



CAREC Digital Corridor – Corridor Readiness and Technical Baseline

July, 2026



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- 2 Project Context and Objectives
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- 4 Country-Level Assessments and Key Findings
- 5 International Best Practices
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- 7 Preliminary Infrastructure and Regulatory Initiatives



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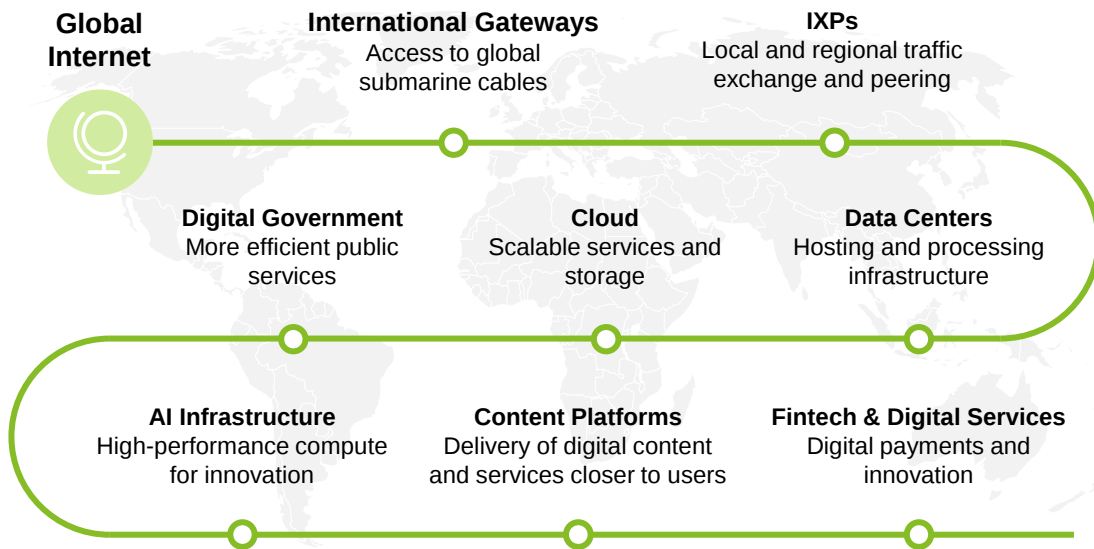
Introduction to Digital Corridors

Strategic Importance of Digital Corridors

A digital corridor is an integrated cross-border digital ecosystem that combines resilient international connectivity with digital infrastructure to enable the secure, efficient and scalable flow of data. Beyond connectivity, it provides the foundation for digital transformation, regional integration and economic growth.

Digital Corridor

By connecting national digital ecosystems through **shared infrastructure, regulatory harmonization and interoperable networks**, it facilitates seamless regional and global data exchange while supporting innovation, digital transformation, and economic growth.



Digital Corridor Blueprint

Strategic Importance of Digital Corridors

-  **Enables Digital Transformation**
Supports cloud, AI, data centres and digital services
-  **Strengthens Regional Integration and Regulation**
Interconnects national digital ecosystems and harmonize regulation
-  **Improves Competitiveness**
Lower latency, greater competition and reduced connectivity costs
-  **Enhances Resilience**
Geographically diversified international routes

Digital corridors are not simply connectivity infrastructure, they are **strategic enablers of regional competitiveness and the digital economy**

Introduction to Digital Corridors

Strategic Importance of Digital Corridors

Global data traffic is growing at an unprecedented pace, driven by the digitalization of the economy, the massive adoption of new technologies, and the expansion of high-bandwidth consumption services.



Exponential Growth of Global Traffic

Global data traffic is expected to grow by over 25% annually due to the rise of digital content, AI, cloud computing, and streaming gaming.

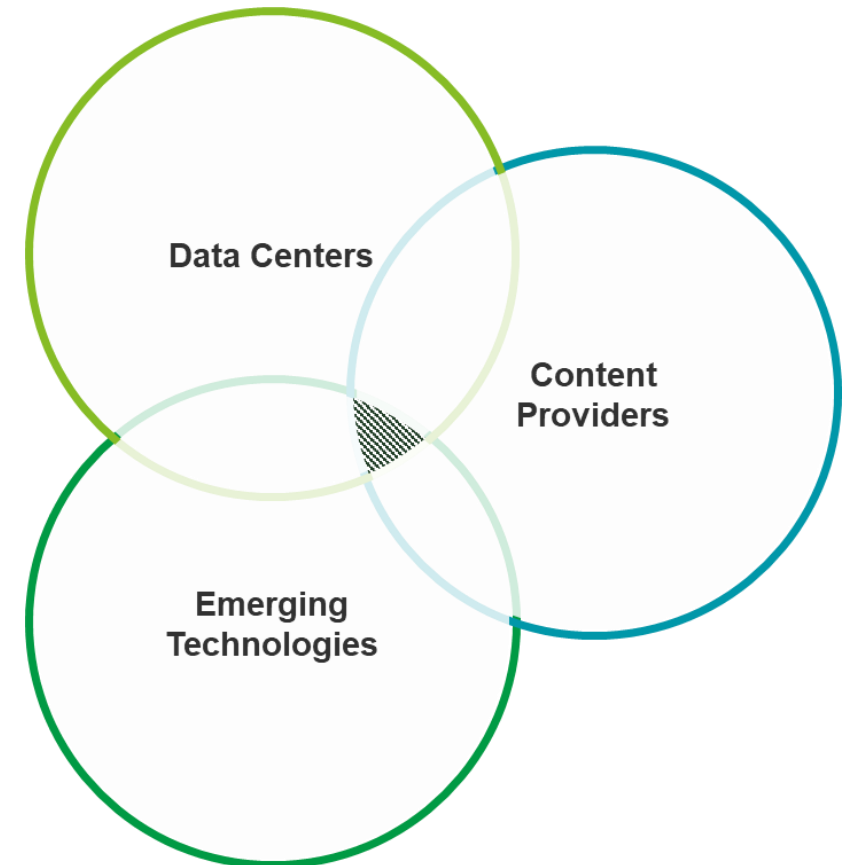
This increases **bandwidth demand** and the **need for low-latency interconnection infrastructure** to support emerging technologies such as virtual reality, quantum computing, and semiconductors.



Key Growth Drivers in Asia

- **Investments in fiber-optic networks and submarine cables** are strengthening international connectivity.
- **The rise of content and cloud providers** like Netflix, YouTube, Tencent, and AWS is expanding their infrastructure, increasing demand for international capacity.
- The rapid **deployment of 5G** is further driving bandwidth needs, requiring faster and lower-latency connections.
- Additionally, the **digitalization** of commerce, financial services, and industrial automation is fostering a dynamic cross-border data ecosystem.

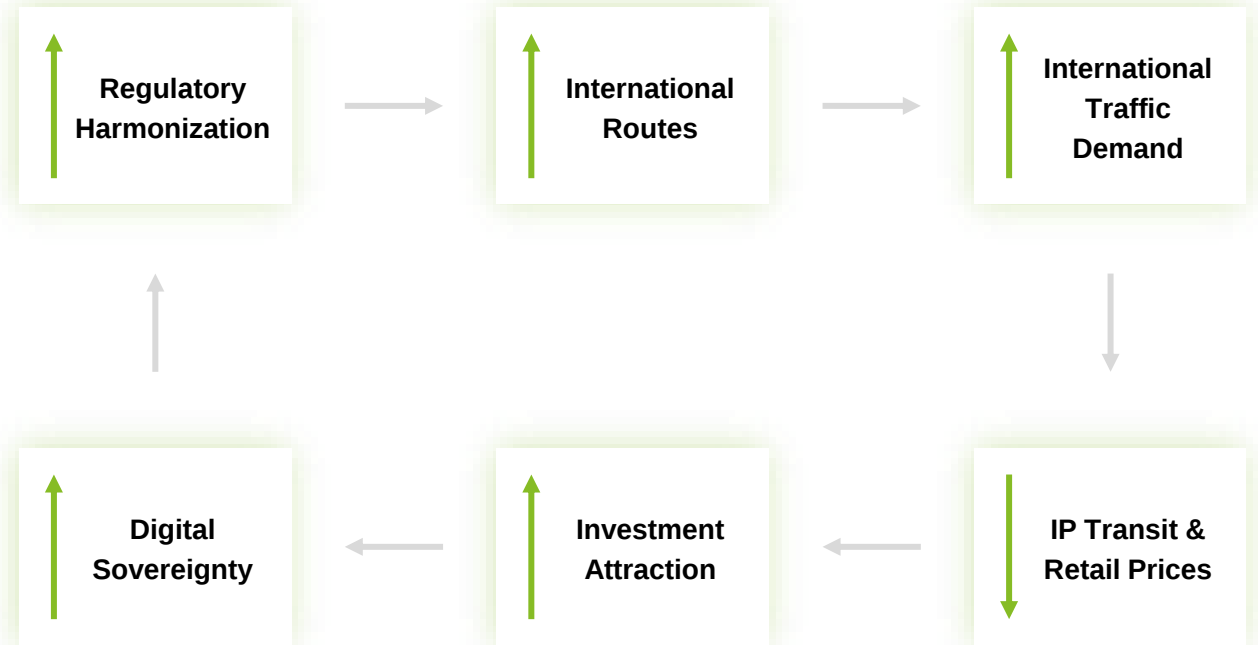
Pillars of international traffic



Introduction to Digital Corridors

Economic, Connectivity and Regional Integration Benefits

Beyond improving international connectivity, Digital Corridors provide the digital foundation required to attract new infrastructure investment and accelerate regional digital transformation. By creating a more resilient and competitive connectivity environment, it enables the deployment of higher-value digital infrastructure and services across the region.

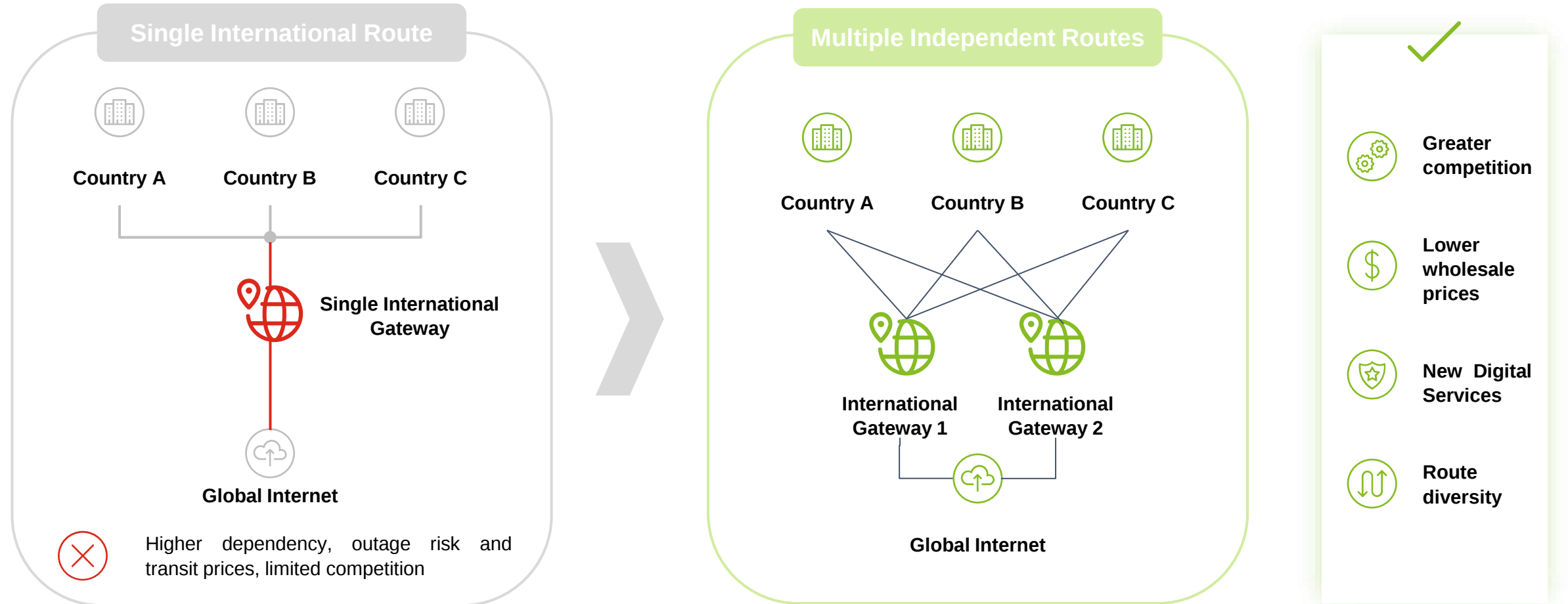


Without resilient international connectivity, countries **risk falling behind in the adoption of cloud computing, AI, hyperscale data centres** and other digital economy services.

Introduction to Digital Corridors

Economic, Connectivity and Regional Integration Benefits

A diversified international connectivity architecture reduces structural dependence on a single international route, increasing operators' negotiating leverage, fostering competition among transit providers, lowering wholesale connectivity costs, and creating a more resilient, flexible, and high-performing digital ecosystem.

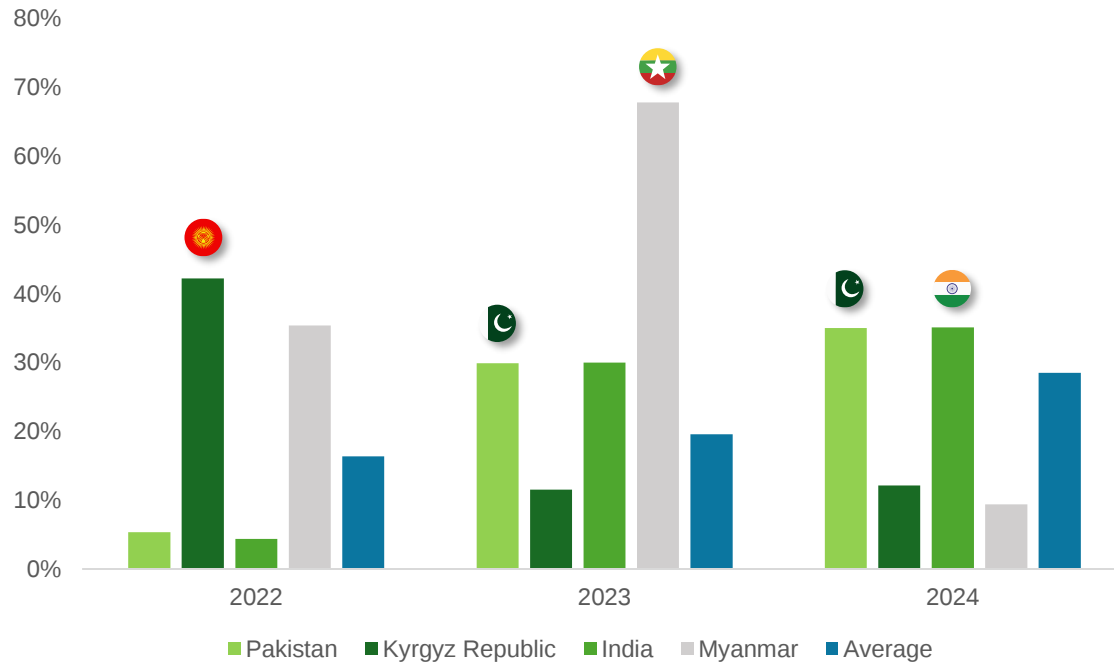


Introduction to Digital Corridors

Economic, Connectivity and Regional Integration Benefits

The development of a digital corridor increases international route diversity, creating a more competitive connectivity ecosystem. By introducing additional cross-border paths, it strengthens competition among transit providers, accelerates the decline in wholesale IP transit prices, improves network resilience, and reduces connectivity costs across the region.

IP Transit Price Reduction



In **Kyrgyz Republic**, a new international terrestrial route (2021) to Kazakhstan increased route diversity, strengthened competition and reduced IP transit prices.



In **Pakistan**, new submarine cables **PEACE (2022)** and **2Africa (2024)** introduced new international routes, increasing competition and accelerating IP transit price reductions.



In **Myanmar**, the **UMO (2023)** submarine cable introduced a new international route, resulting in the largest IP transit price reduction among the analysed countries.



In **India**, the **2Africa (2024)** submarine cable increased route diversity, strengthening competition and reducing IP transit prices faster than the Asian average.

Introduction to Digital Corridors

Example of success – EU 5G Cross-Border Corridors

The European Union has demonstrated how coordinated regulation, joint investment and cross-border governance can accelerate the deployment of digital infrastructure while improving regional connectivity, market integration and investment attractiveness.

+ 25

cross-border digital corridor projects connecting multiple European countries through coordinated deployment of 5G infrastructure, common regulatory frameworks and joint public–private investments

What they did

- Joint infrastructure deployment
- Cross-border fibre & 5G
- Common program for cross border deployment
- Seamless cross-border roaming solutions
- Public-Private financing

Key enablers

- Common strategic deployment agendas
- Cross-border cooperation between states
- Multi-stakeholder governance
- Coordinated planning and implementation

Main outcomes

- Faster infrastructure deployment
- Emergence of new public–private cooperation
- Improved cross-border connectivity
- Reduced connectivity interruptions

- ✓ Regional coordination accelerates implementation
- ✓ Public-private collaboration improves project bankability

- ✓ Harmonised regulation reduces investment barriers
- ✓ Cross-border governance strengthens long-term sustainability



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Project Context and Objectives

Context of the Project

Over the past two decades, the CAREC Program has significantly strengthened regional integration through investments in transport, energy and trade. As the region's economy becomes increasingly digital, international connectivity has emerged as the next critical enabler of regional integration and long-term competitiveness.

CAREC Participating Countries



Predominantly Landlocked Region: Most CAREC countries are landlocked and rely exclusively on terrestrial fibre networks to access the global Internet.



International Connectivity Gap: Limited route diversity remains a major constraint for regional digital integration.



Growing Digital Demand: Cloud, AI and digital services require resilient, high-capacity international connectivity.



International connectivity has become the next strategic pillar of regional integration

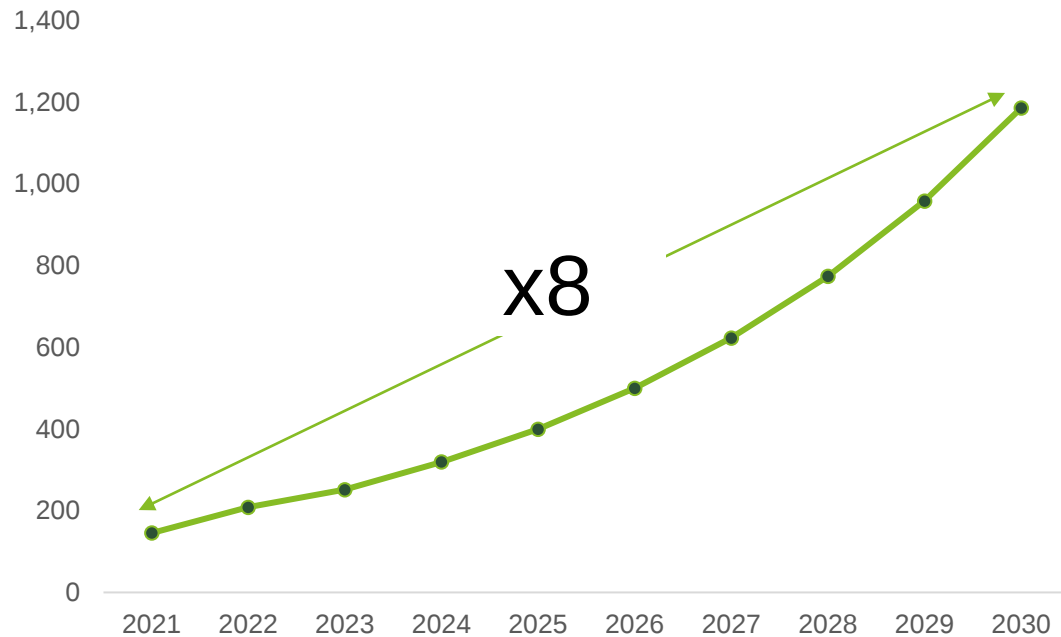
Project Context and Objectives

Context of the Project

Some countries in Asia are a key hub for international interconnectivity, leveraging its strategic location and advanced infrastructure to support global data traffic. This role as a hub is fueled by regional development and increasing investments from global tech companies.

Key countries are attracting **tech companies and content providers** to invest in their own infrastructure.

Evolution of International IP Transit use in Asia, Tbps



Source: Telegeography 2025

Central Asia has the potential to take advantage of this situation and position more countries as **key hubs for international data traffic**. To achieve it:



Attract investment in infrastructure



Development of DCs and IXPs to route traffic (Hubs & corridors)



Connectivity agreements with content providers

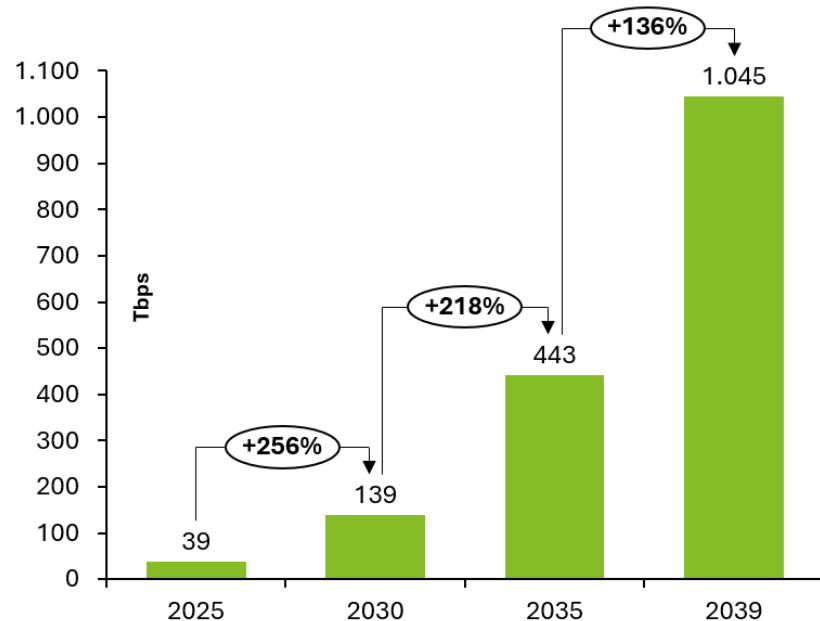
Impacts range from **schools and hospital connected to job creation, reduction of cost and productivity gains** in other sectors.

Project Context and Objectives

International Connectivity Landscape in Central Asia

International bandwidth demand across the CAREC region is expected to grow exponentially over the next 15 years, driven by cloud computing, artificial intelligence, digital services and increasing cross-border data traffic. Accommodating this sustained growth will require continuous expansion of international transmission capacity, terrestrial fibre infrastructure, submarine cable systems and regional interconnection facilities.

**Forecast International Bandwidth Demand across the CAREC Region
(Tbps) (2025–2039)***



* Projected aggregate international bandwidth demand across Kazakhstan, Kyrgyz Republic, Mongolia, Pakistan, Tajikistan, Turkmenistan, Uzbekistan and Afghanistan

Explosive demand growth

International bandwidth demand is projected to increase from 39 Tbps in 2025 to over 1 Pbps by 2039 (**27× growth**)

Sustained long-term expansion

Demand more than **triples** by 2030 and continues to accelerate throughout the forecast period

Infrastructure challenge

Existing international corridors will require substantial **capacity expansion** to accommodate **future traffic**

Strategic enabler

Expanding international connectivity is essential to support cloud services, AI, hyperscale data centres and the **region's digital transformation**.

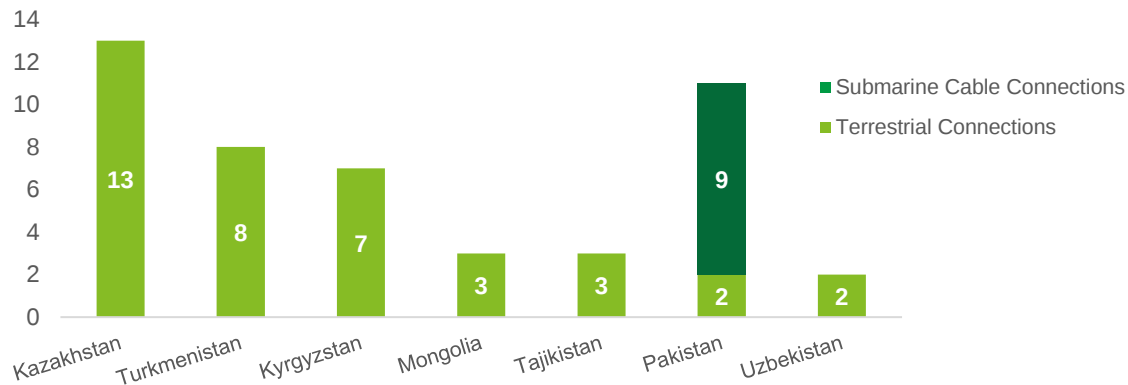
Without **timely planning and investment**, existing **international corridors** will be **unable to accommodate** the region's rapidly growing **digital demand**.

Project Context and Objectives

International Connectivity Landscape in Central Asia

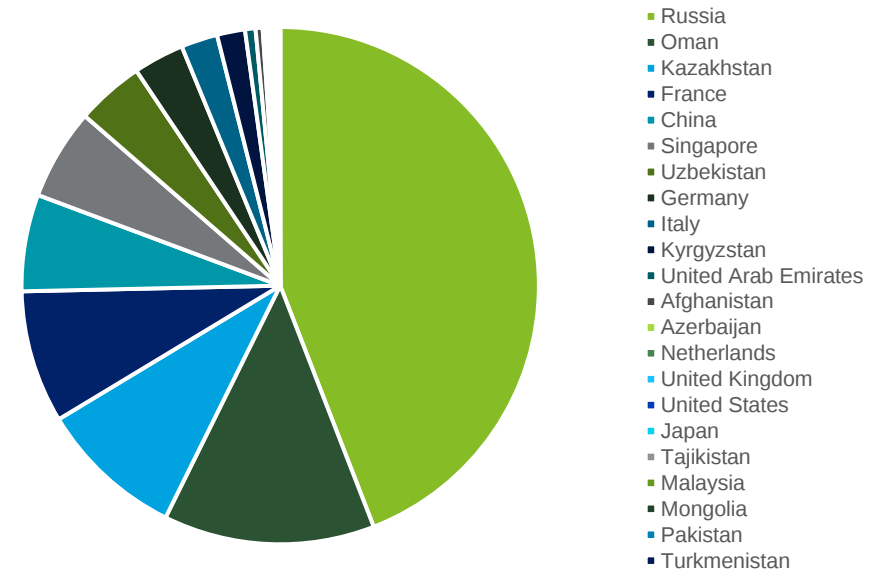
Central Asia appears to have an extensive network of cross-border terrestrial fibre links. However, physical connectivity does not necessarily translate into independent international routes, as much of the region's international traffic ultimately converges onto the same northern transit corridor, creating a highly concentrated connectivity ecosystem in which a significant proportion of traffic depends on a single underlying transit infrastructure.

Terrestrial and Submarine International Connections by Country



1. **Limited route diversity** despite multiple cross-border links
2. **44% of international traffic** is concentrated through Russia
3. **Single-corridor dependence** increases regional vulnerability.

Aggregated International Bandwidth Exchange (2025)



The **main challenge** is not the number of international connections, but the **lack of geographically diverse routes**, with 57% of regional traffic concentrated through two countries and **Russia** accounting for 44%.

Project Context and Objectives

IP Transit Prices Analysis

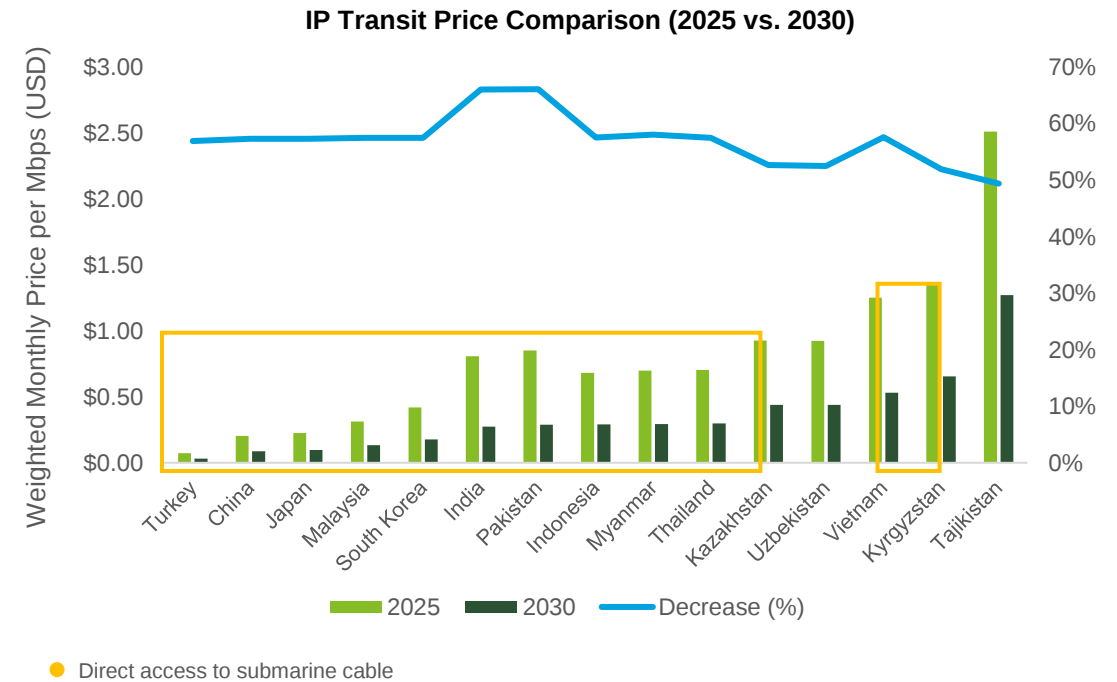
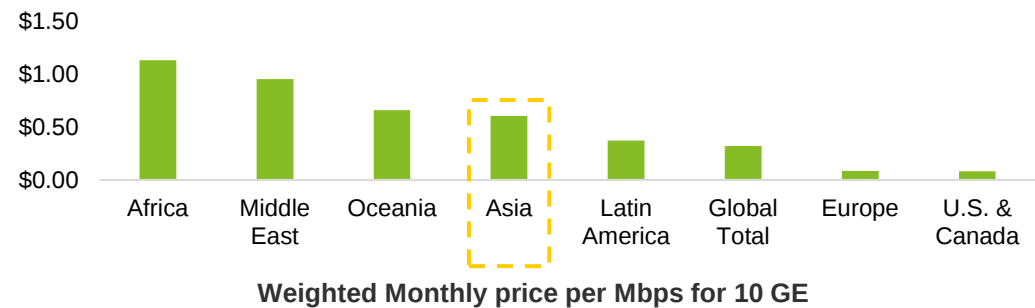
The cost of IP transit services plays a key role in determining the affordability and accessibility of internet connectivity across regions, directly impacting a country's capacity to support digital economy growth, drive innovation, and attract investment in digital infrastructure.

The IP transit price is the cost that an ISP pays to connect its network to the global Internet through an upstream provider..

- 

Europe and North America show the lowest prices (\$0.08), driven by mature networks and strong market competitiveness.
- 

Asia and Latin America fall in the middle range, indicating improving connectivity but still trailing advanced global hubs.



● Direct access to submarine cable

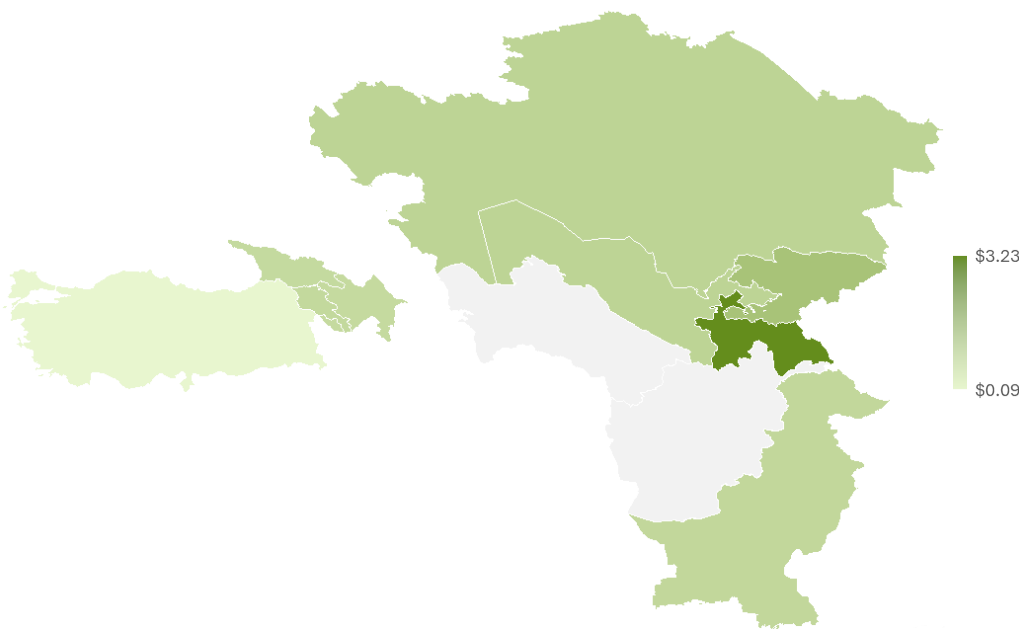
Central Asia records Asia's highest IP transit prices due to limited route diversity, while Pakistan benefits from the lowest prices through direct submarine cable access.

Project Context and Objectives

IP Transit Prices Analysis

Central and West Asia occupies an intermediate position within Asia, combining one of the region’s most competitive markets with several high-cost economies. While IP transit prices have declined steadily across most countries, significant internal disparities persist, reflecting uneven infrastructure development and interconnection maturity.

Central and West Asia



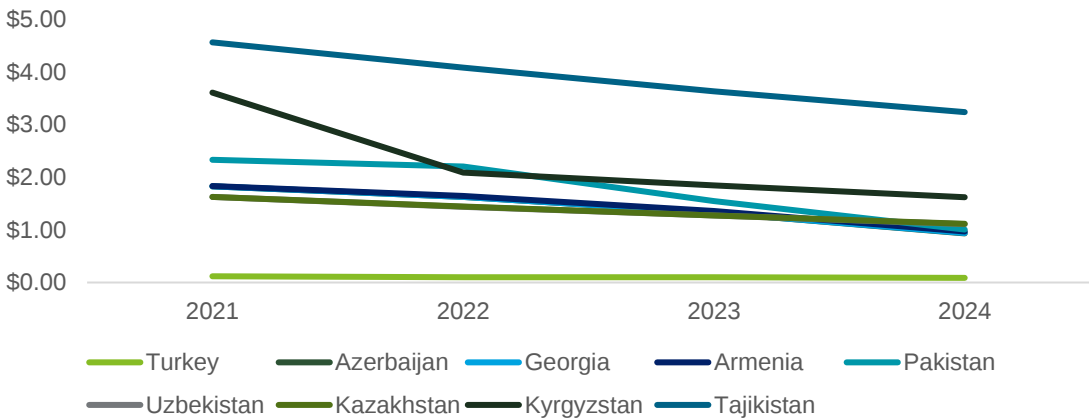
Turkey stands out as the most competitive country in the region, followed by **Azerbaijan, Georgia, and Armenia**, supported by more robust international routes, greater traffic aggregation, and stronger operator competition.



Tajikistan and **Kyrgyzstan** continue to exhibit the highest prices due to structural constraints and limited interconnectivity.



Overall, the region shows a clear downward trend in pricing, however, substantial internal disparities remain, reflecting different stages of infrastructure development.



Project Context and Objectives

CAREC Digital Corridor – Objectives

The CAREC Digital Corridor is proposed as a comprehensive regional programme that integrates connectivity infrastructure, digital infrastructure, regulatory reform and financing mechanisms. By addressing both physical and institutional barriers simultaneously, the initiative seeks to create the conditions necessary to support long-term digital transformation, regional integration and sustainable private sector investment.

Connectivity Infrastructure

- High-capacity cross-border fibre backbone
- New international connectivity routes
- Greater route diversity and resilience
- Enhanced international gateway connectivity



Digital Compute

- Carrier-neutral data centres
- Cloud and edge infrastructure
- AI-ready computing capacity
- Regional data storage capabilities



Exchange Ecosystem

- Regional IXPs
- Local traffic localization
- Lower latency and transit costs
- Improved regional interconnection



Regulatory Environment

- Regional regulatory coordination
- Cross-border infrastructure harmonization
- Open-access connectivity frameworks
- Trusted data governance and cybersecurity



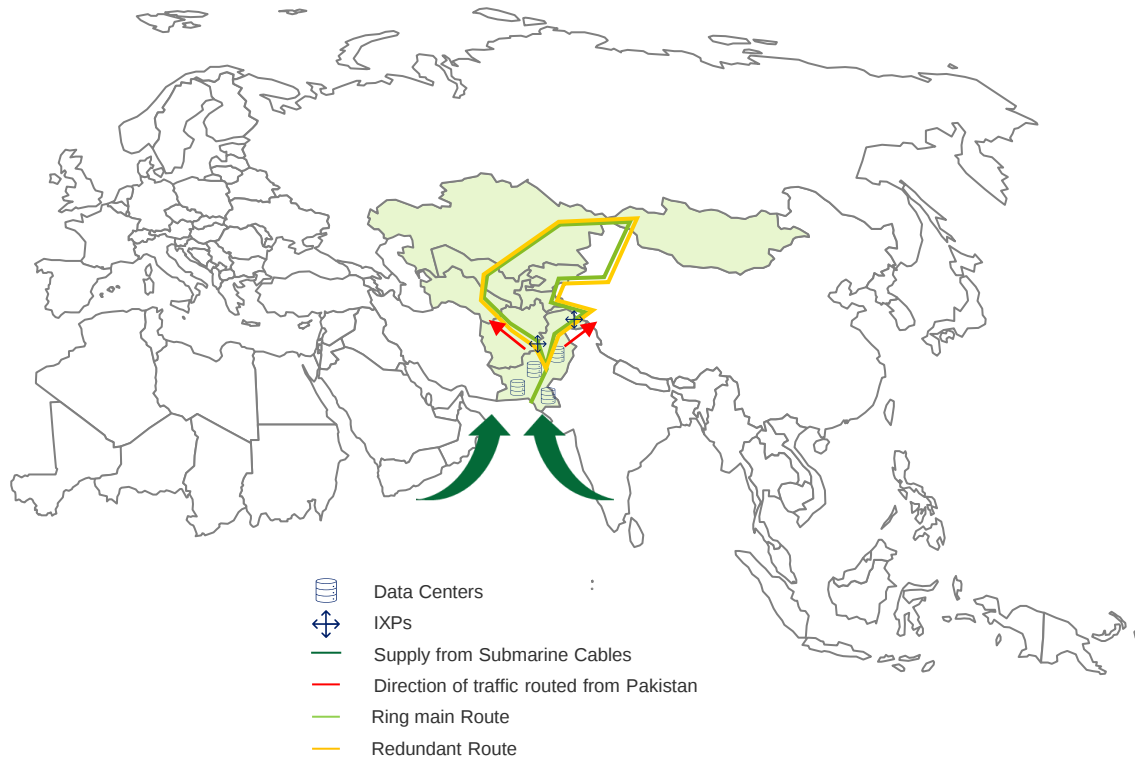
Together, these **strategic initiatives** combine connectivity infrastructure, digital infrastructure, regional traffic exchange and regulatory reform to **establish the foundations** of a **resilient, competitive** and **regionally integrated Digital Corridor**.

Project Context and Objectives

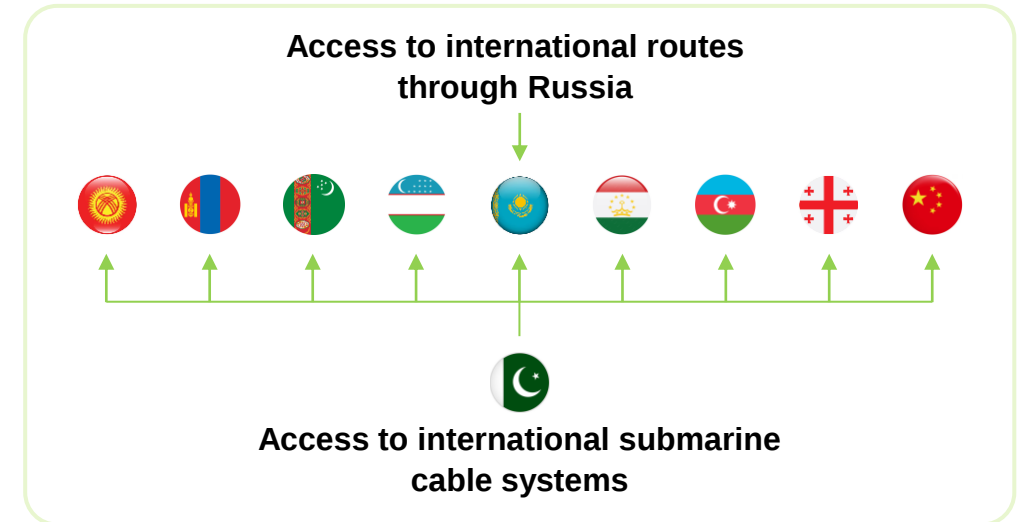
CAREC Digital Corridor

The CAREC Digital Corridor establishes a new regional connectivity architecture that interconnects participating CAREC countries through a common digital backbone while providing a new southern gateway to global submarine cable systems through Pakistan.

Overview of the CAREC Digital Corridor



Pakistan provides the only direct submarine gateway within the proposed corridor, connecting Central Asia to multiple international cable systems serving Europe, Africa and Southeast Asia



The corridor **transforms individual national networks** into a **single interconnected regional digital ecosystem**, connecting Central Asia with global submarine cable systems

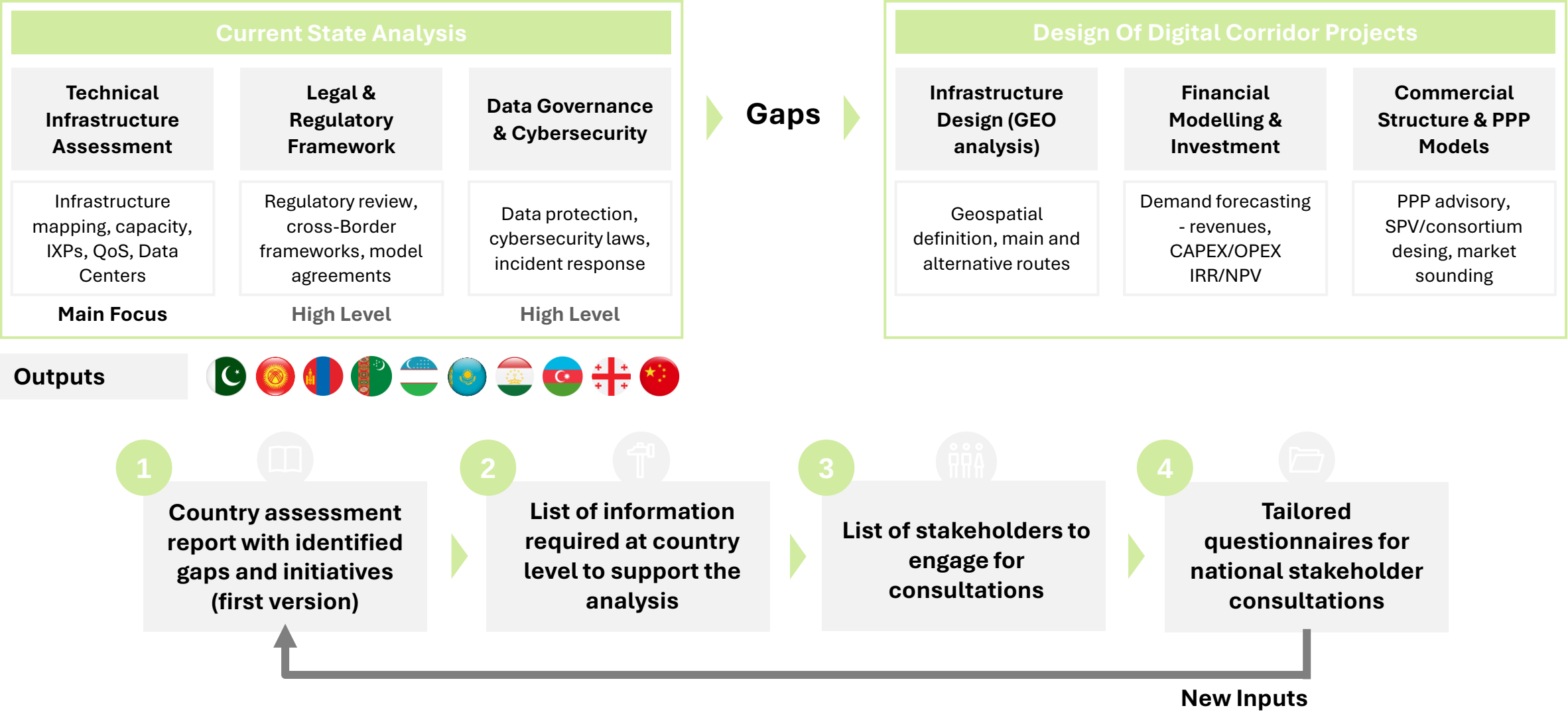


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Project Context and Objectives

Country Assessments



Project Methodology and Current Status

Overall assessment framework and analytical approach – Data gathering

The assessment combines internationally recognized datasets, national information, and engineering analysis to provide a robust evidence base for the study. The analytical framework is further strengthened through continuous validation and refinement based on stakeholder consultations, expert feedback, and country-specific information shared throughout the project, ensuring that the final recommendations reflect both technical evidence and local implementation realities.

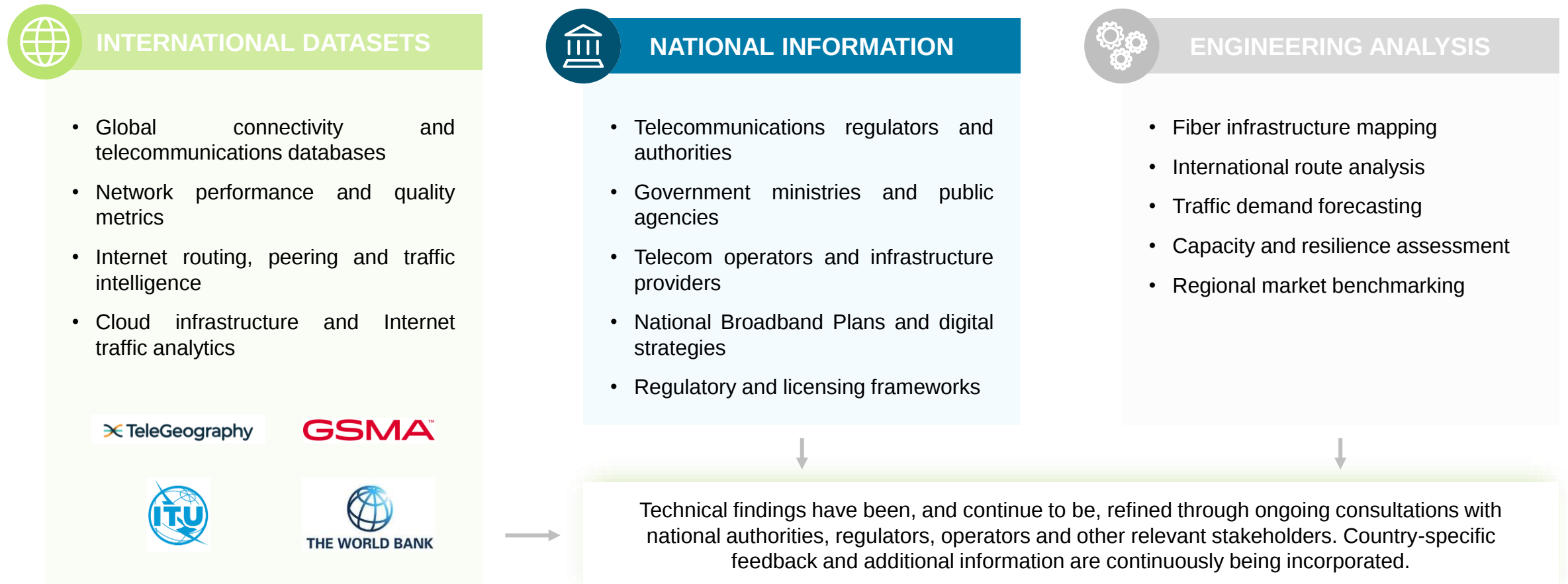




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Country-Level Assessments and Key Findings

Country Assessment Approach

The analytical framework adopts a comprehensive, multi-dimensional approach to evaluate the readiness of each country to participate in a regional digital corridor. By assessing infrastructure assets, international connectivity, digital facilities, regulatory conditions and cybersecurity capabilities together, the methodology provides a consistent basis for identifying strategic interventions that strengthen both national digital ecosystems and regional integration.

International Connectivity

Analysis of cross-border routes, international bandwidth flows, route diversity, resilience and transit dependencies.



International Traffic Flows

Traffic flows and international routing were analysed for each country to assess the dependence on existing international connectivity routes.



Mobile/Fixed Infrastructure

Assessment of national access networks, backbone infrastructure, coverage levels and domestic connectivity capacity.



Data Centers & IXPs

Evaluation of digital infrastructure readiness, traffic localization capabilities and interconnection ecosystems.



Regulatory Assessment

Assessment of market regulation, infrastructure access, connectivity policies and investment conditions.



Cybersecurity & Data

Review of cybersecurity maturity, critical infrastructure protection and data governance frameworks.



Together, these six analytical layers provide the evidence base required to identify infrastructure priorities and design a resilient, integrated and future-proof regional digital ecosystem.

Country-Level Assessments and Key Findings

International Connectivity Infrastructure Assessment

International connectivity is the foundation of the CAREC Digital Corridor, determining how participating countries connect with regional neighbours and global digital infrastructure. The assessment evaluates the resilience, diversity and capacity of both terrestrial and submarine connectivity to identify each country's role within the future regional corridor.

Assessment Dimensions



International Gateways

Terrestrial border crossings and submarine cable landing stations



Route Diversity

Availability of independent international paths and transit options



Connectivity Capacity

Installed and available international transmission capacity



Submarine Cable Access

Existing and planned cable systems, landing stations and global reach



Traffic Flows

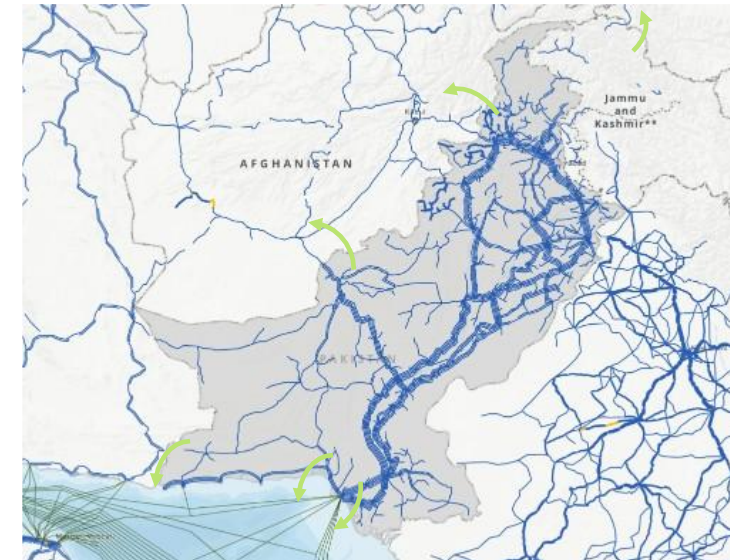
International bandwidth distribution and principal connectivity corridors



Scalability

Ability to support cross-border traffic

Examples of International Connectivity Infrastructure



A resilient **combination of terrestrial and submarine infrastructure** is essential to **diversify international routes** and **strengthen regional digital integration**

Country-Level Assessments and Key Findings

International Connectivity Infrastructure Assessment

This assessment compares the international connectivity infrastructure of participating CAREC countries to evaluate their readiness for regional and global digital integration. The findings highlight differences in international gateways, route diversity and connectivity capabilities, identifying priority areas for strengthening the CAREC Digital Corridor.

	International Gateways	Route Diversity	International Capacity *	Submarine Access
Mongolia	2	2	850 Gbps	No
Pakistan	11	2 terrestrial + International hubs via submarine cable	11.000 Gbps	Yes
Kyrgyz Republic	7	3	1.800 Gbps	No
Tajikistan	3	3	280 Gbps	No
Turkmenistan	8	5	418 Gbps	Yes**
Uzbekistan	2	2	8.000 Gbps	No
Kazakhstan	13	5	16.000 Gbps	Yes**

*Information to be collected through stakeholder consultations in each participating country

**Connection to the Trans-Caspian Fiber Optic Cable Project

Key Findings



Regional Strengths

- Kazakhstan and Pakistan are the strongest connectivity countries
- Most countries have established international gateways
- Regional connectivity is strengthening across Central Asia



Key Gaps

- Submarine access is limited, with new gateways under development
- Route diversity varies significantly between countries
- Scalability remains uneven for future traffic growth

***Analysis based on available data**

Country-Level Assessments and Key Findings

Country comparison

Access to diverse international connectivity routes is a key determinant of both international traffic volumes and connectivity costs, as countries with greater access to multiple international corridors typically exchange larger volumes of traffic while benefiting from more competitive IP transit pricing.

Country	IP Transit Price (USD / Mbps)	International Bandwidth Exchange (Gbps / Million people)	Submarine Cable Connections	Terrestrial Connections
Pakistan	\$0,85	42,9	9	2
Kazakhstan	\$0,93	793,0	-	13
Kyrgyzstan	\$1,36	251,6	-	7
Mongolia	N/A	236,6	-	3
Uzbekistan	\$0,92	221,2	-	2
Tajikistan	\$2,51	25,7	-	3
Turkmenistan	N/A	55,7	-	8

Country-Level Assessments and Key Findings

International Traffic Flows & Route Assessment

Understanding how international traffic flows across existing connectivity routes is essential to evaluate the long-term sustainability of the CAREC Digital Corridor. This assessment identifies the main international traffic corridors, evaluates their current and projected utilization, and assesses the need for additional capacity and route diversification to support future regional connectivity demand.

Assessment Dimensions



Traffic Flows

Distribution of international bandwidth across countries and regions



Route Diversity

Availability and diversity of international routing options



Traffic Growth

Projected growth in international traffic demand



Route Capacity

Current and future ability of international routes to accommodate projected traffic demand



Resilience

Ability of the international connectivity ecosystem to withstand disruptions through alternative routes

Examples of Used International Bandwidth Exchanged (Gbps – 2025)

Country-Level Assessments and Key Findings

International Connectivity Routes

The international traffic matrix provides a detailed view of connectivity flows across CAREC countries and their main external transit partners. It reveals that, despite extensive regional interconnections, a large share of international traffic remains concentrated on a limited number of external transit routes, particularly through the northern corridor.

Gbps/year	Kazakhstan	Kyrgyzstan	Mongolia	Tajikistan	Uzbekistan	Turkmenistan	Pakistan	Russia	China	Afghanistan	Other
Kazakhstan	-	830	-	43	1,775	-	-	12,774	358	-	398
Kyrgyzstan	830	-	-	1	44	-	-	766	-	-	195
Mongolia	-	-	-	-	-	-	-	55	531	-	266
Tajikistan	43	1	-	-	-	-	-	233	-	4	-
Uzbekistan	1,775	44	-	-	-	-	-	5,592	887	40	-
Turkmenistan	-	-	-	-	-	-	-	138	-	-	279
Pakistan	-	-	-	-	-	-	-	-	-	95	10,847
Russia	12,774	766	55	233	5,592	138	-	-	2,171	-	61,516
China	358	-	531	-	887	-	-	2,171	-	-	403,144
Afghanistan	-	-	-	4	40	-	95	-	-	-	113
Other	398	195	266	-	-	279	10,847	61,516	403,144	113	-

Source: TeleGeography 2025

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Traffic flow analysis identifies **future capacity requirements** and highlights where **new international corridors** will be needed to improve **resilience, scalability and regional integration**

Country-Level Assessments and Key Findings

International Connectivity Routes

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Tajikistan	43	1	-	-	-	-	-	233	-	4	-
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Turkmenistan	-	-	-	-	-	-	-	138	-	-	279
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Other	398	195	266	-	-	279	10.847	61.516	403.144	113	-

Country-Level Assessments and Key Findings

International Traffic Flows & Route Assessment

This assessment evaluates international traffic flows and routing patterns across participating CAREC countries to assess the readiness and sustainability of the future CAREC Digital Corridor. The findings identify major traffic concentrations, future capacity requirements, and opportunities to strengthen route diversity and regional resilience.

	Traffic Flows (main exchange)	Route Diversity (countries)	Traffic Growth (CAGR 2022-29)	Used Capacity (2025)
Mongolia	Russia (63%)	7	27%	850 Gbps
Pakistan	Oman (36%) France (29%) Singapore (19%)	10	29%	11.000 Gbps
Kyrgyz Republic	Kazakhstan (46%) Russia (43%)	5	32%	1.800 Gbps
Tajikistan	Russia (83%)	4	37%	280 Gbps
Turkmenistan	Germany (47%) Russia (33%)	3	33%	418 Gbps
Uzbekistan	Russia (70%)	5	36%	8.000 Gbps
Kazakhstan	Russia (79%)	6 countries	30%	16.000 Gbps

Key Findings



Regional Strengths

- Kazakhstan, Pakistan and Uzbekistan handle the largest international traffic flows in the region
- International bandwidth demand is projected to grow rapidly across all CAREC countries
- Several countries are well positioned to support future regional traffic exchange



Key Gaps

- Most CAREC countries remain highly dependent on the Russian corridor for international traffic
- Route diversity and resilience remain uneven across the region
- Expanding alternative international corridors will be critical to meet future traffic demand

***Analysis based on available data**

Country-Level Assessments and Key Findings

National Fibre Backbone Assessment

A resilient national fibre backbone is the foundation of a digital corridor. While international gateways provide access to global networks, national backbone infrastructure determines how traffic is transported across each country, connecting border crossings, major cities, data centres and digital hubs. Assessing the robustness and structure of these networks is therefore essential to understand each country's ability to support a high-capacity regional digital corridor.

Assessment Dimensions



Backbone Topology

National network structure and connectivity between major cities



Route Diversity

Availability of alternative fibre paths to improve resilience



Network Resilience

Ability to maintain connectivity during network failures



Critical Nodes

Identification of network concentration points and single points of failure



Coverage of Strategic Assets

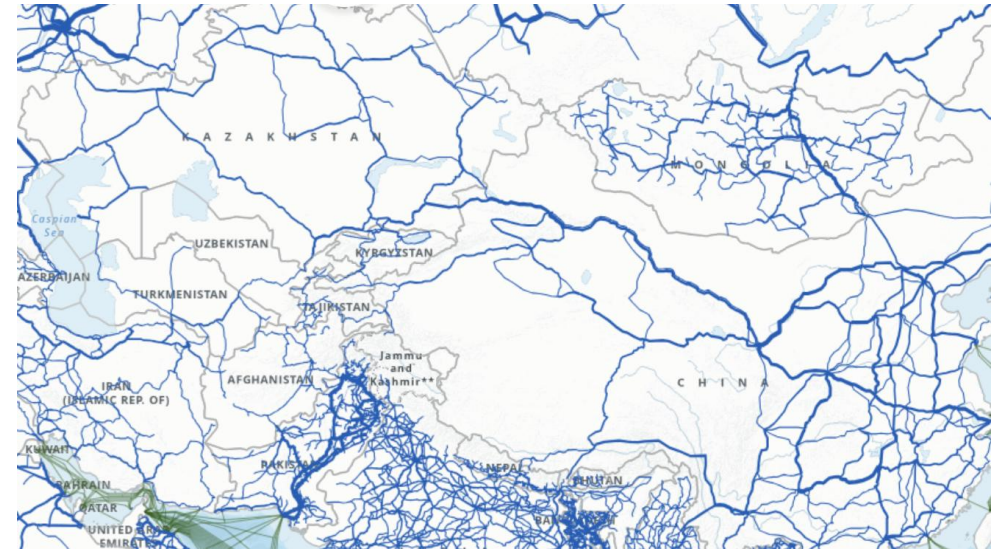
Connectivity of key economic and digital infrastructure



Scalability

Readiness to support future traffic growth and expansion

Examples of National Fibre Backbone Networks



A strong national backbone is a prerequisite for a **resilient regional corridor**, ensuring that **international connectivity** can be efficiently **distributed across each participating country**

Country-Level Assessments and Key Findings

National Fibre Backbone Assessment

This assessment compares the maturity and resilience of national fibre backbone networks across participating CAREC countries. By evaluating key technical characteristics, the assessment identifies countries with strong network foundations, common infrastructure gaps and priority areas for strengthening the regional digital corridor.

	Backbone Coverage	Network Topology	Network Resilience	Strategic Connectivity
Mongolia	Extensive coverage	Highly meshed	Established resilience	Emerging position regional
Pakistan	Extensive coverage	Highly meshed	High resilience	Strong position regional
Kyrgyz Republic	Moderate coverage	Partially meshed	Established resilience	Strong position regional
Tajikistan	Moderate coverage	Partially meshed	Established resilience	Developing position regional
Turkmenistan	Limited coverage	Partially meshed	Established resilience	Developing position regional
Uzbekistan	Limited coverage	Mostly linear	Developing resilience	Emerging position regional
Kazakhstan	Extensive coverage	Highly meshed	High resilience	Strong position regional

Key Findings



Regional Strengths

- Kazakhstan and Pakistan have the strongest backbone networks
- Most countries have extensive national backbone coverage
- The regional backbone provides a solid foundation for the Digital Corridor



Key Gaps

- Route diversity and resilience remain uneven
- Strategic connectivity varies across countries
- Scalability requires further investment

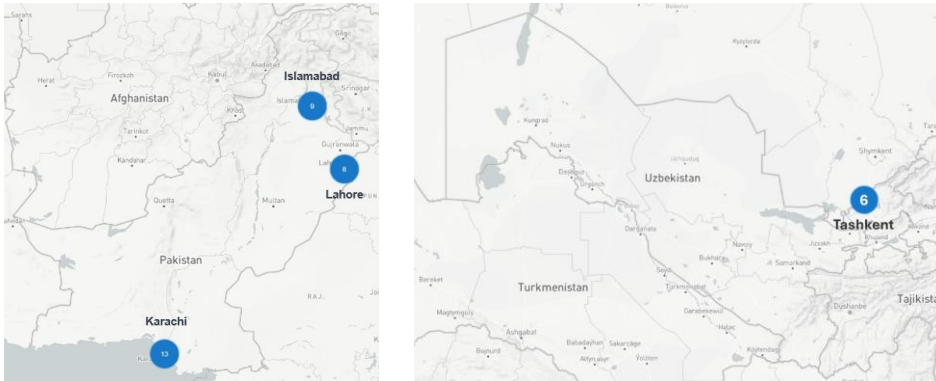
***Analysis based on available data**

Country-Level Assessments and Key Findings

Data Center Assessment

The CAREC Digital Corridor aims not only to improve regional connectivity, but also to accelerate digital transformation by enabling a stronger regional digital ecosystem. Data centres play a central role in this vision, making it essential to assess their availability, capacity and integration with national networks to determine each country's readiness for future digital services.

Examples of Data Center Distribution in Selected CAREC Countries



A resilient and well-distributed data centre ecosystem is essential to **maximize the value** of the CAREC Digital Corridor and **support future digital growth**

Assessment Dimensions



Existing Capacity

Installed capacity



Geographic Distribution

Location and concentration across the country



Facility Ownership

Diversity of public and private data center operators



Services & Ecosystem

Colocation, cloud connectivity and digital services



Network Integration

Proximity to national backbone networks and key connectivity hubs



Future Readiness

Ability to accommodate future digital infrastructure and demand

Country-Level Assessments and Key Findings

Data Centre Assessment

This assessment compares the development of data centre ecosystems across participating CAREC countries, focusing on geographic distribution, operator diversity, network integration and readiness for future digital demand. The findings highlight significant differences in market maturity and identify the main priorities for developing a more resilient and interconnected regional digital ecosystem.

	Number of DCs	Geographic Distribution	Operator Diversity
Mongolia	7	2	6
Pakistan	30	3	4
Kyrgyz Republic	3	1	3
Tajikistan	-	-	-
Turkmenistan	-	-	-
Uzbekistan	6	1	5
Kazakhstan	17	7	3

Key Findings



Regional Strengths

- Data center ecosystems are expanding across the region, supported by ongoing investments and digital transformation initiatives
- Operator diversity is relatively strong across several participating countries
- Network integration is favorable in most markets



Key Gaps

- Data center infrastructure remains highly concentrated in major cities and capitals
- Future readiness remains uneven and will require additional capacity, geographic diversification and investment

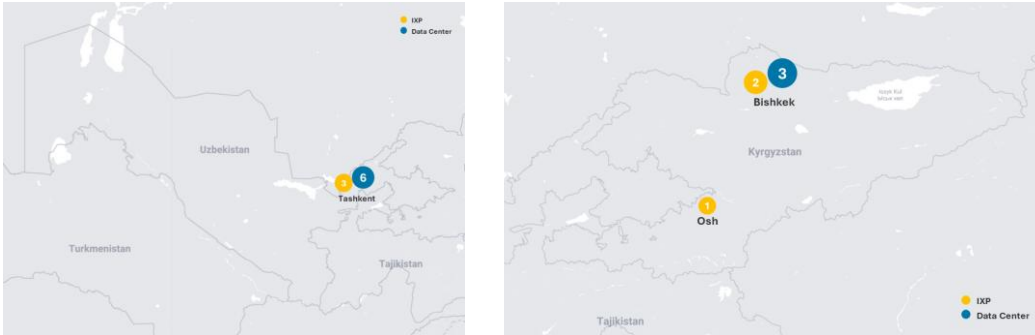
***Analysis based on available data**

Country-Level Assessments and Key Findings

Internet Exchange Point Assessment

Internet Exchange Points (IXPs) strengthen national and regional Internet ecosystems by enabling local traffic exchange, reducing latency and improving network efficiency. As the CAREC Digital Corridor seeks to foster a more interconnected regional digital ecosystem, assessing the maturity and performance of IXPs is essential to understand each country's ability to retain and exchange traffic locally.

Examples of Internet Exchange Points (IXPs) Distribution in Selected CAREC Countries



Well-developed IXPs reduce dependence on external transit, **improve network efficiency** and **strengthen the regional digital ecosystem** of the CAREC Digital Corridor

Assessment Dimensions



IXP Availability

Existing exchange points and national coverage



Strategic Location

Integration with backbone networks and data centers



Facility Ownership

Ownership of each Internet Exchange Point



Ecosystem Maturity

Development of the national peering environment



Traffic Exchange

Local traffic volumes and peering activity



Regional Potential

Ability to support regional traffic exchange and future services

Country-Level Assessments and Key Findings

Internet Exchange Point Assessment

This assessment compares the availability, integration and maturity of Internet Exchange Points across participating CAREC countries. The findings highlight significant differences in local peering development and identify where stronger interconnection infrastructure is needed to retain traffic domestically and support future regional exchange.

	IXP Availability	Strategic Integration	Operator Diversity
Mongolia	2	1 city	1
Pakistan	4	3 cities	2
Kyrgyz Republic	3	2 cities	3
Tajikistan	1	1 city	1
Turkmenistan	-	-	-
Uzbekistan	3	1 city	3
Kazakhstan	5	3 cities	3

Key Findings



Regional Strengths

- Kazakhstan and the Kyrgyz Republic have the most mature IXP ecosystems
- Most IXPs are well integrated with backbone networks and data centers
- Local peering is improving traffic localization and network efficiency



Key Gaps

- IXPs remain concentrated in major urban centers
- Operator diversity and peering maturity are uneven across countries

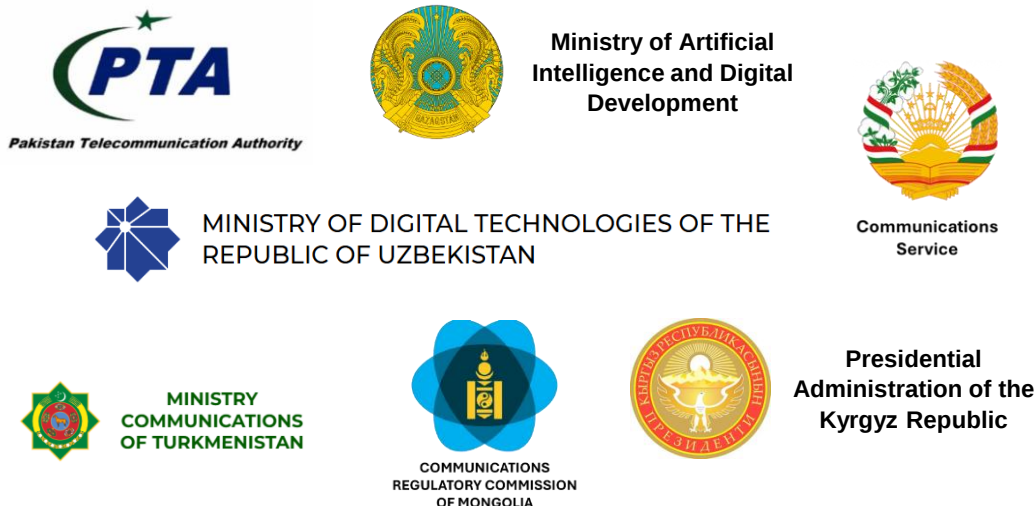
***Analysis based on available data**

Country-Level Assessments and Key Findings

Regulatory & Policy Assessment

The success of the CAREC Digital Corridor depends not only on physical infrastructure, but also on a regulatory environment that enables investment, cross-border connectivity and secure digital services. The assessment evaluates the legal and institutional frameworks governing digital infrastructure deployment, data governance and regional interoperability across participating countries.

Regulatory Agents of CAREC Corridor Participating Countries



A **predictable and enabling regulatory framework** is essential to attract **cross-border investment** and ensure **the long-term success** of the CAREC Digital Corridor

Assessment Dimensions

-  **Market Liberalization**
Competition, licensing and investment framework
-  **Cross-Border Connectivity**
International gateways and transit regulations
-  **Infrastructure Deployment**
Rights-of-way, infrastructure sharing and permitting processes
-  **Cybersecurity**
Critical infrastructure protection and cyber resilience requirements
-  **Data Governance**
Data protection, privacy and governance frameworks
-  **Cross-Border Data Flows**
Rules governing international data transfers and localization

Country-Level Assessments and Key Findings

Regulatory & Policy Assessment

This comparison highlights the similarities and differences in regulatory and policy frameworks across participating CAREC countries. By comparing key dimensions affecting digital infrastructure and cross-border connectivity, the assessment identifies regional strengths, common gaps and priority areas for greater regulatory harmonization.

	Data Governance	Infrastructure Protection	Data Access	Cross-Border Connectivity	Cybersecurity	Market Liberalization
Mongolia	Established	Established	Developing	Developing	Advanced	Developing
Pakistan	Developing	Advanced	Developing	Developing	Advanced	Developing
Kyrgyz Republic	Established	Developing	Advanced	Established	Established	Advanced
Tajikistan	Established	Developing	Established	Developing	Developing	Developing
Turkmenistan	Developing	Developing	Developing	Developing	Developing	Developing
Uzbekistan	Established	Advanced	Developing	Established	Advanced	Established
Kazakhstan	Established	Advanced	Established	Established	Advanced	Established

Key Findings



Regional Strengths

- Strong progress in cybersecurity and data governance
- Most countries have established core regulatory frameworks for the digital sector
- Kazakhstan and Uzbekistan provide the most investment-friendly regulatory environments.



Key Gaps

- Limited regulatory harmonization
- Cross-border connectivity remains highly constrained
- Infrastructure deployment and market liberalization remain uneven

***Analysis based on available data**



CAREC Digital Corridor – Investment viability and roadmap

July, 2026



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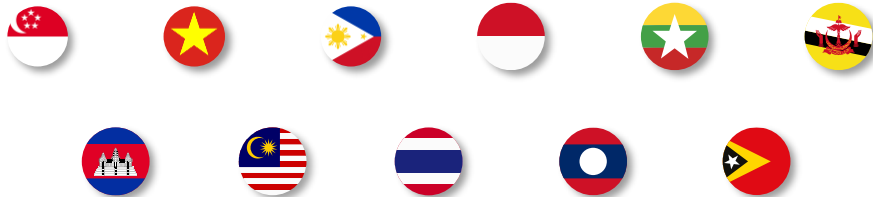
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International Best Practices

Case studies from comparable regional digital initiatives – ASEAN Digital Connectivity

ASEAN has built one of the world's most successful regional digital cooperation models through coordinated policies, common strategic roadmaps and strong public-private collaboration. Rather than centralizing infrastructure ownership, ASEAN enables member states to align national digital initiatives under a shared regional vision, strengthening connectivity, digital integration and investment while preserving national sovereignty.

Members



Key Initiatives



ASEAN Digital Masterplan 2030: Common regional roadmap for digital transformation, aligning national priorities around **broadband expansion, digital inclusion, cybersecurity, trusted data flows and cross-border connectivity**. The Masterplan ensures that national digital initiatives contribute to a shared regional vision.



ASEAN Broadband Corridor: Regional initiative promoting broadband expansion, **interoperable national backbone networks and cross-border connectivity** through **coordinated policies, infrastructure planning and regulatory cooperation**, while encouraging private investment and infrastructure sharing.



Digital Governance & Cybersecurity: Common frameworks for trusted cross-border data flows, **cybersecurity cooperation** and digital trade, while promoting **regulatory convergence** across member states.

International Best Practices

Case studies from comparable regional digital initiatives – ASEAN Digital Connectivity

ASEAN has translated its regional digital strategy into a set of practical initiatives that strengthen cross-border connectivity, regulatory convergence and digital integration across Southeast Asia. Together, these initiatives demonstrate how coordinated planning, common policy frameworks and sustained public-private collaboration can accelerate regional digital transformation while preserving national ownership over infrastructure and regulation.

Key Initiatives



ASEAN Digital Masterplan 2030: Common regional roadmap for digital transformation, aligning national priorities around **broadband expansion, digital inclusion, cybersecurity, trusted data flows and cross-border connectivity**. The Masterplan ensures that national digital initiatives contribute to a shared regional vision.



ASEAN Broadband Corridor: Regional initiative promoting broadband expansion, **interoperable national backbone networks and cross-border connectivity** through **coordinated policies, infrastructure planning and regulatory cooperation**, while encouraging private investment and infrastructure sharing.



Digital Governance & Cybersecurity: Common frameworks for trusted cross-border data flows, **cybersecurity cooperation** and digital trade, while promoting **regulatory convergence** across member states.



Key Lessons for CAREC

- 01. Regional Roadmaps Drive Alignment:** Common strategic vision ensures that national initiatives contribute to shared regional objectives.
- 02. Coordination Without Centralization:** Regional integration can be achieved while preserving national ownership of infrastructure and regulation.
- 03. Regulatory Convergence Enables Connectivity:** Common standards and policy frameworks facilitate seamless cross-border digital services.
- 04. Public-Private Partnerships Accelerate Delivery:** Continuous collaboration between governments and industry strengthens implementation and attracts investment.

International Best Practices

Governance arrangements adopted in international projects – Examples

Successful digital infrastructure projects require governance models that clearly define ownership, decision-making responsibilities, financing mechanisms and long-term operational arrangements. International experience demonstrates that different governance structures are appropriate depending on the strategic objectives, risk profile and stakeholder composition of each project.

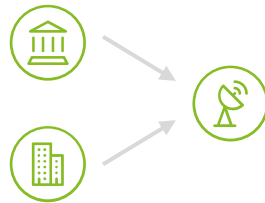
Private Ownership

Infrastructure **fully owned, financed and operated by a private entity**, which retains full responsibility for investment decisions, network expansion, operations and commercialization. Best **suited for commercially viable digital infrastructure projects**.



Public–Private Partnership

Public authorities and private investors share financing, governance and project responsibilities, combining public policy objectives with private sector expertise to deliver strategic infrastructure with broader **socioeconomic impact**.



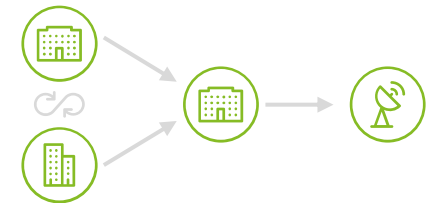
Consortium

Multiple organizations **jointly finance, own and govern a common infrastructure asset**, sharing investment costs, operational responsibilities and long-term capacity rights while reducing project risks.



Special Purpose Vehicle

An **independent legal entity established to develop, finance, own and operate a specific infrastructure project**, providing transparent governance, ring-fenced financing and clear allocation of ownership, risks and responsibilities.



Selecting the **appropriate governance model** is a strategic decision that directly **influences project bankability, investment attractiveness, risk allocation**, operational efficiency and the **long-term sustainability** of digital infrastructure initiatives.

International Best Practices

Financing approaches and investment structures - Examples

Digital infrastructure projects require significant upfront investment, long payback periods and effective risk-sharing mechanisms. International experience shows that successful projects rarely rely on a single financing source, but instead combine public funding, private investment and innovative financial instruments to improve bankability and attract long-term capital.

Traditional Financing Models

- Private Investment Model
- Project Finance Model
- Universal Service Fund (USF)
- Demand Subsidy Model
- Vendor Financing Model
- Concessional Programs
- Technical Assistance Resources

7
models

Innovative Financing Models

- Specialized Infrastructure Company Model
- Infrastructure Bond Model
- Loss Guarantee Scheme
- Blended Finance Model
- Community Investment Model
- Anchor Tenant Model
- Dual Implementation Model
- Dual Aggregation Model
- Impact Investment Model
- Results Based Financing Mechanism
- Supply Aggregation Management Model

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models



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- 5 International Best Practices
- 6 Environment and Regional Stakeholder Landscape**
- 7 Preliminary Infrastructure and Regulatory Initiatives

Environment and Regional Stakeholder Landscape

Regional Stakeholders

The successful development of the CAREC Digital Corridor will require coordinated action from a broad range of public and private stakeholders. While governments establish the policy and regulatory framework, infrastructure deployment, financing and long-term operation will depend on close collaboration between operators, infrastructure providers, development finance institutions and private investors.

Governments & Regulators



Create a predictable and competitive regulatory environment and provide strategic leadership and define national digital connectivity priorities

Telecom Operators



Deploy, operate and commercialize telecommunications network

Financing Institutions & Investors



Infrastructure
Funds

Private Equity

Improve project bankability and provide long-term capital

The CAREC Digital Corridor will require a collaborative governance model where public institutions, regulators, operators, infrastructure providers and investors work together to deliver a resilient, commercially sustainable and regionally integrated digital ecosystem.

International Best Practices

Governance arrangements adopted in international projects – Main insights

Building on international best practices, the CAREC Digital Corridor should adopt a governance framework that balances regional coordination with national sovereignty. Rather than replicating a single international model, the governance approach should combine different institutional arrangements to ensure efficient implementation, transparent decision-making and the long-term sustainability of cross-border digital infrastructure.



Rather than relying on a single governance arrangement, the CAREC Digital Corridor should combine multiple governance models tailored to different infrastructure components, ensuring regional coordination, investment flexibility and sustainable long-term operation.

Environment and Regional Stakeholder Landscape

Main barriers

Although most CAREC countries have made significant progress in expanding national broadband infrastructure, the region continues to face a number of structural regulatory, institutional and market challenges that constrain cross-border connectivity, increase investment risk and limit the development of a fully integrated regional digital ecosystem. Addressing these barriers will be essential for the successful implementation of the CAREC Digital Corridor.



Regulatory Fragmentation

Different licensing regimes, permitting procedures, technical standards and regulatory frameworks.



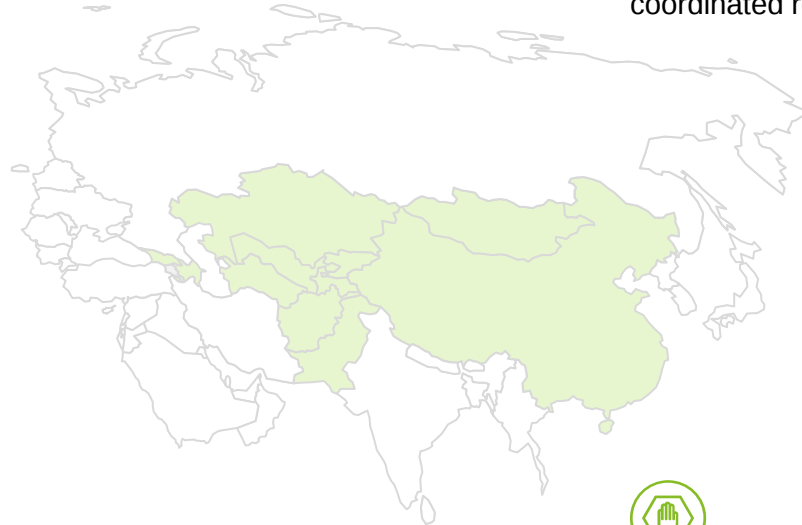
Regional Coordination

Infrastructure planning and implementation are primarily conducted at national level, with limited institutional mechanisms for coordinated regional decision-making.



Cross-border Complexity

Border crossings require multiple approvals, customs procedures, rights-of-way authorizations and coordination between several public authorities.



Investment Risk

Large regional infrastructure projects require predictable regulatory environments to attract private capital.



Route Diversity

International traffic remains concentrated on a small number of terrestrial corridors.



Wholesale Competition

Restricted access to international capacity and limited alternative routes.



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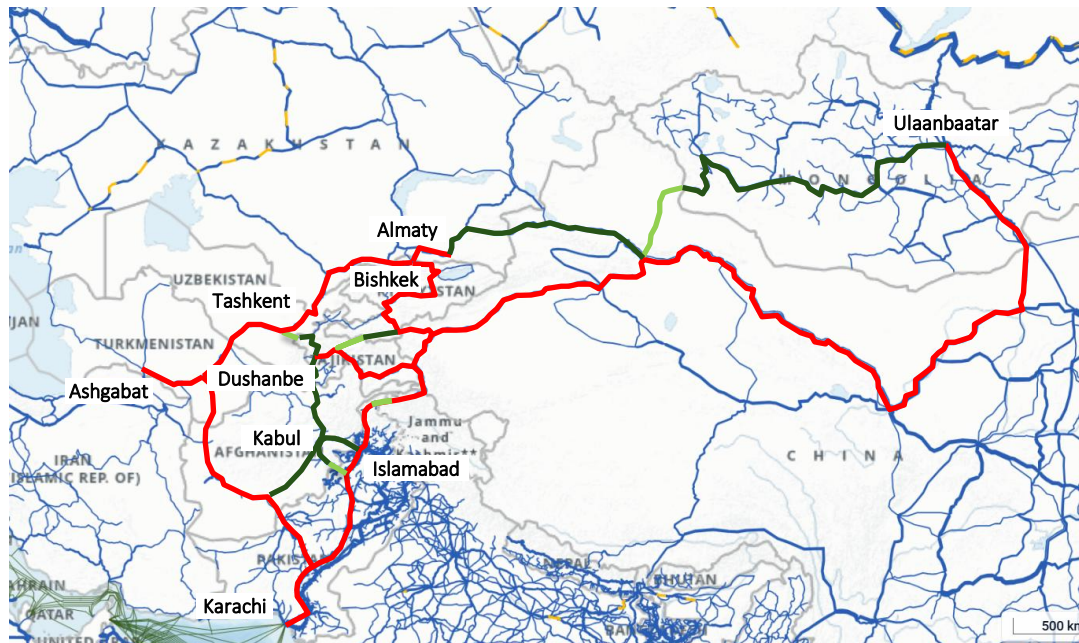
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Preliminary Infrastructure and Regulatory Initiatives

CAREC Digital Corridor Initiatives

The proposed CAREC Digital Corridor integrates national digital infrastructures into a single regional ecosystem connecting Central Asia with global digital infrastructure through Pakistan. The corridor combines complementary investments in terrestrial fiber, data centers, IXPs and a coordinated regional regulatory framework to improve connectivity, strengthen resilience and enable long-term digital transformation across the region.

Overview of the CAREC Digital Corridor



Key Components of the Initiatives



Regional Terrestrial Fiber

Expansion of existing terrestrial networks and deployment of new cross-border infrastructure



Submarine Cable Ecosystem

A mature submarine cable ecosystem providing access to global infrastructure through Pakistan's international landing stations



Regional Data Center Ecosystem

Distributed national facilities connected to global digital infrastructure through Pakistan's submarine cable gateways



Regional IXP Federation

Interconnected national IXPs enabling direct and efficient regional traffic exchange



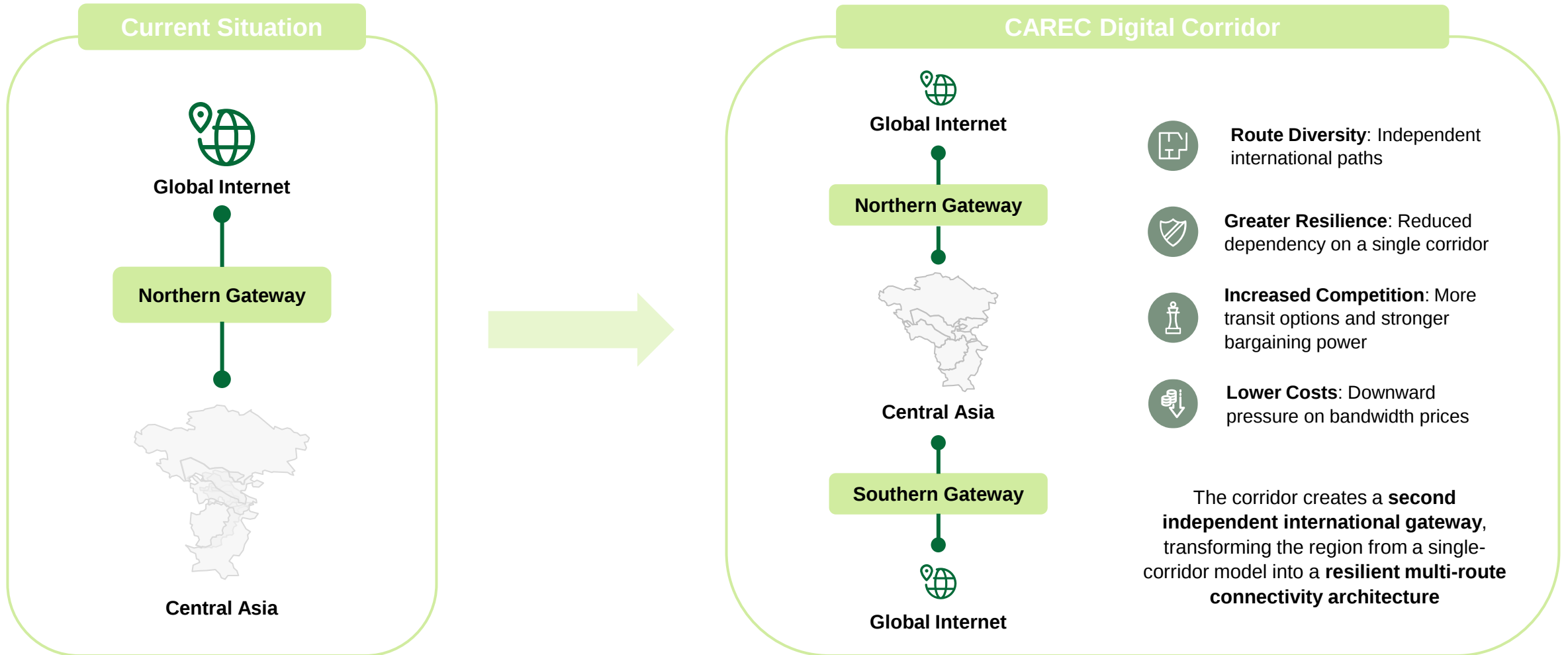
Regional Regulatory Framework

Harmonized regional policies supporting rights of way, cybersecurity, cross-border infrastructure and digital connectivity

Preliminary Infrastructure and Regulatory Initiatives

CAREC Digital Corridor Initiatives

The CAREC Digital Corridor addresses the region's main structural connectivity challenge by creating genuine international route diversity. Rather than replacing existing infrastructure, it complements the current northern corridor with an independent southern gateway, strengthening resilience and increasing competition.



Preliminary Infrastructure and Regulatory Initiatives

Regional Terrestrial Fiber

Terrestrial fiber provides the high-capacity transport layer of the CAREC Digital Corridor, connecting Pakistan's submarine cable ecosystem with participating countries across Central Asia. The proposed strategy combines existing backbone infrastructure, targeted new cross-border links and alternative routing paths to create a continuous, resilient and scalable regional network.

Corridor-Wide Capacity Upgrade

Entire CAREC Backbone

Upgrade optical transmission systems, wavelengths and backbone capacity across all participating countries to support future regional traffic growth and prevent transmission bottlenecks

Tajikistan–Kyrgyz Republic Interconnection

Dzhergatal–Karamyk

Create an alternative routing path for the eastern corridor during network failures

Uzbekistan–Tajikistan Interconnection

Samarqand–Pendzhikent

Establish a new high-capacity cross-border link connecting the western and eastern branches of the corridor

Pakistan–China Missing Link

Pakistan–China Border

Complete the missing terrestrial fiber section establishing a continuous route from submarine gateways to the regional backbone

Mongolia Route Optimization

Western China–Mongolia Route

Deploy a shorter route reducing transmission distance while maintaining full redundancy

Backbone Redundancy Reinforcement

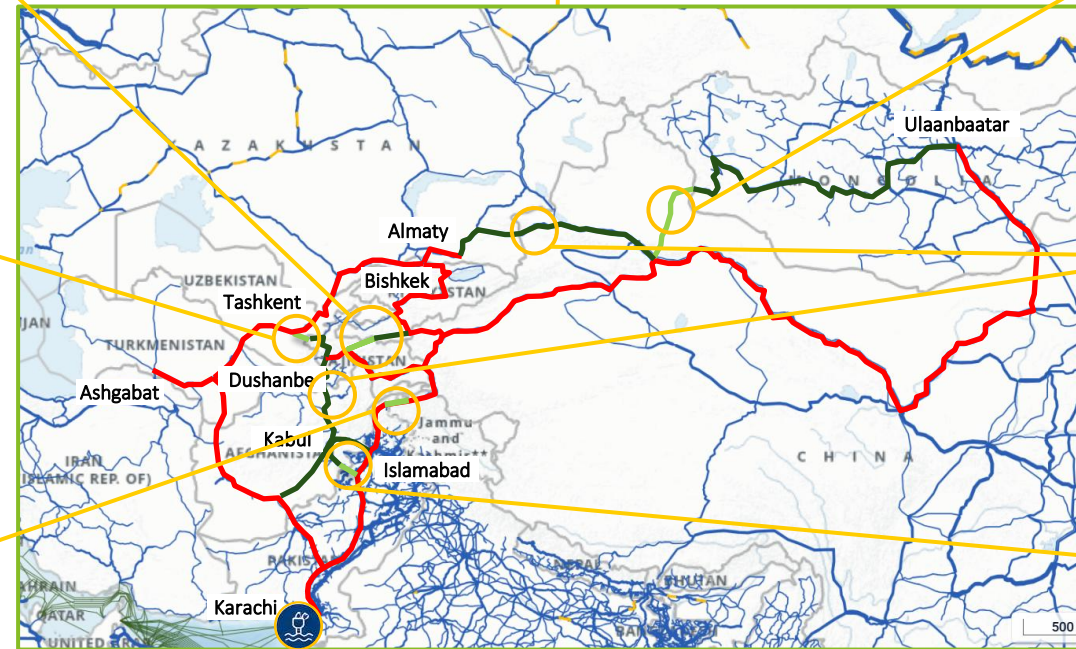
Critical Backbone Segments - Entire CAREC Backbone

Eliminate single points of failure through additional backbone transmission paths

Pakistan–Afghanistan Additional Interconnection

Miram Shah–Khost

Deploy an additional cross-border gateway to strengthen redundancy at the corridor's southern entry point

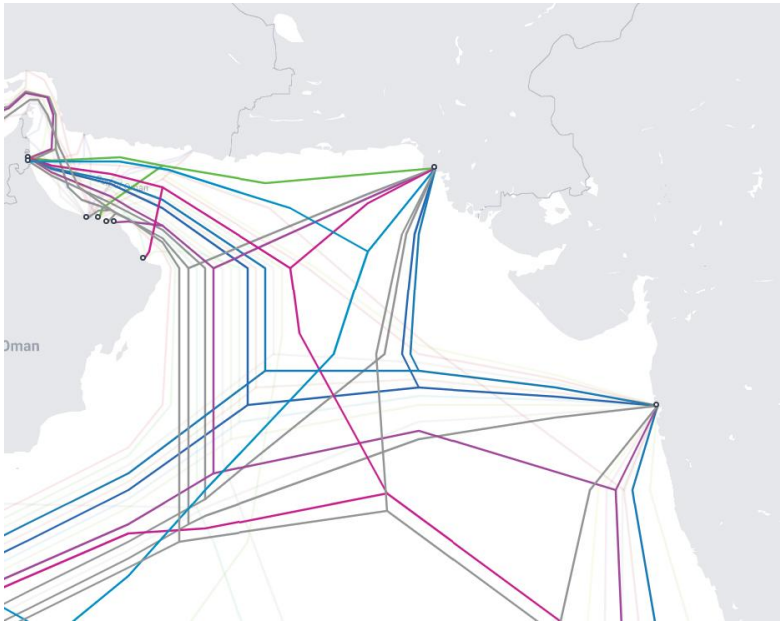


Preliminary Infrastructure and Regulatory Initiatives

Submarine Cable Ecosystem

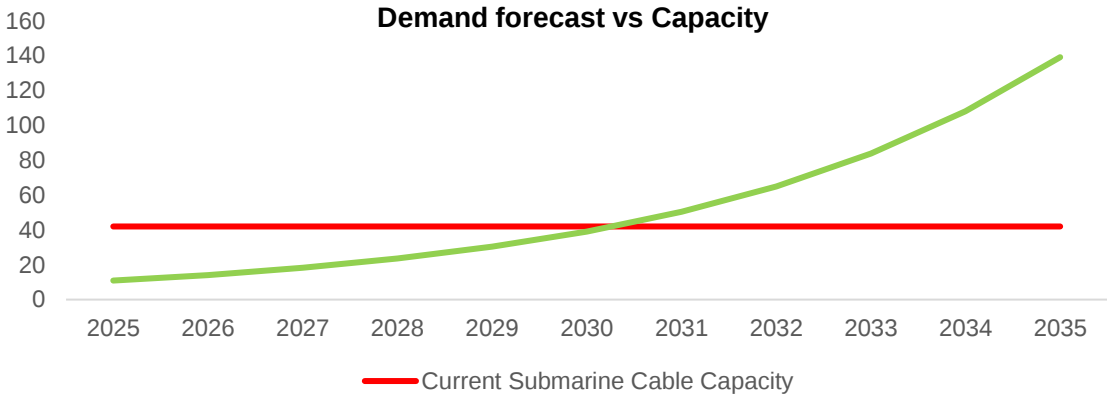
Central Asia’s future international connectivity will require a phased expansion of submarine cable capacity to accommodate rapidly growing bandwidth demand, strengthen route diversity and reinforce its role as the primary international gateway connecting Central Asia to global digital infrastructure.

Submarine cables connected to Pakistan



Existing submarine capacity will be insufficient to meet long-term demand even without the development of the corridor. Greater route diversity will be required to reduce concentration risks.

Demand forecast vs Capacity



Proposed submarine cable deployment

Proposed Branch	Length (km)	Capacity	RFS year
Branch 1	~ 650	25	2030
Branch 2	~ 650	50	2032
Branch 3	~ 650	100	2034

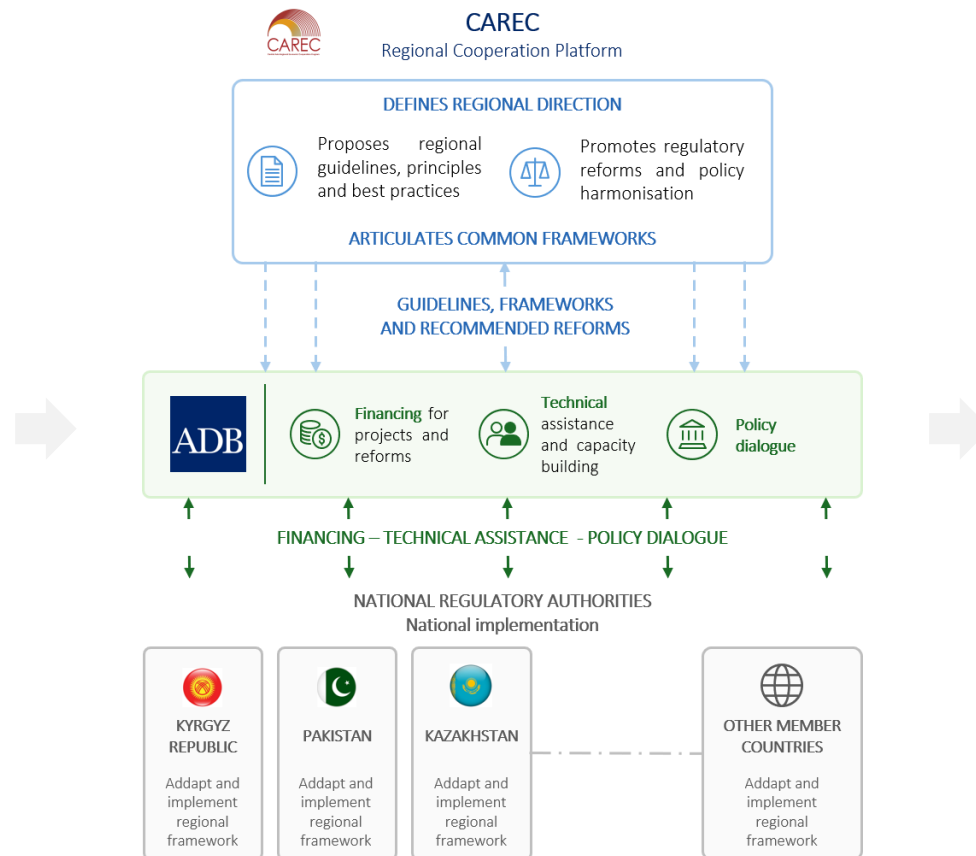
Preliminary Infrastructure and Regulatory Initiatives

Regional Data Center Ecosystem

The CAREC Digital Corridor requires not only cross-border connectivity, but also a distributed digital infrastructure capable of hosting digital services across the region. The proposed architecture combines national data centers with a regional international gateway in Pakistan, creating an integrated ecosystem for cloud services, AI and digital platforms.

Why is it needed?

- ✓ Reduce regulatory fragmentation
- ✓ Accelerate cross-border deployments
- ✓ Increase investment certainty
- ✓ Improve regional interoperability
- ✓ Facilitate private investment
- ✓ Enable an integrated regional digital market



Key Initiatives

01. Regulatory harmonization and coordination
02. Rights of way, Infrastructure, sharing, open access
03. Cross border connectivity and deployments
04. Cybersecurity, Data protection and critical infrastructure

Preliminary Infrastructure and Regulatory Initiatives

Regional Data Center Ecosystem – National Data Center Deployment Strategy

Each participating CAREC country should develop carrier-neutral data centers that support domestic digital services, strengthen traffic localization and provide the foundation for regional digital interconnection. Together, these facilities create a distributed hosting layer that enhances digital sovereignty while enabling the CAREC Digital Corridor to support future cloud, AI and digital services.



National Data Center Deployment

Country	Indicative Data Center Capacity (IT Load, MW) *	Strategic Role in Corridor
Kazakhstan	~10–15 MW	Regional interconnection node and transit support
Uzbekistan	~9–12 MW	Domestic digital services + regional corridor node
Kyrgyz Republic	~20 MW	Distributed national hosting and resilience node
Tajikistan	~10 MW	Emerging green data center and AI infrastructure hub
Turkmenistan	~9–12 MW	Initial national carrier-neutral infrastructure node
Mongolia	~10–15 MW	Edge hosting and cross-border traffic optimization

* Indicative capacities reflect each country's projected digital demand, strategic role within the corridor and long-term scalability potential



Deployment Principles

1. **Carrier-neutral facilities** supporting multiple operators and cloud providers
2. **Designed to maximize domestic traffic hosting** and reduce dependence on international hosting
3. **Scalable modular deployments** aligned with future digital demand
4. **Seamless integration** with national fiber backbones and IXPs
5. **Regional interoperability** through the CAREC Digital Corridor

A distributed network of **carrier-neutral national data centers** will strengthen **domestic digital ecosystems** while creating the **regional hosting layer** required to support the CAREC Digital Corridor.

Preliminary Infrastructure and Regulatory Initiatives

Regional Data Center Ecosystem – Pakistan Data Center Expansion

Growing international traffic through the CAREC Digital Corridor will significantly increase demand for hosting infrastructure connected to Pakistan's submarine cable ecosystem. As the region's primary international gateway, Pakistan will serve as the main entry point for global digital traffic before it is distributed across Corridor.

Baseline International Traffic



Traffic Forecast with CAREC Digital Corridor



International Traffic Processed Locally



Minimum Additional DC Capacity Required



Pakistan will become the primary southern **international gateway** for the CAREC Digital Corridor, **aggregating global traffic** arriving through its submarine cable systems



Higher international connectivity will **attract cloud providers, CDNs and AI-ready digital platforms**



Around **30% of international traffic** is expected to be processed **locally** through domestic infrastructure by 2035



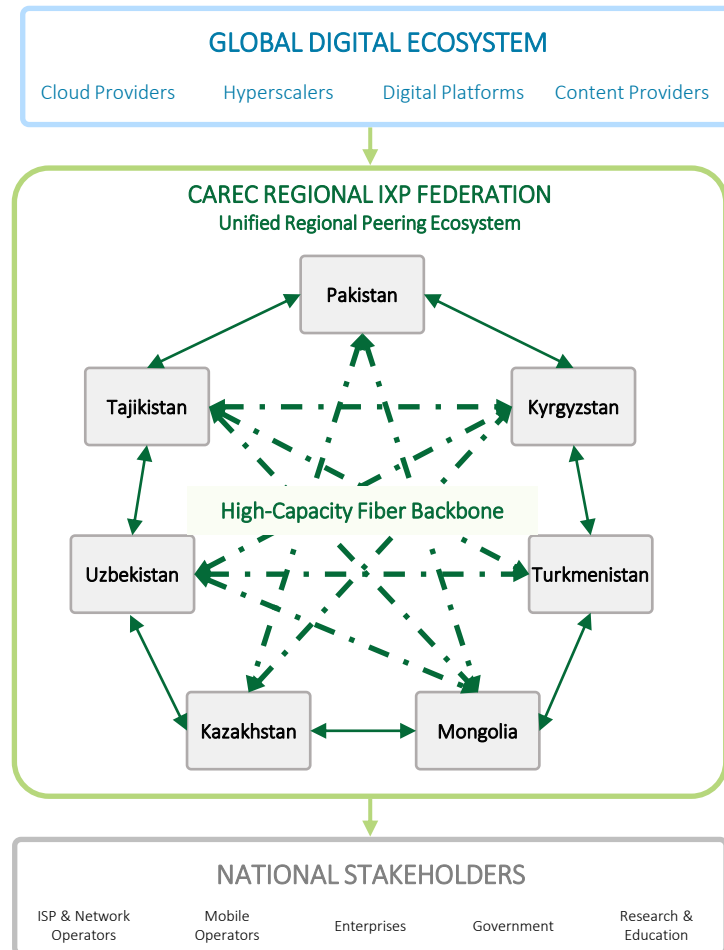
≈35 MW of additional carrier-neutral **data center capacity** will be **required**, primarily in **Karachi** as the international gateway

The CAREC international gateway requires a parallel **expansion of domestic DC infrastructure**, enabling **international traffic** to be processed **locally** while supporting cloud, AI and digital services

Preliminary Infrastructure and Regulatory Initiatives

Regional IXP Federation

The CAREC Digital Corridor requires not only resilient transport infrastructure, but also a regional traffic exchange ecosystem. The proposed CAREC Regional IXP Federation interconnects independent national IXPs through a common regional framework, enabling direct traffic exchange while preserving national ownership and operational independence.



Federated architecture connecting existing national IXPs without creating a new centralized regional exchange



Independent national operation, with each country retaining full ownership, governance and operational control of its IXP



Coordinated regional framework based on common peering policies, technical standards and operational cooperation



Direct regional traffic exchange through the CAREC Digital Corridor, reducing dependence on distant international transit hubs

A **federated regional IXP ecosystem** transforms **independent national IXPs** into a **coordinated regional peering platform**, enabling **efficient cross-border traffic** exchange while preserving **national ownership**, **strengthening interoperability** and **reducing dependence**

Preliminary Infrastructure and Regulatory Initiatives

Regional IXP Federation – Evolution to Regional Peering

Today, internet traffic exchanged between neighboring CAREC countries often traverses distant international transit hubs before reaching its destination. The CAREC Regional IXP Federation replaces this model with direct regional peering, allowing traffic to remain within the region whenever possible.

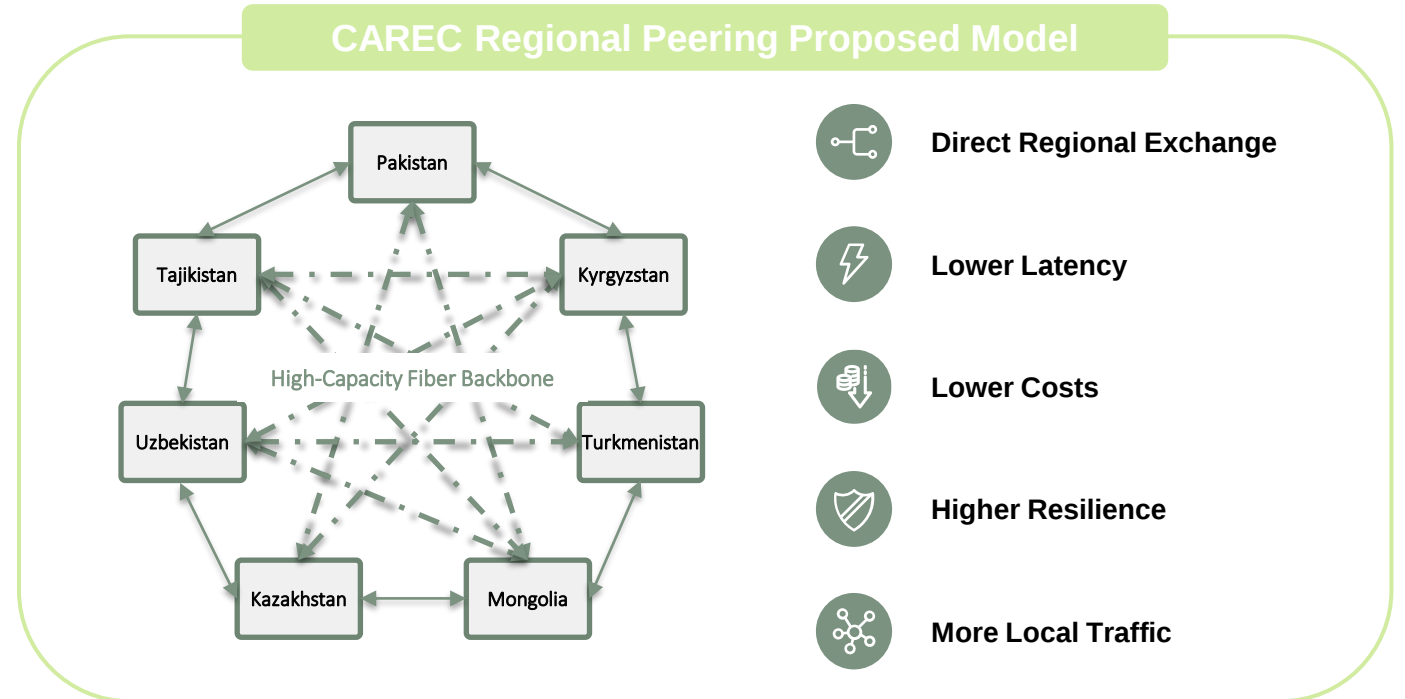
Current Model



Proposed Model



CAREC Regional Peering Proposed Model



Direct regional peering enables neighboring CAREC countries to **exchange traffic locally**, **reducing routing distances**, **lowering latency** and international **transit costs**, while creating an **efficient regional Internet ecosystem** with **less dependence** on external transit providers

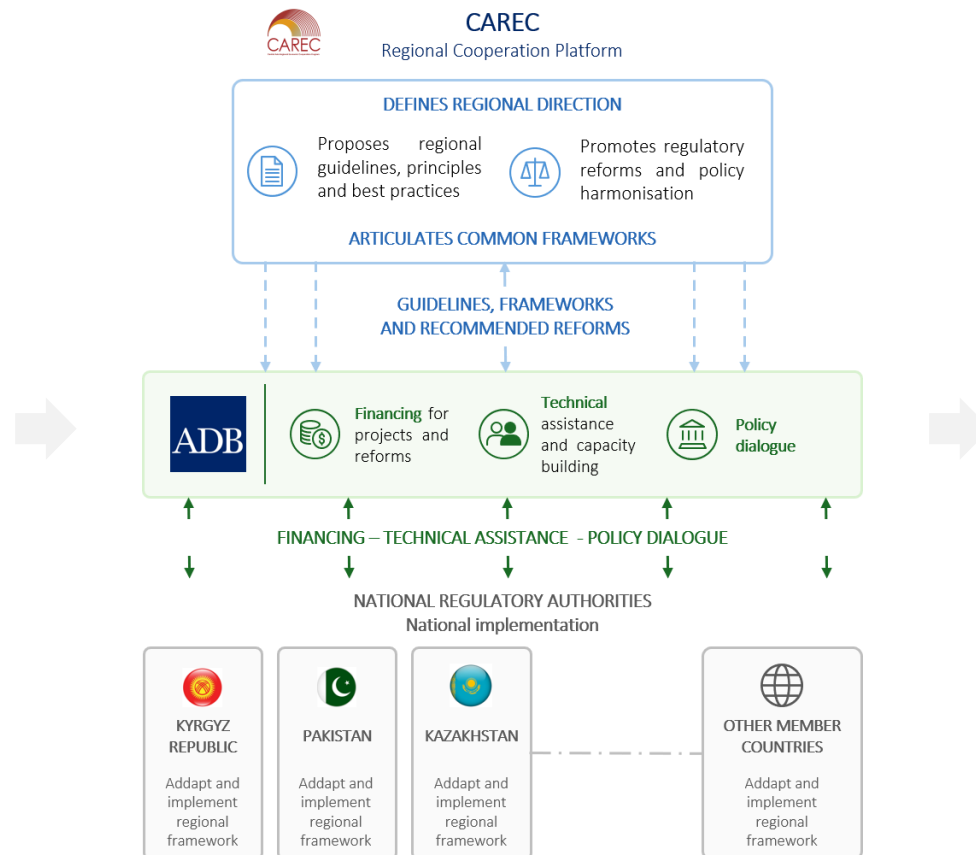
Preliminary Infrastructure and Regulatory Initiatives

Regional Regulatory Framework

The successful implementation of the CAREC Digital Corridor requires not only physical infrastructure, but also a coherent regional regulatory framework capable of reducing fragmentation, facilitating cross-border infrastructure deployment and creating the conditions necessary for long-term private investment, regional cooperation and digital market integration.

Why is it needed?

- ✓ Reduce regulatory fragmentation
- ✓ Accelerate cross-border deployments
- ✓ Increase investment certainty
- ✓ Improve regional interoperability
- ✓ Facilitate private investment
- ✓ Enable an integrated regional digital market



Key Initiatives

01. **Harmonised regulatory principles**
02. **Coordinated infrastructure planning**
03. **Open and competitive connectivity markets**
04. **Trusted regional digital ecosystem**

Preliminary Infrastructure and Regulatory Initiatives

Regional Regulatory Framework

Regulation shapes the competitive landscape, cost structure, and incentives to invest in IP transit infrastructure. Markets with effective regulatory frameworks tend to exhibit lower IP transit prices and faster price declines.



Market liberalization & Competition Policy

- Opening the market to new operators
- Removing entry barriers.
- Restrictions to prevent anti-competitive practices.
- Allowing international carriers

↑ Competition → ↓ Prices



Infrastructure Deployment Regulation

- Ease of obtaining rights-of-way permits.
- Policies enabling infrastructure sharing.
- Incentives for investment.
- Regulatory costs associated with deployment.

↑ Ease of deployment → ↓ Prices



Interconnection & Open Access Regulation

- Non-discriminatory wholesale access.
- Obligation to allow colocation and interconnection.
- Peering openness at IXPs and carrier-neutral facilities.
- Access conditions for local infrastructure.

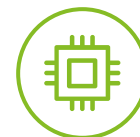
↑ Open access → ↓ Prices

Licensing & Administrative Framework



- Licensing costs and complexity for network or wholesale service operation.
- Speed of regulatory processes.
- Bureaucratic requirements for deploying infrastructure.

↑ Costly/complex licenses → ↑ Prices



Regulatory Support for Digital Ecosystems

- Promotion of neutral IXPs.
- Policies to attract data centers and cloud regions.
- Regulations that facilitate the entry of CDNs and content providers.
- Rules on data localization or incentives for digital infrastructure.

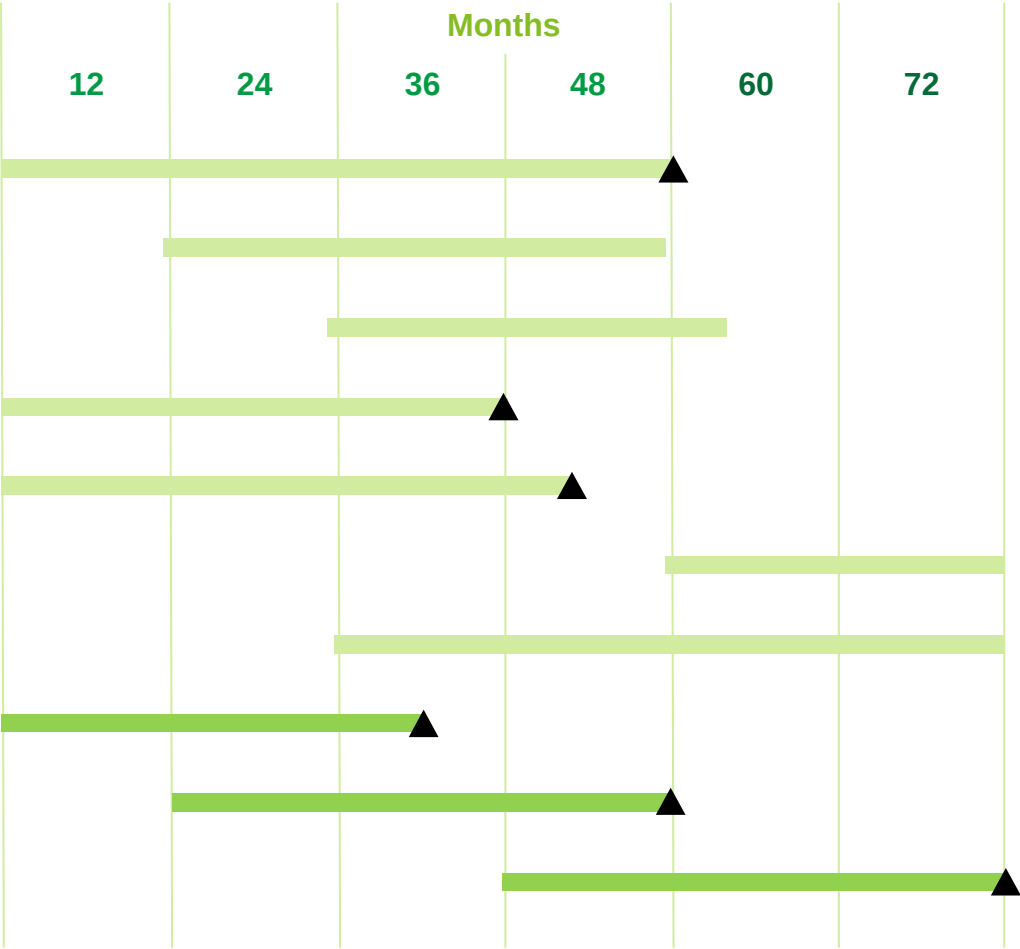
↑ Competition → ↓ Prices

Preliminary Infrastructure and Regulatory Initiatives

Initiatives Roadmap and Phased Implementation

The proposed initiatives should be implemented through a phased roadmap that prioritises foundational regulatory reforms, progressively expands digital infrastructure and enables the long-term development of the CAREC Digital Corridor.

Initiative	Description
RTF – 1	Corridor – Wide Capacity Upgrade
RTF – 2	Tajikistan–Kyrgyz Republic Interconnection
RTF – 3	Uzbekistan–Tajikistan Interconnection
RTF – 4	Pakistan–China Missing Link
RTF – 5	Pakistan–Afghanistan Additional Interconnection
RTF – 6	Backbone Redundancy Reinforcement
RTF – 7	Mongolia Route Optimization
SCE – 1	Submarine Cable Branch – 1
SCE – 2	Submarine Cable Branch – 2
SCE – 3	Submarine Cable Branch – 2



Preliminary Infrastructure and Regulatory Initiatives

Initiatives Roadmap and Phased Implementation

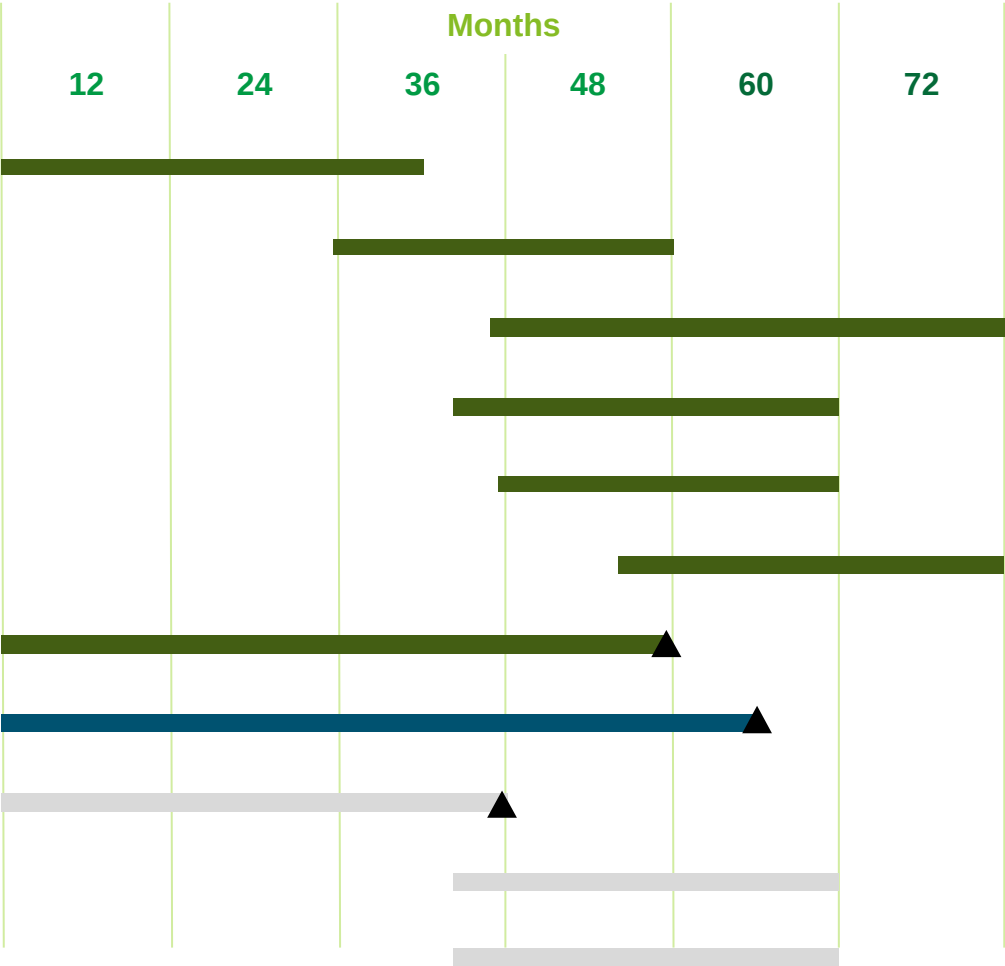
The proposed initiatives should be implemented through a phased roadmap that prioritises foundational regulatory reforms, progressively expands digital infrastructure and enables the long-term development of the CAREC Digital Corridor.

Initiative	Description
RDCE – 1	Kazakhstan Data Center Deployment
RDCE – 2	Uzbekistan Data Center Deployment
RDCE – 3	Kyrgyz Republic Data Center Deployment
RDCE – 4	Tajikistan Data Center Deployment
RDCE – 5	Turkmenistan Data Center Deployment
RDCE – 6	Mongolia Data Center Deployment
RDCE – 7	Pakistan Data Center Deployment
RIXP	Regional IXP Federation
RRF – 1	Creation of the Regional Cooperation Platform
RRF – 2	Rights of way, cross-border open access and infrastructure sharing frameworks
RRF – 3	Cybersecurity, Data protection and Critical Infrastructure Frameworks

▲ Key enablers

■ Phase 1 - Enabling

■ Phase 2 - Unlocking



Preliminary Infrastructure and Regulatory Initiatives

Initiatives Roadmap and Phased Implementation

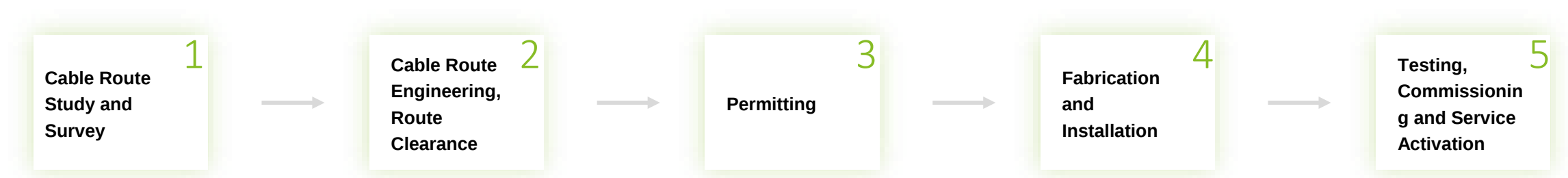
Although the roadmap establishes the overall sequencing of the proposed initiatives, each initiative will require its own internal implementation plan. This includes the progressive execution of design, planning, deployment, testing and operational phases. The following sections present the recommended implementation stages for each initiative and the appropriate sequencing required to ensure successful delivery.



Regional Terrestrial Fiber Initiatives



Submarine Cable Deployments



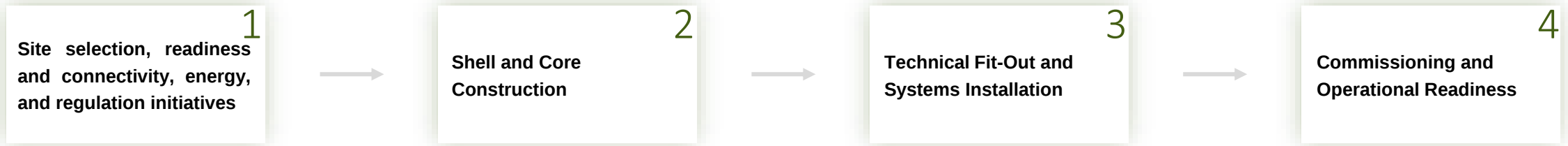
Preliminary Infrastructure and Regulatory Initiatives

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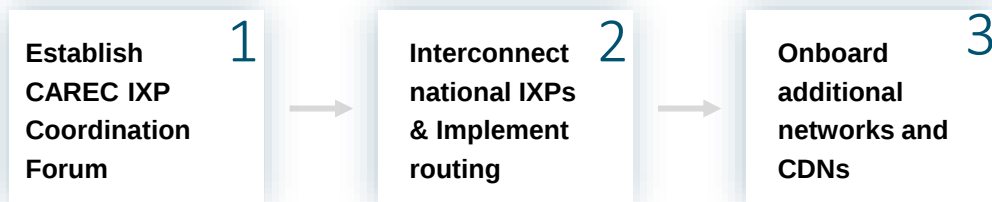
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Regional Data Center Ecosystem



Regional IXP Federation



Regional Regulatory Framework

