

Transnational economic corridors: Strengthening trade flows and development

October 2024





Contents

01

Perspectives on transnational economic corridors 04

- 1.1 Corridor-based development strategy
- 1.2 Development framework for transnational economic corridors (TNECs)
- 1.3 Economic opportunities in transnational corridors

02

Key challenges in developing and operationalising TNECs 14

03

Key enablers in corridor development 18

- 3.1 Role of trade policies in transnational corridors
- 3.2 Synchronising transport infrastructure across TNECs
- 3.3 Development of optimal and efficient infrastructure
- 3.4 Establishment of protocols for the effective movement of goods
- 3.5 Enabling efficient cross-border operations

04

Current initiatives towards developing transnational corridors 32

- 4.1 India Middle East Corridor (IMEC)
- 4.2 Greater Mekong Subregion (GMS)
- 4.3 South Asia Subregional Economic Cooperation (SASEC)

05

Synergies for TNEC development 38





1. Perspectives on transnational economic corridors

1.1 Corridor-based development strategy

At its core, a corridor-based development strategy is focused on leveraging linear routes to spur economic activity, creating a ripple effect of growth and connectivity across regions. This methodology, proven globally, brings together **infrastructure, investment and innovation** to transform regional economies.

While there is a larger lack of consensus on what exactly a corridor is, the United Nations Conference on Trade and Development (UNCTAD) defines corridors as **'strategic mechanisms** that allow for

a coordinated and integrated approach to transport, transit, trade facilitation... at the regional/ subregional/ national level'.¹ The criticality of corridors in fostering growth is indicated through the fact that the lack of economic corridors across many developing countries is seen as a 'major constraint on growth'.² In fact, 'well-functioning and efficient economic corridors are essential for the development of a region'.³

When such corridors run across nations, they are referred to as **transnational economic corridors** (TNECs).

1. UNCTAD (2021). 'Economic and transport corridor development and coordination'

2. Asian Development Bank (2014). '5'Developing Economic Corridors in South Asia', Eds. Prabir De & Kavita Iyengar.

3. Ibid.

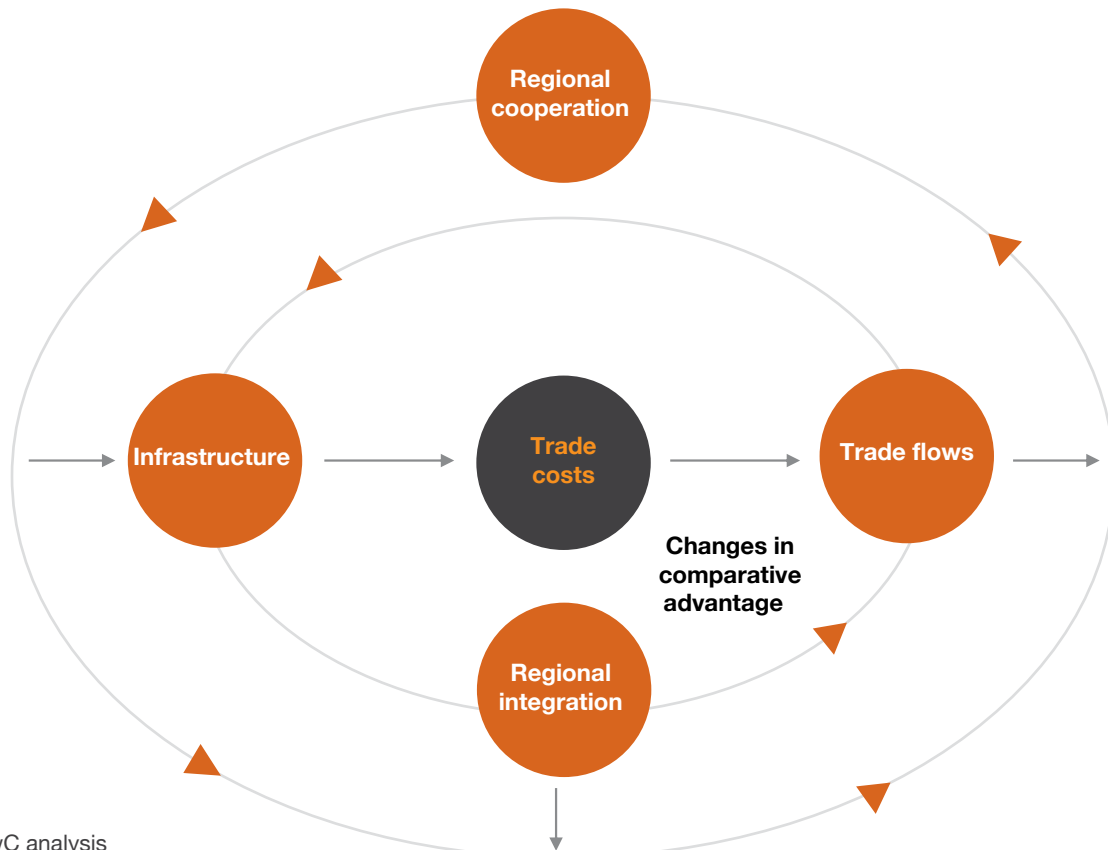
TNECs aim to leverage corridor-based development to achieve synergies through robust planning and harnessing of economic resources in pursuit of common objectives.

Transnational corridors foster regional integration. They promote collaboration between countries, allowing for shared benefits, harmonised policies and joint infrastructural projects. TNECs have the potential to reduce costs of transportation, both within and across regions, improve international market access, increase income, and reduce poverty.⁴ Economic corridors help ease demand for infrastructure, generating more output. The improved infrastructure then encourages fragmentation of production across a region, and enhances regional and global trade, expediting regional integration.

Besides integration, the development of economic corridors invariably leads to the growth of ancillary industries. From logistics and warehousing to hospitality and retail, a multitude of sectors benefit from the increased activity and traffic along these economic routes. Thus, corridors have a range of economic benefits.

This paper aims to study the unique value proposition of TNECs in strengthening trade and development outcomes, keeping in mind the recent announcement of the **India-Middle East-Europe Economic Corridor (IMEC)**.

Figure 1: Benefits of TNECs



Source: PwC analysis

4. Asian Development Bank (2014). 5th 'Developing Economic Corridors in South Asia', Eds. Prabir De & Kavita Iyengar.

The announcement of the IMEC promises to leverage the varied strengths of the countries/regions that constitute the corridor.

The success of large-scale TNECs hinges on multiple factors, some of which have been illustrated below.

Figure 2: Drivers of corridor viability



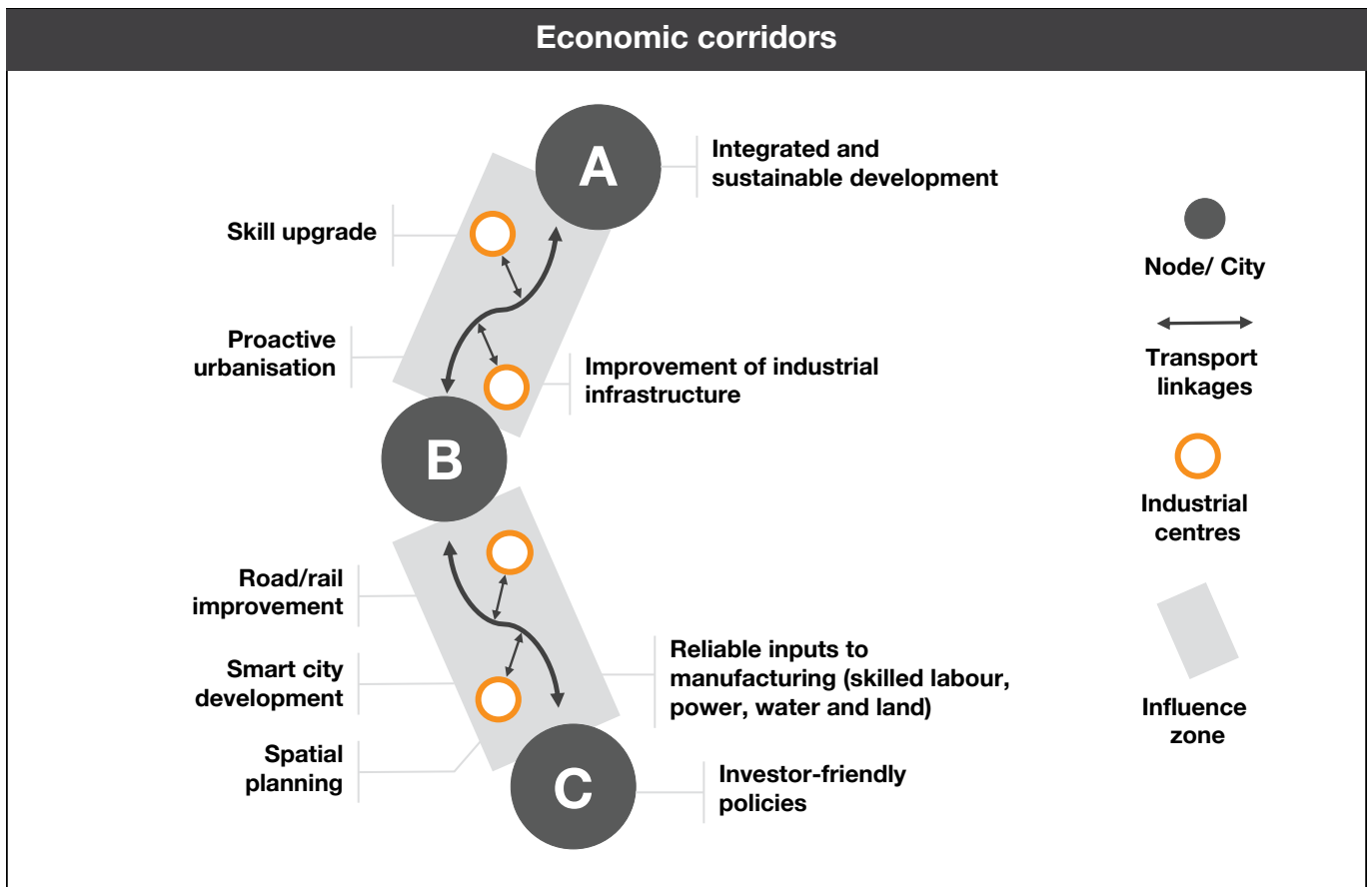
1.2 Development framework for TNECs

The concept of economic corridors has been promoted by the governments of many countries to achieve concentration of investments in a high potential area. This approach is expected to derive benefits from high-quality infrastructure not just within industrial zones but also outside these zones, leading

right up to export gateways such as ports. Such corridors link industrial zones, cities and gateways through a superior road and/or rail network.

While this concept has been adopted in the national context in many instances, there have been recent attempts to adopt it in a cross-border scenario as well. **Such corridors are called TNECs.**

Figure 3: Regional growth unlocked by economic corridors



Growth poles/nodes	Transport linkages	Support infrastructure
 <ul style="list-style-type: none"> • Provide suitable investment climate • Higher production capacities • One-stop services • Fiscal incentives 	 <ul style="list-style-type: none"> • Improve transport infrastructure • Reduce costs – coordinated movement of passengers and goods 	 <ul style="list-style-type: none"> • Skill development centres/HRD • Reduction in costs of infrastructure services – power, water, among others

Source: PwC analysis

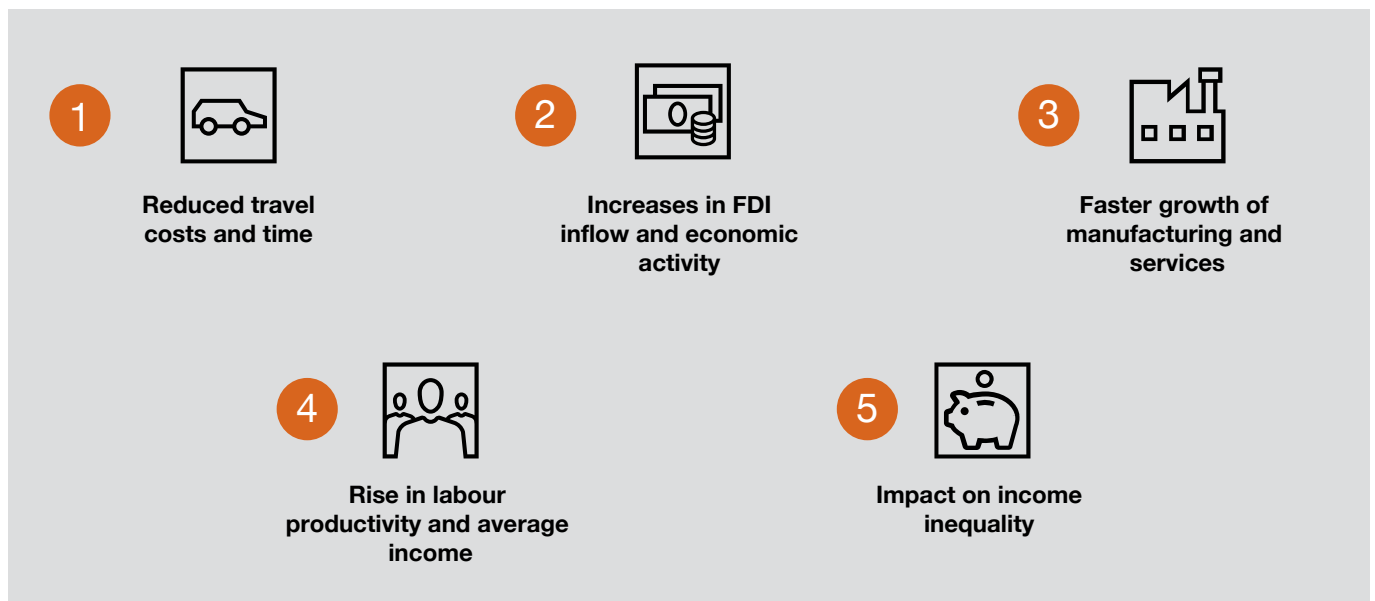
Since the late 1990s, governments of countries with shared borders have increasingly used TNECs as a tool for deepening the Regional Competitiveness Index (RCI) and boosting shared prosperity.

The objective of TNECs is to bring about regional growth in a sustainable way by leveraging the competitive strengths of a region.

Corridor development objectives tend to become broader as the evolutionary stage of a corridor advances from a transport corridor towards an economic one. In the case of transport corridors, the focus is on investment in transport infrastructure with the objective of increasing the efficiency of transporting people and goods while reducing transport costs. For trade and logistics corridors, the objectives evolve to focus on trade facilitation with an emphasis on interventions ranging from reduction in trade barriers to improvements in logistics services with increasing competitiveness.

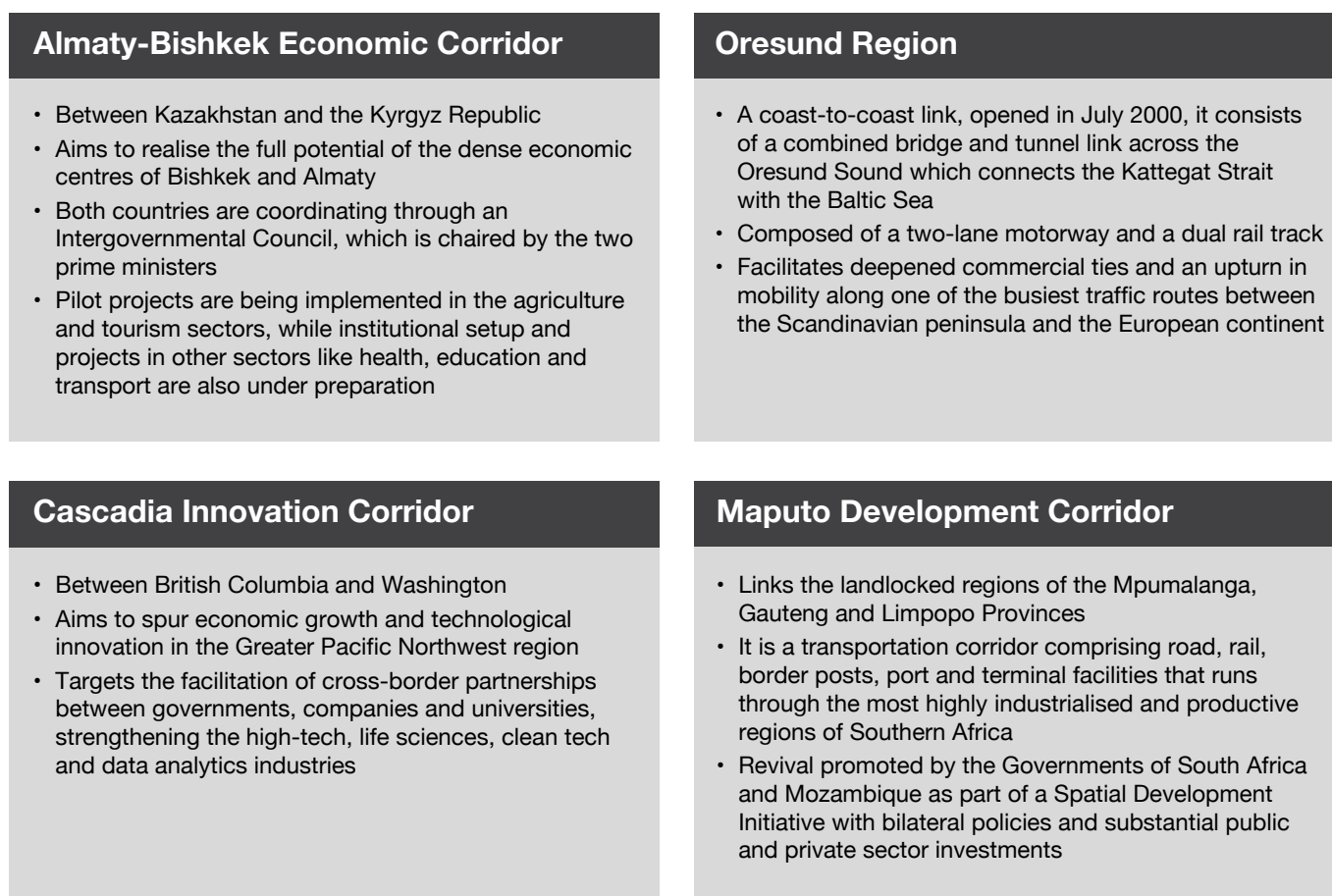


Figure 4: Impact of TNECs



Source: PwC analysis

Figure 5: Some prominent TNECs



Source: adb.org; https://cesifo.org/DocDL/cesifo1_wp10557.pdf; <https://connectcascadia.com/#about>; <https://www.portmaputo.com/who-we-are/maputo-development-corridor/>.

Almaty–Bishkek Economic Corridor (ABEC)

Kazakhstan and the Kyrgyz Republic form the two ends of this corridor. The vision of the ABEC is to realise the full potential of the dense economic centres of Bishkek and Almaty and the area around them as a single economic space. The two cities are only 240 km apart, but at the moment traveling from one city to the other takes around five hours, including a cumbersome border crossing in between. This makes goods exchange difficult, and it is a hurdle to trade.

The ABEC aims to transform the area into a single space where exchange of ideas and movement of goods and people is fast, easy and free of barriers. For businesses, this provides an opportunity for significant cross-border agglomeration by fostering

greater specialisation, enabling an increase in scale of operations, and helping achieve greater diversification and competitiveness. Overall, therefore, the ABEC will support businesses in exporting goods and services to the world.

As a first step towards corridor implementation, Kazakhstan and the Kyrgyz Republic have decided to coordinate efforts towards the corridor through an Intergovernmental Council, co-chaired by the prime ministers of the two nations. The infrastructure for the project is expected to be completed by the end of the year.⁵ Pilot projects are being implemented in the agriculture and tourism sectors, while institutional setup and projects in other sectors such as health, education and transport are also under preparation.⁶

5. 52256-009: Almaty–Bishkek Economic Corridor Regional Improvement of Border Services Project Readiness | Asian Development Bank (adb.org)

6. <https://www.almaty-bishkek.org/what-is-abec>



Oresund Region

In the European Union (EU), the evolution of trans-European networks plays a pivotal role in furthering growth and development. The region's transport infrastructure is a 'key mechanism' in achieving economic development, increasing regional GDP per capita, promoting employment, facilitating mobility and enhancing accessibility.⁷

The Oresund region is a flagship model of cross-border European integration through transport linkages. The coast-to-coast Oresund link opened in July 2000. It is a combined bridge and tunnel link across the Oresund Sound which connects the Kattegat Strait with the Baltic Sea. It comprises the Oresund tunnel between Amager and the artificial island Peberholm, and the Oresund Bridge between Peberholm and Lernacken. The multi-modal link is composed of a two-lane motorway and a dual rail track, the total length of which is 16 km.⁸

The fixed link marks an upturn in mobility at the international, national, and regional levels along one of the busiest traffic routes between the Scandinavian peninsula and the European continent. It acts as the catalyst for the formation of a common labour and housing market and the strengthening of commercial ties which lies at the heart of the vision of intertwining the metropolitan areas of Copenhagen and Malmö.⁹

Cascadia Innovation Corridor (CIC)

The CIC, the product of an agreement between British Columbia and Washington signed in September 2016, is an initiative that aims to spur economic growth and technological innovation in the Greater Pacific Northwest region.

Its objective is to encourage cross-border partnerships between governments, companies and universities, and it is poised to become a boon to the high-tech, life sciences, clean tech and data analytics industries.

Alongside fostering cross-border collaborations, the CIC also aims to meet a larger objective – that of contributing to addressing some key issues that urban communities and spaces currently face. These range from transport-related issues to the larger issue of climate change.¹⁰

7. Funke, M. et al. (2023). 'Regional Economic Impacts of the Oresund Cross-Border Fixed Link: Cui Bono?', CESifo Working Papers ISSN 2364-1428 (electronic version).

8. Ibid.

9. Ibid.

10. <https://connectcascadia.com/#about>



Maputo Development Corridor

The Maputo Development Corridor, which connects the landlocked regions of the Mpumalanga, Gauteng, and Limpopo Provinces, is a key example of a transportation corridor. Integrating road, rail, border posts, port and terminal facilities, the corridor links what are considered to be the regions with the greatest levels of industrialisation and productivity in Southern Africa.¹¹

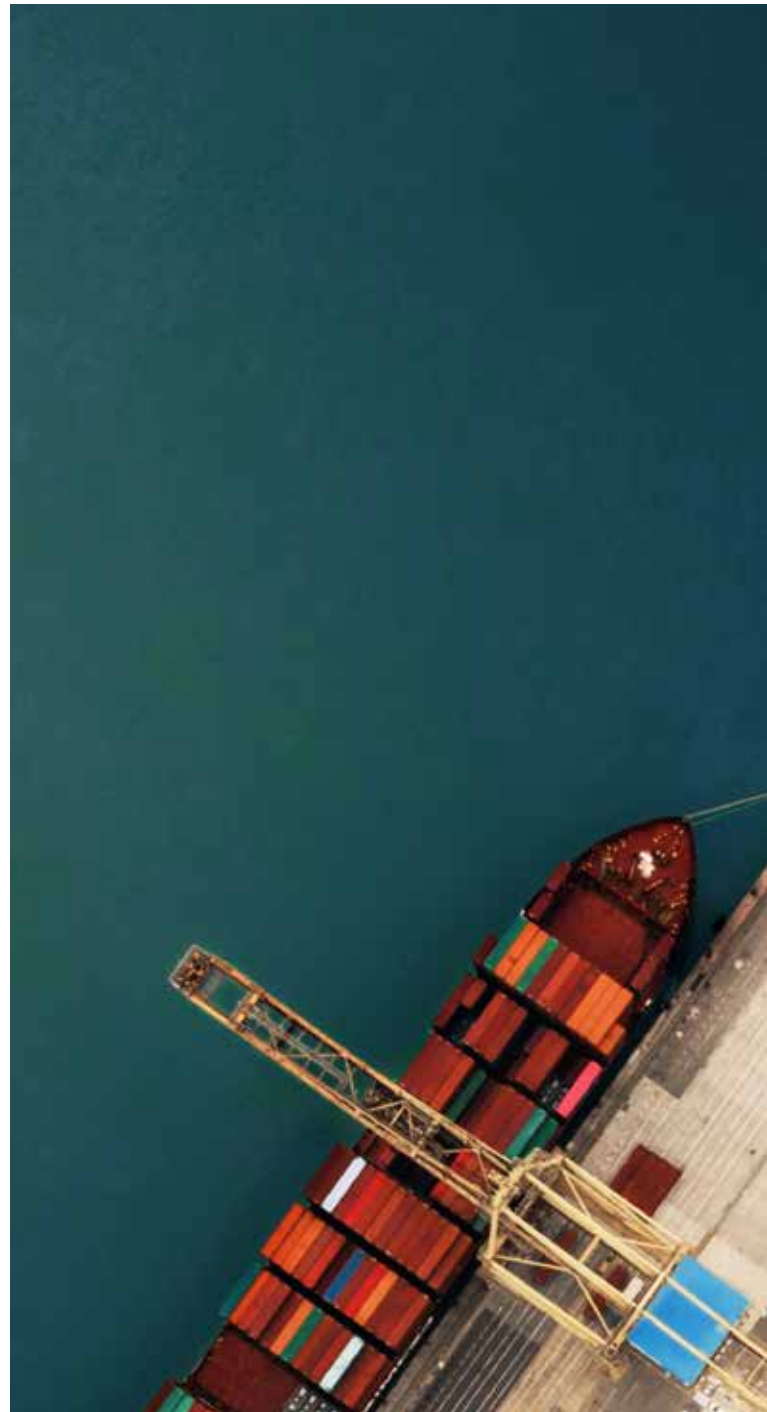
The Governments of South Africa and Mozambique have promoted the revival of the Maputo Corridor as part of a greater Spatial Development Initiative with bilateral policies and substantial public and private sector investments, designed to stimulate sustainable growth and development in the region.¹²

1.3 Economic opportunities in transnational corridors

TNECs can be powerful tools for reducing poverty and increasing economic growth. Economic corridors have been a mechanism through which transport infrastructure is leveraged to promote economic growth and development since the late '90s.

As has been discussed before, **transnational corridors foster regional integration**. In doing so, they further deepen ties between countries, fostering cooperation. Through this, **the opportunity to realise shared benefits and develop critical joint infrastructural projects is created**.

TNECs present a variety of rich economic benefits through the **integration of transport systems** such as roads, rails and ports as well. **This is because they link centres of production, including manufacturing hubs, industrial clusters and economic zones, as well as centres of demand, such as capitals and major cities. Thus, they help reduce transportation costs and widen access not only to markets but also to important resources such as raw material and labour.**



Corridors act as links in the international transport network, key to ensuring efficient cross-border trade in goods and services.

11. <https://www.portmaputo.com/who-we-are/maputo-development-corridor/>

12. Ibid.

The integration that economic corridors allow between states becomes especially relevant in a world that sees the increasing globalisation of economic ties between nations. This interdependence has created a need to ensure the integration of transport infrastructure that supports exports. In this context, then, **corridors become pivotal in integrating nations' transport networks within the larger international transport network, spatially connecting important economic centres through multiple transport modes as well.**¹³

By facilitating the movement of people, goods and services, labour, and capital within countries and across borders, they also promote the development of areas within their larger spheres of influence.

With barriers to global trade declining significantly, firms residing in economies with very different factor proportions can often find cross-border transactions commercially attractive. Such trade is facilitated by TNECs, with which comes the 'enhancement of cross-border links, better accessibility and the removal of administrative and technical bottlenecks'.¹⁴

Ties between Singapore and Indonesia, for instance, demonstrate similar corridor-like patterns –Singapore, characterised by high wages and land scarcity, shares close trade ties with Indonesia's low-wage and comparatively land abundant Riau Islands.

As a result of their role in integration, TNECs can reduce transportation costs, widen access to international markets, increase per capita incomes across corridor regions and even proximate ones. Importantly, **TNECs can play a role in ameliorating inadequacies in infrastructure** across poorer regions as well, with the opportunities they present for joint development.

In a more direct way, the development of TNECs has been seen to catalyse the emergence and expansion of a range of ancillary industries, such as logistics and warehousing, hospitality and retail. The increased traffic across the spine of a corridor brings opportunities and benefits to multiple sectors from the increased activity and traffic along these economic routes.

Beyond the economic opportunities they present, economic corridors have the potential to usher in wider socio-economic benefits as well. Keeping in mind this potential, investment in transport corridors is often aimed at creating substantial economic

surpluses which, it is expected, will have a spillover effect throughout the regional economies and society at large.

The development of Vietnam's National Highway No. 5 on the back of complementary reforms in education and trade openness, for instance, helped reduce the absolute number of people living in poverty in the populous Red River Delta region by 35% between 1995 and 2000. This reduction rate outpaced the national average reduction of 27%.¹⁵

Unveiling economic opportunities through the IMEC

The announcement of the IMEC represents a promising initiative in the paradigm of TNECs. With the Middle East serving as a pivotal nexus in this corridor, its role is both strategic and vital in linking the growing economies of India with the diverse and developed markets of Europe. The Middle East's geographical positioning, complemented by its rich energy resources, ports and growing logistics capabilities, makes it a key element for trade flows and economic integration across continents.

India's dynamic economy and tech sector play a crucial role in the IMEC, offering opportunities for innovation and market access. India's participation not only enhances the corridor's digital footprint but also provides crucial access to one of the fastest-growing consumer markets in the world.


Europe, with its advanced technology, manufacturing capabilities and high environmental standards, offers vital expertise and market access as well. The integration with European economies is expected to drive technological transfer, environmental sustainability and infrastructure development along the corridor.

Therefore, such corridors not only increase trade and investment, but also play a pivotal role in integrating economies across a region. The success of these projects depends significantly on alignment of economic visions, aspirations and a commitment to strengthening diplomatic ties for achieving strategic objectives. The IMEC holds promise for achieving these common objectives, bolstered by an alignment of strategic direction of policymakers in the constituent economies.

13. Novoselova I. et al. (2023). 'Features, problems and opportunities for the development of transport corridors in the Eurasian Economic Union', E3S Web of Conferences (371:04014).

14. Hill, H. & Menon J. (2020). 'Economic Corridors in Southeast Asia: Success Factors, Impacts and Policy', Economics Working Paper, ISEAS (2020:3), Yusof Ishak Institute.

15. Melecky, M. et al (2018). 'Wider Economic Benefits of Transport Corridors: A Policy Framework and Illustrative Application to the China-Pakistan Economic Corridor', World Bank. Retrieved from Munich Personal RePEc Archive (MPRA Paper No. 85077).

An aerial photograph of a large industrial facility, possibly a warehouse or factory, with a yellow truck parked in the foreground. The facility has a long, low profile with several windows and loading docks. The truck is a semi-trailer truck with a white trailer and a yellow cab. The ground is paved and shows some tire marks. The sky is clear and blue.

The IMEC, connecting India with Europe through the Middle East, offers unparalleled economic opportunities¹⁶ including but not limited to:

- **Trade expansion and diversification:** The IMEC opens up avenues for diversifying the trade basket along the corridor region. This is aligned with the objective set by multiple Middle Eastern economies such as Saudi Arabia to gradually lower their economy's reliance on energy-based sectors.
- **Flow of investments:** With the strategic commitment of participant countries and building of enabling infrastructure such as ports that aid in the movement of goods and improve the business environment, the IMEC has potential to catalyse flow of investments, ultimately stimulating local economies.
- **Innovation and technology transfer:** Interaction among firms across India, the Middle East and Europe is expected to increase on account of the development of the IMEC. This increased interaction can lead to technology transfer and innovation spillovers.

16. <https://www.me.gov.in/rajya-sabha.htm?dtl/37570/QUESTION+NO700+INDIAMIDDLE+EASTEUROPE+ECONOMIC+CORRIDOR>



2. Key challenges in developing and operationalising TNECs

Considering the scale of corridor projects, their development brings with it a host of challenges. These can be split into three broad categories: infrastructural, policy-level and conflict-related.

Physical infrastructure: In developing and operationalising a corridor, it is important that critical transport infrastructure facilities (physical infrastructure, logistics networks, maintenance) be adequately developed. This will ensure the flow of goods and services within and across the corridor

and beyond. Inadequate physical infrastructure, which can be addressed through substantial investments of capital and time, can, therefore, be a significant hindrance to successful corridor operation.

Institutional/policy aspects: Standards, customs, time and cost spent at borders, institutions and governance, dispute settlement, and safeguards are all elements crucial to the smooth operationalisation of physical infrastructure, and, therefore, the corridor itself.

A major success factor for TNECs is the ability to build corridors based on a shared strategic vision and active cross-country cooperation.

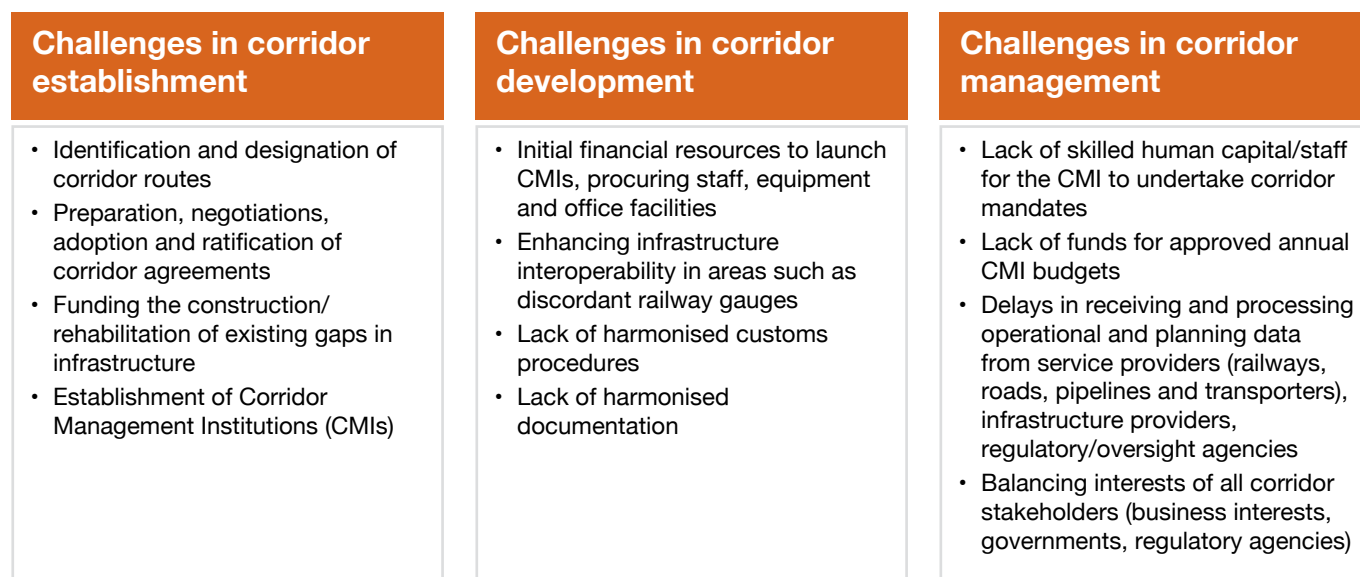
For instance, in order to realise the benefits of corridor development, it is key that different modes (railways, roads, air and maritime shipping) be developed at the regional level and corridor level to facilitate the movement of goods and services. Further, it is equally important to overcome institutional constraints that act as bottlenecks and hurt regional competitiveness by making trade expensive.

Another challenge that must be dealt with is that of security – free trade must also be secured, and security concerns must be addressed adequately before countries adopt regional transport and transit arrangements.


Attention to greater efficiency in international transportation, cooperation to adopt collective measures to promote transport security, and improvement in customs regimes, port facilities, and logistics management are steps to reduce security risks across corridors.

The figure below provides an overview of some other challenges faced in the implementation of a corridor project.

Figure 6: Challenges in corridor project implementation

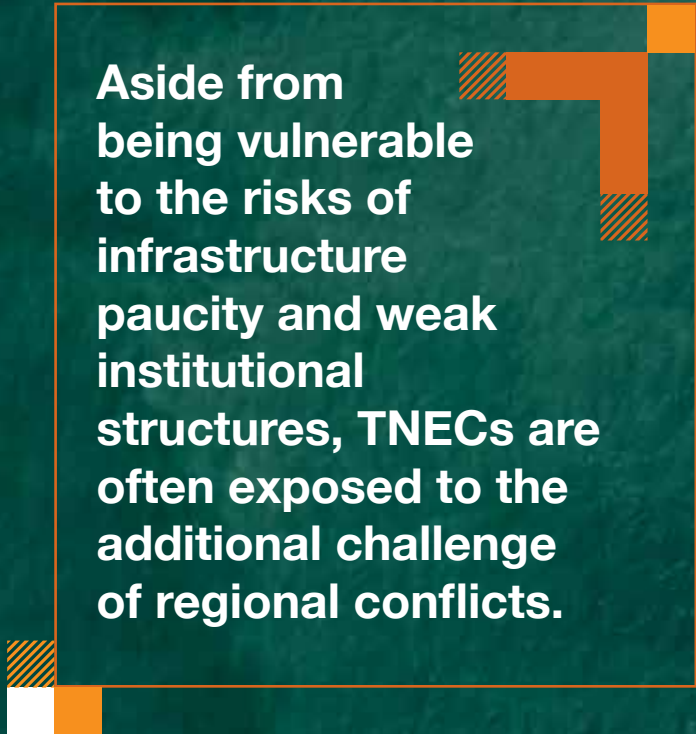


Source: UNCTAD



In the case of TNECs, besides addressing the aforementioned challenges, emphasis must be placed on implementing concrete steps to foster regional cooperation and integration as well. Additionally, **efforts towards achieving policy harmonisation** across territories will further enable the growth of a corridor.

An example of this would be transport laws – ‘as goods begin to move along international transport corridors, the need for harmonisation of laws and processes among countries becomes clear. International conventions related to transport facilitate the movement of goods, especially at border crossings, by reducing procedures and formalities, and saving time’.¹⁷



Aside from being vulnerable to the risks of infrastructure paucity and weak institutional structures, TNECs are often exposed to the additional challenge of regional conflicts.



17. Hill, H. & Menon J. (2020). ‘Economic Corridors in Southeast Asia: Success Factors, Impacts and Policy’, Economics Working Paper, ISEAS (2020:3), Yusof Ishak Institute.

Conflict and instability, in general, have negative implications for the development of trade and integration of economies — one of the key objectives of TNEC projects. Given their large geographical spread, TNECs are often vulnerable to regional conflicts. These conflicts have impacted projects such as the proposed Lome-Ouagadougou-Niamey Economic Corridor Project in West Africa,¹⁸ the Brunei-Indonesia-Malaysia-Philippines East ASEAN Growth Area (BIMP-EAGA),¹⁹ and a proposed Djibouti regional economic corridor,²⁰ either in their development or operationalisation phases.

In assessing the proposed Lome-Ouagadougou-Niamey Economic Corridor Project in West Africa, the World Bank noted that about 19% of Burkina Faso's population and 1% of Niger's population reside in 'high-intensity conflict zones', with violence being reported in 'the direct corridor vicinity'.²¹

In its assessment, the funding body added that the region crossed by the corridor is marked by 'widespread fragility and insecurity',²² adding to already high transport cost and time. Such a situation could potentially hinder trade flows and corridor operations.

Additionally, while assessing the prospects of the proposed Djibouti regional economic corridor, the World Bank said that the Horn of Africa, or HoA (comprising Djibouti, Eritrea, Ethiopia, Kenya and Somalia), is known for its 'long history of fragility ... and seemingly intractable conflicts'.²³ The World Bank also noted that the political and governance risks associated with the corridor, which is aimed at improving regional connectivity and enhancing logistics efficiency in Djibouti along the Djibouti-Addis southern corridor, were 'substantial'.²⁴

Thus, instability due to regional conflict can have a strong impact on investors' decisions to invest in TNECs in such geographical regions while also affecting existing trade routes and supply chains.

Therefore, some possible solutions include:

- **Alignment with existing conflict-mitigation strategies and action plans:** This involves making provisions for strategies and plans that aim to address conflict, risks of violence, and underlying drivers of conflict through development interventions and incorporating these in corridor development measures. Project designs should be made conflict sensitive and contribute to infrastructure and policy developments which can address the factors leading to conflict. Projects could, for instance, focus on the social aspects such as integration of unemployed youth into their programmes or the development of community infrastructure to address the issues related to scarcity.²⁵
- **Creation of forums for discussion and collaboration:** Political impediments may be countered by the creation of platforms and forums for inter-governmental dialogue and collaboration to formulate measures which can de-escalate existing or potential tensions. Furthermore, the corridor countries can collaborate to strengthen their institutional capacities to address the conflicts in border areas.
- **Conflict-resilient trade and transportation protocols:** Synchronisation of trade and transportation protocols is key to the operationalisation of TNECs. Harmonisation of policies between corridor nations facilitates the smooth flow of goods and eases transactions. In conflict-prone/conflict-affected regions, such policies can be formulated with a focus on addressing issues of conflict. These could include developing multi-modal transport systems such as road, rail, sea and air which can reduce the dependency on a single route or mode.

Apart from the above-mentioned steps, joint economic and infrastructure development should be a key focus area as collaborative investment projects that benefit all parties ensure equitable distribution of costs and benefits to reduce tensions and foster collaboration. Moreover, measures also need to be adopted to ensure transparency and accountability in decision-making processes to help build trust among participating countries.

18. The World Bank (2021). International Development Association Project Appraisal Document For Proposed Credits & Proposed Grants For A Lome-Ouagadougou-Niamey Economic Corridor Project

19. BIMP-EAGA (2023). 'Mindanao: Land of Peace, Plenty, and Beauty Is Ready for Investments'

20. The World Bank (2021). 'Project Appraisal Document On A Proposed Credit In The Amount Of SDR 49.5 Million To The Republic Of Djibouti For A Horn Of Africa Initiative: Djibouti Regional Economic Corridor (Report No: PAD4404)

21. The World Bank (2021). International Development Association Project Appraisal Document For Proposed Credits & Proposed Grants For A Lome-Ouagadougou-Niamey Economic Corridor Project

22. Ibid.

23. The World Bank (2021). 'Project Appraisal Document On A Proposed Credit In The Amount Of SDR 49.5 Million To The Republic Of Djibouti For A Horn Of Africa Initiative: Djibouti Regional Economic Corridor (Report No: PAD4404)

24. Ibid.

25. The UN finds that disputes and grievances over resource use can 'contribute to violent conflict when they overlap with other factors, such as high levels of inequity, poverty'



3.

Key enablers in corridor development

The preceding section identified some common challenges faced during corridor development and operationalisation. Based on these identified challenges, this section outlines the key enablers needed for effective TNEC development.

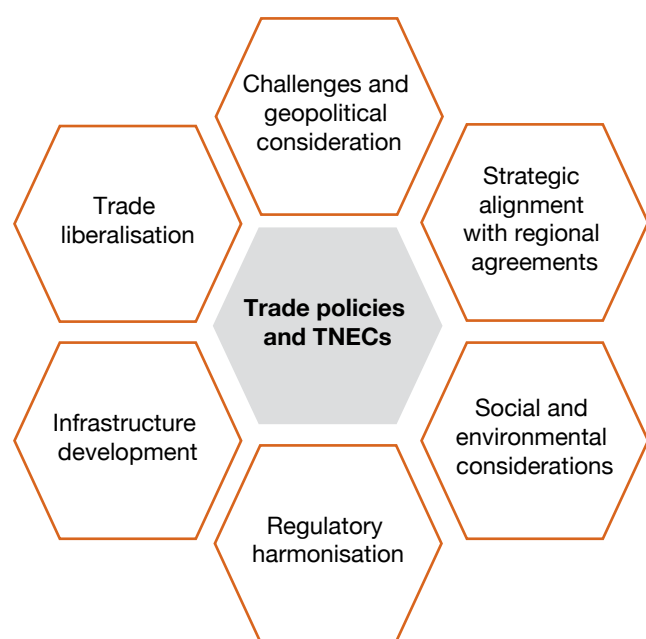
3.1 Role of trade policies in transnational corridors

Trade policies play a pivotal role in transnational corridors for fostering economic growth, enhancing regional connectivity and paving way for global connectivity.

TNECs encompass a network of transportation and communication routes crossing international boundaries and serve as critical conduits for the movement of goods, services and ideas. Here, effective trade policy plays a crucial role in shaping the dynamics of these corridors, influencing trade volumes, investment flows and overall economic development.

From the historic silk routes to the proposed IMEC, the thought process behind enhancing trade across a specific area is not new. With multiple levers to smoothen trade introduced through trade policies, the efficiency of transnational corridors can be enhanced multi-fold.

Figure 7: Role of trade policies



Source: PwC analysis

A. Trade liberalisation

Trade policies that prioritise liberalisation play a pivotal role in enhancing the efficiency of transnational corridors by facilitating smoother cross-border movement of goods. Tariff reductions, simplified customs procedures, and the elimination of non-tariff barriers could contribute to the creation of a more seamless trading environment within these corridors, alongside fostering a more open and competitive environment. The EU provides a compelling example of successful trade liberalisation within transnational corridors. The establishment of the Schengen Area, which enables passport-free movement across participating countries, coupled with the elimination of internal trade barriers, has streamlined the flow of goods and services. This approach has not only stimulated economic activities along transnational corridors but has also contributed to a higher degree of economic integration among EU member states.

B. Trade policies and infrastructure development

Transnational corridors are heavily dependent on transport infrastructure that is both designed well and managed efficiently. Here, trade policies can play an instrumental part in channelling investment flows towards not only infrastructure construction but also maintenance of roads, railways, ports as well as other infrastructure elements essential to corridor operation. This is important because robust infrastructure plays a substantial part in accelerating goods flows and movement and in attracting investments, consequently strengthening economic activity across a corridor.

C. Harmonisation of regulations

Aside from influencing infrastructure development, trade policies can also influence cross-border regulatory coherence and overall harmonisation. This is important as it helps lower transaction costs and enhances the overall predictability of the business environment for investors. The North American Free Trade Agreement (NAFTA), which has evolved into the United States–Mexico–Canada Agreement (USMCA), for instance, demonstrates how regulatory alignment can impact trade flows and economic cooperation. The USMCA is able to meaningfully streamline cross-border trade by standardising customs procedures and regulatory requirements. This, in turn, helps create a more business conducive climate for businesses across the North American corridor. Trade policies can, therefore, play a fundamental role in moderating regulatory hurdles linked with TNECs.

D. Environmental and social concerns

TNECs often aim to meet larger social and environmental objectives. Here, again, trade policies become important – they can help address such considerations along corridor regions, as the case of the East African Community (EAC), where trade policies have been intertwined with sustainable development goals, demonstrates. The EAC, through its promotion of environment-friendly practices and social responsibility, seeks to guarantee inclusive and environmentally sustainable economic growth along its corridors. Such an approach then exhibits ways in which trade policies may be leveraged to attain a balance between economic development and environmental sustainability within TNECs.

E. Strategic policy alignment with regional agreements

It is important that trade policies of individual corridor nations be strategically aligned with both regional and international trade agreements simply because this has the potential to augment the overall impact of TNECs. The ASEAN Economic Community (AEC), for instance, can be examined for the insights it offers into the leveraging of regional economic integration through trade policies. Through its harmonisation of trade policies and standards among member countries, the AEC enables streamlined and smooth trade flows within Southeast Asia. This shows how coordinating member nations' approaches to trade policy, increasing market access and promoting deeper economic integration have a positive impact on the effectiveness of transnational corridors.

F. Hurdles and geopolitical considerations

While there are many potential benefits to TNEC development, there also persist challenges to the implementation of effective TNEC trade policies. Geopolitical tensions, contrasting regulatory frameworks and contradictory economic priorities among corridor nations, for instance, often inhibit effective cooperation.

Generally, then, effectively constructed trade policies have the potential to positively impact TNEC development and operation. Existing challenges and geopolitical considerations further highlight the need for policies that can enhance international collaboration. As the world's economy goes on evolving, the effectively designed trade policies that are implemented soundly will continue to play a pivotal role in unlocking the full potential of TNECs, promoting prosperity and consolidating global interconnectedness.

3.2 Synchronising transport infrastructure across TNECs

In developing and operationalising TNECs, transport and logistics infrastructure often comes together to form an elaborate arrangement spanning various modes of transportation and their allied facilities. This system includes not only necessary components such as roads – the primary freight carriers for trade in most countries – and railways, which see a particularly central role in Europe and Central Asia, but also seaports, land ports/integrated checkpoints at the land ports, and mode interchange facilities such as dry ports.

Across these modes, there also exist many stakeholders who must coordinate to enable corridor development and operation. These stakeholders include:

- government agencies responsible for infrastructure (ports, roads, railways, border posts)
- government agencies helming service regulation (transport, customs, immigration, security, health, agriculture, trade, and so forth)
- private sector operators (involved with roads, railways, ports, finance, terminal operations, freight forwarding, cargo clearing, etc.).

The use of diverse transportation modes, each managed by different stakeholders and subject to different sets of laws and regulations specific to geographical locations, thus gives rise to complexity in TNEC development and operation. As a result, synchronisation becomes vital in resolving challenges in transport and logistics infrastructure in TNECs. A few main challenges are listed below:

- **Constrained corridor coordination and management:** The involvement of numerous authorities and procedural differences across corridor countries often complicates, if not hinders, coordination and administration of cross-border operations. Duplication of documents, lack of standardised data requirements, and inefficient processes at points of interface between service providers within the same country and among corridor countries are all challenges that arise due to limited coordination among member nations of a TNEC.
- **Differing connectivity infrastructure standards:** Issues such as inconsistent railway gauges and road types across locations inhibit truck movement. Plus, inadequate end-to-end connectivity to major gateways such as ports and land ports raises both time and cost of cargo passage.
- **Low operational efficiency of transport and logistics infrastructure:** Often, a TNEC's overall capacity is substantially hindered by its weakest infrastructural component. Inadequacies in capacity and subpar operational efficiency of components, including roads, rail, seaports, and land ports, across corridor nations hinder seamless trade flows. Limited infrastructure at border crossings due to lack of policy prioritisation on budgeting for such infrastructure can also be a major contributor here.

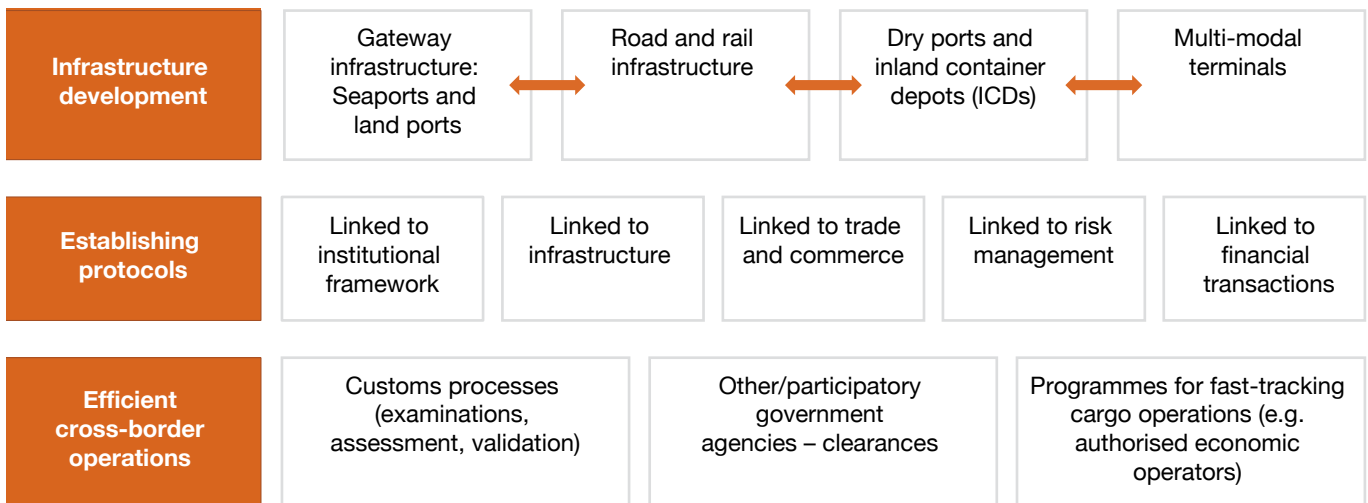
- **Inefficient intermodal infrastructure:** Inadequate efficient intermodal infrastructure to facilitate switching between transport modes at land and sea borders significantly heightens costs and delays in cargo movement, indicating the importance of creating robust intermodal infrastructure.

Thus, the synchronisation of transport and logistics infrastructure demands a focus on three broad intertwined dimensions:

- creation of a robust and efficient infrastructure base
- implementation of protocols that support effective cargo measures to enable seamless cross-border operations.



Figure 8: Key elements of policy synchronisation



Source: PwC analysis

3.3 Development of optimal and efficient infrastructure

Within a TNEC, transport and logistics infrastructure is pivotal in ensuring effective trade flows across the corridor’s expanse. Here, the infrastructure can be classified into two major elements:

1. trade gateways (sea and land ports)
2. linking infrastructure such as rail, road and/or waterway networks connecting trade gateways with hinterland facilities (dry ports/ICDs or economic clusters, among others).

Sound infrastructure ensures not only seamless flows of goods and services but also creates the conditions necessary for economic integration and regional collaboration. Further, infrastructure is crucial in easing delays and reducing trade bottlenecks. To ensure smooth cargo flows along a TNEC, it becomes necessary to first ensure the effective integration of infrastructure across all modes of goods transportation. This is because inadequacies in even a single facility can reproduce inefficiencies across the whole TNEC. Keeping this in mind, it becomes imperative to undertake holistic and synchronised development of infrastructure.

The figure below illustrates the roles of transport and logistics infrastructure components in a TNEC.

Figure 9: Roles of transport and logistics infrastructure in TNECs



Source: PwC analysis

Trade gateways require three major classes of infrastructure for streamlined cargo processing and movement:

1. infrastructure that enhances cargo handling and storage capacities and improves overall connectivity
2. infrastructure for smooth customs procedures

3. any other infrastructure that helps achieve overall operational efficiencies relating to aspects such as safety, health, security and communication.

The figure below provides an indicative list of essential infrastructure facilities needed across the three classes outlined above.

Figure 10: Essential infrastructure for TNEC operationalisation



Source: PwC analysis

3.4 Establishment of protocols for the effective movement of goods

The establishment of protocols for the effective movement of goods is a fundamental aspect in synchronising transport and logistics operations over a TNEC. These protocols serve as a set of guidelines and standards, and as a governing framework to ensure the smooth and efficient flow of goods across borders. These standardised sets of rules ensure uniformity, compatibility and efficiency, fostering a cohesive environment where diverse entities can operate harmoniously.

The development of transport protocols and specifications for the transportation of goods over TNECs typically involves collaboration among three key stakeholder categories:

1. countries through which the corridor is passing and which are involved in the trade movement
2. key international organisations which facilitate trade and transactions across the globe
3. regional group of bodies through which the corridor is passing.

The protocols and specifications facilitate collaboration, cooperation, monitoring and effective management between these corridor parties at different levels.

For instance, the East Asia and Pacific region have several agreements of relevance to international trade corridors. They cover both transport and logistics infrastructure development and trade facilitation. Some of the main agreements include the ASEAN Framework Agreement on the Facilitation of Goods in Transit and Greater Mekong Subregion Cross-Border Transport Facilitation Agreement of 2005.

In South Asia also, major regional instruments and free trade agreements (FTAs), such as the South Asian Association for Regional Cooperation (SAARC), the Preferential Trading Agreement (SAPTA) of 1993, the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), the Bangladesh, Bhutan, India, and Nepal (BBIN) Motor Vehicle Agreement, ensure sustained coordination amongst the participating nations in terms of facilitating the movement of goods across borders.



Trade facilitation between India and South Asian countries²⁶

South Asia Subregional Economic Cooperation (SASEC) is a regional cooperation programme between Bangladesh, Bhutan, India, Maldives, Myanmar, Nepal and Sri Lanka that aims to promote regional prosperity, improve economic opportunities, and build a better quality of life for the people of the subregion.

To enhance regional connectivity amongst India and neighbouring countries to facilitate the movement of goods and passengers, multiple bilateral and multilateral arrangements have been concluded or are being pursued by the participants, including the following:

- SASEC Trade Facilitation Framework to simplify and harmonise trade procedures and promote cross border trade
- SASEC Road Connectivity Investment Program for improving road infrastructure and connectivity within the countries
- SASEC Information Highway Project to enhance information and communication related infrastructure amongst the member nations
- coastal shipping agreements between the nations for enhancing coastal sea movement
- Protocol on Inland Waterways Transit and Trade for enhanced use of inland waterways connecting the region
- Bangladesh–Bhutan–India–Nepal Motor Vehicles Agreement (BBIN–MVA) for ease of movement of trucks within the region.

Example

The BBIN-MVA is a regional/subregional cooperation initiative aimed at facilitating seamless cross-border movement of passenger and cargo vehicles among the member countries. The agreement was signed on 15 June 2015 in Thimphu, Bhutan.

The key objectives of the BBIN-MVA include:

- Facilitating cross-border movement: The agreement aims to enhance connectivity and promote economic cooperation by easing the movement of vehicles across borders.
- Simplifying customs and immigration procedures: The agreement envisions streamlining customs, immigration and other related procedures to make cross-border travel more efficient.
- Promoting tourism and trade: By facilitating easier movement of goods and people, the BBIN-MVA seeks to boost tourism and trade activities among the member countries.

26. <https://www.adb.org/sites/default/files/publication/850711/improving-trade-facilitation-ne-india.pdf>

Typically, effective movement of goods over a TNEC requires select key protocols and specifications to be in place. The table below provides an indicative list in this regard, as specific economic corridors may require additional protocols to be in place due to their unique geographical features and goals:

Category	Protocols/specifications	Usage and importance
Institutional and legal framework	<ul style="list-style-type: none"> • Customs cooperation and mutual assistance agreements • International trade contracts amongst countries • Dispute resolution protocols • Regulatory compliance standards • IP rights agreements 	<ul style="list-style-type: none"> • Customs cooperation and mutual assistance facilitate cooperation between customs authorities of different countries. • International contracts set legal terms for transactions. • Dispute resolution protocols provide mechanisms for conflict resolution. • Regulatory compliance standards ensure adherence to laws. • IP rights agreements protect intellectual property.
Transport infrastructure	<ul style="list-style-type: none"> • International shipping protocols • Cross-border infrastructure agreements 	<ul style="list-style-type: none"> • Shipping protocols include established norms for documentation, packaging, labelling and transportation. Compliance by all the countries involved ensures smooth and secure transit of goods between countries. • Infrastructure agreements facilitate the development of transport routes and maintain standards across the routes.
Trade and commerce	<ul style="list-style-type: none"> • International trade agreements • Customs protocols • Standard Harmonised System (HS) Codes 	<ul style="list-style-type: none"> • Trade agreements for setting effective guidelines for cross-border transactions. • Customs protocols to establish standardised procedures for clearance. • HS Codes standardise product classification for all commodities being moved and thus they become easier to map and analyse.
Risk management	<ul style="list-style-type: none"> • Electronic funds transfer and single window systems • Society for Worldwide Interbank Financial Telecommunication (SWIFT) • Payment Card Industry Data Security Standard (PCI DSS) 	<ul style="list-style-type: none"> • Electronic funds transfer and single window systems ensure secure and swift cross-border financial transactions under one platform. • SWIFT provides a standardised messaging system for financial institutions. • PCI DSS safeguards payment card data during transactions.

In addition, transport facilitation across international borders happens not only by building cross-border infrastructure connectivity but also by pursuing bilateral and multilateral discussions to strengthen institutional and regulatory commitments.

In the context of a TNEC, establishing a transport and trade facilitation committee at both national and regional levels may also help in fast-tracking trade and transportation. This committee will help delineate clear objectives, standards and protocols, and help implement them across the countries and thus assist in cross-border transport facilitation. The primary objectives of the facilitation committee may include:

- facilitating the movement of in-transit goods, thus strengthening corridor implementation and connected free trade area(s) and supporting regional economic integration
- simplifying and ensuring the harmonisation of regulations/requirements associated with transport, trade and customs to facilitate the streamlined flow of goods
- establishing a harmonised and integrated system of transit transport that is effective in efficiently supporting cross-border corridor operations.

ASEAN Framework Agreement on Facilitation of Goods in Transit (AFAFGIT)²⁷

ASEAN, or the Association of Southeast Asian Nations, is a regional intergovernmental organisation comprising ten countries in Southeast Asia. As part of larger measures to ease trade, investment, capital and labour flows, the ASEAN nations have also created an ASEAN Economic Community (AEC). For the AEC to take root, the establishment of a fully harmonised customs and transport environment is of the highest priority.

Under the AEC, the ASEAN Framework Agreement on Facilitation of Goods in Transit (Ha Noi, 1998) is a core instrument for the realisation of these objectives and provides for nine high-level protocols that set out generic standards to be put into place for the implementation of an international transit system.

A key objective of the AFAFGIT is to support the emergence of a regional environment where vehicles operating under the larger transit system are able to move goods by road from any point of origin in any ASEAN Member State (AMS) to any other Member State, through as many transit nations as needed without the need for transitional unloading and with the least possible number of border procedures. To achieve the objective, nine protocols are envisaged under the AFAFGIT:

- Protocol 1: Establishment of Transit Transport Routes and Facilities
- Protocol 2: Establishment of Frontier Posts
- Protocol 3: Types and Quantity of Road Vehicles
- Protocol 4: Technical Requirements of Vehicles
- Protocol 5: ASEAN Scheme of Motor Vehicle Insurance
- Protocol 6: Railways Border and Interchange Stations
- Protocol 7: Customs Transit Systems
- Protocol 8: Sanitary and Phytosanitary Measures
- Protocol 9: Dangerous Goods

27. https://acts.asean.org/Legal_Framework/asean-framework-agreement-facilitation-goods-transit-afafgit

3.5 Enabling efficient cross-border operations

Enabling efficient cross-border operations is a critical component for achieving the synchronisation of transport and logistics infrastructure within a TNEC. The time for clearance of goods through international border facilities is a major source of delays in cargo movement. These delays are caused by the need to comply with a range of processes for cross-border movement of goods and non-standardisation of these processes across countries. The activities at the trade gateways (seaport and land ports) are mainly related to the following types of stakeholders:

- 1. Customs:** Customs is involved in activities such as including verification and clearance of goods, collection of duties and taxes, inspection to ensure compliance with regulations, implementation and enforcement of import/export restrictions, and issuance of necessary permits and licences.
- 2. Port authority (seaport or land port):** The port authority is mainly involved in the management and operation of port/land border facilities, maintenance of navigational channels and infrastructure, cargo handling, storage, etc.
- 3. Other/participatory government agencies (PGAs):** Key activities include inspection and approval of goods based on specific regulations and implementation of health and safety standards.
- 4. Importers and customs brokers:** These stakeholders are responsible for submission of documentation, payment of duties and taxes, coordination with other stakeholders, especially customs, arranging transport and logistics for cargo movement, etc.

The involvement of numerous agencies in the border clearance process often results in duplication of paperwork, which in turn becomes one of the major sources of delays at borders. Efficient border management requires reconciliation of the twin goals of enforcing compliance while expediting the movement of cargo across international boundaries.

The figure below provides an indicative list of border checks typically conducted at a land port.

Figure 11: Typical border checks at land ports



Cargo

- Customs: Transit control for taxation, control of restricted and prohibited items
- Quarantine inspection (phyto-sanitary and veterinary screening)
- Technical conformity board, food and health, dangerous and perishable goods control, etc.



Vehicles

- Infrastructure usage fees and vehicle insurance
- Transport authorisation
- Weights and dimensions
- Vehicle technical certificates
- Customs security of loads
- Quarantine inspections
- Special features for vehicles (equipment and identifiers for refrigerated trucks/dangerous goods carriers)



Drivers






- Passport and visa
- Customs inspection
- Quarantine inspection
- Drivers' licences
- Special certificates (e.g. for transport of dangerous goods)
- Service licence
- Health/vaccination certificate

Source: PwC analysis

For effective and efficient border operations, each of the stakeholders must invest in the following key elements which may help streamline the overall process.

Customs, port authorities and PGAs






Figure 12: Key components for harmonious policy synchronisation

Element	Prominent global examples
 <p data-bbox="264 645 600 674">Integrated information systems</p>	<p data-bbox="762 645 1378 674">The US-Mexico border modern cargo inspection facilities</p>
 <p data-bbox="264 819 635 848">Collaborative border management</p>	<p data-bbox="762 819 1082 848">The Schengen Area in Europe</p>
 <p data-bbox="264 985 603 1014">Advanced technology adoption</p>	<p data-bbox="762 985 1155 1014">The Malaysia-Singapore land border</p>
 <p data-bbox="264 1151 616 1180">Advanced security infrastructure</p>	<p data-bbox="762 1151 1449 1211">The US-Canada border's advanced surveillance systems, biometric technologies and automated licence plate recognition</p>
 <p data-bbox="264 1317 647 1377">Efficient customs and immigrations compliance</p>	<p data-bbox="762 1317 1417 1377">The Eurotunnel between the UK and France with streamlined customs and immigration procedures</p>

Source: PwC analysis

Importers/exporters and customs brokers: The key elements that logistics providers/customs may invest in for efficient border operations are illustrated in the figure below.

Figure 13: Key enabling logistics and customs services

Element	Prominent global examples
 <p data-bbox="261 595 724 622">Pre-arrival documentation and compliance</p>	<p data-bbox="794 595 1442 622">The US-Canada Free and Secure Trade (FAST) programme¹</p>
 <p data-bbox="261 763 512 790">Technology integration</p>	<p data-bbox="794 763 1394 819">Single window systems such as the Singapore National Single Window²</p>
 <p data-bbox="261 927 496 954">Supply chain visibility</p>	<p data-bbox="794 927 1362 983">Blockchain technology for real-time visibility into the movement of containers</p>
 <p data-bbox="261 1090 708 1117">Integration with Trusted Trader Programs</p>	<p data-bbox="794 1090 1378 1146">Companies participating in customs trade partnership programmes</p>
 <p data-bbox="261 1254 668 1281">Cross-border collaboration platforms</p>	<p data-bbox="794 1254 1326 1310">The EU's e-Customs for collaboration among EU member states³</p>

Source: PwC analysis

1 <https://www.cbp.gov/travel/trusted-traveler-programs/fast>

2 <https://www.customs.gov.sg/businesses/national-single-window/overview/>

3 https://taxation-customs.ec.europa.eu/customs-4/electronic-customs_en

Aside from the intervention areas highlighted in the figures above, the Authorised Economic Operator (AEO) programme and mutual recognition agreements (MRAs) can also help to significantly optimise cross-border trade flows across TNECs. Such measures

are vital to streamlining the clearance process of various operators, thereby minimising the overall time and cost of logistics, often a substantial barrier to competitiveness.

Enhancing cross-border efficiency through the AEO programmes and MRAs²⁸

The AEO programme, especially in the contemporary trade context, is among the measures pivotal to amplifying both the efficiency and security of cross-border operations. Adopted by customs authorities across the world today, the AEO initiative recognises those businesses that demonstrate their commitment to complying with customs regulations, security standards and supply chain integrity in general.

Key benefits of the AEO programme:

- Simplified customs processes: AEOs enjoy the benefit of streamlined procedures and consequently speedy clearances at border points.
- Priority processing: AEO-certified businesses also enjoy the advantage of priority in customs processing which minimises the time cost of goods movement.
- Reduced disruptions from inspections: AEOs with a 'low-risk traders' categorisation require fewer physical inspections which minimises supply chain disruptions.
- Greater security: As AEO certification directs compulsory implementation of rigorous security measures, it strengthens the overall security of international trade.
- Global recognition: As AEO certification is largely recognised across the world, it can enable the fostering of trade relationships with other nations' AEO initiatives.

MRAs in AEO programmes:

The impact of AEOs is further extended and strengthened by MRAs between nations for the mutual recognition of each other's AEOs. The key benefits of MRAs include:

- Global reach: MRAs enable AEO-certified businesses to extend the benefits of their status across multiple countries, expanding their reach to international trade.
- Consistency in standards: MRAs foster consistency in security and compliance standards between countries, promoting a harmonised global trade environment.
- Reduced redundancy: AEOs covered by MRAs avoid the need for redundant certification processes in each country, saving valuable time and resources.
- Facilitated trade: MRAs streamline customs procedures, creating a more efficient and facilitated cross-border trade environment by recognising and trusting the security measures implemented by AEOs.

The AEO programme and MRAs linked to the programme together contribute to enhancing cross-border efficiency. AEO certification streamlines customs procedures and boosts security, while MRAs extend these benefits globally, fostering consistency in standards and facilitating trusted, expedited trade relationships across borders. Together, AEO and MRAs form a powerful framework for efficient and secure international trade operations.

28. <https://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/instruments-and-tools/tools/safe-package/strategy-guide-for-aeo-mutual-recognition.pdf?la=en>



4.

Current initiatives towards developing transnational corridors

Some current TNEC initiatives are listed below.

4.1 IMEC

The IMEC, which will integrate the EU and seven countries – namely India, the US, Saudi Arabia, the United Arab Emirates (UAE), France, Germany, and Italy –²⁹ through an ‘intercontinental transport programme’³⁰, is aimed at boosting ‘cross-border trade between India, the Middle East and Europe’.³¹

It also aims to pave the way for ‘more integrated and swifter global supply chain solutions’.³²

- It is estimated that the corridor has the potential to ‘make India-Europe cargo flows significantly faster – an overall 40% transit improvement according to anecdotal estimates’.³³

29. LS-USQ-No.715-dt.-07.02.2024.pdf (commerce.gov.in)

30. Mathias, A. (2023). ‘G20 unveils plan for IMEC trade corridor to rival China’s BRI’, The Loadstar (October 9, 2023).

31. Ibid.

32. Ibid.

33. Ibid.

- Each partner nation within the corridor will not only leverage its logistics infrastructure and transport networks, but will also serve as an important market for products manufactured by other partner nations. In fact, one of the key objectives of the initiative is to broaden access to markets in Europe through Greek ports which are to form part of the IMEC.³⁴

A key objective of the IMEC is to broaden access to markets in Europe through the Greek ports.

If fully realised, the benefits of the development of such a consolidated trade route will include reduced trade costs, enhanced market access and stimulation of investment opportunities between participating countries.

4.2 GMS

The Greater Mekong Subregion (GMS) saw the adoption of the economic corridor approach in 1998. This was seen as an important way of achieving connectivity. Across the GMS, a robust base of transport infrastructure serves as the enabler for key economic corridors developed over the last 15 years. The GMS corridor approach planned infrastructure by considering the economic potential of specific geographic areas around transport links.³⁵

A three-pronged strategy for corridor development has been implemented in the GMS:

- strengthening connectivity via the sustainable development of key infrastructure and the conversion of transport corridors into TNECs

- competitiveness improvement by effectively enabling cross-border movement of people and goods and by integrating value chains, markets and production processes
- fostering a deeper feeling of community by implementing projects and programmes focussed on addressing shared concerns around society and the environment.

Thus far, corridor development efforts in the GMS have been concentrated on three key corridors,³⁶ namely:

- i. the East–West Economic Corridor (EWEC) which runs from Da Nang in Vietnam, traversing the Lao People’s Democratic Republic (Lao PDR) and Thailand and terminating in Myanmar
- ii. the North–South Economic Corridor (NSEC) which covers the key routes running from Kunming in the People’s Republic of China’s Yunnan through the Lao PDR and Myanmar to Bangkok in Thailand (it also has a route linking Nanning in China’s Guanxi to Ha Noi and Hai Phong in Vietnam)
- iii. the Southern Economic Corridor (SEC) which traverses the southern parts of Cambodia, Thailand and Vietnam.

4.3 SASEC

The SASEC programme, set up in 2001, brings together Bangladesh, Bhutan, India, Maldives, Myanmar, Nepal and Sri Lanka in a project-based partnership with an aim to promote regional prosperity by improving cross-border connectivity, boosting trade among member countries, and strengthening regional economic cooperation. As of February 2023, SASEC member countries have signed and implemented 79 Asian Development Bank (ADB)-financed investment projects worth around USD 18.41 billion in the transport, trade facilitation, energy, economic corridor and health sectors. The transport sector accounts for the majority of projects (46 projects worth over USD 13.17 billion).³⁷

34. Gilani, I. (2023). ‘India-Middle East-Europe Economic Corridor: A passage of possibilities’, Frontline (October 5, 2023).

35. ADB (2013). ‘What is Economic Corridor Development and What Can It Achieve in Asia’s Subregions?’, ADB Working Paper Series (No. 117).

36. Greater Mekong Subregion. Economic Corridors in the Greater Mekong Subregion

37. SASEC. What is SASEC?

Given the compelling investment trend and the concurrent expansion of infrastructure, challenges and complexities arise from the involvement of diverse transportation modes, each of which is managed by different stakeholders and subject to varying laws and regulations specific to geographical locations. Some of these challenges have been presented in Figure 14.

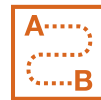


Figure 14: Challenges faced by SASEC



Transport

- Damaged cargo and delayed transit times through **deteriorating road networks**
- **Poor rail networks** with inadequate loop lengths, insufficient gauge conversion programmes and missing shorter links in border areas
- **Lacking South Asian national transport systems** with poor cross-border infrastructure, delaying trade
- **Absence of modern automated border procedures** (documentation and inspection) increasing costs and delays in cross-border flows goods, vehicles and traders
- Low regional uniformity of standard costs of business, time and money



Trade facilitation

- Barriers such as **lengthy administrative procedures** and **unnecessary documentation requirements**, and **lack of harmonised trade regulations**
- **Challenges in establishing effective automation and streamlining** of customs and security procedures
- **Unavailability of efficient transit arrangements**
- **Poor cooperation between governments** to create efficient and integrated border management arrangements, including single-window systems







Economic corridor development

- South Asian industrial bases are currently disconnected from regional and global value chains, seriously limiting SASEC nations' ability to effectively implement optimised industrialisation processes
- Business-unfriendly regulatory and institutional frameworks and inadequate infrastructure connectivity hindering both productivity and competitiveness
- Inadequate/inefficient connectivity infrastructure and various regulatory restrictions at border crossings and gateways leading to high cost of cross-border trade across South Asia, which remains among the highest in the world

Source: PwC analysis

To address the challenges illustrated earlier, the SASEC Operational Plan 2016–2025³⁸ outlines the strategic goals of the SASEC partnership, delineating operational priorities across the four primary sectors of the SASEC initiative. This plan

serves as a comprehensive framework to navigate and strategically prioritise actions for enhanced collaboration and sector-specific advancements within the SASEC partnership.

Sector/area	Key intervention required
<p>Transport</p> 	<ul style="list-style-type: none"> • Expansion and upgradation of road networks along important trade routes across the SASEC subregion • Improvements in overall rail network connectivity and coverage in the SASEC • Port infrastructure development to strengthen efficient handling of sub-regional maritime trade and capacity expansion to address anticipated container traffic growth • Measures for promotion of coastal shipping and inland water transport for international trade • Upgradation of international airport capacity
<p>Trade facilitation</p> 	<ul style="list-style-type: none"> • Simplification of trade documentation, increased automation, and expedited border clearance procedures to facilitate goods and vehicular flows • Promotion of automation across border agencies and the development of National Single Windows (NSWs) by expanding linkages with all border agencies and trading • Facilitating strengthening of national-level conformance bodies and developing infrastructure and facilities in border agencies to improve standardisations in testing and certification, enabling NSW establishment, and examining the potential of mutual recognition agreements across member nations • Development and implementation of through-transport motor vehicle agreements to lower border transshipment levels • Development of trade-related infrastructure in ports and land borders (including last mile approaches, inland container depots (ICDs), and bonded logistics units abutting land borders and in major trade centres)
<p>Energy</p> 	<ul style="list-style-type: none"> • Easing of access to large-scale electricity and natural gas sources by improving linkages to them • Harnessing of currently untapped regional hydropower potential • Development of low-carbon alternatives such as wind and solar power • Facilitation of bilateral and regional coordination tools and knowledge sharing
<p>Economic corridor development</p> 	<ul style="list-style-type: none"> • Strengthening existing value chains and supporting the development of new value-chain ties between in-country corridors • Upgrade of critical transport and trade facilitation infrastructure to improve connectivity among in-country corridors • Designing of appropriate institutional mechanisms that can serve as key platforms for coordination and collaboration among governments and other stakeholders involved in economic corridor development

38. SASEC & Asian Development Bank (2016). South Asia Subregional Economic Cooperation Operational Plan 2016–2025 (SASEC & Asian Development Bank (2016). South Asia Subregional Economic Cooperation Operational Plan 2016–2025).

Since the inception of the programme, SASEC countries have actively pursued bilateral and multilateral agreements to fulfil their strategic objectives and facilitate seamless trade. A selection of these agreements is outlined below:³⁹

Category	Key features/objectives
South Asian Free Trade Area (SAFTA)	South Asian Free Trade Area (SAFTA) aims to progressively eliminate barriers to trade in goods and services, promoting investment, and facilitating the harmonisation of standards and customs procedures. Key features of SAFTA include the reduction of tariffs, non-tariff barriers, and other trade restrictions to enhance intra-regional trade.
Bangladesh-Bhutan-India-Nepal (BBIN) – Motor Vehicle Agreement (MVA)	The Bangladesh–Bhutan–India–Nepal Motor Vehicles Agreement (BBIN–MVA) is useful for the seamless movement of cargo trucks across borders from the consignor to the consignee. ⁴⁰ The absence of such arrangements necessitates the transshipment and rearrangement of cargo at the border, leading to additional handling, delays and potential damage to cargo.
ASEAN-India Comprehensive Economic Cooperation Agreement	The primary objective is to enhance trade and investment flows while fostering economic development. Key features of the agreement include the reduction or elimination of tariffs on a wide range of goods, facilitating the movement of services, promoting investment and encouraging cooperation in various economic sectors. The agreement also addresses non-tariff barriers and aims to create a more open and predictable business environment.
Asia-Pacific Trade Agreement (APTA)	Key features of APTA include the reduction and elimination of tariffs on a broad spectrum of goods, the liberalisation of trade in services, and the encouragement of cross-border investments.
Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) Free Trade Area	Key features of BIMSTEC include the facilitation of trade and investment, connectivity initiatives, and the development of infrastructure projects to strengthen economic ties. BIMSTEC also emphasises cooperation in sectors such as agriculture, technology, tourism and environmental conservation.
Protocol on Inland Water Transit and Trade (PIWTT)	The primary objective of PIWTT is to enhance regional connectivity and trade by promoting efficient and seamless movement of goods through inland waterways. Key features include the establishment of standardised procedures and regulations for inland water transit, the simplification of customs and border control processes, and the promotion of a cooperative framework among the signatory nations.
Agreement on coastal shipping (ACS)	It aims to enhance regional maritime connectivity and trade among member countries. The primary objective of ACS is to facilitate efficient and cost-effective coastal shipping operations, promoting the movement of goods between the participating nations through maritime routes.
SASEC Information Highway Project Agreement	The agreement aims to improve regional connectivity by developing information and communication technology (ICT) infrastructure, thereby promoting digital connectivity and e-commerce.

39. <https://www.sasec.asia/index.php?page=what-is-sasec>

40. Press Information Bureau (2016). Speech of the Secretary, Economic Affairs at the South Asia Subregional Economic Cooperation (SASEC) 2025 – Second Regional Consultation Workshop33.





5. Synergies for TNEC development

Corridor-based development aims to leverage linear routes to spur economic activity by facilitating infrastructure development, investment and innovation to transform regional economies. In order to realise the benefits of any corridor, including

TNECs, building synergies around the three pillars – institutions, policies and regulations, and infrastructure – of a corridor development is the foundation.

Figure 15: Three key pillars of a TNEC

Pillars of TNEC development		
Institutions	Policies and regulations	Infrastructure
<ul style="list-style-type: none"> • Collaboration between governments • Customs cooperation • Mutual assistance agreements • Dispute resolution protocols • Cross-border infrastructure agreements 	<ul style="list-style-type: none"> • Business-friendly policies • Trade openness • Conducive tax regime • Policy harmonisation • Smooth cross-border trade measures • Measures for swift and easy cross-border financial transactions 	<ul style="list-style-type: none"> • Gateway infrastructure • Road and rail networks • Dry ports and inland container depots • Multi-modal terminals • Efficient digital infrastructure

Source: PwC analysis

Robust institutional frameworks are key to a corridor's success as they facilitate collaboration between governments, ensuring effective governance and dispute resolution.

Moreover, harmonised policies and regulations create a conducive business environment, streamlining trade procedures and financial transactions. In addressing **concerns of policy harmonisation**, it is meaningful to look at **trade policies**, which play a pivotal role in transnational corridors for fostering economic growth, enhancing regional connectivity and paving the way for global connectivity.

Effective trade policy plays a crucial role in shaping the dynamics of these corridors, influencing trade volumes, investment flows and overall economic development. Standards, customs, time and cost spent at borders, institutions and governance, dispute settlement and safeguards are vital elements for the smooth operationalisation of the physical infrastructure and, therefore, the corridor itself.

A strong infrastructure base also helps ensure the success of TNECs. In developing and operationalising a corridor, it is important that critical transport infrastructure facilities (physical infrastructure, logistics networks and maintenance) be adequately developed. This ensures a seamless flow of goods and services within, across and beyond the corridor.

A TNEC typically comprises transport and logistics infrastructure which is an intricate network spanning various modes of transportation and their associated facilities. This comprehensive system includes essential components such as roads, which serve as the primary freight carriers in trade for most countries, and railways, whose significance is particularly pronounced in Europe and Central Asia. Seaports, land ports/integrated checkpoints at the land ports, and mode interchange facilities like dry ports are integral parts of this expansive infrastructure.

An economic corridor also involves **numerous stakeholders** and coordination between them is required to develop the corridor and ensure its efficient operation. These stakeholders include government agencies responsible for infrastructure and regulation of services as well as private sector operators.

Challenges arise from the involvement of diverse transportation modes, each managed by different stakeholders and subject to varying laws and regulations specific to geographical locations.

Synchronisation thus becomes paramount in addressing the challenges observed in the transport and logistics infrastructure of TNECs.

While varying regulatory frameworks and divergent economic priorities among participating countries can impede seamless cooperation, among the most significant hurdles to TNECs is the risk of **geopolitical tensions**. Other similar situations can arise in the case of **regional conflicts**.

Thus, while TNECs bring a host of benefits to participating nations, there are key infrastructural, institutional, and policy challenges that must be addressed in conceptualisation, development, and operationalisation. The experiences of existing corridors such as the GMS and the SASEC can be learnt from to create robust trade routes.





About PwC



At PwC, our purpose is to build trust in society and solve important problems. We're a network of firms in 151 countries with over 360,000 people who are committed to delivering quality in assurance, advisory and tax services. Find out more and tell us what matters to you by visiting us at www.pwc.com.

PwC refers to the PwC network and/or one or more of its member firms, each of which is a separate legal entity. Please see www.pwc.com/structure for further details.

© 2024 PwC. All rights reserved.

Contact us

Mohammad Athar

Partner and Leader, Capital Projects and Infrastructure and Industrial Development

mohammad.athar@pwc.com

Probal Ghosh

Managing Director, Capital Projects and Infrastructure and Industrial Development

probal.ghosh@pwc.com

Anurag Sehgal

Subject matter expert

anurag.sehgal@pwc.com

Dhruv Gadh

Partner, Advisory - One Consulting

dhruv.gadh@pwc.com

Contributors

Ashrith Mallipeddi, Shashank Dhinghra, Stuti Toshi, Bipasha, Shivanshu Sharma, Utkarsh Pradip Baviskar

Editorial

Vishnupriya Sengupta

Ruchika Uniyal

Dion D'Souza

Design

Kirtika Saxena

pwc.in

Data Classification: DC0 (Public)

In this document, PwC refers to PricewaterhouseCoopers Private Limited (a limited liability company in India having Corporate Identity Number or CIN : U74140WB1983PTC036093), which is a member firm of PricewaterhouseCoopers International Limited (PwCIL), each member firm of which is a separate legal entity.

This document does not constitute professional advice. The information in this document has been obtained or derived from sources believed by PricewaterhouseCoopers Private Limited (PwCPL) to be reliable but PwCPL does not represent that this information is accurate or complete. Any opinions or estimates contained in this document represent the judgment of PwCPL at this time and are subject to change without notice. Readers of this publication are advised to seek their own professional advice before taking any course of action or decision, for which they are entirely responsible, based on the contents of this publication. PwCPL neither accepts or assumes any responsibility or liability to any reader of this publication in respect of the information contained within it or for any decisions readers may take or decide not to or fail to take.

© 2024 PricewaterhouseCoopers Private Limited. All rights reserved.

KS/October 2024 - M&C 41334