



ENSURING CYBERSECURITY IN KAZAKHSTAN: PROBLEMS AND SOLUTIONS

Cybersecurity is the protection of information systems from damage to their hardware, software or electronic data, as well as from disruption of their operation or services they provide. A cyberattack is any type of an offensive attempt to expose, steal, destroy, alter or get an unauthorized access to information or an asset. A cyberattack can be launched against information systems, digital infrastructures, facilities, networks, personal computers and other electronic devices. In this light, the issue of cybersecurity has become one of the top concerns throughout the world. It has been estimated that on average a new malicious program is created every four seconds, and the damage from cyberattacks is measured by many billions of dollars on a worldwide scale. Thus, the damage from the massive attack of WannaCry viruses, which took place in May 2017, is thought to exceed \$1 billion, affecting 150 countries.

Nowadays, cybersecurity has been developed as a separate academic field in the Information System sciences and is an essential part of national security policies of many countries. The importance of cybersecurity in the context of the overall security policy stems from the fact that as a result of the global digitalization and a widespread use of modern information systems in all spheres of human life, including governance, economy, defense, finance, and numerous routine daily activities of the public, a totally new dimension called 'cyberspace' has emerged. Thus, many activities of governments, institutions, organizations and ordinary people have been transferred to the cyberdimension, which, like any other important environment, requires certain degrees of security.

Among many types of cyberattacks, phishing fraud remains the most popular: it is basically an attempt to obtain personal information about internet users' financial assets such as usernames, passwords and other details related to bank accounts, credit cards, etc. This method of a cyberattack is rather primitive as it simply directs internet users through links and instant messaging to enter their personal information on fake websites purposefully created by internet hackers. In many cases, internet users do not realize a threat they face since fake websites often look identical to real websites used by banks and other financial institutions.

Kazakhstan, with a rapidly increasing number of cyberattacks, is one of the world's most vulnerable countries in terms of cybersecurity. In 2018, Kazakhstan ranked 40th in the Global Cybersecurity Index with an overall index of 0.778, slightly improving its position compared to 2017 when it stood at the 83rd place. However, the number of registered attacks increased from 34,014 in 2017 to 57,534 in 2018.

During 2014-2018, the number of fixed internet subscribers in Kazakhstan using high-speed broadband access has been increasing at about 6.5-7.0% per year, reaching 2.5 million by 2018. At the same time, the number of organizations with access to the internet amounted to 100.7 thousand out of total 132.2 thousand organizations. Thus, 76.2% of companies in Kazakhstan are connected to the internet and are exposed to the threat of cyberattacks, whereas in 2017 this figure was at 69.3%. Currently, out of all public administration entities, over 90%, or 7.6 thousand institutions, have access to the internet. According to the available data, in Kazakhstan, as well as in many other countries, cyberattacks are much more often launched against private enterprises and individual users rather than public institutions. It is also known that smaller enterprises are more prone to cyberattacks than larger businesses, which tend to invest more in cybersecurity.

The improvement of Kazakhstan's position in the global cybersecurity ranking in 2018 is largely due to the Cybershield project initiated by the government. The issue of cybersecurity was addressed for the first time at the governmental level by President Nursultan Nazarbayev in his address to the people of Kazakhstan titled "The Third Modernization of Kazakhstan: Global Competitiveness" on January 31, 2017. In particular, the head of state instructed the government to create a system called "Cybershield of Kazakhstan", which would protect information systems, digital media and the electronic communication infrastructure from external and internal sources of cyberthreats. In accordance with this instruction, the Ministry of Defense and Aerospace Industry of Kazakhstan has developed a draft Cybersecurity Concept, which was approved by governmental decree No. 407 of June 30, 2017. We can expect that the issue of cybersecurity will become

even more critical in the near future, while the number and variety of potential and real threats will rise. One of the factors that will definitely increase the exposure of Kazakhstan's cyberspace, as well as of any other country, to risks of cyberattacks is the spread of 5G technologies. It is well known that the number of cyberattacks has a tendency to grow with an increasing speed of the internet traffic as this facilitates access to internet users' accounts, electronic devices, digital networks, etc. for potential intruders. Another factor is the further digitalization of many services and activities and the widening of Kazakhstan's cyberspace due to a growing number of internet users. Thus, we can conclude that cybersecurity threats are becoming more dangerous with the technological advancement, including the spread of the internet and overall digitalization of all spheres of human life.

There are a number of steps taken to strengthen cybersecurity in Kazakhstan during the first stage of the implementation of the Cybershield project. In order to solve one of the main problems, which is the shortage of cybersecurity specialists, the government allocated 500 scholarships for academic degree programs in the field of cybersecurity for 2018-2019, 2019-2020 and 2020-2021, including 165 for Master's programs and 10 for PhD programs. Several public universities have launched courses and training programs on cybersecurity, big data analysis, network security and other relevant topics. As of today, more than 700 civil servants in Kazakhstan have taken such courses at the Academy of Public Administration. Moreover, the state certification rules have been developed to ensure conformity of electronic appliances to specified standards of cybersecurity.

Kazakhstan's Cybersecurity Concept is rather complicated and requires a very comprehensive approach. Many of the planned steps are projected for medium and long-term payoffs and will certainly contribute to enhancing cybersecurity in the future. The government now implements the second stage of the Cybershield project, which will last until 2022, aimed at strengthening cybersecurity in the country's cyberspace, therefore we can expect that Kazakhstan will be fully ready to withstand existing and emerging cyberchallenges.

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Politics, Foreign Affairs, and Security

- Leaders of 37 countries, including all Central Asian countries, except Turkmenistan, and over 5,000 delegates from more than 150 countries and a number of international organizations attended the second Belt and Road Forum held in Beijing. During the three-day event, the participants discussed issues related to trade and transit infrastructure projects implemented under the Chinese initiative.
- During his official visit to Kazakhstan, Prime Minister of Hungary Viktor Orbán met with President Kassym-Jomart Tokayev and Leader of the Nation Nursultan Nazarbayev to discuss prospects for further strengthening bilateral cooperation, as well as a number of international and regional issues. The parties stressed that along with political and economic interests the two countries have common historical roots.
- During the 12th round of Syrian peace talks held as part of the Astana Process in Nur-Sultan, the representatives of the guarantor states, Iran, Russia and Turkey, discussed efforts to launch a Constitutional Committee on Syria and reviewed the situation in the Idlib de-escalation area. The parties also agreed to invite Iraq and Lebanon to join the Astana format as observers.
- Seven EU countries (Belgium, France, Germany, Great Britain, Italy, the Netherlands and Sweden) made a joint statement concerning Russia's decision to simplify the procedure for obtaining Russian passports for residents of separatist-controlled eastern Ukraine. According to the statement, this move is another attack on Ukraine's sovereignty, which violates the Minsk agreements and aims to exacerbate the conflict.
- The expert group in charge of updating the CIS development concept adopted in October 2007 to improve the effectiveness of integration cooperation met in Minsk via a videoconference. It is expected that the document will not undergo dramatic changes. It will be tailored to the contemporary context and cooperation needs.
- The State Commission on Religious Affairs of Kyrgyzstan held a regional meeting on reducing violent extremism in Bishkek. Representatives of state agencies, security services, media and non-governmental organizations of the five Central Asian states discussed ways to strengthen interaction on preventing and countering radicalism and extremism, including by creating a regional consultative working group.
- The 9th meeting of the heads of the anti-drug agencies of the SCO member states was held in the Kyrgyz city of Cholpon-Ata. The participants discussed the drug situation in their countries, in the region and across the globe, as well as future activities in the fight against illicit drug trafficking on the basis of the SCO Anti-Drug Strategy for 2018–2023.

Economy, Finance, and Energy

- The EAEU member states concluded talks on a draft agreement to establish a common electricity market, having settled the last remaining disagreement on the separation of competitive activities and natural monopoly activities. It is expected that the common market will help set transparent market prices of electricity for consumers and facilitate economic growth in the member states.
- According to the National Statistics Committee of Kyrgyzstan, the country has the cheapest food products among the EAEU member states. The cost of a grocery basket, which included 1 kg of beef, lamb, butter, potatoes and flour, as well as ten eggs and a loaf of bread, amounted to \$30.41 in Moscow, \$18.69 in Nur-Sultan, and \$15.7 in Minsk (excluding lamb), while in Bishkek this list of products averaged \$16.4.
- Low-quality oil supplies from Russia via the Druzhba pipeline led to the decrease in oil refining volumes at the Belarusian refineries. To be able to cover the domestic market's needs, Belarus had to suspend exports of light oil products to Ukraine, Poland and the Baltic states. Minsk has pledged to resume fulfilling contractual obligations after the issue of the low-quality Russian oil is settled.
- The World Bank (\$150 million) and the European Union (€15 million) will jointly finance a project focusing on Uzbekistan's livestock sector. It will address such issues as low productivity, insufficient value added, limited access of small farmers to the market and finances, poor coordination between different stakeholders, and the lack of quality of animal health services.
- The trade turnover between Kazakhstan and Uzbekistan amounted to \$2.5 billion in 2018, which is 25.3% more than in 2017. Agricultural and food products dominated the commodity structure of exports of both countries, accounting for 38.7% of Kazakh exports to Uzbekistan (\$1.6 billion) and 49% of Uzbek exports to Kazakhstan (\$0.8 billion).
- The 10th meeting of the Kazakhstan-Georgia Intergovernmental Commission on Trade and Economic Cooperation was held in Nur-Sultan. Representatives of the ministries and companies of the two countries discussed a number of issues of bilateral cooperation in such areas as trade, transit, investment, industry, agriculture, transport, communications, information technology and innovations, science, tourism, and healthcare.
- The EBRD in partnership with the Green Climate Fund will provide a \$16.7 million loan to finance the construction of a 30 MWp solar photovoltaic power plant near the village of Zhangiztobe in eastern Kazakhstan. The EBRD signed a relevant agreement with the Chinese company Universal Energy during the Second Belt and Road Forum in Beijing.

Society and Culture

- During his working trip to the East Kazakhstan region, President of Kazakhstan Kassym-Jomart Tokayev visited the house museum and mausoleum of great Kazakh poet and philosopher Abai Kunanbayev located in his birthplace, the Zhidebay village. The president proposed to give a higher status to this sacred place and make it a popular pilgrimage site.
- The Khoja Akhmed Yassawi International Kazakh-Turkish University hosted the Fourth General Assembly of the Turkic University Union in Turkistan. The participants reviewed the implementation of the projects developed by the Secretariat of the Turkic Council in cooperation with the Union's member universities, such as the Orkhun Exchange Programme, as well as the activities planned during the chairmanship of the Akhmed Yassawi University in the Union.
- The Second Forum of the Young Leaders of the Turkic Council and the Cultural and Arts Festival of the Youth of the Turkic World were held in Turkistan. Young delegates from Azerbaijan, Kazakhstan, Kyrgyzstan, Turkey and Uzbekistan attended the events to share youth policy experiences and to promote culture and arts of fraternal Turkic-speaking nations.
- The sub-regional coordination meeting on the development of transboundary tourism routes in Central Asia was organized in Almaty under the EU-funded UNESCO project "Silk Roads Heritage Corridors in Afghanistan, Central Asia and Iran". The project aims to improve livelihoods of the communities in the region through capacity building and the creation of opportunities for income generation and jobs.
- The seventh meeting of the UNESCO National Commissions of the TURKSOY member countries was held at the Kyrgyz-Uzbek University of Osh. The main agenda of the meeting was the preparation and submission of a joint file on handicrafts of the Turkic World to the UNESCO. The participants also shared information on the status of the cultural heritage of their countries.
- The Kyrgyz Ministry of Health, with the support of the World Health Organization and the UN Children's Fund, held the European Immunization Week 2019 in Kyrgyzstan to promote the use of vaccines against dangerous infectious diseases. Vaccination refusals have been increasing in the country, and religious beliefs are cited as a reason in 68% of such cases.
- The Turkish Yerli Dusunce Dernegi foundation organized the annual Turkish Film Week in Bishkek, with support from the Kyrgyz-Turkish Manas University and Turkey's Culture and Tourism Ministry. During the five-day event, the Kyrgyz cinema lovers were able to see free of charge four internationally awarded Turkish movies and one animated cartoon.