an effort to highlight China's efforts to improve the openness and transparency of its standardization activities, and actively participate in and contribute to relevant international organizations.

In reviewing these reports, such as the 2020 China Standardization Development Annual Report published in November 2021, ANSI notes that by the end of 2020, China had undertaken the chairmanship and vice chairmanship of 75 ISO and IEC technical bodies (compared to 73 by 2019 as listed in the 2019 report) and 75 secretariats (88 by 2019). In 2020, China undertook 6 new chairperson or vice-chairperson positions and 4 new secretariats of ISO and IEC. In 2019, these numbers were 3 and 4 respectively. China also submitted a total of 238 international standards proposals for ISO and IEC, including 150 for ISO, 77 for IEC, and 11 for the Joint Technical Committee on Information Technology of ISO and IEC (JTC1) in 2019. More details can be found in the following lists published by SAMR:

- List of ISO standards developed with China's leading role: 2019, 2020
- List of IEC/JTC1 standards developed with China's leading role: 2019, 2020

For many years China has used the word "主导", meaning "dominate" or "direct", to describe the goal of its participation in the development of international standards. This can be found in early <u>news reports</u> when AQSIQ (SAMR's predecessor) used "dominate" to describe China's leading position in the international standards developed. However, it is noted that over the past few years the word "dominate" has become less used in government documents associated with standardization policies such as the Outline of National Standardization Development (China Standards 2035). Instead, the Chinese government has used the word "牵头", meaning "take lead", to encourage Chinese companies' participation in international standard setting.

While SAMR frames the reports noted above and the development of the standards listed as "led by China", the roles of Chinese stakeholders in the standard-making process are not always clear. The contribution of Chinese organizations and companies may vary from drafting and reviewing proposals, holding the technical committee (TC) secretariat, chair or vice-chair positions, participating in committee activities, or other potential ways.

Although the data regarding China's engagement in international standards development organizations (SDOs) before 2018 is not publicly available from the Chinese government, a <u>2020 report</u> by the U.S.-China Business Council (USCBC) found that the number of Chinese-secretariat positions in TCs or subcommittees (SCs) increased by 73% in ISO from 2011 to 2020, and by 67% in IEC from 2012 to 2020. Chinese companies participating as voting members in the Third Generation Partnership Project (3GPP) have more than doubled in the past few years to 110 in January 2020, more than twice the 53 US voting members.



To illustrate the trend using data from one organization (ISO), the tables below show comparisons of leadership status and activities between SAC (China) and other major countries in ISO in the past 5 years (data credits to ANSI).



ISO Secretariat Changes (high or emerging tech-related marked in bold):

	2016 vs 2017	2017 vs 2018	2018 vs 2019	2019 vs 2020	2020 vs May 2021			
New Secretariats Gained								
AFNOR (France)	ISO/TC 68/SC 9	ISO/TC 321 ISO/TC 323 ISO/TC 195/SC 3 ISO/TC 96/SC 2	ISO/TC 104/SC 4 ISO/TC 114/SC 5	ISO/TC 331 ISO/TC 310 ISO/TC 330				
ANSI (USA)	ISO/IEC JTC 1/SC 42 ISO/TC 35/SC 15	ISO/PC 318		ISO/TC 44/SC 15 ISO/TC 327				
BSI (UK)	ISO/PC 311 ISO/TC 171 ISO/TC 213 ISO/TC 24/SC 4 ISO/TC 314	ISO/PC 317 ISO/TC 322 ISO/TC 283			ISO/PC 335			
DIN (Germany)	ISO/TC 172/SC 4 ISO/TC 312 ISO/TC 61/SC 14	ISO/TC 85/SC 6 ISO/TC 45/SC 1 ISO/TC 190 ISO/TC 195/SC 2	ISO/TC 326					
JISC (Japan)	ISO/TC 123/SC 8	ISO/PC 315	ISO/TC 324	ISO/PC 329 ISO/TC 86/SC 6 ISO/TC 71	ISO/TC 17/SC 12 ISO/TC 315 ISO/TC 96/SC 8			



SAC (China) Relinquished Se	ISO/TC 107/SC 9 ISO/TC 135/SC 9 ISO/TC 34/SC 19 cretariats	ISO/TC 10/SC 1 ISO/TC 319 ISO/TC 180/SC 4 ISO/TC 321 ISO/TC 85/SC 6	ISO/TC 295 ISO/TC 48/SC 3 ISO/TC 48/SC 4	ISO/TC 61/SC 2 ISO/TC 333 ISO/TC 38/SC 1	ISO/TC 266
AFNOR (France)	ISO/TC 68/SC 7 ISO/PC 277 ISO/TC 29/SC 2 ISO/IEC JPC 2	ISO/TC 190/SC 1		ISO/PC 290 ISO/PC 310	
ANSI (USA)	ISO/TC 164/SC 5 ISO/TC 171 ISO/TC 242*	ISO/PC 302 ISO/TC 180/SC 4 ISO/TC 285 ISO/TC 69/SC 1	ISO/PC 305	ISO/TC 121/SC 4 ISO/TC 171/SC 2 ISO/TC 202/SC 1 ISO/TC 204 ISO/TC 71 ISO/TC 71/SC 4 ISO/TC 86/SC 6 ISO/TC 92/SC 1	
BSI (UK)	ISO/PC 278 ISO/PC 286	ISO/PC 283		ISO/TC 38/SC 1 ISO/TC 69/SC 7	
DIN (Germany)	ISO/TC 150/SC 3 ISO/TC 35/SC 10	ISO/TC 8	ISO/PC 287 ISO/TC 104/SC 4 ISO/TC 48/SC 3 ISO/TC 46/SC 10 ISO/TC 48/SC 4 ISO/TC 190/SC 2		ISO/TC 266 ISO/TC 194/SC 1
JISC (Japan)	ISO/TC 24/SC 4 ISO/TC 59/SC 3	ISO/TC 282		ISO/TC 114/SC 12 ISO/TC 38/SC 2 ISO/TC 41/SC 3	ISO/PC 315
SAC (China)	ISO/TC 257	ISO/PC 245 ISO/TC 61/SC 2	ISO/PC 295	ISO/PC 310 ISO/TC 122/SC 4 ISO/TC 126/SC 2 ISO/TC 133 ISO/TC 137 ISO/TC 166 ISO/TC 176/SC 2 ISO/TC 20/SC 6 ISO/TC 207/SC 7 ISO/TC 265 ISO/TC 34/SC 8 ISO/TC 38 ISO/TC 67/SC 2	ISO/TC 301 ISO/TC 310





While China may be seeking to propose a significant number of new subjects to ISO, assuming an increasing number of committee leadership roles and participating in an increasing percentage of ISO committees, ANSI does not perceive China to be a significant driver of changes to ISO policy and governance in ways that may favor China over other countries. The key ISO Council and ISO Technical Management Board governance groups are not actively led by China or Chinese proposals.

Regarding the overall trends in China's participation in international standards-setting, ANSI agrees with China's published reports that China has increased its participation, but that increase is not threatening to U.S. influence or contributing to a shift in dominance in those organizations. The quantities of leadership positions taken or the standards proposed do not necessarily lead to more influence. The quality of contribution, globally accepted due process, wide support from other working group members, and many other factors also need to be considered in the evaluation of a country's impact and status in the international standards-setting organizations.

Several research and reports conducted by scholars, experts, and think tanks also drew similar conclusions that while China's presence in international SDOs is increasing, it is still far away from being disproportionately influential compared to other members. The <u>empirical analysis</u> by Justus Baron and Olia Kanevskaia shows that while attendees have become increasingly diverse, the traditional incumbent stakeholder categories and Western nationals still occupy an outsized proportion of SDO leadership positions, even in the ICT sector where competition is fiercely intensifying. The <u>Atlantic Council</u> also analyzed varied scenarios of engaging China, and concluded that the U.S. still has a significant and leading presence in standards bodies, holding at least 50 percent of votes in 11 of the 39 organizations evaluated



in its report. They all recommend, as ANSI does, that China's participation in the international standards development should be continuously encouraged and welcomed, rather than intimidated or excluded, for the robust, constructive, and balanced development of the relevant organizations.

2. The effect of the standardization strategy of the People's Republic of China, as identified in the "China Standards 2035" plan on international bodies engaged in developing and setting standards for select emerging technologies, such as advanced communication technologies, or cloud computing and cloud services;

Overview of the First Chinese National Standardization Strategy

Promulgated by the Chinese Central Government and State Council, <u>the Outline of National</u> <u>Standardization Development</u> was published on October 10, 2021, as the first-ever Chinese national standards strategy in response to its social and economic reform. This strategy is a long-awaited output of the research project known as "China Standards 2035", which was conducted by the China Academy of Engineering from 2018 to 2020 under the guidance of the Standardization Administration of China (SAC).

The formulation of China's national standards strategy has been a continuous effort over many years, which was frequently mentioned as a top priority in previous government plans and guidelines, including the <u>Development Plan for National Standardization System</u> (2016-2020), and SAC's <u>2019</u>, <u>2020</u>, and <u>2021</u> Key Points for National Standardization in China.

The Outline includes 9 sections and 35 articles, aiming to promote the high-quality economic development and the comprehensive establishment of a modern socialist country with the support of an improved standards system.

Strategic Focus on Emerging Technologies

Many emerging technologies, including artificial intelligence, big data, and blockchain are repeatedly mentioned and prioritized in the Outline, which reflects the continued emphasis from the Chinese government on these areas since the 12th Five-Year-Plan.

In Section 2 of the Outline ("promote the coordinated development of standardization and science and technology innovation"), Article 3 specifies a task of "strengthen the standardization research of standards in key technical fields such as artificial intelligence, quantum information, and biotechnology. In technical fields with broad application prospects, such as integration of information technology and industrialization, new-generation information technology, big data, blockchain, health, new energy, and new materials, make plans for technology R&D, standards development, and industrial application at the same time, and accelerate the industrial application of new technologies. Study and develop key technical standards in such fields as intelligent ships, high-speed trains, new energy vehicles, intelligent connected



vehicles and robots to promote industrial transformation. Develop and improve technical security-related standards in such fields as biomedical research, molecular breeding and autonomous driving in due course, so as to improve the security and risk management in the technical fields."

In Section 7 ("promote reform and innovation in standardization"), Article 27 mentions "strengthen the role of standards in making the measurement more quantized, the inspection and testing more intelligent, and the certification more market-based and globally recognized. Through the integrated application of new-generation information technologies such as artificial intelligence, big data, and blockchain, improve quality management to promote higher quality. Strengthen efforts to provide technical solutions for national quality infrastructure (NQI), and use standardization to promote in-depth integration of NQI services and industrial value chains."

The Outline doesn't specifically mention advanced communication technologies, but it addresses "speed up the development of a series of standards for information infrastructure such as communication network infrastructure, new technology infrastructure, and computing infrastructure" in Article 10. Cloud computing and services are not listed as a priority but indirectly addressed with big data as its underlying technology.

In order to evaluate the impact of this strategic Outline, ANSI and U.S. stakeholders will need to monitor its implementation going forward, but one indicator may be in the proposals submitted to international standards-setting bodies by China. ANSI compiled a list of China's proposals for new areas of ISO standardization since 2016, which is shown in the table below including successful and failed attempts, with those that may be considered high/emerging technologies-related highlighted in bold.

No.	Successful Proposals	Failed Proposals	New Proposals Still under Consideration
1	Foundry machinery	Pharmaceutical preparation machinery	District energy systems
2	Transaction assurance in e- commerce	Remanufacturing technology	Heat supply networks
3	Karst	Gold	Driver training - Intelligent training system for vehicle driving
4	Audit data services	Exhibitions, events and conventions	
5	IWA on guidelines for contactless delivery service	Green finance	
6	Laboratory design	Musical instruments	
7	IWA on guidelines for social distancing in workplaces and workflow	Human phenome	



8	Lithium	Ecological restoration	
9	IWA on building guideline of emergency medical facilities	Consumer product safety management	
10	Audit data services	Deoxidizers and desiccants	
11	IWA on guidelines for contactless delivery service	Guidance on evaluating standardization benefits for organizations (Not approved to be pursued as an ISO standard, but to be considered generally in relation to the ISO Strategy 2030)	
12	Online games terminology	IWA on exhibition booth vocabulary (Not approved to be pursued in a new committee, but assigned to ISO/TC 228 for development)	
13	IWA on guidelines for live streaming marketing service		

For IEC activities, the Chinese National Committee (CNC) proposed the establishment of <u>IEC Technical</u> <u>Committee (TC) 129: Robotics for electricity generation, transmission and distribution systems</u>, which was approved and established in 2021. This TC will coordinate with other relevant standardization organizations in the related fields, such as ISO/TC 299, and other IEC TCs which relate to industry-specific applications, such as TC 82, TC 88, and TC 114.

Based on these two sets of information, China does not appear to have begun submitting a high number of proposals for new international standards that match the emerging technologies priorities included in the strategic Outline. In addition, the overall success rate of proposals from China to ISO is only about 50%. Going forward, these areas can be monitored to further inform the effect of the Outline on the international standards organizations to which China belongs.

Continued Efforts on Opening Up and Engaging in International Standards Activities

Section 6 of the Outline puts great emphasis on the "going out" of Chinese standards and "bringing in" of international standards, while actively participating in regional and international communication and collaboration mechanisms, especially on key issues including digital sectors, climate change, sustainable cities and communities, clean drinking water and sanitation, green finance, etc. It also enumerates the requirements of "vigorously developing, cultivating, and promoting" association standards and enterprise standards, which are unique setups in the Chinese environment but share certain similarities with the market-driven, voluntary approach in the U.S. and European countries. With the existing encouragement



by the government, more engagement and participation of Chinese stakeholders, especially from private sectors, are likely to be expected in future international standards-setting activities. In addition, proposals submitted by China may increasingly be based on standards developed by associations and enterprises taking a more active role.

<u>Conclusion</u>

The Outline serves as a milestone for China's standardization endeavor, provides a roadmap for the standards development of the next 15 years and lays a solid foundation for the continuous reform of China's standards system. Since it is a high-level strategic framework, more implementation details are anticipated to be released by relevant government departments and their affiliated research organizations as follow-up actions for specific sectors, as indicated in the official press conference hosted by the State Information Office with five ministries on October 19. ANSI and its members will continue to monitor implementation, and more international engagements related to emerging technologies are foreseeable in the future.

3. Whether international standards for select emerging technologies are being designed to promote interests of the People's Republic of China as expressed in the "Made in China 2025" plan to the exclusion of other participants;

The table below demonstrates the key technologies selected in the "Made in China 2025" plan and the Outline of National Standardization Development (China Standards 2035), with the relevant ISO and ITU standards developed with China as the project leader in recent years. There is no evidence showing the standards were designed to solely promote Chinese interests while excluding other participants since they all followed the existing protocols and multilateral collaboration mechanisms established for decades. However, given the high levels of approval and low levels of negative votes for the ISO standards, it would appear that the U.S. and other countries do not have concerns that Chinese leadership of these projects was seeking to advance Chinese technical agendas problematic to other countries.

Sectors covered in MIC 2025	Sectors covered in the Outline	Related international standards led by China	ISO member voting result	Responsible committee	Proposer	Committee Chair and Secretariat	Working group convener	Project leader
	Emerging	ISO/IEC AWI	Approved	ISO/IEC JTC	SAC	ANSI	ANSI	SAC
	technologies	<u>5259-4 Data</u>		1/SC 42	(China)	(US)	(US)	(China)
	(including	<u>quality for</u>	19 countries	Artificial				
	Al, Quantum	analytics and ML	in favor, 1	intelligence				
	information,	<u>— Part 4: Data</u>	country					
	big data,	quality process	opposed					
	blockchain,	<u>framework</u>						



	molecular breeding, and unmanned driving)	<u>ITU H.627</u> (08/20) - Signaling and protocols for a video surveillance system	n/a *	n/a *	n/a *	n/a *	n/a *	n/a *
New information	New information							
technology	technology							
Numerical control tools	Robotics							
Aerospace		ISO 21886: 2019	Approved	ISO/TC	SAC (China)	ANSI	AFNOR	SAC
equipment		<u>Space systems</u>	9 countries	20/SC 14		(US)	(France)	(China)
		management	in favor, 0	systems and				
			countries	operations				
		<u>ISO 21494: 2019</u>	opposed					
		<u>Space</u> systems —						
		Magnetic testing						
Martial engineering and high- tech ships	Smart ships							
Railway	High-speed	<u>ISO 22752: 2021</u>	Approved	ISO/TC	Info	AFNOR	SAC	SAC
Railway equipment	High-speed railway	ISO 22752: 2021 Railway applications — Bodyside windows for rolling stock	Approved 15 countries in favor, 1 country opposed	ISO/TC 269/SC 2 Rolling stock	Info unavailable*	AFNOR (France)	SAC (China)	SAC (China)
Railway equipment Energy-	High-speed railway New energy	ISO 22752: 2021 Railway applications — Bodyside windows for rolling stock ISO/TR 9968	Approved 15 countries in favor, 1 country opposed Approved	ISO/TC 269/SC 2 Rolling stock	Info unavailable*	AFNOR (France) JISC	SAC (China) DIN	SAC (China) SAC
Railway equipment Energy- saving and new energy	High-speed railway New energy and smart yehicles	ISO 22752: 2021 Railway applications — Bodyside windows for rolling stock ISO/TR 9968 Road vehicles — Functional safety	Approved 15 countries in favor, 1 country opposed Approved 38 countries	ISO/TC 269/SC 2 Rolling stock ISO/TC 22/SC 32 Electrical	Info unavailable* SAC (China)	AFNOR (France) JISC (Japan)	SAC (China) DIN (Germany)	SAC (China) SAC (China)
Railway equipment Energy- saving and new energy vehicles	High-speed railway New energy and smart vehicles	ISO 22752: 2021 Railway applications — Bodyside windows for rolling stock ISO/TR 9968 Road vehicles — Functional safety — The	Approved 15 countries in favor, 1 country opposed Approved 38 countries in favor,	ISO/TC 269/SC 2 Rolling stock ISO/TC 22/SC 32 Electrical and	Info unavailable* SAC (China)	AFNOR (France) JISC (Japan)	SAC (China) DIN (Germany)	SAC (China) SAC (China)
Railway equipment Energy- saving and new energy vehicles	High-speed railway New energy and smart vehicles	ISO 22752: 2021 Railway applications — Bodyside windows for rolling stock ISO/TR 9968 Road vehicles — Functional safety The application to	Approved 15 countries in favor, 1 country opposed Approved 38 countries in favor, 0 countries	ISO/TC 269/SC 2 Rolling stock ISO/TC 22/SC 32 Electrical and electronic	Info unavailable* SAC (China)	AFNOR (France) JISC (Japan)	SAC (China) DIN (Germany)	SAC (China) SAC (China)
Railway equipment Energy- saving and new energy vehicles	High-speed railway New energy and smart vehicles	ISO 22752: 2021 Railway applications — Bodyside windows for rolling stock ISO/TR 9968 Road vehicles — Functional safety — The application to generic rechargeable	Approved 15 countries in favor, 1 country opposed Approved 38 countries in favor, 0 countries opposed	ISO/TC 269/SC 2 Rolling stock ISO/TC 22/SC 32 Electrical and electronic components and general	Info unavailable* SAC (China)	AFNOR (France) JISC (Japan)	SAC (China) DIN (Germany)	SAC (China) SAC (China)
Railway equipment Energy- saving and new energy vehicles	High-speed railway New energy and smart vehicles	ISO 22752: 2021 Railway applications — Bodyside windows for rolling stock ISO/TR 9968 Road vehicles — Functional safety _ The application to generic rechargeable energy storage	Approved 15 countries in favor, 1 country opposed Approved 38 countries in favor, 0 countries opposed	ISO/TC 269/SC 2 Rolling stock ISO/TC 22/SC 32 Electrical and electronic components and general system	Info unavailable* SAC (China)	AFNOR (France) JISC (Japan)	SAC (China) DIN (Germany)	SAC (China) SAC (China)
Railway equipment Energy- saving and new energy vehicles	High-speed railway New energy and smart vehicles	ISO 22752: 2021 Railway applications — Bodyside windows for rolling stock ISO/TR 9968 Road vehicles — Functional safety The application to generic rechargeable energy storage systems for new	Approved 15 countries in favor, 1 country opposed Approved 38 countries in favor, 0 countries opposed	ISO/TC 269/SC 2 Rolling stock ISO/TC 22/SC 32 Electrical and electronic components and general system aspects	Info unavailable* SAC (China)	AFNOR (France) JISC (Japan)	SAC (China) DIN (Germany)	SAC (China) SAC (China)
Railway equipment Energy- saving and new energy vehicles	High-speed railway New energy and smart vehicles	ISO 22752: 2021 Railway applications — Bodyside windows for rolling stock ISO/TR 9968 Road vehicles — Functional safety — The application to generic rechargeable energy storage systems for new energy vehicles	Approved 15 countries in favor, 1 country opposed Approved 38 countries in favor, 0 countries opposed	ISO/TC 269/SC 2 Rolling stock ISO/TC 22/SC 32 Electrical and electronic components and general system aspects	Info unavailable* SAC (China)	AFNOR (France) JISC (Japan)	SAC (China) DIN (Germany)	SAC (China) SAC (China)



		(advanced	10 countries	ceramics		
		ceramics,	in favor,			
		advanced	0 countries			
		technical	opposed			
		ceramics)				
		Determination				
		of elastic				
		modulus of				
		ceramics at high				
		temperature by				
		thin wall C-ring				
		method				
Biomedicine	Biomedicine	method				
and medical	Diomedicine					
devices						
Agricultural						
Agricultural						
machinery						
Power						
equipment						

* ANSI is not a member of ISO/TC 269/SC 2 or ISO/TC 206, and therefore, ANSI does not have access to this information and we did not submit votes on these two projects.

* The information above does not include consideration of the ITU project (ITU H.627 (08/20) - Signaling and protocols for a video surveillance system) since ANSI is not the U.S. member of ITU.

4. How previous practices used by the People's Republic of China while participating in international standards-setting organizations may foretell how the People's Republic of China is likely to engage in international standardization activities of critical technologies like artificial intelligence and quantum information science, and what may be the consequences;

One practice worth highlighting is the use of financial or other incentives to boost the statistics reported by China and described in ANSI's response to question #1. Although there is no explicit policy from the central government, many local governments in China have been providing subsidies or financial rewards to encourage companies and social organizations to engage in international standards development. This is one of the key incentives currently available to Chinese individuals and organizations, and is likely to continue in the future. Different levels of prizes are usually categorized based on the roles of leading, assisting, or participating in the formation or revision of international standards. It is believed that partly because of this practice, many proposals to international standards setting bodies have been made by China over the past several years, although as illustrated above, whether or not those proposals are accepted depends on other factors and for China the success rate has not been disproportionately positive. In the future, application of this practice to critical technology areas could rapidly increase the numbers



of proposals submitted, but without serious attention to the quality of the standards proposals, the success rate of China leading this work internationally would not likely improve.

For example, with the PRC government's consistent focus on artificial intelligence as elaborated in the 2017 <u>Development Plan of New Generation of Artificial Intelligence</u>, more government support, including funding, talent cultivation, infrastructure building, and many other resources will be provided to the development of AI, robotics, smart manufacturing, and other standards related to these critical technologies. More Chinese stakeholders' engagements in these key sectors are therefore expected.

5. Recommendations on how the United States can take steps to mitigate the influence of the People's Republic of China and bolster United States public and private sector participation in international standards-setting bodies.

a. <u>Continue to incentivize U.S. stakeholders' participation in international standards development.</u>

To support the integrity of the international standards system, strengthen the rules-based processes of relevant organizations, and mitigate any increasing influence of China, the U.S. government should strongly support U.S. stakeholders' active participation in international standards-setting organizations. To support private sector participation, U.S. government can provide funding or other support to lessen the barriers for U.S. experts to participate. ANSI also supports expanding the R&D tax credit to incentivize participation in international standards development by expanding the range of participation, and support both innovative companies and SDOs alike.

b. <u>Remove export control restrictions on standards development activities.</u>

BIS' extension of U.S. export control-related restrictions to standards development activities following the addition of Huawei to the entity list in May 2019 continues to create substantial barriers to U.S. private sector participation in standards activities related to critical and emerging technologies, despite the Commerce Department providing a limited exemption for 5G-related activities involving Huawei and its entity-listed subsidiaries. These restrictions have led to China subsequently expanding its work on China-specific standards in key technology areas such as 5G, and have constrained the ability of U.S. entities to fully participate in international standards where entity-listed representatives are also present. These restrictions should be removed by the Commerce Department to ensure the U.S. is still at the table and as influential as in the past.

c. <u>Leverage ANSI and other partner organizations as a bridge between the public and private sectors</u>, and as a channel to communicate with China.

A well-structured public-private partnership allows concerned stakeholders to provide different perspectives and feedback as the single national voice in coordinated outreach. ANSI coordinates the U.S.



voluntary consensus standards system, providing a neutral forum for the development of policies on standards issues. ANSI and other partner associations work to ensure that the voices of the private sector are fully heard in the standards discussions in various multilateral contexts, and also act as a parallel track "convener" to maintain strong relationships and dialogue with other global standards development organizations.

ANSI has also been closely monitoring the rollout of China's standardization reform and key initiatives that might potentially impact standardization, market access, and international engagement. Leveraging and maintaining multiple Memoranda of Understanding (MOUs) with key standardization bodies in China, including the Standardization Administration of China (SAC), Certification and Accreditation Administration of China (CNCA), China Automotive Technology and Research Center (CATARC), and others, ANSI provides exclusive access for the public and private sector stakeholders from the U.S. to improve understanding, effectively communicate, and obtain valuable information on critical issues.

In addition, the <u>United States Standards Strategy (USSS)</u> serves as a statement of purpose and ideals resulting from a reexamination of the principles and strategy that guide how the United States develops standards and participates in the international standard-setting process. It provides a vision for the future of the U.S. standards system to support U.S. competitiveness, innovation, health and safety, and global trade. Among the 12 strategic initiatives in the USSS, the following should be stressed with particular emphasis to encourage consistent adherence to the principles of rule-based consensus, openness, impartiality, and transparency in the international standards community.

- Actively promote the consistent worldwide application of internationally recognized principles in the development of standards.
- Strengthen international outreach programs to promote understanding of how U.S. voluntary, consensus-based, market-driven standards can benefit businesses, consumers, and society as a whole.
- d. <u>Within the framework of the U.S. Standards Strategy, the USG should protect the existing standards</u> process, particularly the formal international process.

This should include advocating for the WTO principles of openness, transparency and due process and holding other governments accountable for their behavior, including any undue efforts to interfere in international standards development.

e. <u>The USG should be a champion for the public-private partnership and strong U.S. participation in international standards</u>.

Championship should start by setting a good example as a strong and reliable participant and partner.

• Provide early notice to federal agency representatives on upcoming standards activities in areas of interest.



- Focus on areas of long-term strategic importance and invest in early-stage standards activities in these areas. Send a signal to private sector participants regarding these long-term interests and encourage their participation.
- Build standards-related capacity within government agencies (staffing, training, careeradvancement pathways and mentoring).
- Educate government decision makers on the importance of supporting participation by government experts in standards activities, including the need for adequate resourcing.
- Support and recognize technical contributions by agency employees
- f. <u>The USG should take a consistent approach to the treatment of standards in government-to-</u> <u>government dialogues – both bilateral and multilateral – and coordinate with the private sector on</u> <u>messaging.</u>

Closing

ANSI looks forward to continuing to contribute toward increased understanding of the impact of international standards for emerging technologies, including how the U.S. and China, as well as other countries, contribute.

Thank you for your consideration and the opportunity to comment. We would be happy to provide clarification or further engage with you in any way deemed useful as you develop this study.