

CHINA'S GROWING TECHNOLOGICAL IMPACT IN CENTRAL ASIA.

Authors:

*Mr. Abbas Bobokhonov, PhD in Political Science, University of World Economy and Diplomacy,
Uzbekistan*

*Mr. Danila Bekturganov, political scientist, director of the Public Foundation Civil Expertise,
Kazakhstan*

This material has been prepared with the support of a DTL (Doublethink Lab) grant.

May 2023

CONTENT

List of Abbreviations	2-3
Abstract & methodology	3-4
Main findings and Key recommendations	4
Central Asia political and economic landscape	5-8
KAZAKHSTAN	9
Political landscape	9-10
Legislation and development programs	10-11
Chinese business in Kazakhstan	12-13
Chinese ICT companies in Kazakhstan	13-20
Conclusions Kazakhstan	21-23
UZBEKISTAN	24
Political and economic landscape	24-25
Regulatory and Legislative landscape	25-26
Chinese ICT companies in Uzbekistan	26-32
Conclusions Uzbekistan	32-33
Conclusions Central Asia	33-35
Recommendations	35-36

LIST OF ABBREVIATIONS

4G	Fourth generation wireless telephony
4G LTE	Long-Term Evolution, 4G+
5G	Fifth generation mobile network
AI	Artificial intelligence
BCG	Boston Consulting Group
BD	Big Data
BRI	Belt and Road Initiative
CA	Central Asia
CCTV	Closed-circuit television

CDB	China Development Bank
CI	China Index by CITW
CITW	China In The World project
COVID 19, COVID	Pandemic of Coronavirus
CPC	Communist Party of China
CSC	Cyber security Center of the Republic of Uzbekistan
CTC	Chinese technology companies
Dahua	Zhejiang Dahua Technology Co., Ltd
DDC	Digital Development Conception
DDS	Digital Development Strategy
DP	Digital Platform
DSR	Digital Silk Road
EAU	Euro Asian Union
e-GOV	E-government in Kazakhstan and Uzbekistan
e-Health	Electronic health programs in Kazakhstan and Uzbekistan
EXIM Bank	Export–Import Bank of China
Face ID	Facial recognition system
FDI	Foreign direct investment
GDP	Gross domestic product
GP	Government Program
Hikvision	Hangzhou Hikvision Digital Technology Co., Ltd
Huawei	Huawei Technologies Co., Ltd
ICT	Information and Communication Technologies
IoT	Internet of things
IT, ITC	Information and Telecommunication Companies
JSC Kazakhtelecom	National Telecom Company of Kazakhstan
JSC Uzbektelecom	National Telecom Company of Uzbekistan
KTJ	Kazakhstan Temir Joly, Kazakhstan National Railroad
LAN	Local Area Network
LPD	Law “On Personal Data”, Kazakhstan and Uzbekistan

MDD	Ministry of Digital Development, Uzbekistan
MDDIAI	Ministry of Digital Development, Innovation and Aerospace Industry, Kazakhstan
MIIT	Ministry of Investment, Industry and Trade, Uzbekistan
MISD	Ministry of Information and Social Development, Kazakhstan
PDK	Digital Kazakhstan Program
PDT	Project Digital Tashkent, Uzbekistan
PLA, PLAC	People's Liberation Army of China
PRC	People's Republic of China
RK	Republic of Kazakhstan
RU	Republic of Uzbekistan
SC	Smart campus, Uzbekistan
SCO	Shanghai Cooperation Organization
SF	Smart Farm, Uzbekistan
SICSIT	The State Inspectorate for Control in the Sphere of Informatization and Telecommunications (Uzkomnazorat), Uzbekistan
WAN	Wide Area Network
WLAN	Wireless Local Area Network
XD	Xian Declaration

ABSTRACT

Digital technologies are being rapidly introduced into almost all aspects of the global economy. Today, the 7 largest companies in the world by market capitalization are technology companies. In the 21st century, the widespread use of IT technologies is becoming more important, especially in the post-pandemic recovery. The gradual transformation of Beijing into a global technological actor is of particular interest to the political and expert circles of both the West and Central Asia.

In this study, the authors examined the main activities of Chinese technology companies in the two largest countries of the Central Asian region - Kazakhstan (15 in CI 2022) and Uzbekistan (24 in CI 2022)¹. Authors considered the opportunities, available for Chinese technology companies, to access personal and biometric data of users - citizens of the Central Asian

¹ <https://china-index.io/>

countries, were studied the prospects for cooperation between Chinese technology companies and the authorities of the Central Asian countries, and were formed conclusions and main recommendations on the areas of advocacy activities both in the country, and at the regional and international levels.

METODOLOGY

In this work used methods of peer review, critical analysis of scientific sources and literature, content analysis of periodical and online publications. During the analysis of the situation in the countries under study, was used the Digital Stack methodology, as well as quotations from interviews and studies of leading experts in the Central Asian region.

MAIN FINDINGS AND KEY RECOMMENDATIONS

(Full list of conclusions and recommendations on pages 33-36)

Main findings

- Penetration of Chinese technology in the strategic sectors of ICT infrastructure, and in the future also attempts to enter in the field of software in Central Asian countries rising. In recent years, Chinese technology companies have become dominant players in the technology market in almost all Central Asian states.
- The introduction and deployment of Chinese technologies, including Smart Cities / Save cities, can lead to strong and regular dependence on China. This means that in the coming years, the governments of the Central Asian countries will have to continue to buy new modern technologies from China and they will never be able to control their own technologies and set their own rules for them.
- By firmly securing the role of the main supplier of the latest technologies, China will thereby set its own technological standards, which will increase the dependence of states on China. Some countries are concerned that DSR projects could help the Chinese government gain access to sensitive Central Asian data, including personal and biometrical data of CA citizens.
- CA countries still have alternative opportunities to prevent China's IT companies from taking a leading position in order to exclude the possibility of becoming dependent on them.

Key recommendations

- It is extremely important for the countries of the CA region to develop in advance mechanisms, general criteria for joint interaction that guarantee the security of both personal, biometrical and documentary data of national importance.
- International cooperation is needed to develop a legal framework to prevent the misuse of ICT networks.
- The authorities of the Central Asian countries can use some examples available in international practice as precedents for limiting the influence of Chinese technologies in

their countries, thereby limiting access to sensitive data and strengthening cyber security and cyber sovereignty.

CENTRAL ASIA POLITICAL AND ECONOMICAL LANDSCAPE

Briefly introduction

Central Asia is a vast region that includes 5 countries, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. From the east, the region is bounded by Western China, from the south by Afghanistan and Iran, from the north by Russia. Over the past 20 years, the GDP of the Central Asian countries has increased by more than 7 times, and the average growth rate was 6.2% - faster than developing countries and more than 2 times faster than the world as a whole. Central Asia has a total GDP of \$347 billion. Over the past two decades, this figure has increased by 7.5 times. The share of Central Asia in world GDP in terms of purchasing power parity has increased 1.8 times since 2000. The region's population of 77 million people forms a capacious sales market and a growing pool of labor resources. Despite the positive growth dynamics of foreign direct investment in the region, their structure, both country and sectoral, has its own characteristics. The long period of closedness of some countries of the region, remoteness from



the main economic centers, lack of access to the sea still adversely affects the perception of the region by international investors. The level of FDI relative to GDP in the region, excluding investment in the primary sectors, is below the global average, indicating that the region is underinvested. Thus, it is obvious that the participation of the countries of Central Asia in the Belt and Road Initiative (BRI) turned out to be an important and

significant step in strengthening the economies and achieving political stability in the countries of the region.

Chinese technology companies began to enter the Central Asian market at the beginning of the 21st century. But their real rise as one of the world powers in the field of ICT and digitalization began already in the second decade of the 21st century, after Mr. Xi Jinping came to power in China. In parallel, and within the framework of BRI, two important strategic plans appeared: Made in China-2025 and Digital Silk Road (DSR), designed to bring China to the world level in terms of technological development, acquire technological independence, create its own world-

class technology companies and Internet platforms alternative to Western counterparts. At the present stage, Beijing sees its own technological rise as a tool that will allow it to change the global digital order and become a global technological superpower. The technology industry determines the future development, the international competitiveness of the People's Republic of China (PRC), as well as its national security and influence in the world.

At the same time, the rapid growth of technology in the PRC causes ambiguous assessments from the world community. The whole world has long been not only interested, but also apprehensive about China's technological development: firstly, in the future, the influence of Chinese technologies will grow as rapidly as the technologies themselves will grow, and secondly, for BRI member countries, this could create a new set of risks burdened with a stronger anchoring effect than physical infrastructure.

Cooperation between China and Central Asia in Digital sphere

In recent years, digitalization has become one of the important areas of cooperation between China and Central Asian countries. It should be noted that the digital agenda in Sino-Central Asian relations began to become important even before the pandemic, as the countries of the region already in the second decade of the 21st century began to implement digitalization strategies, in many cases based on Chinese technologies. To be sure, the COVID-19 pandemic has fueled an unprecedented dynamism in the digital technologies sphere. China's achievements in digitalization and the introduction of various new technologies into everyday life, especially the creation of a Safe/Smart city platform and 5G networks, are increasingly attracting the attention of the countries of the region. Beijing has signed an agreement with some countries in the region to introduce this system, and so far, China is the only major player in this area that has no competitors, especially in establishing 5G technology.

By supporting the process of digitalization and introducing its own technologies in the countries of the Central Asian region, China pursues three main objectives:

1. connect regional infrastructure, i.e., trade, finance, business and political approaches, with China;
2. modernize traditional industries in BRI countries, simultaneously open up markets for Chinese digital companies, and become a major participant in government technology procurement in the countries of the region;
3. establish China's technological standards, thereby creating a unified digital ecosystem in which China, not the West, will play a central role.

In turn, the attractiveness and advantages of Chinese technologies for the countries of Central Asia lies in:

1. cheapness of Chinese technologies relative to Western counterparts;
2. the willingness of the Chinese authorities to provide technologies on a preferential basis, i.e., providing long-term low-interest credit lines and even offering technology at no charge;
3. "apparent lack" of political or other conditions from China.

In favor of strengthening China's intentions in the field of digitalization in the countries of Central Asia, is the fact, that almost all countries have adopted their own Strategies or Concepts for digital development:

1. Kazakhstan: Decree of the Government of the Republic of Kazakhstan “On approval of the Concept of digital transformation, development of the information and communication technology industry and cybersecurity for 2023 – 2029”, March 28, 2023.²
2. Kyrgyzstan: Order of the Cabinet of Ministers of the Kyrgyz Republic “Concepts of digital transformation Digital Kyrgyzstan 2019-2023”, February 15, 2019.³
3. Tajikistan: Decree of the Government of the Republic of Tajikistan “The concept of the digital economy in the Republic of Tajikistan”, December 30, 2019.⁴
4. Turkmenistan: Decree of the President of the TR “Concepts for the development of the digital economy in Turkmenistan for 2019-2025”, December 3, 2018.⁵
5. Uzbekistan: Decree of the President of the Republic of Uzbekistan “On approval of the Strategy “Digital Uzbekistan - 2030 and measures for its effective implementation”, October 5, 2020.⁶

The priority of digitalization of the national economy and the entire system of public administration in the Central Asian countries gives the Chinese side the opportunity to intensify the negotiation processes in order to provide Chinese technology companies with a niche in the markets of the Central Asian countries. This will provide an opportunity to sell their technological products, as well as introduce their own technological standards, which will increase attachment of CA countries to China in the future.

For example, Chinese Huawei is today the market leader in the ICT sector in all countries of the Central Asian region. Huawei develops and supplies the Central Asian market with more than 300 products and technologies designed specifically for the countries of the region. The Chinese company also takes part in the development of the most important electronic systems e-GOV/ SmartCity/e-Health/SmartFarm, introduces 4G/5G technologies and is ready to build high-tech solutions for consumers on their basis, invests in educational initiatives⁷, thereby contributing to the development of the ICT industry and digital transformation in the countries of the region.

In Central Asia, Chinese technology is given great importance at the highest level. Thus, the President of Kazakhstan K. Tokayev, during his state visit to China in September 2019, visited the Chinese technology company Hikvision. Returning to Kazakhstan, the President instructed to adopt the experience of China in the field of digitalization of data on citizens⁸. A similar situation

² <https://adilet.zan.kz/rus/docs/P2300000269#z8>

³ <http://cbd.minjust.gov.kg/act/view/ru-ru/216896>

⁴ <https://policy.asiapacificenergy.org/sites/default/files/Concept%20of%20the%20Digital%20Economy%20in%20the%20Republic%20of%20Tajikistan%20%28RU%29.pdf>

⁵ <https://saylav.gov.tm/ru/articles/121>

⁶ <https://lex.uz/ru/docs/5031048>

⁷ Бобохонов А. Технологическое развитие КНР как новый фактор формирования китайской «мягкой силы». Журнал «Sharqshunoslik/ Востоковедение/Oriental Studies» ТашГУВ. №2 2022, октябрь. С. 187.

⁸ https://www.akorda.kz/ru/events/international_community/foreign_visits/glava-gosudarstva-posetil-ofis-kompanii-hikvision

occurred during the visit to China of the President of the Republic of Uzbekistan Sh. Mirziyoyev, who visited the head office of Huawei in Beijing⁹. Subsequently, this visit was of key importance in the acquisition of a number of large state projects by a Chinese company without mandatory tender procedures. The specificity of Chinese companies lies in the fact that they have a well-established system of relations with the government and agencies, which is based on the so-called “interdependence”.

In addition, Huawei actively uses media tools to create a positive image, for example, it organizes numerous cultural and educational events and technically equips educational institutions, in most cases at its own expense. It also hires and trains IT professionals from CA countries. Since 2015, the company has been holding the Genius Boys competition, with the participation of the youth of Uzbekistan, Kazakhstan and Kyrgyzstan. Since 2017, “Central Asian Innovation Days” have been regularly held in each of the capitals of the region in order to create a platform for dialogue on issues related to the development of DSR in Central Asia¹⁰. In 2023, the Ambassador of Turkmenistan to the PRC presented the Arkadag Smart City project to the Chinese side. As expected, Huawei will become the main technology partner of Turkmenistan in the construction of a Smart City, the cost of which exceeds \$1.5 billion¹¹.

An analysis of a number of media materials¹² and expert assessments show that the installation of surveillance cameras causes mixed feelings. In particular, if among society it is increasingly perceived negatively, then the authorities accept this know-how with satisfaction, since it facilitates the work of the government in many areas, and first of all, as a convenient and relatively inexpensive tool for population control. However, the process of introducing digitalization and digital technologies by China in the countries is the same opaque business as any other. Tenders for the implementation of video monitoring systems are not announced publicly, often the media only informs about the results of these tenders. This gives some opposition groups reason to suspect Chinese companies of possible involvement in corruption.

However, current progress in the CA countries has been largely superficial, reflecting the government’s priority to achieve easily achievable quantitative targets as indicators of progress, with the least focus on quality, functionality, and cyber security. Government officials are rushing to implement technology projects in order to meet the deadlines specified in state programs and avoid reprimand from the country’s leadership, as a result of which many of these platforms have outdated technology and limited functionality.

In our view, the lack of meaningful progress is the result not only of the low managerial capacity of government agencies tasked with implementing digitalization, but also of a weak understanding of digitalization and its usefulness. The desire for digitalization in the Central Asian countries can indeed lead to the improvement of the manufacturability of business processes, but on the other hand, it can help to form a China-centric technological space in the region, including, as an integral part, the expansion of state control over the population.

⁹ <https://president.uz/ru/2524>

¹⁰ <https://www.huawei.com/uz/news/uz/2018/central-asia-innovation-day>

¹¹ <https://menafn.com/1106013547/Turkmenistan-China-Discuss-Issues-Of-Expanding-Trade-And-Economic-Partnership>

¹² https://central.asia-news.com/ru/articles/cnmi_ca/features/2019/12/11/feature-01

Beijing sees DSR as an important foreign policy priority, because the USA, Australia, Japan and some European states ban Chinese IT companies from using their 5G infrastructure and launch broader strategies to limit the expansion of Chinese tech giants. Thus, Chinese technology firms need even more growth in emerging markets, including Central Asia, if they are excluded from the markets of wealthier states. Conversely, as the DSR expands, there will likely be growing concerns about its impact on recipient states. The COVID 19 pandemic, which has forced many governments to monitor their populations, has only increased demand in developing countries for Chinese communications and video surveillance equipment. In addition, the DSR aims to establish public relations through platforms and applications for e-commerce, financial and educational technology, and promote Chinese digital equipment. All these efforts can be interpreted as global promotion and legitimization of Chinese approaches to Internet governance and digital platform development.

As for recent events, at May 2023, the first summit of the mechanism “China - the five countries of Central Asia” was held in the city of Xian in China. During the summit, the heads of the six states signed the Xian Declaration, thus reaffirming their commitments and aspirations. A list of agreements and initiatives within the framework of this format was also approved, which became a statement on the creation of a mechanism for regular meetings at the level of the heads of state of China and Central Asia.

The Xian Declaration¹³, among other things, emphasizes the importance of expanding high-tech areas in relations with the countries of Central Asia. The Parties encourage the expansion of cooperation in the areas of the use of artificial intelligence, the development of smart city technologies, big data and cloud computing. Also, according to the declaration, “the parties are ready to work together to fight cybercrime.” The document also states that the parties support the initiative for cooperation in the field of digital data security in the Central Asia - China format, and express their readiness to intensify interaction in digital trade.

KAZAKHSTAN

POLITICAL LANDSCAPE

Official statements and documents about Kazakh-Chinese relations

Diplomatic relations between China and Kazakhstan were established on January 3, 1992. Kazakh-Chinese cooperation is characterized by high dynamics of contacts at the highest and high levels and an impressive legal framework. The parties also maintain close contacts in the inter-parliamentary and inter-party spheres. In May 2023, an agreement on a visa-free regime was signed between Kazakhstan and China¹⁴.

The total amount of the legal framework of the Kazakhstani-Chinese relations is more than 250 documents. The most important is the “Treaty on Good Neighborliness, Friendship and

¹³ <https://www.newscentralasia.net/2023/05/20/sianskaya-deklaratsiya-sammita-kitay-tsentrlnaya-aziya/>

¹⁴ <https://kapital.kz/gosudarstvo/115717/kazakhstan-i-kitay-podpisali-soglasheniye-ob-otmene-viz.html>

Cooperation between the Republic of Kazakhstan and the People's Republic of China”, which serves as the basis for relations between the two countries.¹⁵

There are also about 50 agreements between Kazakhstan and China in such areas as energy, environmental protection, nuclear industry, etc. In addition, there are policy documents that define the goals and objectives of cooperation between the two countries, including:

- Program of cooperation between Kazakhstan and China for 2003-2008;¹⁶
- Strategy and Concept for the development of cooperation between Kazakhstan and China in the XXI century;
- Agreement on trade and economic cooperation between the EAU (Euro Asian Union) and its member states, and China.¹⁷

During the period of implementation of BRI, Kazakhstan and China adopted a program for the medium-term and long-term development of trade and economic cooperation (until 2020)¹⁸. Chinese business represented in the Council of Foreign Investors under the President of Kazakhstan¹⁹. Currently, there is one Chinese company among the 34 members of the Council - CNPC.

All documents regulating Kazakhstani-Chinese relations published on the website of Legal information system of Regulatory Legal Acts of the Ministry of Justice (Adilet legislative database), in Kazakh (state) and Russian (official) languages, and are available free of charge.

Unfortunately, the concluded intergovernmental agreements do not contain specifics in relation to contracts concluded with Chinese IT companies. There are no details on the conditions, obligations and terms of contracts in the public domain. For example, on April 16, 2009, during the Kazakh-Chinese summit in Beijing, a package of intergovernmental, interdepartmental and corporate agreements and contracts was signed, including the Cooperation Agreement between Kazakhtelecom JSC and Huawei Technologies Co., Ltd; however, the content of this Agreement remains unavailable in public domain²⁰.

President of Kazakhstan Kassym-Zhomart Tokayev, during his visit to Xian in May 2023, held a number of meetings with representatives of Chinese business, in particular, with the President of Huawei Technologies, Mr. Lian Hua; Huawei Technologies funded research on the development of broadband Internet access and the establishment of Kazakhstan as a regional digital hub²¹. Also, the company, together with the Kazakh national railway company Kazakhstan Temir Joly (KTJ), plans to digitalize rail transportation in Kazakhstan. In general, Huawei Technologies is

¹⁵ <http://adilet.zan.kz/rus/docs/Z030000420>

¹⁶ <https://adilet.zan.kz/rus/docs/U030001097>

¹⁷ <https://adilet.zan.kz/rus/docs/Z1900000259>

¹⁸ <https://adilet.zan.kz/rus/docs/P1300000940>

¹⁹ <https://fic.kz/en>

²⁰ https://online.zakon.kz/Document/?doc_id=30405402&pos=4;-101#pos=4;-101

²¹ https://tengrinews.kz/kazakhstan_news/proekt-ktj-razvitie-dostupa-seti-tokaev-provel-peregovoryi-499431/

widely represented in Kazakhstan, both at the level of infrastructure projects - the development of 5G networks, data centers and cloud services - and at the level of devices, smartphones, tablets and other user equipment. However, it is not yet clear from press materials relating to the visit and negotiations whether any new agreements have been signed on Huawei Technologies' activities in Kazakhstan.

LEGISLATION AND DEVELOPMENT PROGRAMS

The main legislative acts of Kazakhstan that define and regulate public relations in the field of informatization, personal data, privacy and information security are the Laws of the Republic of Kazakhstan “On Informatization”²², “On Personal Data and their Protection”²³, “On Fingerprint and Genomic Registration”²⁴, as well as a large number of by-laws describing the procedures and requirements of laws. In the context of this study, the issues of information security (leaks of personal data, surveillance and censorship) are of the greatest importance, since these issues are the most sensitive in Kazakhstani society, and are of wide public interest.

Information security is considered in Kazakhstan as an integral part of national security and is interpreted as a state of protection of the information space of the Republic of Kazakhstan, as well as the rights and interests of a person and a citizen, society and the state in the information sphere from real and potential threats, which ensures sustainable development and information independence of the country²⁵. On December 20, 2016, the Government of Kazakhstan adopted the Decree “On approval of uniform requirements in the field of information and communication technologies and information security”, which defines the requirements in the field of information and communication technologies and ensuring information security²⁶. In accordance with the Requirements, government agencies and public authorities are required to ensure the safety of data, the uninterrupted operation of systems, and protection from unauthorized access.

At the same time, the legislation regulating the IT sector in Kazakhstan is still far from perfect. There are also problems with law enforcement practice. Kazakhstan is fully experiencing the consequences of the global trend of increasing the gap between the rapid development of information technologies and the legislative regulation of the use of these technologies. As a result of the current situation, some services operate de facto, without de jure legislative enshrinement. Unfortunately, this also applies to such sensitive issues as surveillance using Face ID technology, the existing practice of extrajudicial restriction of access to information resources, arbitrary distribution of personal data, etc.

In addition to legislative regulation, Kazakhstan pays a lot of attention to the development of programs and strategies for the development of the IT sector. In 2017, Boston Consulting Group,

²² <https://adilet.zan.kz/eng/docs/Z1500000418>

²³ <https://adilet.zan.kz/rus/docs/Z1300000094/z13094.htm>

²⁴ <https://adilet.zan.kz/eng/docs/Z1600000040>

²⁵ <https://digital.report/zakonodatelstvo-kazahstana-v-sfere-informatsionnoi-bezopasnosti/>

²⁶ <https://adilet.zan.kz/rus/docs/P1600000832>

by order of the Government of Kazakhstan, designed a program for the development of the IT sphere, called Digital Kazakhstan, for the period 2018-2022.²⁷ However, due to the COVID 19 pandemic, it was not fully implemented within the specified time frame, and its implementation continues to the present. The main objectives of the Program are to accelerate the pace of development of the economy of the Republic of Kazakhstan, improve the quality of life of the population, and create the conditions for transition of the economy to a fundamentally new trajectory - the digital economy of the future. The program should provide an additional impetus for the technological modernization of the country's flagship industries and create conditions for large-scale and long-term growth in labor productivity.

The program has 5 main areas - the digitalization of the economy, the transition to a digital state, the creation of an innovative ecosystem, the development of human capital, and the implementation of the Digital Silk Road. Digitalization projects are being implemented within each of these areas: industry, transport and logistics, agro-industrial complex, e-commerce, financial technologies, public services, eGov, Smart Cities, development of communication networks, projects in the field of education and healthcare, and much more²⁸.

As mentioned above, on March 28, 2023, the Government of Kazakhstan adopted the Concept of digital transformation, development of the information and communication technology industry and cybersecurity for 2023 - 2029. This Concept contains a description of the vision for the implementation of digital transformation, the development of the IT technology industry and cybersecurity in Kazakhstan, the principles and approaches of the industry development, and contains the main target indicators and expected results. The main innovation, which the Concept is aimed at, is the introduction of a digitalization platform model in the Kazakhstani IT sphere, which should ensure the qualitative growth of the entire industry and the emergence of new services based on the use of AI, Big Data analysis and the opening of new business opportunities.

In addition to government programs aimed at creating a new digital infrastructure and digitalization of industrial and extractive industries, Kazakhstan pays great attention to content and information security issues. March 20, 2023 The President of Kazakhstan signed a decree on the approval of the information doctrine. The information doctrine represents a system of views on the development of the Kazakhstani information sphere, principles and mechanisms for increasing its openness and competitiveness²⁹. The doctrine will also determine the ideological and value guidelines that contribute to the further development of the state and society. As a fundamental document for the formation of state policy in the information and communication sphere, the doctrine is designed to balance the interests of society and the state, create equal conditions for the exercise of rights by all subjects of the media process. The key area of implementation of the doctrine will be to ensure the information security of the country and its citizens, timely response to information challenges and risks. The Government of Kazakhstan

²⁷ <https://egov.kz/cms/ru/digital-kazakhstan>

²⁸ <https://vkabinet.kz/gosudarstvennye-sluzhby/digital-kazakhstan-cifrovoy-kazaxstan-oficialnyj-sajt-napravleniya-i-celi/>

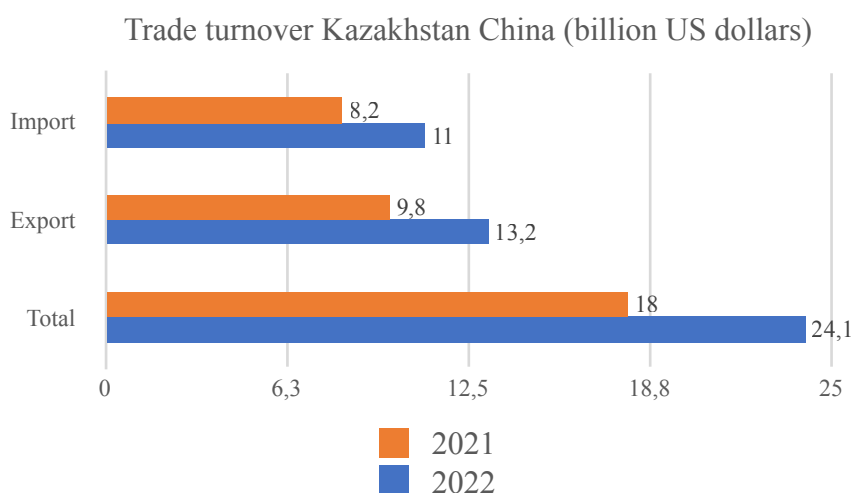
²⁹ <https://akorda.kz/ru/ob-utverzhenii-informacionnoy-doktriny-respubliki-kazahstan-2025248>

has been tasked with preparing legislative support for the implementation of the Doctrine, which gives hope for the improvement of the country's legislative framework in the field of IT.

CHINESE BUSINESS IN KAZAKHSTAN

General information

China is one of the largest trade partners of Kazakhstan, and is also included in the top 5 countries - investors in the Kazakhstani economy. In general, according to EnergyProm data³⁰, the trade turnover between China and Kazakhstan in 2022 amounted to about \$24 billion, which is \$6 billion more than a year earlier (an increase of about 34%). The share of China in the structure of Kazakhstan's trade turnover amounted to 18%.



Source – EnergyProm.kz

It should be noted that exports from Kazakhstan increased by almost 35% in 2022, to \$13.2 billion. The share of Kazakhstan's exports to China accounted for more than 15% of the country's total trade turnover. Imports from China to Kazakhstan grew by 33% in 2022, to \$11 billion. The share of China in the structure of imports of the Republic of Kazakhstan amounted to 22%. That is, the volume of exports exceeds the volume of imports by more than 2 billion US dollars.

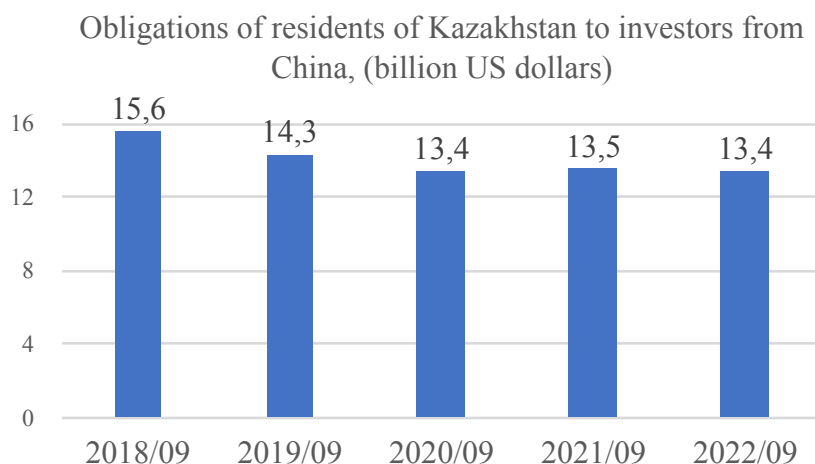
Kazakhstan mainly exports raw materials, oil and oil products, \$4.1 billion, which is 2.2 times more than a year earlier. Next come refined copper and copper alloys (\$2.3bn, up 15% y/y) and natural gas (\$1.2bn, up 14% y/y). The top five export commodity groups also include inorganic chemicals and ferroalloys.

Among the key categories of imports from China to Kazakhstan, phones, smartphones, tablets and communication equipment occupy the first place, at more than \$910 million, which is almost

³⁰ <https://www.energyprom.kz/ru/a/reviews/tovarooborot-dvuh-stran-vyros-srazu-na-tret-za-god>

30% more than a year earlier. The main imported commodity groups also include electronic computers of various types, and the highest growth is shown by the import of cars, where the growth is more than 4000% (!).

China is an active investor in the economy of Kazakhstan. The obligations of residents of Kazakhstan to Chinese investors in September 2022 amounted to 13.4 billion US dollars, and the indicator is kept at this stable level. The main investment volumes of Chinese investors are directed to the transport and warehousing sector (\$3 billion), manufacturing (\$2.5 billion), and construction (\$2 billion). The gross inflow of Chinese direct investment in the Republic of Kazakhstan in January-September 2022 amounted to almost 1 billion US dollars.



Source – EnergyProm.kz

It is safe to say that trade relations between Kazakhstan and China are successfully overcoming the consequences of the stagnation caused by the COVID 19 epidemic and entering a new growth.

Chinese IT companies in Kazakhstan

There are a large number of Chinese IT companies in Kazakhstan, operating both in the field of digital infrastructure, data centers and mobile communication technologies, as well as in the sales of consumer electronics - smartphones, mobile devices, digital video cameras, etc. An important role in the digital space of Kazakhstan is also played by companies that present software in the form of e-commerce applications and social networks. The active penetration of Chinese IT companies into the Kazakhstan market is facilitated by the implementation of the Digital Silk Road (DSR) program, which is part of the BRI.

DSR is a program aimed at strengthening the role of China and Chinese technology companies in global IT competition. DSR is by no means limited to involving only the countries of the “traditional” Silk Road into the orbit of Chinese technologies - by 2019, more than 15 countries of Asia, Africa and Europe were already involved in the implementation of this mega-project, which includes the construction of modern data centers, the introduction of 5G technologies, development of Smart Cities, etc. Chinese technology companies play a primary role in this work. Huawei Technologies is one of the most active players in Kazakhstan.

Huawei Technologies

Huawei Technologies was founded in 1987 by Ren Zhengfei, a former PLAC officer³¹. Currently, Huawei Technologies is one of the world's largest manufacturers of consumer electronics, telecommunications equipment and processors, and is one of the world leaders in the development and implementation of 5G technology and artificial intelligence.

The representative office of Huawei Technologies in Kazakhstan was established in 1998, and then in April 2007 in Almaty was established a subsidiary of Huawei Almaty LLP, which in October 2016 was renamed to Huawei Technologies Kazakhstan LLP³². Also in 2015, a company's representative office was registered in the capital of Kazakhstan, Astana, and after-sales service center, aimed at maintenance and consulting of local customers was opened there.

The company's activities in Kazakhstan cover all three business groups of Huawei Technologies Corporation. Huawei Carrier cooperates with Kazakhstani telecom operators, supplying them with equipment for telecommunications infrastructure. Huawei Consumer provides consumers with consumer devices such as mobile phones, tablet computers, modems, and other consumer equipment. Huawei Enterprise sells corporate customers IT equipment and solutions aimed at digitalization of administration and production processes. Currently, Huawei Technologies takes part in several digital projects of the national scale: Digital Kazakhstan, Safe City, Smart Home, etc. The company serves the ICT industry in Kazakhstan and actively participates in the development of the country's information system, introducing LTE and 5G technologies. Huawei Technologies is one of the top three global mobile phone manufacturers in terms of the number of devices sold worldwide, and is actively developing sales of smartphones in Kazakhstan.

Huawei's large investments in Kazakhstan began during the 2008-2009 crisis. In 2009, the first Cooperation Agreement was signed between Huawei Technologies and Kazakh national telecommunications company Kazakhtelecom JSC.³³ The purpose of the Agreement was to create the preconditions necessary for large-scale financing by Chinese financial institutions of promising projects for the development of telecommunications in Kazakhstan, in which Kazakhtelecom and Huawei Technologies could be directly involved. To carry out this activity, a tripartite Memorandum of Understanding was signed between Kazakhtelecom JSC, the Bank of China and Huawei Technologies. As part of the signed Agreement, Huawei Technologies expressed its readiness to attract up to 200 million US dollars in 2009-2010 to finance joint projects with a Kazakh partner. At the same time, both sides of Agreement noted that the establishment of the exact conditions and volumes of financing will be the subject of separate agreements between Kazakhtelecom and Huawei Technologies. Unfortunately, the texts of these agreements are not available in the public domain.

Since then, cooperation has been strengthened and developed; the company helped Kazakhstani mobile operators (all of which are partially or largely subsidiaries or partners with Kazakhtelecom) to implement LTE³⁴. Huawei Technologies supplied Kazakhtelecom JSC with

³¹ <https://www.huawei.com/en/corporate-information>

³² <https://www.huawei.com/kz-ru/>

³³ <https://telecom.kz/ru/news/view/5124>

³⁴ <https://telecom.kz/ru/news/view/13828>

4T4R base stations, which made it possible to deploy the first in Central Asia network of fixed wireless Internet access via air interface (FWA)³⁵. The introduction of this technology has made it possible to expand the Internet coverage in rural areas. This project is very promising because, with a small upgrade, the FWA network can be prepared for migration to 5G technology, which will increase network capacity and provide enhanced mobile broadband services.

In autumn 2022, during the Digital Bridge International Forum, the Ministry of Digital Development, Innovation and Aerospace Industry of Kazakhstan (MDDIAI) and Huawei Technologies Kazakhstan signed a Memorandum of Understanding on the creation of a digital hub in Kazakhstan dedicated to digital technologies, business and IT³⁶. Huawei Technologies actively participates in the Digital Kazakhstan program, within the framework of which more than 250 projects have been developed to cover regions with communications and broadband Internet access. Currently, more than a thousand base stations, which are manufactured by Huawei, have been deployed. Unfortunately, due to the lack of publicly available information on the number and manufacturers of base stations for mobile communications and mobile Internet, it is impossible to specify exactly what share of base stations the company covers. However, it can be judged from indirect data that this proportion is significant.

The company invests significant resources in the educational sector of Kazakhstan. As part of the state strategy of Kazakhstan to train 100 thousand Kazakhstani IT specialists by 2025, Huawei Technologies Kazakhstan is developing a network of ICT Academies throughout Kazakhstan to train students of technical specialties and support local personnel. Huawei ICT Academy is an international educational cooperation program that trains highly qualified professionals in the field of information and communication technologies. This program has been operating in Kazakhstan since 2013. In 2023, students from Kazakhstan became the winners of the Huawei ICT Competition world final³⁷. At the same time, the company opens such academies not only in metropolitan universities, but also actively works in the regions of Kazakhstan. For example, Huawei ICT Academy was also opened at Karaganda Technical University in 2021³⁸; the company's goal is to attract talented students from all over the country and further use their intellectual potential to develop promising areas of the ICT industry. Students are offered free education and participation in ICT competitions, Huawei offers internship programs to the most talented and promising students, and so on. The company declares that the main goal of the Huawei ICT Academies is the training of technical personnel, and company in this way takes care of the digital future of Kazakhstan.

Another key activity of Huawei in Kazakhstan is data infrastructure development. As part of this activity, the company develops cloud services, builds data centers for Big Data processing, and actively implements solutions based on artificial intelligence capabilities. During the Huawei

³⁵ <https://www.it-world.ru/it-news/tech/177133.html>

³⁶ https://forbes.kz/process/technologies/mintsifryi_rk_i_huawei_podpisali_memorandum_o_vzaimoponimanii/?utm_source=forbes&utm_medium=themes

³⁷ <https://www.huawei.com/kz-ru/news/kz/2023/news-ict-competition-2023-winners>

³⁸ <https://www.kstu.kz/istoriya-kafedry-14/>

Partner Conference³⁹, held in Almaty in May 2023, the company announced that it considers the promotion of cloud solutions, such as CloudCampus, to create an infrastructure for LAN, WLAN and WAN networks, CloudEngine switches and iMaster NCE platforms for automatic intelligent network management, as a top priority in the corporate sector. The company also plans to launch 5G networks in Kazakhstan in the period 2023-2025. 5G networks will be launched in the capital and all regional centers of Kazakhstan. Such an ambitious task as the introduction of a 5G network in Kazakhstan is planned to be carried out on the basis of Huawei equipment and technologies, in particular, the 5GtoB ecosystem, said Yerzhan Meiramov, Chairman of the Committee on Telecommunications of the MDDIAI of the Republic of Kazakhstan at the 5G On Silk Road forum, held as part of the Digital Bridge 2022 international forum⁴⁰.

Thus, Huawei Technologies has captured key positions in the Kazakh ICT market, and is actually a monopolist in the promotion of 5G and Big Data technologies. This position is facilitated by the company's good ties with both Kazakhstani and Chinese authorities; other Chinese companies, such as Xiaomi⁴¹, are only selling consumer electronics and electrical equipment, usually do not have representative offices in Kazakhstan, and their websites are essentially online stores selling their products. At the same time, Huawei Technologies itself remains rather closed and non-transparent in terms of publishing comments related to surveillance and censorship issues, and does not comment on issues related to possible violations of the digital rights of Kazakhstani citizens.

Hikvision (Hangzhou Hikvision Digital Technology Co., Ltd)

Hikvision⁴² develops, manufactures and sells video surveillance products. Hikvision manufactures video and audio compression card, network hard disk video recorders, video servers, cameras, network storage, and other digital products.

Hikvision was founded in 2001 by Zhejiang HIK Information Technology Co, Ltd., 51% stake, and Hong Kong billionaire Gong Hongjia, 49% stake. In 2017, Gong Hongjia sold most of his stake, becoming one of China's richest persons; he currently holds 18% of the shares. Today, a controlling stake (42%) belongs to the Government of the PRC. In 20 years, Hikvision has grown from a small start-up to a global leader in video surveillance systems. According to the analytical agency IHS, the corporation's share in the global market for cameras and video surveillance equipment in 2017 was about 22%. Forbes magazine estimates the company's capitalization at \$47.8 billion. Hikvision employs more than 50,000 employees worldwide, 16,000 of which are engineers and developers. The head of Hikvision is CEO Yang Zhong Hu.

The company has been operating in Kazakhstan since 2015, but is very closed and non-transparent. The company's website is a catalog of offered products; the company carries out its

³⁹ <https://profit.kz/news/64605/Itogi-partnerskoj-konferencii-Huawei-2023-cifrovaya-transformaciya-biznesa-RK-perehod-v-oblaka-i-postroenie-infrastrukturi-dannih/>

⁴⁰ <https://profit.kz/news/63955/V-5-raz-luchshe-Huawei-rasskazal-o-setyah-na-forume-5G-On-Silk-Road/>

⁴¹ <https://xiaomi.kz/>

⁴² <https://www.bloomberg.com/profile/company/002415:CH#xj4y7vzkg>

activities through a wide network of regional representatives⁴³. It seems that the company only sells its equipment, provides its service through a wide dealer network, and has no other goals for its presence in Kazakhstan. The company has offices in Almaty and Astana, the capital of Kazakhstan, and has an extremely small staff.

It should be noted that the company, despite the undeniable achievements in technology, has a controversial reputation, which is associated with the use of Hikvision equipment and technologies for surveillance and persecution of dissidents in China. The company's experience in equipping surveillance systems with facial recognition technology is widely known both in mainland China and in Xinjiang, where Hikvision equipment, as well as equipment from another equally well-known Dahua company, is used in the so-called "re-education camps"⁴⁴. Unfortunately, Kazakh officials do not see, or do not want to see, a problem with Hikvision's de facto transfer of Chinese approaches to organizing Smart Cities in Kazakhstan. So, at the PROFIT Smart City Day conference held in Almaty in December 2022, dedicated to technologies for Smart Cities, representatives of the Government, regional administrations and businesses discussed how things are going with the digitalization of cities in Kazakhstan⁴⁵. Speaking at the conference, Mr. Karibzhanov, Regional Manager of Hikvision Kazakhstan, and Ms. Sizasko, Director of CCTV of Intant Distribution Co, which is the official distributor of Hikvision in Kazakhstan, emphasized that Hikvision equipment, in conjunction with AI-based software using Face ID, works successfully and helps to "reduce crime". According to them, "Hikvision today ranks first in the world in the field of security systems. The company has serious international experience and offers its own systems to ensure security, which include a face recognition system, intelligent video surveillance, video content analysis, and incident prediction. Based on the experience of building a Safe City system in China, new technologies can help improve law enforcement, reduce crime, and create a safe and stable social environment". At the same time, representatives and dealers of the company do not comment on the possibility of using Hikvision equipment to spy on citizens of Kazakhstan.

Only representatives of the Kazakh human rights community are sounding the alarm. According to Kazakh human rights activists, "Article 18 of the Constitution of Kazakhstan states that "everyone has the right to privacy, personal and family secrets, protection of their honor and dignity." With the introduction of new technologies, the Kazakh authorities will establish mass control over the population, thus violating the constitutional rights of citizens. Such actions should be discussed with the public"⁴⁶. However, the Kazakh authorities openly declare their commitment to the Chinese approach to organizing video surveillance in Smart Cities. Thus, during a visit to China in 2019, President of Kazakhstan Tokayev visited Hikvision, and at a meeting on the development of Astana city, held after this visit, he criticized the poor work on the digitalization of the city. The President praised the cameras of the company Hikvision, which accurately recognize people's faces, and instructed the government to work in this direction. "We

⁴³ <http://hikvision.kz/company-profile>

⁴⁴ <https://www.secnews.ru/digest/23957.htm#axzz83T9ytLkF>

⁴⁵ <https://profit.kz/news/64183/PROFIT-Smart-City-Day-2022-kak-umneut-kazahstanskije-goroda/>

⁴⁶ <https://rus.azattyq.org/a/kazakhstan-china-surveillance-camera/30210035.html>

recently visited a company in China that cooperates with our government and city administrations. They digitized all the major cities, and digitized very deeply. That is, you click on the screen, and data on a person comes out, from his education to his credit history. We need to go in this direction. This is a global trend”, President Tokayev said. Practically it means, that the authorities of Kazakhstan at the highest level confirm the desire to implement the Chinese approaches of the Smart Cities organization - total control and the priority of security over human rights.

Dahua (Zhejiang Dahua Technology Co., Ltd)

The Chinese company Dahua was founded in 2001. As of 2020, it ranks second in the ranking of the largest manufacturers of video surveillance systems in the world, behind Hikvision. As of January 1, 2020, the main shareholder of the company is Mr. Fu Liquan (39.97%). Dahua is partially owned by the state through the Central Huijin Investment fund and China Securities Finance Corp. investment company. These organizations are under the control of the Chinese authorities. According to Forbes magazine, Zhejiang Dahua Technology has a market capitalization of \$6.7 billion and sales of \$2.8 billion. The company’s CEO is Mr. Ke Li.

In its infancy, Dahua specialized in the production of video surveillance systems. Now its portfolio is supplemented with technologies related to network equipment and IoT (Internet of things).

Representative office of Dahua Technology opened in Kazakhstan in 2017⁴⁷. In addition to a wide range of video surveillance and control systems, the company participates in projects of interaction with the state - Dahua is a technical partner in building a nationwide video surveillance and traffic control system. To do this, Dahua cooperates with the Kazakh company Korkem Telecom with the brand Sergek⁴⁸.

Since 2017, Sergek hardware and software systems (which means “vigilant” in Kazakh) have been operating in the cities of Kazakhstan, this is an intelligent video monitoring, analysis and forecasting system that captures offenses on the roads and city streets. The Sergek complexes are installed on the basis of a map of the criminality of the districts and the accident rate of the road sections. One complex consists of one or several cameras. In total, more than 30 thousand cameras have been installed in Kazakhstan at the moment. Data from general surveillance cameras are sent to city situation centers, where police officers can monitor the situation and take action if necessary. The complexes were first introduced in Astana, and then in a number of other cities, including Almaty, Shymkent, Ust-Kamenogorsk and Semey. The complexes are constantly updated as their technical characteristics improve. Dahua Technology is now introducing AI analytics video surveillance systems with face recognition, vehicle and license plate recognition, and thermal imaging cameras that can detect people and vehicles under all weather conditions.

Dahua equipment is used by the Kazakh authorities to control not only cars on the roads, but citizens as well. Therefore, the issue of security and data protection is very important. Does Dahua technology keep data safe? The company has been involved in several data security

⁴⁷ <https://www.dahua-technology.kz/glavnaya>

⁴⁸ <https://sergek.tech/>

scandals in the past. In 2016, one of the largest DDoS attacks took place in the world, which was first reported by American investigative journalist Brian Krebs⁴⁹. Hikvision and Dahua were involved in the scandal. Hackers gained access to more than a million video recorders. The attackers had the ability to view network surveillance cameras installed around the world. In 2017, another resonant event occurred, a vulnerability was discovered in IP cameras, within which unauthorized people could gain access to video surveillance systems⁵⁰. In addition, through the Dahua firewall, data from cameras installed in the United States and other countries entered China. Dahua promptly released a software update, but cybersecurity experts again discovered the same vulnerability, only hidden in another part of the program code. The IT-community has characterized this situation as a deliberate deception of consumers.

The paradox of the situation is that a company, presenting video security systems on the market, cannot guarantee the security of its own systems against hacks and DDoS attacks. Some experts suspect that the hackability of Chinese-made video surveillance systems lies in their architecture, which initially contains backdoors that can be used to gain unauthorized access to systems. These backdoors are supposed to be put into systems for the Chinese authorities to have access to surveillance data. If this assumption is correct, then the introduction of Chinese video surveillance systems allows the Chinese authorities to carry out surveillance in any country where these systems are installed⁵¹.

TikTok

The social network Douyin was launched by the Chinese company ByteDance in 2016. Later, a copy of this application was released for the international market under the name TikTok, which allowed the company to develop globally without violating the laws of the PRC. ByteDance acquired musical.ly in 2017 and merged it with TikTok in 2018.

The opening of the TikTok representative office in Kazakhstan took place in 2023. In general, this is a rather unusual practice, since social networks are global platforms, and they very rarely open country offices, since regional offices uniting several countries are enough for management of their activities. TikTok became the first of the social networks to open its representative office in Kazakhstan after the appearance of notorious amendments to the Kazakhstani legislation on the protection of children's rights. In accordance with these amendments, each social network and messenger is required to open its representative office in Kazakhstan for "prompt intervention and blocking the accounts of those users who will spread hate speech and bully children". If a manifestation of hate speech or bullying against children is detected, the representative office of the social network is obliged to take measures to block such content. At the same time, the law does not contain any explanations about how exactly hate speech or bullying will be detected. In addition, Kazakh legislation does not have clear legal definitions of what hate speech and bullying are. The Kazakhstani human rights community has done a lot of work to soften the norms of this repressive law, but the rule on opening a representative office

⁴⁹ <https://www.hackread.com/brian-krebs-website-665-gbps-ddos-attack/>

⁵⁰ <https://krebsonsecurity.com/2017/03/dahua-hikvision-iot-devices-under-siege/>

⁵¹ https://central.asia-news.com/ru/articles/cnmi_ca/features/2019/12/11/feature-01

has remained in the wording of the law. TikTok has become the first and so far, the only social network to open such a representative office in Kazakhstan.

TikTok is actively promoting its product in Kazakhstan. In the capital of Kazakhstan, at the Astana Hub public platform, TikTok opened the Startup Academy, where it plans to teach willing users and entrepreneurs how to use TikTok to develop their startups.⁵² Participation in the Academy is free, and the best projects, in addition to mentoring and expert support, can win a grant of up to \$10K for promotion on the platform, the opportunity to receive grants is provided for the top 10 participants. In 2022, TikTok, together with well-known figures in the cinema art of Kazakhstan, organized the “TikTok Film Academy competition”, in which users tried to participate in the shooting of short feature films⁵³. This contest is a Kazakh adaptation of the TikTok Short film contest that TikTok ran in collaboration with the Cannes Film Festival; participants could win valuable prizes from TikTok. The “Learn with TikTok” contest⁵⁴, where contestants make popular science short films, and other similar contests can also be noted. Such initiatives undoubtedly increase the number of users, and increase the credibility of the company and interest in its products.

TikTok in Kazakhstan is, as of April 2023 for the age group 14-35, the second most popular social network (59%), after Instagram (71%)⁵⁵. TikTok is positioned as the most youth and entertainment social network, which allows customers to use its services from the age of 13; it gives the impression of a fairly innocuous and friendly product. However, as some research shows, this social network is not as harmless as it seems.

One of the most famous TikTok studies conducted in 2019 by the German data protection website Rufposten.de found that TikTok was installing browser trackers on user devices. These trackers keep track of all user activity on the web and also allow TikTok to use fingerprinting methods that give users a unique ID. This enables TikTok to purposefully link data to user profiles. German researchers point out, for example, that IP addresses are not anonymized when TikTok uses Google Analytics, meaning that a user’s online behavior is directly linked to their IP address. The IP address provides information about the location and, indirectly, the user’s identity⁵⁶.

The VPN Overview study says that TikTok is a very aggressive app that poses a significant privacy risk. The app is said to be essentially a data stealing tool disguised as a social media. TikTok collects all sorts of information, including, smartphone hardware (processor type, hardware IDs, screen size, dpi, memory usage, storage capacity, etc.); other applications installed on the device; network information (IP, local IP, router MAC address, device MAC address, Wi-

⁵² <https://astanahub.com/en/l/TikTokStartupAcademy>

⁵³ <https://bluescreen.kz/news/12203/tiktok-zapuskaiet-konkurs-pri-poddierzhkie-viedushchikh-dieiatieliei-kino-kazahstana>

⁵⁴ <https://profit.kz/news/62589/TikTok-zapuskaet-iniciativu-UchisvTikTokKazahstan/>

⁵⁵ <https://profit.kz/news/64582/Rejting-socialnih-setej-v-Kazahstane-i-cto-ot-nih-zhdut-pokupateli/>

⁵⁶ <https://rufposten.de/blog/2019/12/05/privacy-analysis-of-tiktoks-app-and-website/>

Fi network name); whether the device has been rooted or hacked; as well as location data via a setting that is automatically enabled when the user themselves gives a location tag to a post. In addition, the application creates a local proxy server on the device, which is officially used for “media streaming”. However, this is done without any form of authentication, making it vulnerable to misuse. Moreover, tracking this information can be configured remotely⁵⁷.

In addition to problems with privacy, personal data protection and covert surveillance, there are cases of censorship of content on TikTok. The most famous case of censorship on a global scale was the case with the removal of Feroza Aziz’s video (USA). In a training video about eyelash care, the last item she suggested was to google information about the life of the Uyghurs in Chinese Xinjiang, for whom the local government organized a digital concentration camp. In the autumn of 2020, the video scored more than 9 million views, but was deleted, as TikTok later commented, due to a moderator error⁵⁸. TikTok’s censorship policy directs moderators to ban users for making political statements about China. Wordings: “disrespect for the authorities”, “falsification of the country's history”, “threat to national interests”⁵⁹.

In Kazakhstan, cases have also been recorded when TikTok came under suspicion of distributing personal data of users. According to political scientist Mr. Sh. Nurseit, the Kazakhstani political regime, in the event that there is talk in society about the security of data in the TikTok network, will downplay the problem. According to him, “The position of China in terms of control over citizens is close to the position of Kazakhstan. That is, it is likely that our regime will agree with this company for the purposes of espionage and censorship. For example, if TikTok announces that it will provide information about the citizens of Kazakhstan to government agencies, the authorities will be happy to receive this information under the guise of combating extremism and terrorism, without noticing any problems. Even if there are conversations about data security on TikTok in Kazakhstan, given the similarity of our political systems and the level of corruption in our country, lobbyists can easily suppress such criticism,” says Mr. Nurseit⁶⁰.

During the latest election campaign in Kazakhstan (Spring 2023), TikTok announced “filtering inappropriate content” related to elections. According to the company, “During the election period, TikTok will remove content that contains, for example, false messages about changing the date of the election, materials aimed at intimidating voters or interfering with the voting process, and other inaccurate content”⁶¹. This definition is very broad, since any campaign materials and announcements about the events of parties and candidates that are objectionable to the Kazakhstani authorities can fall under the definition of "inaccurate content". Thus, TikTok is participating in political censorship in Kazakhstan.

⁵⁷ <https://radiogid.by/riski-konfidencialnosti-tiktok>

⁵⁸ <https://trends.rbc.ru/trends/social/5faacba69a7947077f494d06>

⁵⁹ <https://theintercept.com/2020/03/16/tiktok-app-moderators-users-discrimination/>

⁶⁰ <https://rus.azattyq.org/a/video-sharing-application-tiktok-us-china-tensions-kazakhstan/30748765.html>

⁶¹ <https://ru.sputnik.kz/20230306/tiktok-budet-proveryat-kontent-o-vyborakh-v-mazhilis-kazakhstana--32721307.html>

At the InternetCA 2023 conference, the Chairman of the Information Committee of the Ministry of Information and Social Development (MISD) of the Republic of Kazakhstan, Mr. E. Nashirali, indicated that the ministry communicates with the TikTok Representative Office in Kazakhstan, in particular, the company monitors users, using algorithmic services, to identify their real age, and blocks accounts if the user's real age is less than specified in the profile data. The question whether this means that a Chinese IT company is monitoring users from another country and revealing their personal data using algorithmic systems, and the MISD is presenting this as a good experience, remained unanswered.

CONCLUSIONS KAZAKHSTAN

The implementation of BRI, and its digital component DSR, which is part of the state policy in Kazakhstan, is going well, and Chinese IT companies are active participants in this process.

Looking at this process from the Digital Information Stack⁶² perspective, it is obvious that Kazakhstan, like other countries in the region, is exposed to Chinese influence at all levels.

Chinese companies are actively investing in infrastructure, creating data centers, introducing communication technologies, building LTE and 5G networks in both cities and rural areas. Long-term contracts are concluded between the national telecommunications company Kazakhtelecom and Chinese manufacturers of equipment and technologies, this cooperation is constantly expanding. This allows the Chinese companies involved in this work, and primarily Huawei Technologies, to have some control over the digital infrastructure of Kazakhstan, and the use of cloud storage and AI-assisted management systems increases the dependence of Kazakhstan's digital infrastructure on Chinese technology giants. In addition, the dominance of Chinese IT companies in digital infrastructure puts Kazakhstan in a rather vulnerable position, as the country becomes less free to choose technologies and contractors in the future. Considering the obvious connection of companies such as Huawei Technologies, Hikvision and Dahua with the Chinese Government, it can be said that China's influence on the Kazakhstani digital infrastructure is growing, and this growth carries certain risks for the country's security.

At the device level, Chinese technology dominates the market, smartphones, tablets, security cameras, communications equipment, routers and other consumer electronics, due to their relative cheapness and ease of use, are very popular with users. Huawei, Hikvision, Dahua, Oppo, Xiaomi, Lenovo and many other manufacturers have strong positions in the Kazakhstani market. The IoT market is also growing at a rapid pace, in which Chinese companies in Kazakhstan feel more than confident. A new and still poorly studied phenomenon of the IoT market is the explosive (more than 40 times a year) growth of the Kazakhstani market of Chinese-made cars and electric vehicles, which are equipped with a large number of electronic devices, transmit information through cloud services, and have a large number of cameras and sensors. In fact, if we consider a modern Chinese car from the point of view of equipping it with tracking and surveillance devices, then it will easily outperform the most sophisticated spy

⁶² <https://securingdemocracy.gmfus.org/new-from-asd-china-and-the-digital-information-stack-in-the-global-south/#:~:text=The%20Alliance%20for%20Securing%20Democracy%2C%20in%20partnership%20with,hospitable%20for%20democracy%20and%20more%20welcoming%20for%20autocracy.>

equipment. In addition, all Chinese equipment in the IoT segment widely uses biometric user identification methods, and the issue of secure storage of this data continues to be open. The fundamental difference of Chinese IoT is that while European, American, Japanese and Korean IoT systems are under strict legal regulation requiring the security of personal data, such as the European GDPR, Chinese manufacturing companies are somehow controlled by the Chinese government, the PLA and the CCP. And it is highly likely that information collected by Chinese-made smart gadgets may be available to Chinese government officials. Some progress is being made in this area with the adoption of the Chinese version of the GDPR, the Personal Information Protection Law (PIPL), but it is still unclear how this law will regulate the safety and inviolability of foreign citizens data, collected by Chinese platforms. At the same time, Kazakhstani consumers of high-tech Chinese products are not worried about the fact that technology manufacturing companies are as untransparent as possible, do not publish their reports, their products are questionable in terms of personal data security, privacy, etc. Thus, Chinese companies are gaining a foothold in the Kazakhstani market, and due to the large number of devices that process the personal data of Kazakhstanis, they can potentially have access to them; considering the high share of official and unofficial participation of the Chinese government in these companies, it can be said that not only Chinese IT companies, but also Chinese government agencies have access to the personal and biometrical data of Kazakhstani citizens.

At the application level, Chinese TikTok is the only social network with a representative office in Kazakhstan. Its active work through the TikTok Startup Academy attracts more and more not only individual users, but also corporate clients. Currently ranked second in Kazakhstan in terms of popularity, the TikTok network is growing the fastest, and may well displace Instagram from the first place. Despite the controversial security assessments of this social network, which are actively discussed by the global IT community, TikTok has a reputation in Kazakhstan as a safe and user-friendly application, captivating users with simplicity, entertaining content and a visible lack of censorship, which creates a feeling of freedom among young users. The risks posed by the rapid growth of the Chinese social network remain unaddressed in Kazakhstan so far. At the same time, the successful experience of using the Chinese application increases the trust of Kazakhstani users not only in TikTok, but also in other Chinese applications, which makes the Kazakhstani market attractive for other Chinese technology startups. AliExpress, one of the largest Chinese marketplaces, which occupies a dominant position in the Chinese goods market in Kazakhstan, plays an equally important role in the Kazakhstani app market. Focused on the sale of mainly Chinese products, this marketplace, due to the specifics of its business, also collects personal data of Kazakhstani buyers. It's affiliation with the Alibaba Group, the brainchild of CPC-linked entrepreneur Jack Ma, suggests some control by the Party, including both the personal data of Kazakhstani entrepreneurs and their bank account data. Despite the absence of the largest Chinese players on the market - WeChat, Baidu, QQ and others - Chinese applications are gaining popularity and are in demand and trust of Kazakhstani people. Chinese app security concerns generally relate to privacy, confidentiality of personal data, and censorship. However, these risks are discussed mainly in the human rights and expert communities, and remain unknown to a wide range of users of Chinese applications. Kazakh users do not pay attention to the security of their personal data, they are more attracted to the

opportunities that these applications open up for them. Moreover, Kazakhstani users do not pay attention to the obvious connection of Chinese IT companies that provide their applications to Kazakhstani clients with the government and law enforcement agencies of China. Thus, the Chinese government successfully influences Kazakhstan through the applications of Chinese IT companies.

At the level of content in Kazakhstan, no explicit and strong pro-Chinese propaganda is yet visible; unlike Russia, which dominates the Kazakhstani media market, Chinese media are practically invisible in the country. At the same time, experts point out that the influence of Chinese media in Kazakhstan is growing, and in the foreseeable future, Chinese media will have much more influence in Kazakhstan than at the moment⁶³. Based on this, one might get the impression that the impact component at the content level is still insignificant in Kazakhstan. However, this is not an entirely correct point of view, since influence at the content level is successfully realized through the use of academic connections, the introduction of special courses such as Huawei ICT Academies at the country's universities, the active participation of Chinese IT giants in various public events, as well as through the widespread involvement of Kazakhstani users of social networks in various contests, as TikTok does in Kazakhstan. This influence cannot be underestimated. Moreover, the main emphasis of Chinese IT companies present on the Kazakhstani market is on high quality, affordable prices and after-sales service of their products. This part of the unobtrusive PR-impact on Kazakhstani consumers creates a positive image of China as a country that produces high-quality and affordable hardware and software. This approach cannot but be recognized as the most effective for Kazakhstan, where xenophobia in general and Sinophobia in particular are traditionally strong in a certain, conservative part of society; outbursts of Sinophobia in Kazakhstan are spurred on by news from Xinjiang, strikes by Kazakh workers at Chinese extractive enterprises, and so on. In general, cheap, high-quality and convenient Chinese technology goods help to smooth out splashes of Sinophobia. In addition, it is almost impossible to find critical materials about China, the CPC, Chinese business or environmental issues caused by the actions of China and Chinese business in the Kazakhstani media. Materials critical of China are published only by independent media, such as Azattyq KZ (Kazakh edition of Radio Liberty). If we add to this the censorship restrictions that are “hardwired” into Chinese social networks and content cloud storage, then we can state with confidence that Chinese companies, and with them the Chinese government, are successfully exercising their influence in Kazakhstan at the level of content.

Since the positions of the Kazakh and Chinese governments in terms of control over citizens and censorship are very close, at the level of government and regulatory activity, the transfer of Chinese approaches and Chinese influence on the digitalization of Kazakhstan is obvious. The Chinese approach to building Smart Cities, video surveillance networks, data centers, e-government and other digital infrastructure, based on censorship, surveillance and control of citizens in order to improve public safety without regard to the civil rights of citizens, not only does not cause concern among the Kazakhstani authorities, on the contrary, it is taken as a role model. Regular high-level meetings, Kazakhstan's participation in international organizations such as the Shanghai Cooperation Organization (SCO), new formats, such as the May 2023 5+1

⁶³ <https://bulletin-ir-law.kaznu.kz/index.php/1-mo/article/view/1288>

Xian meeting of the Central Asian countries and China, strengthen and further institutionalize the Kazakhstani - Chinese cooperation. In addition, Kazakhstan's participation in the BRI and DSR creates opportunities for increasing China's influence in the field of Internet governance; within the DSR, Chinese approaches to technological development are being developed, which should compete with "Western" approaches. If we conditionally call the "Western" approach to Internet governance based on the rule of law, privacy, transparency and accountability, then the DSR rather promotes an approach of control, surveillance and the primacy of "security" over digital human rights. And the entire technical and technological part of the DSR is subordinate to the logic of this approach. Thus, the useful contribution of DSR in the development of Kazakhstan's digital infrastructure has a downside - increased control over citizens and the introduction of an authoritarian paradigm in Internet governance. Chinese influence at the level of governance is the most potentially dangerous and risky for Kazakhstan. Here, two main points must be kept in mind. Firstly, Chinese IT companies are not the primary source of this impact, the main actor here is China itself, Chinese IT companies only broadcast these narratives and approaches in their technological solutions. Second, these risks are not taken into account by the Kazakhstani authorities when making decisions. Moreover, the Kazakh authorities are willing to use the opportunities provided by Chinese technology to increase control over the citizens of Kazakhstan.

Summarizing all the results obtained, it can be argued that the Chinese government is actively using the work of Chinese ICT companies as a tool of "soft power" in relation to Kazakhstan. This impact tends to grow steadily and encounters no visible obstacles from Kazakhstan. Thus, Chinese approaches and narratives easily penetrate Kazakhstan, gain a foothold in the technological environment, and will dictate the ways of its development and management in the future.

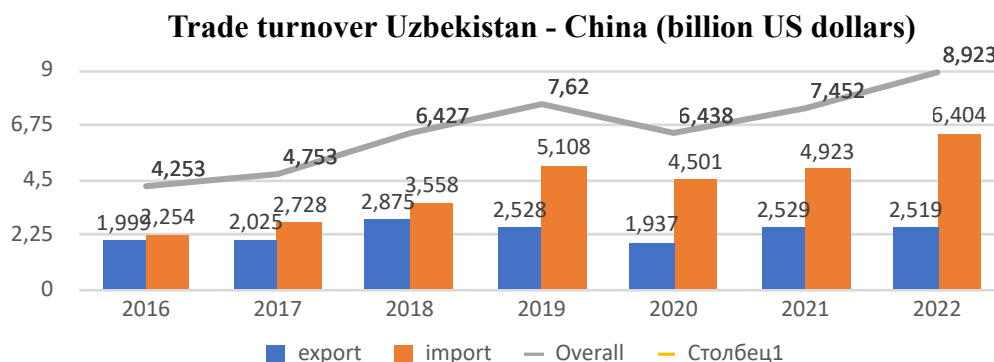
UZBEKISTAN

POLITICAL AND ECONOMIC LANDSCAPE

The PRC recognized the independence of the Republic of Uzbekistan on December 27, 1991. Diplomatic relations were established on January 2, 1992. Bilateral cooperation covers the entire range of relations and is of a comprehensive strategic nature. A key factor in the development of bilateral cooperation is an active political dialogue at the highest level. The high dynamics of contacts between the leaders of the two countries testifies to the successful development of political dialogue and mutually beneficial cooperation. Over the 30-year period, 23 meetings of the leaders of the two countries took place, and in 2016-2023 alone, 12 meetings of leaders took place. In general, for the period from 2000 to 2017, 136 political visits of various levels were carried out⁶⁴.

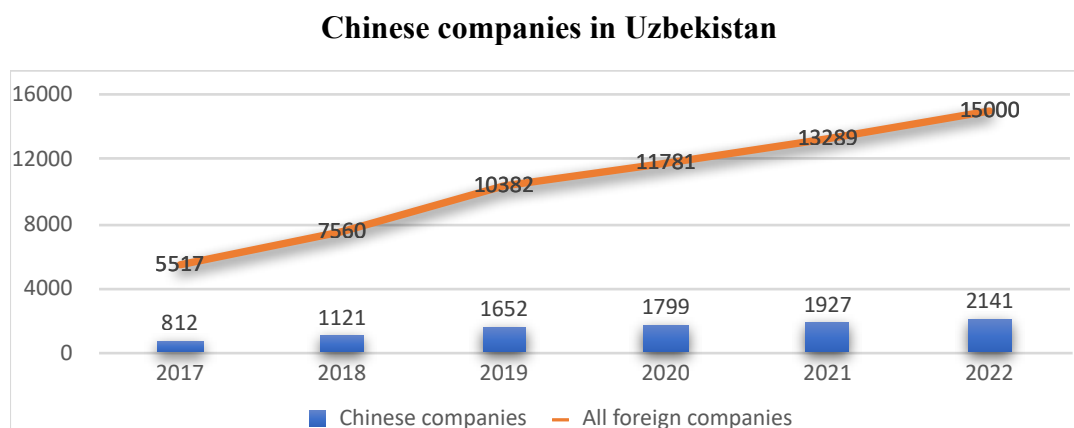
⁶⁴ Custer, S., Sethi, T., Solis, J., Lin, J., Ghose, S., Gupta, A., Knight, R., and A. Baehr. (2019). Silk Road Diplomacy: Deconstructing Beijing's toolkit to influence South and Central Asia. December 10, 2019. Williamsburg, VA. AidData at William & Mary. p.51.

The main principles of long-term relations between Uzbekistan and China are reflected in more than 250 documents⁶⁵, such as the “Treaty of Friendship and Cooperation” (2010), “Joint Declaration on Establishing a Strategic Partnership” (2012)⁶⁶ and many others. Since 2014, China has been ranked 1st among the trade partners of Uzbekistan. Bilateral trade volume increased from less than \$52.5 million in 1992 to \$7.44 billion in 2021, an increase of more than 140 times⁶⁷. Despite the negative impact of the COVID 19 pandemic, China has maintained its position as the leading trading partner and largest export market of the Republic of Uzbekistan.



Source: Data of the State Statistics Committee of the Republic of Uzbekistan

Since the establishment of diplomatic relations in 1992, an increasing number of Chinese enterprises have settled in Uzbekistan. If in 2016 there were 650 enterprises operating in the country with the participation of Chinese investments, then in 2022 their number increased to 2,141⁶⁸. At the same time, the share of technology companies is not determined in these statistics.



Source: Ministry of Investments, Industry and Trade of the Republic of Uzbekistan

⁶⁵ <https://podrobno.uz/cat/uzbekistan-i-kitay-klyuchi-ot-budushchego/polnyy-poryadok-kak-pravookhranitelnye-organy-uzbekistana/>

⁶⁶ <https://strategy.uz/index.php?news=1322&lang=ru>

⁶⁷ <https://podrobno.uz/cat/uzbekistan-i-kitay-klyuchi-ot-budushchego/u-nas-mnogo-silnykh-storon-posol-kitaya-v-uzbekistane-rasskazala-o-perspektivakh-sotrudnichestva-dvu/>

⁶⁸ <https://uza.uz/ru/posts/uzbekistan-kitay-novyy-etap-sotrudnichestva-vsestoronnee-str-22-06-2016>

China is also Uzbekistan's largest investment partner. China's investment activity in Uzbekistan has a steady growth trend. There has been an increase in investment in Uzbekistan: China's total investment has crossed the mark of more than \$11 billion⁶⁹. Uzbek-Chinese economic relations have a steady positive trend.

REGULATORY AND LEGISLATIVE LANDSCAPE

The interaction of Chinese companies with the authorities of the Republic of Uzbekistan is carried out on the basis of governmental agreements, as well as on the basis of signed bilateral agreements or memoranda. At the same time, the republic adopted several important regulations that regulate the storage and distribution of personal data in the country. This is the Law of the Republic of Uzbekistan "On Personal Data" ZRU-547 from 02.07.2019⁷⁰, and Resolution of the Cabinet of Ministers of the Republic of Uzbekistan "On approval of certain regulatory legal acts in the field of personal data processing" PKM-570, dated 05.10.2022 ⁷¹.

Several important regulations have been adopted in the Personal Data Law to regulate the activities of foreign technology companies. In particular, Article 15 of the Law states that "Cross-border transfer of personal data may be prohibited or limited in order to protect the foundations of the constitutional order of the Republic of Uzbekistan, morality, health, rights and legitimate interests of the citizens of the Republic of Uzbekistan, to ensure the country's defense and state security". In addition, Article 27-1 establishes that "The owner and operator, when processing personal data of citizens of the Republic of Uzbekistan using information technologies, including on the Internet, is obliged to ensure their collection, systematization and storage in personal data databases on technical means physically located on the territory of the Republic Uzbekistan and registered in accordance with the established procedure in the State Register of Personal Data Bases⁷².

In this regard, in May 2021, the State Inspectorate for Control in the Sphere of Informatization and Telecommunications (Uzkomnazorat) ordered the owners of social networks Mail.ru Group, Twitter and Tencent to comply with Article 27-1 of the Law on Personal Data, i.e. to place servers on which personal data of citizens of Uzbekistan are processed within the country. In early July 2021, Uzkomnazorat restricted access to the social networks TikTok, Twitter, VKontakte and WeChat due to the storage and processing of personal data of Uzbek citizens outside Uzbekistan⁷³.

In the context of the contractual basis of cooperation, it is noteworthy that during the last two official visits (the head of the PRC to Samarkand in September 2022 and the President of the Republic of Uzbekistan to Xian in May 2023), agreements were signed "On strengthening

⁶⁹ <https://podrobno.uz/cat/uzbekistan-i-kitay-klyuchi-ot-budushchego/v-posolstve-kitaya-v-uzbekistane-rasskazali-ob-itogakh-vizita-mirziyeva-i-planakh-na-budushchee-raz/>

⁷⁰ <https://lex.uz/docs/4396428>

⁷¹ <https://lex.uz/uz/docs/6225469>

⁷² <https://lex.uz/docs/4396428>

⁷³ <https://www.gazeta.uz/ru/2021/11/01/personal-information/>

investment cooperation in the digital economy”⁷⁴; “On the expansion of the telecommunications infrastructure of JSC “Uzbektelecom”; “On cooperation in the field of development of telecommunication networks”⁷⁵. Unfortunately, the texts of these agreements are not available in public domain.

At the same time, the legislation governing the IT sector in Uzbekistan is still far from perfect, as there are some incidents related to Chinese technology companies in connection with cybersecurity issues. Moreover, Uzbekistan, just like Kazakhstan, is fully experiencing the consequences of the global trend of increasing the gap between the rapid development of information technologies and the legislative regulation of the use of these technologies. These facts testify to the importance of constantly monitoring global trends in the field of ICT and, if necessary, developing new norms or amending existing regulations.

CHINESE ICT COMPANIES IN UZBEKISTAN

General Trends

Beijing investing a lot in the technology sector of Uzbekistan. Unfortunately, it is almost impossible to find information on the exact amounts and number of projects, since the Chinese side, on the basis of mutual agreement, does not disclose statistical data. This is a commonly used practice for overseas activities of Chinese companies. During the analysis of the biggest local Internet media (kun.uz, gazeta.uz, podrobno.uz, spot.uz), it was revealed that large technological projects in the country, especially the equipment of telecommunications infrastructure, are carried out by such Chinese companies as Huawei and ZTE. The underlying technologies of the ICT infrastructure are built on the basis of the technologies of these companies. At the same time, experts believe that the advantages of these companies lie solely in the ICT infrastructure, and not in the software. The software industry primarily uses local resources.

Despite the fact that Uzbekistan and China have been cooperating in the field of ICT for a long time, the rapid entry of Chinese companies into the market has been observed since the 2000s. At the same time, experts point out that despite the large share of Chinese companies and their technology in the local market, they are not the only ones in this industry. Uzbekistan is committed to maintaining a balance between technology companies and is trying to abide by this rule. So, in parts of the ICT infrastructure that are of strategic importance to the state, Chinese companies are not allowed, but European technologies are used⁷⁶. For example, in the telecommunications and information technology market of Uzbekistan, investment activities are carried out, in addition to Huawei and ZTE, by such large companies as KT Corporation and LG CNS (Republic of Korea), NEC Corporation (Japan), Veon (Netherlands), Nokia (Finland), Iskratel (Slovenia)⁷⁷ and many others.

⁷⁴ <https://www.gazeta.uz/ru/2022/09/15/china-docs/>

⁷⁵ <https://uznews.uz/posts/64883>

⁷⁶ Anonymous Interview with an ICT specialist from Uzbekistan

⁷⁷ https://mitc.uz/ru/pages/international_relations

In order to ensure information security of both civil and state importance, local authorities are taking the following measures: firstly, they conduct an examination of technology companies and pass them through the certification process at the Cybersecurity Center of the Republic of Uzbekistan; secondly, a perimeter is created that limits access to critical information that does not have Internet access.

After the transition of power in Uzbekistan in 2016, there has been an increase in the dynamics of cooperation. Telecommunications are becoming an important sector in bilateral cooperation. In April 2019, Uzbekistan signed a \$1 billion agreement with a subsidiary of the state-owned CITIC group of companies and with Huawei to begin developing digital infrastructure for government agencies in Uzbekistan and strengthen the video surveillance capacity of local law enforcement agencies⁷⁸.

After the visit of the President of Uzbekistan to the PRC in 2019, a special working group headed by the Prime Minister of Uzbekistan was established to implement the agreements reached between the two countries⁷⁹. Thus, it was envisaged that the Export-Import Bank of China would provide a loan in the amount of USD 150 million to support the modernization of communication equipment and the expansion of the network of the mobile operator Mobiuz⁸⁰. As part of the implementation of this agreement, in 2021 and in the first half of 2022, Mobiuz launched over 2.8 thousand 4G wireless base stations, built and upgraded more than 1.8 thousand spans of radio relay communication lines, laid more than 48.8 thousand meters of fiber-optic communication lines, and 5G test networks have been introduced, which significantly improved network throughput⁸¹. One of the significant successes under the agreement was the introduction of 5G test networks in the country. Although this agreement was a loan, many official and private media platforms list this agreement as an investment.

Huawei Technologies

Huawei is the largest Chinese ICT-company that has been successfully operating in the local market for a long time. The company has been operating in Uzbekistan for more than 23 years, since 1999. From an early age, the company began to establish cooperation with local telecom operators, providing equipment for the operator segment, later opening divisions EBG - solutions and products for corporate clients and CBG - consumer direction⁸². Currently, the Huawei office in Uzbekistan has more than 300 employees, 70% of which are local staff. During this time, Huawei implemented a number of major projects, aimed to create an ICT infrastructure for mobile and fixed communication networks, including such projects as the development of the information and communication infrastructure of Uztelecom, the creation of the Uzcloud Data Processing and Storage Center, the creation of a GSM network of the national mobile operator Uzmobil, the first launch of the RuralStar solution in rural areas together with UMS, the first

⁷⁸ <https://podrobno.uz/cat/uzbekistan-i-kitay-klyuchi-ot-budushchego/kitayskie-huawei-i-citic-guoan-investiru/>

⁷⁹ <https://www.spot.uz/ru/2021/09/30/mobiuz/>

⁸⁰ <https://podrobno.uz/cat/uzbekistan-i-kitay-klyuchi-ot-budushchego/sotrudnichestvo-uzbekistana-i-kitaya-dlya-uskoreniya-tsifrovoy-transformatsii/>

⁸¹ <https://podrobno.uz/cat/uzbekistan-i-kitay-klyuchi-ot-budushchego/sotrudnichestvo-uzbekistana-i-kitaya-dlya-uskoreniya-tsifrovoy-transformatsii/>

⁸² <https://www.huawei.com/uz/corporate-information/local-states>

public testing of 5G together with Beeline Uzbekistan, the creation of a Data Processing and Storage Center for Beeline Uzbekistan, and many others⁸³.

Huawei is widely represented in the Uzbek IT market: from the industry of telephone and computer devices to telecommunications infrastructure. In addition, the change of power in the country and the priorities for digitalization have given Huawei a huge chance to further increase its presence. The company works closely with the government and the Ministry of Digital Development, which helps to create a positive image of the company in front of the government. Such warm relations also raise a certain suspicion about the presence of a lobbying group for the interests of a Chinese company in the government. As the content analysis of local media shows, in recent years, major ICT projects have been implemented by Huawei. There is little information about the participation of other foreign technology companies in the implementation of projects in this area.

In the framework of the Safe City project, implemented by Chinese companies CITIC Groups and COSTAR Group in cooperation with the Ministry of Information and Communication of the Republic of Uzbekistan, Huawei supplies the necessary equipment. Chinese investors committed to invest \$300 million in the first phase of the project, but they say the amount could rise to \$1 billion. This initiative has not been fully implemented so far, but partially and gradually it is already being implemented. When the project will be completed, the digital infrastructure will become China's second largest investment project in Uzbekistan after CNPC's \$2 billion gas project (2012)⁸⁴. Huawei is also a strategic partner of the Uzbek-Chinese project for the development of digital infrastructure in Uzbekistan for a total of \$150 million. It is aimed at increasing the bandwidth of the wireless network to provide stable mobile Internet in large cities and regional centers, expanding modern technologies, incl. fifth generation networks.

Huawei is actively promoting its technical solutions in the field of 5G technologies in Uzbekistan. After the visit of the President of the Republic of Uzbekistan to the PRC in 2019, several agreements were reached in the field of ICT, including an agreement providing that the State Development Bank of China will allocate a loan in the amount of \$40 million for the implementation of projects to modernize and develop the telecommunications infrastructure of the National Telecom Operator Uzbektelecom, including the introduction of 5G, and the expansion of data storage and processing centers⁸⁵.

Since 2021, Huawei has started the process of implementing 5G technologies in Uzbekistan with the participation of all mobile operators. The first commercial launch of 5G was carried out on the territory of Tashkent City. The second launch took place as part of the SCO summit in Samarkand in 2022, and already in 2023, the process of increasing the speed of mobile Internet and introducing 5G technology throughout the country began. (In Uzbekistan, the number of Internet users has exceeded 31 million)⁸⁶

⁸³ <https://mitc.uz/ru/news/963>

⁸⁴ <https://knews.kg/2019/07/02/kitaj-dominiruet-v-tsifrovoy-infrastrukture-uzbekistana/>

⁸⁵ <http://www.uzdaily.com/ru/post/45143>

⁸⁶ <https://uzreport.news/technology/huawei-prodoljaet-razvivat-set-5g-v-uzbekistane-sovmestno-s-mestnimi-operatorami>

On August 27, 2022, as part of the program for the development of data storage and processing centers, the unified data storage and processing center of the Electronic Government system, implemented jointly with Huawei, was launched⁸⁷.

In addition to providing technologies, solutions and services to the IT operator's segment, Huawei focuses on the implementation of green technologies, and is also actively involved in providing its technologies to healthcare, agriculture and education.

Huawei invests a lot of resources in education. Currently, the company has established cooperation with major local IT universities and implements joint educational projects on an annual basis. Given that digitalization affects absolutely all areas of activity, Huawei has also established cooperation with universities to train specialists in areas such as irrigation, agriculture, transport, economics, diplomacy, and journalism. In particular, on an annual basis, Huawei implements the Seeds for the Future global educational project⁸⁸, which annually involves more than 20 students from Uzbekistan from universities with IT areas. The project provides participants with the opportunity to visit China, improve their knowledge in the field of ICT technologies, listen to lectures from international experts on advanced technologies, exchange cultural values with participants from other countries, and learn about the traditions and culture of China. Within the framework of the project, in the period of 2020-2021, 80 IT students visited China and completed an internship at the company's head office, another 54 students studied online during the pandemic. In November 2022, took place the 8th project for students from Uzbekistan⁸⁹.

The company also implements projects to support the sphere of secondary and public education. So, in schools No. 59 and No. 42 in Tashkent, a "Smart classroom" was equipped, and various competitions were organized, including for knowledge of the Chinese language⁹⁰. In September 2022, Huawei and Samarkand State University signed an agreement on cooperation in the field of ICT staff training and youth support⁹¹.

In 2021, Huawei implemented a smart agriculture project together with the National Research University "Tashkent Institute of Irrigation and Agricultural Mechanization Engineers" and the national communications operator Uztelecom using 5G-based control, monitoring and data processing systems. The project has become a part of the Green Uzbekistan initiative, launched by the company in 2020⁹².

Recently, Huawei has paid special attention to the creation of Smart Campuses in the country. In particular, in 2022 they held talks with the Tashkent branch of the Plekhanov Russian University

⁸⁷ <https://president.uz/ru/lists/view/5463>

⁸⁸ <https://www.huawei.com/uz/events/uz/seeds-for-the-future-2022>

⁸⁹ <https://www.huawei.com/uz/news/uz/2022/seeds-for-the-future-uzbekistan-2022-zapushen>

⁹⁰ <https://uzdaily.uz/ru/post/55526>

⁹¹ <https://uzreport.news/technology/huawei-i-samgu-zaklyuchili-memorandum-o-sotrudnichestve-v-oblasti-obrazovaniya-talantlivoy>

⁹² <https://www.huawei.com/uz/news/uz/2021/huawei-smart-agriculture-project-mou-signed>

of Economics⁹³, and in 2023 they started installing a similar campus at the University of World Economy and Diplomacy⁹⁴. The project provides for the provision of ubiquitous network coverage of the buildings and adjacent territories of the university, the demonstration of smart devices to improve educational processes, as well as the development of energy based on renewable energy sources.

In addition, in 2022, Huawei and IT Park signed a protocol on the establishment of two business process outsourcing centers (BPO centers) in the cities of Uzbekistan - Termez and Namangan⁹⁵. The projects are developed on the basis of solutions for the creation of smart and green campuses. Each center includes 30 seats and is provided with an ecosystem of smart devices: computers, Huawei monitors, innovative Wi-Fi 6 access points, as well as a 10 kW solar power plant on the roof of the building to provide the center with renewable energy⁹⁶.

Huawei actively participates in organizing various ICT-related events. For example, Huawei together with the Ministry of Digital Development of Uzbekistan annually organizes Huawei partner conference on the introduction of new technologies. This PR event has been one of the largest and most attractive annual events for a Chinese company in Uzbekistan at last more than 10 years. The conference creates opportunities for Huawei to interact with local IT market players in the implementation of joint projects. Holding events such as Huawei partner conferences in CA countries, with the participation of officials and representatives of the local ICT industry, brings Huawei a lot of influence.

One of Huawei's successes both in Uzbekistan and Central Asia, unlike Western IT companies, is that given the weak sales opportunities for its products, Huawei never refuses to implement projects on a charitable basis, thereby winning the favor of officials of CA countries. Moreover, Huawei is seriously engaged in the formation of its positive image in the country. In particular, Huawei seeks to engage with individuals and companies that demonstrate maximum success. So, in 2016, the famous FIFA referee R. Irmatov, who represented Huawei smartphone models in advertising and commercial events throughout the country, became the company's brand ambassador in Uzbekistan⁹⁷.

In recent years, Huawei has been focusing on innovative technologies to accelerate the digitalization of the energy sector and create opportunities for upgrading various industries. The company began to provide photovoltaic solutions for large power plants, the commercial and industrial sectors, and the residential solar power market. Uzbekistan has already implemented a number of projects based on Huawei solutions, including the launch of large solar power plants,

⁹³ <https://reu.uz/novosti/filial-razvivaet-sotrudnichestvo-s-krupnymi-it-kompanijami-peregovory-s-huawei/>

⁹⁴ <https://www.huawei.com/uz/news/uz/2022/huawei-i-universitet-mirovoy-ekonomiki-i-diplomatii>

⁹⁵ <https://www.huawei.com/uz/news/uz/2022/huawei-i-it-park-sozdayut-bpo-centri-v-uzbekistane>

⁹⁶ <https://kz.kursiv.media/2023-04-03/kak-huawei-razvivaet-czifrovuyu-infrastrukturu-uzbekistana/>

⁹⁷ <https://kun.uz/ru/news/2016/08/22/huawei-i-nacionalnaa-olimpijskaa-komanda-po-boksu-uzbekistana-sdelali-pravilnyj-vybor>

as well as solar stations for universities and their campuses. In 2022, Huawei signed a memorandum of understanding with the Ministry of Energy of the Republic of Uzbekistan⁹⁸.

Huawei also works closely with local media. For example, it has already become a tradition to organize media tours and press briefings at the Huawei office in Tashkent, during which representatives of local media get acquainted with the results of the company's activities⁹⁹. In addition, the company finances the participation of local journalists in IT events in foreign countries where Huawei technologies are presented, as well as in the company's head office in China. These activities contribute to the formation of a positive image and trust towards the company among the local community.

Huawei considers strengthening the infrastructure and creating great opportunities for electronic public services, fintech and banking as promising areas of cooperation; in general, they want to connect more government agencies to their data processing center (Big Data), which they built together with the Ministry of Digital Development of Uzbekistan. Continue to support local ICT talent through projects such as Seeds for the Future and ICT Academy, as well as participation in the country's public life and support for the environment through the Green Uzbekistan initiative¹⁰⁰.

Chinese video surveillance technologies

Chinese video surveillance technologies are popular in Uzbekistan. Many government agencies and private estates have security and video surveillance systems from Chinese companies. In April 2019, Huawei struck a big \$1 billion deal with the Uzbek government to install a surveillance camera system in the capital.

There are several companies in the Uzbek market in the field of video surveillance and security systems, but it is noteworthy that all of them are Chinese. The products of the Hikvision, Dahua, HiWatch, Space Technology brands, which account for approximately 95% of the market, enjoy consistently high demand. At the same time, it should be noted that new Chinese companies have recently appeared on the local market in the field of providing services for the installation of video surveillance cameras and a security system (Max Security, D-vision, XRaison).

Hikvision is one of the major Chinese companies that occupies a large part of the market for installing CCTV cameras. Setko Company¹⁰¹ has been a distributor of Hikvision in Uzbekistan since 2011, specializing in equipment designed for large project solutions. The main clients of the company are ministries and government agencies - the Ministry of Defense, the Security Department of the Main Internal Affairs Directorate of Tashkent, the DOTS Republican Center, the Central Bank of Uzbekistan. Also, Hikvision equipment using in security systems of the Nestle company in Uzbekistan, Uzbekistan airways, Orient finance bank, Carlsberg Uzbekistan,

⁹⁸ <https://kz.kursiv.media/2023-04-03/kak-huawei-razvivaet-czifrovuyu-infrastrukturu-uzbekistana/>

⁹⁹ <https://www.uzdaily.uz/ru/post/78139>

¹⁰⁰ <https://kz.kursiv.media/2023-04-03/kak-huawei-razvivaet-czifrovuyu-infrastrukturu-uzbekistana/>

¹⁰¹ <https://pc.uz/company/10212-setko>

and many others. The Setko website contains information that Hikvision is implementing the Safe Road project in the cities of Tashkent and Bukhara¹⁰².

In 2020, a new Hikvision high-tech showroom was opened in Tashkent, where presented the latest security developments, smart technologies for business, integrated solutions for projects in the field of a safe city, industry, transport, retail and other market opportunities¹⁰³. With the help of the showroom, Hikvision specialists and partners of the company will be able to demonstrate to customers modern security systems in action and test the necessary functions. Hikvision has already implemented a number of major projects in Uzbekistan - elements of security systems in these projects formed the basis of a new demonstration site.

TikTok

Active use of the TikTok service in Uzbekistan began at the end of 2019. However, in 2021, after the adoption of the Law “On Personal Data”, Uzbekistan restricted the use of a number of social networks due to their violation of legal requirements when processing personal data of Uzbeks. In particular, in connection with the violation of the requirements of Article 271 of this Law when processing personal data of citizens of Uzbekistan, since July 2, 2021, some social networks have been included in the “Register of Violators of the Rights of Personal Data Subjects” and the use of relevant resources on the Internet in the territory of the Republic of Uzbekistan is limited in the prescribed manner until the identified deficiencies are eliminated.

The TikTok ban has sparked varying reactions from both civil society and officials in Uzbekistan. Representatives of civil society advocated unblocking the service, but representatives of ministries and political parties advocated tightening controls and continuing the ban on TikTok in the country.

Thus, K. Allamjonov, Chairman of the Board of Trustees of the Public Foundation for the Support and Development of National Mass Media of Uzbekistan, advocated unblocking TikTok. K. Allamjonov held online negotiations with TikTok Vice President Dr. T. Bertram and suggested that TikTok representatives adapt some of their internal rules and procedures in accordance with the values, customs, and mentality of Uzbekistan. It was noted that they are ready to take into account this proposal, cooperate in this direction, and also introduce the Uzbek language in the interface¹⁰⁴. Later, one of the modern “technocrats” of the country, Minister of Digital Development Sh. Shermatov also held an online meeting with TikTok Vice President T. Bertram. During the negotiations, issues of ensuring the security of personal information of users of the platform in Uzbekistan and fulfilling the requirements of the legislation of the republic were discussed. In order to expand mutually beneficial cooperation, the ministry put forward proposals to company representatives to open their representative offices in Uzbekistan¹⁰⁵. After

¹⁰² <https://hikvisionsmart.uz/index.php/about-us>

¹⁰³ <https://hikvision.ru/press/200610105002>

¹⁰⁴ <https://yuz.uz/ru/news/komil-allamjonov-predlozil-adaptirovat-tiktok-k-natsionalnm-osobennostyam>

¹⁰⁵ <https://kun.uz/ru/news/2022/03/17/minifokom-predlozil-kompanii-tiktok-otkryt-predstavitelno-v-uzbekistane-sotsset-zablokirovana-v-strane>

these online negotiations, 2 years have passed, but no practical actions have been taken by the regulator of the Chinese service.

On the other hand, the Ministry of Culture of the Republic of Uzbekistan believes that TikTok negatively affects young people and does not correspond to the national mentality. Moreover, members of the social-democratic party Adolat (Justice)¹⁰⁶ and the democratic party Milliy Tiklanish (National Revival) advocated in the Parliament of Uzbekistan for a complete ban on TikTok, since it negatively affects the spirituality of young people¹⁰⁷.

Since 2021, the service is not available for Uzbek users. It is reported that TikTok was not deregistered in the register of banned services. Access to TikTok available only by the use of VPN services. The reason for the limitation is that this social network does not store personal information of citizens on servers located in Uzbekistan.

CONCLUSIONS UZBEKISTAN

The development of digital cooperation between Uzbekistan and China involves strengthening the influence of the latter in the field of Internet governance and the development of common approaches for all countries of the region to global technological development. This approach implies the improvement of digital interconnectivity between countries, the construction of new terrestrial intercountry data transmission lines, the development of 5G networks, the construction of data storage centers (Big Data).

Unlike other states in the region, Uzbekistan independently implements the Digital Tashkent¹⁰⁸ project, although previously many companies from Russia, South Korea and China offered their services in this direction. In addition, there are state-established rules in Uzbekistan that any ICT project must be reviewed by the Ministry of Digital Development and the Cybersecurity Center. This rule helps to minimize the risks of implementing projects that have a negative impact on national interests and constant state control of the ICT and digitalization sphere.

Chinese tech companies enjoy widespread support from official authorities, including at the highest levels. This can be due to the fact that during the period of work on the local market, no high-profile cases related to Chinese companies were noted - data leaks, cybersecurity problems, etc. In this regard, the reputation of Chinese companies is positive. At the same time, a narrow circle of specialists who worked with Chinese companies emphasize that it is necessary to work with Chinese companies strictly according to the rules and on the basis of detailed agreements, because the presence of inaccuracies in mutual agreements can lead to the failure of the Chinese side to fulfill its obligations.

Another factor fueling suspicion among the public is the dominance of Chinese technology companies in the country's digitalization process. In recent years, the country's technology industry has been almost completely formed on the basis of Chinese technologies and

¹⁰⁶ <https://www.currenttime.tv/a/v-uzbekistane-predlozhili-zablokirovat-tiktok/31682941.html>

¹⁰⁷ <https://www.podrobno.uz/cat/obchestvo/chto-proiskhodit-s-tiktok-v-uzbekistane-chast-provayderov-otkryla-dostup-k-sotsseti-/>

¹⁰⁸ <https://mitc.uz/ru/news/2324>

equipment. Thus, the country is at risk of becoming technologically dependent on Chinese companies. Both citizens and the expert community are concerned about the reliability of storing information or about the use of this data by Chinese companies as a lever of pressure on Uzbekistan.

Despite these negative factors, local authorities are aware that it will be difficult to implement such projects on their own and, naturally, they will turn to Chinese companies, which in recent years have been placing more and more emphasis on this particular industry, thereby firmly securing their place. Under these conditions, the authorities of the Republic of Uzbekistan need to take into account the factors that create a new set of risks burdened with a stronger anchoring effect than the physical infrastructure.

CONCLUSIONS CENTRAL ASIA

In general, the countries of the Central Asian region have the following risks of Chinese influence on the IT industry.

Penetration of Chinese technology in the strategic sectors of IT infrastructure, and in the future also in the field of software in Central Asian countries rising. In recent years, Chinese technology companies have become dominant players in the technology market in almost all Central Asian states, including in investing in this industry.

The introduction and deployment of Chinese technologies, including Smart Cities, can lead to strong and regular dependence on China. This means that in the coming years, the governments of the Central Asian countries will have to continue to buy new modern technologies from China and they will never be able to control their own technologies and set their own rules for them. However, under the current conditions, the states of the region are not ready to change their technological partner in favor of the West due to the high cost of Western technologies and the difficulty of completely replacing existing technologies based on Chinese equipment.

The cheapness of Chinese equipment, as a rule, is a decisive factor for local businesses when choosing an equipment supplier. Along with this, there is also a technological attachment of the local industry to China as a supplier of equipment and services. At the same time, it is necessary to take into account the risks of securing the lowest, or initial, positions in value chains for local enterprises, while Chinese companies will be at the top positions, receiving the bulk of the added value.

By firmly securing the role of the main supplier of the latest technologies, China will thereby set its own technological standards, which will increase the dependence of states on China. Some countries are concerned that DSR projects could help the Chinese government gain access to sensitive Central Asian data, including personal and biometrical data of CA citizens. But not all officials in Central Asia share these concerns. During private conversations with representatives of the ministries responsible for the digitalization of Kazakhstan and Uzbekistan, as well as deputies of the Parliaments of both countries, members of the parliamentary working groups on digitalization, they voiced the thesis that since there were no cases of leakage of personal and biometric data of citizens to China, then there is nothing to worry about, and the study of the influence of Chinese IT companies on the digital environment can quarrel the countries of the

region with China. The very existence of such a narrative is alarming, and may serve as evidence that the authorities of both countries agree to protect Chinese interests, regardless of the opinion that certain risks exist.

According to the head of the Kissinger Institute on China and the United States R. Daly, as a result of China's rapid technological development and the development of future technologies, especially artificial intelligence and next-generation telecommunications technologies, the world is becoming technologically polarized. This is not just a technology trade issue, but a conflict of interest arising from China's desire to implement its own technological standards, replacing existing Western models. This process will directly affect the Central Asian countries, which will have to choose the technologies and technological standards of one of the partners. There will be no neutral position in this case, the states will have to choose between these standards. This, in turn, has high risks and consequences for the countries of Central Asia¹⁰⁹.

According to American expert J. Kurlantzick, allowing Chinese firms to build 5G networks and other IT infrastructure, as well as set technological standards, can lead to the risk of espionage and coercion of the policies of other states if Beijing uses data leakage to blackmail political elites in these states¹¹⁰.

According to Niva Yau¹¹¹, an expert from the OSCE Academy in Bishkek, Smart City technology is useful in itself for monitoring and improving road safety, there is no doubt about it. The problems that arise in the long term are not yet taken seriously by the governments of the Central Asian countries. Firstly, this is a fundamental technology and here the governments of the countries of Central Asia completely rely on China. This means that in the coming years, the governments of the Central Asian countries will have to continue to buy from China, without the ability to control their own technologies and develop their own rules. This will have serious implications for cyber laws over the next 10 years, which will be shaped by Chinese dictates. Secondly, it is a technology of military importance. China is likely to have access to real-time population statistics and movement information. Also, this is Chinese technology, they know how to use it, hack and control it. When it comes to cyberattacks, jamming traffic lights in the capitals, the people of Central Asia will not even be able to recognize an attack from China. All countries should have this basic infrastructure protected by their own IT staff and have basic capabilities to manage these technologies.

Today, such a phenomenon as Smart City is a global trend. The Chinese government actively encourages the development of smart cities in its territory. According to 2019 data, a total of 500 "Smart City pilot projects are ready and under construction" in the PRC, of which only 8.4%

¹⁰⁹ Private meeting with expert R. Daly during his visit to Tashkent on April 27, 2023.

¹¹⁰ Joshua Kurlantzick. Assessing China's Digital Silk Road: A Transformative Approach to Technology Financing or a Danger to Freedoms? December 18, 2020. <https://www.cfr.org/blog/assessing-chinas-digital-silk-road-transformative-approach-technology-financing-or-danger>

¹¹¹ Niva Yau on China in Central Asia: We Need to Look and Think Ahead of China. 17.03.2021. Available: <https://voicesoncentralasia.org/niva-yau-on-china-in-central-asia-we-need-to-look-and-think-ahead-of-china/>

have reached the mature level, while more than 43% remain in the preliminary stages¹¹². At the same time, China seeks to export its Smart City concept mainly to developing countries and countries participating in the BRI project, since in the west, China's influence is limited¹¹³.

Thus, it is clear that the development of a Smart City poses not only regulatory challenges, but also security issues and geopolitical dilemmas, since they cover significant amounts of critical infrastructure (from energy systems to telecommunications networks). At the same time, there are a number of problems associated with the successful implementation of Smart Cities in China. In particular, it is noted that some local governments have chosen Smart City projects that are just “window dressing” instead of solving real problems. In this regard, the solution of the most important existing and potentially emerging problems and issues in this area should be a priority when considering the construction of smart cities, rather than focusing on their design.

Despite the existing problems, developing countries, in the absence of alternatives, and even more so the current difficult situation, will be interested in accelerating the implementation of projects with the participation of Chinese technology companies. At the same time, as experts note, the Central Asian states are aware not only of the importance and in some respects the indispensability of cooperation with China in the field of digitalization, but also of certain challenges and risks, although it is still too early to assess the results of these measures in a specific way.

RECOMMENDATIONS

Common recommendations

1. Undoubtedly, Chinese technology companies in Central Asia are the dominant players today. The next stage of their activity may be the gradual introduction of China's own technological standards. The adoption of Chinese standards will automatically lead to a change in other industries involved in this system, i.e., banking, healthcare, etc., which may cause some concern among the countries of the region about data security. At the same time, it should be noted that in the medium and long term, the introduction of Chinese technological standards is inevitable. Therefore, it is extremely important for the countries of the region to develop in advance mechanisms, general criteria for joint interaction that guarantee the security of both personal and documentary data of national importance.
2. Well-known advanced Chinese technologies are likely to remain attractive to emerging markets, despite Western claims of poor security and quality. Among them is the Central Asian region, where Chinese companies have the strongest presence due to their long-term lending structure and high financial risk tolerance. Beijing is already number one for emerging markets due to affordable prices and decent product quality. Thus, as ICT

¹¹² Alice Ekman, Cristina de Esperanza Picardo. Towards urban decoupling? China's smart city ambitions at the time of Covid-19. 14 May 2020. URL: <https://www.iss.europa.eu/content/towards-urban-decoupling-china%E2%80%99s-smart-cityambitions-time-covid-19>

¹¹³ He, Yujia and Tritto, Angela, "Chinese-Invested Smart City Development in Southeast Asia - How Resilient Are Urban Megaprojects in the Age of Covid-19?" (2021). Diplomacy and International Commerce Reports. 1. p. 2.

networks increasingly transcend national borders and into some uncharted territory, international cooperation is needed to develop a legal framework to prevent the misuse of ICT networks.

3. Taking into account the current position of China both in the world and in Central Asia, as well as some negative precedents related to ICT companies in the PRC, the dominance of the latter in the ICT industry threatens with serious risks for the Central Asian states. The predominant position of the PRC, in the absence of competitors, will give it the opportunity to dictate its terms and put pressure, it is not excluded, on the authorities of the countries of the region. However, China has already mastered the most successful technologies of Western companies; In this regard, industry experts understand the senselessness of banning or restricting Chinese companies' access to the national market, especially in the context of technological globalization and the aspirations of the countries of the region to global trade. This can negatively affect their image and lead to serious economic losses. There is already a huge amount of Chinese technology in the ICT infrastructures of the region, which states are able to only partially update, but not completely change, which is very costly economically. Taking into account the current state of the IT market in Central Asia, it can be stated that CA countries still have alternative opportunities to prevent China's IT companies from taking a leading position in order to exclude the possibility of becoming dependent on them. In international practice, there are cases when, in the interests of national security, decisions were made in favor of abandoning certain technologies¹¹⁴.

Personal recommendations

For Governments, Parliaments, State Agencies and departments of the Central Asian States:

- Conduct a balanced and clear assessment of the advantages and disadvantages of close cooperation with Chinese ICT companies in digitalization projects, taking into account all possible consequences.
- Legislate the diversification of state contracts for the supply of telecommunications equipment and technologies, “open” the IT market for all participants equally.
- Improve law enforcement practice to protect the rights of citizens to privacy and protection of personal data; improve legislative mechanisms for protecting the rights of citizens in the context of the rapid growth of the digital environment.
- Make efforts to achieve international cooperation to develop a regulatory framework to protect the interests of the countries of the Central Asian region from the misuse of telecommunications networks
- Make efforts to disclose contracts with large foreign ITC companies, achieve transparency and accountability of their activities in the field of privacy and personal data protection.

For National and local ITC companies of CA region states

¹¹⁴ <https://www.bbc.com/russian/news-53369765>

- Improve privacy and personal data protection policies, promptly respond to emerging challenges, take into account the requirements for privacy and personal data protection when concluding contracts with Chinese equipment and technology manufacturers.
- Make efforts to increase the transparency of the activities of ITC companies, promote the disclosure of contract terms, especially in terms of protecting privacy rights and protecting personal and biometrical data.

For civil society organizations, expert and academic communities, independent media of CA states

- Implement projects aimed at monitoring and evaluating Chinese influence in the CA region, not only in the field of IT, but also in other industries.
- Create information materials that objectively cover the activities of Chinese companies in countries of CA region, increase public interest in this topic.
- Carry out advocacy projects that put pressure on the governments, parliaments, and businesses to be more accountable for major investment projects and other arrangements with Chinese companies.
- Undertake capacity building and professional development efforts on the subject of Chinese influence in the countries of CA region.