

Countering China's Growing Influence at the International Telecommunication Union

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KEY TAKEAWAYS

The ITU affects Americans' daily lives by recommending standards and practices for communications and digital technologies from cellular phones to satellite orbits.

The United States should not allow Beijing to dominate emerging technologies, including 5G, by setting rules, standards, and practices to be adopted globally.

The U.S. should support participation of U.S. companies in the ITU and work to ensure that it remains independent, eschews Internet governance, and adopts sound standards.

The International Telecommunication Union (ITU) is one of the oldest international organizations in the world, originally established as the International Telegraph Union in 1865. Although not well known outside diplomatic, communications, and technology circles, the ITU is a critical organization where standards for communications and digital technologies are negotiated and approved. These standards facilitate cross-border communications and allow the interoperability of information and communication technology around the world. From cellular phones to radio broadcasts to satellite orbits, the ITU plays a central, albeit largely anonymous, regulatory role in the daily lives of every American.

Although not binding, international standards adopted by the ITU and other obscure standard-setting organizations—such as the International

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Organization for Standardization (ISO) and International Electrotechnical Commission (IEC)—have great sway over the standards adopted around the world and can provide enormous economic advantages to companies that hold patents on technologies essential to those standards, known as standard essential patents or SEPs. For years, China has prioritized placing its citizens in positions of influence in these standard-setting organizations and subsidizing the participation of its companies in study groups, advisory groups, conferences, and meetings that negotiate technical standards and guidelines.¹ The result of this effort has been substantial, with China's influence and presence in these standard-setting organizations growing over the past two decades from negligible to rivaling France, Germany, the United Kingdom, and the United States.²

This expanded presence and influence is manifest in the ITU. Houlin Zhao is completing his second term as Secretary-General. During his tenure, he has deepened and institutionalized ties between the ITU and Beijing, endorsed the Belt and Road Initiative, and increased Chinese employment in the organization. China also sends the largest delegations to ITU study groups and has flooded them with proposed specifications and contributions. China leads all nations with SEP applications. The goal is to make Chinese standards global standards and thereby give Chinese companies greater market share, increased revenues, and the inside track on next-generation technologies.³

It is not in the interest of the United States or its allies to allow Beijing to dominate emerging technologies, including 5G and artificial intelligence, by setting rules, standards, and practices to be adopted globally. The United States should support participation by U.S. companies in the standard-setting process and work with like-minded countries to ensure the ITU remains independent, does not increase its role in Internet governance, insulates the standards process from excessive Chinese interference, and secures the election of a Secretary-General and other high officials that will adhere to the independent, technical mission of the ITU.

ITU: Origins and Structure

The ITU evolved from the need in the mid-1800s to regularize and facilitate telegraph communications across borders and, eventually, across oceans. The first such agreements were negotiated in Europe and were regional and bilateral.⁴ The agreements focused on coordinating the flow of messages over limited transmission capacity, codifying procedures for the exchange of messages over national borders, and regularizing fees on communications.⁵

These initial agreements served as the basis for more extensive multilateral agreements. Two major European groups regulating telegraph communications were the Austro–German Telegraph Union and the Western European Telegraph Union. Between the two groupings, the agreements included over two dozen governments and some private companies. The Dresden Convention of the Austro–German Telegraph Union, which became the template for telecommunication regulation in later agreements, focused on three principles: (1) international communications, leaving governments free to regulate national communications as deemed appropriate; (2) standards for international service, including pricing; and (3) periodic review and revision at future meetings to take new developments into account in this evolving technology.⁶

Although the Austro–German Telegraph Union and the Western European Telegraph Union had similar regulations and practices (indeed, some governments straddled both groups via bilateral agreements), there remained inconsistencies in routing and practices.⁷ These issues were resolved by the 1865 International Telegraph Convention signed by 20 governments in Paris. The convention also established the International Telegraph Union, the predecessor to the current International Telecommunication Union, which began operations in 1868 in Berne, Switzerland.⁸

The foresight of reviewing the organization’s mandate periodically to adjust to emerging innovation has been repeatedly validated:

- The invention of the telephone in 1876 led the International Telegraph Union to draft regulations on telephony at the 1885 International Telegraph Conference and additional articles to the Telegraph Regulations for telephony.
- The development of radio led to the drafting of international regulations for radio communications and the International Radiotelegraph Convention in 1906, which established the International Radiotelegraph Union. This organization later merged with the International Telegraph Union in 1934. A newly christened International Telecommunication Union (ITU) was established in 1934 to oversee radio, telephony, and telegraph regulations.
- The invention and popular use of television led the ITU to develop and issue technical standards for that technology in 1949.

- The use of satellites for communication led the ITU to convene a conference on space communications in 1963 to allocate frequencies, and later conferences codified regulations governing orbital slots.
- The expansion of mobile communications spurred the ITU to become involved in spectrum allocation in 1992.
- The ITU also plays a role in supporting greater Internet connectivity, particularly by promoting investment in developing country infrastructure.

Throughout this process, the ITU adjusted its structure, adopted new conventions and regulations, and adjusted its mission to address new communication mediums.⁹

A 1947 agreement, which entered into force on January 1, 1949, between the ITU and the United Nations brought the organization into the U.N. system as a specialized agency. During this transition, the ITU headquarters were moved from Berne to Geneva, where the Palais des Nations and several other United Nations organizations were headquartered.

ITU Mission and Mandate

The mission of the ITU, as spelled out in Article 1 of the ITU Constitution, is to “maintain and extend international cooperation among all the Member States of the Union for the improvement and rational use of telecommunications of all kinds.”¹⁰ The organization has interpreted this in the modern era to mean standardization and interoperability—an effort to minimize differences in rules and standards to enhance seamless communication across borders. Collection and dissemination of statistics on information and communication technologies (ICT) is also a part of the ITU’s mission, and the organization publishes a broad array of information on 200 economies around the world.¹¹

The ITU has two main governing bodies:

1. **The Plenipotentiary Conference** is the supreme policymaking organ of the ITU and consists of representatives of all ITU Member States. The conference sets the policies of the organization, adopts four-year strategic and financial plans, and elects senior ITU officials and members of the ITU Council. It meets once every four years, with the next Plenipotentiary Conference scheduled in Bucharest,

Romania, from September 26 to October 14, 2022.¹² Decisions are adopted by a simple majority, except admission of new Member States that are not already members of the United Nations, which requires a two-thirds majority.

2. **The ITU Council** acts as the organization's governing body between Plenipotentiary Conferences and, acting on behalf of the Plenipotentiary Conference, oversees ITU operations, supervises the organization's work, approves the budget, and manages ITU finances and expenditures. The council often addresses ongoing issues or acute matters by establishing working groups that can include Member States and Sector Members (i.e., nongovernment members of the ITU). There are 48 Member States on the council with seats assigned by regions: Americas (9 seats); Western Europe (8 seats); Eastern Europe and Northern Asia (5 seats); Africa (13 seats); and Asia and Australasia (13 seats).¹³ The council seeks to adopt decisions by consensus but, if that is not possible, adopts decisions by a majority provided a quorum of members are present and entitled to vote.

The ITU also has a General Secretariat, led by the ITU Secretary-General, which is responsible for providing services to the Member States and Sector Members, coordinating activities, and collecting and disseminating data.

Over the years, the ITU has changed its organizational structure to address evolving concerns and technologies. The current structure, approved at the 1992 ITU Additional Plenipotentiary Conference, established three sectors:

1. **Telecommunication Standardization Sector (ITU-T).** The ITU-T sector adopts international standards (called recommendations) for virtually all ICT networks to allow them to smoothly operate across borders and products. ITU standards are what allows a telephone to work on different networks around the world and ensures that products and services can be used globally. By recommending preferred technological standards for companies to use for their products, the ITU essentially elevates one standard over alternatives in scope of use and commercial viability.
2. **Radiocommunication Sector (ITU-R).** The ITU-R sector focuses on wireless communications, broadcast frequencies, broadband, and satellites. The ITU-R sector coordinates international management of

the radio-frequency spectrum and satellite orbits, which are finite and increasingly in demand by governments and industry. The goal of the sector is to “ensure interference-free operations of radiocommunication systems,” establish standards to enhance the performance and quality of those systems, and “ensure the rational, equitable, efficient and economical use of the radio-frequency spectrum and satellite-orbit resources.”¹⁴

- 3. Telecommunication Development Sector (ITU-D).** The ITU-D sector seeks to bridge the digital divide between developed and developing countries through events, training, and programs to expand access and investment.

These three sectors work through study groups, conferences, and meetings to arrive at technical standards and guidelines for the industry. The standards are developed by study groups, which make recommendations that are subject to review and adoption after opportunities for comment, which can involve multiple phases.¹⁵

Since its founding over 150 years ago, the ITU has grown substantially in size, budget, mission, and responsibilities.¹⁶ From a score of governments in 1865, the ITU now has 193 Member States.¹⁷ In addition, hundreds of businesses, universities, and other international organizations pay fees to become associates or members of one or more sectors of the ITU.

The biennial budget for 2022–2023, approved in August 2021, is 325 million Swiss francs (CHF, or U.S. \$352 million). Of the budget, 67 percent is derived from Member State assessments; 10 percent from fees for nongovernment members and associates of ITU sectors; and the balance from sales, services, cost recovery, and other revenue.¹⁸ Assessments are determined by an unusual system in which each “Member State and Sector Member shall pay a sum equivalent to the number of units in the class of contribution it has chosen.”¹⁹ As explained by the ITU:

At ITU Plenipotentiary conferences [held every four years], each Member State selects a class of contribution. For example, a single contributory unit for Member States is worth CHF 318,000. Member States can choose to provide from 2 to 40 contributory units, or below that in the 1½, 1, ½, ¼, 1/8 and 1/16 unit class. Only Member States listed by the UN as Least Developed Countries—and those exceptionally authorized by the ITU Council to do so—may select the 1/8 and 1/16 unit classes of contribution. This allows least developed countries to participate in the vital work of ITU.²⁰

Currently, Japan and the United States are the highest contributors, each contributing 30 units.²¹ Germany is third at 25 units, France fourth at 21 units, and China fifth at 20 units. According to the State Department, the U.S. assessment in 2020 was 7.6 percent of Member State assessments, which resulted in a contribution in fiscal year 2020 of \$12.2 million.²²

Although participation of industry, academia, and other private-sector entities in the ITU is high—especially when compared to most other U.N. organizations—private entities do not have the voting powers and participation privileges of governments. As such, the charges for private-sector members and associates is lower than that applied to Member States. Likewise, nonprofit and academia members and associates are charged preferential rates even lower than those for business.²³ Currently, over 100 U.S.-based entities are members of the ITU in some capacity.²⁴

In 2020, the ITU had 758 staff²⁵ and 56 percent of the 2022–2023 budget is allocated to the General Secretariat for staff, travel, and related support costs.²⁶ Overall, staff costs for the General Secretariat, the three ITU sectors, and the regional offices accounted for over 86 percent of the ITU budget. The balance was consumed by contractual services, conferences, maintenance, and other support costs.

U.S. Relations and Policy Priorities

Many fields where the ITU is active are central to U.S. economic and strategic interests: artificial intelligence, broadband, cybersecurity, satellite communications, spectrum assignments, orbital slots, and the Internet.

Historically, the United States has prioritized the standard-setting and regulatory aspects of the ITU, focusing primarily on ITU-T and ITU-R. In considering how to balance priorities, that choice made sense to advance the interests of American citizens who use ICT devices, including everything from radios to satellite television to cell phones.

In addition, U.S. engagement advances the financial interests of U.S. corporations. Adopting global telecommunications and radio communications standards increases efficiency, commercial viability, and profits for companies that own the technologies that are adopted as standards. Businesses gain competitive advantage and economic benefits from registering SEPs, which are necessary for implementing agreed-upon standards. As summarized by the *Wall Street Journal*, “Standards based on patented technologies often require users to pay licensing fees. Nokia Corp. and Qualcomm Inc., for instance, earn billions of dollars annually from patents that underpin cellphone systems made by rivals.”²⁷ Indeed, the global royalty income in

2020 on 5G-related SEPs—the fifth wireless network generation and object of considerable international wrangling in recent years²⁸—was estimated at \$20 billion, with sharp increases projected.²⁹ Negotiating universal access and standards is easier in a multilateral venue, and U.S. engagement ensures that U.S. companies have a fair chance to advocate for their preferred standards and defend their interests and proprietary technology.

China's ITU Deluge

These motivations equally apply to China, but instead of allowing the process to alight on the best practices through normal deliberations, Beijing has placed a thumb on the scale. China has focused on influencing key standard-setting organizations. For instance, active membership by Chinese delegates to ISO technical committees and subcommittees, which set standards for numerous products—from footwear to home appliances—increased from 465 in 2005 to 668 in 2019. Only the United Kingdom and Germany had higher active membership in 2019. The U.S. lagged significantly at 572 active members in 2019.³⁰

The ITU is a critical component of China's effort to dominate standard setting. The ITU reports that 95 percent of international communications traffic over fiber networks is built using ITU standards.³¹ These networks have nearly doubled international traffic and increased access speeds in the dozens of multiples. Every year, hundreds of new standards are released—including in 5G and the “Internet of things”—that are increasingly used in everyday life through Amazon Alexa, Google Nest, baby monitors, household security, television connectivity, lights, heating, and much more. Whether it is decisions about satellite positioning, next-generation Internet technology, spectrum allocation, Internet switching, artificial intelligence, intelligent streetlights, driverless cars, or “smart cities,” key decisions are made at the ITU.³²

China has sought aggressively to influence the ITU process by subsidizing participation by Chinese nongovernment (academic and business) participation in ITU deliberations and study groups. Of course, in China, very little is untouched by government, and Beijing demands uniform support for Beijing's preferred positions from “nongovernment” Chinese academics and businesses in ways that are not done in Western countries and allow China to manipulate ITU processes.³³

The Third Generation Partnership Project (3GPP) provides an example of how even small Chinese interventions can add up: 3GPP is an industry stakeholder group that develops the specifications and standards to meet

ITU guidelines for international mobile telecommunications.³⁴ It is a consortium of organizations from China, Europe, India, Japan, South Korea, and the United States made up of private companies that register in their regions to become “members” of 3GPP.³⁵ From the corporate grassroots level, companies register innovations at their regional organizations, and companies across the board may then assess those contributions with a view to global standard setting. This system is mirrored across the ITU’s three sectors, with “study groups” that make “recommendations” that inform “resolutions” that become standard-setting “decisions.” Those decisions are then implemented at the national level.³⁶ The costs for private-sector participation in the 3GPP are estimated to be \$300,000 per engineer. Beijing helps defray the costs of contributing engineers to the 3GPP. By comparison, U.S. participants must pay those costs—and the additional \$50,000 entry fee to the regional telecom grouping ATIS—without support from the U.S. government.³⁷

The aim of Beijing’s effort to flood the standard-setting process in the ITU and related organizations, articulated and advanced in the “China Standards 2035” plan, is to ensure that Chinese companies (and, by extension, the Chinese government) set standards and earn profits associated with them.³⁸ The results of Beijing’s blitz are sobering:

- China has submitted 830 technical specifications related to wired communications in 2019.³⁹ This far surpassed any other nation. In fact, it was more than the next three (South Korea, the United States, and Japan) combined.
- Huawei, the Chinese telecom company, is the top SEP contributor on 5G to the 3GPP group.⁴⁰
- Huawei and its fellow Chinese company ZTE have “filed for nearly 24,000 SEPs—as compared with fewer than 3,000” filed by U.S. chip manufacturers Intel and Qualcomm.⁴¹ Why is this important? As RAND Corporation scholars explain, “Once something is declared a SEP, all 5G participants can then be compelled to use chipsets and algorithms produced by the SEP holders to ensure compatibility with the 3GPP global standards.”⁴²
- The research firm iPlytics reports that there are nine Chinese firms among the top 30 patent owners of 5G self-declared patent families. Together, these firms, led by Huawei and ZTE, accounted for more

than 40 percent of 5G granted and pending patents as well as pending applications at patent offices worldwide.⁴³ Similarly, Chinese companies accounted for approximately 35 percent of 5G 3GPP contributions and 5G-approved technical 3GPP contributions (i.e., the group recommendations to the ITU for 5G standards).⁴⁴ By comparison, six U.S. companies were in the top 30, led by Qualcomm, and accounted for slightly over 15 percent of granted and pending patents and less than 15 percent of 5G 3GPP contributions and 5G-approved technical 3GPP contributions.

- In addition, iPlytics reports that, as of November 2019, Chinese firms sent over 29 percent of the engineers attending 3GPP meetings relevant to 5G. By comparison, U.S. companies sent under 19 percent. Huawei alone sent 3,098 engineers—more than the top two U.S. companies (Qualcomm and Intel) combined.⁴⁵
- Beijing has instructed Chinese companies participating in ITU study groups to block consensus—even when doing so contravened the company’s own interests—to force the ITU to endorse Beijing’s preferred standards on issues such as 5G coding.⁴⁶ Indeed, Chinese companies voting within the ITU process were forced to vote en bloc, with delegates required to bring phones into their voting booths in order to prove that they supported Beijing’s preferred options.⁴⁷

What does this mean in practice? The less competition with China there is in the standards space, including at the ITU, the more often it will be Beijing that sets the parameters for the future of telecommunications, artificial intelligence, satellite communications, and the pervasive world of Internet and handset-controlled devices. By flooding the ITU through subsidized participation of Chinese businesses and thereby biasing the internal processes for standard setting, the Chinese government is increasing the odds that Chinese-company-generated standards and contributions are adopted.

Influencing the ITU from Within

China has also sought to increase its influence by expanding the number of Chinese officials working at the ITU, including senior leadership. Since 2014, a Chinese national, Houlin Zhou, has been Secretary-General of the ITU. Upon appointment, ITU officials, including

the Secretary-General, take an oath of office. Zhao was sworn in with the following pledge:

I solemnly swear to exercise in all loyalty, discretion and conscience the functions entrusted to me as a staff member of the International Telecommunication Union; to discharge these functions and to regulate my conduct with the interest of the Union only in view, without seeking or accepting instructions or assistance from any Government or other authority external to the Union in regard to the accomplishment of my duties.

Since assuming leadership of the ITU, Zhao has disregarded this oath and, instead, championed Beijing's priorities in public statements and ITU partnerships, endorsements, and initiatives. For example:

- In 2015, the Chinese government reported that Premier Li Keqiang told Zhao that he hoped that he would “fulfill his duty, and help promote the development of technology and a high standard of information and communication in China.” Zhao promised to “promote the all-around cooperation of ITU with China.”⁴⁸
- In 2017, Zhao championed China's key investment effort, saying: “China's One Belt, One Road can improve lives at scale through ICT investment.”⁴⁹
- In 2019, Zhao vowed again to join hands with China on its Belt and Road Initiative, saying: “It's the grand guide and platform for China's foreign aid plans. It's an express train that once you get on, you can join forces with China and develop along with the country.”⁵⁰
- In 2019, Zhao dismissed U.S. security concerns about Huawei's involvement in developing 5G mobile networks as a “loser's attitude.” “Those preoccupations with Huawei's equipment, up to now there is no proof so far,” Zhao said. “I would encourage Huawei to be given equal opportunities to bid for business, and during the operational process, if you find anything wrong, then you can charge them and accuse them. But if we don't have anything then to put them on the blacklist—I think this is not fair.”⁵¹
- The *Financial Times* noted in 2020 that the ITU has provided a forum for Chinese proposals for a “radical change to the way the internet

works...which critics say will also bake authoritarianism into the architecture underpinning the web.”⁵²

Zhao’s final term in office expires at the end of 2022, but he has helped ensure that Beijing’s influence remains after he leaves office by increasing the number of Chinese professional staff at the ITU from nine to 13.⁵³ The United States saw a decline from nine to seven in the number of professional staff at the ITU over the same period. This may sound insignificant, but it represents a discernable shift in the relatively small number (365) of ITU professional staff.

In addition, Beijing has sought to similarly influence other standard-setting organizations such as the ISO and IEC by securing top positions for Chinese experts.⁵⁴ In the ITU standard-setting process, Beijing has sought to influence 3GPP through its leadership.⁵⁵ Wang Zhiqin of China has served as chair or vice chair of the 3GPP Project Coordination Group, the 3GPP decision-making body, eight times since 2006⁵⁶ while also serving as the vice president of the China Academy of Information and Communications Technology, chair of the Wireless Technical Committee of China Communications Standards Association, and director of the Wireless and Mobile Technical Committee of China Institute of Communications.⁵⁷ In short, one woman deeply enmeshed in China’s telecom industry and receiving “multiple top awards and honors by the China Central Government”⁵⁸ has been in a position to deeply influence 3GPP and its subgroups for 15 years. While Americans and nationals from other nations have also held these positions, they do so as independent representatives of their businesses or coalitions and, unlike Chinese business or academic representatives, are not subject to government instruction.

Belt and Road and ITU-D

China has successfully used the influence of Houlin Zhao to promote its outreach to developing countries. Historically, the United States has not prioritized ITU-D, the development arm of the ITU. With limited resources, focusing on the multilateral standard-setting roles in other sectors of the ITU that have significant impact on U.S. strategic and economic interests made sense. From the U.S. perspective, development efforts are best handled bilaterally through the U.S. Agency for International Development or multilaterally through the World Bank or regional development banks due to their focus, expertise, and ability to bring more resources to bear for development—and because the United States has more influence over how

funds are used than is the case through the ITU.

While unintentional, U.S. indifference to ITU-D has left the impression that the United States is not as interested in promoting ICT development as other nations are, specifically China. In recent years, China's Belt and Road Initiative (BRI) and its associated "Digital Silk Road" have made substantial inroads into the developing world.⁵⁹ Chinese President Xi Jinping opened the first Belt and Road Forum for international cooperation in 2017, laying out his agenda for the BRI-supported Silk Road:

We should pursue innovation-driven development and intensify cooperation in frontier areas such as digital economy, artificial intelligence, nanotechnology and quantum computing, and advance the development of big data, cloud computing and smart cities so as to turn them into a digital Silk Road of the 21st century.⁶⁰

While the BRI has been described as "debt trap diplomacy" and "predatory lending,"⁶¹ the Digital Silk Road has a multidimensional agenda. First is the utility of using debt as leverage to gain support for political or strategic purposes—a tactic China has used many times.⁶² However, the economic incentives should not be downplayed. As Chinese firms are increasingly viewed skeptically or even barred from certain activities in U.S. and European markets, they have sought to increase their presence in the developing world, often subsidized with BRI funding from the Chinese central government. Seeking alternative markets is a natural reaction to the vicissitudes of business. However, there may also be an intelligence motivation as it is suspected that Chinese technology is deliberately designed to facilitate Chinese spying and surveillance. Reports in 2018 allege that China used its involvement in the construction of the African Union (AU) headquarters building, including the AU computer network, to download information from AU servers to China each night.⁶³ Considering the number of government buildings constructed with Chinese "help" in recent years, the vulnerability could be very widespread.⁶⁴

Eager to entrench standards that will favor Chinese firms and advance its China Standards 2035 agenda,⁶⁵ Beijing has used the developing world to subsidize exports and investment by its firms in developing countries. As noted by the Swedish Institute of International Affairs, "In short, internationalization of Chinese technical standards within the BRI on a bilateral basis and outside of multilateral institutions is both an alternative strategy for when the PRC fails to get its way in established international institutions and a means to provide Chinese companies with a competitive advantage in BRI countries."⁶⁶ Indeed, the Chinese government reports that, as of March

2019, Beijing had “signed 173 cooperation agreements with 125 countries and 29 international organizations.”⁶⁷

While there is little evidence of this market expansion currently leveraging support by countries in the ITU,⁶⁸ Beijing has demonstrated repeatedly that it is willing to exert financial leverage to gain outcomes it desires. As more developing countries across Africa and Asia use Chinese products and, by extension, China’s domestic standards, this can create de facto standardization of its products and leverage for developing countries to support implementing those standards in international organizations such as the ITU.

The incredible growth of Huawei is a stark example of how Chinese government intervention and subsidies can grow a business from incidental to market giant. Huawei, benefiting from government-subsidized financing and mandates that hold large shares of the huge Chinese mobile market for preferred Chinese companies, saw its revenues rise from \$2 billion in 2002 to over \$18 billion by 2008 to over \$105 billion by 2018.⁶⁹ As a Chinese company, Huawei is subject to China’s national security and cybersecurity laws, which mandate government access to all information that transits, is stored on, or in any other way touches that nation’s networks—even if the information is collected outside China. Moreover, because of China’s focus on integrating civilian and military industrial sectors, its products are more likely to be exploited by the People’s Liberation Army. This only exacerbates a proven history of low cybersecurity standards, theft of intellectual property and data, and deliberate circumvention of international sanctions when it comes to rogue nations such as Iran.

Artificial intelligence is another area where China is making strides. Studies detail inroads made by Chinese artificial intelligence firms across Africa, with tech from companies such as Hikvision powering surveillance cameras, streetlights, and other crowd-management software and amassing facial-recognition data across the continent.⁷⁰ South Africa’s Vumacam (using Hikvision technology), for example, has thousands of cameras deployed across the country, raising privacy and profiling concerns.⁷¹

Of course, Beijing does not do this solely for economic benefit. It works directly with these firms to facilitate Chinese political goals.

Surveillance is omnipresent in China, with companies forced to support the government’s social credit system that ranks businesses, individuals, and other entities according to their loyalty and trustworthiness. Those considered untrustworthy find themselves punished in small and large ways. At the extreme, it facilitates Beijing’s genocidal effort against the Uighurs in Xinjiang.

China has no compunction against exporting this technology to other

authoritarian regimes. Moreover, this use of technology in China and Beijing's deep involvement in the financial welfare of its businesses has elicited grave concerns in the United States and other countries that Chinese technology may deliberately include backdoors to allow Beijing access. For instance, the United States has led an aggressive effort to convince allied governments that using Huawei in 5G infrastructure put data—both private and government—at risk of Chinese surveillance.⁷² Hikvision is now under U.S. government sanctions for its role in facilitating surveillance of China's Uighurs.⁷³

In addition to Huawei and Hikvision, companies such as NucTech, Xiaomi, and ByteDance are enmeshing themselves in the fabric of African, Asian, and Western societies, raising concerns about the information that they, with their ties to Beijing, might share with China, leaving privacy safeguards an afterthought.⁷⁴

Many BRI deals reportedly include standardization clauses that result in governments supporting Chinese initiatives and standardization proposals.⁷⁵ It is inevitable given the bottom-up processes of the ITU and other standard-setting organizations that China will use the prevalence of Chinese technology on the ground and participation of Chinese businesses in standard-setting international bureaucracies to press for Chinese standards to be adopted at the ITU.

Protecting the Internet from ITU Governance

The growth of the Internet over the past 30 years has been breathtaking. This growth and success in no small part has been due to the relatively loose regulatory environment overseeing the Internet that allowed rapid innovation and private-sector, market-driven choices. Some governance, such as making sure that Internet addresses are unique and that changes to the root servers are conducted in a reliable and non-disruptive manner, has been in place for decades and is necessary to ensure that the Internet operates smoothly. These functions are managed largely by nonprofit entities, such as the Internet Engineering Task Force and the Internet Corporation for Assigned Names and Numbers (ICANN).

The United States was instrumental in the creation of the Internet and standing up the current governance structure. In 1998, the U.S. government established and contracted with ICANN to manage most of the technical aspects of Internet governance. ICANN solicits input and feedback from the multi-stakeholder community, including Internet registries, registrars, businesses, civil society, and governments. In 2016, after the adoption of

new rules and procedures to provide for oversight from the multi-stakeholder community, the U.S. contractual relationship with ICANN expired.⁷⁶

The United States and other like-minded governments are largely satisfied with the current private-sector-led, multi-stakeholder model for Internet governance, but other governments desire more robust government oversight internationally. As noted by the U.S. government in 2015 as the U.S. was ending its contractual relationship with ICANN:

While the current multistakeholder system of Internet governance has been successful, some states seek the creation of a new system, subject to intergovernmental control—one that excludes non-governmental stakeholders from the process. Intergovernmental controls would upend the currently successful model of multistakeholder governance, and inevitably lead to new restrictive rules and regulations, the most noxious of which would be censorship or content controls by repressive regimes.⁷⁷

Indeed, China and Russia have proposed repeatedly that the role of intergovernmental institutions in Internet governance be expanded.⁷⁸ In a joint statement last June, Russia and China

reaffirm[ed] their commitment to strengthen international information security both at bilateral and multilateral levels, and they will further contribute to establishing a global international information security system based on such principles as prevention of conflicts in information space and promotion of the use of information and communication technologies for peaceful purposes. In this context, they underline the applicability of international law, in particular the UN Charter, to information space, however, a common understanding on how it is used given the specifics of information and communication technologies is required, express their support for the work being done within the UN to elaborate new rules, norms and principles of responsible behaviour of States in information space and reiterate the key role of the UN in countering threats in the field of international information security....

The Parties underscore their unity on issues related to Internet governance, which include ensuring that all States have equal rights to participate in global-network governance, increasing their role in this process and preserving the sovereign right of States to regulate the national segment of the Internet. Russia and China emphasize the need to enhance the role of the International Telecommunication Union and strengthen the representation of the two countries in its governing bodies.⁷⁹

China, Russia, and other countries have sought for years to impose constraints on the Internet through intergovernmental regulation and treaties to censor or block content and activities they deem offensive or damaging to their interests.⁸⁰ They would very much like to shift governance to organizations such as the ITU, where governments enjoy full participation while the private sector's role is limited.⁸¹ While not achieving their goal, they have made incremental progress.⁸²

Indeed, many governments feel marginalized by the multi-stakeholder approach.⁸³ Perhaps in an attempt to address these concerns by showing commitment to the intergovernmental process, ICANN joined the ITU-D as a sector member.⁸⁴ While this engagement may mollify some governments, it is unlikely to satisfy Russia and China because ICANN continues to urge against the ITU inserting itself into the Internet governance space.

Although the multi-stakeholder model of Internet governance is not perfect, it has the virtue of placing business and civil society on an equal footing with governments. If the United States is to prevent China and Russia from exporting censure and repression to the global Internet, it is imperative to oppose expanding the role of the ITU and other intergovernmental organizations into Internet governance.

Recommendations

Adoption of Chinese standards will mean Beijing will gain the initiative in 5G, the Internet of things, artificial intelligence, and other emerging technologies. But the challenge is far broader. As noted by Japan's former trade minister Akira Amari, "If Chinese products are set up to collect data you have to work on the assumption that it will all end up with the Chinese government."⁸⁵ Including Chinese equipment raises significant privacy and security concerns. For instance, allowing use of Chinese equipment by U.S. immigration, such as the Global Entry system, would give the Chinese Communist Party access to proprietary data. Chinese equipment embedded in so-called smart cities—imagine everything from cars to electrical grids to communications—would provide an enormous temptation to the Chinese Communist Party that has demonstrated dedication to creating a pervasive surveillance state in China and exporting that capability abroad. Alarmist? Not in the least. The United States has provided classified proof to other nations that Huawei and ZTE hardware has been used to gather intelligence for the Chinese government.⁸⁶ To address economic, security, and privacy concerns, the United States should:

- **Reverse Chinese politicization of the ITU under Houlin Zhao.** The ITU addresses many ICT issues that directly impact U.S. economic and strategic interests. Zhao used his position to advocate for Chinese interests, businesses, and standards. He has also successfully expanded ITU employment of Chinese nationals. Zhou's second four-year term ends on December 31, 2022. The United States should work with like-minded countries to restore the independence of the ITU and reverse the politicized endorsement of Beijing's policies and initiatives under Zhao.
- **Support leadership that values the independence and mission of the ITU.** In March 2021, the United States announced its support for Doreen Bogdan-Martin to become the next ITU Secretary-General.⁸⁷ She is well qualified and has demonstrated an independence and commitment to the mission of the ITU. Her competition is Rashid Ismailov of Russia.⁸⁸ Russia agrees with China on many ICT and governance issues, particularly information control and surveillance, and Ismailov would likely have little incentive to reverse Zhou's influence over the ITU. The United States has strongly supported the candidacy of Bogdan-Martin, including creating a campaign website and seeking support from other governments and business associations.⁸⁹ The United States should gather support for her election but should not neglect other senior officials up for election at the upcoming Plenipotentiary Conference in October 2022.⁹⁰ The overriding priority is to support the election of individuals who will adhere to the independent, technical mission of the ITU.
- **Keep Internet governance out of the ITU.** China, Russia, and other authoritarian governments have sought to have Member State-controlled international organizations assume more control over the Internet. Currently, Internet governance largely resides with ICANN. Although ICANN is not perfect, the multi-stakeholder model better reflects the interests of the private sector and is more resistant to censorious pressures that governments would seek if oversight were to shift to the ITU or other intergovernmental organizations.
- **Counter China's interference in the standards process.** China has increased its influence in the ITU and its study groups that generate recommendations for standards, often via Chinese businesses and

other “private” Chinese organizations. Beijing has subsidized Chinese “nongovernment” participation in ITU processes, mandating uniformity among those participants to give the impression of extensive support for Beijing’s preferred outcome over Western alternatives and flooding the process with proposals regardless of merit. Like-minded countries need to raise awareness of China’s manipulation of the standard-setting process in the ITU and other organizations and ensure that standards are based on practicality, reliability, and interoperability, not the political preferences of Beijing.

- **Lessen the cost of participation by U.S. companies in the 3GPP and similar standard-setting bodies.** China subsidizes companies and engineers taking part in the 3GPP project setting 5G and newer standards. Because the barriers to entry and the costs per person are high, U.S. and, to a certain extent, European players are being overwhelmed. While some of the ITU process filters out the high volume of Chinese input, group leaders have felt pressured to endorse two competing options for fear of alienating or being outvoted by Beijing. The U.S. government should throw its weight behind U.S. participants, understanding that a failure on standard setting will have both national security and economic implications. In addition, the United States should offset the costs of private participation in international standard-setting bodies by, for instance, making costs of participation and membership tax deductible.
- **Offer credible alternatives to China.** While the U.S. government has begun, belatedly, to contain the espionage activities of Huawei and focus on Chinese efforts to surpass the United States in artificial intelligence and the next generation of wireless cellular technology, that is far from sufficient. The United States should build coalitions and ensure that Chinese technology does not become the low-cost alternative in the developing world. The U.S. government should align incentives and resources appropriately to offer credible alternatives to Chinese options. Along these lines, the United States should direct the U.S. Development Finance Corporation to focus more on competing with China and partner with U.S. technology companies to offer viable alternatives to the BRI and Digital Silk Road.⁹¹

Conclusion

It is not in the interest of the United States or its allies to allow Beijing to dominate emerging technologies, including 5G and artificial intelligence, by setting rules, standards, and practices to be adopted globally. The United States should work with like-minded countries to ensure the ITU remains independent, does not increase its role in Internet governance, and insulates the standards process from Chinese efforts to game the system. At home, the U.S. government should encourage participation by U.S. companies in the standard-setting process. And vitally, the United States and other democracies should secure the election of a Secretary-General and other senior officials that will adhere to the independent, technical mission of the ITU.

China has displayed a skill and persistence in infiltrating international organizations and in using its bilateral initiatives such as the BRI to take advantage of the one-nation-one-vote system within U.N. agencies. This requires systemic vigilance and an effort to shore up the independence of U.N. specialized agencies and enhance the integrity of voting processes within these agencies.

As Russia, China, and other authoritarian governments manipulate the international system to their advantage, the United States and others will need to be more proactive. While the work of the ITU, like many international organizations, is complex and obscure to all but the most expert observers, failure to protect the independence and integrity of the ITU will impact every American. It is not simply the phones used, or the satellites positioned, or the chips embedded. Rather, what is at stake is everything from secure air travel, privacy in every sphere of modern life, and the ability of the U.S. military to protect the American people. The stakes could not be higher, and it is time for the U.S. government to step up.

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