

Eurasia's Data Economy

Proceedings of the special session
at StrategEast State and IT Eurasian
Forum 2021 organized in cooperation
with the World Bank and UNDP

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Introduction by Anatoly Motkin

President, StrategEast



StrategEast's State and IT Eurasian Forum was designed as to be a place where advanced policies meet the cutting-edge technology. We are glad to see that the World Bank special sessions have become a tradition for our Forum. For Eurasia, the World Bank is not just a financial institution, but also a provider of the most advanced policies that this region needs.

At StrategEast fora over the years, the World Bank has presented its policy recommendations on the data-driven economy, digital resilience, and this time, on the data transformation of the state.

For this special session, we managed to gather speakers from all over Eurasia – government officials from Azerbaijan, Kazakhstan, the Kyrgyz Republic, Moldova, and Ukraine. In their speeches, they shared that throughout Eurasia, data

transformation is already underway, and Eurasian countries are beginning to reap their data dividends. However, we believe that by sharing the best practices with each other and studying global experiences in data use presented by the World Bank, Eurasian countries will be able to accelerate the data transformation process, while also making it more sustainable and resilient.

One of StrategEast's goals is to bring the countries of Eurasia closer together and help them create a single digital legal space that would facilitate global tech companies' entry into the region. We believe that the free movement of data is becoming as important as the free movement of goods and services, if not moreso. Therefore, data transformation policy recommendations might ease the universalization of legislation in Eurasia, resulting in trusted vendors capable of implementing unified IT solutions. This, in turn, would help save significant funds for the state budgets of Eurasian countries and international donors, and significantly accelerate the region's data transformation.

I would like to express my deep gratitude to all of the special session participants, to the experts from World Bank, and to the Korea-World Bank Partnership Facility (KWPF) who brought their valuable experience to Eurasia. I am grateful to our partners from UNDP, for whom participation in this session was another step toward fulfilling their mission - to end poverty and build democratic governance, rule of law, and inclusive institutions.

Special thanks to our host this year, the government of the Kyrgyz Republic, who made a significant contribution to the digital transformation of Eurasia.

Introduction by Louise Chamberlain

Resident Representative in the Kyrgyz Republic, UNDP



Data-Driven Transformation

In April 2020, the UN Secretary-General launched the UN's first-ever Data Strategy, titled Data Strategy for Action by Everyone, Everywhere which serves as the UN system agenda for data-driven transformation. The report recognizes the need for focused approaches to build the data, digital, technology and innovation capabilities that UN Member States need to succeed in the 21st century. The UN family's global presence, expertise and connectedness create unique opportunities to advance global "data action". In effect, the data strategy is a comprehensive playbook, based on global best practice, for leveraging data to save lives. In an increasingly datafied society, data can tell us not only whether a given policy intervention works or doesn't work, but also how it can be improved.

Data now permeates all aspects of our work, and its power, if harnessed responsibly, will be critical for the agendas that the UN serves – not least the 2030 Agenda, with its 17 Goals and 169 targets for which data is central for countries to track progress.

The UN's Development Programme (UNDP), as the UN system's development agency, is helping countries realise the opportunities and dividends of digital and data

transformation. The production, use and access to data is nowadays at the core of development work – for example in digitalization of the justice sector which affects people's access to a fair judiciary outcomes, or in the monitoring of carbon capture and carbon emissions, enabling the country to track its effective reduction of greenhouse gas emissions and transition to a greener economy over the next few years.

In data-driven development, we harness both the full potential of traditional data for development through repurposing and explore opportunities to draw on new, or non-traditional data sources to generate more complete, timely, and granular information. This way, we create an inclusive data ecosystem where collective intelligence realized in synergy among people, data and technology, generating both valuable insights and socioeconomic value.

The aggregation, storage and use of data also involves a number of risks that need to be managed, ranging from access, security, and transparency in the data ecosystem; data protection, cyber security, and other approaches that ensure we "do no harm". We also have to overcome a number of barriers ranging from incompatible data systems and low levels of data literacy in the population. And it is necessary to prioritize investment strategically, in order to identify where the use of big data can add the most value for the people and planet.

In this process of unleashing the real power of data, we need to move our conscious effort from a state of data extraction to more of data empowerment by creating or enhancing opportunities for citizens to make data-informed decisions in their daily lives. In this regard, there is significant potential in building mutually reinforcing partnerships with the private sector, for example to facilitate the growth of data philanthropy as a kind of corporate social responsibility. Gatherings such as the StrategEast forum, where governments, development partners, and private sector come together, are vitally important for leveraging joint action and cooperation on data-driven innovation.

Opening Remarks by Dastan Dogoev

Minister of Digital Development, the Kyrgyz Republic



Drafting the report on data processing to improve the quality of living was a very important and timely analytical task. This report has high practical value, and we have begun to reconcile our national data plans with its key messages and conclusions. I will focus my remarks on this topic, taking into account the specifics of these developments in our country.

Firstly, the Kyrgyz government and its bodies are gradually coming to an understanding that data generation and data disclosure offer new opportunities and advantages for more effective decision-making. However, the speed of decision-making in the Kyrgyz Republic's public sector depends on the speed of the National Statistical Committee (NSC). The NSC is a special state body that collects all data on the Republic and generates statistical reports. If the government does not receive data in a timely fashion, its decisions will not be up to date. In order to improve the quality and efficiency of decisions being made, we launched an open data project with support from World Bank. This project was completed successfully – we carried out a large-scale explanatory operation, developed and launched an open portal, and have already shared more than 500 data sets from state bodies. Legal and statutory regulations on open data have been developed. We are continuing this work, including within the framework of the World Bank's Digital CASA project, which included research to determine the demand for data of interest to business and government agencies. We fully agree that this work needs to be strengthened at the national level to improve public policy measures, stimulate economic activity, increase transparency and government reporting, and implement regional cooperation initiatives.

It is worth mentioning data journalism has been actively developing thanks to the efforts of the Kyrgyz state and its partners to create favorable conditions for data

direction. There are many examples of independent data journalists using machine-readable data quite effectively, thereby contributing to improved efficiency in the public administration system. Several commercial organizations, civil society communities, and contributors in the country are holding a range of trainings and advanced professional courses in this area, which has allowed us to build a distinct cluster of data specialists. And I hope that we will continue to work together with the business sector to identify and develop more innovative approaches to leveraging data to improve the efficiency and quality of public administration solutions and implement innovative projects.

Secondly, I would like to focus on the risks of misusing information, its illegal use, and the urgent need for active personal data protection measures. As you know, this is an area where we are focusing our efforts. One of the first decisions we adopted in Kyrgyzstan in 2017 was a package of amendments to the law on protecting personal information. This law aims to ensure the protection of personal data, as well as the implementation of measures granting personal data holders (our citizens) better control of how their personal data are processed in digital form. In line with a decree issued by the President of the Kyrgyz Republic, Sadyr Japarov, a special body on personal data protection was created. Currently, that body is working on the necessary legal and regulatory framework, and we expect that these texts will be developed over the next three years.

At the same time, we realize that we only are at the beginning of this road. One service we are able to currently offer is our electronic interaction ecosystem, known as "Tunduk". This provides citizens with the opportunity to verify which state bodies can access their personal data, and what personal data are accessible. I would also like to emphasize separately that we are working with the support of our development partners at the World Bank and the International Telecommunication Union, within the framework of a cyber resilience project, in which we maintain a separate cybersecurity department in order to ensure the protection of our information resources. We have also begun to create a special team to respond to computer incidents.

These initial results and achievements are allowing us to advance our active systematic efforts in data direction included in the World Bank's Digital CASA project. We look forward to working together, and expect to show practical results together with our partners in the near future.

Opening Remarks by Oleg Petrov

Senior Digital Development Specialist, World Bank



The session **How Can Eurasia Reap the Data Dividends: Opportunities for Data-Driven Transformation** was part of the State and IT Eurasian Forum organized by StrategEast, the World Bank's partner in this event.

It was also a part of World Bank's global roadshow to discuss the **World Development Report 2021: Data for Better Lives**. This Report on the session was presented by one of the report co-authors, as part of a series of events on digital resilience, in which we are partnering with the Government of the Kyrgyz Republic and the Kyrgyz Ministry of Digital Development, and which is funded by Korea-World Bank Group Partnership Facility.

Data has become a hot topic globally, and especially in the Eurasia region. It is also a very important topic for us. Two years ago, when we began cooperating with StrategEast on the **State and IT Eurasian Forum** in Kyiv, my colleague Prasanna Lal Das gave a keynote address on data's role as a driver of development. Two years later, we see data taking on even more prominence in our development and digital development strategies. This year's discussion is focused on data as a game changer and its critical role in improving lives, government services, trade, and everything else. Data is a great driver, and an excellent tool for solving many problems around the world.

During our session, we heard two keynote addresses. The first from Vivien Foster, the Chief Economist for Infrastructure, who presented the **World Development Report 2021: Data for Better Lives**. This report is historically significant for digital development worldwide. Five years ago, a similar report was published on digital dividends, when the last big wave of digital economy strategies, initiatives, and projects was launched. Based on that report, we held a major conference in Almaty with participation from Central Asia, catalyzing a major wave

of digital transformation in the region. We hope that this report will generate a similar wave of data-driven digital transformation.

We also heard from one of South Korea's most distinguished digital experts, Dr. Hwang, who presented the Government of South Korea's latest progress and vision on data-driven digital transformation.

It was followed by a panel discussion with digital leaders from all over the region – Ukraine, Azerbaijan, Moldova, Kazakhstan, and our host, Kyrgyzstan. Our discussion focused on what's next and how can we make the most of data dividend opportunities while mitigating risks created by the data revolution.

This special session within the StrategEast State and IT Eurasian opened up new horizons for further discussions and collaboration. A key message to take from this is that this is a very complex and challenging agenda on which we need to work together.

I think this is an important priority for the development community as a whole, as well as for organizations like the World Bank and the UNDP. From the World Bank's hands-on experience, I can say that data-driven transformation will continue to be a top priority for the next two years. This is the next stage of the digital transformation, developing the data ecosystem, national data infrastructure, national data spaces, and digital twins. We have the metaverse on the horizon, and we need to prepare for it. We are ready to support this agenda financially, and we hope that events like this will give impetus to a whole series of new operations to take the digital agenda to the next level in many countries, including those in Eurasia. We hope to continue this dialogue as a driver on a regular basis.

Keynote speech on the World Bank Development Report 2021 “Data for Better Lives” by Vivien Foster

Chief Economist for
Infrastructure, World Bank



I would like to share with you the findings of the **World Development Report 2021: Data for Better Lives**, but more specifically from the perspective of the Eurasia region, just as Oleg was mentioning.

The **World Development Report 2021: Data for Better Lives** is focused on the impact that data can have on the development process, and it specifically identifies 3 channels through which this can take place. If we had been holding this conference 20 years ago, we would probably be talking primarily about government data and traditional statistical systems, which leads to positive outcomes in terms of improved quality, policy design, and thinking to evaluate public policies and improve service delivery. However, today, as things stand, the government is no longer the only actor when it comes to data systems. The private sector in particular is now producing much larger volumes of data than any other actor, which creates tremendous business opportunities in the digital economy. At the same time, civil society is increasingly active in the data space, both collecting and using data, particularly to promote greater accountability of the public and private sectors. So, across all three of these channels, there is tremendous potential for data to contribute to development.

However, just as the government can misuse data in order to conduct surveillance, politically motivated discrimination,

or election rigging, the private sector can also misuse data by abusing market dominance to extract information from consumers, discriminate on prices, and generally create wider economic inequalities. Similarly, individuals can also misuse data, and we are highly aware of increasing cybercriminal activity and the dark side of the Internet.

In order to strike a balance and gain the benefits of data while avoiding the risks, the the **World Development Report 2021: Data for Better Lives** calls for a new social contract on data. This social contract, which each society will need to work out for itself, is founded on three principles.

The first principle is value, which is that the data system should ensure that we can capture the economic and social value that comes from sharing, reusing, and combining different data sources.

The second principle is equity. The value created by data needs to be equitably shared across people and countries.

The third principle is trust. Unless individuals and countries can trust that their data will not be abused and used to harm them, they will not be willing to share their own data and participate in the data economy.

The key is to come up with a social contract that balances value, trust, and equity.

In order to do that, the **World Development Report 2021: Data for Better Lives** argues that much greater attention is needed to the details of data governance, which is structured around four pillars: infrastructure policies, rules and regulations, economic policies, and institutions.

When it comes to infrastructure policies, we need to ensure universal access to broadband infrastructure in order for everyone to benefit equitably from the data economy. If we look at the Eurasia region, we see that achieving high levels of coverage is only an issue in a couple countries. However, there are also very large shares of the population that do not make use of data services, despite having access to a broadband signal. This usage gap is a major public policy challenge, and we see that it is particularly acute in certain central Asian countries, such as Turkmenistan, Tajikistan, and the Kyrgyz Republic, where we find that the cost of using data services may be prohibitively expensive for a major share of the population. In other countries data literacy may also be a hurdle to greater usage.

In addition to data infrastructure at the individual level, there is a need to expand the availability of data infrastructure on a national scale as economic activities increasingly migrate onto digital platforms. Countries need Internet exchange points to be able to share data, colocation data centers for data storage, and access to cloud computing facilities in order to process that data. Internet exchange points and colocation data centers are relatively sparse in the Eurasia region compared to what we have in the Western Europe, and our research shows that countries that lack a national data infrastructure face significant penalties, and often

end up paying charges that are 10 times higher in order to shift their data internationally for exchange, storage and processing.

As you know, many Eurasian countries are already at a fairly advanced stage of data infrastructure development, but we also have a significant number of countries like Azerbaijan, Tajikistan, and Turkmenistan that have yet to develop any kind of national data infrastructure at all. Ukraine provides a very encouraging example for the region with its extremely successful DTEL IX Internet exchange point founded in 2009. The DTEL IX has almost 200 users, and many international participants who use the system to store international content delivery locally, vastly improving the cost and performance for local users. This has led to a massive increase in data traffic moving through Ukraine. This is just one example of what data infrastructure can develop.

Speaking of data laws and regulations, a good data regulation system needs to include safeguards in the form of rules facilitating data exchange and sharing while promoting value creation. This will both ensure data protection and build trust. I think the best example of this is the recent public policy debate around Covid-19, where there has been a tendency to use private intent data, particularly call detail records (CDR), for the purpose of contact tracing and limiting the spread of the pandemic. However, this tactic has led to a lot of public concerns around abusing this data and a lack of adequate data protection for sensitive information, such people's locations.

For the **World Development Report 2021: Data for Better Lives**, we conducted an extensive survey on data regulations across countries. In many areas of data regulation, Europe and Central Asia are doing relatively well, particularly when it comes to cross-border data flow and personal data protection. Nevertheless, there are still areas in need of development, including non-personal data protection, e-commerce transactions, and enabling the use of private intent data.

If we look at the country level, we find that on the whole, Europe and the Central Asia region enjoy more developed safeguards than other regions, and therefore the need to focus more attention on rules and regulations allowing data to move freely through the economy may be more pressing.

One of the key challenges of data regulation is how governments can access very valuable data produced in the private sector. Recently, France and the European Union in general have passed legislation requiring "high value" or "public interest datasets" to be made available based on open standards and in machine-readable formats. In other parts of the world, some large data companies, such as Waze, have formed voluntary data partnerships to share, for example, information on traffic systems with local municipalities, which is very valuable for urban planning and transport system management.

Turning to economic policies, as more and more economic activity moves online, data regulations are important not only for their own sake, but because they have an important knock-on effect on the real economy, particularly in the areas of antitrust, trade, and taxation.

It is well known that there are about six US-based big tech firms occupying an outsized role in the data economy, accounting for about 40 percent global data traffic flows. If we look across the developing world and examine the 25 most visited websites across many countries including here, Armenia, Russia, and Ukraine, we can see that the same big tech firms are occupying a dominant position among the top 25 most visited websites in these countries, as well. This is due to the fact that there are, of course, very strong network externalities in digital platforms, which creates a dynamic of market dominance. This is a concern in terms of consumer welfare, but also in terms of whether there is an opportunity for low and middle income countries to enter the digital platform sector when power is so heavily concentrated.

Another very important issue is cross-border trade in digital services. If we look around the world, we see three broad regimes of cross-border data regulation. The United States has a very liberal open transfer regime with no government involvement. In the Eurasia region, we see two major approaches: the conditional transfers approach which is modelled on the EU's GDPR (General Data Protection Regulation), which requires the government to pre-approve whether a trading partner has adequate data protection regime in place. And finally, we see the limited transfers approach which is being led by China and Russia and has been adopted by several countries in Central Asia. Under the latter approach, there are data localization requirements that all data to be stored locally ,as well as stronger government involvement in approving cross-border data transactions. The **World Development Report 2021** demonstrates that this limited transfer model makes it very difficult for countries to truly participate in cross-border trade, and therefore limits their ability to benefit from this aspect of the digital economy.

Taxation is another issue. We find that tax administrations in low- and middle-income countries lack the capacity to collect VAT from digital platform businesses, and that increasingly, billions of dollars of potential tax revenue are going uncollected from this sector. There are also major challenges in attributing the profits of global big tech corporations according to the countries in which they are registered for the purposes of corporation tax.

Finally, the fourth pillar of data governance is institutions. Traditionally, we have focused on statistical institutions, where we see that Europe and Central Asia perform relatively well. Most countries in the region have better statistical systems than one would expect, given their level of GDP. We know that this has been a major area of concern in Uzbekistan, which has launched a very

innovative program to improve the its statistical system's quality, reliability, accountability ,and transparency. Based on these statistics, it is clear that the region boasts a lot of positive experience.

But if we look more broadly at other types of critical data regulation institutions, we see that there is a shortage of institutions to define an overall data governance strategy in Europe and the Central Asia region. And while there data protection and cyber security institutions, there is still a need to build capacities and the improve countries' effective ability to enforce these institutions.

The longer-term aspirational vision put forward by **The World Development Report** is for an integrated national data system (INDS), meaning that data should be subject to government multi-stakeholder intentional approach to data governance, and it should be possible for different stakeholders within a society to safely share data through the data system. This data system should be supported by the data governance pillars we have been discussing, as well as the underlying foundations of human capital, financing, trust, and incentives to make use of data for informing decision-making.

This vision may seem a little far from our current situation. Estonia is a country that exemplifies what an integrated national data system looks like. In particular, the X-Road system promotes value by making open source data exchange possible, linking public and private data sources with very low transactions which were "once only a data collection principle". It also exhibits trust by incorporating cryptography protocols allowing for transparent review. This means that any user can see who is accessing their data and for what purpose. Finally, it achieves equity thanks to universal data services access and affordability.

To conclude:

We can see that ECA (European and Central Asian) countries should seek to close the remaining data access usage gaps by fostering inclusion and systematically investing to enhance their national data infrastructure. We see an opportunity for ECA countries to do more to enable data flows by improving interoperability and proactive disclosure of private intent data sharing, along with better e-commerce laws and regulations. We also saw how data governance has important economic implications on antitrust, trade, and taxation, which are all areas where ECA countries may not be yet fully reaping the benefits of the digital economy. And finally, we have a very real-world example from this region of what an integrated national data system looks like and what it is capable of delivering.

Keynote speech on the Korean Experience and Vision with Data-Driven Transformation, by Jong-Sung Hwang

Lead researcher at the National Information Society Agency, South Korea



There is no doubt that data is a key resource for digital transformation. Increased consumption of data, especially shared data, has fueled this phenomenon.

The IDC forecast points toward a very strong trend of emphasizing the reuse of existing data rather than creating new data. The ratio between unique original data to replicated data, in which data is reused, will grow from 1 to 9 to 1 to 10 by 2024.

Korea once struggled with developing data in our country, and now we find ourselves as a data-driven country. Our journey began in 1987, when we began to build a national database. We then launched a period of digitalization, during which we reformed processes in order to use data more efficiently. Currently, we are in the stage of digital transformation, creating many real values from existing data or databases. Our efforts have borne out many major achievements. For instance, our data industry has recently shown very rapid growth.

When a country embarks on the path of digital transformation, it must be prepared for the fact that it will take a long time before seeing any tangible achievements. In Korea, we are only now beginning to see these results in the digital industry and the digital infrastructure.

However, there is still much work to do. For instance, the data market does not provide high quality data to industry, and government policy has been inconsistent and too focused on the supply side while ignoring demand. Additionally, industry still lacks many capabilities, which leaves Korea in a weaker position than leading countries such as the United States, China, and European countries. We realize that we need to make more efforts to build a smart data economy.

This year, the Korean government, and the Fourth Industrial Revolution Presidential Committee in particular, announced a new data strategy which defined eleven tasks for developing privately-led ecosystems and to build a comprehensive data policy framework. These eleven tasks were defined for two goals and nine services chosen as they are capable of providing the Korean people with tangible value. However, we know that we still have a long road ahead when it comes to building a data economy.

The key to the data economy is finding the best data sharing method. But in many cases, we failed at that, and were less than efficient in our efforts. We must be mindful of data idealism: for instance, the idea that someone will willingly bring his or her data to a data repository. Of course, this does not happen in the real world. Everyone knows that data sharing is very important, but no one wants to share their own data, meaning that government policy and infrastructures should help encourage data sharing.

Korea has a lot of valuable experience with the history of smart cities. Korea's smart cities began on a very promising note in 2003, but these initiatives lost their momentum around 2008, before falling into a long period of recession. Personally, I refer to that period as the "smart city winter". Momentum began building again in 2017. These ups and downs are closely associated with data architecture. When we launched our smart city project under the name "U-city", which stands for "ubiquitous city", we applied ICT-driven models, meaning that there was no data sharing mechanism. We need a new sensor for any new data, which is a very expensive endeavor. This is one of the biggest challenges to successfully building good U-cities.

The government then realized that data architecture plays a very critical role. If we share data efficiently, we are able to reduce cost and risks. The government tried to design a new data system, and initially chose a data sharing system that collected data from different sources, though we are currently trying to build a platform-driven data sharing system. Many cities, including Seoul, have discovered the value of building their own data economy pillars, such as data centers and data smart city platforms or open ecosystems, and are currently focused on doing just that. Open ecosystems are very critical to creating value from existing data in order to can provide an environment conducive to creative ideas and talent. Such pillars have shown themselves to be very effective in developing new smart city or new government services.

For instance, by sharing payment data from various modes of public transportation, we can provide the Korean people with a very innovative payment. Bus information systems provide information on how crowded the next bus is, based on analyzing data from several sources, rather than a single sensor. Government agencies also share necessary CCTV information while still adhering to strict privacy regulations.

As in other parts of the world, world, Korea is now paying close attention to the value platforms. We realize now that platforms are key in promoting data sharing, as well as in developing and upgrading our data economy. But what kind of platforms do we mean? We believe the Internet is a very good example of a platform for the data economy. The Internet is open, but also technology-agnostic, which is what we need in a platform.

We refer to this as platform interoperability. The term is very vague, but one good key reference for us is the EU'S GAIA-X project. This project refers to a European effort to build data infrastructure at the national level. We are currently in the research phase of designing such a project for our future data infrastructure. Though it has yet to be adopted by the government, we believe that three components are necessary, that is, data infrastructure, in addition to physical infrastructure to support the use of various emerging technologies such as robotics, driverless cars, and AR/VR (Augmented reality (AR) and Virtual Reality (VR) sensors. Finally, we need to build a testbed to develop technology and services.

Panel discussion excerpts

Olga Tumuruc, Head of the Electronic Governance Agency of the Republic of Moldova

Moldova has already taken significant steps related to its data governance infrastructure. For example, it is worth mentioning some aspects related to infrastructure policies, which in our case really boosted better data usage and even a reshaped the decision making and service delivery processes. Developing our national data exchange platform was a game changer, because it allowed us to set the context for data interoperability. We did not limit ourselves to technical platforms alone. For example, in the case of the national bus service, we intervened in other related areas such as regulatory framework, organizational model, setup, and semantics. This helped us fully leverage the data exchange platform, generating major competitive advantages.

When it comes to laws and regulations, I have to note that we saw advancements on both safeguards and enablers in 2018, based on the results of the piloting period. It was very clear that without an adequate legal framework to regulate data exchange and interoperability, it would be impossible to make data fully and freely available to those legally entitled to process data so. As a result, we have developed and approved a law on data exchange and interoperability that led to very important changes while also strengthening our proposed data exchange model. The law expressly states several major and even imperative principles, for example, data availability. This means that all public entities that own data are required to ensure data availability through web services connected to data exchange platform. Data is free of charge for public entities, which removed a huge barrier to continuous interoperability. Data authenticity means that electronic data in information systems or electronic registries provided through a data exchange platform is in real time is considered correct, complete, and truthful. This also means using electronic data rather than that stored physically on paper, which may be outdated or even counterfeit.

At an institutional level, we understand that we cannot be successful if we do not ensure oversight entities' operations and policies from the outset. In our case, the Electronic Governance Agency was enabled to lead the interoperability and modernization initiative. Our most important achievements have included electronic and fully automated services and solutions available to citizens, such as a citizens' portal, entrepreneurs' portal, government data portal, and an extension of the previous open data portal, which now covers public data as well as limited or authorized access data for entities without an information system.

Our priority for the next period is to capitalize on the governmental solutions platforms that have been developed over the last several years, specifically the whole data and data exchange framework.

Alex Bornyakov, Deputy Minister of Digital Transformation, Ukraine

A major takeaway from the **World Development Report 2021: Data for Better Lives** is that Ukraine is above average in every infographic and study presented, which is very exciting and gives us reason to believe that we are on the right track.

It is also underscored the fact that we take anything related to data very seriously. This started with a law on public information that was passed quite some time ago but was strengthened in 2015 with the USAID-backed TAPAS donor and government project on highlighting the importance of making government and private data available.

Our general strategy can be summed up as "make everything available online and make it open". I believe that this is crucial to any digital state, because it gives you transparency and accountability, and in many cases, it eliminates corruption. Ukraine was ranked by the European Union as 17th in open data research, with a score of 84%, which is above average among all European countries. This shows that our efforts are bearing out.

Each month, from 3 to 5 million people use open data projects in Ukraine, including the following:

- OpenDataBot is the largest, and our solution makes it possible to work with and obtain data from almost all registers in Ukraine;
- YouControl- this platform provides get information on any company, its founder, director, accountant, and its entire history;
- Monitor.Estate provides information on infrastructure projects being built;
- LIKI control allows users to trace information on government purchases of pharmaceuticals and drugs, and how they are being disbursed.

We also launched a portal called Diya Open Data, which is used by 1.5 million people who are able to obtain any data and use it as they wish. We also initiated an Open Data challenge, a Hackathon where participants who present their projects using government registers and data are eligible to win a prize of up to €200,000. Making the digital state fully available to citizens is one of our priorities.

We also have a government procurement system known as Prozzoro that legally must be used for nearly all government purchases and procurement. Users are able to trace all information on government procurement on the Bi.prozzoro portal, which provides incredible data sets on what is being purchased, for how much, and from which vendors. This makes it possible to analyze and study various statistics on government procurement, and there

are several practical examples of government interaction with citizens, including a dashboard on government key performance indicators. Any new government in Ukraine has to demonstrate its KPIs, which can be tracked online, as can information provided by the Ministry of Digital Transformation. I have my own KPI, which can be accessed by the public, journalists, or members of the media.

I would like to give special thanks to the World Bank for this presentation and for all of their research and attention to data. Now is the time to design policies on data use.

Askar Zhambakin, Deputy Minister of Digital Development, Kazakhstan

We can see from the examples shown here of major companies, unicorns, and the corporate sector, that data is both the main feature and the main ingredient of any successful digital transformation. We believe that the government should follow this example. Now that we have successfully implemented e-government, the next steps are creating a platform model and data sharing. Most or all of the countries presented here are at the top of the UN E-Government Development Index, and we believe that moving to a data-based or data-driven economy is key, in order to ensure that government decisions are based on evidence.

Just a few weeks ago, our national digitalization project was approved, and a presidential commission launched a digital transformation program, in which data plays a key role.

We see several data pillars: data management, data protection, and data-based decisions, which means focusing on gathering all statistical information and processing it digitally. For example, industrial companies previously delivered emissions reports in hard copy format, and inspectors would go to verify that information personally. Now, this process is moving entirely online.

The Internet of Things (IOT) is a digital data collection approach that is being implemented in all sectors. One example of this is the oil and gas sector, where we are able to account for the amount of oil produced and transported, as well as regulations used to ensure that companies implement technologies into their value and supply chains. This will provide us with information straight from the oil pump, such as how much oil was pumped out, transported, exported, and refined.

We believe that it is necessary to move paper-based statistical approaches online. When we talk about evidence-based decision-making, the government still relies on statistics that are collected on a monthly, quarterly, or annual basis. This information needs to be available online and monitored directly by our systems in order to make high-quality decisions. In terms of data management, we have implemented several regulatory frameworks, and are currently working on new regulatory amendments to the law. So far, we have introduced a concept management

system, and are introducing a national IdP (Identity provider) which consists of e-sign, SMS, and biometric identification. We believe that given the tools for authorization and concept management system, people will be able to manage their data themselves and grant permissions as to what kind of data is used by commercial organizations, whether as one-time or repeated access. These are the main areas where we are focusing our strategy and implementing our initiatives.

Tamerlan Taghiyev, Acting Head of the Center for Analysis and Coordination of the Fourth Industrial Revolution under the Ministry of Economy of Azerbaijan

Azerbaijan is striving its best to shift its commodity-driven economy into the advanced tech digital economy. There are many signs of this, including the creation of the Center for Analysis and Coordination of the Fourth Industrial Revolution under our Ministry of the Economy. We are also cooperating closely with the World Economic Forum and working on AI and machine learning, IoT, urban transformation, and digital trade platforms. This gives us a lot of great opportunities to learn from global experiences and bring them home to serve our own country. Certainly, data is extremely important, which is why the government that took the lead developed more effective long-term plans and activities that are more efficient and effective. Understanding the essence of data is vital.

Our country has almost 99% Internet coverage, but we still see room for improvement. We have announced that by next year, no city in Azerbaijan will be without broadband Internet. Secondly, we understand that financial resources are very important to those who want to digitalize, and affordable financial resources are necessary. Thirdly, we need to consider education and bridging the digital divide. We need to begin teaching children about digital solutions and ICT, as well as why data is so necessary, starting even in kindergarten.

For the first time in the South Caucasus region, the Republic of Azerbaijan data center was established and operates in line with the ISO 20000 and ISO 27001 tier 3 level standards. The infrastructure is in place, but we need a better understanding of how to use it in order to improve people's lives. We also have an open data portal where 650 pieces of government-related information in 19 categories from 999 government services are being published each day and constantly renewed. Most of this has already been digitalized.

We are also doing our best to create smart cities. You may have heard that the Karabakh region of Azerbaijan will be rebuilt following smart and green concepts, which requires a lot of data in order for us to analyze the situation there. Data helps us in every area of life, and we hope to be able to leverage it to the greatest degree possible.

Policy recommendations

As the leaders of the world's major economies grapple with the challenges associated with data as a new production factor and a critical component of their economies, Eurasian countries should seize the opportunity to build a competitive advantage in this space. A well-functioning data governance framework is a key, as it ensures that infrastructure, laws, economic policies, and institutions work in concert to support data use in a way that aligns with each society's values, while protecting individuals' rights over use of their data.

A strong, trusted, transparent, and rights-based approach to data protection and personal privacy is a critical prerequisite and sine qua non in order for the data economy to develop. Hence, governments should start by enhancing trust through enablers and safeguards. Regulators should publish clear guidance on data protection and privacy related to data sharing, including by obtaining necessary consent from data subjects, registering new entities, and de-personalizing data before it is shared. This is a reference point.

- Once prerequisites are in place, in order to deliver the economic and public service benefits of data throughout its diverse geography and society, the governments should, first of all, adopt a National Data Strategy and an Action Plan with specific outcomes for ministries, regions, municipalities, business and industrial sectors, with the overarching objective to ensure an orderly transition to a data economy supported by digital technologies.
- Secondly, we need to establish leadership, structures, and institutions for the coherent governance of the National Data Space and ensure the inclusion of all stakeholders: central, regional, and municipal governments, industry, the private sector, academia, civil society, and sector-specific communities imbued with a culture of data sharing, collaboration, and the co-creation of data-driven digital solutions.
- Third, we need to identify and develop a set of Common Data Spaces and associated data-driven services for sectors and domains to comprise the National Data Space and underlying data infrastructures to support them.
- Fourth, we must develop a financial model to drive long-term funding of the National Data Space and associated scalable, secure, and resilient data infrastructures.
- Fifth, we need to improve data management and use in the public sector and, over time, deliver a full "Integrated National Data System" as described and recommended in the World Development Report 2021. This needs to extend not only to all central government agencies, but also to regions, municipalities and other public services.
- Sixth, build a data-conscious culture of innovation and data sharing through Data Economy and Data Society awareness-raising initiatives and the evangelization of digital dividends.
- Seventh, develop data literacy programs for the public sector, private sector (particularly SMEs), and to counteract the socio-economic and geographical digital divides caused by rapid digitization and exacerbated by the COVID-19 pandemic.
- Eighth, assume a long-term approach to developing and upgrading data skills. This includes both developing and retaining highly specialized data skills through national education systems, as well as becoming a magnet for global talent while promoting innovation and a data-focused cooperative culture among government and industry leaders. Data skills courses for government officials should be a part of the data skills framework.
- And finally, we need to be flexible in our policy making and implementation, and be prepared to adapt and extend our national data strategies as technology continues to develop rapidly and priorities shift.

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 inclusivity, connectivity, gender equality and equal opportunities in Eurasian countries through the digital economy.

StrategEast is a non profit organization with the offices in the United States, Ukraine, Georgia, and Kyrgyzstan.

