



Eurasian Development Bank

The Eurasian Transport Network

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EURASIAN TRANSPORT NETWORK

FACTS AND FIGURES

ANALYTICAL REPORT '24

EURASIAN TRANSPORT NETWORK (ETN)

The Eurasian Transport Network is a system of interconnected latitudinal and meridional international transport corridors and routes promoting Eurasia's intra- and transcontinental connectivity.

The backbone of the Eurasian Transport Network consists of international transport corridors crossing the Eurasian landmass along East-West and North-South axes, linking Asia, Europe, and the Middle East.

50,000 km of railroads along the main routes of five key ITCs

More than 30 ETN "nerve clusters" (transport hubs, major ports, break-of-gauge points)

260 million tonnes and **3.2** million TEU were transported internationally along ITCs in 2023

x3 is the container traffic growth in 2013–2023

x200 is the growth in the number of container trains to/from China in 2013–2023, including transit

x1.5 is the forecasted growth in international freight traffic along corridors in Central Asia by 2030 (95 million tonnes)

x1.7 is the forecasted growth in international container traffic along corridors in Central Asia by 2030 (1.7 million TEU)

ETN CONCEPTUAL FRAMEWORK: 10 SYSTEM ELEMENTS

-  Synergies of international transport corridors and routes are achieved through their interconnection and complementarity
-  The development of the Eurasian Transport Network leads to the creation of a transport hub in Central Asia
-  The priority of intraregional transport connectivity includes reducing the costs of transport between countries along corridors, as well as to seaports
-  Developed transport and logistics infrastructure creates a momentum for realising the agro-industrial potential
-  Eurasian land routes serve as insurance for global supply chains in times of maritime shipping disruption
-  The Eurasian Transport Network helps to reduce imbalances in the geography of trade across Eurasia
-  The development of integrated logistics services enables a shift from competition between corridors and modes of transport to interaction between them
-  The focus should be on "nerve clusters" – junctions of international transport corridors and routes, transport hubs, border crossing points, and key seaports
-  The development of operators, terminals and technologies leads to increasing containerisation, which enables a significant acceleration of goods distribution in Eurasia
-  Efficient transport infrastructure development is facilitated by improving soft infrastructure

ETN EFFECTS

40%

of additional freight traffic is generated owing to the interconnection of transport corridors

600 million people

can be potentially fed owing to Eurasia's exports of agricultural products with adequate development of transport and logistics infrastructure

Up to 3 times

is the potential for trade growth between Central Asian countries and India through the development of the INSTC and new meridional routes

15%

can be the reduction in transport costs through the introduction of integrated multimodal logistics technologies

18%

would be the export growth in Central Asian countries if border delays are reduced by a factor of 2

4 days

can be saved at border crossing with transition to digital technologies and shipping documents



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The Eurasian Transport Network is a system of interconnected latitudinal and meridional international transport corridors and routes providing trade and economic links between Eurasian countries and international markets. The North-South and East-West corridors enable foreign trade and transit, contributing to unleashing the potential of Eurasia as an intersection of trade and transport routes. This report analyses the current state of key Eurasian transport corridors, their bottlenecks, and development prospects. It also reviews initiatives and projects to create new international transport corridors and routes in Eurasia. Analysis of administrative and other non-physical barriers is complemented with recommendations for improving soft infrastructure, which increases the efficiency of investment in transport system development. A special focus is on landlocked countries in Central Asia. The report contains detailed factual information on the current state and prospects for the development of transport corridors and routes of the Eurasian Transport Network and is accompanied by maps and diagrams.

Keywords: Eurasian Transport Network, Eurasian transport links, containerisation, international trade, international transport corridors, landlocked countries, transit, soft infrastructure, transport infrastructure, connectivity, bottlenecks, Central Asia, transport economics.

JEL: F15, F17, L92, O19, R11, R41.

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EXECUTIVE SUMMARY











The Eurasian Transport Network is a system of interconnected latitudinal and meridional international transport corridors and routes promoting Eurasia’s intra- and transcontinental connectivity. The backbone of the Eurasian Transport Network consists of international transport corridors crossing the Eurasian landmass along **East-West and North-South** axes, linking Asia, Europe, and the Middle East.

The Eurasian Transport Network includes five main international transport corridors – the Northern, Central, and Southern Eurasian Corridors, TRACECA and the INSTC, complemented by branch lines and regional routes totalling over 50,000 km (Figure B).

In recent years, as a key regional institution supporting the development and implementation of diverse infrastructure projects, the EDB has conceptualised and placed the Eurasian Transport Network on the public agenda. **The concept of the Eurasian Transport Network is based on the idea that interconnection and complementarity of Eurasian transport corridors is important** to improve connectivity, reduce trade costs, and facilitate access to international markets, especially for landlocked developing countries (LLDCs).

The Eurasian Transport Network Conceptual Framework includes ten systemic elements (Figure A).

↓ Figure A. Eurasian Transport Network Conceptual Framework

1  Synergies of transport corridors and routes	6  Reducing imbalances in the geography of trade
2  Transport intersection in Central Asia	7  From competition between corridors and modes of transport to their complementarity
3  Priority of intraregional economic connectivity	8  Focus on the “nerve clusters” (transport hubs)
4  Momentum for realising the agro-industrial potential	9  The rise in containerisation
5  Insurance for global supply chains	10  Improvement of soft infrastructure

Source: EDB.

1. **Synergies of international transport corridors and routes are achieved through their interconnection and complementarity**, rather than through their competition with each other. The interconnection effect could yield up to 40% of additional freight traffic (Vinokurov et al., 2021). Synergies can be achieved not only between routes, but also between modes of transport along the multimodal transport corridors. The diversity of the routes and the geography of the transport and economic links they create point to the need to enhance coordination and cooperation, as well as to develop new transport and logistics services that would ensure the interconnection between production and consumption centres in Eurasia.

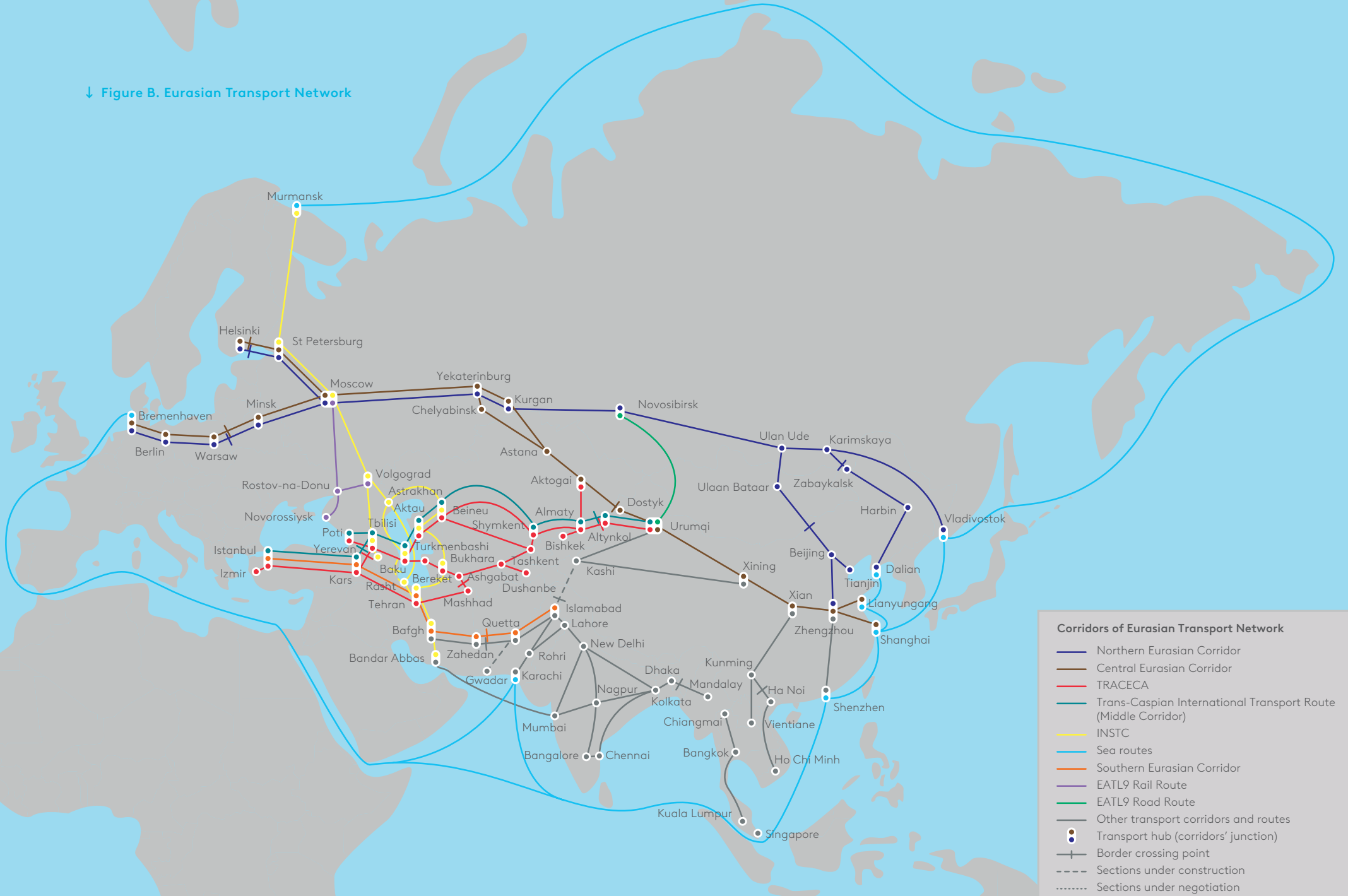
2. **The development of the Eurasian Transport Network leads to the creation of a transport hub in Central Asia.** Most of the Eurasian transport corridors and routes pass through Central Asia. The Eurasian Transport Network ensures connectivity between Central Asian countries and facilitates **access to seaports and global commodity markets**. The development of multimodal transport and transit corridors is a solution that has no alternative for the countries of Central Asia due to the considerable distances involved. The creation of a transport hub enables an **increase in international cargo traffic, including transit**, and related economic and social benefits for the countries of Central Asia. Under the EDB's forecasts, freight traffic on the three main corridors running through Central Asia is projected to increase by a factor of 1.5 to 95 million tonnes by 2030. Container traffic would grow even more rapidly, by almost two-thirds to 1.7 million TEU.

3. Particularly important is the **internal economic and trade connectivity of all continental regions** – Central Asia, the South Caucasus, Mongolia and Afghanistan, the XUAR and the Russian regions of Western and Eastern Siberia – provided by the Eurasian Transport Network. Transport costs associated with trade are 1.4 times higher for landlocked countries than for countries with sea access (UN-OHRLLS, 2022). The Eurasian Transport Network can offset the constraints associated with the lack of access to the sea. For most inland landlocked regions, the development of new transport opportunities leads to increased trade, job creation, higher tax revenues, and stronger human mobility, as well as triggering multiplier effects associated with these factors. A one-day reduction in transport times is equivalent to 0.8% of the price of high value-added manufactured goods being transported (Ramboll, U.S. Chamber of Commerce, 2006).

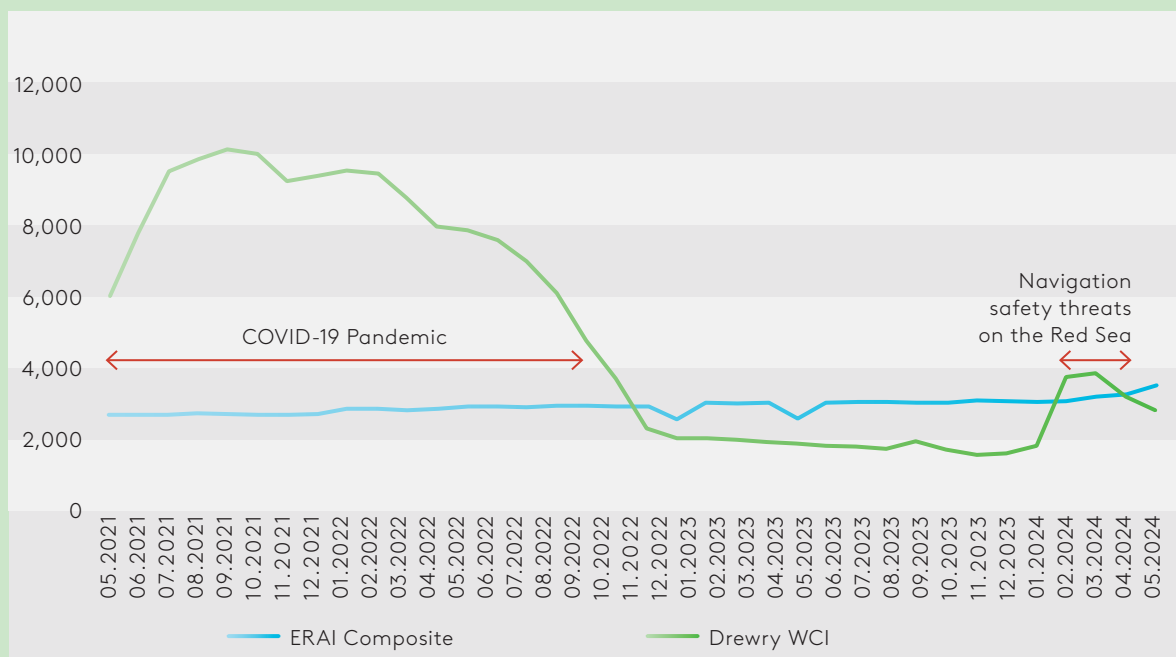
4. **The Eurasian countries have enormous agro-industrial potential and one of the prerequisites for its realisation is the development of the Eurasian Transport Network.** The use of the INSTC and other Eurasian corridors enables higher exports of grain and other food commodities, which the EDB estimates to be sufficient to feed 600 million people, including 240 million of its own population and an additional 360 million in third countries – China, South Asia, the Middle East, and North Africa.

5. **The Eurasian Transport Network ensures smooth operation of global supply chains between the major markets.** Every time global supply chains encounter difficulties in delivering goods via deep-sea routes, the use of rail corridors becomes cheaper for shippers and their delivery time advantage increases. For example, between May 2021 and August 2022, when volatility in the market for shipping containers by sea between Asia and Europe increased dramatically, **the Eurasian land corridors were two-thirds cheaper and three times faster.**

↓ Figure B. Eurasian Transport Network



↓ Figure C. ERAI¹ and Drewry WCI, 2021–2024, USD per TEU



Source: ULTC ERA, ERAI².

6. **The Eurasian Transport Network helps to reduce imbalances in the geography of trade across Eurasia.** The unrealised potential of trade in goods is one of the key indicators of imbalances in economic relations between countries. The main reasons include poor transport availability, as well as inconvenient and expensive transport links. The International Trade Centre estimates the untapped trade potential between India and Central Asian countries at USD 1.9 billion, including USD 1.6 billion in India’s exports and USD 0.3 billion in exports from Central Asian countries. **The unrealised potential of their mutual trade is twice the five-year average of actual trade between the countries.**

The Eurasian Transport Network, as it develops, will help speed up the delivery of goods between the points of origin and destination of freight traffic in Eurasia. The expansion of the logistics capacity through the creation of new services and auxiliary logistics and terminal infrastructure, as well as the increasing containerisation of freight traffic, can reduce existing imbalances in freight distribution between transport routes and modes.

7. The development of integrated logistics services enables a shift **from competition between corridors and modes of transport to interaction between them.** The role of competition between different transport corridors and routes is limited due to the low density of trunk transport systems in Eurasia and the fact that **each corridor has its own regional or sectoral niches.** The complementarity of corridors and different modes of transport is essential. The maximum synergy effect is achieved through integrated and efficient transport and logistics solutions. The implementation of an integrated transport and logistics solution can reduce the cost of multimodal freight transport by 15% (UN-OHRLLS, 2022).

¹ The Eurasian Rail Alliance Index (ERAI) is a composite indicator of the cost of container transit along the Eurasian rail corridor through the EAEU in China–EU and EU–China traffic. The Drewry World Container Index (Drewry WCI) is calculated for eight major global container shipping routes, including Asia–Europe and Asia–Mediterranean.

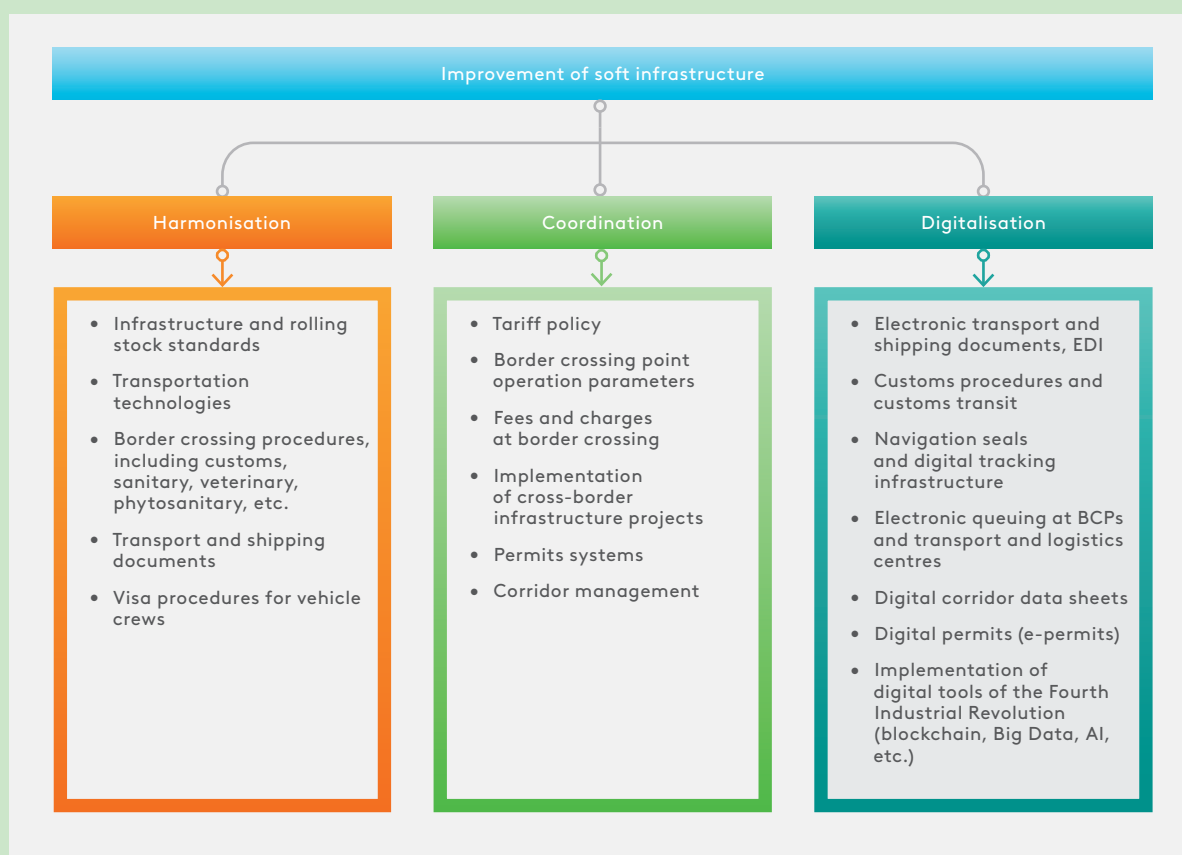
² <https://index1520.com/>

8. The focus should be on “nerve clusters” — junctions of international transport corridors, transport hubs, border crossing points, and key seaports where land routes connect with sea routes. If freight traffic increases along at least one of the corridors, the entire hub may become a bottleneck. Therefore, an indispensable condition for the functioning and further successful development of the Eurasian Transport Network is the development of approaches to transport hubs and seaports, together with the creation and upgrading of essential auxiliary transport and logistics infrastructure, primarily dry ports and logistics hubs.

9. Containerisation is the most effective form of freight traffic growth along the corridors of the Eurasian Transport Network. 70% of freight from China is already containerised. Container transport facilitates the unification of the transport and transshipment process at border crossing points and logistics hubs, contributing to improved quality and competitiveness of transport. Improved containerisation of freight traffic would increase the journey speed of goods from 500 to 1,000 km per day. Higher speed is facilitated by the introduction of advanced transport technologies, harmonisation of legislation, and transport corridor management measures, in particular the creation of single operators on a number of ITCs.

10. The effects of improving soft infrastructure are comparable to the benefits of developing physical infrastructure. The improvement of soft infrastructure is based on the implementation of three principles — harmonisation, coordination, and digital transformation (Figure D).

↓ Figure D. Three Groups of Measures to Improve Soft Infrastructure of the Eurasian Transport Network



Source: EDB.

The effects of improving soft infrastructure include increased freight traffic and shorter transport times, improved efficiency of transport infrastructure use, enhanced quality of transport and logistics services, better transport safety, and lower adverse impacts on the environment. Estimates prepared by the World Bank using a general equilibrium model show that a 50% reduction in border delays leads to an 18% increase in exports for countries along BRI transport routes (World Bank, 2019).

In 2023, total international freight traffic along the five corridors exceeded 260 million tonnes, including 3.6 million containers. Compared with 2013, the volume of international container traffic has more than tripled. This remarkable success has been achieved through the implementation of large-scale infrastructure projects, the commissioning of new rail lines and roads, the improvement of transport and logistics infrastructure, and the creation of efficient container services that have been able to divert some of the freight traffic from deep-sea routes to land transport systems in Eurasia.

The **Northern Eurasian Corridor**, linking Europe and Asia through Russia and including the Trans-Siberian Mainline and EATL road route No. 1 to the ports of the Far East with branch lines running to China and Mongolia–China, continues to play a **leading role** in ensuring Eurasian land transport links. In 2023, this corridor accounted for over 62% of total international land freight traffic along the five corridors, including 72% of the total number of containers transported (2.6 million TEU). Transit container traffic decreased in 2022–2023. Of the total, only 0.3 million TEU were transported in transit in 2023.

The Northern Eurasian Corridor is predominantly rail-based, with road transport accounting for only 3% of the total international freight traffic. However, road transport plays an important role in trade between Russia and China, with its freight traffic of 3.8 million tonnes in 2023, and the share of long-haul transport in traffic with China continues to grow.

The Central Eurasian Corridor leads in the development of container services, providing the shortest route between China, the EAEU countries, and Western Europe. In 2023, this corridor accounted for 5.7% of the total tonnage of international freight volume but for 25.3% of the number of containers delivered. In 2023, 892,000 TEU were transported through two border crossing points — Dostyk and Altyntkol — of which 211,100 TEU was China–EU–China traffic and 462,900 TEU was China–EAEU–China traffic. Since 2018, China’s container transit has increased by a factor of 4.2. The Europe–Western China international road transport route is fully operational in Kazakhstan and China as an important part of the Central Eurasian corridor. The Moscow–Kazan M12 highway, which began operating at the end of 2023, will become part of the Europe–Western China road route within Russia.

The TRACECA enables both domestic and international transport connectivity for the countries of Central Asia and the South Caucasus. This corridor accounts for almost 20% of the total international freight traffic, but the share of container transit is still small. More than 60% of all container traffic along the TRACECA is carried on the Trans-Caspian International Transport Route (20,200 TEU in 2023). **Road transport plays a key role** in the development of freight transport between the countries along the corridor. In 2023, it accounted for more than 67% of total international freight traffic. International road transport is essential for the trade of landlocked and mountainous countries such as Armenia, Kyrgyzstan, and Tajikistan, which are involved in developing TRACECA.

The Trans-Caspian International Transport Route (TITR, the Middle Corridor) is a rapidly developing multimodal transport route supporting trade links between China, Kazakhstan, countries of the South Caucasus, Türkiye, and Southern Europe. In 2023, its international freight traffic increased by a factor of 1.9 compared with 2022, reaching 2.76 million tonnes, while container traffic declined (the peak was in 2022 at 33,500 TEU). The TITR owes its success to the coordinated efforts of the parties (the railroads of Kazakhstan, Azerbaijan, Georgia, and Türkiye, as well as other interested businesses that have joined the TITR Association) to manage the corridor — coordinating tariff policies, introducing feeder shipping in the Caspian Sea, and streamlining formalities and procedures.

The International North-South Transport Corridor (INSTC) is developing rapidly as the meridional core of the Eurasian Transport Network. It connects Russia, the EAEU countries, and Central Asia with the countries of the Persian Gulf and South Asia. In 2023, 19 million tonnes of goods were transported along the three routes of the INSTC, of which 12.5 million tonnes were transported by rail. With its volume rising to 4.5 million tonnes in 2023, the export of grain from Russia and Kazakhstan is the largest contributor to total freight traffic. Container traffic along the corridor is still small (about 50,000 TEU in 2023) but it is growing rapidly thanks to the development of container services on the INSTC Eastern route and growing traffic between Russia and Azerbaijan on the Western route. The INSTC connects to the other four major Eurasian corridors, enabling flexible logistics in various directions, such as China–Iran and Russia–Türkiye.

The Southern Eurasian Corridor facilitates trade and transport links between Türkiye, Iran, and Pakistan, with potential future expansion to other countries in South and South-East Asia. Container transit along the corridor is poorly developed, accounting for only 0.1% of the total international container traffic along five key corridors. However, international road freight transport is growing rapidly, accounting for over 75% of the traffic along the corridor. The corridor is not yet operational along its entire length from Istanbul to Singapore. The reasons for that include the absence of some sections of rail and road, closed borders between some South Asian countries, and the underdeveloped legal frameworks for international land transport and transit.

The share of Chinese goods in total freight traffic along the corridors of the Eurasian Transport Network is significant and growing. China's share in international freight traffic along the Northern Eurasian Corridor exceeded 80% in 2023 (in Russian coal exports — 90%). Along the Central Eurasian Corridor, the share of China's goods is almost 100%. In 2023, the share of China–EAEU–China transport exceeded 50% of total freight traffic, while the share of China–EU–China transit declined to 24%. The total number of container trains from China to the EAEU, the EU, and other countries grew by a factor of 200 between 2013 and 2023. In the context of the rapid growth of freight traffic with China, the role of infrastructure development projects — building the capacity of the Eastern Range, the creation of new corridors, road and rail border crossing points (BCPs), and logistics infrastructure at the border — is increasing significantly for all modes of transport.

For the further development of the Eurasian transport framework, the creation of new meridional transport connections is critical. Latitudinal corridors are already operational and are delivering decent growth in international transport. Major projects need to be implemented to increase their throughput capacity — the development of the Eastern Range, elimination of bottlenecks on the Baku–Tbilisi–Kars corridor, as well as construction of a third border crossing point between Kazakhstan and China

and the Ayagoz–Bakhty line, etc. At the same time, the development of North–South connectivity is becoming particularly pressing in Central Asia as well as in Western and Eastern Siberia.

Prospective projects for the development of the Eurasian Transport Network include initiatives (Figure E) to create a Trans-Afghan Transport Corridor between Uzbekistan, Afghanistan, and Pakistan, which will be a short-cut route connecting the countries of Central Asia with the port of Karachi, the China–Kyrgyzstan–Uzbekistan transport corridor, the Meridian Highway, the Tajikistan–Afghanistan–Turkmenistan (TAT) transport corridor, new Russia–China transport corridors in Eastern Siberia and the Russia–Mongolia–China (XUAR) corridors in Western Siberia. Three of these six initiatives involve the creation of new meridional corridors that may dramatically change the transport situation and the direction of freight traffic in Eurasia.

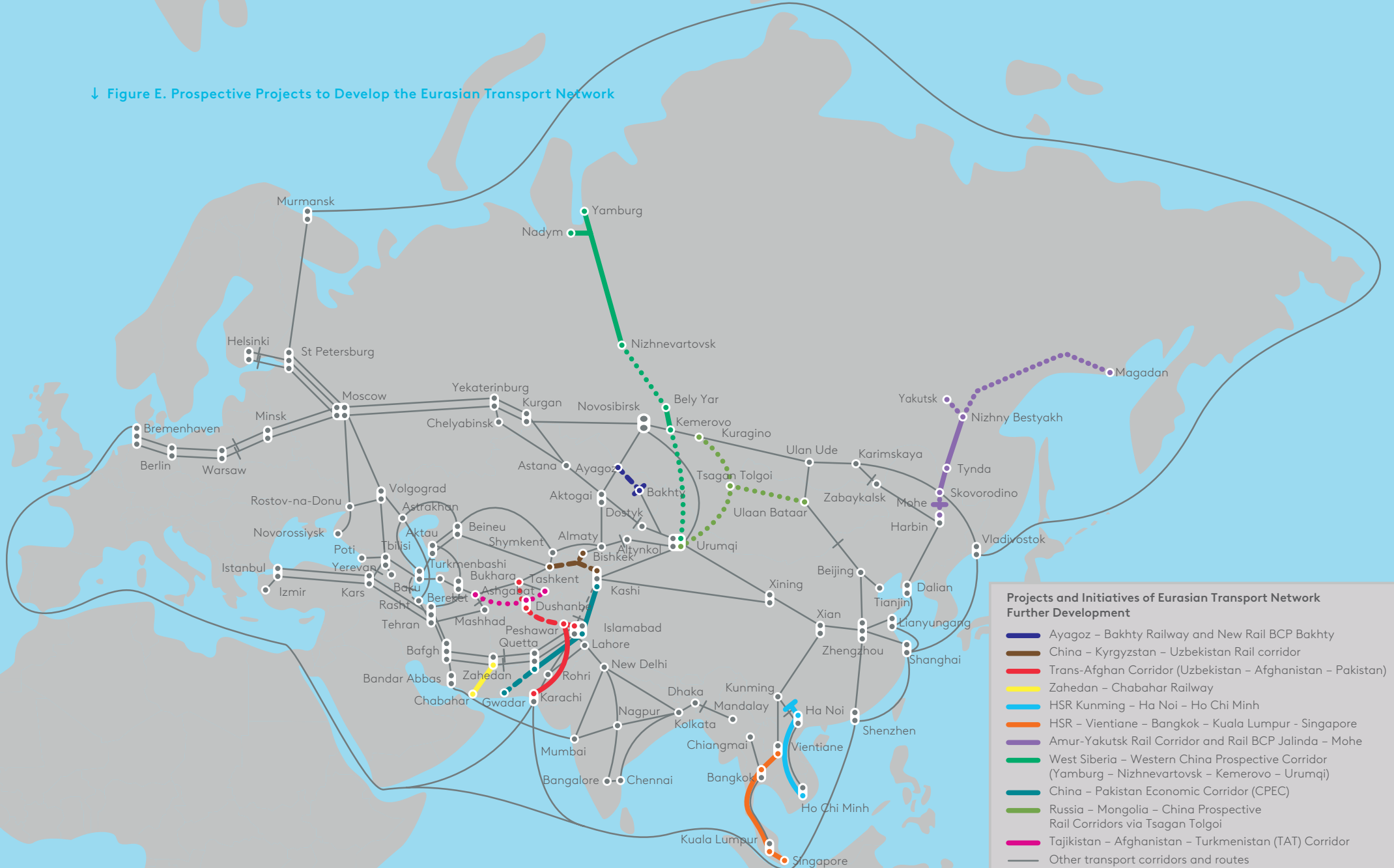
There are bottlenecks and missing infrastructure links (infrastructure barriers) in some sections of the Eurasian transport corridors. **As international freight traffic increases in Eurasia, the number of bottlenecks, as well as their impact on corridor throughput capacity, is growing**, leading to logistical distortions and incomplete realisation of the transit and transport potential of the countries in the region. The main bottlenecks in the Eurasian Transport Network include the Baikal–Amur Mainline (BAM) sections within the Eastern Range of Russian Railways, rail access to the ports of the Azov–Black Sea Basin, the Tbilisi–Akhalkalaki–Kars rail line within the TITR, a network of terminals and logistics centres for food export along the INSTC, and road and railroad BCPs with insufficient throughput capacity, especially on the border with China.

In order to lower or completely remove infrastructure barriers on all transport corridors in Eurasia, projects are underway or planned for the construction, reconstruction, and upgrading of transport infrastructure of international importance. As part of the study, work has been initiated to **create an Observatory of Transport Projects of the Eurasian Transport Network**, which is expected to be published by the end of 2024 and will be updated regularly.

“Bankable” projects include ones to develop various kinds of auxiliary infrastructure — logistics centres, dry ports, container terminals, etc. The growth of freight traffic along the corridors of the Eurasian Transport Network will call for an increase in the number and capacity of auxiliary transport infrastructure facilities. The capacity of private investment in this area can be widely exploited.

Given the limited investment opportunities in most Eurasian developing countries, especially with middle and low income, **increasing the number of projects attractive to international development banks and private investors**, including those based on public-private partnership (PPP) principles, some of which will be **cross-border PPPs, should become a priority for efforts.**

↓ Figure E. Prospective Projects to Develop the Eurasian Transport Network



Projects and Initiatives of Eurasian Transport Network Further Development

- Ayagoz – Bakhty Railway and New Rail BCP Bakhty
- China – Kyrgyzstan – Uzbekistan Rail corridor
- Trans-Afghan Corridor (Uzbekistan – Afghanistan – Pakistan)
- Zahedan – Chabahar Railway
- HSR Kunming – Ha Noi – Ho Chi Minh
- HSR – Vientiane – Bangkok – Kuala Lumpur - Singapore
- Amur-Yakutsk Rail Corridor and Rail BCP Jalinda – Mohe
- West Siberia – Western China Prospective Corridor (Yamburg – Nizhnevartovsk – Kemerovo – Urumqi)
- China – Pakistan Economic Corridor (CPEC)
- Russia – Mongolia – China Prospective Rail Corridors via Tsagan Tolgoi
- Tajikistan – Afghanistan – Turkmenistan (TAT) Corridor
- Other transport corridors and routes
- Transport hub (corridors' junction)
- Border crossing point
- Sections under construction
- Sections under negotiation