

The ADB logo consists of the letters 'ADB' in white, centered within a dark blue square.

Asian Development Bank
Digital Sector Office (DIG)

Digital Transformation for CAREC

CAREC National Focal Points (NFPs) Strategic Planning Meeting:
Towards a Green and Digital CAREC

5 March 2025

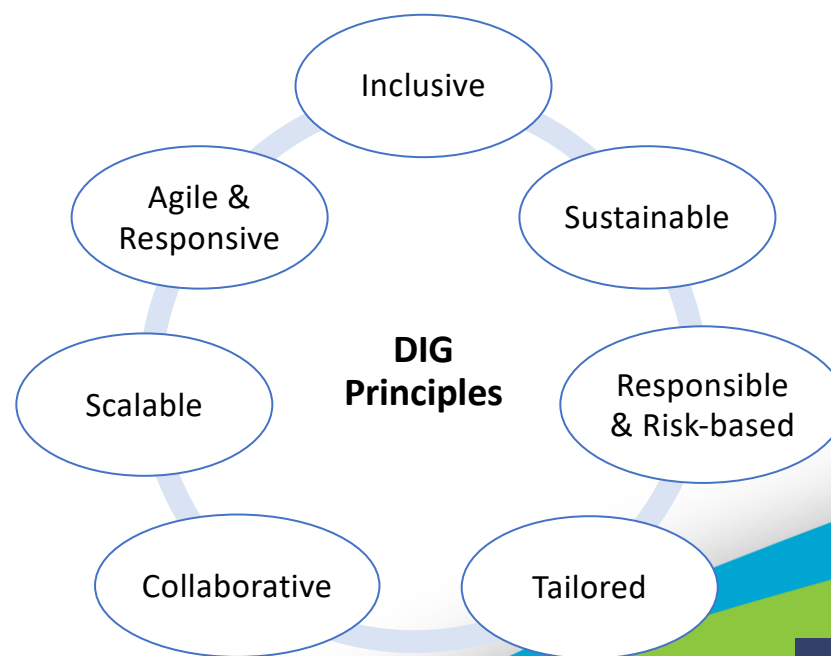


Digital Sector Office (DIG) vision

Lead digital transformation efforts in Asia and the Pacific, empowering DMCs to accelerate into a digitally Prosperous, Inclusive, Resilient, and Sustainable future

DIG efforts will be to:

- **Assist DMCs with digital transformation** to drive economic growth, enhance public services, and promote sustainable development
- **Support the development of digital and data infrastructures, platforms, and applications, promoting effective policy frameworks, building trust, and capacity development** to enable DMCs to leverage digital technologies effectively
- **Facilitate the integration of digital technologies into various sectors** such as government services, health, education, transport and the digital economy



DIG Theory of Change

VISION: ADB envisions a future where it will lead digital transformation efforts in Asia and the Pacific, empowering DMCs to accelerate into a digitally prosperous, inclusive, resilient, and sustainable future through competitiveness, productivity gains, and better service delivery.

DIGITAL FOUNDATIONS

Supporting the digital fundamentals will create a strong base for DMC digital transformation.

Policy and Regulations: best practice policy and regulations to enable digital transformation

Digital and Data Infrastructure: focus on deployment and implementation of affordable, accessible, & high-quality connectivity

Cybersecurity, Data Privacy and Protection: system design approach to data privacy, protection, cybersecurity, safeguards, data management, data computing, & data centers

DIGITAL ACCELERATORS

Leveraging digital foundations are accelerators that will amplify impact of digital technologies for DMCs.

Digital Public Infrastructure and Digital Government: digital identification, digital payments, data exchange

Innovation, Science and Emerging Technologies: frontier technologies, research and development, tech startup ecosystem

Digital Skills and Literacy: digital literacy and skills, capacity sharing and strengthening

INTERMEDIATE OUTCOMES

Digital foundations and accelerators lead to intermediate changes in policy, behavior, and project design for DMCs in 3-5 years.

Digital Society: digital technologies and the internet are deeply integrated into the daily lives and activities of individuals, businesses, & governments

Digital Infrastructure: robust foundational technology systems and services that support the digital economy

Digital Citizens: individuals utilizing digital technologies in a responsible, ethical, and informed manner.

Digital Economy: extensive economic activities enabled by digital technologies

Digital Industry: sectors driven by digital technologies, including businesses that create, distribute, and utilize digital products and services.

Data driven analytics: systematic, strategic collection, processing, and analysis of large sets of data to make informed decisions and drive business outcomes.

LONG TERM OUTCOMES

Final impact that we anticipate as a result of digital transformation for DMCs.



Sustainable digital infrastructure to enable services and applications for DMC citizens



Improved livelihoods and economic opportunities for DMC citizens



Improved enabling environment for digital transformation and acceleration



Innovative integration of digital technologies to increase access, relevance, and affordability



Improved data infrastructure for trusted and secure data environment

CROSS CUTTING: gender and inclusion | climate and sustainability | public-private partnerships

Digital Foundations – Key Priorities

Policy and Regulations

1. Develop **broadband indices and mapping tools** to define a baseline and to inform policy and investment decisions
2. Support the **modernization of telecom and digital regulatory and policy** frameworks in DMCs to contribute to the sustainability of the investments.
3. Promote **device and service affordability** (taxation, procurement, supply chain)
4. **Policy and regulation reforms** across other DIG foundation and accelerator workstreams (infrastructure, cybersecurity, data privacy and protection, DPI, digital government, emerging tech, and skills) and other Sector Office areas including transport, energy, agriculture, food, nature, rural, water, urban, finance, human and social development, and public sector management and governance

Digital and Data Infrastructure

1. Develop **digital infrastructure map** to identify investment gaps, and chart requirements to support digital transformation across sectors
2. Identify digital and data infrastructure projects that facilitate **regional digital integration** such as cross-border connectivity and digital hubs
3. Develop **technical skills capacity** building programs to facilitate the sustainability of the investment undertaken

Cybersecurity, Data Privacy and Protection

1. Promote integration of data privacy, security, and protection of information and digital infrastructure across sectors and countries to drive economic growth, promote **responsible data use and sharing**, and encourage **cross border data flow** across ADB operations
2. Strengthen **human resource and regulatory capacity** of DMCs in data privacy and cybersecurity, including the integration of international standards, norms, and guidance
3. In line with the Digital and Data Infra workstream, build a **strong data infrastructure foundation** primed for continued investment, upgrading, and enhancement for cyber resilience and safeguarding

Digital Accelerators – Key Priorities

Digital Public Infrastructure (DPI) and Digital Government

1. **Identify investment opportunities and priorities** in DPI and Digital Government
2. **Comprehensive Evidence Base:** Conduct DPI mapping to guide lending and policy engagements
3. **Dynamic DPI Index:** Track digital transformation and inform strategic resource allocation
4. **Holistic Ecosystem development:** Foster inclusive, climate-smart digital solutions and private sector innovation
5. **Capacity Building & Knowledge Transfer:** Equip DMCs with skills, tools, and governance frameworks for DPI and e-government
6. **Inclusive, Climate-Resilient Digital Transformation:** Embed equity, gender, and sustainability in all DPI/digital government interventions

Innovation and Emerging Technologies

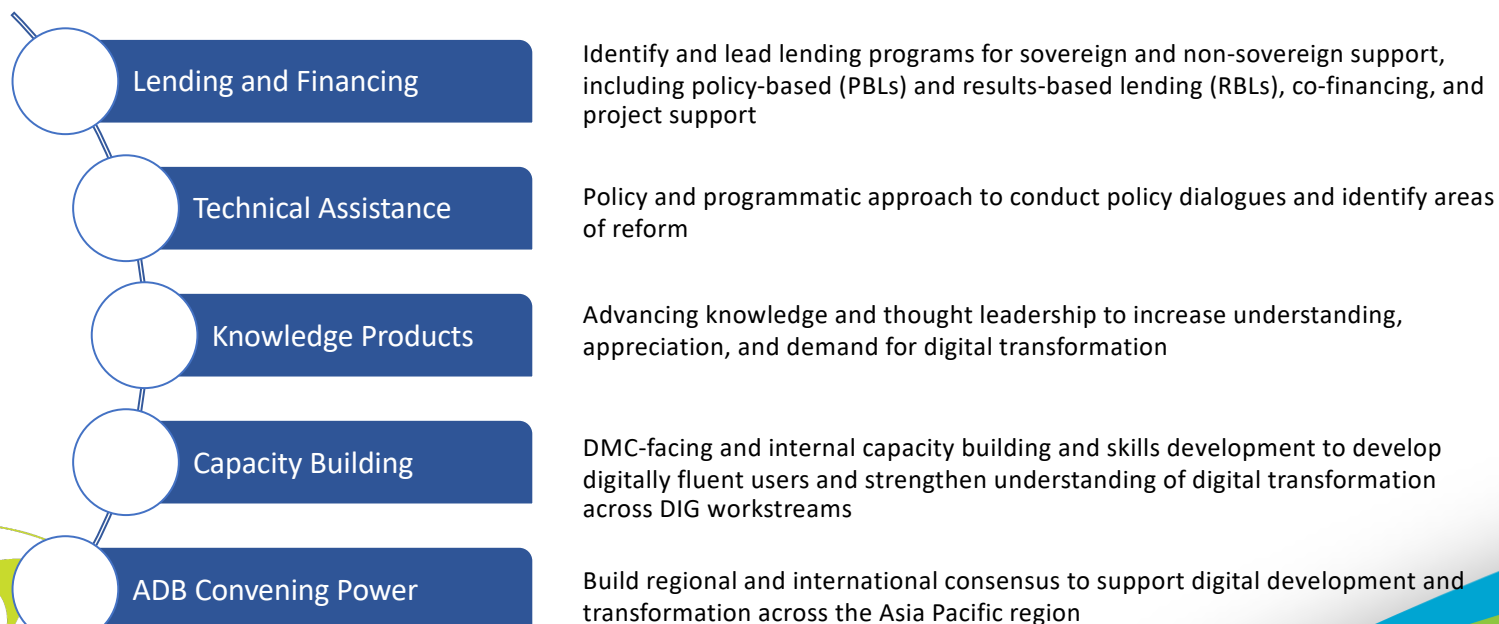
1. Advance **integration and deployment of emerging technologies** in key sectors across ADB operations, including artificial intelligence, remote sensing data/Earth Observation, Internet of Things and digital twins
2. Promote government **policies and regulations that foster innovation and entrepreneurship** in education and investment environments
3. Develop **tech startup ecosystem holistic approach** framework
4. Expand utilization of **remote sensing data** for digital twin urban planning, early warning systems, and cloud-based satellite processing

Digital Skills and Literacy

1. Adapt existing programs to integrate digital skills and literacy where possible, considering **quality of instructions, curriculum, and availability**
2. Conduct **baseline survey/study** for prioritized countries in Asia for **basic and intermediate digital skills**
3. Integrate digital skills and literacy **capacity building** into DIG workstreams (such as connectivity and data privacy and cybersecurity)
4. Identify training programs to advance digital skills **outside of the formal education system** and build partnerships where appropriate

DIG Key Activities

DIG will pursue activities in the following areas across the digital foundations and accelerators, in alignment with RDs and other SG priorities



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DIG Initiatives – cross-sectoral, country-specific and regional efforts

Digital and Data Infrastructure

- Investments
- Broadband infrastructure and services
- Market competition
- Regional development

- Tcell Mobile Network Expansion Project, Tajikistan
- Strengthening Governance and Institutional Capacity for Quality Infrastructure Investment in Ulaanbaatar, Mongolia
- Green data centers in Southeast Asia
- “Dig-once” policy reforms in Pakistan
- Reports: Low Earth Orbit Satellite Constellations; Last Mile Connectivity; Sharing of Digital Infrastructure

Cybersecurity, Data Privacy and Protection

- Digital risk management
- Digital security and privacy
- Consumer protection

- Cybersecurity toolkit for education information systems
- Digitalization of Azerbaijan Railways
- Report: ADB-Amazon Web Services study on Data Management in Government

Digital Public Infrastructure (DPI) and Digital Government

- Digital government
- Social protection
- Taxation and benefits
- Social policies
- Skills
- Environment
- Healthcare
- Climate resilience
- Digital government

- National digital public infrastructure (DPI) establishment, Tajikistan
- Modernizing Social Insurance System Project (MSIP), Tajikistan
- Digital Transformation Strategy Development, Tajikistan
- E-government and Digital Transformation, Mongolia
- Support for Innovation in Education and Training, Mongolia
- Digital payment, Sri Lanka and Tajikistan
- Climate-Resilient Water and Sanitation Services Project, Uzbekistan
- Cloud adoption of core banking systems, Philippines
- Social protection reform, Philippines
- Advisory support on digital social protection, Nauru, Bangladesh and Mongolia
- Emergency assistance for rehabilitation and reconstruction, India
- Digital health transformation and support



DIG Activities – cross-sectoral, country-specific and regional efforts

Innovation and Emerging Technologies

- MSME and Startup development
- Science and technology
- Artificial Intelligence
- Satellite Applications and National Spatial Data Infrastructure (NSDI)

- NSDI support in Armenia
- Local tech startup ecosystem development, Azerbaijan and CAREC
- Supporting Startup Ecosystem in the CAREC Region to Mitigate Impact of COVID-19 and Support Economic Revival, CWRD
- Advisory support on National Digital Strategy, Legal and Policy Frameworks for the Promotion of the Digital Economy, Vietnam

Digital Skills and Literacy

- Skills
- Labor markets

- Regional workshop for policymakers on NSDI
- National Spatial Data Infrastructure (NSDI) development, Tajikistan
- Report: ADB-Netflix Creative Economy and Digital Skills Study



CAREC Regional Fund of Funds

Holistic approach to launching a CAREC Regional Fund of Funds, beginning with fund manager training, leveraging existing ecosystem actors, building local capacity, and increasing access to catalytic financing in the region.

Challenges

- **Lack of professionalization of early stage fund managers** that are critical to building an investment ecosystem
- **Non-existing or lacking ecosystem support** e.g., funding, facilities, advice, mentorship, etc. fragmented ecosystems, high fund administration support
- **Small markets, remoteness, regulatory barriers** e.g., Innovators & startups struggle to find a product-market fit, customers or financing to scale domestically, sectoral imbalance (Fintech dominated)
- **Scaling up startups and long-term sustainability** due to dominance of Early-Stage investment (pre-seed and seed stages)
- **Limited industry expertise** (experienced fund managers) to mobilize capital and attract global investors

Proposed Approach

Fund Manager Professionalization (short to medium term)

- First step to build the capacity of fund managers with a focus on management, governance, fund growth, mentorship
- Support existing local fund managers
- Output: 2-3 professional managers per CAREC country

Develop regional fund of funds (medium to longer term)

- Consultations on engaging with LPs and international investors for capital commitments, FoF structure, governance, ADB role
- Develop culture of excellence for startups, founders, and investors
- Provide additional support through knowledge sharing, events with public and private sectors and industry counterparts



Regional Policy Dialogue

CAREC digital transformation policy dialogue to advance portfolio of investments and knowledge products for advancing digital integration in the region.

Highlight specific areas of focus

- Create **Working Group(s)** on specific topics related to digital transformation in CAREC, including:
 - Digital and data infrastructure
 - Policy and regulation
 - Fund of Funds and Tech Startup Ecosystem Support
- Leverage CAREC Digital Strategy 2030

In person engagement

- Digital Sector Office and BIOC will co-host flagship digital technology forum in June 2025 (specific dates TBD)
- Engagement with CAREC for areas of interest and attendance



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Thank you!



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