Covid-19 Brings New Developments in China's Digital Silk Road

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─────────────〈**Summary**〉─────────────

◆　The Digital Silk Road is an initiative by China as part of the Belt and Road Initiative (BRI) to support the digitization of BRI countries. The objective is to promote the export of Chinese digital products and services as well as to ensure China's leadership in international standardization of next-generation digital technologies such as 5G.

◆　Many international standards for next-generation digital technologies are still not established. Through the Digital Silk Road, Chinese companies aim to be the first to introduce Chinese standard technologies into the BRI countries. Expanding the scope of the movement will become a "fait accompli" that Chinese technologies are already adopted in many countries and will benefit China in the international standard-setting process.

◆　COVID-19 is accelerating China's efforts to build the Digital Silk Road. China has developed various digital technologies domestically to fight COVID-19 while attempting to meet the surging needs of "contactless" and "unmanned", and is now expected to export these technologies. The relative importance of the Digital Silk Road has also increased as COVID-19 has made it difficult to build large-scale infrastructure under BRI.

◆　As the construction of the Digital Silk Road accelerates, Western industrialized countries, especially the United States, are becoming increasingly suspicious of the plan. In addition to economic concerns, such as the widespread adoption of Chinese standards in next-generation digital technologies, which would be disadvantageous to non-Chinese companies, there are also concerns from the standpoint of politics, national security, and values. The West is particularly worried that, (1) data collected by Chinese companies on the BRI countries will be passed over to the Chinese government, (2) a surveillance society

will spread around the world, and (3) the degree of freedom on the Internet will decline worldwide. Some of these fears are groundless at this point in time, and Japan does not need to overreact. What is important is to keep a close eye on China's moves and calmly consider how the Japanese government and companies should respond.

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1. Introduction

The outbreak of COVID-19 has prompted China to accelerate its efforts to construct the Digital Silk Road. The Digital Silk Road is difficult to understand because it has various aspects such as economics, technology, politics, and national security. It has a wide range of related projects and many variations in the degree of involvement of the Chinese government. However, because the Digital Silk Road is an important policy for China to enhance its global influence in next-generation digital technologies, and also because it is one of the grounds for the assertion of China as a threat by Western developed countries centering on the United States, it is necessary to keep a close watch on this initiative.

This paper outlines the Digital Silk Road, taking into account China's aim, its relationship with the Belt and Road Initiative (BRI), the influence of COVID-19, and what the Western developed countries are concerned about in this initiative.

2. To Become a Cyber Superpower

(1)What is the Digital Silk Road?

China's Digital Silk Road as part of the Belt and Road Initiative (BRI) is to support the digitization of overseas countries, mainly the BRI countries. The objective is to promote the export of Chinese digital products and services and also to ensure China's leadership in the international standardization of next-generation digital technologies such as 5th generation mobile communications systems (5G), artificial intelligence (AI), and quantum computing. By doing so, the Chinese government hopes to build a cross-border digital network with China at its core and increase China's influence as the society and economy move toward digitization worldwide. In this sense, it is also part of China's digital strategy to become a "cyber superpower".

The Digital Silk Road was initially proposed in 2015 as the "Information Silk Road", but later in 2017 renamed to the "Digital Silk Road". As of April 2019, the Chinese government has signed MoUs (memorandum of understanding) with 16 countries for the construction of the Digital Silk Road, and action plans are under way with 12 of them[1]. The specific names of the 16 countries are not disclosed, but Eurasia Group, a consulting firm specializing in political risk, listed the countries in Table 1 on its own.

Projects associated with the Digital Silk Road is quite extensive. They can be divided into three categories: (1) development of digital infrastructure, (2) promotion of digital services, and (3) simultaneous implementation of both.

Infrastructure development is focused on laying communication networks such as optical fiber cable networks and submarine cables, constructing data centers and installing IT equipments used there, and promoting the use of the satellite positioning system "BeiDou Navigation Satellite System (BDS)" which is the Chinese version of the American GPS. In addition to state-owned enterprises such as China Mobile Communications and China Telecom, private enterprises such as Huawei Technologies are implementing these measures. It is estimated that

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[1] "Construction of Digital Silk Road lights up BRI cooperation" , People's Daily , April 24 , 2019 (http://en.people.cn/n3/2019/0424/c90000-9571418.html)

70% of Africa's 4G networks were built by Huawei[2], and BDS is already in use in 30 countries, including Pakistan, Thailand, Brunei and Laos[3].

In the promotion of digital services, private companies like Alibaba and Tencent are the main players. They are launching e-commerce and electronic payments through partnerships and acquisitions with local companies, and indirectly promoting the digitization of the region by investing in tech startups. In Southeast Asia, for example, Alibaba owns Lazada, one of the region's leading e-commerce companies, and many unicorns (unlisted companies with an estimated valuation of $1 billion or more) have received investment from Chinese companies.

The construction of smart cities covers both infrastructure and digital services. In addition to urban management (planning, development, operation, etc.), e-government, and public transportation, smart city solutions, for instance, surveillance cameras, drones, and big data collection and analysis, are being implemented. In charge are large companies such as Huawei and Insper, as well as emerging companies such as Hike Vision, Sense Time and Keenon Robotics. Since 2013, there have been 116 smart city projects overseas in which Chinese companies have been involved (Figure 1), of which 70 are in BRI countries[4].

Table 1. Countries Signing Digital Silk Road-specific MoU with China
(by Eurasia Group)

Region	Country
Africa	Egypt
Asia	Turkey
	Bangladesh
	Laos
	South Korea
	Kazakhstan
Europe	Czech Republic
	Serbia
	Poland
	Hungary
	Estonia
	United Kingdom
Latin America	Cuba
	Peru
Middle East	Saudi Arabia
	UAE

Source: Eurasia Group, "The Digital Silk Road: Expanding China's Digital Footprint ", Aprill 8, 2020

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2 "How Huawei could survive Trump" , Washington Post , June 10 , 2019 (https://www.washingtonpost.com/politics/2019/06/10/what-do-we-know-about-huaweis-africa-presence/)
3 "Digital Silk Road spells fundamental changes for emerging economies" , Silkrout News , Issue 124 -29.09 . 2020 , September 28 , 2020 (https://silkroute.news/)
4 "From AI to facial recognition: how China is setting the rules in new tech" , Financial Times , October 7 , 2020 (https://www.ft.com/content/188d86df-6e82-47eb-a134-2e1e45c777b6)

Figure 1. Number of "Smart City" and "Safe City" Project Deals
Involving Chinese Companies Since 2013
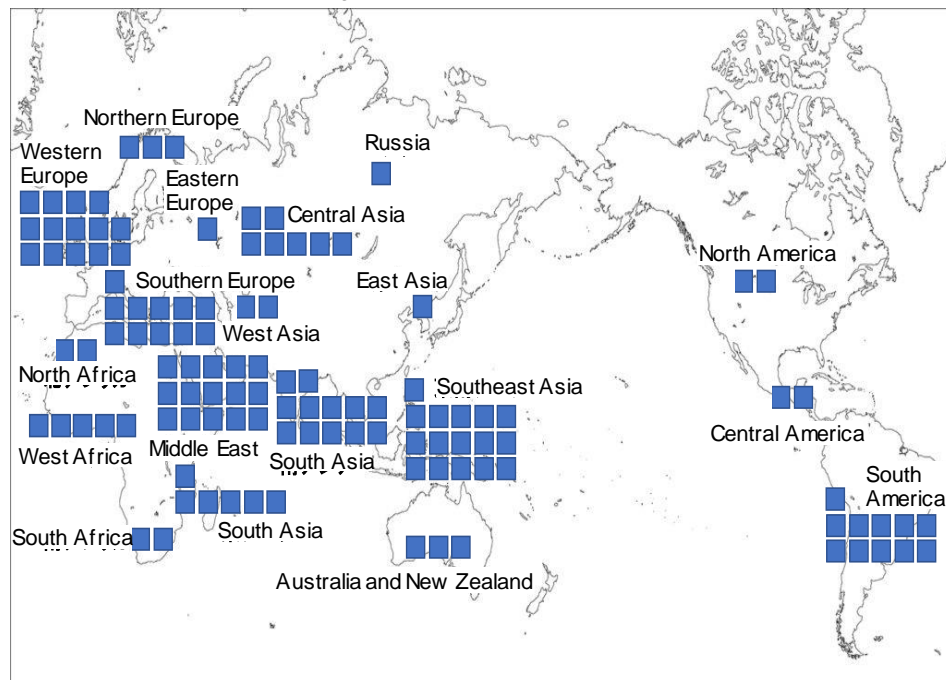
Source: "From AI to facial recognition: how China is setting the rules in new tech", Financial Times,
October 7, 2020 [original text] RWR Advisory
Note: One square is equivalent to one smart city project.

(2)Why the Digital Silk Road is Difficult to Understand

Digital Silk Road projects, as described above, are wide-ranging and involve a mixture of schemes, with or without government involvement. There is even an impression that all overseas businesses of Chinese tech companies are included in the Digital Silk Road. These are some of the reasons why this initiative is hard to understand.

A number of Digital Silk Road projects, such as laying fiber optic cables and undersea cables, have long been carried out in cooperation between the public and private sectors throughout the BRI region. After the Digital Silk Road initiative came out, they were relabeled as "Digital Silk Road" projects.

Some projects related to the Digital Silk Road have been implemented based on intergovernmental agreements and with the support of the Chinese government in the form of low-interest loans and subsidies, while others have been implemented without any government support. So far, projects without government support are larger in number. These projects are carried out in response to local needs rather than the intentions of the Chinese government, or simply motivated by business opportunities. Many of the surveillance system projects using facial recognition technology are implemented in response to requests from the governments of BRI countries. Private tech companies such as Alibaba and Tencent, with or without the Digital Silk Road, have voluntarily entered the markets of BRI countries in expectation of their high potential. Even so, these are often regarded as part of the Digital Silk Road, maybe because it will advance the digitization of the countries where the projects are conducted, thereby contributing to the construction of the Digital Silk Road. Chinese companies also sometimes say that they are carrying out Digital Silk Road projects even when they are not receiving any

government support, either to show that they stand with the Chinese government or in expectations of receiving government support.

3. Leading International Standardization through the Digital Silk Road

(1)Bottom-up Approach

One of the objectives of the Digital Silk Road is, as noted above, for China to take the initiative in international standard-setting in next-generation digital technologies.

In recent years, two types of international standard-setting have become mainstream: "de jure standard" which is established through discussions by international standardization organizations, and "forum standard" which is established through discussions in forums organized by international trade associations, academic societies, and companies with common interests. In both cases, usually not one but multiple international standards are formulated, but if one of them are advantageous to a country, it will be the first step to be disseminated worldwide, and will help in overseas expansion.

At present, next-generation digital technologies such as 5G are rapidly developing, allowing massive devices to be connected to the Internet. This will require greater interconnection and interoperability, and will further increase the importance of standardization. At present, many international standards related to next-generation digital technologies are still under development.

China is keenly aware of the importance of international standards from the viewpoint of leading the world in next-generation digital technologies and becoming a "cyber superpower". Thus it aims to introduce domestic standards for next-generation digital technologies to the BRI countries as quickly as possible through Digital Silk Road projects. Expanding the scope of the movement will become a "fait accompli" that Chinese technologies are already adopted in many countries and will benefit China in the international standard-setting process. In this sense, the Digital Silk Road is a bottom-up approach for China to take the lead in international standard-setting.

(2)Securing Leadership in International Standardization

In addition to the Digital Silk Road, China is taking various measures, some of which are top-down, to secure leadership in international standardization. Below are some examples.

(a)Revision of the National Standardization Act (Promulgated in 2017)

The National Standardization Law (promulgated in 1988) was revised in order to respond to the globalization of the economy and changes in China's international status, in addition to domestic matters in which it was necessary to respond to changes in society and to unify the various standards. Of particular note is the fact that while the old law stated that the country should actively adopt international standards (Article 4), the revised law not only encourages the adoption of international standards but also the active participation in international standardization activities (Article 8). This is a major shift from a stance of following international rules to a

stance of participating in the creation of international rules.

(b)"China Standards 2035"

The Chinese government is currently in the process of formulating the "China Standards 2035" as a national strategy for developing domestic standards and international standardization. It will be launched to ensure China's global influence in next-generation digital technologies. Specific details will be announced soon, but 5G, next-generation AI, IoT, big data, and blockchain are expected to be listed as priority areas.

(c)Active involvement in international standardization organizations

The United States and the EU have had strong voices in international standardization discussions, but China's voice has been increasing year by year. This is because, in addition to the improvement of the technological capabilities of Chinese companies, China has become increasingly involved in international standardization organizations. Currently, both the Chairman of the IEC (International Electrotechnical Commission, Mr. Shu Yinbiao, January 2020-) and the Secretary General of the ITU (International Telecommunication Union, Mr. Zhao Houlin, November 2018-) are Chinese, and in the ISO (International Organization for Standardization), a Chinese (Mr. Zhang Xiaogang) was appointed for the first time as Chairman from 2015 to 2017.

China is also actively seeking key posts at international standardization organizations. The number of Chinese secretaries in ISO/IEC has increased rapidly over the last 10 years (Figure 2). Secretaries have the privilege to take the initiative in setting agendas and nominating chairs. In addition, China has been sending large numbers of young experts to international standardization organizations from the standpoint of human resource development and the building of human networks. A similar trend is also seen in forum standardization organizations.

Figure 2. ISO/IEC Secretaries by Country
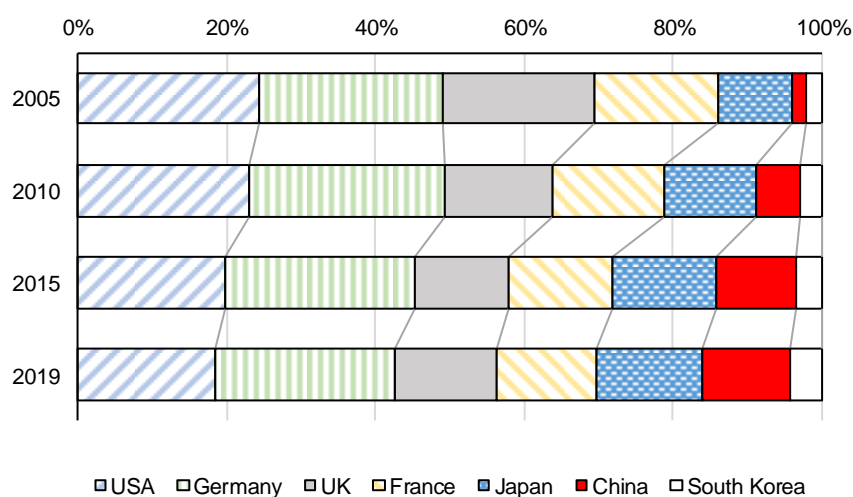
Source: Ministry of Economy, Trade and Industry, "Recent trends in standardization" June 2019; "White Paper on International Trade and Industry 2018", July 2018
Note: Ratio when the above 7 countries total 100%.

(d)Agreement on bilateral and multilateral standardization cooperation

The Chinese government is actively engaged in signing cooperation agreements on bilateral and multilateral standardization frameworks, in order to increase allies in the formulation of international standards. As of April 2019, 49 countries and regions have signed 85 standardization cooperation agreements[5]. Parties include not only emerging/developing countries but also developed countries including Japan. While most cooperative agreements with emerging/developing countries are aimed at expanding China's standards, those with developed countries are generally aimed at jointly securing advantages in specific fields. For example, Japan and China have signed a MoU for the establishment of a next-generation ultra-high power charging standard "Chaoji (super in Chinese)" for electric vehicles in 2018. The two countries are currently working on the joint development of the standard, and are aiming for future international standardization by inviting other countries to participate.

4. Growing Importance of the Digital Silk Road

(1) Increased Focus by the Chinese Government

As mentioned earlier, the Digital Silk Road (to be precise, the Information Silk Road, its predecessor) was first proposed in 2015, but since then its status in the Chinese government has gradually increased. This is due to the following factors.

First, the influence of digital technologies on the society and economy has further increased since 2015. For example, commercial 5G services have been available worldwide since 2019, and the widespread use of such services is expected to significantly change people's lives and industries. Under these circumstances, BRI countries, which include many emerging/developing nations, are increasingly eager to secure economic growth and social stability through the so-called leapfrog effect by introducing these technologies. Also, Chinese tech companies have rapidly strengthened their international competitiveness compared to the time when the Digital Silk Road was first proposed, and are now able to deliver various next-generation digital technologies. If Chinese tech companies had lacked international competitiveness, the Chinese government would have had difficulty promoting the Digital Silk Road.

An indirect factor is that large-scale infrastructure projects under BRI have become difficult to implement. In the BRI countries, there has been a spate of cancellations and reconsiderations of projects due to the impasse in repaying debts incurred for infrastructure construction (the so-called "debt trap"), doubts about the transparency of projects and loan conditions, friction with local residents, and heightened environmental awareness. Even recently, the Egyptian government announced that it would indefinitely suspend the construction of a coal-fired power plant in Hamrawein by a consortium with Chinese companies (Shanghai Electric Group and Eastern Electric Group) in consideration of environmental issues (February 2020). If completed, this power plant would have been the second largest in the world.

While it has become difficult to actively promote large-scale BRI infrastructure projects, further development

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5 Permanent Mission of the People's Republic of China to the United Nations Office at Geneva and other international organizations in Switzerland, "The Belt and Road Initiative: Progress, Contributions and Prospects" (documents and remarks), April 23, 2019 (http://www.china-un.ch/eng/zywjyjh/t1675564.htm)

in digital technologies has prompted the BRI countries to utilize them, and Chinese tech companies have been able to tap into those needs. This increased the relative importance of the Digital Silk Road.

The ability to implement Digital Silk Road projects in a relatively short period of time, at low cost, and at low risk is also a positive factor. While construction of the "China - Pakistan Economic Corridor" which started in 2015 as a key project of the BRI are behind schedule, Huawei has laid the China-Pakistan 820 km long optical fiber cable in a little over 2 years, and the cost was assumed to be 44 million dollars, less than the amount necessary to constuct 4 km of a railway[6].

In addition, the containment of China by the United States has encouraged the construction of the Digital Silk Road. As the U.S.-China trade war intensifies, many leading Chinese tech companies are being shut out of developed markets including the United States, and they are therefore trying to find new opportunities in BRI countries.

(2) Construction Enhanced by COVID-19

The global spread of COVID-19 has heightened the positioning of the Digital Silk Road in China, and efforts for its construction are being accelerated along with the "Health Silk Road". China has developed various digital technologies domestically to fight COVID-19 and to meet the surging needs of "contactless" and "unmanned", and is now expected to export these technologies.

Although it failed in its initial response to COVID-19, the Chinese government succeeded in containing the pandemic by taking strict measures, including authoritative ones, with the cooperation of domestic tech companies and utilizing digital technology. One of the digital tools that have contributed to this is the "health code" smartphone app. In February 2020, Alibaba and Tencent separately developed the system with the help of local governments, and soon it was adopted by provinces and cities throughout the country. By utilizing the "health code", it was possible to prevent the spread of infection by promptly tracking and identifying persons around the infected and taking necessary measures. It also eliminated people at high risk of infection from places where many people gathered, making it possible to control the spread of infection while simultaneously carrying out economic activities.

To determine the risk of infection, self-declared data (whether they had close contact with the infected), behavioral data collected from smartphone locations (whether they were close to the infected,), and various data held by governments and companies are used. Government data includes facial recognition data, and private companies are said to be cooperating in providing them. Even after the number of newly infected people has decreased, the health code has spread into the lives of citizens as a "pass" for public transportation, public facilities, office buildings, shopping malls, etc., from the viewpoint of preventing the re-spread of infection. We cannot overlook the fact that this also has strengthened China's surveillance society.

In addition to developing the health code, Chinese tech companies have played a major role in tackling with COVID-19. In the case of Alibaba, for example, consultation and quarantine guidance on COVID-19 using AI chatbots, CT image analysis to improve inspection accuracy and detection efficiency in the diagnosis of

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6 Blanchette, Jude and Jonathan E. Hillman, "China's Digital Silk Road after the Coronavirus", Center for Strategic & International Studies, April 13, 2020 (https://www.csis.org/analysis/chinas-digital-silk-road-after-coronavirus)

COVID-19, prediction of the scale and peak period of COVID-19 outbreak in specific areas, etc. have been developed.

Meanwhile, China experienced a very critical situation due to the outbreak of COVID-19, and the government took thorough measures such as blocking cities, imposing curfews and closing stores. This challenging situation has created a need for "contactless" and "unmanned" and has prompted the introduction of a range of products and services that make it possible for the shift in personal behaviour from offline to online, as well as to replace the work done by humans.

Before COVID-19, digital technology was slow to be put to practical use due to costs, safety issues and regulations. COVID-19 changed all this: costs and safety issues became less relevant when faced with an emergency, easing regulations and accelerating the approval speed. Various problems occurred in the early stages of the introduction of these technologies including the health code, but were gradually resolved as its use progressed. Data and knowledge were accumulated, leading to quality improvement. As the next step, it would be natural for China to export these digital technologies to BRI countries.

It is also important to note that COVID-19 has made it more difficult to construct large-scale infrastructure under BRI. First, as a physical factor, travel restrictions have hindered the entry of Chinese workers and the transportation of goods. In addition, the economic stagnation caused by COVID-19 has reduced the demand for electricity in the BRI countries, bringing down the need for large-scale infrastructure. Also, the financial situation of BRI countries has deteriorated, lowering the capacity to carry out large-scale projects. A senior Chinese Foreign Ministry official said in June 2020 that COVID-19 had seriously affected about 20% and somewhat affected 30-40% of BRI projects[7]. As prospects for COVID-19 remain bleak, new large-scale infrastructure projects under BRI have been delayed as well.

5.　Concerns towards the Digital Silk Road

As the construction of the Digital Silk Road accelerates, Western industrialized countries, especially the United States, are becoming increasingly suspicious towards the initiative. Among them is a sense of concern from an economic perspective that the adoption of Chinese standards in various next-generation digital technologies will spread, putting non-Chinese companies at a disadvantage in overseas expansion. In addition, there is a strong sense of concern in the political and national security spheres, as well as a strong sense of vigilance against threats to Western values. The three main concerns are as follows.

The first is that data collected by Chinese companies on the BRI countries will be shared with the Chinese government. As digital products and services of Chinese companies spread throughout the BRI countries, the amount of data accumulated by Chinese companies will also increase. In particular, smart city projects will generate a huge amount of data that the Chinese companies will be able to obtain. Chinese companies say that they have always followed and will continue to follow the data collection rules of the relevant countries. However, under the Chinese National Information Law, Chinese organizations and individuals are obliged to provide information in response to requests from the Chinese government, so the possibility cannot be ruled out

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7 "China says one-fiffth of Belt and Road projects 'seriously-affected' by pandemic" , Reuters , June 19 , 2020
(https://www.reuters.com/article/us-health-coronavirus-china-silkroad-idUSKBN23Q0I1)

that the data may be provided to the Chinese government. Lack of transparency of the Chinese government and companies has made it difficult to dispel such concerns.

The second concern is the proliferation of surveillance societies around the world. As mentioned above, it is assumed that the surveillance system in China has improved through the implementation under COVID-19. Many of the BRI countries do not have sufficient privacy protection rules, and the introduction of China's high-precision surveillance system under such circumstances could threaten the privacy of its citizens. Moreover, surveillance systems can be used not only to deter crime but also to oppress certain political and religious groups as well as to persecute minorities. Of course, even without China's surveillance system, it is possible to invade privacy and oppress the people, but the effectiveness of surveillance will be greatly enhanced, for example, by being able to instantly obtain personal information including names, just by taking pictures of passersby's faces.

The third concern is that the degree of freedom on the Internet will decline worldwide. Although there are exceptions, Western industrialized countries have maintained a basic stance of limiting government intervention on the Internet as much as possible to respect freedom of expression. In China, however, the government has the right to intervene to maintain social order. The Chinese government has announced the enhancement of China's international voice and rule-making power in cyberspace and the strengthening of China's influence in global Internet governance. Therefore it is presumed that the Chinese government intends to export its domestic rules on the Internet to other countries through the Digital Silk Road. If the destination is an authoritarian country, it will not be accompanied by many difficulties.

Some of these fears, which have been heard in the West, particularly in the United States, are unfounded at present. Given that Chinese companies are not strong in all areas of the various next-generation digital technologies, there is little likelihood that China will dominate in the technologies introduced in the BRI countries. Alternatively, in order to avoid dependence on China, it is quite conceivable that the BRI countries would disperse and introduce next-generation digital technology from multiple countries, including Western developed countries. In either case, the influence that China can exert will be limited. Another possible scenario may be in which the Chinese government strengthens its cooperative stance in the international community in order to enhance its soft power and avoids such acts that cause a sense of alarm.

From these perspectives, Japan, as a member of the Western developed countries, needs to understand the risks that the Digital Silk Road can pose, but does not need to be overly cautious. If Japan overreacts and moves to exclude China, China in turn will become more aggressive, and in the worst case scenario, the aforementioned precaution will become a reality. What is needed is to keep a close eye on China's moves and calmly consider what changes could occur in the world and how the Japanese government and Japanese companies should respond to them.

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