



Program Information Document (PID)

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BASIC INFORMATION

A. Basic Program Data

Country Kazakhstan	Project ID P176295	Parent Project ID (if any)	Program Name Resilient Digital Kazakhstan Program
Region EUROPE AND CENTRAL ASIA	Estimated Appraisal Date 17-May-2021	Estimated Board Date 29-Jun-2021	Does this operation have an IPF component? No
Financing Instrument Program-for-Results Financing	Borrower(s) Ministry of Digital Development, Innovations and Aerospace Industry	Implementing Agency Ministry of Digital Development, Innovations and Aerospace Industry	Practice Area (Lead) Digital Development

Proposed Program Development Objective(s)

The Program Development Objective is to support equitable access to high-quality digital infrastructure and services, and crowd-in private investment to contribute to an inclusive, innovative and COVID- and climate-resilient digital economy in Kazakhstan.

COST & FINANCING

SUMMARY (USD Millions)

Government program Cost	1,100.00
Total Operation Cost	800.00
Total Program Cost	800.00
Total Financing	800.00
Financing Gap	0.00

FINANCING (USD Millions)

Total World Bank Group Financing	500.00
World Bank Lending	500.00
Total Government Contribution	300.00



Concept Review Decision

The review did authorize the preparation to continue

B. Introduction and Context

Country Context

- 1. Kazakhstan, an upper middle-income gas- and oil-rich country¹, is being affected disproportionately on the economic front by the global Coronavirus pandemic (COVID-19), even though, comparatively, the health impact has been less severe than elsewhere².** Like most economies, the pandemic-related reduction in trade, travel and, social contacts has shocked Kazakhstan's economy, which is projected to have contracted (for the first time in nearly two decades) by 2.5 percent in 2020 and may return to modest growth of 2.5 percent in 2021. However, Kazakhstan will likely experience a medium-term double shock as, at the same time, oil prices plummeted to under US\$21 per barrel in April 2020, and, while they have recovered somewhat, they are expected to average under US\$50 per barrel in 2021, compared to over US\$70 during the previous decade. Global trends indicate a decade of slower global growth than what has been observed after the global financial crisis and slower growth in Asia compounded with increased regional competition. Furthermore, poverty rates are estimated to have increased to 12-14 percent in 2020 from a baseline of 6 percent in 2016, with the largest absolute increase in poverty expected in rural areas (from 8% to 17%), and with a very significant relative impact in large cities (from 3% to 9%), which, coupled with the higher incidence of poverty among women compared to men (2.7% vs 2.6% in 2017), can exacerbate inequality in Kazakhstan.
- 2. The COVID-19 pandemic has accelerated the digital transformation of societies, seen as a critical ingredient in ensuring recovery and resilience to future shocks, and Kazakhstan is no exception.** The pandemic has demonstrated more than ever that resilient, safe, high quality, accessible and affordable digital infrastructure and services are a critical foundation for the wellbeing of modern societies. In Kazakhstan, the COVID-19 emergency revealed the gaps in the country's internet infrastructure, which undermined Kazakhstan's ability to deal with the surge in demand for home-based work, distance education and telemedicine.³ Digital technologies offer the unique opportunity for governments, individuals, and businesses to cope with social distancing, ensure business continuity, and prevent service interruptions, thus contributing to overall resilience to shocks, including pandemics as well as climate and non-climate related disasters. Furthermore, it has been demonstrated that citizen trust in governments is critically important during a crisis. Digital technologies can enhance such trust, as they promote transparency and citizen engagement.
- 3. The new global context has highlighted the urgent need for Kazakhstan to accelerate its economic and social transformation to a more diversified and sustainable model.** The future prosperity of Kazakhstan depends on the country's ability to undergo this transformation by developing an inclusive and resilient digital economy. This will require investments in digital infrastructure, enabling legal and regulatory environment and human capital to develop

¹ Gas and oil revenues account for 35% of Kazakhstan's GDP and 75% of exports.

² As of early February 2021, Kazakhstan stood at 134 confirmed COVID-19 deaths per million inhabitants, ranking 100th among over 200 countries listed on <https://www.worldometers.info/coronavirus/>

³ The recent Listening to Kazakhstan survey conducted in early 2021 shows that more than 30% of the population suffered internet outages during the past year, compared to under 15% for heating and water services.



new skill sets and a new mindset, complemented by an entrepreneurial ecosystem led by the private sector. The negative effects of the 2015-16 oil price shock, from which Kazakhstan is still recovering, led to a major currency devaluation that increased the budget deficit, lowered incomes, raised poverty levels, and saw a rise in non-performing loans requiring a series of bank bailouts. In this context, shifting toward a more sustainable economic model that is less reliant on fossil fuels is becoming increasingly urgent and the availability of innovative firms, and the related highly qualified human capital, are essential to ensure Kazakhstan's economy remains competitive and resilient.

4. **To undertake this structural transformation within the context of its long-term Kazakhstan 2050 Strategy, the Government of Kazakhstan (GoK) has developed its National Development Plan until 2025.**⁴ The Plan charts the country's new economic course in addressing the impact of the coronavirus crisis and ensuring sustainable, inclusive and quality economic development. The Plan supports 10 strategic national priorities⁵ articulated around three main development blocks – the welfare of citizens, quality of institutions and building a strong economy – with the following key targets by 2025: (i) achieving a growth path of more than 5 percent; (ii) increasing the share of SMEs in GDP to 35 percent; (iii) attracting investments in fixed assets of up to 30 percent of GDP; (iv) doubling the value of non-resource exports up to 41 billion tenge (US\$96.7 million); and (v) increasing labor productivity by 45 percent. Technological innovation and digital transformation play an important role under the 2025 Plan, including higher enterprise productivity based on technology, digital infrastructure investments, and enhancement of skills. Adopted on December 12, 2017, by GoK Decree, the “Digital Kazakhstan” State Program (DKSP) is supporting successful implementation of the 2025 Plan, through the digital transformation of the economy, including digitalization of public services and the development of the private ICT services sector.
5. **As part of its economic transformation, Kazakhstan needs to emphasize resilience, as its infrastructure is particularly vulnerable to several natural disaster and climate change related risks, with substantial impact expected in urban areas where over half of the population lives.** Floods and earthquakes in Kazakhstan are affecting about 500,000 people and costing the GDP an estimated US\$4 billion⁶, on average each year, with the greatest potential for capital loss to be borne by the Almaty city area. The risks from natural hazards, notably earthquakes and floods, but also water scarcity, landslides, and extreme heat, all place an additional burden on the demand and sustainability of infrastructure. Kazakhstan is committed to mitigation measures: its National Determined Contributions⁷ to the Paris Agreement indicate an economy-wide target of 15- 25 percent reduction in greenhouse gas emissions by 2030 compared to 1990. Modernizing and building resilience into the national infrastructure, including when deploying digital technologies, is key to Kazakhstan's leveraging its position to enable high value-added economic activities outside traditional natural resources and fossil energy sectors.
6. **The investments supported by this operation would come at a time when regional economic dynamics play in Kazakhstan's favor.** The country would benefit from the economic opening of Uzbekistan and the increasing number of regional connectivity initiatives, all of which would strengthen regional trade and transport services as well as

⁴ <http://adilet.zan.kz/rus/docs/U1800000636>

⁵ Equitable social policy, an affordable and effective healthcare system, quality education, a fair and effective state protecting the interests of citizens, a new model of public administration, cultivating the values of patriotism, strengthening national security, building a diversified and innovative economy, active development of economic and trade diplomacy, and balanced territorial development.

⁶ Worldbank, GFDRR, Disaster Risk Country Profile – Kazakhstan. <https://www.gfdr.org/sites/default/files/Kazakhstan.pdf>.

⁷ <https://www4.unfccc.int/sites/NDCStaging/pages/Party.aspx?party=KAZ>



regional digital connectivity. This will also open up new opportunities for regional cooperation in Central Asia, especially with respect to energy, trade, and sharing water resources, all of which would be facilitated by investments in digital infrastructure and services.

Sectoral (or multi-sectoral) and Institutional Context of the Program

7. **Over the past decade, Kazakhstan has made notable progress in digital development, but much remains to be done, particularly in relation to equitable access, driving innovation, and building resilience in the delivery of digital services.** The digital connectivity infrastructure has improved over recent years in large urban areas, while significant gaps remain in rural areas. At the same time, disadvantaged and vulnerable groups have lower options to get connected in both urban and rural areas. The existing digital infrastructure therefore is underdeveloped for potential universal demand and is insufficiently resilient to disasters, largely due to an unfinished reform agenda in the sector with inadequate levels of private investment. Furthermore, the national level of cybersecurity capacity could be further strengthened especially in technical and cooperation areas.⁸ Public service delivery suffers from fragmentation and a lack of holistic or whole-of-government approach to manage and govern the overall implementation and roll-out of public services across government agencies⁹, thereby undermining the effectiveness of government bodies. Furthermore, the reluctance of government agencies to collaborate and deliver integrated e-services to serve its people's needs, limited release of open datasets that can be used by businesses to create new products and services, the absence of mechanisms to enable businesses to share government data, and the constraints of the local entrepreneurial ecosystem further limit the ability of innovative local firms to grow and compete internationally.
8. **The Government's "Digital Kazakhstan" State Program (DKSP) brings multiple digital development initiatives together and serves as a platform for transforming Kazakhstan into a digital economy.** DKSP's main mission is to accelerate Kazakhstan's economic development and improve the quality of life of the population through the increased use of digital technologies. To that end, the DKSP seeks to develop a more robust digital infrastructure and more efficient and higher quality services for citizens and businesses, improve government internal operations, increase digital literacy and skills, and generate demand for innovation. This should enable Kazakhstan to transition from an oil economy to a digital economy, with significant benefits for its population, including in terms of access to services and employment opportunities. Conceived to be implemented over 2018-22, the DKSP supports digital development initiatives grouped into five pillars: (i) Digitalization of key economic sectors to increase labor productivity and economic growth (industry and energy, transport and logistics, agribusiness, e-commerce and financial services); (ii) Transition toward a digital state to deliver services to the population and businesses, digitalize internal government procedures, and implement "Smart City" initiatives¹⁰, starting with a number of selected pilot smart cities; (iii) Implementation of a "Digital Silk Road" with secure high-speed infrastructure for the transfer, storage, and processing of data; (iv) Human capital development, including digital literacy initiatives aimed at

⁸ Overall Kazakhstan substantially improved its ITU Global Cybersecurity Index (GCI) ranking in 2018 comparing to 2017. The lowest scores with GCI are for technical and cooperation pillars. Technical elements are evaluated based on the number of practical mechanisms to deal with cybersecurity. National and international cooperation is evaluated based on the number of partnerships, cooperative frameworks and information sharing networks.

⁹ In the 2018 World Bank Worldwide Governance Indicators (WGI) Kazakhstan ranked 54th among 200 countries for government effectiveness.

¹⁰ According to the ITU, "A smart (sustainable) city is an innovative city that uses information and communication technologies (ICTs) and other means to improve quality of life, efficiency of urban operation and services, and competitiveness, while ensuring that it meets the needs of present and future generations with respect to economic, social, environmental as well as cultural aspects."



students in secondary, professional, and tertiary education, as well as for the general population; and (v) Formation of an innovation ecosystem, by supporting the creation of innovation platforms, the development of digital entrepreneurship, start-ups and research, attracting venture capital, and introducing innovations into industry.

9. **To build on the digitalization efforts launched under the DKSP, a new results-based National Project (NP) is currently being developed.** The GoK is currently in the process of transforming its national planning system from input-based State Programs (including DKSP) to results-based NPs, following the creation in September 2020 of the Agency for Strategic Planning and Reforms with a mandate to lead the GoK in this strategic planning transition. Accordingly, the Ministry of Digital Development, Innovation and Aerospace Industry (MDDIAI) is currently working on developing its overall vision for developing the digital economy in Kazakhstan, as well as on a focused NP to lead this transformation. The proposed NP led by the MDDIAI, called “Digital Era Lifestyle” (DigitEL) is expected to run until 2025 and include areas such as digital infrastructure, digital government and digital SMEs and innovation. The DKSP, scheduled to expire at the end of 2022, is likely to continue to run in parallel with the NP but limited to the ongoing projects that will not be transferred to the NP.
10. **As a result of the DKSP, progress has been achieved in the area of digital connectivity infrastructure, but Kazakhstan still faces persistent inequalities in access, as well as a quality gap in terms of internet speeds and reliability.** According to Telegeography, future-proof fixed high-speed broadband household penetration stood roughly at 35% in December 2020, which is less than half the average in economies with a similar GDP per capita worldwide, and roughly 25 percentage points below the regional average.¹¹ Significant digital divides exist between urban and rural areas, and between disadvantaged and vulnerable groups versus the rest of the population. According to the MDDIAI, by the end of 2020, all urban areas (118 cities) and 4,235 rural settlements (out of the 6,341 rural settlements in the country), had access to broadband internet services, with an additional 928 rural settlements expected to be connected by 2022¹². This still leaves around one sixth (more than 1,000) of today’s rural settlements without internet access, some of which are located in remote and inaccessible areas, which will require significant investments. In relation to mobile internet services, penetration is high at 136 percent, but 4G coverage remains sparse reaching just 73 percent of the population. Quality of internet services is unreliable, as more than 30% of users suffered internet outages during the past year. Furthermore, the broadband speed for mobile users is low, at an average 20.2 Mbps (Kazakhstan is currently in the 103rd position in the Speedtest Global Index of mobile internet speeds). However, affordability does not seem to be a significant barrier, as Kazakhstan ranks 28th in the Inclusive Internet Index 2020,¹³ and there are no observable gender gaps in access (share of internet users among men is 81.6 percent and 81.1 percent among women¹⁴).
11. **Equitable access to high-quality digital connectivity infrastructure in rural areas and improving the quality of service has become even more vital in light of the COVID-19 pandemic when distance education and tele-health are the only way to receive these key social services.** Indeed, while 98% of schools in Kazakhstan are connected to the internet, two-thirds lack an adequate broadband link.¹⁵ In rural areas, 697 schools still have limited internet access, while 1,298 hospitals and health centers still do not have any access to high-speed internet at all. Those that

¹¹ <https://www.telegeography.com/products/globalcomms/data/country-profiles/as/kazakhstan/country-overview.html>

¹² This refers to backbone connectivity to the settlement. Last mile connectivity to individual homes or apartments on the basis of fiber optic networks is still far from universal in Kazakhstan at under 20% of homes with the ability to connect to fiber.

¹³ <https://theinclusiveinternet.eiu.com/explore/countries/KZ/performance/indicators/affordability/price>

¹⁴ https://gender.stat.gov.kz/page/frontend/detail?id=103&slug=6-74&cat_id=11&lang=ru

¹⁵ GlobalComms Database, Telegeography, data accessed in March 2021



do have internet experience average speeds of 4 Mbit/s. Such speeds are lower than the mandatory minimum requirement of 10 Mbit/s, and clearly insufficient for distance learning, which has made it nearly impossible to deliver online classes to 2.5 million children during the COVID-19 lockdowns.¹⁶

12. **Kazakhstan has also made progress in digital government.** Since 2005, the GoK has implemented several important digital government (GovTech) systems, core registries and databases, and rolled out digital services like “E-Akimat”, “E-Notary” and “E-Licensing” systems. mHealth systems have also been introduced, including remote consultations and electronic courtrooms for civil, criminal, and administrative cases have been created. More than 80 percent of public services (580) are now available to citizens in electronic format, paper workflow reduced by 70 million documents and average turnaround time for the provision of public services has been reduced by threefold (from 31 to 10 days). The WB GovTech Maturity Index placed Kazakhstan under group “B” countries with significant focus on GovTech. In the 2020 UN e-government ranking, Kazakhstan ranked 29th out of 193 countries, and became the leader of the sub-region on governance digital transformation.
13. **While much progress has been achieved, Kazakhstan is still lagging in several critical areas.** The national e-Government portal lacks intuitiveness and is not well utilized by citizens and businesses. Many e-services are not integrated end-to-end, with separate offline services required to complete the transactions. While the open data portal was established in 2013, the datasets released by the Government are limited and not useful. There are silos of registries and databases and no sharing of common digital tools and infrastructure to deliver integrated e-services, resulting in duplication and inefficient use of resources. Increased automation and digitalization of back-end processes is needed for increased efficiencies and to support data driven-decision making. Opportunities for further improvements exist: integrating key databases to share common data for more efficient delivery of e-services and applying a whole-of-government GovTech implementation approach; delivering integrated end-to-end e-Services organized around users’ service journeys; public service reengineering and modernization to eliminate excessive bureaucracy; implementing CivicTech solutions for citizen engagement; and enhancing the GoK’s ICT infrastructure to leverage cloud technology.
14. **Kazakhstan experiences an entrepreneurship deficit in the private sector as start-ups and SMEs are facing poor innovation performance, and there is low adoption of digital technologies by SMEs.** Domestic digital start-ups and SMEs—the backbones of digital transformation and innovation—have contributed very little to Kazakhstan’s economy (as measured by their share of GDP) relative to peers and other commodity-exporting countries.¹⁷ The start-up ecosystem is poorly developed, private investment in Research and Development (R&D) activities and adoption of digital technologies by SMEs is low. Innovation performance of SMEs in Kazakhstan is subdued, as only 1.5% of small firms and 3.2% of medium firms spend on R&D, well below the ECA average (9.4%). Likewise, the adoption of digital business solutions by SMEs is low, which suggests they are not able to tap into the demand-scaling and productivity-enhancing opportunities of digital solutions: according to Enterprise Survey data, only 46.5% (57%) of small (medium) firms have their own website, against 62.8% for the ECA average. Also, the market potential for venture capital deals in Kazakhstan is very small: in 2020, the total number of deals – 35 – amounted only to 28.5 million USD, and in relation to Early-stage Entrepreneurial Activity,¹⁸ Kazakhstan has experienced a year-on-year average decrease of 5.34 percent between 2007 and 2017.

¹⁶ <https://www.kazpravda.kz/en/news/society/internet-in-kazakhstan-is-not-suitable-for-distance-learning---education-minister>

¹⁷ WB Country Economic Memorandum, 2019.

¹⁸ Share of 18-64 population who are either a nascent entrepreneur or owner-manager of a new business.



15. **Gender inequalities persist in ICT employment and entrepreneurship.** While Kazakhstan’s industry (including ICT) provided employment to 30.2 percent of all working men in 2018, it only attracted 11.8 percent of the female workforce. That same year, the services sector employed 74 percent of the total female workforce, but only 54.1 percent of all working men. Furthermore, SMEs headed by women account for only 31 percent of all SMEs in the country.
16. **Kazakhstan’s digital economy policy, legal, and institutional framework needs to be strengthened in line with good international practices as a precondition for the rest of the Program.** The country suffers from significant legal gaps and needs to dedicate substantial efforts to create an enabling environment underpinned by trust. Trust, the focal point of the *World Development Report 2021: Data for Better Lives*, is required for a vibrant digital economy. Otherwise, the imbalance of power deriving from misappropriation of information can discourage participation in the market and the overall society. To this end, Kazakhstan’s telecommunications sector and data protection laws, along with other laws that facilitate communications and data transactions, will need to be strengthened. Indeed, when it comes to ICT sector regulations Kazakhstan ranks 124th out of 134 countries assessed.¹⁹ First, the outdated telecommunications sector legal and institutional framework (i.e., the Law of the Republic of Kazakhstan on Communications dated June 5, 2004) requires a significant overhaul, particularly to ensure fair competition and counter the dominance of SOEs. Second, the data protection framework needs to be modernized according to global best practices, creating equitable rules for data processing as well as rights. Furthermore, the telecommunications sector and data protection frameworks, as well as other relevant laws, need to be updated, in terms of regulatory independence, enforcement, and global harmonization, for both public and private bodies.

Relationship to CPF

17. **The proposed Resilient Digital Kazakhstan Program (RDKP or “Program”) is fully aligned with, and directly contributes to the new Kazakhstan Country Partnership Framework (CPF) for the Period FY20-25 (Report No. 143372).** RDKP supports the CPF’s three Focus Areas: 1) Promoting Inclusive Growth, 2) Strengthening Human Capital, and 3) Securing Sustainable, Resilient, and Low Carbon Growth. Specifically, the proposed RDKP will support CPF Objective 1 (Strengthen Environment for Private Sector Development) and Objective 3 (Strengthen Connectivity Infrastructure and Regional Services Delivery for Better Local and Regional Integration), by enabling innovation, supporting private operators and digital transformation of the economy, and improving digital connectivity and service delivery. It will also support Objective 4 (Enhance Relevance, Quality, and Equity of Education and Skills Development), by strengthening digital skills and delivery of online education and technological research. And it will also support Objective 7 (Preserve and Restore Natural Capital) by enhancing the resilience of the digital connectivity infrastructure and service delivery, while encouraging energy efficiency through a modal shift from physical to online services and supporting research linked to climate and natural capital monitoring and modeling. Furthermore, the proposed RDKP will contribute to the CPF Cross-Cutting Theme on Efficient Governance and CPF Objective 8 (Support Evidence-based Delivery of Public Sector Reforms and Increased Stakeholders’ engagement) through the implementation of the “whole-of-government” approach to support the execution of integrated GovTech initiatives across sectors, the use of a results-based and citizen-centric approach to public service delivery, development of a data governance policy and regulatory framework, partnering with and incentivizing the private sector, and creating a service-oriented and anticipatory/proactive public service, with citizen engagement at its core. Furthermore, the RDKP will support further development of the legal and regulatory environment, strengthening of institutions, and

¹⁹ Sub-pillar Regulation, Governance pillar, Global Networking Index, World Economic Forum, 2020.



enhancing coordination among various digital transformation stakeholders, while improving public sector capacity for more efficient internal processes and delivery of public services.

18. **The proposed RDKP is also fully aligned with the World Bank Group’s twin goals of ending extreme poverty and promoting shared prosperity, as well as with the ECA regional strategy, and will support private capital mobilization (PCM).** Direct impacts will accrue from the Program’s support to creating a more inclusive and resilient digital infrastructure, more transparent and efficient public and private service delivery, which will impact citizens’ lives by making services more accessible and of better quality, and from the Program’s support to enabling markets, through the development and growth of new private sector business models built around digital adoption, digital innovation, including through existing SMEs and start-ups and improvement of digital skills, which will contribute to generating employment, new opportunities for trade, and overall productivity growth. A cross-cutting theme will be PCM, which will be achieved by attracting private investment to the roll-out of digital connectivity and cloud infrastructure, delivery of digital services and raising the digitalization capabilities of enterprises, and the growth of the digital entrepreneurship ecosystem. This will be measured through a dedicated PDO results indicator.

Rationale for Bank Engagement and Choice of Financing Instrument

19. **RDKP is a high-risk high-reward operation**, as the World Bank (WB) is given an opportunity to leverage the Program’s great potential while helping to mitigate its risks. To best strike this balance, the following considerations have been applied to the proposed Program:

- **Leveraging international best practice to ensure a robust design.** The WB brings experience in digital development investment operations globally and across all the areas covered in the RDKP, and lessons learned from those operations will be brought to bear for this PforR.
- **Emphasizing the importance of active engagement of the private sector, academia and civil society**, through a commitment to fair competition and trust (both safeguards and enablers).
- **Taking into account the gaps identified by the Joint Economic Research Program (JERP)²⁰ ASA** on the digital economy enabling environment that preceded RDKP, to ensure interoperability and openness of digital service delivery as core principles.
- **Leveraging the WB’s long-standing engagement in Kazakhstan**, particularly through digital economy TA and operations²¹, as well as the Digital CASA regional program, and the WB’s global network of partners and experts.
- **Supporting linkages with international firms and investors** to help Kazakhstan integrate more directly into the regional/global digital economy, in collaboration with IFC.

20. **The proposed RDKP is Kazakhstan’s second PforR operation** and the instrument is still very new for the client. Using the PforR would allow the WB to strengthen and scale-up the GoK’s existing DKSP and its successor NP for the following reasons:

- (i) The Program envisages a systematic digital transformation of the country that requires a large-scale programmatic intervention spanning many themes/topics, ministries, and levels of government, at a time

²⁰ The Joint Economic Research Program (JERP) is Kazakhstan’s programmatic RAS program. The activity was aimed at helping the Government to develop effective mechanisms for a unified state information-analytical data management environment.

²¹ Including a series of JERP activities: 2016 (support to the design of the Digital Kazakhstan State Program), 2019 (strategy for creating a unified state information-analytical environment) and 2020 (digital economy regulatory environment analysis), as well as the ongoing lending operation “Fostering Productive Innovation Project (FPIP)”.



when it is introducing a results-based national planning system. PforR is a better fit than other instruments to achieve change on the scale envisaged while reinforcing the results-based approach.

- (ii) It is important to ensure that the large infrastructure investment requirements of the operation produce measurable results. PforR is a powerful tool to reorient counterpart thinking toward outcomes.
- (iii) The Program envisages essential shifts in the legal, regulatory, and institutional environment. The verification protocols required by PforR can serve as a positive nudge for the GoK as well as a tool to mitigate several risks associated with the Program.
- (iv) The PforR is the most effective instrument to strengthen government programs and systems, providing flexibility with quality controls built in for their effective implementation. The use of the PforR instrument will help address poor execution of government programs by linking the provision of financing to priority results and rewarding the implementing agencies for results achieved.
- (v) Opting for a PforR will allow the WB to strengthen the design of the Program by focusing on short-term, medium-term, and strategic priorities, and building on the existing country systems, while enabling a phased expansion of the Program beyond pilots to increase its development impact.

C. Program Development Objective(s) (PDO) and PDO Level Results Indicators

Program Development Objective(s)

- 21. **The Program Development Objective** is to support equitable access to high-quality digital infrastructure and services, and crowd-in private investment to contribute to an inclusive, innovative and COVID- and climate-resilient digital economy in Kazakhstan.
- 22. **The long-term impact** that the Program intends to achieve includes creating a digital economy in Kazakhstan which supports inclusive, innovative and resilient growth, enhanced transparency and quality of public services, and increased private sector investment.

PDO Level Results Indicators

- 23. **At the stage of technical identification, a preliminary results framework has been defined**, with key development outcome indicators. The full results framework, including detailed intermediate outcome indicators and proposed disbursement-linked indicators (DLIs), will be developed in the next stage of Program design.
- 24. **Proposed PDO-Level Results Indicators** (and their linkage to the PDO) include the following²²:
 - (i) Internet users as % of population with access to high-quality broadband services, of which % women (*access/quality of digital infrastructure*)
 - (ii) % population using digital education and online health and social protection services, of which % women (*access to digital services*)
 - (iii) % population using digital government services, of which % women (*access to digital services*)
 - (iv) Increased citizen and business satisfaction with the services delivered (*quality of digital services*)
 - (v) Increased private capital mobilized in selected areas of the digital economy, including infrastructure and businesses (mln. USD) and growth in overall ICT jobs in the economy (of which % women) (*private investment*)

²² Some of these are currently composite indicators. During project preparation these will be further detailed, unpacked, and some of the resulting indicators may be retained as intermediate outcome indicators.



D. Program Description

PforR Program Boundary

25. **Implementation of the RDKP will rely primarily on the MDDIAI**, including its subsidiary organizations, notably Holding Zerde,²³ with support from other government agencies for specific activities, notably the Ministries of Education, Health and Social Protection, and potentially selected local akimats. The MDDIAI is the state body of the GoK that provides leadership in the fields of digital development, innovation, communications, digital government services, cybersecurity, the aerospace and electronics industries, geodesy and cartography. The MDDIAI is also establishing a Digital Transformation Office (DTO) to oversee and coordinate the digitalization efforts across government agencies. The DTO will be led by a Chief Digital Officer (CDO) pegged at the level of a deputy Minister.
26. **The main government program** (small “p”), which will be supported by the RDKP PforR Program (capital “P”), is the combination of the DKSP and its successor NP “Digital Era Lifestyle” (DigitEL). However, a number of associated digital economy expenditures currently outside the scope of the DKSP, are also considered as part of the overall government program for the purposes of defining the PforR Program boundary, notably those linked to the 2025 development strategy. It must also be noted that, while the proposed PforR is aligned with the government program and will provide support along all its current pillars, not all sub-pillars and activities will be considered as part of the Program.
27. **The Program is structured along four interrelated Results Areas (RAs)** that seek to: (i) support the development of high-quality,²⁴ climate resilient, and green²⁵ digital connectivity infrastructure accessible by all throughout Kazakhstan, grounded on a modern pro-competitive legal and regulatory environment (RA 1); (ii) facilitate the inclusive delivery of digital services to citizens in key social sectors (education, health, and social protection), while at the same time enhancing the digital literacy of citizens (RA 2); (iii) facilitate the creation of a user-centric framework for the delivery of digital government services to citizens and businesses, built on robust legal and regulatory enablers and safeguards for data protection and data governance, while at the same time enhancing the capacity of public officials (RA 3); and (iv) stimulate and support digital adoption by SMEs and the development of digital entrepreneurship and advanced digital skills, thus improving the enabling environment to mobilize private capital, promote ICT exports, and stimulate the creation of innovative jobs in the ICT sector (RA 4).
28. **During Program preparation, the WB and the GoK will agree on the DLIs**, including their technical scope, targets, and values. The proposed PforR will have about eight DLIs spread across the four results areas, including prior results and corresponding advances, if needed.

²³ Zerde National Infocommunication Holding is the largest Kazakhstani state company, created for the development of modern infocommunication technologies, established in July 2008.

²⁴ Quality of service indicators will be defined as part of the results framework. They will comprise a combination of factors, including data speed, adequacy for real-time applications (low packet losses, latency, and jitter), availability and reliability.

²⁵ A climate resilient and “green” infrastructure will be achieved by increasing the level of redundancy in components and connections, and the use of low-carbon, notably renewable energy (e.g. solar) which will at the same time reduce downtime and CO2 emissions, making the infrastructure more resilient to climate and non-climate induced disasters.



E. Initial Environmental and Social Screening

29. **During preparation, the team will prepare a detailed Environmental and Social Systems Assessment (ESSA)** based on the PforR from the Program's interventions perspective; and the identification of gaps (if any) and the risks thereof which need to be addressed so as to ensure sustainable environmental and social benefits. The ESSA is prepared by the World Bank's task team and the results are discussed with and endorsed by the Borrower. Based on the initial screening of the national legislation and regulation, the environmental management system is well defined. The Environmental Code of Kazakhstan adopted in 2007, with the most recent changes adopted in 2018, is the principal law that regulates relations in the field of protection, restoration, and conservation of the environment, and the use and reproduction of natural resources in the implementation of economic and other activities related to the use of natural resources and environmental impact within the territory of the Republic of Kazakhstan. As the Program becomes better defined, the World Bank will begin working with the MDDIAI and other relevant parties to determine their capacity for implementing the national system within the Program Boundaries. The environmental risk is Substantial due to the scope and goals of the overall digital program that the proposed PforR is supporting. Potential environmental risks include those related to the installation of new fiber optic cables, cell phone towers, and networks, as well as the construction or rehabilitation of facilities for administration or for communications and switching centers. The civil works that might result involve rehabilitation of existing structures; new buildings on existing campuses; and installation of new data/ communications infrastructure, primarily along existing utility lines. Based on the ESSA, the rating will be reviewed and may be revised at the time of appraisal when the full extent of the Program Boundaries and DLIs are known.
30. **Looking at the social safeguards system from a holistic perspective**, there are two broad areas that could involve social risks: one is due to construction activities and the other is related to data protection. As regards the former, the Program will finance buildings and fiber optic networks, which would require lands. At this stage, the specific locations of the sub-projects are not known but the Program expects buildings to be constructed on available government lands and hence involuntary acquisition of lands are not envisaged. The cables will be buried along the roads and power transmission lines using the rights of way. However, these involve excavation and back-filling operations which may lead to the partial or temporary loss of productive assets and lands as well as temporary / permanent restrictions resulting in physical and/ or economic displacement. This situation warrants the preparation of a Resettlement Policy Framework (RPF) to be deployed as and when required.
31. **As regards data protection**, it relates to *access, use, storage, security, and collection* of data, and the data subject's rights. Data protection also implies trust and security, which are governed by laws. Given that technology is an ever-changing field, the Program needs to recognize that protecting data privacy is uncompromisable. Data protection safeguards is a growing practice in the Bank and the specific requirements of the Program will be identified following a series of in-depth impact assessments. Both technical and legal safeguards are necessary to prevent data misuse and information asymmetries. Measures must be placed to ensure informed decision making. In practice, data protection laws, policies, standards, guidelines and processes, as well as effective risk mitigation measures, need to be appropriately adopted and complied with. The policies or standards need to be ethically consistent and socially acceptable, deriving from a transparent, consultative processes involving all stakeholders. The Bank's task team will work with the GoK and citizens towards addressing this issue. Overall, at this stage, social risk is rated Substantial.



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