

Shaping Up Digital Transformation through e-Resilience

TurkmenTEL2022

10-11 November 2022

Hybrid Conference



Information and Communications Technology
and Disaster Risk Reduction Division





Scope of this presentation

- Shaping our Digital Future
 - Recovery from COVID-19 and Digital Big Bang
 - Frameworks and the Dynamics of DT
 - Speed
- Issues and Challenges of E-Resilience Readiness
 - Widening Digital Divide
 - Old paradigm is not effective
 - Challenges of Digitalization and Digital Transformation
- Three Pathways Forward

United Nations ESCAP Flagship Report

<https://www.unescap.org/kp/2022/asia-pacific-digital-transformation-report-2022-shaping-our-digital-future>

- Launched 30 August 2022



ESCAP's web presence

Shaping Our Digital Future

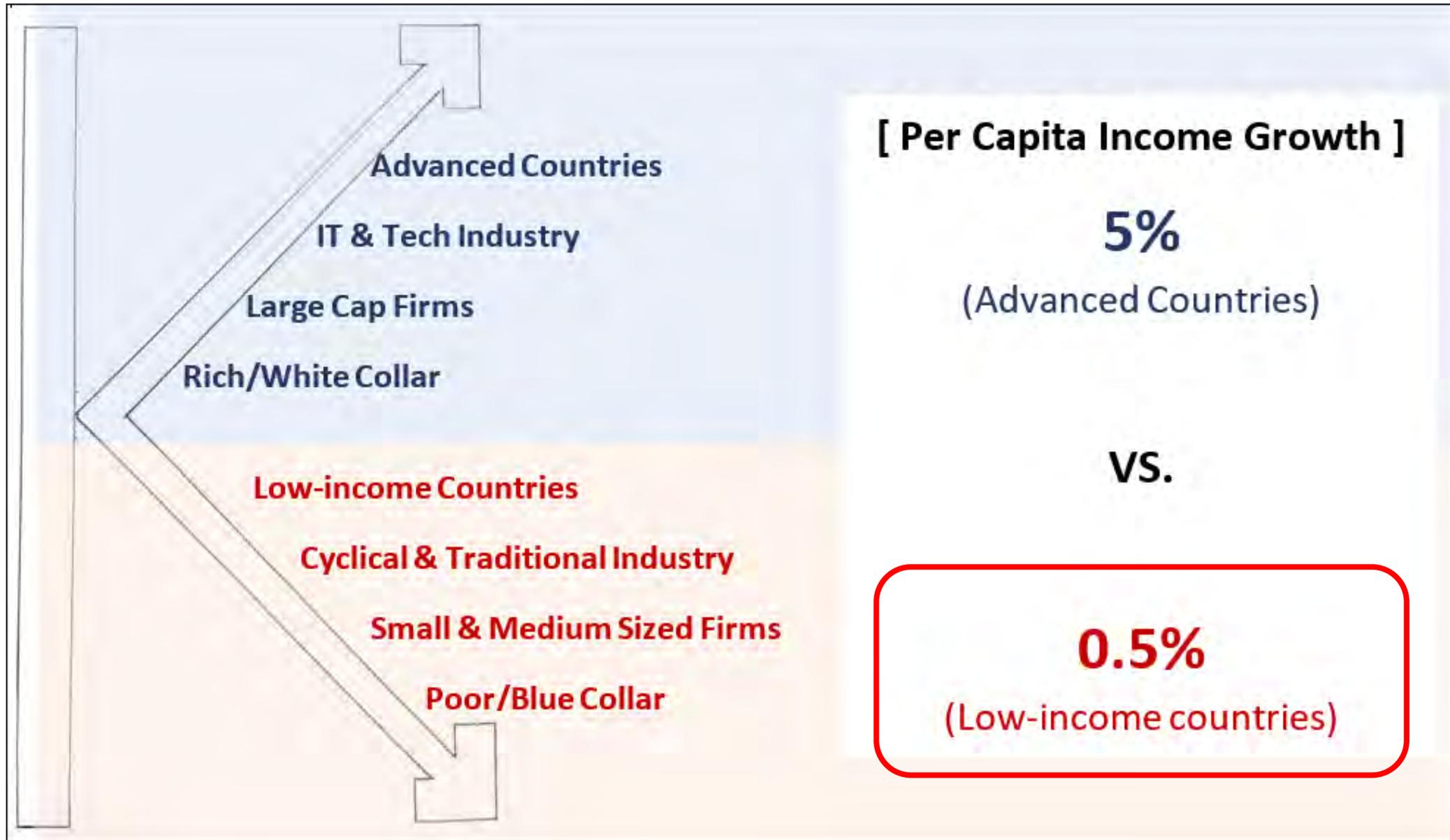
▶ Asia-Pacific Digital
Transformation Report 2022



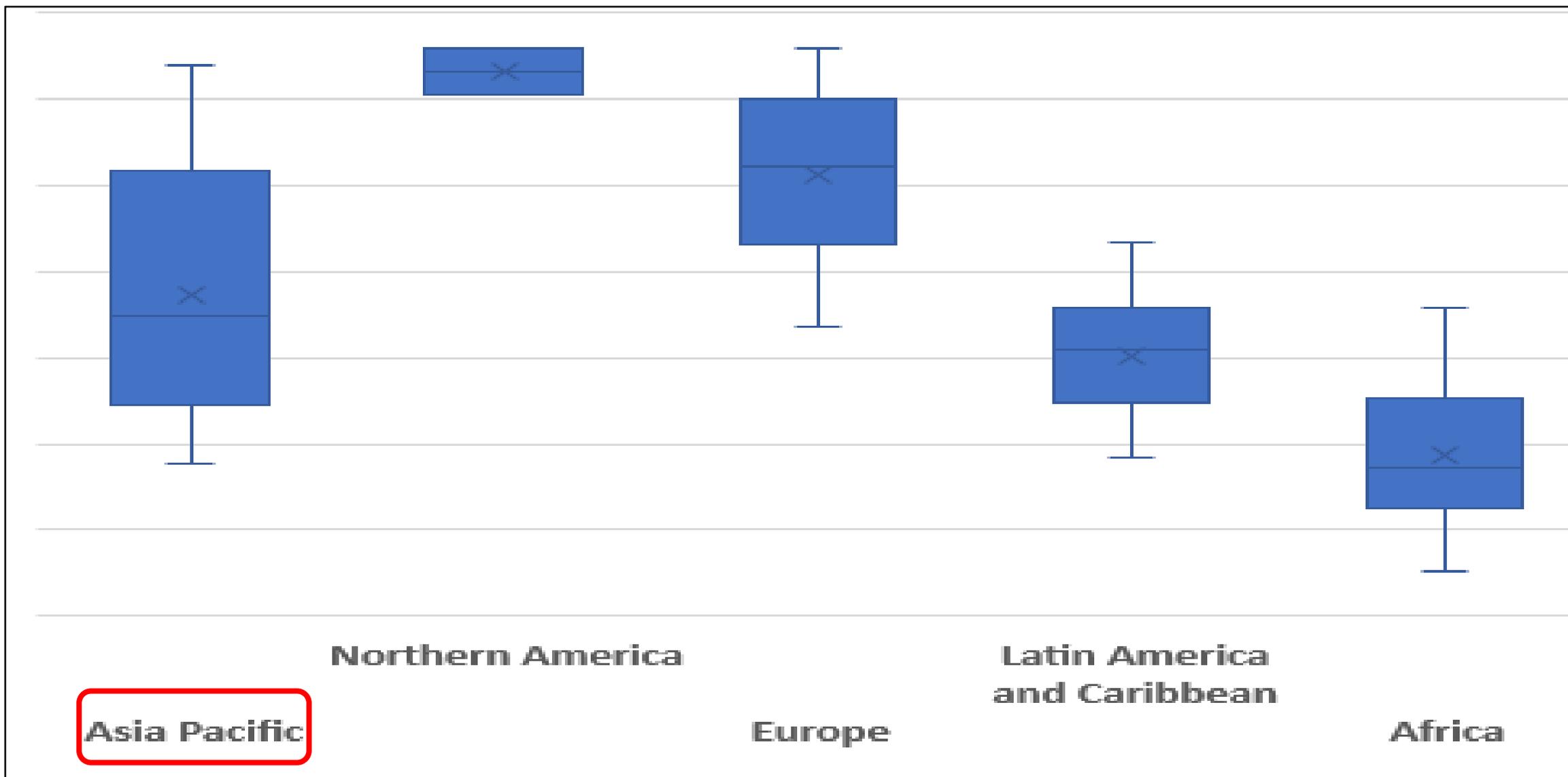
COVID-19 and Digital Big Bang

1. COVID-19, transforming our society: “digital by default”, “digital big bang”.
2. At the heart of transforming: Digital Transformation
3. More connected, big data, cloud, AI, 5G for speed, hi-performance chips, Internet of things, cyber-security and digital transformation (4th industrial revolution): all connected.
4. Need to deepen our understanding of the rapid and complex and transforming process.

K-shaped Recovery from COVID-19

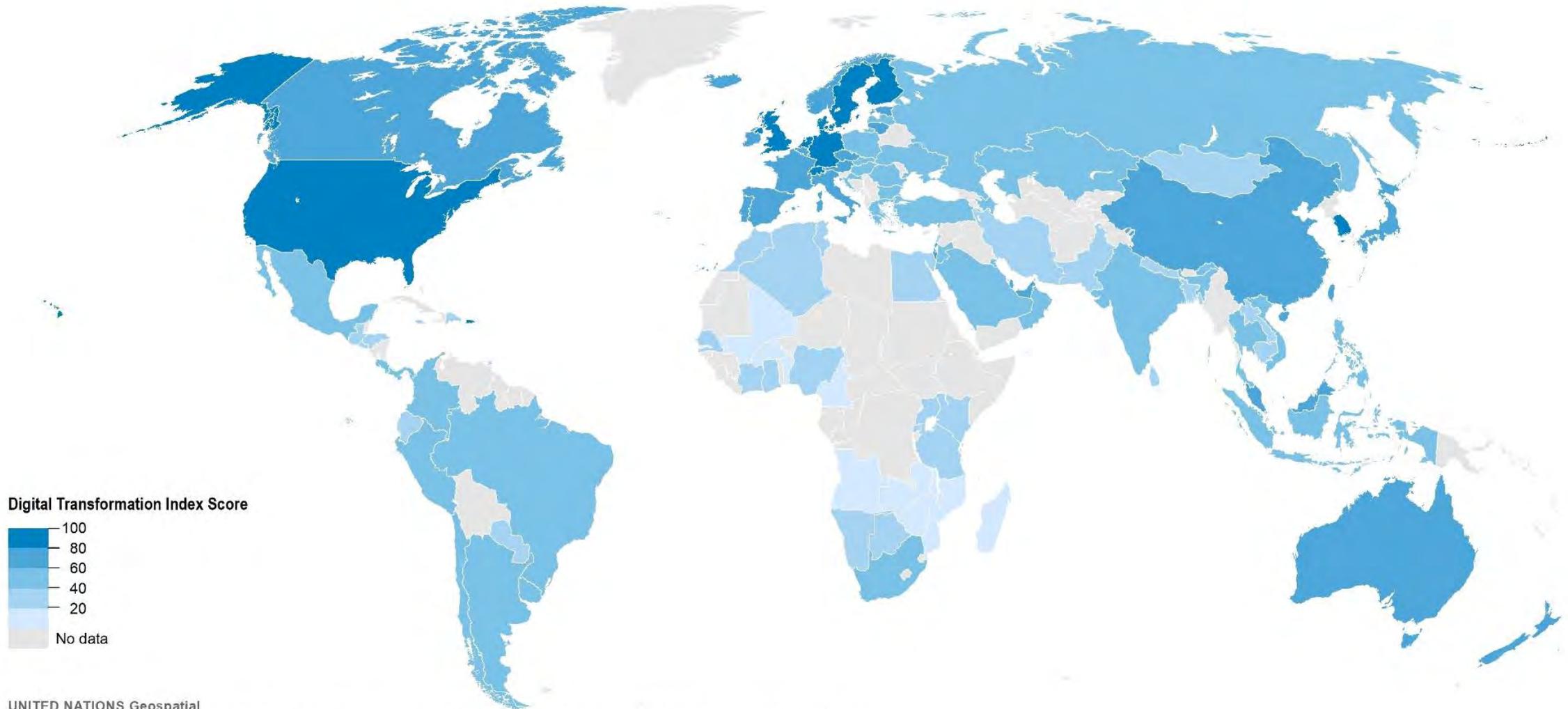


Asia Pacific, Widening Digital Divide vs DX



Source: Produced by ESCAP based on data from various sources from UN agencies and global/regional organizations sources.

Dynamics of Digital Transformation



UNITED NATIONS Geospatial

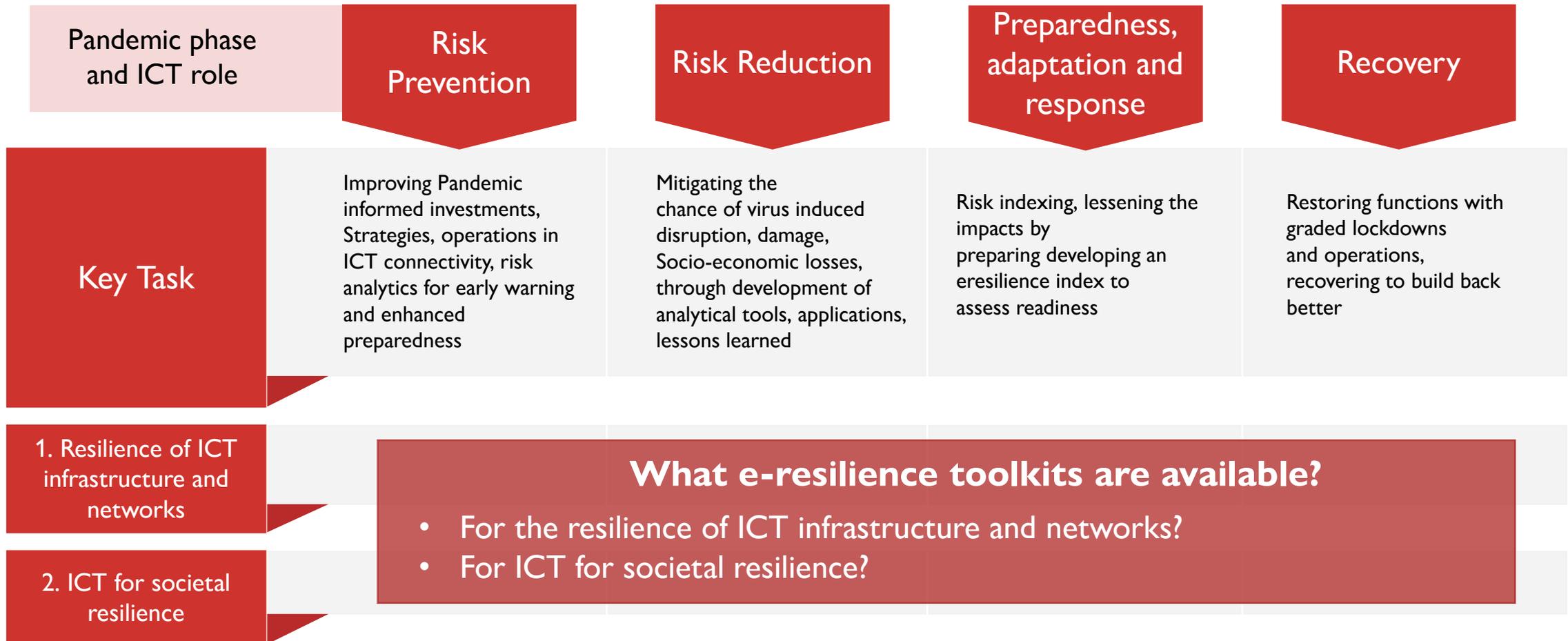
The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined.

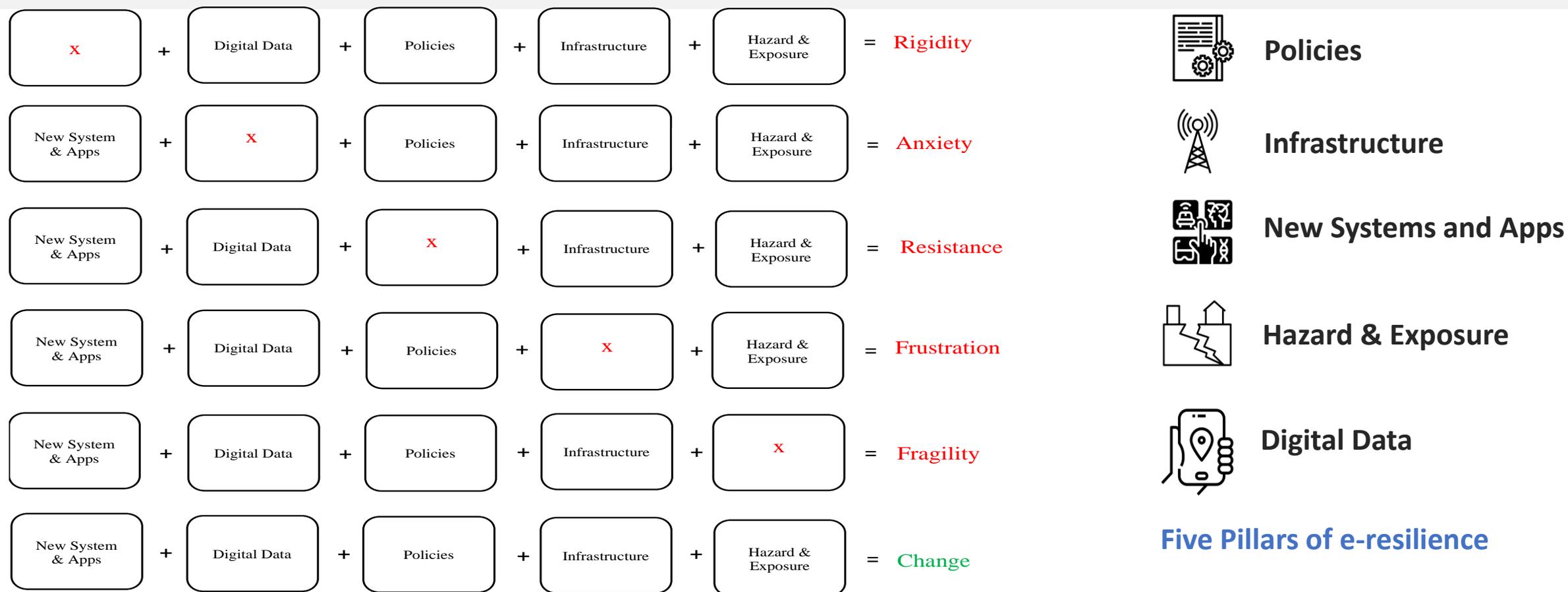
A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

E-resilience framework from a pandemic management perspective



<https://drrgateway.net/e-resilience/about>

Change framework reference model



E-resilience Monitoring Dashboard



E-Resilience Monitoring Dashboard

Country Group: Kazakhstan Kyrgyzstan Mongolia ▾
Country: All ▾
Pillar: All ▾
Indicator: All ▾
Year: 2020 ▾

Pillar
ICT infrastructure as a physical foundation

Name	Kazakhsta	Kyrgyzsta	Mongoli
4G mobile network coverage (0-100 % max)	75.30	70.00	45.00
Active mobile-broadband subscriptions per 100 inhabitants (0-100 % max)	77.57	94.03	83.72
Computer software spending (0-100 % max)	0.00	0.00	0.13
Fixed (wired) broadband subscriptions per 100 inhabitants	13.44	5.64	8.66
Fixed-broadband subscriptions, >10 Mbit/s, % of total fixed-broadband subscriptions, (0-100 % max)	51.83	64.27	0.58
Handset prices (%monthly GDP per capita) (0-100 max)	55.61	16.35	30.46
International Internet bandwidth per Internet user (kbit/s)	55,067.84	47,863.64	22,399.44
Internet access in schools (0-100 % max)		41.37	70.66
Mobile cellular subscriptions per 100 inhabitants (0-100 max)	120.00	120.00	120.00
Mobile tariffs (%monthly GDP per capita) (0-100 % max)	93.53	33.43	48.92
Percentage of Households with a computer (0-100 % max)	80.53	21.29	30.00
Percentage of households with Internet access at home (0-100 % max)	87.59	21.11	23.90
Percentage of Individuals using theInternet (0-100 % max)	78.90	38.00	47.16
Adult Literacy (0-100% max)	99.80	99.59	98.42
Cybersecurity (0-1max)	0.78	0.25	0.47
DRR Implementation 0 - 10 (max, the worst)	3.80	3.70	5.10
Ease of doing business (0-100 max)	79.56	67.82	67.77
E-commerce legislation (0 -4 max)	3.00	3.00	3.00
Government Effectiveness -2.5 - 2.5(max)	0.12	-0.03	-0.19
ICT Regulatory Environment (0-100 max)	54.00	74.50	69.67

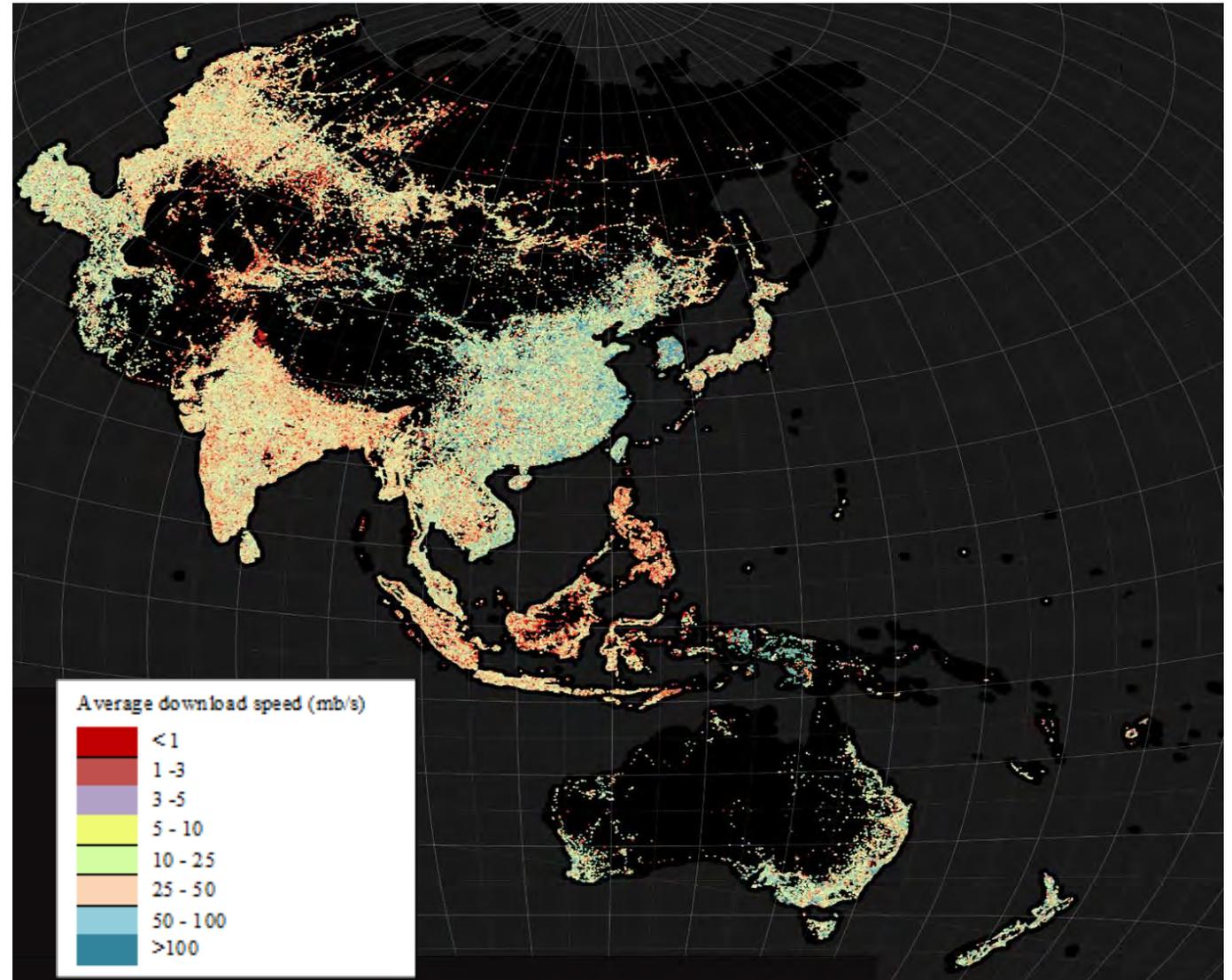
ICT policy in different sectors

Hazard & Exposure



Uneven Speed Of Connectivity: Rural/Urban Divide

- ❑ The adoption of digital technologies has been accelerated by the COVID-19 pandemic.
- ❑ But this 'big bang' has also left many people and countries behind
- ❑ The map shows the real speed of Internet among countries and between rural and urban areas



Note: Map prepared by Gispo Limited based on Speedtest by Ookla Global Fixed and Mobile Network Performance Map Tiles for ESCAP.
Disclaimer: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Issues and Challenges

Challenges of Digitalization vs Digital Transformation (DX)

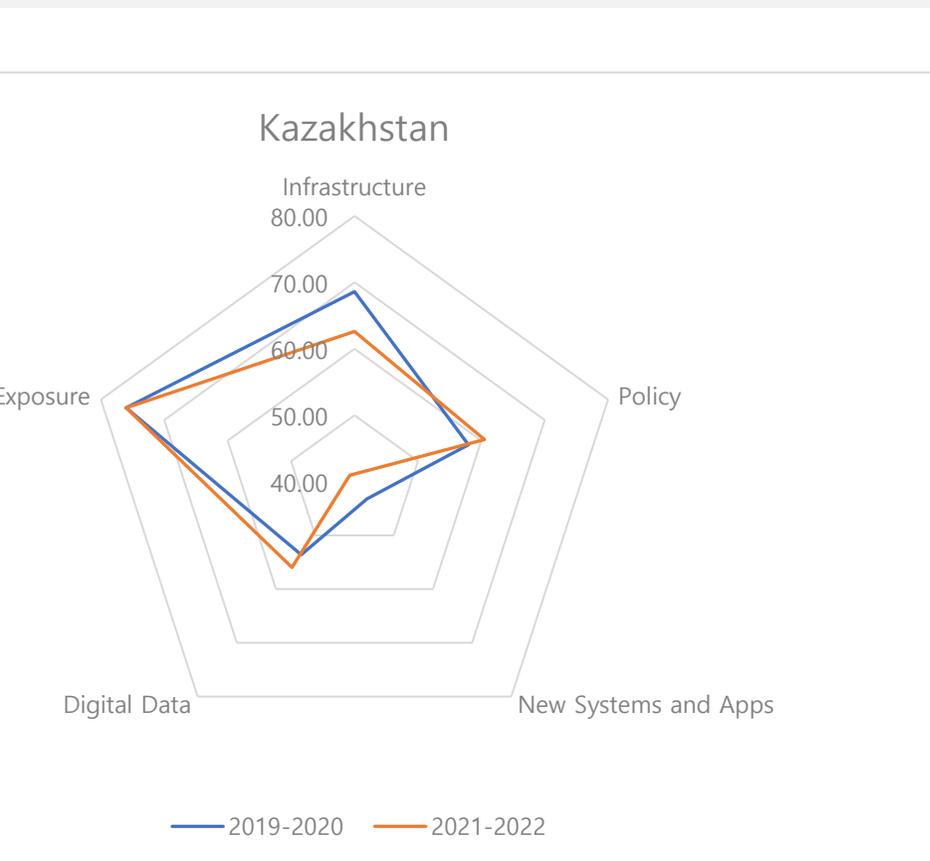
1. **Digitalization:** leverage digital technologies and data for productivity and cost saving
2. **Digital Transformation:** the new development paradigm change and its process of the whole social fabric of value creation, management, use and distribution by using disruptive technologies including AI, digital data, connectivity and network.
 - It is not a simple digital log
 - Even if we want, we cannot go back to past practices and models (bank branch).
 - The most successful ice cream vendors in the world are those that the Google algorithm ranks first, - not those that produce the tastiest ice cream.

Spheres of life impacted by DX



Source: GSMA, "Developing mobile digital skills in low- and middle-income countries", November 2021b. Available at <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2021/11/Developing-mobile-digital-skills-in-low-and-middle-income-countries.pdf>

Pillar highlights: Kazakhstan and Turkmenistan

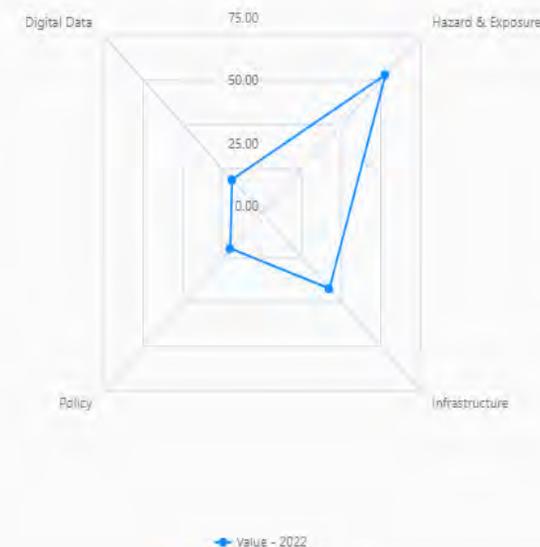


- Country
- New Zealand
 - Pakistan
 - Panama
 - Papua New Guinea
 - Philippines
 - Russian Federation
 - Samoa
 - Singapore
 - Solomon Islands
 - Sri Lanka
 - Suriname
 - Tajikistan
 - Thailand
 - Timor-Leste
 - Tonga
 - Turkmenistan
 - Tuvalu
 - Uzbekistan
 - Vanuatu

Pillars	2022
Policy	19.92
Infrastructure	42.57
Hazard & Exposure	78.00
Digital Data	18.95

E-Resilience Monitoring Dashboard

All Country Profile



E-resilience Monitoring Toolkit: Methodological Notes and Pilot Countries' E-resilience Profiles, Asia-Pacific Information Superhighway Working Paper Series, United Nations ESCAP, ICT and Disaster Risk Reduction Division, November 2021, Bangkok.

(updated on 25 August 2022)

Mobile broadband speed in North and Central Asia

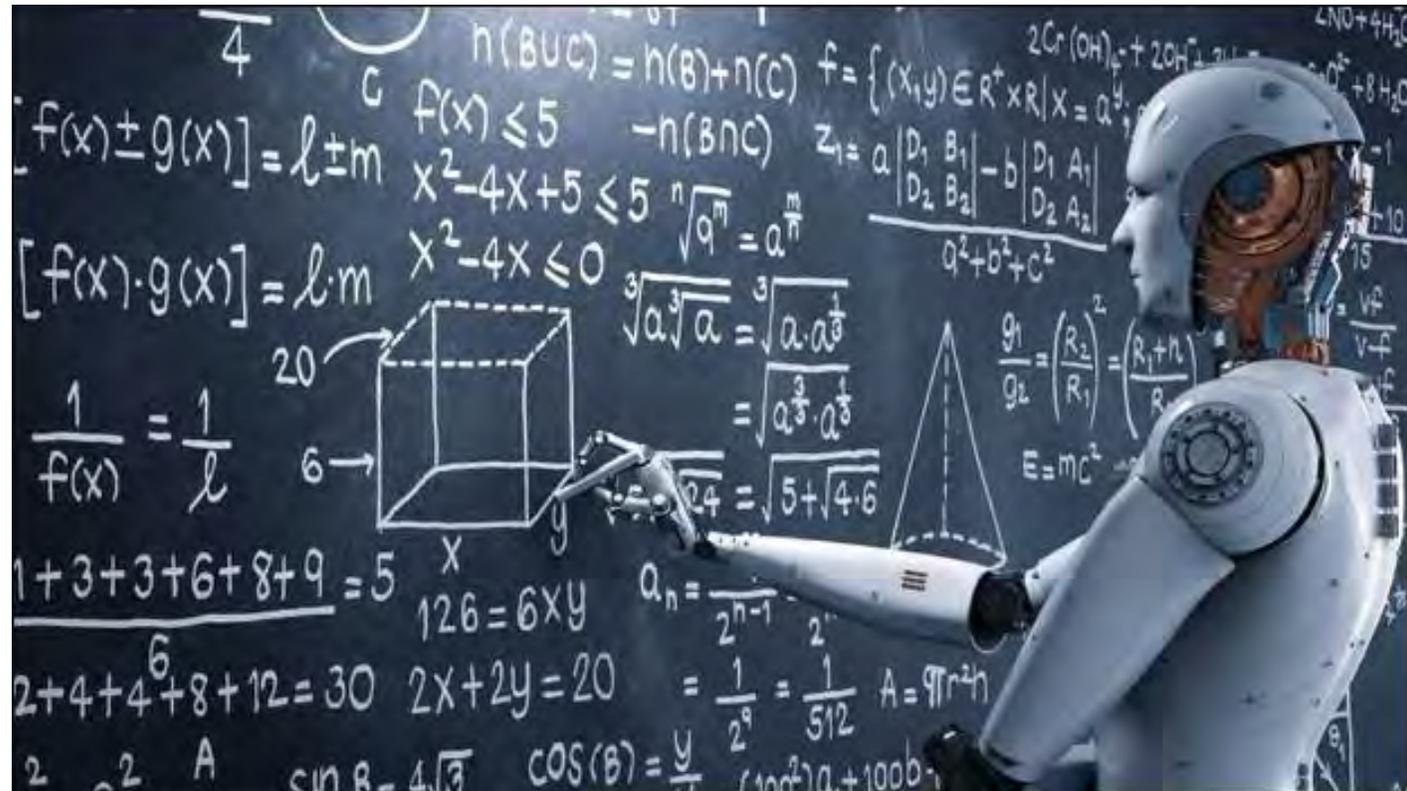
- Lower-middle download speed (18 Mb/s) in NCA subregion
- Top highest download speed economies: Azerbaijan (27 Mb/s) and Georgia (25 Mb/s).
- Azerbaijan, Georgia, Armenia and the areas west of the Russian Federation exhibited uniform mobile broadband download speeds between urban and rural areas.
- Uneven download speeds between urban and rural areas was evident in **Turkmenistan**.
- Azerbaijan recorded the highest mobile broadband download speeds, with an average of 27 Mb/s, followed by Georgia (25 Mb/s), Armenia (23 Mb/s), the Russian Federation (18 Mb/s), Kyrgyzstan (18 Mb/s), and Kazakhstan (16 Mb/s).
- Uzbekistan, Tajikistan and **Turkmenistan** exhibited mobile broadband download speeds of lower than 16 Mb/s

Fixed broadband speed in North and Central Asia

- Lower-middle download speed (32 Mb/s): subregional average speed
- The Russian Federation (36 Mb/s) and Kyrgyzstan (19 Mb/s) are the top 2 highest download speed
- Georgia and Armenia exhibited the least mobile broadband download speed differences between urban and rural areas.
- Urban and rural fixed broadband download speed differences exist for other economies in this subregion.
- There is evidence of lower fixed broadband download speed in **Turkmenistan**.
- The Russian Federation recorded the highest fixed broadband download speed, with an average of 36 Mb/s, followed by Kyrgyzstan (19 Mb/s), Georgia (16 Mb/s), Armenia (16 Mb/s), and Uzbekistan (15 Mb/s). Kazakhstan, Tajikistan, Azerbaijan and **Turkmenistan** had fixed broadband download speeds of lower than 15 Mb/s.

**Why do we need
the DX?**

New Development Thinking and Paradigm



Insight power: Different thinking from Humans

Two Contemporary Agendas

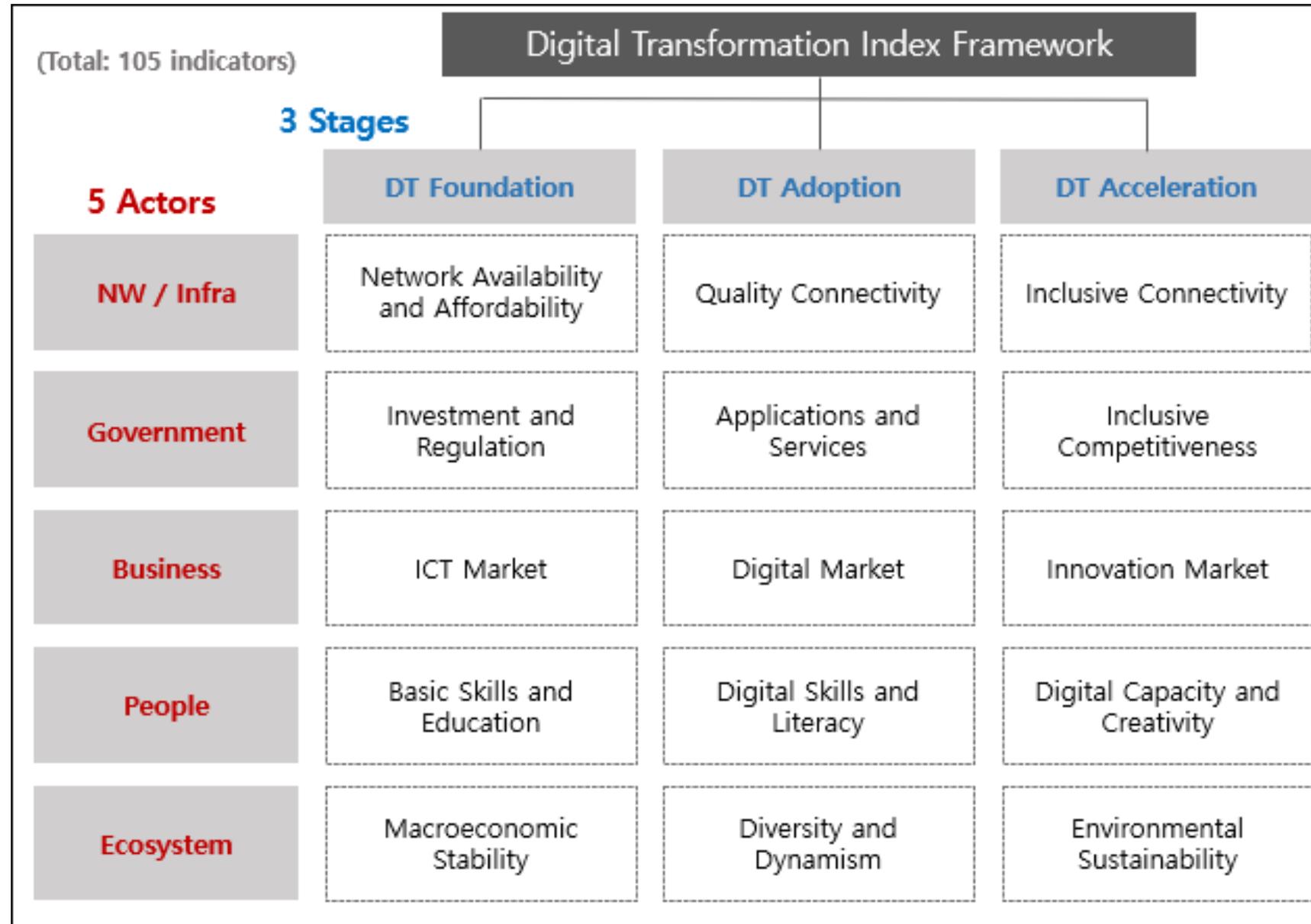


Framework of DT at National Level

Framework of Digital Transformation and Index 1.0

105 existing indicators

107 countries



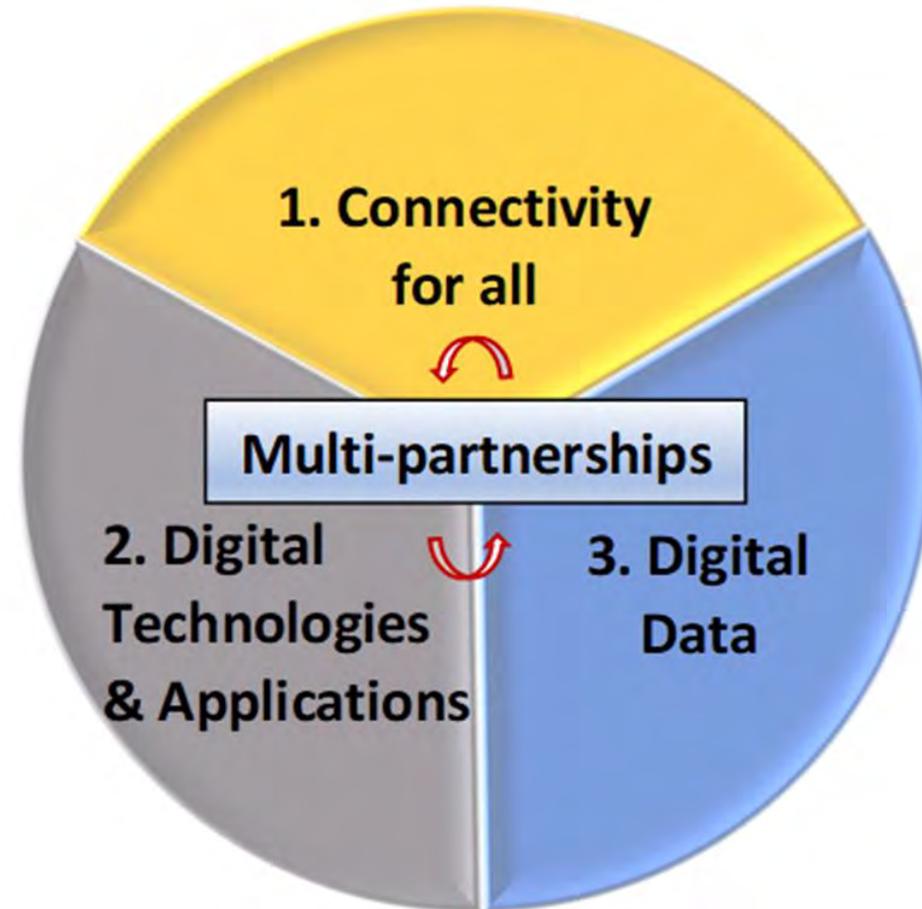
Ways Forward



Digital Connectivity: Development Pathway For Regional Cooperation And Integration

Framework of the Asia-Pacific Information Superhighway Action Plan

3 pillars and 25 actions



To address Connectivity for All: ESCAP tools for policymakers



E-resilience Monitoring Dashboard



Smart corridor* Simulator



Infrastructure Co-deployment Portal



Policies



Infrastructure



New Systems and Apps



Hazard & Exposure



Digital Data

Five Pillars of e-resilience



The Pathways Forward

- Pathway 1: Infrastructure Networks and Connectivity
 - Co-deployment and ICT infrastructure sharing, IXPs
 - Regulations, USFs, enhancing e-resilience readiness
- Pathway 2: Digital Technologies and Applications
 - Boosting digital demand through affordable devices and data services
 - Leveraging new emerging technologies for sustainable development
 - Digital government and digital economy
 - Skills of govt & people centric skills, gender equality, inclusive society
- Pathway 3: Data about Data
 - Principles of data sharing
 - Data privacy and protection
 - Digital IDs
 - Data gaps

Immediate Steps

The first step is to acknowledge that **the paradigm and models** we have used for the industrial era **are inadequate** for dealing with new challenges.

Shape future through scenarios

Develop common vision, invest in leadership, develop action plan

Continuous learning and adapting to change are instrumental

Invitation to Key Events 2022 in Seoul, RoK



Asia-Pacific Digital Transformation Forum and Asia-Pacific Digital Ministerial Conference

**09:00AM – 05:00PM (UTC +9)
09-10, November 2022**





Thank you



IDD / ESCAP





Thank you

Contact:

Aida Karazhanova (Ms, PhD)

Karazhanova@un.org