



# Current Status of Digital Economy Development in the CAREC Region and Cooperation Opportunities

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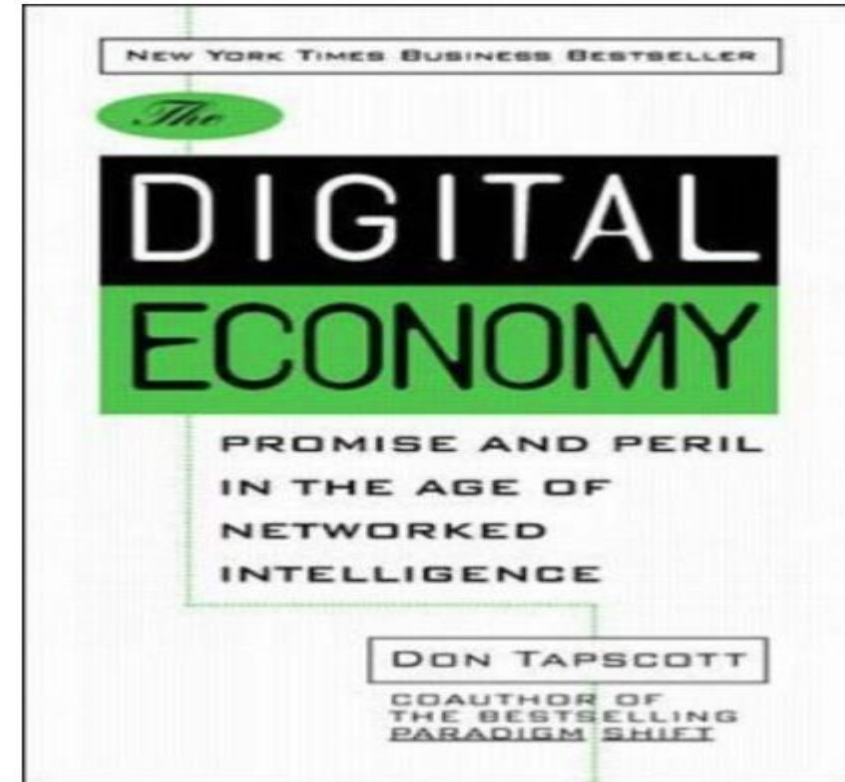
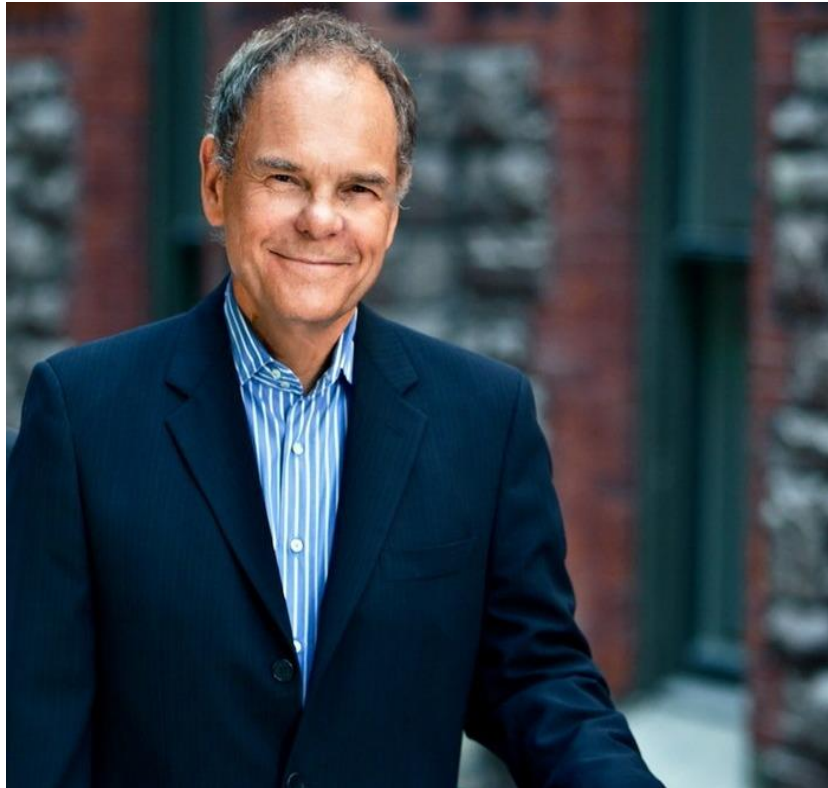
26 November 2024



# Definition of Digital Economy

Don Tapscott (1996)

“The Digital Economy: Promise and Peril In The Age of Networked Intelligence”

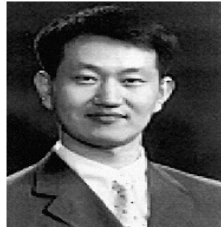


Source: online sources

# Definition of Digital Economy

Beomsoo Kim, Anitesh Barua, Andrew B. Whinston (2002)

“Virtual field experiments for a digital economy: a new research methodology for exploring an information economy”



**Beomsoo Kim** is an Assistant Professor of Information and Decision Sciences in the College of Business Administration at the University of Illinois at Chicago. His research interests focus on the effectiveness of a digital economy, business models on electronic commerce. Kim has a PhD in Management Information Systems from the University of Texas at Austin.



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Decision Support Systems

Volume 32, Issue 3, January 2002, Pages 215-231



## Virtual field experiments for a digital economy: a new research methodology for exploring an information economy

Beomsoo Kim <sup>a</sup> , Anitesh Barua <sup>b</sup> , Andrew B. Whinston <sup>b</sup>

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### Abstract

Many researchers are concerned about the appropriateness of traditional research approaches and methodologies in the analysis of a digital economy. Using the

Source: online sources



# Definition of Digital Economy

G20 Leaders' Hangzhou Summit  
"G20 Digital Economy Development and Cooperation Initiative"



*"The digital economy refers to a broad range of economic activities that include using digitized information and knowledge as the key factor of production, modern information networks as an important activity space, and the effective use of information and communication technology (ICT) as an important driver of productivity growth and economic structural optimization."*

# Digital Economy: global overview



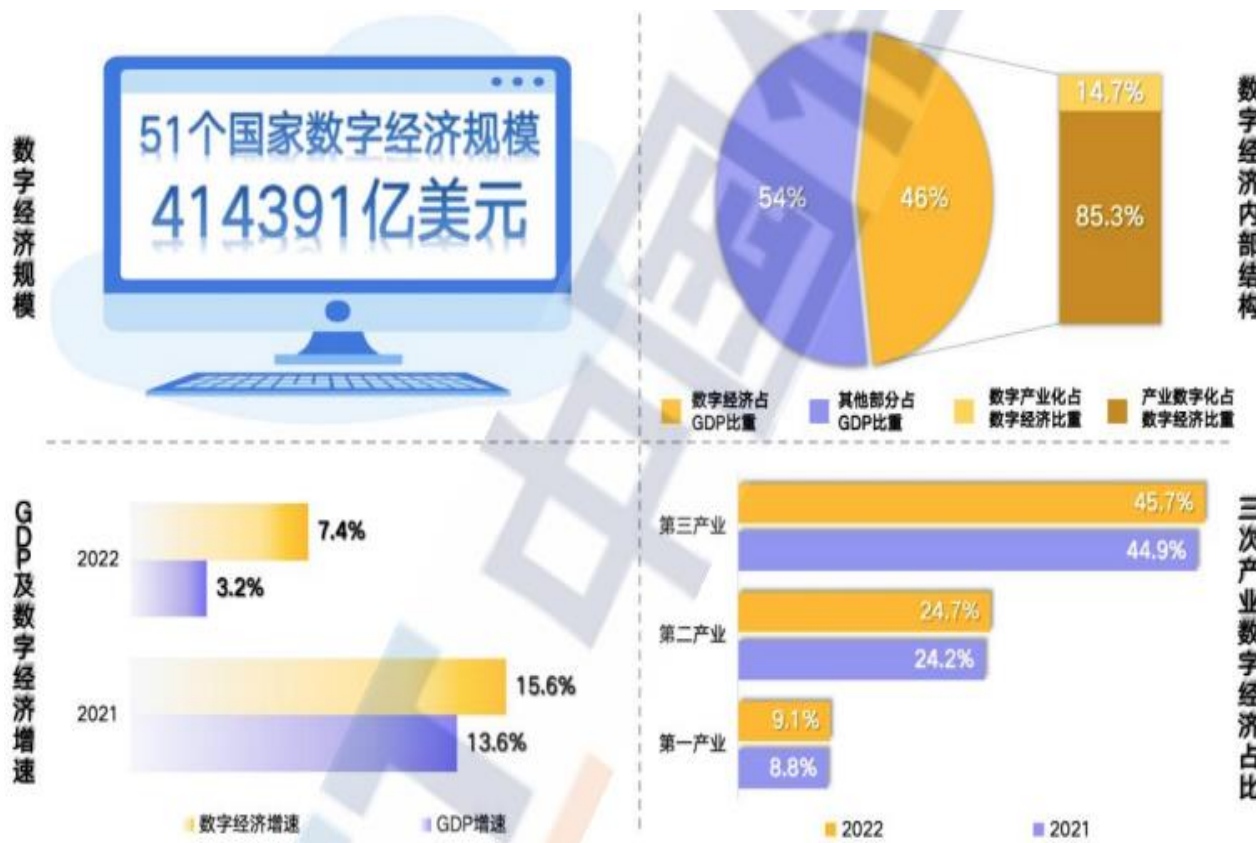
中国·北京 Beijing, China

## White Paper on Global Digital Economy (2024)

- Five giant digital economies: US, China, Germany, Japan, and South Korea (\$33 trillion, over 8% yoy)
- Equivalent to 60% of GDP, 8 percentage points higher than in 2019
- In 2019-2023, digital economy developed rapidly in the US and China; Germany, Japan, and South Korea continued to develop.

# Digital Economy: global overview

White Paper on Global Digital Economy (2023) ➤



来源：中国信息通信研究院

**Scale of digital economy:** US(1st), China(2nd), Germany(3rd), Japan, UK, France

➤ **Share of digital economy in GDP:** UK, Germany, US >65%; South Korea, Japan, Ireland, France >avg.; China 41.5% (43.6% in 2023)

➤ **Growth rate of digital economy:** Saudi Arabia (1st), Norway (2nd), Russia (3rd) >20%; Brazil, Mexico, Singapore >10%

➤ **Penetration of digital economy:** UK(primary industry>30%); German, South Korea(secondary industry>40%); UK, Germany (tertiary industry>70%)

# Digital Economy: global overview



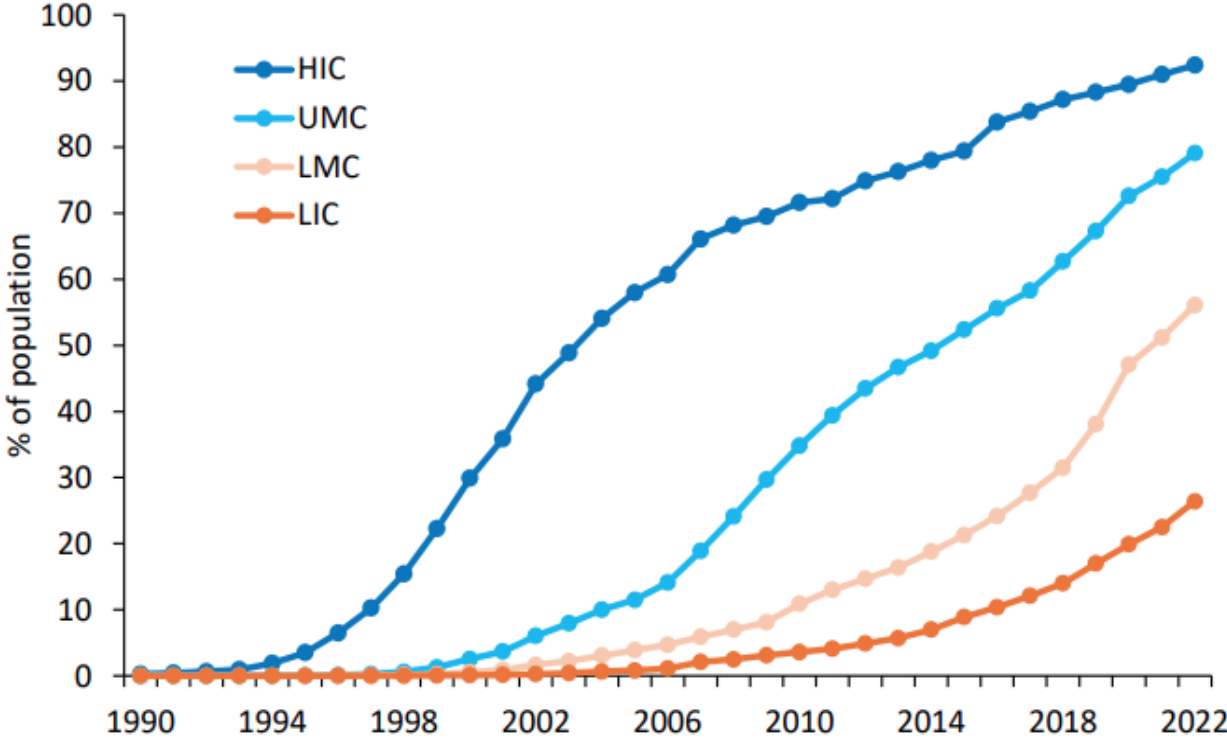
- In low-income countries, only 1 in 4 people use the internet.
- The divide in fixed broadband penetration between rich and poor countries has widened.
- Median fixed broadband prices in low-income countries accounts for 1/3 of monthly GNI per capita.
- The cheapest smartphone accounts for 30-60% of monthly GNI in LMCs and LICs.
- In 2023, median mobile and fixed broadband speeds in HICs are 5 and 10 times of those in LICs, respectively.
- Median mobile broadband traffic per capita in HICs is more than 20 times higher than that in LICs, and median fixed broadband traffic per capita more than 1700 times higher.

# Digital Economy: global overview

Only 1 out of 4 individuals use the Internet in LICs.

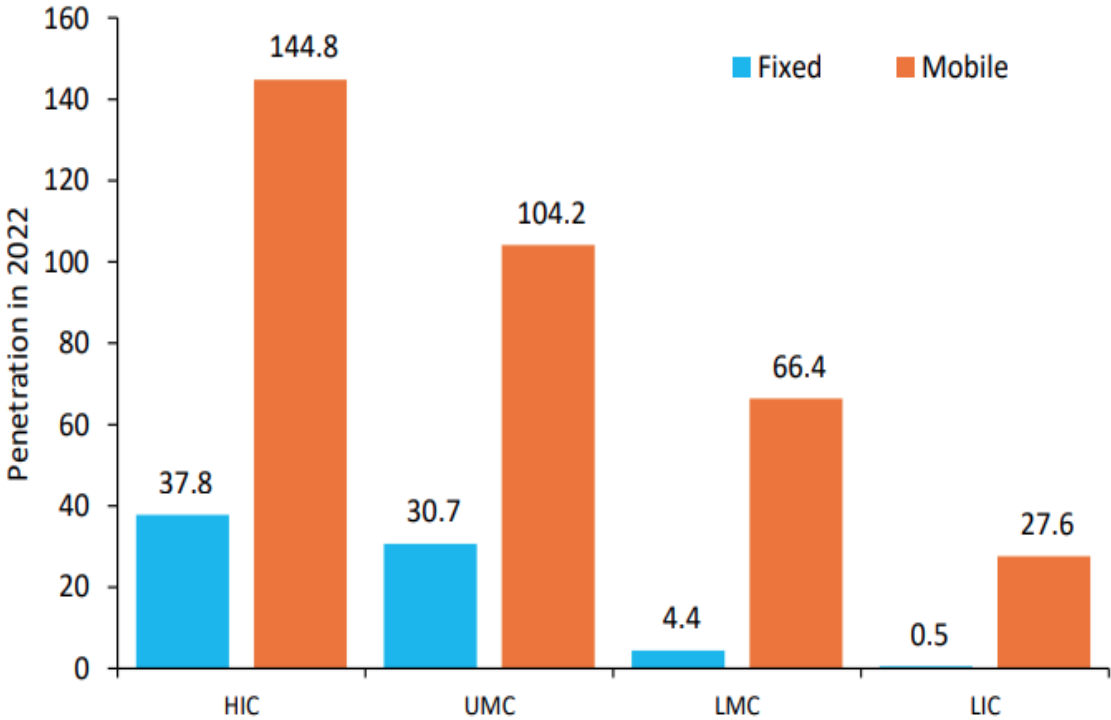
Divide in fixed broadband penetration between rich and poor countries has widened.

Percent of population using the internet



Source: ITU

Fixed and mobile broadband penetration 2022



Source: ITU

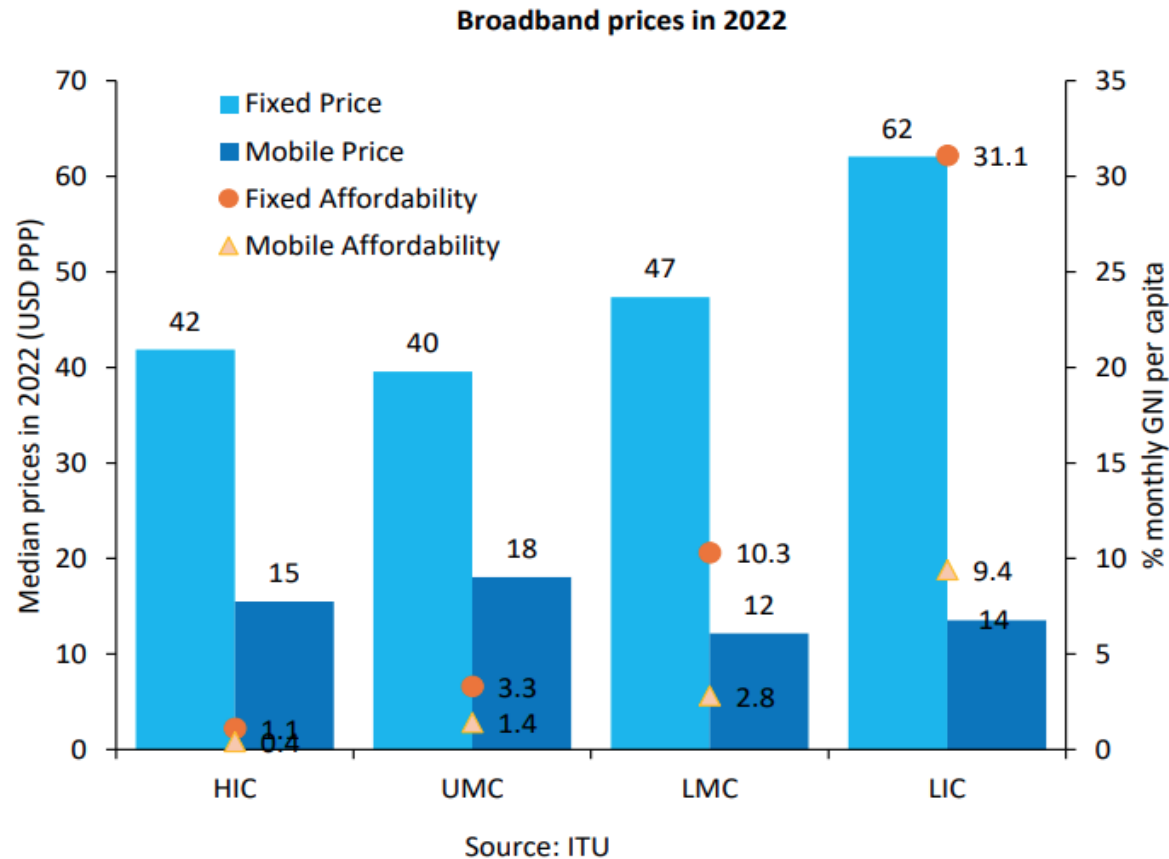
Source: The World Bank, Digital Progress and Trends Report (2023)



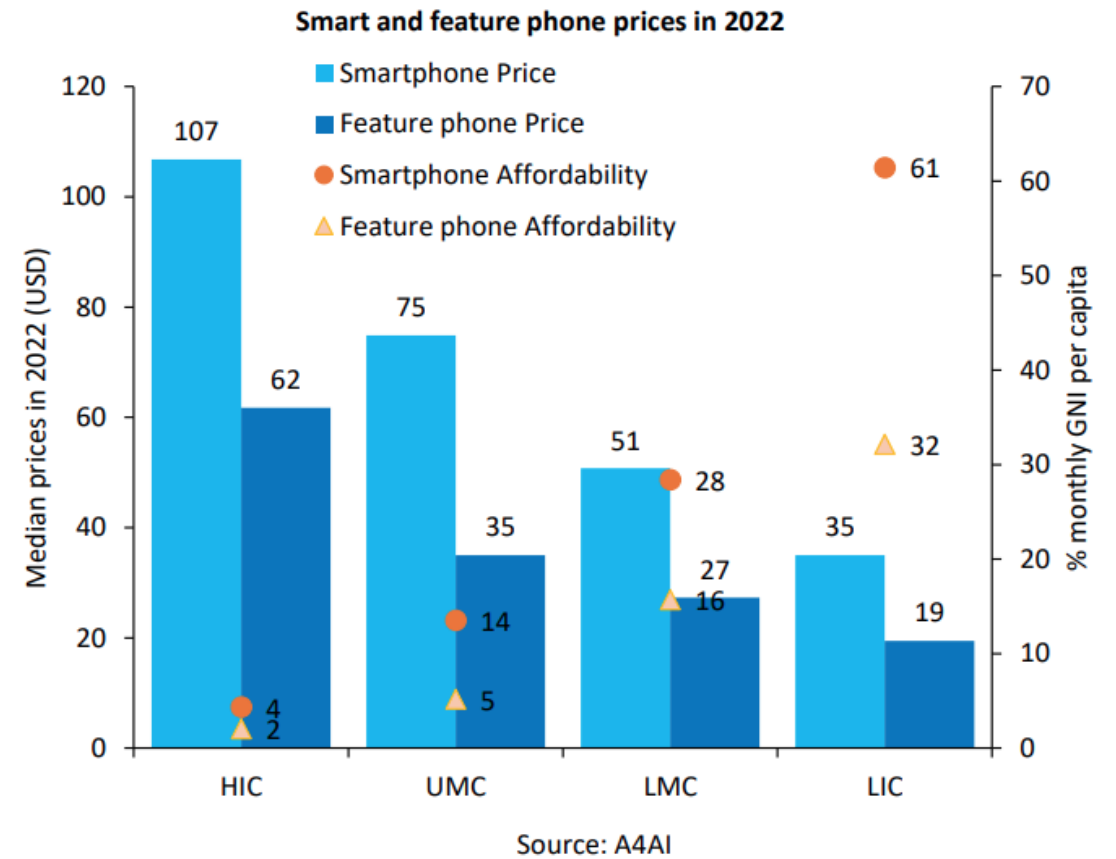


# Digital Economy: global overview

Median fixed broadband price in LICs accounts for 1/3 monthly GNI per capita.



The cheapest smartphone accounts for 30-60% of monthly GNI per capita in LMCs and LICs.



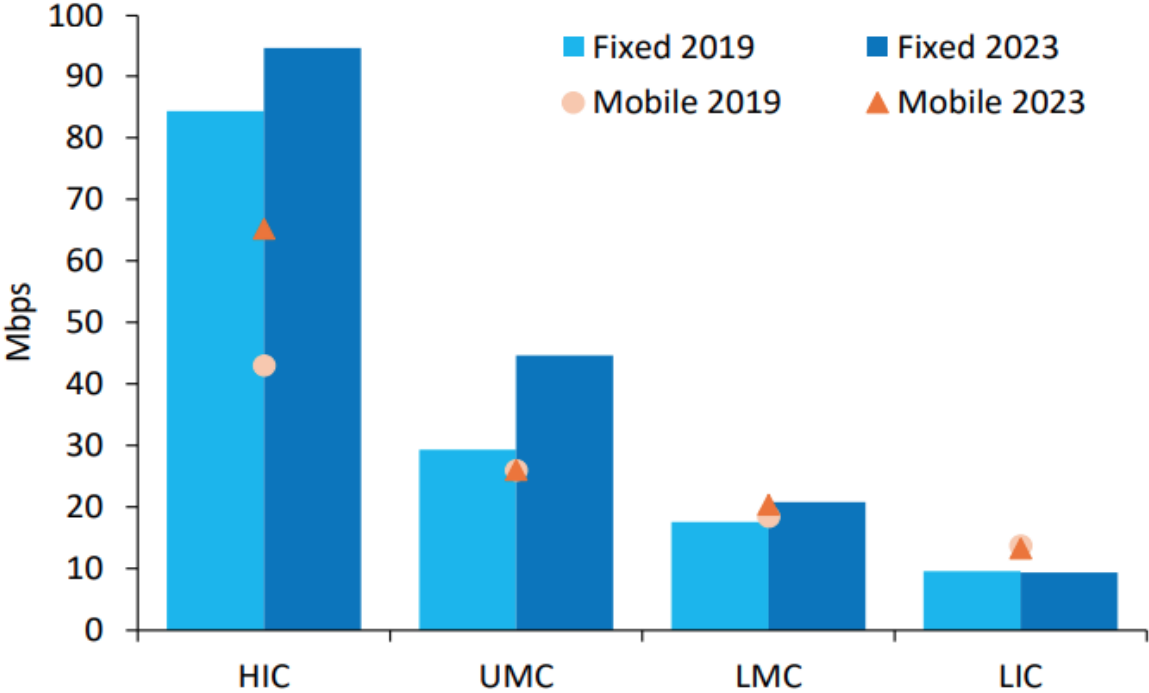
Source: The World Bank, Digital Progress and Trends Report (2023)

# Digital Economy: global overview

Median mobile speeds in HICs are 5 times faster than those in LICs, with fixed broadband speeds 10 times.

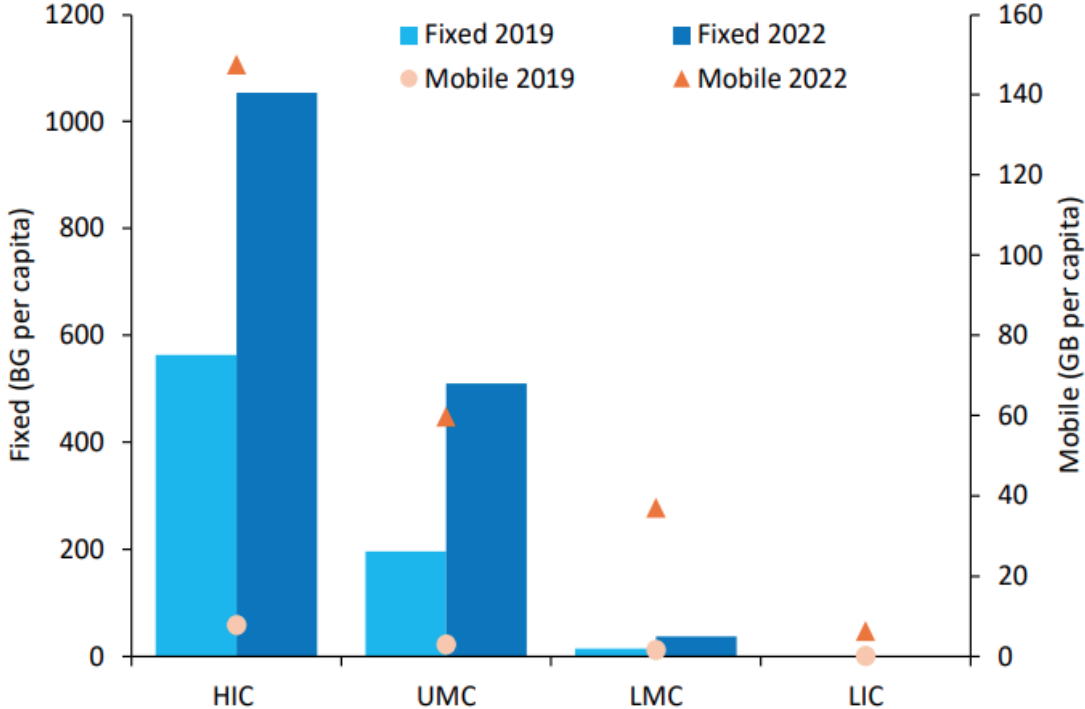
Median mobile broadband traffic per capita in HICs was over 20 times higher than that in LICs, median fixed broadband traffic per capita over 1700 times higher.

Median Internet speed



Source: Ookla

Median broadband traffic per capita



Source: ITU

Source: The World Bank, Digital Progress and Trends Report (2023)



# Central Asia Regional Economic Cooperation Institute

CAREC Institute is an intergovernmental organization headquartered in Urumqi, Xinjiang, China. The Institute provides evidence-based research, capacity-building services, and knowledge dissemination in the CAREC region. Our mission is to support sustainable development in the region and beyond. The Institute is jointly shared by eleven member countries and serves as the knowledge arm of the CAREC Program - an ADB-led initiative and supported by multiple development partners, guided by the overarching vision of “Good Neighbors, Good Partners, and Good Prospects”.

The Institute focuses on promoting regional economic cooperation and integration in five key areas: economic and financial stability, trade and economic corridors, infrastructure and connectivity, agriculture and water, and human development.



<https://www.carecinstitute.org/>

# CAREC Institute's researches on digitalization

**CAREC DIGITAL STRATEGY 2030**  
ACCELERATING DIGITAL TRANSFORMATION FOR REGIONAL COMPETITIVENESS AND INCLUSIVE GROWTH  
FEBRUARY 2022

**Vision:** create a common CAREC Digital Space, which will lead to inclusive economic growth and social well-being, new jobs, better services, and higher regional competitiveness.

**Digital FDI Ecosystem in the CAREC Region (Phase II)**  
IsDB Islamic Development Bank

**Digital and Sustainable Trade Facilitation in the Central Asia Regional Economic Cooperation (CAREC)**  
Based on the 2023 United Nations Global Survey on Digital and Sustainable Trade Facilitation  
ESCAP CAREC

**Digital CAREC**  
Analysis of the Regional Digital Gap  
PHASE 1  
March 2022  
IsDB Islamic Development Bank CAREC

**E-COMMERCE IN CAREC COUNTRIES**  
INFRASTRUCTURE DEVELOPMENT  
MARCH 2022  
CAREC ADB

**E-COMMERCE IN CAREC COUNTRIES**  
LAW AND POLICIES  
AUGUST 2021  
CAREC ADB

**Policy Brief**  
Developing E-commerce in CAREC Countries: Current State and Challenges in Infrastructure Development  
May 2021  
CAREC Institute

**Chapter 9**  
TOWARDS E-COMMERCE DEVELOPMENT IN THE CAREC REGION  
CAREC Institute

**Regulatory Framework for e-Commerce Development in CAREC**  
Policy Brief  
April 2020  
CAREC Institute

**ADB BRIEFS**  
NO. 184  
JULY 2021  
KEY POINTS  
Expanding Agri-Trade in Central Asia through the Use of Electronic Certificates  
Dorothea Lapan Regional Cooperation Specialist, Public Management, Financial Sector and Regional Cooperation Division, East Asia Department, Asian Development Bank  
Lorelei de Dios Counselor, Asian Development Bank  
Ghulam Sarwar Senior Research Officer, CAREC Institute  
Alien Rose Talgar Counselor, Asian Development Bank  
This brief discusses the readiness of the members of the Central Asia Regional Economic Cooperation (CAREC) Program to use electronic certificates, particularly electronic phytosanitary certificates (ePhyto) developed by the International Plant Protection Convention (IPPC). The use of ePhyto reflects the thrust of the CAREC Program to facilitate trade through digital innovation and supports the CAREC agenda to modernize services and phytosanitary (SPS) measures for safer trade. The brief presents the requirements of an Asian Development Bank (ADB) and CAREC Institute survey on ePhyto, procedures, and the use of information and communication technology (ICT) in CAREC countries to implement electronic phytosanitary certification.  
This brief was jointly prepared by the Asian Development Bank and CAREC Institute under the leadership of Ghulam Sarwar, Senior Research Officer, CAREC Institute, and Lorelei de Dios, Counselor, Asian Development Bank. The brief benefited from the technical assistance of CAREC Institute, the Asian Development Bank, and the International Plant Protection Convention (IPPC). The brief is published as part of the CAREC Program. For more information, please contact Ghulam Sarwar, Senior Research Officer, CAREC Institute, or Lorelei de Dios, Counselor, Asian Development Bank. © 2021 Asian Development Bank. All rights reserved. ISBN 978-92-64-60208-2





# Digital CAREC

Analysis of the Regional Digital Gap

## PHASE 1

March 2022



## Digital CAREC: Analysis of the Regional Digital Gap

The report employs two methods to examine the digital gap/divide of the CAREC countries.

- Questionnaire (including 6 member countries)
- Principal Component Analysis (PCA) (including 8 member countries)

The study (through questionnaire) evaluates the level of the digital economy focusing on four priority digital economy areas:

- Digital infrastructure
- Digital payment
- Internet access
- E-commerce

<https://www.carecinstitute.org/publications/digital-carec-analysis-of-the-regional-digital-gap/>

# Digital Economy: global ranking of the CAREC countries

Indicator	Year	Organization	Total	AFG	AZE	PRC	GEO	KAZ	KGZ	MON	PAK	TJK	TKM	UZB
B2C e-commerce Index	2020	UNCTAD	152	143	65	55	47	60	97	61	116	121		107
ICT Development Index (IDI)	2017	ITU	176	159	65	80	74	52	109	91	148			95
E-Gov. Development Index	2024	UNDESA	193	188	74	35	69	24	78	46	136	123	145	63
Inclusive Internet Index (3i)	2022	EIU	100			22		51		62	79			61
Network Readiness Index (NRI)	2023	Univ. of Oxford	134		75	20	78	58	94	83	90	113		82

Source: UNCTAD(2020), ITU(2017), UNDESA(2024), EIU(2022), University of Oxford(2023)

**B2C E-commerce Index:** it measures an economy's preparedness to support online shopping.

**ICT Development Index(IDI):** it assesses the development of ICT through 11 indicators grouped by three sub-indices: access, usage and skills.

**E-Gov. Development Index:** it is a useful tool for policy planners to analyze the principles, approaches, progress, and commitment of countries in the realm of digital government.

**Inclusive Internet Index(3i):** it examines the state of internet inclusion based on four categories, that is, accessibility, affordability, relevance and readiness.

**Network Readiness Index(NRI):** it evaluates the readiness to harness the benefits of the digital revolution based on a wide range of factors.

# Digital Economy: global ranking of the CAREC countries

The ranking of selected CAREC countries, 2024

	PRC	KAZ	KGZ	PAK	TJK	TKM	UZB
Information Infrastructure	7	39	43	50	49	52	42
Digital Technology and Innovation Capability	5	50	52	38	47	48	45
Digital Economy	2	42	44	43	48	52	47
Digital Government	16	36	44	49	48	44	43
Cybersecurity	25	46	48	44	49	51	47
International Governance in Cyberspace	2	45	44	39	50	51	49
<b>World Internet Development Index</b>	2	44	48	43	49	50	46

Source: Chinese Academy of Cyberspace Studies, World Internet Development Report 2024

# Digital CAREC: conclusions based on questionnaires

Digital economy development in several CAREC countries

Indicators	Afghanistan	Azerbaijan	Kyrgyzstan	Pakistan	Tajikistan	Uzbekistan	Average score (indicators)
Digital infrastructure	50.0	75.0	71.4	71.4	60.7	67.9	66.1
Digital payments	45.8	50.0	50.0	54.2	50.0	54.2	50.7
E-commerce	31.3	43.8	37.5	34.4	34.4	34.4	35.9
Internet access	29.2	70.8	54.2	41.7	37.5	75.0	51.4
Average digital economy score	39.0	59.9	53.2	50.4	45.6	57.8	51.0
Country rank on average score	6	1	3	4	5	2	N/A

Source: CAREC Institute, Digital CAREC: Analysis of the Regional Digital Gap (2022)



# Digital CAREC: conclusions based on questionnaires

## By country:

- Azerbaijan (59.9), Uzbekistan (57.8), and Kyrgyzstan (53.2) are relatively less divided economies across the CAREC region compared to Pakistan (50.4), Tajikistan (45.6), and Afghanistan (39.0).
- The average score of Afghanistan and Tajikistan is significantly less than the CAREC average score (51.0), and most of the subindicators are visualized in red, implying a higher digital divide.

## By indicator:

- Digital payments and e-commerce report lower average scores, indicating a higher gap.
- Digital infrastructure and internet access record higher average scores, showing a moderate gap.

# Digital CAREC: conclusions based on PCA

## By country:

The cumulative digital divide index (CDDI) by PCA suggests that

- Kazakhstan and Georgia are the least digitally divided countries in the selected CAREC region with cumulative average scores of 0.868 and 0.798, respectively.
- Azerbaijan and Mongolia are moderately divided in the digital spectrum with average scores of 0.562 and 0.480, respectively.
- Uzbekistan (0.306), Kyrgyzstan (0.276), Pakistan (0.196), and Tajikistan (0.078) are the least performing economies in CDDI, confirming a higher digital divide.
- Although Kazakhstan and Georgia secured the highest score in the selected CAREC region, they demonstrated a substantial digital divide compared with other developed regions such as the European Union or China.

# Digital CAREC: identified gaps in CAREC countries

## Digital Infrastructure

- Lack of e-skills and cultural issues for use of online services
- Low-level of public confidence in digital documents and services
- Security concerns and Internet shutdowns
- Most of remote areas do not have access to digital infrastructure
- No precise data on the amount of FDI on different sectors/areas
- Low-level use of digital technologies in the social sphere

## E-commerce

- Absence of e-commerce platforms to carry out cross-border trade
- Inability to directly register on international marketplaces to sell cross-border
- Lack of institutional mechanisms for regulating e-commerce
- Imperfect and insecure systems of online payments and lack of systems for delivery of goods and services
- Slow or poor adaptation of the mobile or online payments
- Poor after-sales service & Consumer protection issues
- Cases of counterfeit product sales. Unauthentic websites
- Poor marketing among the population
- Lack of confidence in buying online, cyber security concerns
- Lack of e-skills and trust in government structures
- In 2 out of 6 countries, the “green transport corridor” has not been introduced (this hinders the increase in cross-border trade)
- Absence of a legal framework for cross-border electronic data exchange
- Absence of e-signature use for cross-border transaction

## Internet access

- Lack of e-skills for using the Internet
- No access to digital infrastructure due to poor connectivity or instability of electricity supply
- High Internet costs
- Problems with Internet accessibility in remote areas

## Digital Payments

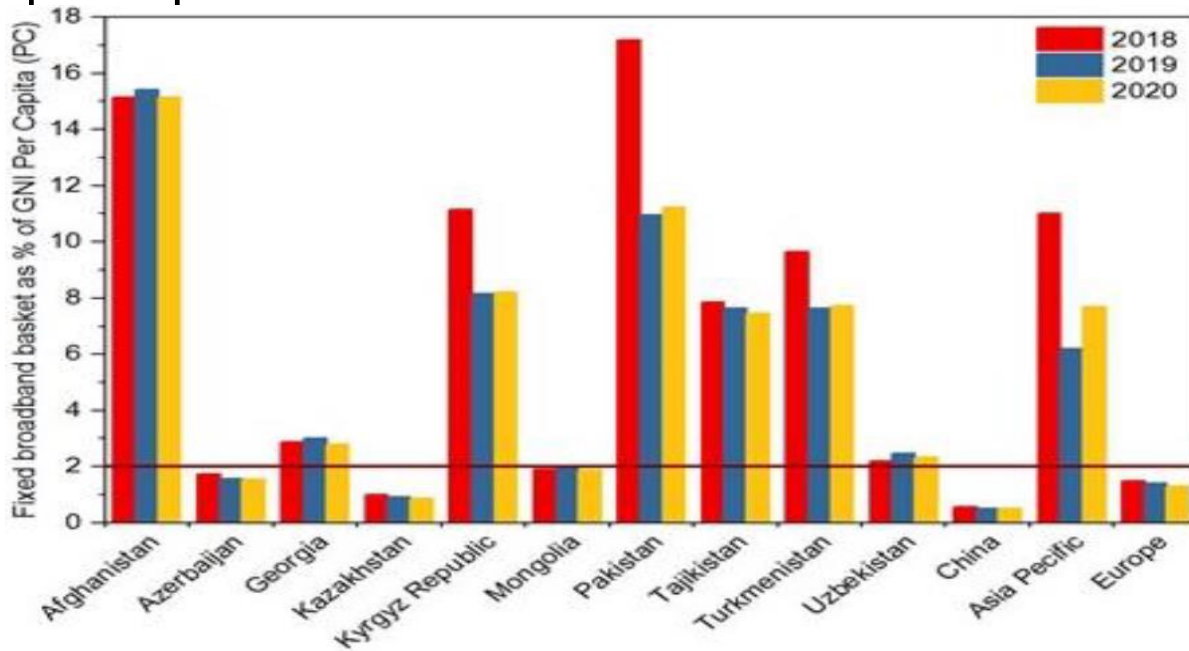
- Lack of awareness on the use of cashless payment methods
- Lack of trust in online payments
- Low level of cashless transactions
- Limited digital banking services
- Rapidly growing services require investment in infrastructure and legislative support
- High restrictions on the transfer of money abroad, high threshold of the minimum service fee
- Impossibility to register on international payment systems for receiving payments

# Digital CAREC: cost of using internet in the CAREC region

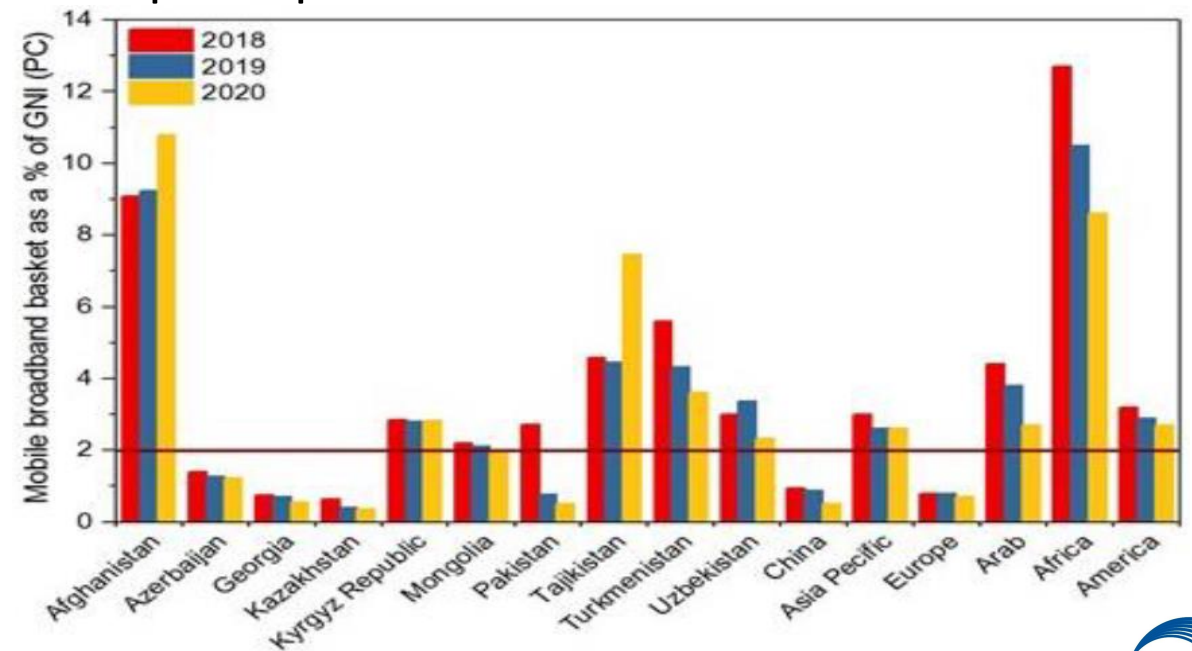
*“By 2025, entry-level broadband services should be made affordable in low- and middle-income countries (LMICs) at less than 2% of monthly Gross National Income (GNI) per capita.”*

*—Broadband Commission for Sustainable Development, ITU, UNESCO*

Fixed broadband basket as a percentage of GNI per capita



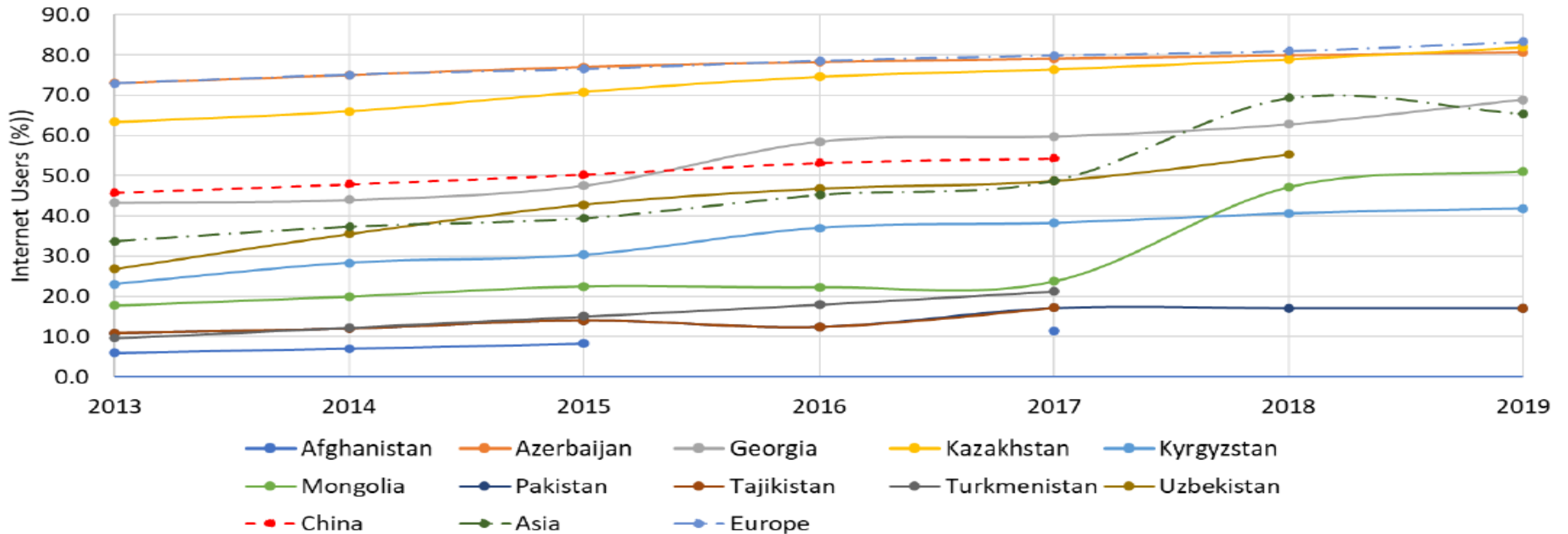
Mobile broadband basket as a percentage of GNI per capita



Source: CAREC Institute, Digital CAREC: Analysis of the Regional Digital Gap(2022), data retrieved from ITU(2020)

# Digital CAREC: individuals using the Internet

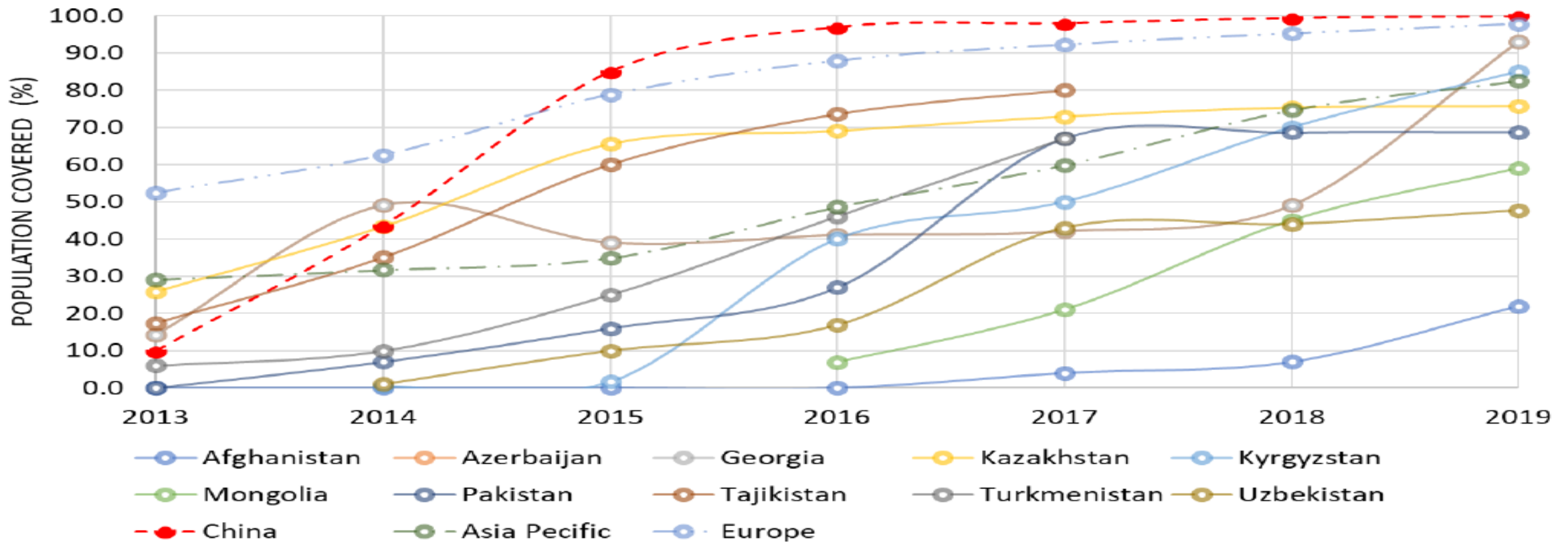
Individuals using the Internet, total (%)



Source: CAREC Institute, Digital CAREC: Analysis of the Regional Digital Gap(2022), data retrieved from ITU(2020)

# Digital CAREC: 4G network in the CAREC region

Population covered by at least a 4G mobile network



Source: CAREC Institute, Digital CAREC: Analysis of the Regional Digital Gap(2022), data retrieved from ITU(2020)

# Policies for promoting the development of digital economy

	Key strategies or initiatives (non-exhaustive)
<b>Azerbaijan</b>	Polyhedron-Digital Radar of Azerbaijan (soon to be implemented), ICT road map (2016), Republic of Azerbaijan's Law on Electronic Commerce (2005)
<b>China</b>	14th Five-Year Plan for the Development of the Digital Economy (2022), 14th Five-Year Plan for E-Commerce Development (2021)
<b>Georgia</b>	National Broadband Development Strategy (NBDS) 2020-2025 (2020), 2015 e-Georgia Strategy (2014), Georgia 2020 Socio-economic Development Strategy (2014)
<b>Kazakhstan</b>	Digital Kazakhstan (updated in 2020), Roadmap for the Development of E-commerce by 2025 (2019)
<b>Kyrgyz Republic</b>	Digital Transformation of the Kyrgyz Republic for 2024-2028 (2024), E-commerce Support and Development Plan 2022-2027 (2022), Development Plan for Digital Economy 2021-2023, Digital Kyrgyzstan 2019-2023 (2018)

# Policies for promoting the development of digital economy

	Key strategies or initiatives (non-exhaustive)
<b>Mongolia</b>	E-Mongolia System and Government on-line Platform (2022), Five-year Mission to Build a 'Digital Nation' (2020), "VISION-2050" Long-Term Development Policy of Mongolia (2020)
<b>Pakistan</b>	Digital Pakistan Vision(2019), Digital Pakistan Policy (2018)
<b>Tajikistan</b>	Law of the Republic of Tajikistan on E-commerce (2022), Mid-Term Program for the Digital Economy Development in the Republic of Tajikistan for 2021-2025 (2021), Concept of Digital Economy of the Republic of Tajikistan (2019)
<b>Turkmenistan</b>	The 2025 Digital Economy Development Strategy(underway), Concept of Development of Digital Economy for 2019 – 2025 (2018)
<b>Uzbekistan</b>	The new Uzbekistan Development Strategy 2022–2026 (2022), Digital Uzbekistan – 2030 (2020)

Source: online sources



# Digital FDI Ecosystem in the CAREC Region

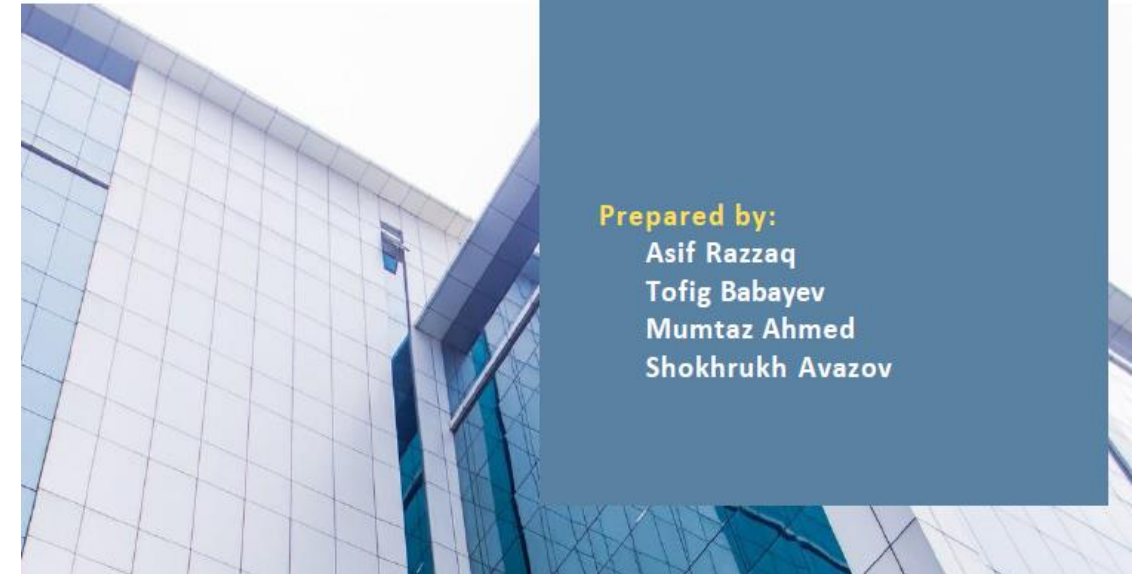
It analyses five critical dimensions of digital FDI:

- (i) new digital activities
- (ii) digital adoption
- (iii) digital infrastructure
- (iv) digital FDI restrictions
- (v) digital promotion tools

*The questionnaire was designed following the conceptual framework of the World Investment Report (2017) by UNCTAD, World Economic Forum Trade, and Investment in the Digital Age Report (2020), and OECD's FDI Restrictiveness Index.*



## Digital FDI Ecosystem in the CAREC Region (Phase II)




### Prepared by:

Asif Razzaq  
Tofig Babayev  
Mumtaz Ahmed  
Shokhrukh Avazov

<https://www.carecinstitute.org/publications/report-on-carec-digital-fdi-ecosystem-in-the-carec-region/>



# Methodology: Digital FDI Framework



Dimension	Sub-Indicator	Sub-Indicator
I. New Digital Activities	1.1 Data Privacy and Security	1) Data privacy regulations
		2) Data security regulations
		3) Copyright laws to protect intellectual property
		4) Free flow of cross-border data
		5) Requirements to monitor third-party content
		6) Burdensome data localization requirements
	1.2 Consumers laws	1) Contract law to protect agreements
		2) Consumer protection laws
		3) Laws making e-agreements legal
		4) Ease of registering the company
		5) Ease of receiving a license for digital activities
		6) Ease of registering a property
7) Consumer law that permits new business models		
1.3 Investors' rights	1) Protecting investors' rights	
	2) Access to international arbitration	
	3) Intellectual property and copyrights protection	
	4) Availability of Bilateral and multilateral investment agreements on the mutual protection of investments	
	5) Availability of Double taxation treaties	
1.4 Firm-specific regulations	1) Competition policy and regulations	
	2) Burdensome ICT regulations	
	3) Requirement for source code disclosure	
	4) Regulatory stability and predictability	
	5) Regulatory framework (national and local)	
II. Digital Adoption	2.1. Support for digital adoption	1) Availability of e-payment services
		2) Level of digital skills in the economy
		3) Support for starting digital businesses
		4) Support for local digital skills development
		5) Support for partnerships with research centers
	2.2 Tariffs and taxes	1) Tariffs on digital inputs
		2) Taxes on digital goods and services
		3) Prevalence of government services
		4) Tax deductions on ICT-related expenditures
2.3 Independence of ICT regulations	1) Use of international standards	
	2) Openness to foreign investment	
	3) Strong competition policy and regulations	
	4) Independent ICT regulator	



# Methodology: Digital FDI Framework

Dimension	Sub-Indicator	Sub-Indicator
III. Digital Infrastructure	3.1 Connectivity	1) Level of international connectivity
		2) Level of national connectivity (backbone)
		3) Level of connectivity of urban centers
		4) Level of connectivity of rural areas
	3.2 Availability of Networks	1) 4G mobile network
		2) 5G mobile network
		3) Domestic internet exchange points (IXP)
		4) Domestic data centers
	3.3 Access to infrastructure, finance and manpower	1) Use of international standards
		2) Regional coordination for infrastructure investment*
3) Availability of skilled local engineers and other workers*		
4) Access to infrastructure, including the ability to share infrastructure		
5) Spectrum rules (e.g., availability, cost)		
6) Access to local finance		
7) Acquisition of land for business purposes		
8) Land ownership is not permitted, but leases possible		
3.4 Ease of receiving visas and licenses	1) Ease of receiving a license for digital infrastructure*	
	2) Ease of receiving visas and employing foreign personnel	
3.5 Privatization and taxation	1) Taxes on technology devices and services	
	2) Privatization of telecom incumbent	
IV. Digital FDI restrictions	4.1 Sectoral restrictions	1) Restriction on print media
		2) Restriction on telecom media
		3) Restriction on social media
		4) Access to webpages
		5) Freedom of expression
	4.2 Restrictions on key foreign personnel / directors	1) Foreign key personnel not permitted
		2) Economic needs test for employment of foreign key personnel
		3) Time-bound limit on employment of foreign key personnel
		4) Nationality/residence requirements for board of directors
	4.3 Other restrictions	1) Restrictions on establishment of branches/local incorporation required
		2) Burdensome restrictions on online content
		3) Prohibition on access to foreign websites
	4.4 Foreign Equity Limits	1) No foreign equity allowed
		2) Foreign equity < 50% of total equity
		3) Foreign equity > 50% but < 100% of total equity
4) No foreign equity restrictions		
4.5 Screening and approval of FDI	1) Approval required for new FDI	
	2) Notification with a discretionary element	
	3) No approval required for new FDI	
V. Digital promotion tools	5.1 Incentives and promotions	1) Information Technology Agreement
		2) Financial or fiscal incentives
		3) Investment Promotion Agencies/Promotion by government/Private Sector (other than incentives)
		4) Availability of venture capital

# Evaluation of digital FDI framework in the CAREC region (result from questionnaires)

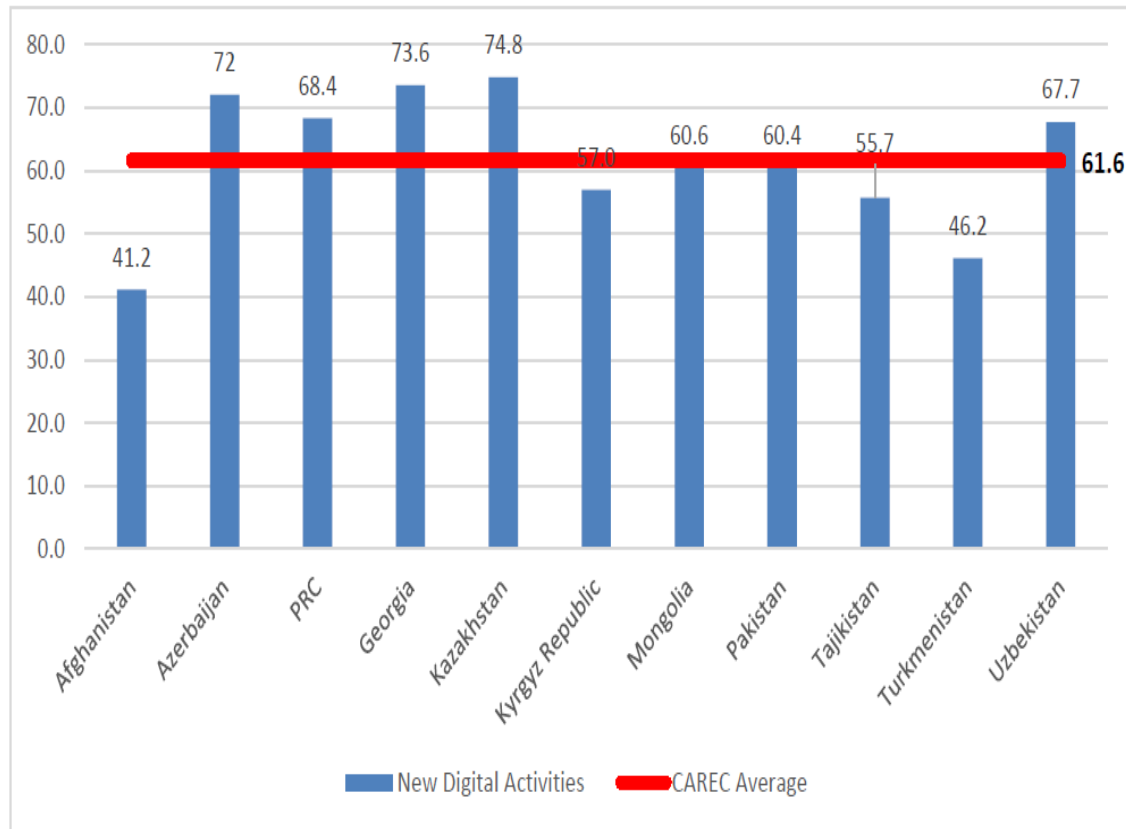
Key findings based on evaluation matrix for all CAREC countries

Average Indicators	New Digital Activities	Digital Adoption	Digital Infrastructure	Digital FDI Restrictions	Digital Promotion Tools	Digital FDI Framework
Afghanistan	41.2	46.2	44.0	44.7	51.0	45.4
Azerbaijan	72.1	68.3	64.8	76.3	55.0	67.3
PRC	68.4	77.5	73.5	60.6	85.0	73.0
Georgia	73.6	76.1	63.0	79.2	82.5	74.9
Kazakhstan	74.8	75.8	67.5	68.5	85.0	74.3
Kyrgyz Republic	57.0	62.4	53.8	67.1	72.5	62.6
Mongolia	60.6	65.2	62.9	68.9	66.0	64.7
Pakistan	60.4	60.3	61.5	67.7	50.0	60.0
Tajikistan	55.7	52.9	54.7	58.8	70.0	58.4
Turkmenistan	46.2	48.7	44.3	47.4	41.0	45.5
Uzbekistan	67.7	64.3	66.0	68.3	55.0	64.3
<b>CAREC Average</b>	<b>61.6</b>	<b>63.4</b>	<b>59.6</b>	<b>64.3</b>	<b>64.8</b>	<b>62.8</b>

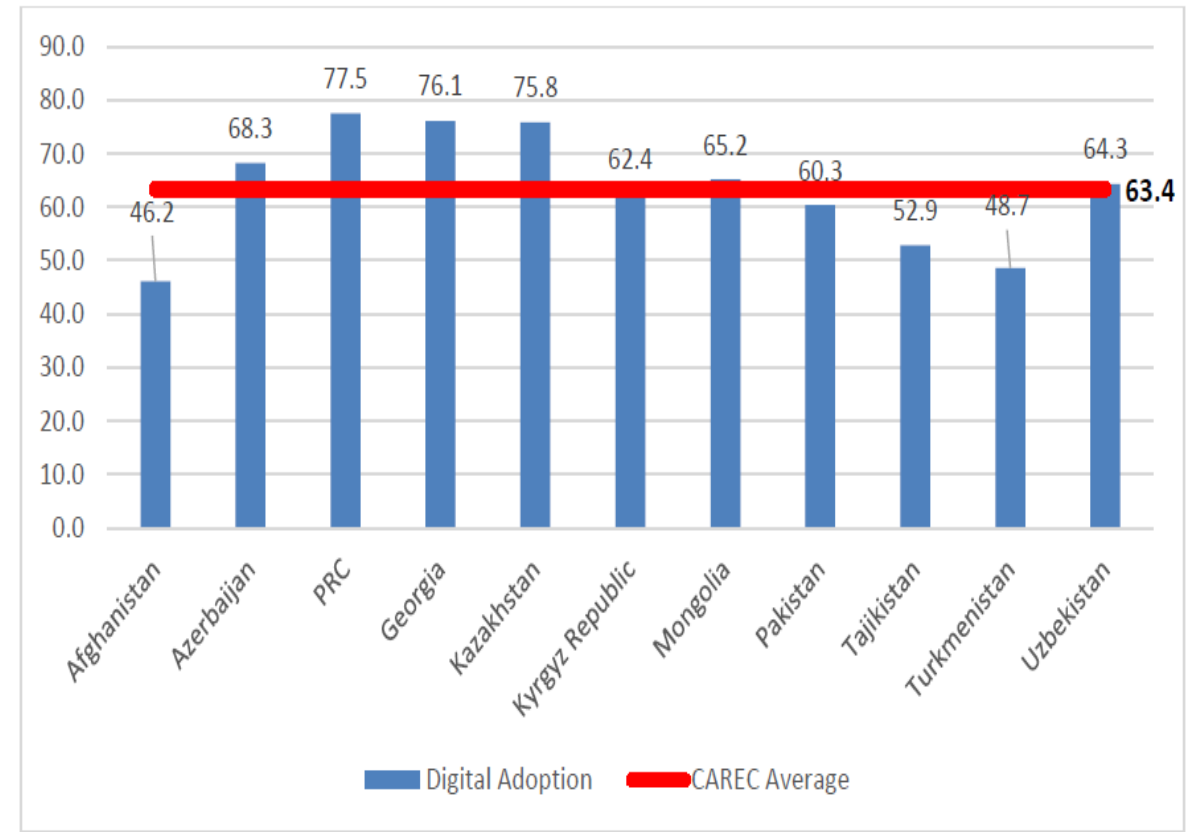
Source: CAREC Institute, Digital FDI Ecosystem in the CAREC Region(2023)

# Evaluation of digital FDI framework in the CAREC region (result from questionnaires)

## New digital activities



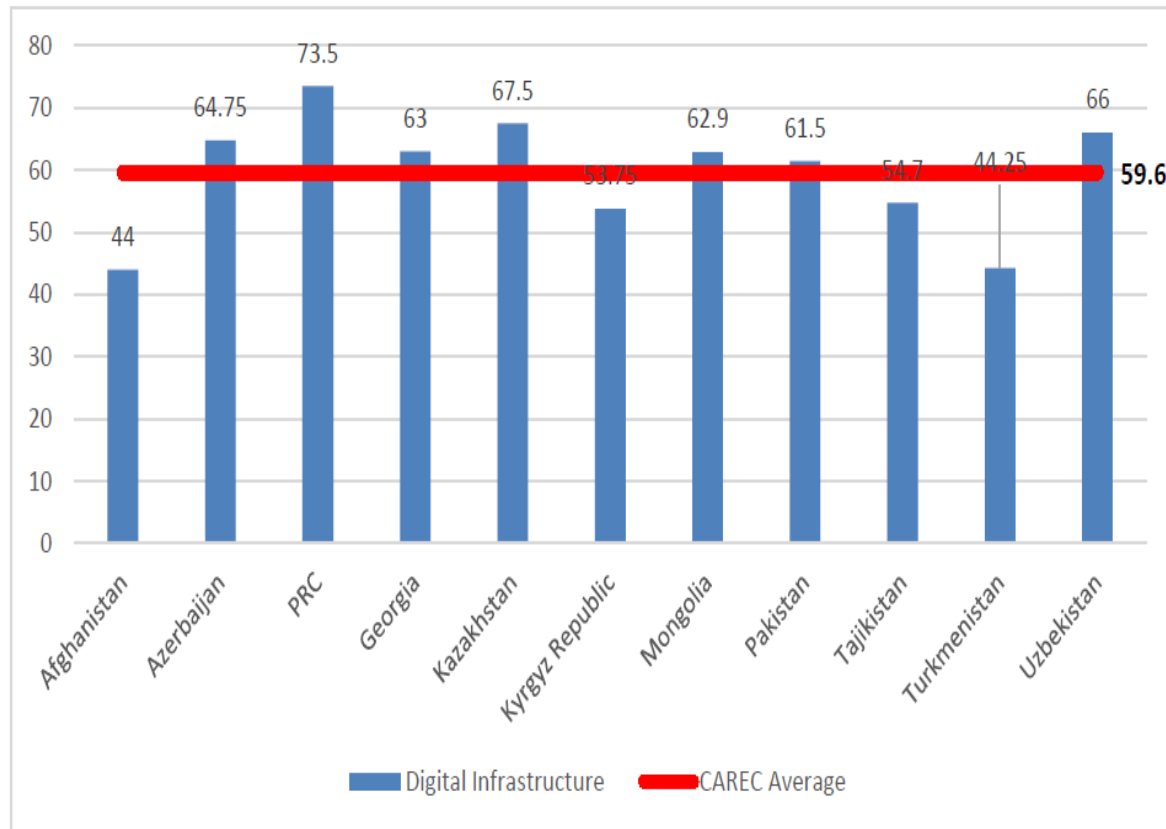
## Digital adoption



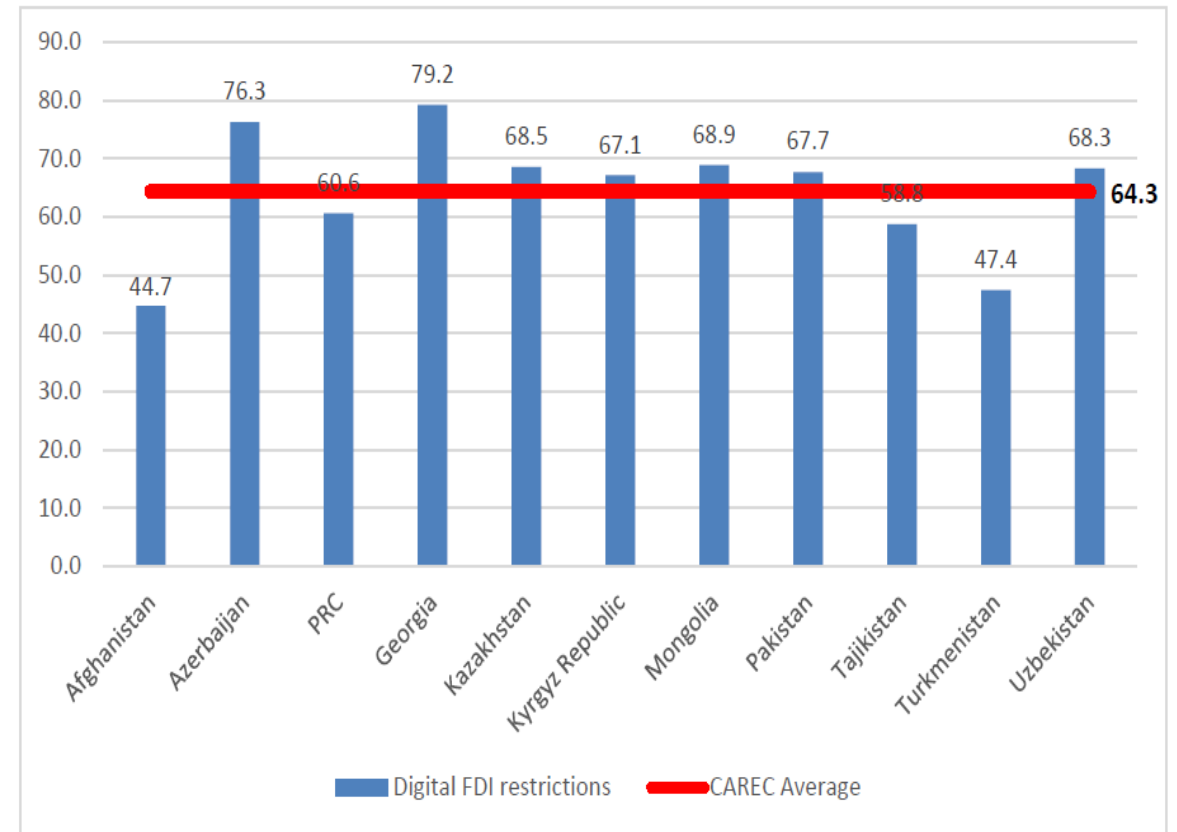
Source: CAREC Institute, Digital FDI Ecosystem in the CAREC Region(2023)

# Evaluation of digital FDI framework in the CAREC region (result from questionnaires)

## Digital infrastructure



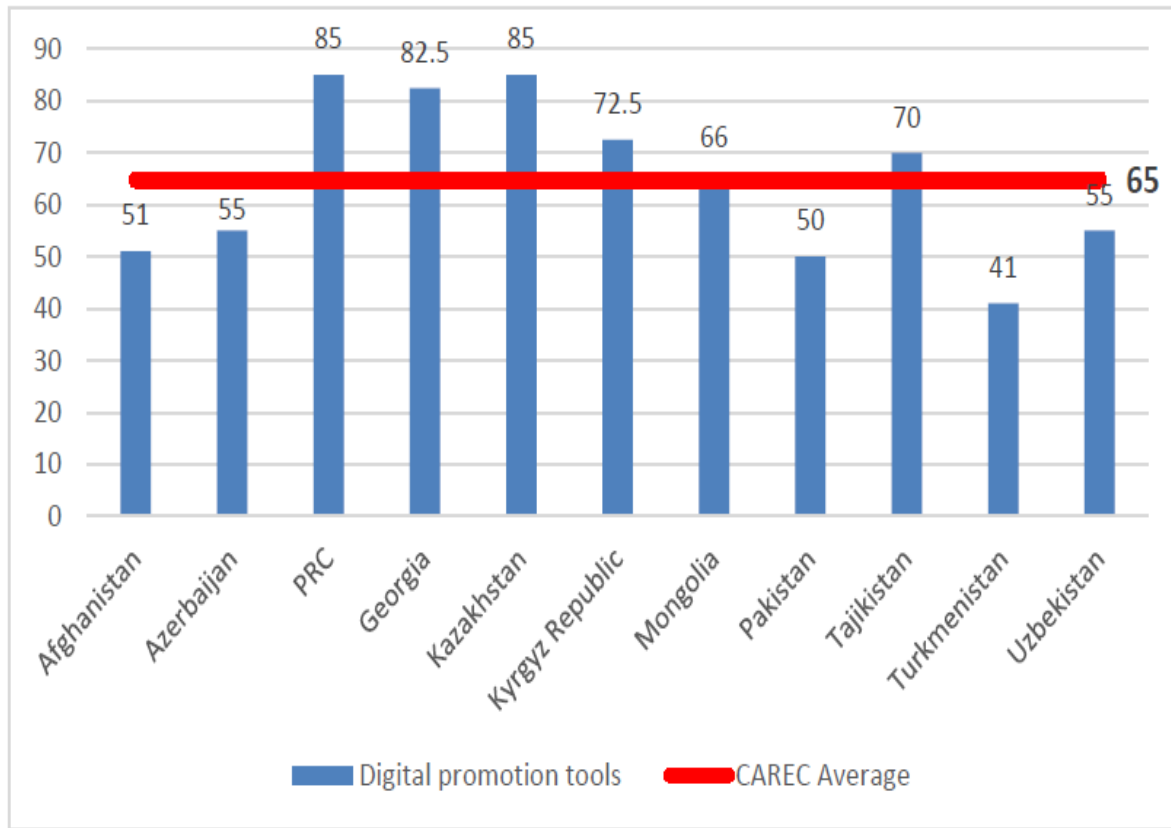
## Digital FDI restrictions



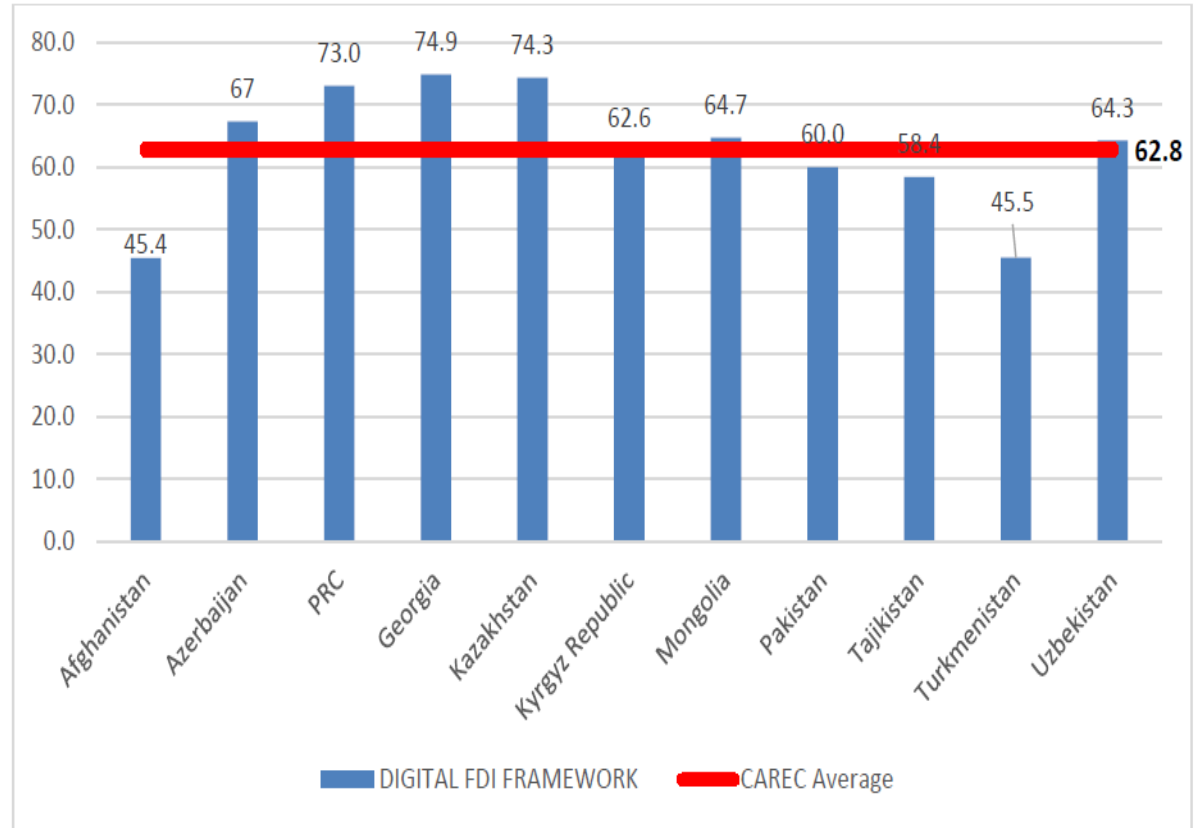
Source: CAREC Institute, Digital FDI Ecosystem in the CAREC Region(2023)

# Evaluation of digital FDI framework in the CAREC region (result from questionnaires)

## Digital promotion tools



## Digital FDI framework



Source: CAREC Institute, Digital FDI Ecosystem in the CAREC Region(2023)

# FDI Restrictiveness Index (OECD)

## FDI Regulatory Restrictiveness Index 2019 for selected CAREC countries

Sector/Industry	Azerbaijan	PRC	Kazakhstan	Kyrgyz Republic	Mongolia	Russia	Tajikistan	Uzbekistan
<b>FDI Regulatory Restrictiveness Index</b>	<b>0.077</b>	<b>0.214</b>	<b>0.113</b>	<b>0.137</b>	<b>0.072</b>	<b>0.262</b>	<b>0.12</b>	<b>0.068</b>
<b>Primary</b>	0.043	0.342	0.215	0.215	0.093	0.212	0.228	0.04
<b>Agriculture &amp; Forestry</b>	0.05	0.113	0.29	0.35	0.1	0.18	0.425	0.06
Agriculture	0.05	0.176	0.29	0.525	0.1	0.255	0.8	0.06
Forestry	0.05	0.05	0.29	0.175	0.1	0.105	0.05	0.06
Fisheries	0.06	1	0.04	0.055	0.06	0.155	0.03	0.02
<b>Mining &amp; Quarrying (incl. Oil extr.)</b>	0.01	0.14	0.24	0.105	0.11	0.332	0.03	0.02
<b>Secondary</b>	0.017	0.077	0.04	0.059	0.064	0.15	0.03	0.029
<b>Manufacturing</b>	0.01	0.071	0.04	0.06	0.06	0.163	0.03	0.023
Food and other	0.01	0.064	0.04	0.08	0.06	0.155	0.03	0.033
Oil ref. & Chemicals	0.01	0.06	0.04	0.055	0.06	0.072	0.03	0.02
Metals, machinery and other minerals	0.01	0.05	0.04	0.055	0.06	0.155	0.03	0.02
Electric, Electronics and other instruments	0.01	0.06	0.04	0.055	0.06	0.168	0.03	0.02
Transport equipment	0.01	0.12	0.04	0.055	0.06	0.263	0.03	0.02
Electricity	0.01	0.085	0.04	0.055	0.06	0.085	0.03	0.07
Electricity generation	0.01	0.12	0.04	0.055	0.06	0.065	0.03	0.12
Electricity distribution	0.01	0.05	0.04	0.055	0.06	0.105	0.03	0.02
Construction	0.06	0.1	0.04	0.055	0.085	0.155	0.03	0.02
<b>Tertiary</b>	0.128	0.254	0.122	0.158	0.07	0.351	0.139	0.104
Distribution	0.01	0.075	0.04	0.08	0.06	0.155	0.03	0.024
Wholesale	0.01	0.075	0.04	0.08	0.06	0.155	0.03	0.02
Retail	0.01	0.075	0.04	0.08	0.06	0.155	0.03	0.028
Transport	0.079	0.395	0.09	0.188	0.171	0.455	0.18	0.041
Surface	0.035	0.05	0.04	0.08	0.06	0.455	0.03	0.02
Maritime	0.148	0.385	0.09	0.055	0.06	0.155	0.03	0.045
Air	0.054	0.75	0.14	0.43	0.393	0.755	0.48	0.058
Hotels & restaurants	0.01	0.05	0.04	0.055	0.06	0.205	0.055	0.028
<b>Media</b>	0.46	0.985	0.553	0.33	0.06	0.538	0.53	0.395
<b>Radio &amp; TV broadcasting</b>	0.61	1	0.565	0.555	0.06	0.695	0.53	0.52
<b>Other media</b>	0.31	0.97	0.54	0.105	0.06	0.422	0.53	0.27
<b>Communications</b>	0.01	0.733	0.14	0.055	0.06	0.155	0.03	0.02
<b>Fixed telecoms</b>	0.01	0.75	0.24	0.055	0.06	0.155	0.03	0.02
<b>Mobile telecoms</b>	0.01	0.715	0.04	0.055	0.06	0.155	0.03	0.02
<b>Financial services</b>	0.207	0.05	0.118	0.087	0.06	0.495	0.127	0.095
Banking	0.285	0.05	0.14	0.1	0.06	0.48	0.163	0.195
Insurance	0.31	0.05	0.14	0.105	0.06	0.8	0.155	0.07
Other finance	0.027	0.05	0.075	0.055	0.06	0.205	0.063	0.02
<b>Business services</b>	0.16	0.225	0.04	0.298	0.06	0.28	0.273	0.265
<b>Legal</b>	0.51	0.75	0.04	1	0.06	0.695	1	1
Accounting & audit	0.01	0.05	0.04	0.08	0.06	0.155	0.03	0.02
Architectural	0.06	0.05	0.04	0.055	0.06	0.155	0.03	0.02
Engineering	0.06	0.05	0.04	0.055	0.06	0.155	0.03	0.02

Source: CAREC Institute, Digital FDI Ecosystem in the CAREC Region(2023) retrieved from OECD Statistics (zero implies no restrictions, while one indicates entirely restricted)



# Evaluation of digital FDI framework in the CAREC region (conclusion)

## By country:

- Georgia (74.9), Kazakhstan (74.3), and China (73) are leading CAREC countries with a conducive digital FDI environment.
- Azerbaijan (67), Mongolia (64.7), Uzbekistan(64.3), Kyrgyz Republic (62.6), and Pakistan (60) report moderate scores.
- Tajikistan (58.4), Turkmenistan (45.5), and Afghanistan (45.4) display the lowest scores compared with the CAREC regional average (62.8).

## By dimension:

- The average score for the CAREC region indicates the lowest score in digital infrastructure (59.6), followed by new digital activities (61.6), digital adoption (63.4) and digital FDI restrictions (64.3), while the highest score is observed in digital promotion tools (64.8).

*The most lagging areas are digital security and privacy, data regulations, IP rights, validity of e-agreements, higher tariffs and taxes, restrictions in acquiring land for business purposes, lack of regional integration and mutual investment/technology agreements, ineffective consumer laws, governance issues, lack of digital skills, lower connectivity of national and international infrastructure, higher approval turnaround time, lack of venture capital, privatization and competition policies, and sectoral equity restrictions.*

# Policy implications (combined)

## **Increase Investment in Infrastructure:**

- Recognize that substantial fixed asset investment is needed from domestic and foreign sources to improve internet access and infrastructure.
- Prioritize investment in countries with higher digital divide, including Afghanistan, Pakistan, Tajikistan, Kyrgyz Republic, Uzbekistan.

## **Regulate Internet Costs:**

- Implement regulations to ensure internet costs are below the 2% of Gross National Income (GNI) threshold recommended by the UN Broadband Commission.
- Focus on countries with particularly high internet costs, including Afghanistan, Kyrgyz Republic, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan.

## **Boost Consumer Affordability:**

- Implement initiatives to increase access to internet-connected devices at the household level.
- Encourage financial institutions to offer consumer loans for computers, laptops, smartphones, and printers with easy installment plans.
- Consider zero-rating taxes on ICT equipment to reduce retail prices or incentivize local assembly of these devices.

## **Promote Digital Payment:**

- Explain online services and payment procedures; explain the benefits and convenience of cashless payments.
- Educate the public on various digital payment options available and how to use them securely.
- Develop robust legal frameworks to support and secure cashless transactions.

# Policy implications (combined)

## **E-commerce Infrastructure Development:**

- Implement pilot projects like the EU4Digital Virtual Warehouse to foster cross-border trade between CAREC and European countries.
- Invest in further development of e-commerce infrastructure, including logistics networks and digital payment systems.

## **Strengthen Consumer Protection:**

All countries should address consumer protection issues in e-commerce, focusing on:

- Clear policies for the return of goods purchased online.
- Establishing an e-court system to resolve e-trade disputes efficiently.

## **Digital Signature Adoption:**

- Encourage the use of digital signatures for cross-border transactions in all CAREC countries, except Azerbaijan which already has a strong system in place.

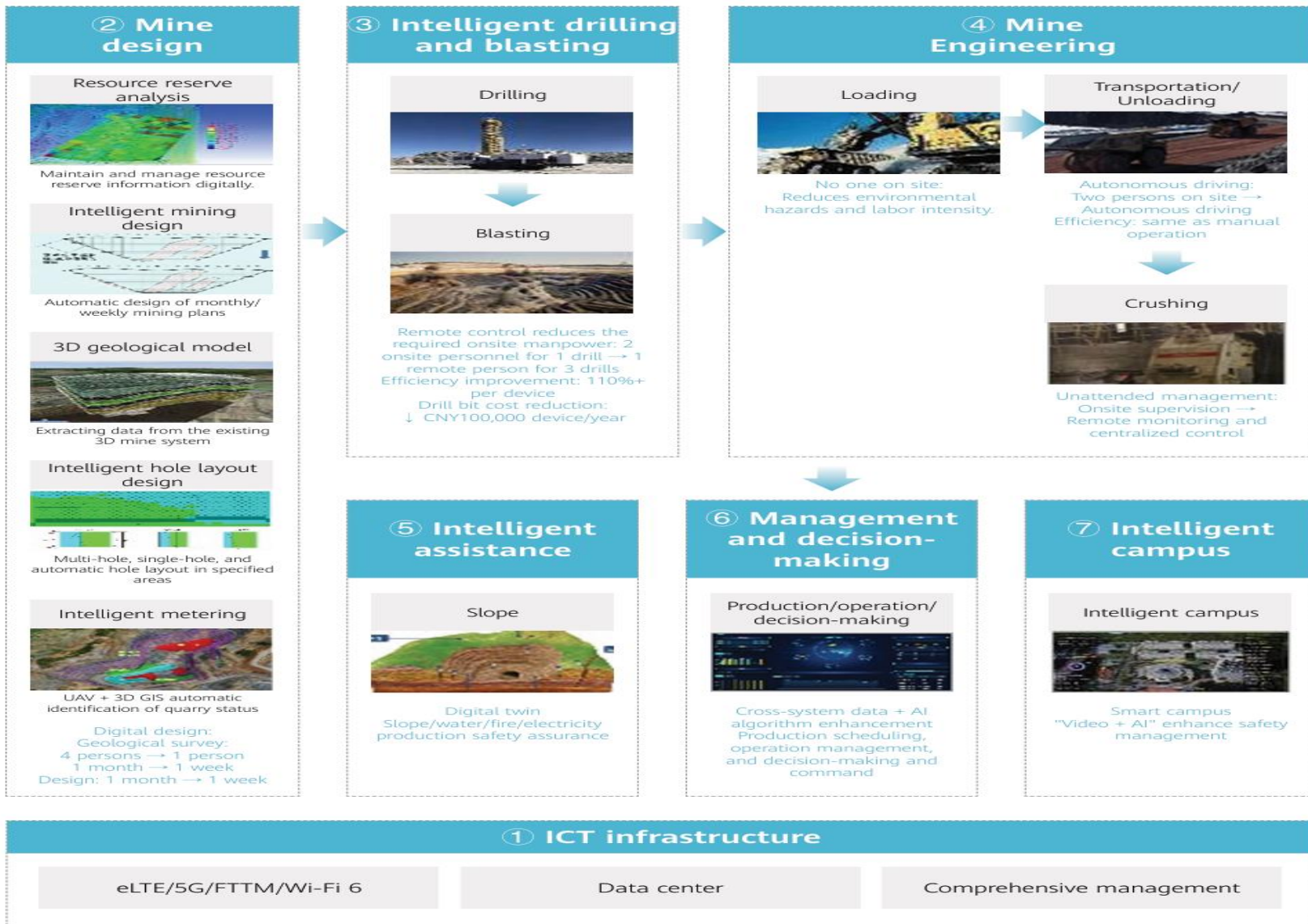
## **Reduce tariffs:**

- Reduce tariffs and taxes on digital goods is essential to encourage FDI inflows. Countries should review current internet tariffs and identify opportunities for reduction. In the CAREC region countries such as Azerbaijan, Kyrgyz Republic, Mongolia, Pakistan, Tajikistan, Turkmenistan, Uzbekistan still have relatively higher tariff rates.

## **Regional initiatives:**

- Establish a regional investment promotion agency to identify business opportunities across the CAREC countries.
- Offer a one-window platform for mutual investment and business expansion in neighboring countries.

# Case study: Huawei Intelligent Mining Solutions



## Intelligent Mine adopts a New Network Architecture

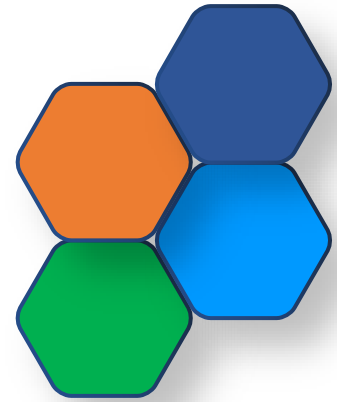
- Less manpower
- Saving time
- Reducing cost
- Reducing environment hazards
- More efficient operations
- Intrinsic safety

# Case study: Intelligent Cotton-planting Solutions



## Jiang Tian Mian Tu APP/Data Platform

- Real-time monitoring
- Reducing cost
- Improving efficiency and yields
- Avoiding waste of manpower and means of production



**Thank you!**  
**Looking forward to discussion!**

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