

Digital Resilience in Eurasia

Proceedings
of policy dialogue

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Introduction by Sebastian Molineus

Regional Director for the South Caucasus at the World Bank



Perhaps no other single event has emphasized just how important digital transformation is than that current COVID pandemic that we are living in. Within a few months, our world has completely changed, and the fundamentals that have driven the economic world in expansion over the past years have completely shifted.

We've seen how global mobility has been reduced with some 20 to 30% of the population under lockdown. We see global supply chains that are at risk, with businesses closely evaluating their risk strategies, and we see businesses, governments, and ordinary citizens completely having to readjust to these new conditions – and this new normal. Cybercrime, with individuals leveraging the COVID-19 pandemic for their own aims, has increased exponentially. We've seen a 273% increase in cyber breaches and a 600% increase in malware attacks during the first two quarters of 2020 alone. However, as we all know, challenges also present certain opportunities for us. The digital transformation may not be a silver bullet, but it certainly is a golden opportunity to bring about some important changes, and now we are all taking this amazing giant leap forward towards a new and, hopefully, better world.

Within six months, we have had more than five years' worth of progress in digital adoption. Telecom operators are currently reporting a 40 to 50% increase in the use of data networks. The use of videoconferencing has increased by over 700%. We see that around the world, businesses, governments and individuals have completely shifted their physical workspaces to online, some temporarily but others more permanently. Of course, we all hope that the new vaccine will bring our lives back to some semblance of normality, but I believe that some of these changes are going to be here for the medium to long term – and should be embraced.

I also believe that there is going to be a new normal, with an increased emphasis on digital technologies, and I do not think that we should go back to the old ways of doing things.

Should we rebuild to the old or new? This will, of course, require a new way of thinking, a new mind shift that needs to take a place. It requires new approaches to how businesses are run, how to treat one's employees, how governments interact with their citizens and individuals, and, indeed, how we interact with one another as well. I do see a huge opportunity for us all to embrace the digital transformation for the better.

In particular, when we look at some of the use cases during the COVID pandemic, we can point out e-learning or telemedicine – something which would never have been possible during the time of the Spanish flu. But now there is a real opportunity to address the economic dualism that exists in many societies of the world and to reach the individuals living outside of city centers along with the services and economic opportunities they provide.

As we've seen, there are some countries among the regions, the digital leaders, like South Korea or even Georgia (where I am based), that have been demonstrating that it is possible to contain the impact of COVID and secure economic prosperity through the combination of informed leadership, trust, integrity, and investments into resilience and the digital transformation agenda. This is not the solution for this global crisis, but it is part of the answer, and I would call it an opportunity. The same holds true for the climate and the green agenda.

At the World Bank, we've been working hand in hand with governments, while our partner institution IFC has worked with businesses around the world. One such project, which I'm really proud of and that we were able to deliver just recently, is Log-In Georgia. Through this project, we are aiming to connect over 500 000 individuals residing in up to 1 000 Georgian villages in rural and remote areas to a high-quality and affordable broadband network, which will provide them with access to the internet and the economic, educational, and other opportunities it offers.

There are also other initiatives – such as Digital Central Asia, South Asia Initiative, and many more – that we've been supporting around the world as they are truly critical and important pillars in governments' response to the COVID-19 pandemic. I think this is a wake-up call for us to really embrace some of the opportunities. Let's not completely forget what has worked in the past, but at the same time, let's use some of these shifts that are taking place to our advantage.

The World Bank stands as a steadfast partner to governments in their efforts to transition to this new world, and we are glad to take part in this information partnership. We do not pretend to have all the answers, but through our advisory, convening, and financing work, I think we can play an important role and would be happy to continue doing so.

Introduction by Anatoly Motkin

President of StrategEast



My experience working on digital transformation in the countries of Eurasia has convinced me that digital sustainability in this region starts with education. This includes education at all levels – starting with the most basic digital literacy, followed by the basic professional IT education and, finally, with the relevant higher academic education.

Without universal digital literacy, we will not be able to transfer public services to a completely digital format, and we will have to support two systems simultaneously, which will lead to unnecessary costs and a decrease in the level of security.

Nowadays in Eurasia, there are countries with almost universal digital literacy, such as Estonia; countries with less than 50% of the population with at least a basic digital literacy, like Ukraine; and some countries of Central Asia where digital literacy is even lower. Among the promising projects, there is the Ukrainian governmental program “State in a Smartphone”, with which they have set a goal to educate six million people on digital literacy in three years and enable the 100% digitalization of public services. It is important that in each country of Eurasia such KPIs are set, and international development organizations provide support for the implementation of such programs.

The next level is the training of IT specialists. The lack of such professionals is the only constraint on the growth of Eurasia’s own IT industry. For instance, the IT industry in Ukraine is growing by 26% a year. It could grow even faster, but this means that more than 50 000 new IT specialists should be trained yearly. At the same time, the domestic IT industry is the key to digital resilience. It is difficult to talk about cybersecurity if there are not enough developers inside the country who can at least support and expand digital transformation.

Many countries in Eurasia have already realized this. Uzbekistan has set an ambitious goal: to train one million of its own IT developers, for which 200 training centers are opening. StrategEast also contributes to the training of IT professionals. In February of this year, together with one of the global leaders of the IT industry, EPAM Systems, we opened our IT HUB educational center in Tbilisi, Georgia. Currently, students are trained in this program for the most demanded IT professions.

The IT HUB has become a perfect model of how a public-private partnership should work in IT education. State support was provided by the state agency Georgia’s Innovation and Technology Agency, students were recruited with the Business and Technology University, and professional tutors were provided by EPAM Systems. The launch of the IT HUB in February 2020 was followed by the COVID-19 pandemic in March. In a matter of weeks, we were able to fully transfer the training process to the online format. And throughout the entire pandemic, our students successfully learned from EPAM teachers from other countries.

By October, we witnessed the results – the first graduates of IT HUB completed their studies and got their first jobs in the IT industry field of study. It’s important that these young specialists don’t have to leave Georgia to find a well-paid job; they can stay and work remotely.

Investments in education have always been considered the most profitable in the long term. But in the digital world, for the first time, we are faced with the fact that investment in education has begun to bring almost immediate results. It takes five to nine months to train one professional. In the form of an increase in GDP, training costs are paid off in two to three months. And in most of the cases in the countries of Eurasia, this is also new export earnings.

StrategEast will continue to contribute to digital resilience by training IT specialists. Our IT HUB is now working in an online format, which means that we have the opportunity to recruit students from other countries. Our immediate plan is to start accepting students from other countries of the Caucasus and Central Asia, where it is time to build a serious IT industry. To expand IT HUB activities and have a positive impact, we need support from international development agencies and financial institutions who are interested in building up the digital economy in Eurasia. With that, we expect this program will become self-sustaining in an extremely short period.

Opening remarks by Oleg Petrov

Senior Digital Development Specialist at the World Bank



We live in an age of rapid change. Digital transformation is the key driver of a tectonic shift in our economies, societies, and personal lives. Today, digital transformation is no longer just a sign of progressive business practices and innovative thinking, but a sine qua non for survival in the modern world.

COVID-19 is dramatically accelerating digital transformation. Recent data show that we have taken a digital leap into the future and have jumped five years ahead in individual and business digital adoption in the space of eight weeks.¹ It is becoming increasingly clear that countries that have invested in national broadband infrastructure and whose people and businesses are connected through digital platforms are advancing better than others.

In much of the Eurasia region, rural broadband is still underdeveloped. Many government agencies, education and healthcare institutions, and small and medium-sized businesses continue to operate mostly offline. Digital skills of the broader population are rather limited. Digital institutions and regulations are not aligned with global trends and best practices. Cybersecurity and data privacy risks are not well managed, and there is a wide social disparity between the digital haves and have-nots. The digital divide impedes shared prosperity and constrains access to pathways out of poverty. The current pandemic is increasing social disparity, as households without access lack opportunities for remote work, health care and education.

The World Bank supports digital transformation processes in Central Asia through the implementation of the Digital CASA (Digital Central Asia and South Asia) Regional Program. The participants of the regional program are Afghanistan, Kyrgyzstan, Tajikistan and Uzbekistan. We are also supporting Kazakhstan through a parallel data economy development project currently under preparation.

The Digital CASA Regional Program aims to expand access to more affordable internet, attract private investment, and increase the ability of participating governments to provide digital government services in Central Asia.

The pandemic has shown that countries that invested in digital transformation strategies, digital infrastructure and digital skills early on were much better prepared to handle the COVID crisis. They were able to react and respond quickly and ensure operational continuity. They did not have to face the impossible choice of saving lives versus saving livelihoods. Those countries will also be quicker in the post-COVID economic recovery. The COVID-19 pandemic has raised concerns about the ability to provide services without disruption (while ensuring cybersecurity and data privacy) to a whole new level for both private and public entities across the world. Central Asian countries need to adequately address fast-growing digital threats and risks. In these countries, during the COVID-19 pandemic, both public and private sector organizations have faced major difficulties in ensuring the continuity, privacy and security of services, especially in the healthcare and education sectors (amongst others).

To be effective, digital transformation must be secure, resilient and sustainable. Earlier this year, with the support from the Korea World Bank Partnership Facility, the Digital Resilience Program was initiated to help Kyrgyzstan and later on other countries in Central Asia effectively respond to growing digital threats further exacerbated by the COVID pandemic. It is expected that the Program will enable Kyrgyzstan to properly identify and assess digital risks and define appropriate strategies and mechanisms to safeguard them. This Program complements the Digital CASA Regional Program and initially focuses on analyzing and mitigating cybersecurity, business continuity, and data privacy risks within the Digital CASA Kyrgyz Republic Project. Digital resilience is a matter of growing concern at the global and country levels in the context of COVID-19.

Now is the time to catalyze public and private investments into digital transformation in order to help our clients avoid facing the choice between saving lives and saving livelihoods and start paving the way to a post-COVID recovery by building on Eurasia's traditional strengths: its well educated workforce and a strong technology sector.

¹ Global surveys of consumer sentiment during the coronavirus crisis: Marketing & Sales, McKinsey & Company, 26 October 2020, <https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/global-surveys-of-consumer-sentiment-during-the-coronavirus-crisis>

Keynote speech by Rafal Rohozinski

Principal of the SecDev Group



COVID-19 is an unprecedented challenge to the global system. We may look back at the transformative impact of the pandemic in 2020, much in the same way as we did the years following World War II when the global order was transformed. Within a few months, fundamental features of the global system – including air travel and the supply chains sustaining trade – were radically fragmented and reordered. While a small number of countries quickly recovered, most closed down their borders, and everyday life was profoundly disrupted through closures and lockdowns.

The economic costs are severe and just getting started. The World Bank projects a decline of 5.2% of global GDP; some others provided much higher figures. Global trade is expected to contract by over 30% in 2020 according to the WTO. Making matters worse, COVID-19 is occurring at the time of high global tensions, trade wars, and terrorism. The pandemic arrived precisely at the moment when international cooperation was most needed to deal with not just infectious diseases but a myriad of global challenges from climate change to nuclear threats and cyberwar.

COVID is fundamentally rewiring the global commons. Since it started spreading in late 2019, COVID-19 accelerated the digital transformation of countries, corporations, and societies. The reasons are pretty straightforward. With the imposition of lockdowns, restrictions, and physical distancing, people are working remotely, accessing services online, and communicating principally through digital means. Dependence and the use of cloud computing will increase between 12 and 22% in 2020. Not surprisingly, video conferencing services such as Zoom have seen their corporate valuations climb to unprecedented heights.

The growing dependence on digital connectivity has a very dark side. Cybercrime – including ransomware attacks

against critical infrastructure, hospitals, companies, and government services – is soaring. In August 2020, the entire border and customs service of Argentina was held ransom by one such attack. It is hard to determine who will be the digital winners and losers of COVID-19. Indeed, everyone has suffered; although, people in some countries have been affected more than others. Just 10 months into this strange new COVID-19 era, we can start to see some lessons emerging about how to navigate these new trivial waters.

One of the most important learnings is that early and sustained investment into digital transformation prepared some countries better than others. Digital leaders, such as Estonia, Singapore, South Korea, and the UAE, rapidly adapted their government, businesses, and societies at the earliest stages of the pandemic. Precisely because their citizens were digitally literate, public authorities could adapt and extend services ranging from health and education to the online environment. The digital agility of these countries didn't emerge out of thin air; they had already implemented necessary legal and regulatory frameworks to secure their digital assets. As a result, they were perfectly situated to roll out new applications to track and trace the spread of COVID-19 while simultaneously protecting the privacy of their citizens.

Many of the best performers also had business continuity plans already in place before the pandemic arrived. This meant that public and private institutions could smooth the fractions generated by lockdowns, respond to failures in the network, and simultaneously counter and deter opportunistic cybercrime activity. Countries that had successfully undergone digital transformation were more likely to be digitally resilient. They were best placed to prevent, respond to, and recover from COVID-19, precisely because they were digitally prepared. They were also ideally situated to innovate during a period of considerable uncertainty.

The message is clear – invest early in digital transformation.

So, what is digital resilience? At its most fundamental level, digital resilience is a mindset as well as a set of strategies, policies, and practices that safeguard digital governance and the digital economy. Digital resilience is a measurable concept, one that entails the degree of readiness to adapt to and recover from short-term shocks and longer-term stresses. It is not limited to cybersecurity; although, the capacity to safeguard digital infrastructures is a core attribute. As an “all-of-society” concept, digital resilience takes into account human, institutional, and digital capabilities. Digital resilience has three core

attributes: operational continuity, cybersecurity, and data protection and privacy.

First, there is operational continuity. This is the capacity to reliably manage, recover from, and adapt to conditions of adversity. COVID-19 has disrupted governance and commerce, with people forced to physically distance and rely on digital technologies. Essential services, such as healthcare and education, are being reimagined and delivered remotely. Operational continuity means planning and preparing for the inevitability of a crisis; it means leveraging investments in digital transformation in order to drive institutional innovation. At a minimum, it entails sustaining vital services and economic activity to enable pathways towards recovery.

Second, cybersecurity consists of the standards, practices, and workforce that safeguard the national digital ecosystem. This includes national computer incident response teams, risk frameworks for assessing and preemptively managing threats and vulnerabilities, and regular tests of government capacity to respond to incidents ranging from failures and accidents through to the deliberate attacks against critical infrastructure and other cyber events. Cybersecurity is a critical feature of digital resilience precisely because digital governance and the digital economy are so dependent on hardware and software systems of systems. There is a growing dependence on cloud-delivered platforms like OS 365, Azure, Google, Alibaba and Amazon that reside outside of the physical jurisdiction of nation-states.

Third, digital resilience depends on data privacy and data protection, the rules of how data is collected, used, and safeguarded from unauthorized access. Data is the new currency in the digital economy and a critical resource for effective governance. Privacy and protection are more than just a matter of citizens' rights. Ensuring trust and integrity in digital systems is singularly important and foundational to public administration, commercial transactions, and accountability of representative government.

COVID-19 has precipitated the world's largest-ever natural experiment. It has provided an opportunity to observe how these three core enablers – operational continuity, cybersecurity, and data privacy and protection – interact in practice. The experience of South Korea, a country that has thus far successfully avoided the worst of COVID-19, is noteworthy. South Korea was one of the first countries to register the COVID-19 outbreak, but it also flattened the curve in a stunning fashion. The country registered over 24 805 infections but fewer than 434 fatalities. What makes South Korea's experience so impressive is that it did this without closing businesses or forcing everyone to stay at home.

South Korea is not out of the woods and there are still challenges ahead, but it stands out as an exemplary case. Among the many factors that have contributed to the relative success are the ways in which public officials, scientists, and citizens collaborated to detect, contain, and

treat vulnerable people. It also rapidly elaborated contact tracing systems and surged healthcare capacities, including in hotspots like Daegu. But the secret to South Korea's success also resides in its digital resiliency. The South Korean authorities invested heavily in screening and diagnosis and rolled out selfhealth check apps and GPS tools to monitor and enforce quarantines.

The government also worked with the private sector to repurpose existing technologies, like CCTV and sensor infrastructure, used to monitor traffic and pollution. Within weeks of discovering the virus, South Korea had mobilized digital tools to improve diagnostics, strengthen telemedicine, and make data available to improve domestic awareness and response. It was not just developing these innovations locally: it was also exporting them around the world.

As a result, South Korea quickly recovered and is in a positive position to take advantage of the burgeoning digital economy. The government greased the wheels of its economic recovery by making rent relief and financial credits available to small and medium-sized enterprises. A number of ministries stepped up their collaboration with the private sector to do everything from dramatically expanding the production test kits to strengthening outreach and support for remote working. Meanwhile, the government also supported rapid online schooling opportunities, including providing over 3 300 smart devices and free internet services to low-income families and students.

South Korea's experience is a stark reminder of the importance of cultivating digital resilience in a digitizing world, the ability not just to ensure continuity of services but also to bounce back. "Learn and improve" – that's the mantra of smart governance in the 21st century. It's not enough just to try to survive the crisis and keep services functioning, including online. Digital resilience is a down payment on a more secure future, which explains why South Korea is racing ahead to build a digital new deal, organized around 5G, artificial intelligence, and data protection.

While not every country can be South Korea, they can learn from its experience and apply its lessons domestically. Several countries across Central Asia are at the threshold of embarking on a new phase of digital transformation and building a decidedly Eurasian digital economy. They'll do so in the midst of extraordinary adversity in crisis. We cannot underestimate the challenges ahead, but unlike first movers, they'll benefit from the experience of digital leaders. They can apply these insights to their own context.

There are clearly many more lessons to be learned, and the pathways to recovering from COVID-19 require more than just digital transformation. Informed and confident leadership, trust in science and facts, and intelligent governance are all determinants of success. We need them now more than ever. Although uncertainty is inevitable, future pandemics, climate disasters, and cyber threats are not.

Extracts from panel discussion



Melissa Hathaway
President of Hathaway Global Strategies LLC, Former Cybersecurity Advisor, George W. Bush and Barack Obama Administrations, Harvard Kennedy School,

Former Senior Advisor on Cyber Security

On the backbone of 5G, on the backbone of artificial intelligence, and underscoring the need for data protection, what is missing from many of the conversations of our society is a need for resilience and for better hardware and software products to be that backbone of our infrastructure. We talk about 5G, but we don't talk about 5G cybersecurity. We talk about telemedicine, but we don't talk about how we are going to secure telemedicine. We talk about smart agriculture, but we don't talk about how I can take over those sensors in the fields for our crops or those sensors in the driverless vehicle. And we talk about the advanced manufacturing floors where we are going to have lights-out factories and robots, but we don't talk about how we are going to secure these robots or what happens when those robots get ransomed and my manufacturing floor is now offline when it needed to be online.

I think this is why this is so important that we are talking about digital resilience in Central Asia as you start to actually fund for the broadband and move your communities from 40% to 70% or 80% connected, as you invest in the new industries, the "contact lesser/uncontact industries", that you start to invest commensurately in the security and resilience of those infrastructures and services. And it is, in my opinion, the down payment for your own digital transformation. It would be a shame to see us actually invest in broadband, invest in these industries, and only make our countries more fragile.

We are first world countries who have already developed in many of these areas, but we did not invest in security and resilience. I advocated that it's now the time. If we are going to have that digital transformation, make the resilience and security of your infrastructure top of mind and top of the conversation.



Altynbek Ismailov
Chairman of the State Committee of Information Technology and Communications of Kyrgyz Republic

Digital resilience is a topic that has become more prominent right now. We're thinking about how to ensure continuity

of the government services, businesses, the education sector, and the health system, and obviously these directions will be the priority. But we are already thinking about starting a digital resilience program in partnership with the World Bank, and there we are identifying key, critical topics that we need to address soon. Within the digital CASA project, we are going to invest even more into connectivity, connecting more than 4 000 social destinations, and we are hoping that these investments will bring more resilience to our citizens.



Bobur Abdullaev
Director of Amity University

Two things are the main ideas now in Uzbekistan: IT education and being prepared for future digital resilience. We are now on our way to launching our project with the World Bank. One of the good ideas in this project is the creation of the Central Asia Data Institute. Actually, this Institute will give us very good ideas and data in the future, which will help us to create many digital systems. After COVID-19 and after all the problems we had, which are not digitalized, we have learned the lesson that digital resilience is one of the main ideas and main aspects for the sustainable development of economic growth.



Irakli Gvenetadze
Independent ICT expert, Former Chairman of the Georgian Data Exchange Agency

Risk assessment methodology related to state secrets has to be absolutely different to risk assessment methodology related to, for example, public information or commercial secrets. If we want stable and secure cyberspace, we must realize that for all of us this is the responsibility of all members of society, government, governmental agencies, civil servants, businesses, individuals, and citizens. I think the main role of the government is to facilitate this process and create such an ecosystem where all parties of society will be able to understand their role and responsibility in a shared cybersecurity ecosystem. This is my proposal to reevaluate risks related to our own infrastructure and, second, to make as much as possible to involve all parts of the society in cybersecurity and resilience of our information system.

Policy recommendations based on panel discussion

- Have situational awareness and a risk management framework so that you can identify and target those risks, threats, and vulnerabilities that are going to disrupt your digital systems.
- It is necessary to have a centralized capacity for response. Whether that is a computer emergency response team, a computer incident response team, or a means of simply having a concentration of the workforce and expertise that can support critical services.
- Invest in people. The reality is that cybersecurity and resilience are ultimately dependent upon people who have digital skills and understand digital hygiene.
- It is of the utmost importance for the country to determine what its top priorities are – economically or for the digital economy.
- The country must conduct a comprehensive assessment that highlights its most critical digital dependencies: the companies, services, infrastructure and assets that have been harmed will either disable or cause economic damage and national security consequences to that overarching strategy.
- The digital economy has to be enabled by the telecommunications infrastructure, and if you only have a 40% penetration rate or 60% penetration rate you will not achieve the real opportunity of the digital economy. Therefore, you should invest in telecommunications to the last mile.
- Invest more in digital services and less in physical infrastructure.
- Invest in the education of society, enable citizens to use electronic services, and increase awareness of electronic services.
- Build capabilities to deliver educational services through technologies and have high-quality education provided through these technologies.
- The most crucial area for our digital programs is healthcare, education, and, of course, social programs. These three things are the most important at this time.

About the World Bank

The World Bank, a member of the World Bank Group, is a vital source of financial and technical assistance to developing countries around the world. Its mission is to fight poverty with passion and professionalism for lasting results and to help people help themselves and their environment by providing resources, sharing knowledge, building capacity and forging partnerships in the public and private sectors.

About StrategEast

StrategEast center for a new economy has the mission to reinforce the values of the rule of law and private property protection in Eurasian and Baltic countries through the transition from natural-resource-based to knowledge-driven economies. Its work is focused on the 14 countries that proclaimed or restored their independence after the collapse of the USSR: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. StrategEast is a registered 501(c)3 organization based in the United States with the regional offices in Ukraine and Georgia.

