Eurasian Development Bank

The Eurasian Transport Network

Report 24/6

Almaty — 2024

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 in communication with China in 2013–2023, including transit

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

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

ETN CONCEPTUAL FRAMEWORK: 10 SYSTEM ELEMENTS

1. **Synergies of international transport corridors and routes are achieved** through their interconnection and complementarity
2. The development of the Eurasian Transport Network leads to the creation **of a transport hub in Central Asia**
3. The **priority of intraregional transport connectivity** includes reducing the costs of transport between countries along corridors, as well as to seaports
4. Developed transport and logistics infrastructure creates **a momentum for realising the agro-industrial potential**
5. Eurasian land routes serve as **insurance for global trade and logistics chains** in times of maritime shipping disruption
6. The Eurasian Transport Network helps to **reduce imbalances in the geography** of trade across Eurasia
7. The development of integrated logistics services enables a shift **from competition between corridors and modes of transport to interaction between them**
8. **The focus should be on "nerve clusters"** — junctions of international transport corridors and routes, transport hubs, border crossing points, and key seaports
9. The development of operators, terminals and technologies leads to **increasing containerisation**, which enables a significant acceleration of goods distribution in Eurasia
10. 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

Eurasian Development Bank

Vinokurov, E. (Editor), Amangeldy, S., Ahunbaev, A., Zaboev, A., Kuznetsov, A., Malakhov, A. (2024) *The Eurasian Transport Network*. Reports 24/6. Almaty: Eurasian Development Bank.

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 transport, 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, transport connectivity, bottlenecks, Central Asia, transport economics.

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

Acknowledgements: The EDB authoring team would like to thank the following people and organizations for their valuable recommendations and contribution to preparing this report: Mr. Vadim Zakharenko, General Delegate to Eurasia, International Road Transport Union (IRU), Autonomous Non-profit Organization Directorate of International Transport Corridors, Mr. Andrey Medvedev, Head of the Cartography and Remote Sensing Department at the Institute of Geography, and Artis company (Republic of Kazakhstan).

The electronic version of this document is available at the Eurasian Development Bank website: https://eabr.org/en/analytics/special-reports/.

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OPENING STATEMENT BY THE CHAIRMAN OF THE EDB MANAGEMENT BOARD

The Eurasian Transport Network (ETN) is a system of existing and planned North-South and East-West transport corridors and routes crossing the region and connecting it to Europe, Asia, and the Middle East. The EDB conceived the idea of the ETN a few years ago. The network is actively developing as a tool for improving transport connectivity in Eurasia, promoting trade and socio-economic development of all countries in the region.

The interconnection of corridors generates synergies which, judging by the experience of the INSTC and TRACECA, can result in up to 40% of additional freight traffic. The interconnection of corridors, the interaction of transport modes, and the development of container and multimodal transport offer great opportunities for building new logistics solutions, expanding access to foreign markets, and ensuring connectivity with domestic consumer markets, as well as food security.

Central Asia has considerable economic and human potential. The Eurasian Transport Network is particularly important for this region. In fact, it creates a busy transport hub in Central Asia, facilitating the transformation of countries from landlocked to land-linked.

The benefits to the countries of the region from the development of the Eurasian Transport Network are expected to be at least twofold — on the one hand in terms of enhanced trade and mobility, and on the other hand in terms of attracting transit freight traffic from neighbouring countries as well as international transit within the Europe–Asia–Middle East triangle.

The development of transport connectivity implies a reduction in transport costs for the economy and businesses directly thanks to faster delivery of goods. Transport corridors enable the countries located along them to increase their mutual trade by five percent through a reduction in delivery times of just one day.

Our new report, which you have in your hands, examines ten systemic elements of the Eurasian Transport Network Concept that need to be implemented to create sustainable, safe, and efficient transport links.

It is obvious that no country or international institution is capable of building the Eurasian Transport Network on its own. It's a team effort. The aim of this report is to highlight to all stakeholders the prospects for successful cooperation and sound solutions in developing transport links in the region.

Chairman of the EDB Management Board
Nikolai Podguzov

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 transport 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 trade logistical 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.

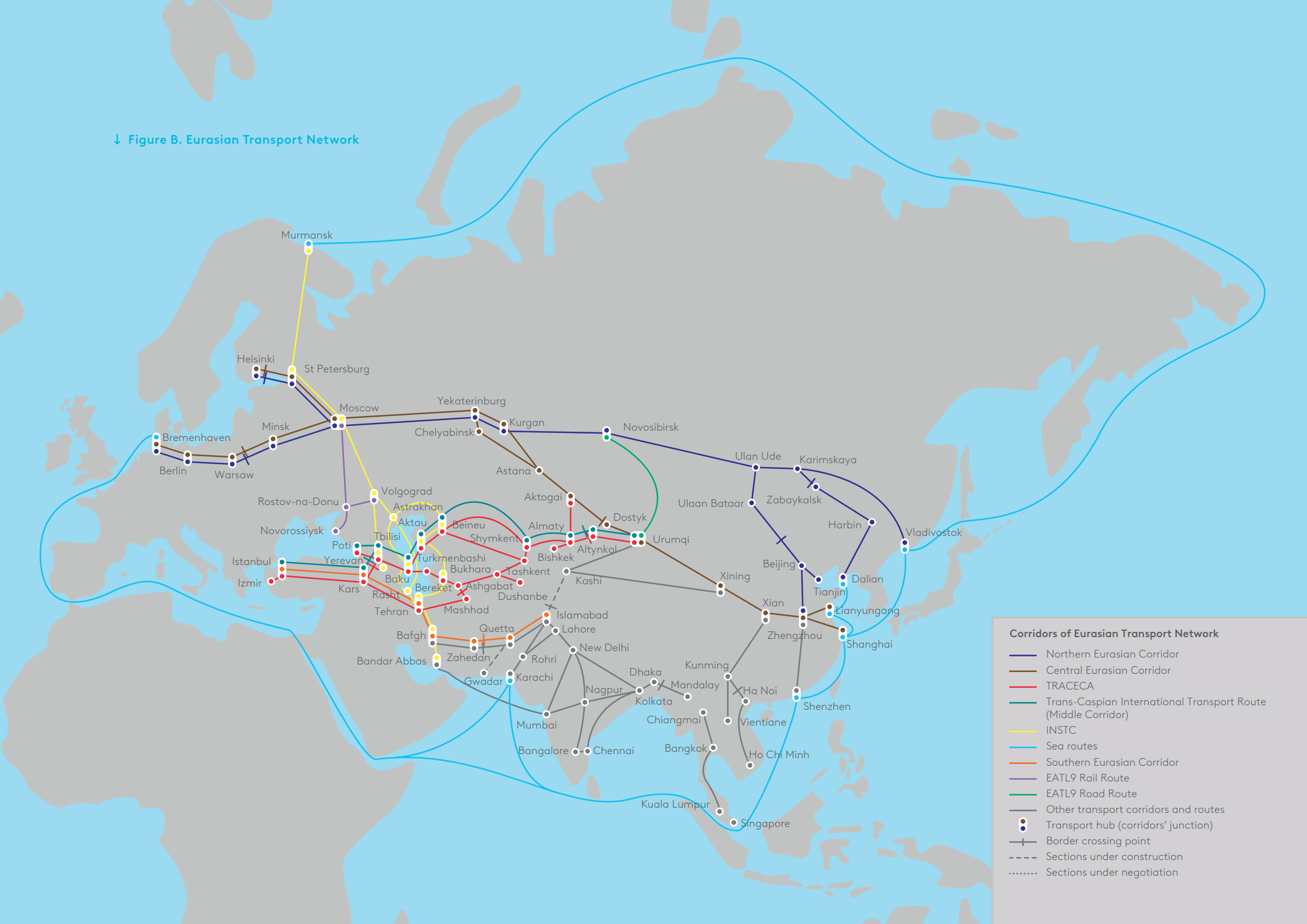
2**. The development of the Eurasian Transport Network leads to the creation of a transport hub in Central Asia.** Most of the Eurasian transport corridors and routes pass through Central Asia. The Eurasian Transport Network ensures transport connectivity between Central Asian countries and facilitates **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 virtually 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).

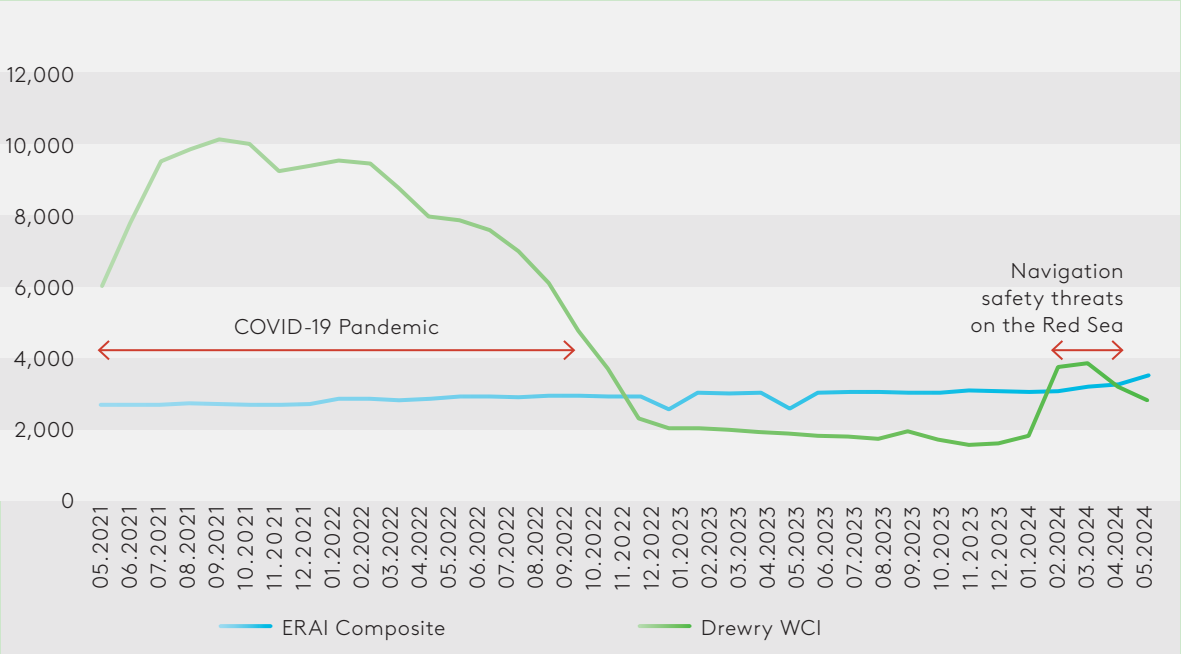
4. **The Eurasian countries have enormous agro-industrial potential and one of the prerequisites for its realisation is the development of the Eurasian Transport Network.** The use of the INSTC and other Eurasian corridors enables higher exports of grain and other food commodities, which the EDB estimates 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 logistical 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. ERAI[1] and Drewry WCI, 2021–2024, USD per TEU**



Source: ULTC ERA, ERAI[2].

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.

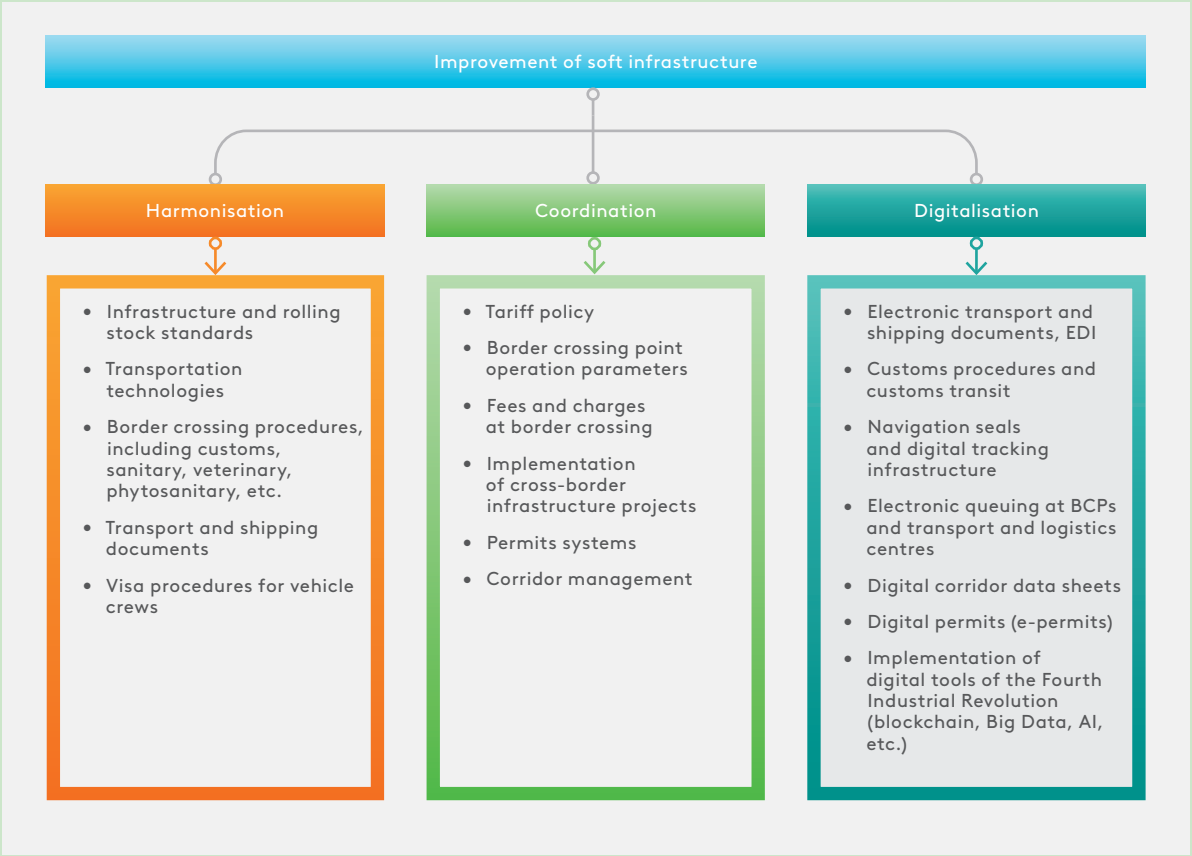
[2] https://index1520.com/

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 transport, 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 Altynkol — 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.

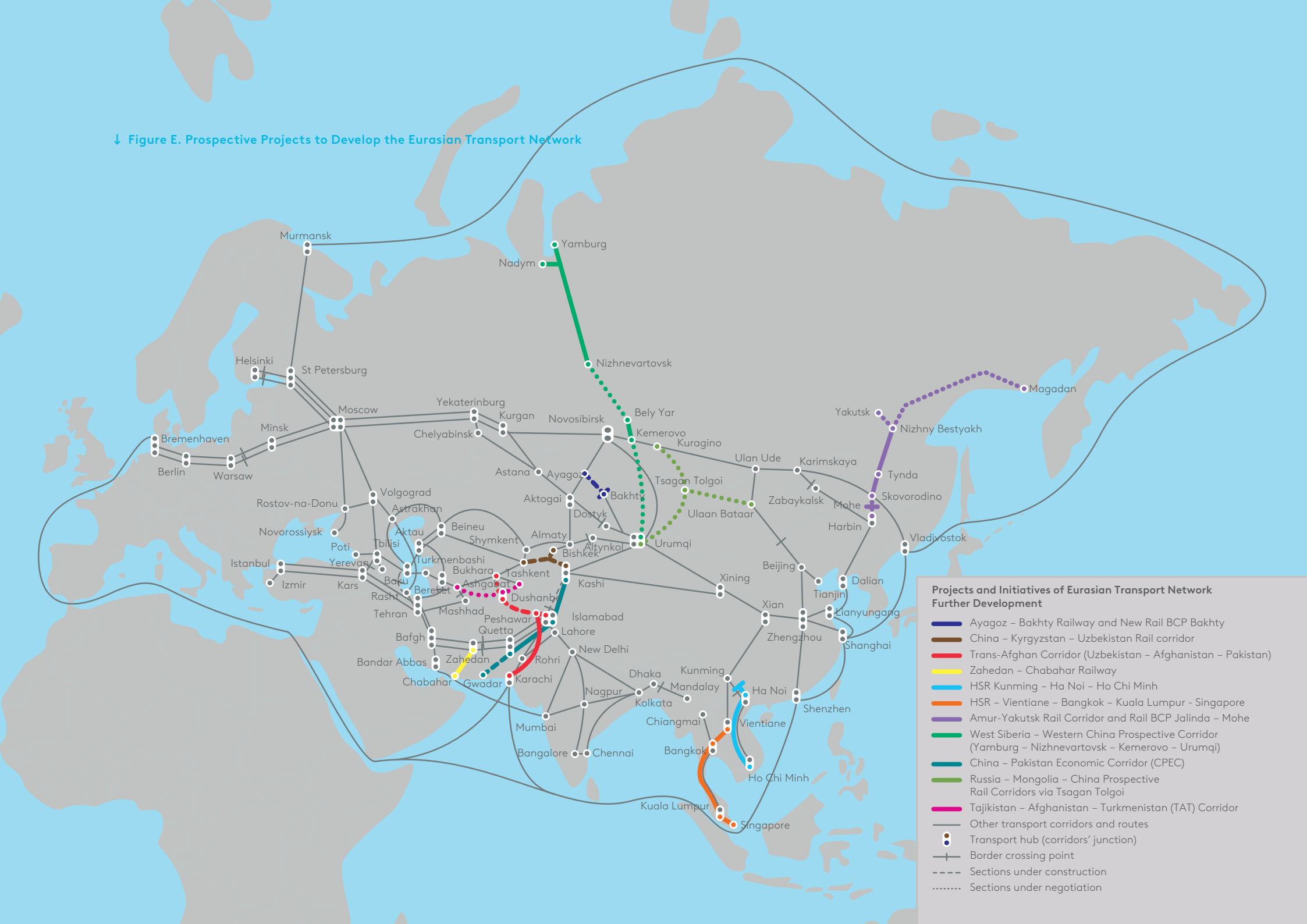
There are bottlenecks and missing infrastructure links (infrastructure barriers) in some sections of the Eurasian transport corridors. **As international freight traffic increases in Eurasia, the number of bottlenecks, as well as their impact on corridor throughput capacity, is growing**, leading to 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



INTRODUCTION

The past near first quarter of the 21st century has seen fundamental changes in the development of transport and economic relations in the Eurasian space. Transport infrastructure is being actively developed, new transport corridors and routes have opened, and the number of operators in the rail market, including container transport, is increasing. The potential of long-haul international road transport is growing, promoted by measures to facilitate trade and border crossing, as well as new agreements with China, Pakistan, and other countries on international road transport. Finally, the potential of multimodal transport corridors is becoming increasingly apparent with the development of logistics infrastructure, feeder and ferry services on the Caspian and Black Seas.

The growth of the international freight transport market is driven by growth of the economy and trade. In particular, the combined GDP of the five landlocked Central Asian countries increased by a factor of 10 to USD 458 billion between 2000 and 2023, while their foreign trade (without Turkmenistan) grew by a factor of 8.5 to USD 226.4 billion. The population continues to grow (from 55 million to 79 million, or by a factor of 1.4), contributing to an increase in consumer market capacity and demand for goods. The need to develop sustainable transport links and reduce the transport costs of trade will therefore increase in the foreseeable future.

At the same time, the countries of the region demonstrate significant success in realising the transit potential of the Eurasian transport corridors and routes. Transit container traffic between east and west has increased almost 15-fold. In 2000, 47,100 20-foot containers[3] (TEU) were transported on the Trans-Siberian Mainline (Northern Eurasian Corridor), the only reliably functioning transit route at the time. In 2023, the total freight transit along all land and multimodal East-West corridors, including the Trans-Caspian International Transport Route, amounted to about 700,000 TEU. Rail container transit has demonstrated its significance on several occasions, particularly during periods of disruption to global logistics chains and international maritime transport, for example in 2000–2021 during the COVID-19 pandemic. An important role in the development of transcontinental transit was played by China, whose exporters began to actively use land container services for shipping to the countries of Europe and the Eurasian Economic Union (EAEU).

In addition to the traditional East-West transport corridors in Eurasia, there is a growing need to develop North-South transport links. This is necessary to increase the volume of trade with the countries of South Asia and the Middle East, and to improve its efficiency. As well as the International North-South Transport Corridor (INSTC), which has received a boost to development, plans are under consideration for new meridional corridors, such as the Uzbekistan–Afghanistan–Pakistan corridor (Trans-Afghan Corridor) and the Russia–Mongolia–China corridor, which would link Western Siberia and Altai with China's Xinjiang Uygur Autonomous Region (XUAR) and, further along the China–Pakistan Economic Corridor (CPEC), with the ports of Karachi and Gwadar in Pakistan.

This is creating a network of international transport corridors and routes in Eurasia, which the Eurasian Development Bank (EDB) has labelled the Eurasian Transport Network. This term was proposed by the EDB in 2021, when it became clear that the interconnection of East-West and North-South transport corridors would ensure synergies by realising the transport and transit potential of Eurasia.

[3] https://company.rzd.ru/ru/9401/page/78314?id=27432

The aim of this report is to assess the current state, key challenges, and next steps for the development of the Eurasian Transport Network, in terms of both physical and soft infrastructure. This assessment is important for unlocking the potential of the economies of Eurasian countries, especially those that are landlocked, and for improving their economic connectivity with each other and with global markets.

The report *Eurasian Transport Network* continues a series of studies undertaken by the EDB as part of its Strategy for 2022–2026. Building on previous publications, special emphasis is placed on strengthening the transport connectivity of landlocked developing countries (LLDCs). This is particularly important in the context of the development and adoption of a new Programme of Action for LLDCs for the Decade 2024–2034, which is to replace the Vienna Programme of Action for the Decade 2014–2024. Another ambitious objective of this report is to contribute to the preparation of the United Nations Decade of Sustainable Transport 2026–2035.

In this way, the report should help to shape the collective efforts of international intergovernmental and non-governmental organisations, multilateral development banks (MDBs), and the governments of the countries of the region to improve transport, trade, and economic connectivity in Eurasia.

The report examines transport corridors and routes in the landlocked regions of Eurasia. The development of transport corridors in the European Union (EU), China, India, and South-East Asia is not covered in this report.

Chapter 1 presents the terms and definitions used in the report. Chapter 2 offers an overview of existing research on development of infrastructure of Euro-Asian transport links. Chapter 3 describes ten structural elements of the Eurasian Transport Network. Chapter 4 describes the composition and current status of the Eurasian Transport Network, including its main operating elements: the Northern, Central and Southern Eurasian Corridors, the TRACECA and its component the Trans-Caspian International Transport Route (TITR), as well as the INSTC and EATL road route 9 (Asian Highway AH4), connecting Western Siberia in Russia with Mongolia and China. Key initiatives and projects to create new transport corridors and routes in Eurasia are also presented in this part of the Report. Chapter 5 examines the importance and prospects for the development of the Eurasian Transport Network for Central Asia. Chapter 6 deals with the development of Eurasian transport corridors in the EAEU. Chapter 7 offers an assessment of the bottlenecks and missing links of the Eurasian Transport Network. Chapter 8 examines investment projects for the development of the Eurasian Transport Network and the prospects for the creation of the Observatory of Transport Projects in Eurasia. Chapter 9 evaluates the role of soft infrastructure within the Eurasian Transport Network and provides recommendations on harmonisation, coordination, and digital transformation along the international transport corridors and routes in Eurasia.

1. TERMS AND DEFINITIONS

The **Eurasian Transport Network** is a system of interconnected latitudinal and meridional international transport corridors and routes ensuring Eurasia's intra- and transcontinental connectivity. The backbone of the Eurasian Transport Network consists of international transport corridors crossing the Eurasian landmass along North–South and East–West axes, linking Asia, Europe, and the Middle East, and providing access to international markets for landlocked countries. Synergies of the transport network are achieved by connecting international transport corridors, creating new opportunities for logistics. All modes of transport contribute to the operation of the Eurasian Transport Network. Transport hubs, sea, river and dry ports, as well as transport and logistics centres, all play an important role in its development. The functioning of the Eurasian Transport Network would be impossible without soft infrastructure, including measures to harmonise legislation and simplify border crossing procedures.

Auxiliary transport infrastructure is transport and other supporting infrastructure that is not directly involved in the transportation process or transshipment, but creates the best conditions to promote the safety, efficiency, and quality of passenger and freight transport, including along international transport corridors and routes. Auxiliary transport infrastructure includes transport and logistics centres, container sites and terminals, as well as warehouses for storing goods, border crossing points and their facilities, roadside service infrastructure, and other similar facilities.

A **container** is a special box designed to carry freight, which is strengthened and stackable, allowing horizontal or vertical transfers. Technically, a container is defined as an "article of transport equipment which is:

a) Of a permanent character and accordingly strong enough to be suitable for repeated use;

b) Specially designed to facilitate the carriage of goods, by one or more mode of transport, without intermediate reloading;

c) Fitted with devices permitting its ready handling, particularly its transfer from one mode of transport to another;

d) So designed as to be easy to fill and empty;

e) Stackable; and

f) Having an internal volume of 1 cubic m or more" (Eurostat et al., 2019).

Cross-border infrastructure is infrastructure located simultaneously on the territory of two or more countries, the construction and operation of which requires significant investment and coordination by a wide range of project participants.

A **dry port** is an inland facility with a logistics centre connected to the infrastructure of one or more modes of transport for the handling, temporary storage, and legally required inspection of goods moving in international trade, as well as for carrying out applicable customs control and formalities (UNESCAP, 2013).

A **high-speed main railroad line** is a railroad line built specifically to allow traffic on the main segments at a speed of at least 250 km/h.

Intermodal freight transport is the multimodal transport of goods, in one and the same intermodal transport unit, by successive modes of transport without handling of the goods themselves when changing modes. The intermodal transport unit can be a container, a swap body or a loaded vehicle travelling on another vehicle. The return movements of empty containers/swap bodies and empty goods road vehicles/trailers are not themselves part of intermodal transport, since no goods are being moved. Nevertheless, such (return) movements are also associated with intermodal transport (Eurostat et al., 2019).

An **intermodal transport terminal** is a structure equipped for the storage and transfer of intermodal transport units (ITUs) between at least two transport modes or between two different rail systems, and for temporary storage of goods (ports, dry ports, airports, and railroad terminals).

International freight transport is where the goods and the vehicle cross at least one national border. International transport includes export, import, and transit traffic.

An **international transport corridor (ITC)** is a network of trunk transport systems, as a rule equipped adequately to handle various modes of transport, which ensures transportation in the directions of the greatest concentration of passenger and freight traffic, connects different countries, and therefore is of international importance.

An **international transport route (ITR)** is a component of an international transport corridor, the infrastructure of which may include one (as in the case of the Europe–Western China International Transport Route, EWC ITR) or several (for example, the Trans-Caspian International Transport Route, TITR) modes of transport.

A **landlocked country** is a state that is located in an inland region with no access to seaports or deep sea shipping routes. These countries have access to major international markets through the transport infrastructure of neighbouring countries, which serve as transit countries. Five of the six EDB members — Armenia, Belarus, Kazakhstan, Kyrgyzstan, and Tajikistan — are landlocked countries. Some of them, for example, Belarus, Kazakhstan, and Kyrgyzstan, simultaneously serve as transit countries for neighbouring states, some of which are also landlocked.

Multimodal freight transport is the transport of goods by at least two different modes of transport. International multimodal transport is often based on a contract regulating the multimodal transport.

A **multimodal transport corridor** is a transport corridor, the operation of which is ensured in certain sections by several modes of transport. Additional shipping documents may be reissued or processed at points of change of mode of transport.

A **railroad corridor** is a network of main overland railroad lines and railway ferry services with modern equipment, designed to consolidate international transit traffic with minimum transport times for freight and passengers, together with a high operating and economic performance.

Soft infrastructure is a set of rules and procedures governing passenger and freight transport, operators' access to infrastructure, the operators' market, and the crossing of national borders.

TEU (twenty-foot equivalent unit) is a statistical unit based on a 20 foot long (6.1 m) container. It is a standardised measure of capacity of various containers, container ships or terminals. One 20-foot ISO container equals one TEU, while one 40-foot ISO container equals two TEU.

2. OVERVIEW OF EXISTING RESEARCH ON DEVELOPMENT OF INFRASTRUCTURE OF EURO-ASIAN TRANSPORT LINKS

Research on the development of Euro-Asian transport links experienced a surge in popularity at the end of the 20th century. Most of this research has been undertaken over the last 20 years by international organisations, including interested MDBs, national governments, and the academic community.

These studies were designed to achieve five key objectives:

- To analyse capacity for the development of inter-continental (Europe–Asia) and intra-continental trade in Eurasia, as well as the prospects for diverting part of the freight traffic carried by deep-sea shipping lines to the land transport systems of Eurasian countries;

- To identify bottlenecks and barriers and to promote the development of transport infrastructure, its technical and operational interoperability, and the quality of services provided, including safety, speed, security of goods, and their timely delivery;

- To promote the creation of reliable alternative routes that could be used in the event of disruptions to the deep sea routes through the Straits of Malacca and Hormuz, the Suez Canal and Gibraltar;

- To contribute to the improvement of economic and transport connectivity of landlocked countries and regions crossed by major land routes of freight traffic in Eurasia; and

- To promote legal harmonisation in international trade, transport, and border crossing procedures, reducing the costs of international trade associated with both physical and non-physical barriers, thereby increasing its volume.

It should be noted that interest in the development of Euro-Asian transport links intensified against the background of the explosive growth of China's economy and trade, which resulted in a surge in container exports from China to Europe in the first quarter of the 21st century.

Research on Euro-Asian transport links at the international level was initiated in the mid-1980s in papers of the Inland Transport Committee of the United Nations Economic Commission for Europe (UNECE ITC) and its Working Party on Transport Trends and Economics (WP.5).

Initially, the research focused on the development of a network of international transport corridors designed to link Western Europe with Central and Eastern Europe and the CIS region.

Conceptual approaches to the development of ITCs were determined during preliminary expert meetings in Volos (Greece) in 1988. Subsequently, three Pan-European transport Conferences (Prague in 1991, Crete in 1994, and Helsinki in 1997) established a network of ten Pan-European Transport Corridors.

Three International Euro-Asian Conferences on Transport held in St. Petersburg in 1998, 2000, and 2003 supplemented the network of Pan-European Transport Corridors with Euro-Asian Transport Corridors. Their list and routes (Trans-Siberian, North-South, TRACECA, and Southern) were approved in 2000 by the Declaration adopted by the Second International Euro-Asian Conference on Transport, which has the status of an official United Nations Economic Commission for Europe (UNECE) document (UNECE, 2000).

United Nations regional commissions play a key role in the study and development of Euro-Asian transport links. UNECE's mandate includes the main international agreements that constitute the legal framework for the coordinated development of transport networks and international transport in Eurasia. These include: the 1975 European Agreement on Main International Traffic Arteries (AGR); the 1985 European Agreement on Main International Rail Lines (AGC); the 1991 European Agreement on Important International Combined Transport Lines and Related Installations (AGTC); the 1956 Convention on the Contract for the International Carriage of Goods by Road (CMR) and the 2008 Additional Protocol to the CMR concerning the Electronic Consignment Note (e-CMR); the 1975 Customs Convention on the International Transport of Goods under Cover of TIR Carnets (TIR Convention); the 1982 International Convention on the Harmonisation of Frontier Controls of Goods; the 1972 Customs Convention on Containers; the 1968 European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), etc.

In 2002–2017, UNECE implemented three phases of the Euro-Asian Transport Links (EATL) Project. At Phase I (2002–2007), UNECE prepared a joint study with UNESCAP describing the main EATL corridors defined in the Declaration of the St. Petersburg International Conference of 2000, identifying priority routes, technical and operational aspects of their future development, and considering the main problems of Eurasian freight transport (UNECE, UNESCAP, 2007).

Phase II of the EATL project included a comparative analysis of maritime and land Euro-Asian routes, identifying nine rail and nine road Euro-Asian routes, as well as inland waterway routes, and providing a list of 311 transport infrastructure development projects and an overview of international initiatives to develop Euro-Asian transport links (UNECE, 2012).

Based on the results of Phase II of the EATL Project, a Joint Statement on Future Development of Euro-Asian Transport Links was adopted at the meeting of Ministers of Transport of the Euro-Asian region, held within the framework of the 75th session of UNECE ITC. In particular, Ministers of 34 countries (including all Central Asian states, Azerbaijan, Armenia, Mongolia, China, Russia, Türkiye, a number of EU countries, etc.) endorsed the following priorities:

a) To develop and enhance favourable financial conditions to ensure sustainable and long-term financing of priority transport infrastructure projects;

b) To coordinate collaboration with participating member states, international organisations and international financial institutions, as well as other stakeholders from the public and private sectors to ensure that additional financial resources for completion of priority projects are made available;

c) To ensure orderly and systematic removal of non-physical barriers along the Euro-Asian transport routes;

d) To support the establishment of an adequate mechanism to ensure continued monitoring of Euro-Asian transport links (UNECE, 2013).

Phase III of the EATL project (2013–2017) included analysis of trade flows along Europe–Asia routes and the main containerised goods which tend to be transported by land Euro-Asian

routes. The final report offers a roadmap and recommendations to governments, international organisations, and businesses on the development of Euro-Asian transport links (UNECE, 2020).

Since the 1990s, UNESCAP has made significant efforts to improve transport connectivity in the Asia-Pacific region (APR) and develop links between Asia and Europe. Under the auspices of UNESCAP, intergovernmental agreements on the Asian Highway Network (AHN), the Trans-Asian Railway (TAR), and dry ports have been drafted and adopted. These agreements enable the development of infrastructure facilities in the APR on the basis of harmonised standards and recommended practices.

The UNESCAP Transport Division has produced a series of publications on the development of Eurasian transport corridors. In particular, the 2017 report addressed the issue of integrated planning of the Northern, Central, and Southern Eurasian Corridors to improve inter-regional connectivity, transport efficiency, and logistics (UNESCAP, 2017). A study on institutional arrangements for the development of intermodal transport corridors in the UNESCAP region has been published (UNESCAP, 2019).

UNESCAP's studies reflect concepts and strategies for strengthening transport connectivity between Europe and Asia (UNESCAP, 2020), as well as an assessment of the prospects for the development of transport corridors providing trade and transport links between the subregions of South-East, North, and Central Asia (UNESCAP, 2023).

The role of transport corridors in ensuring trade and economic connectivity, as well as in addressing the economic development objectives of landlocked countries, is discussed in reports prepared by the United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (UN-OHRLLS, 2020).

In particular, the reports cover the ability of landlocked countries to bridge transport infrastructure gaps, create the regulatory conditions for trade and international transport facilitation, strengthen the climate resilience of infrastructure, create an enabling environment for increased infrastructure financing and technical assistance, and enhance the preparedness of landlocked developing countries for pandemic risks and emergencies (UN-OHRLLS, 2022).

Landlocked countries are offered measures to operationalise and manage the development of transport corridors passing through their territory (UN-OHRLLS, 2020).

In its research, the World Bank places special emphasis on the creation of economic corridors on the basis of transport corridors and assesses the potential for the implementation of broad regional initiatives, in particular the Belt and Road Initiative (BRI), including a review of its opportunities and risks for countries (World Bank, 2019). The World Bank explores prospects for the development of some Eurasian transport corridors, including the Trans-Caspian International Transport Route (TITR), also called the Middle Corridor (World Bank, 2023).

The Asian Development Bank contributes to the implementation of the Central Asian Economic Cooperation (CAREC) Programme, which works on six CAREC corridors providing transport connectivity to the countries of Central Asia and the South Caucasus. The CAREC Transport Strategy 2030 was adopted within the CAREC framework, linking the development of transport corridors and connectivity with the overall strategy — CAREC 2030. This strategy focuses on the sustainability and quality of transport networks and, in addition to the construction and development of transport corridors, envisages a greater role for the rail

sector, multimodal interoperability, more efficient road asset management, and road safety (CAREC, 2022).

The Asian Development Bank Institute also conducted a study on Central Asia's transport connectivity with global markets, which, in addition to purely transport issues, paid attention to other aspects of connectivity, such as trade relations, foreign direct investment, financial flows, migration flows and remittances, and institutional cooperation between Central Asian countries and global economic centres (Asian Development Bank Institute, 2015).

Significant contribution to the development of Eurasian transport links were also made by the Organization for Cooperation between Railways (OSJD), the Intergovernmental Commission TRACECA, the International Road Transport Union (IRU), the International Union of Railways and other international organizations.

The Eurasian Development Bank (EDB), being the principal MDB operating in Eurasia, has also paid close attention to the development of transport and economic connectivity in the region and has explored these issues since its inception. In particular, the EDB assessed the effects of interstate relations on the Eurasian continent for economic prosperity and continental security (Vinokurov et al., 2012) and studied the role of transport corridors in the development of international trade between Europe and Asia (Vinokurov et al., 2009), as well as in exploiting the transit potential of the EAEU (Vinokurov et al., 2018). The role of certain modes of transport in the development of Eurasian economic connectivity was examined, in particular rail (Baibikova et al., 2014) and air (Absametova et al., 2011).

The EDB has carried out an in-depth analysis of the prospects for the development of the INSTC, predicting a further surge in its development in 2021 (Vinokurov et al., 2021) and identifying investment solutions and measures to develop its soft infrastructure (Vinokurov et al., 2022).

The EDB first proposed to use the term and the conceptual framework of the Eurasian Transport Network in the expert community and for socio-economic discussions (Vinokurov et al., 2021). In the spirit of the EDB approach, the main principle of the Eurasian Transport Network is to achieve synergies by creating a network of interconnected and interacting corridors and routes. Since 2021, the EDB has actively promoted the concept of the Eurasian Transport Network not only in its research reports (Vinokurov et al., 2024) but also in its interaction with the governments of the countries of the region, investors, international, intergovernmental, and non-governmental organisations, and MDBs.

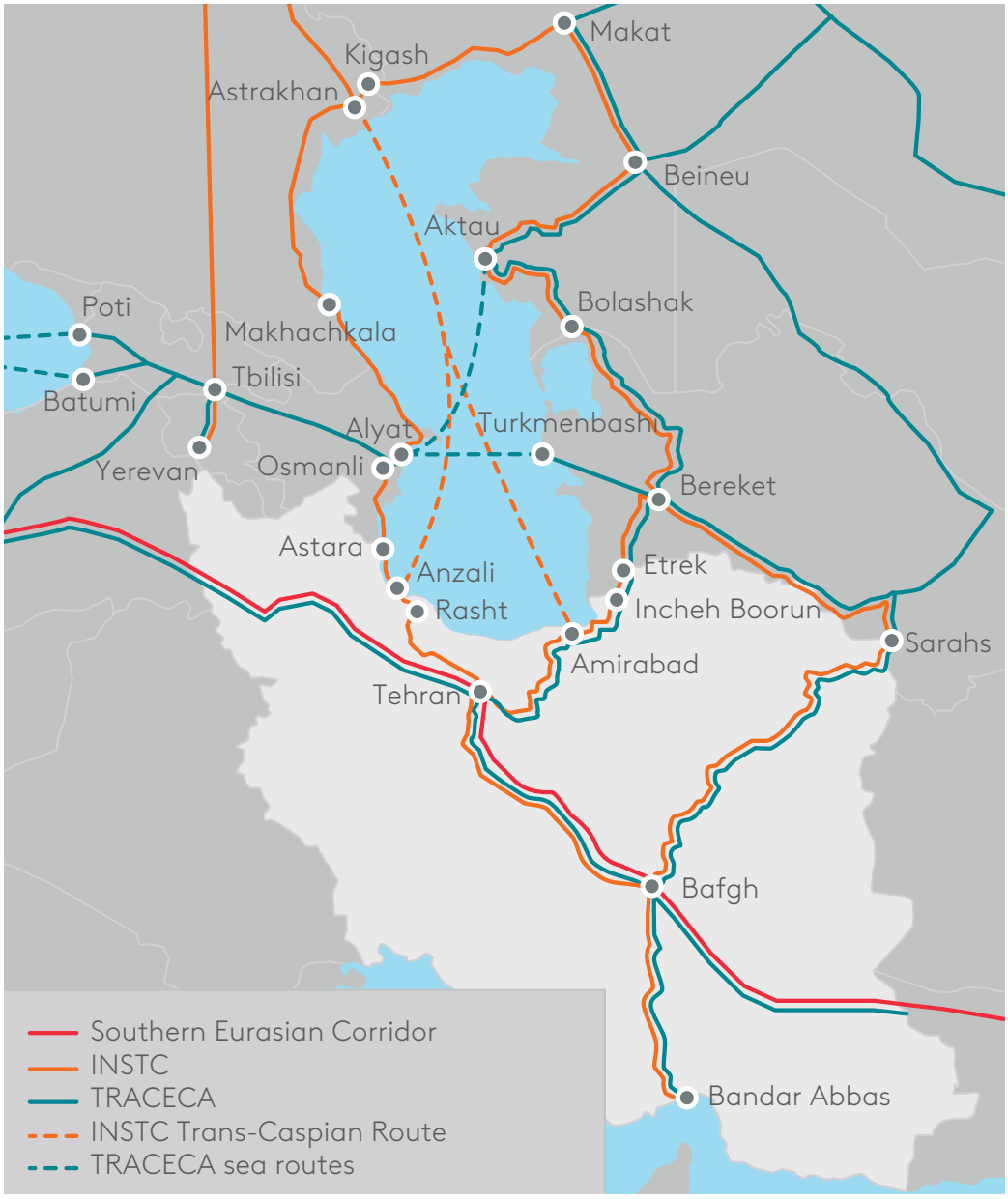
This report logically builds on the EDB's existing research and emphasises the importance of connecting the five key Eurasian corridors for the trade and socio-economic development of Eurasian countries, particularly the landlocked ones.

3. THE EURASIAN TRANSPORT NETWORK CONCEPT

Prospects for the functioning and development of the Eurasian Transport Network are linked to the implementation of the following **ten conceptual elements**:

1. Synergies in transport corridors and routes

The synergies are achieved through the **interconnection and complementarity of international transport corridors and routes** that are part of the Eurasian Transport Network. Synergies can be achieved not only between routes, but also by sharing the benefits of different modes within multimodal transport corridors (Figure 1).



← **Figure 1. Interconnection of International Transport Corridors in the Caspian Region, Central Asia, and the South Caucasus**

Source: EDB.

The experience of linking the INSTC and the latitudinal corridors, in particular the TRACECA in the South Caucasus, has demonstrated the potential for growth in freight traffic along each of these corridors as a result of the expanded logistics opportunities for trade between Russia and Türkiye and the new demand created, especially for international road transport. EDB analysts (Vinokurov et al., 2021) estimate that 40% of the total potential container traffic along the INSTC is generated by the effect of its interconnection with latitudinal transport corridors.

The coordination and cooperation of interested countries, together with the development of new transport and logistics services, will help to expand the geographical scope of transport and economic links through the interconnection of corridors. Finally, the synergies of interconnected transport corridors and routes will ensure the connectivity of all the dispersed centres of production and consumption in Eurasia.

New regional initiatives can be based on using a combination of operational sections of the Eurasian Transport Network corridors. For example, the initiative to create the Southern transport route connecting Central Asia and Russia involves a combination of sections of the TRACECA in Central Asia and INSTC in the Caspian region.

The interests of the Eurasian countries are based on the multiplicity of logistical opportunities created by the interconnection of transport corridors and routes. The medium- and long-term objectives of the Eurasian Transport Network should be the development of new meridional corridors (new North-South corridors) in Eurasia and additional connections with existing and new latitudinal (East-West) corridors.

2. Transport hub in Central Asia

Most of the Eurasian transport corridors and routes pass through Central Asia. Thanks to the development of the Eurasian Transport Network, the **countries of Central Asia are able to address the problems of transport connectivity among themselves and improve 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. Faced with a shortage of funds in national budgets to implement large infrastructure projects, these countries need support and assistance from multilateral development institutions.

This is being accompanied by the creation of a transport hub that enables an increase in international traffic, including transit, and related revenues for the countries of Central Asia. According to EDB forecasts, freight traffic along the three main corridors through Central Asia (the Central Eurasian Corridor, the TRACECA, and the Eastern route of the INSTC) will increase by a factor of 1.5 to 95 million tonnes by 2030 under the targeted scenario. Container traffic would grow even more rapidly, by almost two-thirds to 1.7 million TEU.

3. Priority of intraregional transport connectivity

Transit traffic between Europe and Asia is important and profitable, above all, for infrastructure owners and transport and logistics operators. More important, however, 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 — ensured 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 minimises the constraints associated with the lack of access to the sea. The development of transit corridors ensures that landlocked countries are connected by a network of land transport links.

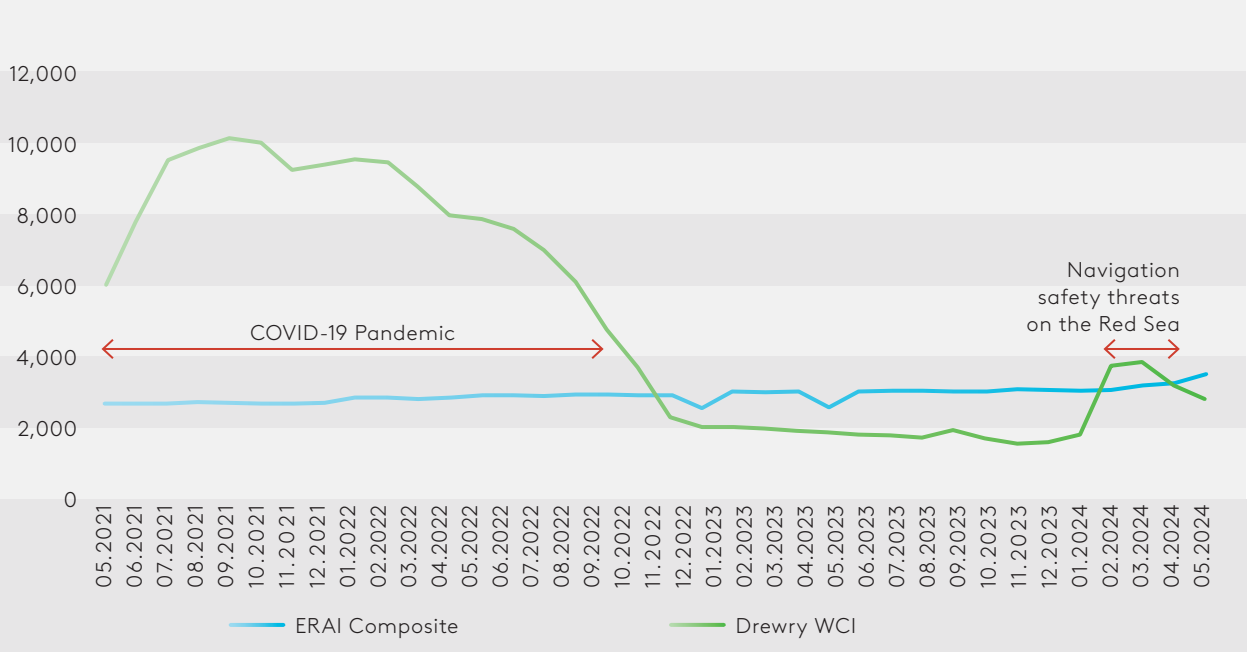
For most landlocked regions, the development of new transport opportunities leads to increased trade, job creation, higher tax revenues, and stronger human mobility, as well as triggering multiplier effects associated with these factors. According to the World Bank, **reducing travel times by one day would increase trade between the countries along the corridor route by 5.2%** (World Bank, 2019). Shorter transport times reduce transport costs, making it cheaper to export and import goods from and to landlocked countries. 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. Momentum for realising agro-industrial potential

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 development of the transport infrastructure of Eurasia would enable 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 (Vinokurov et al., 2023b). To realise the export potential, it is essential to develop not only trunk infrastructure — transport corridors and seaports — but also auxiliary infrastructure facilities including transport and logistics centres, warehouses and terminals. It is also essential to develop specialised delivery services, including container services, for agricultural exports.

5. Insurance for global trade logistical chains

↓ **Figure 2. ERAI[4] and Drewry WCI, 2021–2024, USD per TEU**



Source: ULTC ERA, ERAI[5].

The Eurasian Transport Network will ensure smooth operation of global logistical 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

[4] 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.

[5] Eurasian Rail Alliance Index (ERAI) https://index1520.com/

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, as vessel and container downtime at seaports skyrocketed due to anti-COVID restrictions, **the land Eurasian corridors were two-thirds cheaper and three times faster** (Figure 2). Transit along the land corridors during the COVID-19 pandemic enabled the transport of many essential goods, including medicines and medical equipment, between China and Europe. The Eurasian Transport Network is, therefore, a safety net for sustainable trade between Asia, the Middle East, and Europe in the event of disruptions to the operation of deep sea routes due to natural, technological, and geopolitical factors.

6. From competition to interaction

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**. Another important aspect is the complementary role of corridors and different modes of transport in their development. Maximum synergies are achieved through integrated and effective transport and logistics solutions at the "nerve clusters" owing to minimised costs of changing modes of transport, changing gauge, etc. **The implementation of an integrated transport and logistics solution can reduce the cost of multimodal freight transport by 15%** (UN-OHRLLS, 2022).

A special role in the Eurasian Transport Network is played by the combined interaction of transport modes. In the development of international transport corridors, the role of road transport has been greatly underestimated and has usually been reduced to the feeder delivery of cargo to the point where the trunk transport starts (or cargo pick-up from the point where the trunk transport ends). However, **road transport plays a key role in the foreign trade activities of small and medium enterprises (SMEs)**, which are characterised by small consignments for which a truck is much more convenient than a train. In addition, the ability of road transport to deliver freight "door to door" and "on time" is extremely important for the transport of food and other perishable, valuable, and piece goods.

Road transport has proved its worth over long distances. Examples are the delivery of containers from Russian ports in the Far East to the centre of Russia due to the constraints of the Eastern Range, freight transport between Armenia and other EAEU countries, China and Belarus, Tajikistan and Türkiye, Russia and Iran, as well as Türkiye along the Western route of the INSTC. The international road freight traffic along sections of a number of transport corridors, for example, in Central Asia, exceeds the corresponding rail traffic.

Although air cargo carries less than 1% of trade tonnage transported between Europe and Asia, it accounts for more than 35% of the total value (UNECE, 2020). Airborne cargo includes anything that would never be transported long distances by rail or sea, such as fresh flowers, urgent documents or certain types of perishable goods — from pharmaceuticals to chilled seafood. Expensive electronics and accessories, cosmetics and some other types of goods are also shipped by air, including to the Eurasian region.

Air transport infrastructure is an integral element of the Eurasian Transport Network, especially in large transport hubs, as well as in remote areas. The swift growth of e-commerce is a factor behind the development of air transport logistics in Eurasia. International airports with modern cargo terminals complement, rather than replace, the infrastructure of the Eurasian Transport Network (Absametova et al., 2011). Attracting investment in their development contributes to increasing economic and trade connectivity in Eurasia.

7. Reducing imbalances in geography of trade

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 connectivity, 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. It will be achieved by developing the physical infrastructure, increasing its throughput capacity and speed characteristics, as well as improving the soft infrastructure and reducing the associated time losses when goods cross national borders or change modes of transport.

The expansion of 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** (an obvious example is the use of containers for grain or passenger cars). Higher levels of backloading can in turn improve the efficiency of transport operators and reduce user costs in areas where the cost of returning empty rolling stock has been built into the price of transport.

8. Focus on "nerve clusters"

These are **junctions of international transport corridors, intersections of road and rail routes, BCPs, 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, the creation and modernisation of essential auxiliary transport and logistics infrastructure, above all dry ports and transport and logistics centres, near transport hubs.

Removal of bottlenecks at transport hubs and border crossing points would reduce the waiting times for goods and vehicles. Every USD 1 saved at transshipment or border crossing points generates USD 2 in additional business opportunities for freight owners and carriers (IRU, NEA, 2013).

9. Increasing containerisation

Containerisation is the most popular and effective form of freight transport development along the corridors and routes of the Eurasian Transport Network. Container deliveries facilitate faster shipment of goods, maximise the unification of transport and transshipment processes at border crossing points and transport and logistics centres, improve the quality of transport, and contribute to the growth of competitiveness of land container services. The development of container delivery infrastructure in Eurasia requires investment, while the creation and scale-up of container services calls for coordination of efforts between the region's states and the transport industry.

Improved containerisation of freight traffic would increase the journey speed of goods from 500 to 1,000 km per day. The introduction of advanced technologies for the transport and transshipment of containers at break-of-gauge points, the harmonisation of legislation, in particular the conclusion of the Agreement on International Transportation of Containers

by Container Trains within the framework of the OSJD, and measures for the management of transport corridors, in particular the establishment of single operators on a number of ITCs, also contribute to the increased speed.

10. Improvement of soft infrastructure

The development of physical infrastructure of the Eurasian Transport Network should be accompanied by the improvement of soft infrastructure. It is based on the implementation of three principles — **harmonisation, coordination, and digital transformation**. Harmonisation implies the use of international standards and best practices, facilitation of trade and transport, simplified border crossing procedures, expanded access to the transport services market, improved customs administration, use of the concept of the Authorised Economic Operator (AEO), and concluding agreements on mutual recognition of AEOs, etc. Coordination of corridor development takes place at all levels — governments, international governmental and non-governmental organisations, railroad administrations, and transport and logistics businesses. It includes the creation of joint transport and logistics operators, the implementation of coordinated tariff policies, the launch of a corridor management mechanism, and a common marketing policy to promote it.

The digital transformation of transport and transit within the Eurasian Transport Network is assigned a special role. Digital transformation significantly reduces the time and financial costs of international transport and improves labour productivity. The digital transformation of vehicle and cargo inspection processes at borders is comparable in effect to the construction of additional inspection lanes and examination areas. In the foreseeable future, it will be necessary to ensure digital transformation of transport corridors, introduce digital transport and logistics services, digitalise shipping documents (consignment notes, etc.), and make customs transit, international road transport permit applications, and transport planning procedures digital.

Estimates prepared by the World Bank using a general equilibrium model show that a 50% reduction in border delays through the implementation of transport infrastructure development projects leads to an 18% increase in exports for countries along transport corridors in Central Asia (World Bank, 2019).

4. COMPOSITION AND STRUCTURE OF THE EURASIAN TRANSPORT NETWORK

Previous studies by international organisations (discussed in Chapter 2), as well as international conferences, ministerial meetings, and other high-level events, have identified five main international transport corridors ensuring the transport connectivity of Europe, Asia, and the Middle East:

- The **Northern Eurasian Corridor** (also referred to as the Trans-Siberian in part of its rail route);
- The **Central Eurasian Corridor**, which includes the Europe–Western China international road route;
- The **TRACECA**, which includes the TITR infrastructure;
- **The Southern Eurasian Corridor**; and
- The **INSTC**, which includes the North–South road corridor linking the Republic of Armenia with Georgia, Russia, and Iran.

Four of these five corridors (Trans-Siberian, TRACECA, North-South, and Southern) were identified by the declaration adopted by the Second International Euro-Asian Conference on Transport held in September 2000 (UNECE, 2000).

In addition to the above five ITCs, several other rail and road routes were identified under the EATL Project (UNECE, 2012), including the following highly relevant ones:

- EATL rail route 9 and EATL road route 3e, providing access to the Russian ports of the Azov-Black Sea Basin; and
- EATL road route 9, linking Russia, Mongolia, and China (XUAR).

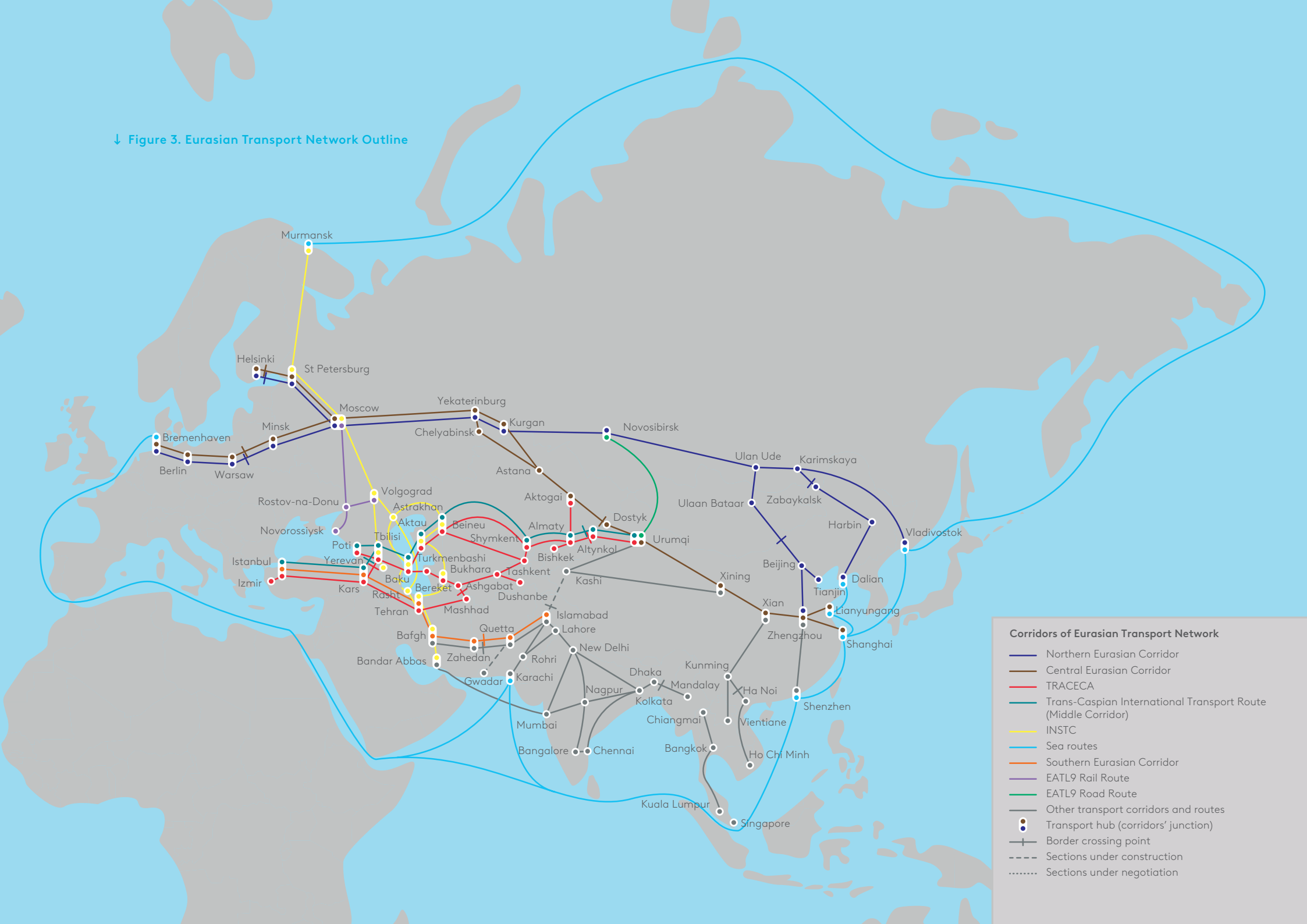
The INSTC and TRACECA are multimodal.

Rail routes coincide with road routes along a significant stretch of the five main ITCs that make up the Eurasian Transport Network, ensuring comprehensive interaction of different modes of transport and auxiliary transport infrastructure.

The main routes of each ITC are complemented by branch lines that allow for variability of start and end points, use of alternative sections, seaports, and BCPs.

This report uses the following classification of ITCs and routes included in the Eurasian Transport Network (Figure 3, Table 1). The junctions of the corridors of the Eurasian Transport Network with the Trans-European Transport Network (TEN-T) on the territory of the EU are shown, while the sections of the EATL routes in the EU countries are not shown.

↓ Figure 3. Eurasian Transport Network Outline



↓ **Table 1. Eurasian Transport Network Structure**

Corridor / Route	Route Location	EATL, OSJD Corridors, AGC, AGR, AH, TAR networks
Northern Eurasian Corridor	**Rail Route:** Malaszewicze/Terespol (border of Poland) — Brest — Minsk — Moscow — Nizhny Novgorod — Perm — Yekaterinburg — Omsk — Novosibirsk — Ulan Ude — Karymskaya — Vladivostok (port) / Vostochny (port)	EATL 1 OSJD 1 TAR E20, CE20, C45/2, CE55
	Branches: • Taishet — Irkutsk — Ulan Ude — Naushki (border of Russia) — Sukhbaatar (border of Mongolia) — Ulaan Bataar — Zamyn-Uud (border of Mongolia) — Erenhot (border of China) — Beijing — Tianjin (port), as well as Jinan — Nanjing	EATL 1c OSJD 1e TAR
	• Karymskaya — Zabaikalsk — border of China — Harbin — Dalian (as well as Harbin — Chongqing)	EATL 1d TAR
	Road Route: Terespol (border of Poland) — Brest — Minsk — Moscow — Nizhny Novgorod — Yekaterinburg — Omsk — Novosibirsk — Krasnoyarsk — Irkutsk — Ulan Ude — Chita — Belogorsk — Khabarovsk — Ussuriysk — Vladivostok (port) / Vostochny (port) / Nakhodka (port)	EATL 1, E30 AH8, AH6, AH3
	Branches: • Ulan Ude — Ivolginsk — Gusinoozyorsk — Kyakhta (border of Russia) — Altanbulag — Ulaan Bataar — Zamiin-Uud (border of Mongolia) — Erenhot (border of China) — Jining — Beijing — Tianjin (port) and to Cangzhou — Xuzhou — Nanjing	EATL 8, AH3
Central Eurasian Corridor	**Rail Route:** Malaszewicze/Terespol (border of Poland) — Brest — Minsk — Moscow — Yekaterinburg — Kurgan — Astana — Dostyk — Urumqi — Xi'an — Zhengzhou — Lianyungang (port) / Zhengzhou — Shanghai (port)	EATL 2 OSJD 1 TAR
	Branches: • Yekaterinburg — Chelyabinsk — Taranovskaya — Tobol — Astana	TAR
	Road Route: Terespol (border of Poland) — Brest — Minsk — Moscow — Nizhny Novgorod — Ufa — Chelyabinsk — Kurgan — Petropavlovsk — Astana — Almaty — Khorgos — Jinghe — Urumqi — Xi'an — Lianyungang (port) / Shanghai (port)	EATL 2, *E30, E125, AH6, AH64, AH7, AH60*
	Branches: • Petropavlovsk — Omsk — Pavlodar — Semey — Georgievka — Taskesken — Ucharal — Dostyk — Alashankou — Kuitun — Urumqi	EATL 2b, *E30, E127, AH60, AH68, AH5*
	• Moscow — Samara — Uralsk — Aktobe — Dossor — Makat — Beyneu — Nukus — Navoiy — Tashkent — Almaty	EATL 2c *E30, E121, E38, AH60, AH61, AH63*
	• Chelyabinsk — Kaerak — Kostani — Astana	EATL 2d *E30, E123, E016, AH7*
	• Perm — Yekaterinburg — Kurgan — Petropavlovsk	EATL 2e
	• St. Petersburg — Moscow (Central Ring Road) — Kazan — Orenburg — Aktobe — Kyzylorda — Astana — Almaty — Khorgos — Jinghe — Urumqi — Xi'an — Lianyungang (port)	EATL 3g, Europe — Western China Road Route

Corridor / Route	Route Location	EATL, OSJD Corridors, AGC, AGR, AH, TAR networks
TRACECA	**Rail Route:** Constanta (port) — Poti/Batumi (port) — Tbilisi — Alyat (port) — Aktau/Kuryk (port) — Beyneu — Nukus — Uchquduq — Navoiy — Tashkent — Shymkent — Almaty — Dostyk / Altynkol	EATL 3 OSJD 10, 6a, 8, 2, 5 E54, E562, E60, E50
	Branches: • Alyat (port) — Turkmenbashi (port) — Ashgabat — Turkmenabat — Bukhara — Navoiy	EATL 3a, OSJD 10 E60, TAR
	• Tbilisi — Sadakhlo — Gyumri — Yerevan	EATL 3b, E692, TAR
	• Balykchy — Bishkek — Lugovaya	EATL 3c, TAR
	• Tashkent — Konibodom — Andizhan	EATL 3d, E692, TAR
	• Istanbul — Eskişehir — Ankara — Sivas — Kars	EATL 3d, E692, TAR
	• İzmir (port) — Eskişehir	EATL 4d, E674, TAR
	• Mersin (port) / İskenderun (port) — Malatya — Dogukapi — Gyumri — Sadakhlo — Tbilisi	EATL 3f, E70, E692, E97, TAR
	• Bukhara — Karshi — Termez — Kurgan-Tube — Kulob	EATL 3L, E695, TAR
	• Kars — Akhalkalaki — Tbilisi	EATL 3m, E695
	• Tashkent — Angren — Pap — Andizhan	EATL 3n, E696
	• Beyneu — Nukus — Uchquduq — Bukhara — Turkmenabat — Sarakhs — Mashhad — Bafgh	EATL 5c, E50, E597, TAR
	• Aktau (port) — Beyneu — Makat — Kandyagash — Nikeltau	EATL 6d, E30, E50, E597
	• Tashkent — Bukhara — Karshi — Tashguzar — Baysun — Kumkurgon — Termez — Galaba — Hairatan (border of Afghanistan)	EATL 9, TAR E60, E695
	• Dushanbe — Termez	EATL 3e, E695, TAR
	• Makat — Karakalpakia — Uchquduq — Navoiy — Bukhara	EATL 9a, E50, E597, TAR
	Road Route: Constanta (port) — Poti/Batumi (port) — Tbilisi — Alyat (port) — Aktau/Kuryk (port) — Beyneu — Nukus — Bukhara — Tashkent — Shymkent — Bishkek — Almaty — Saryozek — Khorgos	EATL 4, *E68, E60, E121, E40, E60, AH5, AH70, AH63, AH62*
	Branches: • Istanbul — (Haydarpasa port) — Izmit (port Derince) — Merzifon — Refahiye — Gurbulak — Bazargan — Eyvoghli — Tabriz — Qazvin — Tehran — Semnan — Damghan — Sabzevar — Mashhad	EATL 5, *E80, AH1*
	• Merzifon — Samsun (port) — Trabzon (port) — Sarp (Türkiye) — Sarpi (Georgia) — Batumi (port) — Poti (port)	EATL 4e *E70, AH5*
	• Mashhad — Sarakhs — Tejen — Mary	EATL 5d, *E70, AH5*

Corridor / Route	Route Location	EATL, OSJD Corridors, AGC, AGR, AH, TAR networks
	• Alyat (port) — Turkmenbashi (port) — Ashgabat — Mary — Bukhara	EATL 4f, *E60, AH5*
	• Bishkek — Naryn — Torugart — Kashi	EATL 4g, *E125, AH61*
	• Shymkent — Merket — Almaty	EATL 4h, *AH5*
	• Batumi (port) — Hopa — Kars — Gyumri — Yerevan	EATL4j, *E70, AH5*
	• Gyumri — Erzurum	EATL 4L, *E691, E80*
	• Bishkek — Chaldovar — Suusamyr — Dzatal Abad — Uzgen — Osh	EATL 4p
	• Makat — Beyneu — Nukus — Bukhara — Navoiy — Samarkand — Tashkent	EATL 3a, *E40, AH70, AH8, AH63, AH5*
	• Mazar-i-Sharif — Pol-e-Khomri — Nizhny Panj — Dushanbe — Sary-Tash	EATL 5f, *E123, AH60, AH76, AH7, AH65*
	• Sherkhan-Bandar (Afghanistan) — Nizhny Panj — Dushanbe — Vahdat — Chirgatol (Tajikistan) — Karamyk (Kyrgyzstan)	EATL 5g, *E123, AH60, AH7, AH65*
	• Termez — Sariosiyo — Dushanbe — Vahdat — Kulob — Khorugh — Murgab — Kulma — Karasu (China)	EATL 5h, *E60, E009, E008, AH65, AH66, AH4*
	• Tashkent — Aybek — Khujand — Konibodom — Andarkhan — Kokand	EATL 5k, *E006, AH7*
	• Tashkent — Aybek — Khujand — Dushanbe — Kurgan-Tube — Nizhny Panj — Sherkhan-Bandar (Afghanistan)	EATL 5L, *AH7*
	• Hisaronu (Filyos) — Caycuma — Zonguldak Junc. — Devrek — Mengen — Gerede — Ankara — Aksaray — Pozanti — Mersin (port)	EATL 5N, *E89, E90, E982*
Trans-Caspian International Transport Route (TITR, Middle Corridor)[6]	**Rail Route:** Istanbul — Eskişehir — Ankara — Sivas — Kars — Akhalkalaki — Tbilisi — Alyat (port) — Aktau/Kuryk (port) — Beyneu — Shymkent — Almaty — Dostyk/Alashankou	EATL 3d, OSJD 10 E692, E50, TAR
	Branches: • Almaty — Altynkol/Khorgos	
	• Tbilisi — Batumi (port) / Poti (port)	EATL 3, OSJD 10, E60, TAR
	• İzmir (port) — Eskişehir	EATL 4d, E674, TAR
Southern Eurasian Corridor	**Rail Route:** Dragoman — Sofia — Svilengrad — Kapikule — Istanbul — Eskişehir — Ankara — Malatya — Kapikoye — Razi — Qazvin — Tehran — Sarakhs — Mary — Turkmenabat — Navoiy — Tashkent — Shymkent — Almaty	EATL 4, OSJD 6, 10 E70, E60, E50, TAR

[6] One of the TRACECA routes.

Corridor / Route	Route Location	EATL, OSJD Corridors, AGC, AGR, AH, TAR networks
	Branches: • Tehran — Qom — Meybod — Yazd — Bafgh — Kerman — Zahedan — Mirjaveh (border of Iran) — Koh-i-Taftan (border of Pakistan) — Dalbandin — Spezand — Rohri — Hyderabad — Karachi (port) — Rohri — Lahore — Rawalpindi — Islamabad — Peshawar	EATL 4c, TAR
	• İzmir (port) — Eskişehir	EATL 4d, E674, TAR
	• Mersin — Adana — Malatya	EATL 4a, E97, TAR
	Road Route: Istanbul — (Haydarpasa port) — Izmit (port Derince) — Merzifon — Refahiye — Gurbulak — Bazargan — Eyvoghli — Tabriz — Qazvin — Tehran — Semnan — Damghan — Sabzevar — Mashhad — Dogharoun — Islam Qala — Herat — Mazar-i-Sharif — Termez — Guzar — Samarkand — Bekabad — Aybek — Khujand — Konibodom — Andarkhan — Kokand — Andizhan — Osh — Sary-Tash — Irkeshtam — Kashi — Urumqi — Xi'an — Lianyungang (port) / Shanghai (port)	EATL 5, *E80, E60, E006, AH1, AH5, AH85, AH77, AH65*
	Branches: • Tehran — (Saveh — Salafchegan) — Qom — Yazd — Anar — Kerman — Zahedan — Mirjaveh — Dalbandin — Mastung — Bela- Karachi — Hyderabad — Sukkur — Bahawalpur — Multan — Okara — Lahore — Kharian — Rawalpindi — Hasanabdal — Mansehra — Besham — Chilas — Gilgit — Kunjerab (Pakistan-China border) — Taxkorgan — Kashi	EATL 5a, *AH2*
	• Mazar-i-Sharif — Pol-e-Khomri — Kabul — Jalalabad — Torkham — Peshawar — Mansehra — Besham — Chilas — Gilgit — Kunjerab (Pakistan-China border) — Taxkorgan — Kashi	EATL 5e, *AH76, AH7, AH1*
	• Karachi — Bela — Wad — Kalat — Quetta — Chaman — Kandahar — Herat — Eslam Qualeh — SangBast — Sarakhs — Tejen	EATL 5p
	• Herat — Kandahar — Chaman — Quetta — Zhob — Peshawar — Islamabad	EATL 5q
INSTC	**Rail Route:** Vainikkala (border of Finland) — Luzhayka (border of Russia) — Buslovskaya — St. Petersburg (port) — Volgograd — Astrakhan (port) / Olya (port) — Anzali (port) — Rasht — Qazvin — Tehran — Qom — Meybod — Bafgh — Bandar Abbas (port)	EATL 5, OSJD 11, E10, E99, E50, TAR
	Branches: • Astrakhan (port) — Samur — Yalama — Baku — Astara (Azerbaijan) — Astara (Iran) — Rasht	EATL 5b, OSJD 11, E60, E694, TAR
	• Astrakhan (port) — Aksarajskaya — Ganyuchikino — Makat — Beyneu — Bolashak — Ashgabat — Sarakhs — Mashhad — Bafgh	EATL 5c, OSJD 8, 10, 6 E50, E597, TAR
	• Bolashak — Incheh Borun — Tehran	OSJD 6
	• Tehran — Qom — Arak — Ahvaz — Bandar Imam (port)	EATL 5e, TAR
	• Bafgh — Kerman — Fahraj — Chabahar (port)	EATL 5g, TAR
	• Murmansk (port) — St. Petersburg	EATL 5h

Corridor / Route	Route Location	EATL, OSJD Corridors, AGC, AGR, AH, TAR networks
	Road Route: Vaalimaa — (border of Russia) — Torfyanovka — St. Petersburg — Moscow — Volgograd — Astrakhan/Olya (port) — Anzali (port) — Qazvin — Tehran — Bandar Abbas (port)	EATL 6, E105, E119, E40, AH8, AH1, AH2, AH70
	Branches: • Murmansk (port) — Petrozavodsk — St. Petersburg (port)	EATL 7, *E105*
	• Astrakhan (port) / Olya (port) — Samur — Yalama — Baku (port) — Astara (Azerbaijan) — Astara (Iran) — Qazvin — Tehran	EATL 6a, *E119 AH8*
	• Astrakhan (port) — Amirabad (port) — Sari	EATL 6b, *AH70*
	• Astrakhan (port) — Olya (port) — Aktau (port) — Beyneu	EATL 6c, *E121 AH70*
	• Qazvin — Saveh — Ahvaz — Bandar Imam (port)	EATL 6d, *AH8*
	• Eserdar — Gudurolum — Inche Boroun — Gorgan — Sari — Semnan — Damghan — Yazd — Anar — Bandar Abbas (port)	EATL 6f, *E121 AH70*
	• Astrakhan — Atyrau (port) — Makat — Beyneu — Aktau (port) — Turkmenbashi (port) — Ashgabat — Tejen — Sarakhs — Mashhad — Birjand — Nehbandan — Dastak — Zahedan — Chabahar (port)	EATL 6g, *E40, E121, E60, AH70, AH5, AH75*
	• Volgograd — Vladikavkaz — Nizhny Panj — Tbilisi — Sadakhlo — Yerevan — Eraskh — Goris — Kapan — Megri — (Agarak) — Nourdouz — Jolfa (Iran) — Tabriz	EATL 3d and EATL 4a, *E117 AH82*
Other corridors and routes	**Rail Route EATL 9** Vainikkala (border of Finland) — Luzhayka (border of Russia) — Buslovskaya — Moscow — Ryazan — Rostov-na-Donu — Krasnodar — Novorossiysk	EATL 9, OSJD 11a E10, E99
	Branches: • Rostov-na-Donu — Volgograd — Baskunchak — Aksarajskaya	EATL 9b, *E99, E50*
	• Volgograd — Tikhoretsk — Krasnodar	EATL 9d
	Road Route EATL 3e Moscow — Efremov — Voronezh — Rostov-na-Donu — Krasnodar — Novorossiysk (port) — Kavkaz (port) — Samsun (port) — Poti/Batumi (port) — Burgas (port)	EATL 3e, *E115, E97*
	Road Route EATL 9 Novosibirsk — Barnaul — Bijsk — Gorno-Altaysk — Tashanta — Uulaanbaishint — Ulgii — Khovd — Yarant -border (749 km) — Qinghe — Karatunggu — Ertai — Jiangjunmiao — Xidi — Miquan — Urumqi	EATL 9, *AH4*

Source: UNECE.

The major "nerve clusters" of the Eurasian Transport Network, where its ITCs intersect, include: Kurgan, Yekaterinburg, Moscow, Ulan-Ude (Russia), Urumqi, Xi'an, Kashi (China), Astana, Beyneu, Shymkent (Kazakhstan), Baku (Azerbaijan), Yerevan (Armenia), Tbilisi (Georgia), Tashkent (Uzbekistan), and Tehran (Iran).

In addition, the "nerve clusters" of the Eurasian Transport Network include the seaports of Vladivostok, Nakhodka, Vostochny, Novorossiysk, St. Petersburg, Astrakhan/Olya, Makhachkala, and Aktau/Kuryk.

Of particular importance are the rail and road BCPs of Zabaikalsk, Naushki, Dostyk/Alashankou, Altynkol/Khorgos, Sarakhs, Akyaila, Samur, Verkhny Lars, Astara, and others.

4.1. Northern Eurasian Corridor

The **Northern Eurasian Corridor** within the system of Eurasian transport links refers to the **latitudinal corridor connecting Europe and Russia with Mongolia, China, and the APR countries**. It coincides with Organisation for Cooperation between Railways (OSJD) rail corridor No. 1, the Trans-Siberian Eurasian Corridor, endorsed by the Second International Euro-Asian Conference on Transport (UNECE, 2000), as well as EATL rail route 1 and EATL road route 1 (UNECE, 2012). The corridor includes its main "arteries" — the Trans-Siberian Mainline and the Baikal–Amur Mainline (BAM), jointly referred to in this report as the Eastern Range of Russian Railways.

With the construction of the Trans-Siberian Mainline (1891–1916), the Northern Eurasian Corridor became the first direct land route linking the coasts of the Atlantic and Pacific Oceans, and thus the first element of the Eurasian Transport Network. The Trans-Siberian Mainline has become a development corridor for vast territories of Western and Eastern Siberia, as well as the Russian Far East.

It was on the Trans-Siberian Railway that the Trans-Siberian Container Service was born in 1971, when containerised freight transport between the APR countries and Europe was tested and is now actively developing. It has also collected and tested the tools used on other trans-Eurasian routes to facilitate international transport and harmonise border crossing procedures.

The rail component of the Northern Eurasian Corridor consists of EATL rail route 1, which coincides for a considerable length with OSJD rail corridor No. 1. This is the longest of all the Eurasian Transport Network ITCs. The length of the main route Kunowice — Warsaw — Brest — Minsk — Moscow — Nizhny Novgorod — Kotelnich — Perm — Yekaterinburg — Omsk — Novosibirsk — Krasnoyarsk — Irkutsk — Karymskaya — Vladivostok/Nakhodka/Vanino is more than 12,000 km.

The main rail route of the corridor has been fully electrified since 2002 and has two or more main tracks.

The main road route of the corridor, except for a few sections, coincides with the rail route.

According to the EATL Project (UNECE, 2012), the Northern Eurasian Corridor has 11 rail and 8 road branch lines (Figure 4), but within the framework of this study, only branch lines that are critically important for connectivity with the APR countries are considered, including lines running to:

- The ports of the Russian Far East (Nakhodka, Vostochny, Vladivostok, Vanino, etc.);
- The rail and road BCPs between Russia and China (Zabaikalsk, Blagoveshchensk, Grodekovo, etc.);
- The rail and road BCPs between Russia and Mongolia and further between Mongolia and China (Naushki, Kyakhta, etc.).

The Northern Eurasian Corridor is primarily used for the transport of exported goods to the seaports of the Far East and of imported goods from them. In 2023, ports of the Far East basin together handled over 238 million tonnes of various goods (66% dry cargo and 34% liquid cargo), which is 18.7% more than in 2018. In addition, 42.6 million tonnes of oil were transshipped through the port of Kozmino, which is the endpoint of the Eastern Siberia–Pacific Ocean (ESPO) oil pipeline system belonging to Transneft PJSC (Table 2).

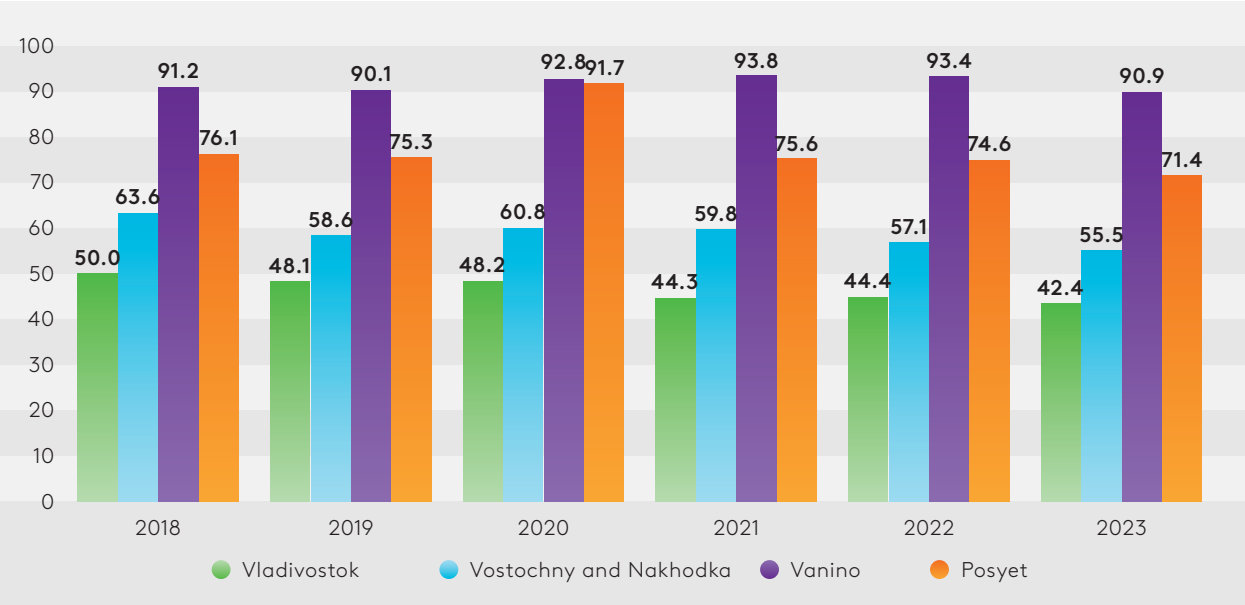
↓ **Table 2. Cargo Transshipment by Major Commercial Seaports of Russia, 2018–2023, million tonnes**

Transfer point	2018	2019	2020	2021	2022	2023
Vladivostok	21.2	23.92	24.7	29.6	32.2	33.5
Nakhodka	24.3	25.58	26.8	26.8	25.8	27.6
Vostochny	63.7	73.54	77.4	77.7	82.3	86.6
Vanino	29.5	31.4	33.5	35.4	37.6	35.0
Kozmino	30.4	33.2	32.9	35.1	42.0	42.6
Posyet	7.1	7.7	6.0	6.4	6.3	6.0
De-Kastri	12.6	13.6	13.2	...	...	10.1
Prigorodnoye	17.0	16.0	16.4	14.5	15.4	13.6

Source: Association of Commercial Seaports of Russia, Transneft PJSC.

Rail transport accounts for a significant share of total exports, imports, and transit freight traffic to and from ports (Figure 5). In some ports, pipeline transport plays a great role in the delivery of export goods, for example, almost the entire volume of oil shipped from the port of Kozmino was transported by the ESPO until 2023.

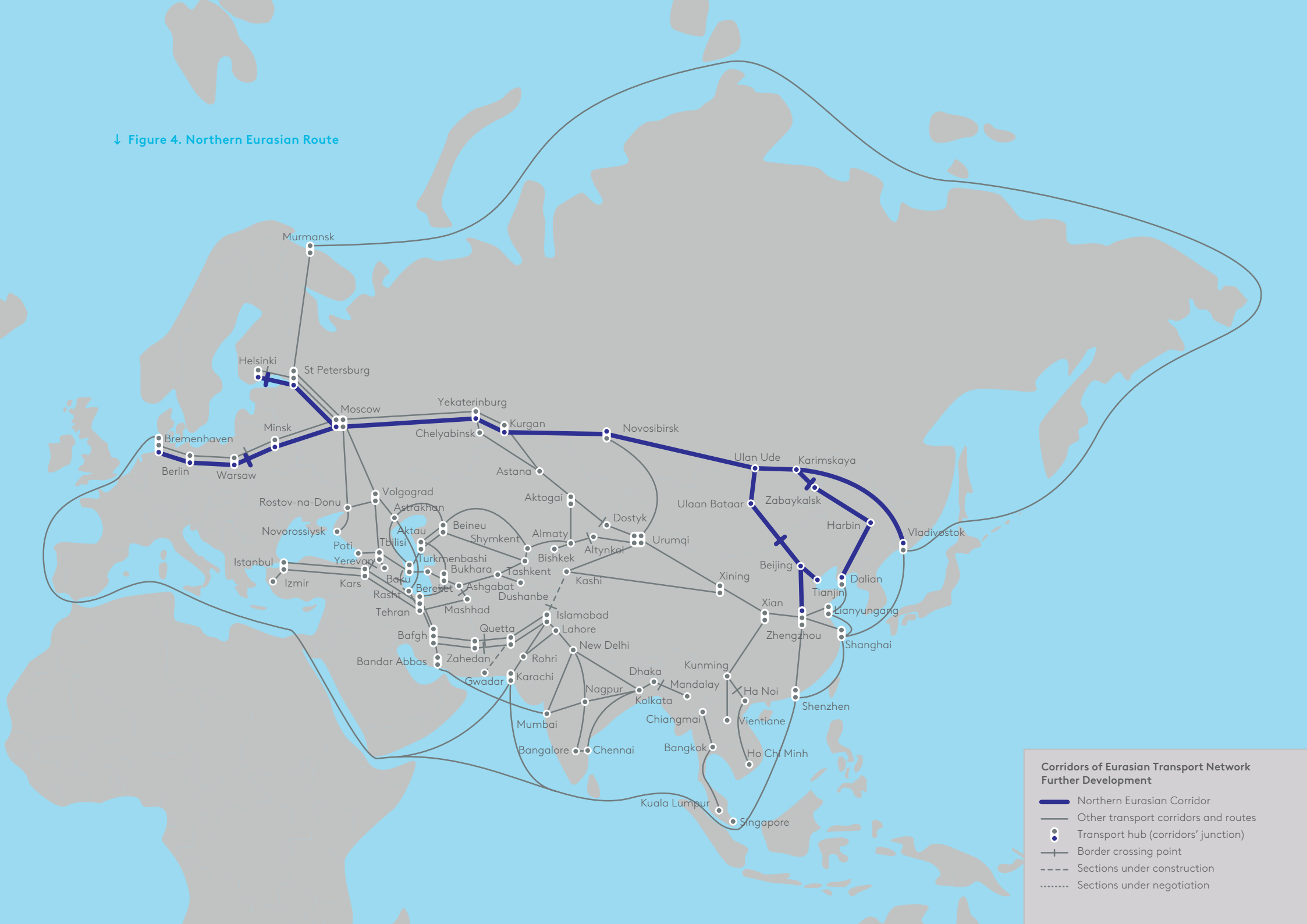
↓ **Figure 5. Share of Rail Transport in Goods Delivery to/from Seaports in the Far East Basin, 2018–2023**



Source: Association of Commercial Seaports of Russia, estimates of EDB analysts.

At the same time, the share of rail transport has decreased over the last six years, especially in the delivery of goods from ports, due to the expansion of road transport. Evidence suggests that the volumes of both domestic and international long-haul freight traffic by road along

↓ Figure 4. Northern Eurasian Route



the Northern Eurasian Corridor are growing. The developments in 2022–2023 also showed that the difficulties in delivering goods from the ports of the Far East due to the restrictions of the Eastern Range led to an increase in road freight traffic between the Far East and the central regions of Russia, as well as between China on the one hand and Russia and Belarus on the other.

Deliveries to and from the seaports of the Far East accounted for 73.8% of total international rail freight traffic in 2023. The remaining 26.2% was direct rail traffic through BCPs between Russia and China and Russia and Mongolia with subsequent access to China. At the same time, the share of land BCPs in total international freight traffic along the Northern Eurasian Corridor increased slightly between 2021 and 2023 (from 15.9% in 2021 to 18.6% in 2023), which was facilitated by the upgrading of access tracks to the Zabaikalsk Railroad BCP and the opening of a new Nizhneleninskoe Railroad BCP.

Over the past five years, the combined annual volume of freight traffic through port border stations and land BCPs to or from APR countries along routes of the Northern Eurasian Corridor has increased to 173.9 million tonnes (estimated by EDB analysts as the total for exports, imports, and transit in 2023), which is 23.2% more than in 2018, i.e. an average annual increase of almost 4.3% between 2018 and 2023.

Traffic through the port stations of the Russian commercial seaports of the Far East — Nakhodka, Vostochny, Vanino, Vladivostok, and Posyet, including all freight terminals — increased by 22.2% in 2023 compared with 2018 and by 0.5% compared with 2022.

Traffic through the railroad BCPs of the Far East, Trans-Baikal, and East Siberian Railways on the border with the People's Republic of China (PRC) and Mongolia increased by 26.3% in 2023 compared with 2018 and by 31.8% compared with 2022.

The ports of Nakhodka, Vostochny, and Vanino accounted for almost 79% of all goods transported by rail to and from the seaports of the Far East basin in 2023.

It is worth noting the high share of China as a destination country for Russian exports transferred from rail to the Far East sea ports (70.3% in 2023). The share of China as the country of departure of imported goods transported from the seaports of the Far East by rail was 87.4% in 2023. At the same time, China's share of container traffic was even higher in 2023 — 80.3% for exports and more than 94% for imports. Over the past two years, China's share of international traffic through the ports of the Far East basin has increased significantly.

Zabaikalsk Station became the largest land BCP in 2023. Freight traffic through this railroad BCP was 22 million tonnes, accounting for 48.5% of the total volume of international freight transport through land BCPs and 12.7% of the total international freight traffic along the eastern branch of the Northern Eurasian Corridor. It should be noted that Zabaikalsk is the most technically advanced and the most productive BCP. The first stage of its reconstruction was completed in 2022.

At border stations, with the exception of Naushki, almost all goods transported between Russia and China are transshipped due to the break of gauge between the Russian and Chinese railways. Given that Naushki is on the border with Mongolia, which uses the 1,520 mm standard gauge, goods transported between Russia and China travel to the Mongolia–China BCP of Zamyn Uud/Erlian, where they are reloaded onto 1,435 mm gauge rolling stock.

Russian exports transported along the Northern Eurasian Corridor, through land BCPs and port stations combined, amounted to 154.1 million tonnes in 2023, 16.7% more than in 2018. Imports increased by a factor of 2.7 to 16.9 million tonnes in the same period. Moreover, the most intensive growth of import transport has been in the last two years, amounting to 60% (Table 3).

↓ **Table 3. Estimates of International Freight Traffic along the Northern Eurasian Corridor, by Type of Transport, 2019–2023, and Containerisation Estimates**

Type of transport	Indicator	2018	2019	2020	2021	2022	2023
Exports from Russia	Million tonnes	132.0	138.5	146.1	145.4	144.2	154.1
	of which '000 TEU	355	450	650	720	920	1,025
	containerisation	4%	5%	7%	8%	10%	11%
Imports to Russia	Million tonnes	6.2	7.4	8.4	10.6	14.3	16.9
	of which '000 TEU	385	475	580	755	900	1,225
	containerisation	64%	67%	72%	76%	75%	77%
Transit (eastbound)	Million tonnes	1.6	1.8	1.8	2.2	2.2	1.3
	of which '000 TEU	63	100	101	160	185	135
	containerisation	50%	44%	41%	45%	53%	70%
Transit (westbound)	Million tonnes	1.2	1.4	1.5	2.2	1.6	1.5
	of which '000 TEU	122	142	160	255	180	185
	containerisation	94%	96%	97%	97%	97%	98%
Total, million tonnes		**141.1**	**141.1**	**149.2**	**157.9**	**160.4**	**162.3**
Total, '000 TEU (loaded containers)		**928.3**	**925**	**1,167**	**1,490**	**1,890**	**2,185**
Growth rate of container deliveries, y-o-y, in %				+25.9	+27.3	+27.2	+15.4
Specific weight of containerised goods, %		8.0%	8.0%	9.5%	12.0%	15.0%	18.0%

Source: estimates of EDB analysts, General Administration of Customs of the PRC, Association of Russian Seaports.

Export traffic growth (primarily coal) to the ports of the Far East was significantly lower due to the limited throughput capacity of the Eastern Range.

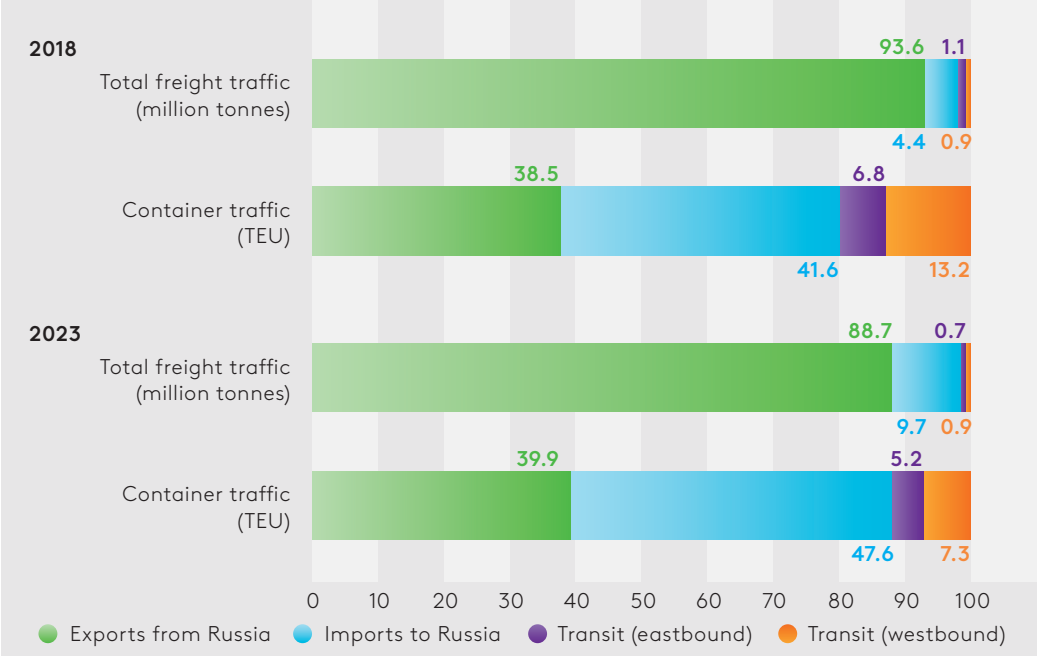
In addition, about 3 million tonnes of transit goods are traditionally transported along the corridor through port stations and land BCPs. Transit goods are transported to and from Belarus, Central Asian countries and, to a lesser extent, European countries.

The structure of international freight traffic along the Northern Eurasian Corridor is characterised by significant disparities. In terms of tonnage (in metric tonnes), eastbound freight transport was almost 10 times higher than westbound freight transport in 2023 (Figure 6). In 2023, exports accounted for 88.7% of total international freight traffic — slightly less than five years earlier (93.6% in 2018). The disparity affects the efficiency of the use of rolling stock — gondola cars carrying coal eastwards are returned empty.

Therefore, the Northern Eurasian Corridor is really an export corridor. Its share of transit traffic is insignificant and is limited by the lack of spare throughput capacity due to the transport of exported coal.

The total volume of container deliveries along the corridor was 2.6 million TEU, although Russian exports and imports accounted for 87.5% of their volume.

In 2023, the share of export container deliveries was 39.9% of total international container traffic along the corridor and that of import container deliveries was 47.6%, indicating that there is no clear disparity between the directions. Transit container transport was 320,000 TEU in 2023 (against 185,000 TEU in 2018).



← **Figure 6. Structure of International Freight Traffic along the Northern Eurasian Corridor, by Destinations, 2018 and 2023, %**

Source: estimates of EDB analysts.

The growing containerisation of freight traffic is an important factor in the development of the Northern Eurasian Corridor. Both the volume and the share of containerised goods in total freight traffic are gradually increasing.

In particular, the share of containerised goods increased from 4% in 2018 to 11% in 2023 in export freight traffic going to the Far East ports and BCPs on the borders with Mongolia and China. At the same time, the physical volume of containers transported for export increased almost threefold — from 355,000 TEU in 2018 to 1 million TEU in 2023.

Transit container traffic decreased between 2021 and 2023 for several reasons. These include a reduction in transit volumes to/from EU countries, driven by both the stabilisation of China–EU maritime tariffs and a reduction in subsidies for container rail transport from Chinese provinces among other factors.

A feature of the Northern Eurasian Corridor is the low containerisation of Russian exports compared with imports or transit from east to west.

The reason for the relatively low level of containerisation of export freight traffic is the predominance of raw materials, mainly hard coal, transported by gondola cars along the Eastern Range.

On the import side, i.e. in traffic from the seaports in the Far East basin and from Mongolia and China through land BCPs, containerisation increased from 64% to 77% in the same period.

Transit from east to west is almost entirely containerised — 98% of all freight was transported in containers in 2023. Transit from west to east is also less containerised due to the transport of raw materials through the ports of the Far East basin. More than 70% of goods transported from west to east were containerised.

The total transit container traffic was about 320,000 TEU in 2023, up 73% over the past five years.

The main type of goods transported along the Northern Eurasian Corridor is coal (power generating, metallurgical, coke, etc.). In 2023, more than 100 million tonnes of coal were

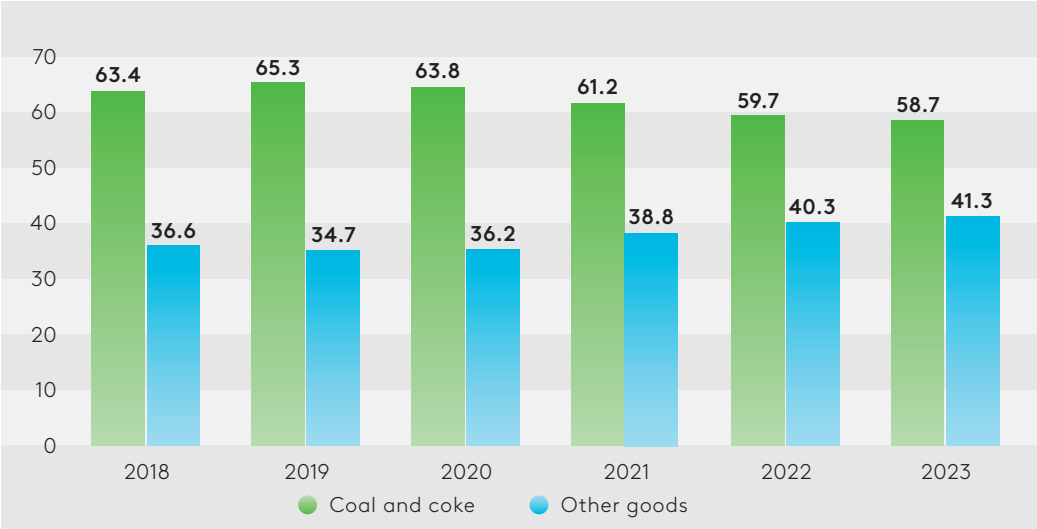
transported, which accounted for 71.5% of the total freight traffic. A further 11% was contributed by wood products and ores (Table 4).

↓ **Table 4. Analysis of Export Freight Traffic along the Northern Eurasian Corridor, by Freight Nomenclature, million tonnes**

Freight nomenclature	2018	2019	2020	2021	2022	2023	2023 / 2018, %
Coal and coke	89.5	97.4	100.8	98.1	96.9	101.9	113.9
Oil and oil products	4.1	4.3	3.5	3.7	3.8	4.4	107.3
Ore	2.6	4.1	5.4	5.4	6.0	7.9	303.8
Metals	6.4	6.4	7.7	6.6	6.7	5.1	79.7
Wood products	18.3	14.2	11.6	12.3	9.3	7.5	41.0
Paper and paper products	1.8	1.7	2.4	2.4	3.3	3.8	211.1
Grain	0.1	0.7	1.2	1.2	1.2	2.6	By a factor of 35
Other food products, including perishable goods	0.1	0.2	0.3	0.5	1.2	2.1	By a factor of 24
Chemical and mineral fertilisers	1.5	0.9	2.2	2.1	1.7	1.5	100.0
Other cargo	7.6	8.6	11.0	13.1	14.1	17.3	227.6
Total	**132.0**	**138.5**	**146.1**	**145.4**	**144.2**	**154.1**	**132.0**

Source: estimates of EDB analysts, General Administration of Customs of the PRC.

The share of coal in total international freight traffic along the Northern Eurasian Corridor has remained at a consistently high level in recent years. In 2023, it was 58.7%, slightly down from the level of 63.4% in 2018 (Figure 7). However, taking into account the upgrading of the BAM and the Trans-Siberian Railway, the share of coal in the utilisation of the Eastern Range throughput capacity is gradually decreasing. This trend should intensify due to further prioritisation of container deliveries.



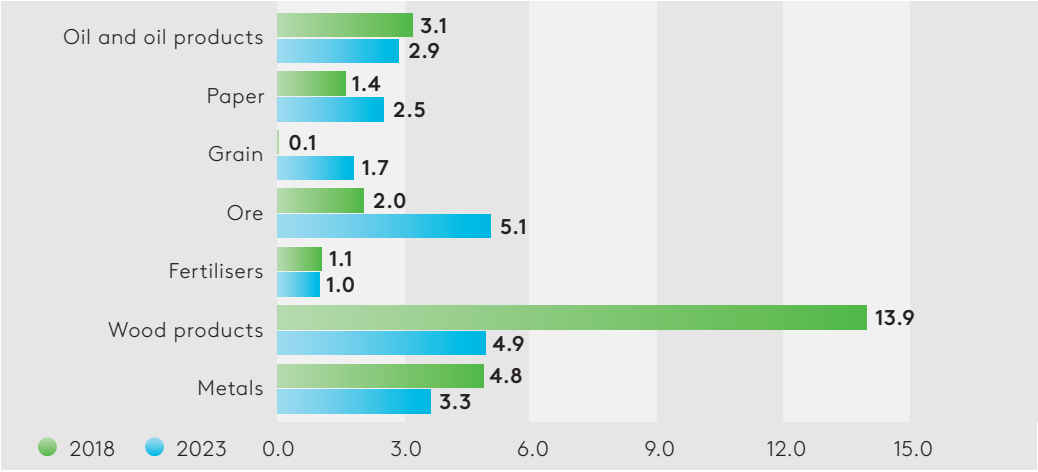
← **Figure 7. Share of Coal and Coke in Total International Freight Traffic along the Northern Eurasian Corridor, 2018–2023, %**

Source: estimates of EDB analysts, *Kommersant*.

The shares of food commodities, ores, cereals, vegetable oils, chemicals and soda, paper and paper board, and non-ferrous metals in export freight traffic are increasing. At the same

time, the share of wood products in total transport has decreased over the past five years from 13% to 4.3%, while the share of metals has declined from 5.1% to 3.7% (Figure 8).

Overall, the period between 2018 and 2023 can be characterised as one witnessing "explosive" growth in the transport of various agricultural products, including perishable goods. During the period under review, the volume of grain exports by rail along the Northern Eurasian Corridor increased by a factor of 34 (to 2.6 million tonnes) and vegetable oil by a factor of 47 (to 1.2 million tonnes).



← Figure 8. Shares of Some Types of Goods in Total International Rail Freight Traffic along the Northern Eurasian Corridor, 2018 and 2023, %

Source: estimates of EDB analysts, General Administration of Customs of the PRC.

The Zabaikalsk–Manzhouli BCP is the largest in terms of rail freight traffic on the Northern Eurasian Corridor. Traditionally, wood, ores, hard coal, and mineral fertilisers[7] have moved through this BCP. The container terminal at this BCP processed almost 550,000 TEU in 2023 (Figure 9).

A specific feature of the BCP operation in 2023 was an increase in the volume of grain and vegetable oil exports. At the same time, a third of the total volume of grain and almost the entire volume of vegetable oil was transported in containers.

On the route from China to Russia, almost all the freight was containerised. The main items in import freight traffic in 2023 were wood, metal structures, and automotive equipment in containers.

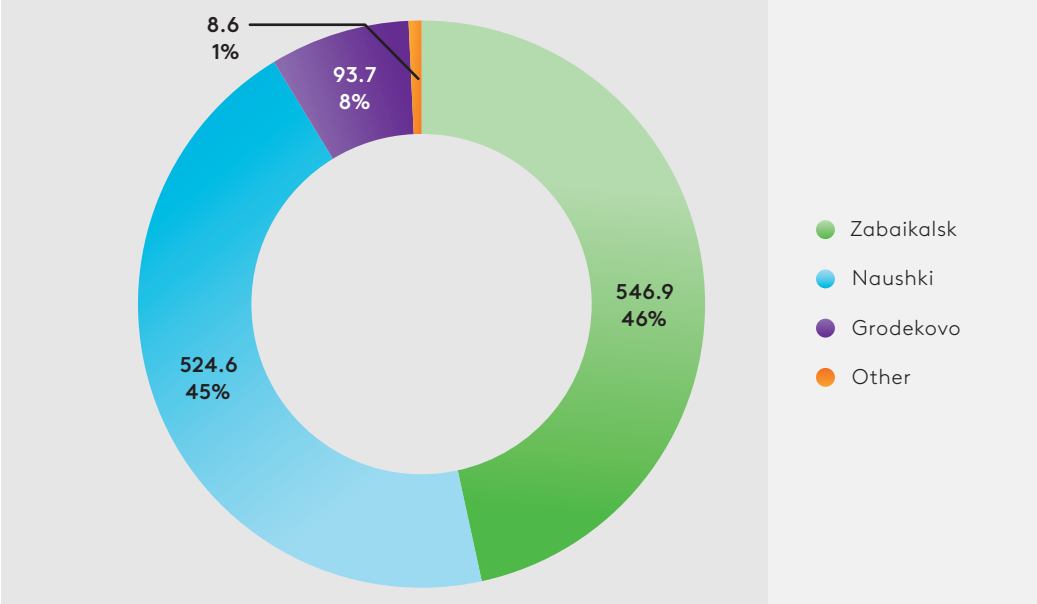
The Pogranichny–Suifenhe railroad BCP includes the Grodekovo interstate freight terminal with a throughput capacity of 10 million tonnes per year[8]. The BCP is located on the Primorye-1 regional corridor, which connects to the Northern Eurasian Corridor. The Primorye-1 ITC connects Heilongjiang Province with the ports of Nakhodka and Vladivostok.

In 2023, the main export goods transported through the BCP were wood products, a quarter of which were containerised, as well as coal and ore. Grain transport has also increased significantly, with a third of it containerised.

Two-thirds of imports (from China to Russia) moved through this BCP by trucks in containers. Machinery and equipment, paper products, ferrous metals, and fertilisers are also imported in containers.

In addition to direct routes, part of the transport between China and Russia crosses the territory of Mongolia. The main route is Erlian–Zamyn-Uud–Sukhbaatar–Naushki.

[7] Pogranperekhody s Kitayem: bol'shoy dosmotr (Border Crossing Points with China: a Major Inspection), https://logirus.ru/articles/analythics/pogranperekhody_s_kitaem-_bolshoy_dosmotr.html.
[8] Ibidem.



← **Figure 9. Share of Different Land BCPs in International Container Traffic between Russia and China along the Northern Eurasian Corridor, 2023, '000 TEU and %**

Source: estimates of EDB analysts, *Kommersant*.[9] [10]

Over recent years, international road transport between Russia and China has developed actively, using the infrastructure of the Northern Eurasian Corridor. One of the driving forces behind the development of such long-haul transport was the Agreement between the Government of the Russian Federation and the Government of the People's Republic of China on International Road Transport dated 8 June 2018, which entered into force on 17 September 2018. The agreement removed the previous mutual restrictions on the "depth of entry" of trucks into the territory of the two countries and lifted the requirements for transshipment/reattachment.

At present, long-haul transport is possible through seven BCPs: Pogranichny–Suifenhe, Poltavka–Dongning, Kraskino–Hunchun, Turii Rog–Mishan, Amurzet– Luobei, Pokrovka–Zhaohe, and Zabaikalsk–Manzhouli (ERAI, 2022a).

Since, 2018, this has supported the use of the opportunity for Russian trucks to enter China, including Chinese ports, and for Chinese trucks to deliver deep into Russia. On 1 January 2020, a similar agreement between the Republic of Belarus and the People's Republic of China entered into force, opening the possibility of transporting goods by trucks between the two countries in transit through Russia (Box 1).

Box 1. Due to the changing geography of transport, Belarus's road transport sector has maintained and enhanced its competitiveness.

The closure of direct international traffic with EU countries, as well as the ban on Belarusian carriers entering the EU, was a serious destabilising factor for the national road transport sector, traditionally considered one of the most competitive in Eurasia (a high proportion of the fleet meeting Euro-5 and Euro-6 environmental standards, professionalism of Belarusian carriers, etc.).

[9] Gruzy dvizhutsya v Kitay po sushe (Goods are transported to China by land). *Kommersant*, 29 November 2023. https://www.kommersant.ru/doc/6366509.
[10] Sukhoputnyye vorota (The land gate). *Kommersant*, 11 September 2023. https://www.kommersant.ru/doc/6197186.

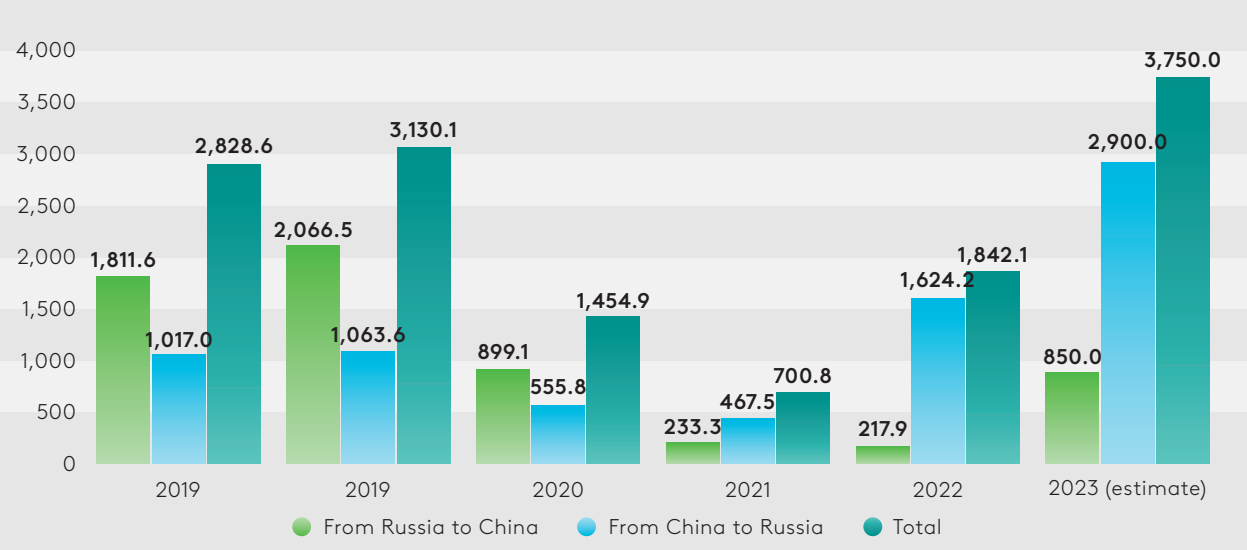
According to estimates by the Association of International Road Carriers of the Republic of Belarus (BAMAP), international road transport operations are recovering after a period of adaptation to new operating conditions. The vector of road transport has shifted from west to east and south, following foreign trade. While it is estimated that until 2022 European countries accounted for more than 50% of international freight transport operations performed by Belarusian road carriers, in 2022–2023 the situation changed dramatically. This direction of freight transport is not the main one at present, and the remaining volume is transported jointly with EU carriers using the arrangement of recoupling/reloading vehicles at border transport and logistics centres on the territory of the Republic of Belarus.

The share of eastbound and southbound road freight traffic has grown rapidly since 2022, and is estimated to account for more than 70% of the total freight carried by Belarusian transport companies in early 2024. Taking into account the vector of trade relations, the volume of bilateral freight transport to/from the Russian Federation is growing. Traffic with countries in Asia and the South Caucasus, including China, Uzbekistan, Türkiye, Mongolia, Kazakhstan, Azerbaijan, etc., has increased substantially.

In 2024, Belarusian carriers have been actively using the Northern Eurasian Corridor for international transport between Belarus and China. Despite the long distances (more than 5,000 to 7,000 km), the demand for road transport between China and Belarus remains high. In 2023, it doubled compared with 2022.

The rapid growth of this traffic (Figure 10) was curbed by a number of additional factors, the most important of which was the COVID-19 pandemic with its consequences in terms of restrictions on movement across borders, closure of certain international road BCPs, quarantine of drivers, vehicles and cargo, and total epidemiological inspections of incoming commercial vehicles. As a result, in 2020–2021, on the one hand the volume of traffic decreased significantly, while, on the other hand, queues and waiting times for trucks at the border increased greatly.

↓ **Figure 10. International Road Transport between Russia and China, 2018–2023, '000 tonnes**



Note: The 2022–2023 statistics for transport from China to Russia include imports of wheeled vehicles crossing the border on their own.
Source: calculations and estimates of EDB analysts, General Administration of Customs of the PRC, *Kommersant*.

With the lifting of the anti-COVID restrictions by China in early 2023, the operation of international road BCPs and freight road transport services resumed in full, including transport deep into China.

At the same time, the recovery of trade and transport after the pandemic was hampered by new challenges — an insufficient number of international road BCPs, their low throughput capacity, and the underdevelopment of transport and logistics infrastructure along the Northern Eurasian Corridor, which runs close to the Russia–China border.

In 2023, road freight traffic between Russia and China reached a record high of 3.75 million tonnes, 20% higher than the 2019 peak. At the same time, while the transport of Russian exports to China in 2023 amounted to only 41% of the level of 2019, imports increased by a factor of 2.7, which was a consequence of the redirection of many imports from European markets to China.

All types of international road transport are growing, including full truck loads (FTL), less than truck loads (LTL), and oversized and heavy loads. The nomenclature of goods transported is quite wide, ranging from machinery and equipment, including high-tech products, to raw materials for the chemical, food, and medical industries, as well as food[11].

The online retail delivery segment is growing exponentially, especially fast moving consumer goods (FMCG) such as consumer electronics, cosmetics, household chemicals, etc.

There is currently no direct road transit between the EU and China along the Northern Eurasian Corridor. There is no agreement regulating the rights and conditions of access of European carriers to China's market or of Chinese carriers to the European market.

At the same time, multimodal freight transport arrangements are implemented between China and the EU, with road transport covering the first and last miles. The volume of export traffic from the EU to China was estimated by Eurostat at 757,000 tonnes in 2021 (ERAI, 2022a). From the technical point of view, the goods were transported to Belarus, Russia, or Türkiye and then transferred to rail for subsequent delivery to China. The closure of international road transport between Russia, Belarus, and the EU has reduced the opportunities for multimodal transport from the EU to China.

Direct international road transport between Russia and China faces a range of challenges, such as insufficient throughput capacity of international road BCPs, barriers related to non-harmonised procedures and limited (not 24/7) working hours of customs and other services at the border, a lack of digital documents, etc. For example, the maximum throughput capacity of the Pogranichny International Road BCP is only 70 trucks per day. The capacity of the Zabaikalsk–Manzhouli Road BCP is up to 360 vehicles per day in both directions.

The opening of the Blagoveshchensk–Heihe Bridge as a result of the implementation of a cross-border PPP project (Vinokurov et al., 2023) has increased the opportunities for road transport of goods to and from China. The Kanikurgan–Heihe Road BCP became operational with the opening of the Blagoveshchensk–Heihe Bridge. The throughput capacity is 190 units of transport per day. The planned commissioning of the permanent Kanikurgan BCP in 2024 will increase the throughput capacity to 630 units of freight transport per day (ERAI, 2022d).

The most important international road BCP on the border between Russia and China is Zabaikalsk–Manzhouli, which processes as much freight as all the other Russia–China international road BCPs combined. The design throughput capacity of the international road BCP is 280 trucks per day, while the actual capacity, taking into account the increased

[11] Rossiya poyekhala vnutr' (Russia went inland). *Kommersant*. https://www.kommersant.ru/doc/6465461

load, is 320 trucks per day. Currently, the BCP is under renovation, after which its throughput capacity will increase to 1,600 trucks per day[12].

The estimated volumes of freight traffic along the Northern Eurasian Corridor for 2024 and further for 2025 and 2030 are based on two scenarios and the following key assumptions:

- The growth of trade between the EAEU countries and China will continue;
- In the coming years, trade and economic relations between Russia and Belarus on the one hand and the countries of the European Free Trade Area on the other will not rebound to the pre-2022 state;
- The redirection of trade between Russia and Belarus towards the APR countries will drive the growth of freight traffic through the ports of the Far East; and
- Further gradual growth of the Central Asian economies and the volume of their trade with the APR countries will contribute to an increase in demand for transport via the Far East seaports.

The optimistic scenario is based on the assumptions of:

- Steady growth of trade in goods between China, the EAEU countries, and Central Asia;
- Development of the existing trend of container traffic growth along the corridor at an average annual rate of around 10%;
- Implementation of investment programmes for the development of railroad trunk infrastructure in Russia, railroad BCPs, and a network of transport and logistics hubs;
- Continued high demand for Russian power generating and coking coal in the APR countries; and
- Declining imbalances between east- and westbound traffic.

The pessimistic scenario is based on the assumptions of:

- Lower demand for Russian power generating coal in the APR countries, primarily in China;
- Continued decline of transit to Europe and Central Asian countries through the Far East ports;
- Restrained mutual trade between Russia and China due to various restrictions, such as complicated mutual settlements, voluntary restrictions on the supply of certain types of products, introduction of protectionist measures, etc; and
- Persistent bottlenecks and non-physical barriers, including those related to the infrastructure of BCPs, transport and logistics centres, customs procedures, and the slow pace of digital transformation of international transport.

The forecasts of freight traffic along the Northern Eurasian Corridor for the period up to 2030 are presented in Table 5.

[12] Propusknuyu sposobnost punkta propuska Zabaykalsk planiruyut uvelichit do 2.4 tys. mashin (Throughput Capacity of Zabaikalsk Border Crossing Point to Increase to 2,400 Trucks). https://tass.ru/ekonomika/17746697

↓ **Table 5. Forecasts of Freight Traffic along the Northern Eurasian Corridor to 2030, based on two scenarios**

	2023	2024 Estimate	2025 Forecast	2030 Forecast	
				Inertial	Targeted
Land railroad BCPs, million tonnes	45.6	50	54	60	70
Rail transport to seaports, million tonnes	128.3	130	132	135	149
International road transport between Russia/ Belarus and China, million tonnes	3.8	4	4.5	5	6
Total, million tonnes	177.7	184	190.5	200	225
Of which loaded containers, '000 TEU	2,571.5	2,800	3,100	3,500	4,000
% containerisation	19%	20%	22%	24%	25%

Source: estimates of EDB analysts.

The forecasts for transport along the Northern Eurasian Corridor are based on two key trends: heavy use of the railroad infrastructure and the high growth of container traffic.

The increase in freight traffic along the Northern Eurasian Corridor should be facilitated by the following factors:

- A large-scale development programme for the Eastern Range: in 2023 — 173 million tonnes, in 2024 — 180 million tonnes. By 2030, more than 2,000 km of second track should be built, increasing the throughput capacity to 210 million tonnes.
- A rise in the volume of coal transported by heavy trains. In 2023, their number almost doubled. The development of heavy haul will be facilitated by the renewal of the fleet of mainline locomotives capable of hauling trains of higher weight (7,100 tonnes or more).
- Upgrading of the Trans-Mongolian route with an increase in its throughput capacity and the number of container trains.
- Expansion of cooperation between interested railways, primarily Russia and China. Key areas of cooperation include the creation of new container services and the digital transformation of the transport process.
- Development of competition among container transport operators. At present, RZD Logistics, FESCO TG, Eurosib, etc. are already present in the transport market along the Northern Eurasian Corridor. As a result, Asian and European freight owners can choose from a variety of carriers, resulting in higher quality and a more attractive service.
- Creation of new transport and logistics centres along the Northern Eurasian Corridor, development of interaction with road transport in the organisation of multimodal freight transport schemes.
- Development of new food logistics services, including transport of grain and perishable goods. Containerised grain transport, which has proved effective on the routes, including through the Zabaikalsk–Manzhouli railroad BCP, can be continued and extended to other destinations. The Agroexpress Project is expected to expand the transport of food commodities to China.
- Flexible tariff policy for container train transport from APR countries through the Far East ports and land BCPs (previously, a transit development project was implemented with a discount of up to 55% on current tariffs).

4.2. Central Eurasian Corridor

The **Central Eurasian Corridor** within the system of Eurasian transport links refers to the **latitudinal corridor connecting Europe, the EAEU countries and China, Vietnam, and other APR countries**. It coincides with OSJD rail corridor No. 2, as well as EATL rail route 2 and EATL road route 2 (UNECE, 2012). The main route of the corridor is the shortest route connecting the countries of Western Europe and the EAEU countries with the industrial regions of the People's Republic of China as well as the seaports of Lianyungang and Shanghai, etc. on the Pacific coast of China (Figure 11).

According to OSJD, the length of OSJD ITC No. 2 is 14,000 km. The main countries in the corridor are China (53%), Russia (19%), and Kazakhstan (19%). 63% of the sections of OSJD ITC No. 2 are electrified, while 72% have two or more tracks. The corridor runs through Russia, Kazakhstan, China, and Vietnam.

The Dostyk Railroad BCP–Aktogay–Mointy–Astana–Elimay (forwarding)–Kartaly section of the Central Eurasian Corridor is recognised by Russian and Kazakhstan railways as the optimal route for freight transport between Europe and Western China. It is the shortest route, involving an equal distribution of transport between the two countries and having the best technical characteristics.

65% of Kazakhstan's part of the Central Eurasian Corridor consists of double-track electrified sections, while the remaining part is single-track diesel-powered sections.

The Dostyk and Altynkol BCPs account for 96% of total transit traffic on the China–Europe–China route (ERAI, 2024). 7,000 trains passed through the corridor in both directions, of which more than 85% (6,000 trains) went through the Dostyk/Alashankou BCP. With freight traffic of 5.4 million tonnes in 2023, Alashankou was one of the three largest national rail border stations in China.

Container trains run to 95 destinations between China and Europe, reaching 19 European countries (Germany, Poland, Belgium, etc.). Trains carry more than 200 types of goods, of which export goods are mainly auto parts, household appliances, electronic goods, basic necessities, etc., and import goods are cars, wood, food, machinery, and equipment. The total value of goods transported by the ULTC ERA services along the Central Eurasian Corridor is estimated at USD 35 billion (ERAI, 2024).

The volume of transit freight traffic through two existing railroad BCPs on the Kazakhstan–China border — Dostyk and Altynkol (excluding Kazakhstan's foreign trade cargo) — has increased over the past five years to 8.8 million tonnes (total exports, imports, and transit), which is 3.5 times more than in 2018 (Table 6).

Altynkol is a relatively new railroad BCP on the border between Kazakhstan and China. The transit freight traffic through this BCP increased from 0.2 million tonnes in 2018 to 3.4 million tonnes in 2023, i.e. by a factor of 17.

An important role in the development of the route was played by the Seven-Party Agreement between the railways of Belarus, Germany, Kazakhstan, China, Mongolia, Poland, and Russia on deepening cooperation in organising container trains on the China–Europe route signed on 20 April 2017.

↓ Figure 11. Central Eurasian Route

↓ **Table 6. Transit Goods Transport along the Central Eurasian Corridor, 2018–2023, million tonnes**

Transfer point	2018	2019	2020	2021	2022	2023
Altynkol	0.2	0.6	1.4	1.9	2.7	3.4
Dostyk	2.2	3.0	4.0	4.4	5.1	5.4
Total	2.5	3.6	5.4	6.3	7.7	8.8

Source: estimates of EDB analysts.

An important factor in the development of the Central Eurasian Corridor is the high containerisation of freight traffic. Transit through two BCPs on the Kazakhstan–China border was fully containerised in 2023, and 99.5% of exports and 93.1% of imports were also transported in containers (Table 7).

↓ **Table 7. Analysis of International Freight Traffic along the Central Eurasian Corridor, by Type of Transport, and Containerisation Estimates**

Type of transport	Indicator	2018	2019	2020	2021	2022	2023
Exports	Million tonnes	0.7	1.4	1.4	0.8	1.2	1.8
	of which '000 TEU	3	25	26	40	80	125
	containerisation	7%	28%	28%	70%	98%	99.5%
Imports	Million tonnes	0.2	0.3	0.2	0.4	2.2	3.0
	of which '000 TEU	5	11	10	29	224	370
	containerisation	36%	50%	47%	73%	88%	93%
Transit (eastbound)	Million tonnes	0.5	0.6	1.3	1.7	2.0	2.4
	of which '000 TEU	55	81	152	193	190	195
	containerisation	99.9%	99.6%	100.0%	100.0%	100.0%	100.0%
Transit (westbound)	Million tonnes	1.1	1.3	2.5	3.3	2.3	1.6
	of which '000 TEU	150	195	355	440	290	200
	containerisation	99.5%	99.8%	100.0%	100.0%	100.0%	100.0%
Total, million tonnes		2.5	3.6	5.4	6.3	7.7	8.8
Total, '000 TEU (loaded containers)		213.4	312	543	702	784	890
Growth rate, y-o-y			+45.6%	+74.3%	+29.7%	+11.1%	+14.4%
% containerisation		68%	68%	80%	94%	96%	97%

Source: estimates of EDB analysts.

The total container traffic through the two BCPs — Dostyk and Altynkol — was 892,500 TEU in 2023, an increase by a factor of 4.2 compared with 2018.

Of these, 674,000 TEU transited through Kazakhstan via container services of UTLC ERA, which is 1.1% less than in 2022 (681,000 TEU). However, the volume of China–EU–China transit traffic decreased by 49% — from 410,600 to 211,100 TEU. Total container traffic stabilised through the development of other transport routes within the EAEU, mainly due to higher export-import traffic on the China–Russia/Belarus route (ERAI, 2022c).

The key types of goods transported along the corridor are: chemical and mineral fertilisers, metal hardware, machinery and equipment, wood products, as well as other containerised goods (Table 8).

The largest absolute growth in freight traffic in 2023 (compared with 2022) was in fertilisers (two-fold to 1,686,000 tonnes), cars (up 66% to 743,000 tonnes), and grain exports (four-fold to 233,000 tonnes). The share of chemical and mineral fertilisers increased in five years from 2% to 19%, that of chemicals from 7% to 13%, and that of machinery and equipment from 17% to 20% (Figures 12, 13).

↓ **Table 8. Analysis of Foreign Trade Freight Transport along the Central Eurasian Corridor, by Freight Nomenclature, '000 tonnes**

Goods	2018	2019	2020	2021	2022	2023	2023/2018, %
Coal and coke	21	101	101	8	0	0	-
Oil and oil products	307	104	207	63	48	27	8.8%
Ore	1	511	378	239	64	44	By a factor of 44
Metals and metal products	491	579	948	1,325	1,214	1,142	232.6%
Machinery and equipment	424	550	897	1,261	1,243	1,745	411.6%
Wood products	242	571	659	629	864	882	364.5%
Paper and paper products	105	77	157	238	472	429	408.6%
Grain	0	1	12	5	35	233	-
Other food products, including perishable goods	48	54	97	42	21	65	135.4%
Chemical and mineral fertilisers	53	24	41	3	870	1,686	By a factor of 32
Chemicals and soda	180	278	604	756	1,085	1,136	631.1%
Other cargo	583	721	1,272	1,710	1,833	1,407	241.3%
Total	2,455	3,571	5,373	6,279	7,749	8,796	358.3%

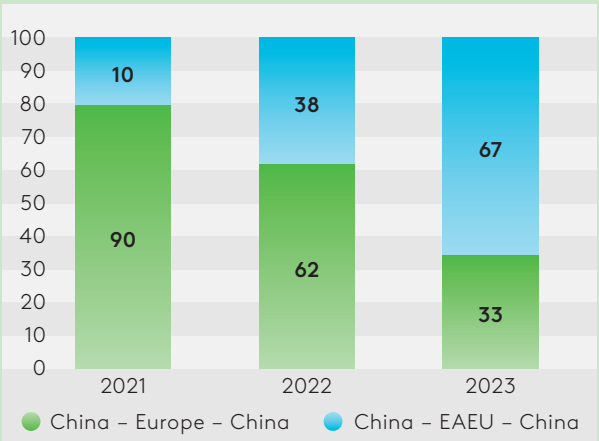
Source: estimates of EDB analysts, statistics of the General Administration of Customs of the PRC.

Box 2. Changing Geography of Freight Traffic along the Central Eurasian Corridor, 2022–2023

In 2023, transit container traffic along the China–Europe–China route of the Central Eurasian Corridor used by ULTC ERA JSC (the main operator of transport along the Central Eurasian Corridor) nearly halved, in part due to the return of cargo to deep-sea routes as a result of declining freight rates — the Drewry WCI for maritime container shipping fell to half the level of ERAI for Eurasian rail freight.

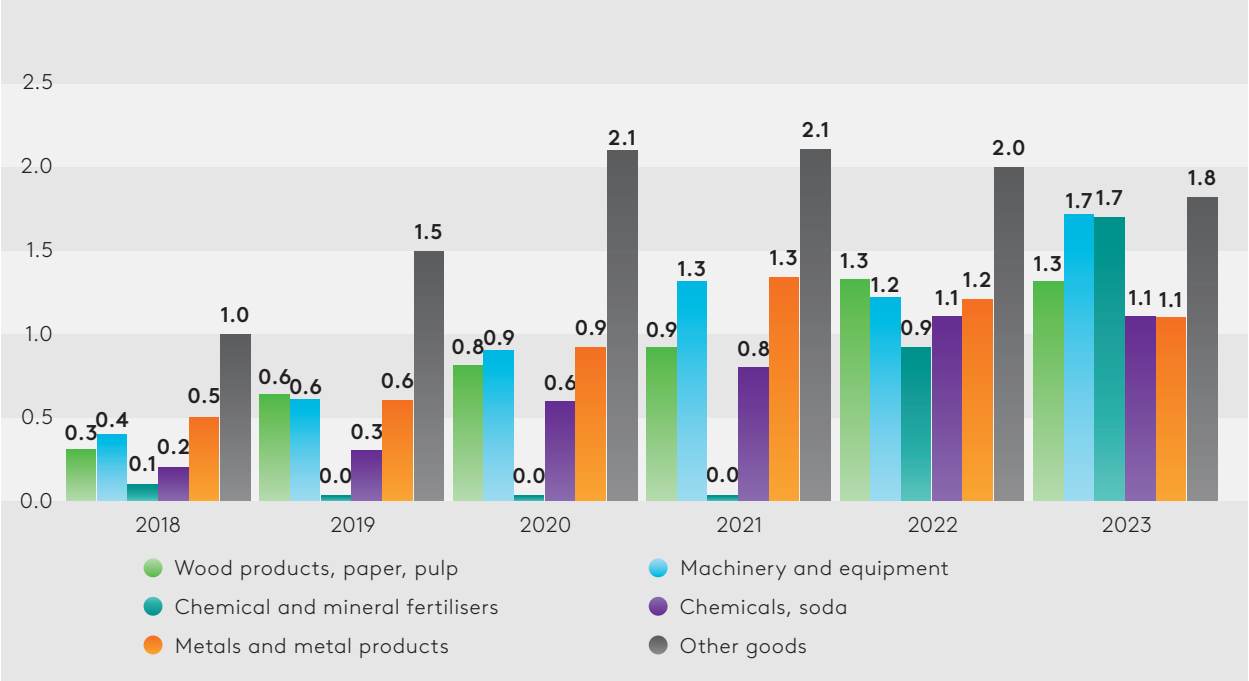
At the same time, there was a significant (81% y-o-y) increase in the volume of traffic along the China–EAEU–China route. ULTC ERA adapted to the new conditions: the list of services provided was expanded and 71 new routes were introduced (ERAI, 2023b).

↓ **Volume and Structure of Container Traffic Carried by ULTC ERA Services, 2021–2023, '000 TEU and %**

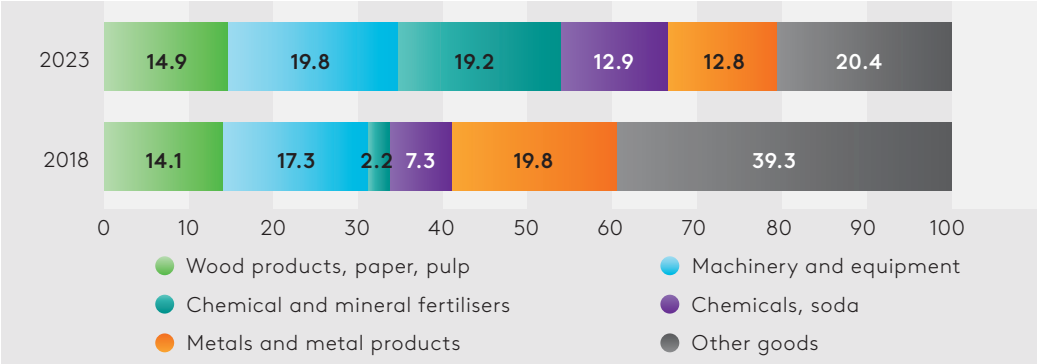


Source: ULTC ERA

↓ Figure 12. Transport of Certain Groups of Goods along the Central Eurasian Corridor, 2018–2023, million tonnes



Source: estimates of EDB analysts, statistics of the General Administration of Customs of the PRC.



← Figure 13. Composition of Freight Traffic along the Central Eurasian Corridor, 2018 and 2023, %

Source: estimates of EDB analysts, statistics of the General Administration of Customs of the PRC.

Our estimates of freight traffic by rail along the Central Eurasian Corridor in 2024 and its forecasts for 2025 and 2030 were prepared taking into account the following main factors:

- Growing trade and container traffic between the EAEU countries and China;
- Exhaustion of the throughput capacity of the two BCPs — Dostyk and Altynkol — which are also used for goods transported by the TITR.

The targeted scenario is based on the following existing trends: the growth of container traffic with China, the increase in the number of container services, the implementation of approved investment programmes for the development of railroad trunk infrastructure in Kazakhstan, the upgrading of two existing railroad BCPs and/or the construction of a third one at Bakhty on the Kazakhstan–China border, and the development of a network of transport and logistics hubs.

The inertial scenario is based on the assumption that the current situation — with the limited throughput capacity at the BCPs between China and Kazakhstan and increased competition for the available throughput capacity at the Dostyk and Altynkol BCPs from freight traffic transported by the TITR — would consolidate.

↓ Table 9. Forecasts of Freight Traffic along ITC-1 and ITC-2 to 2030, based on two scenarios

	2023	2024 Estimate	2025 Forecast	2030 Forecast	
				Inertial	Targeted
Freight traffic, million tonnes	8.8	10.0	11.0	12.0	15.0
Of which containerised, '000 TEU	890	920	1,000	1,100	1,500
% containerisation	98%	98%	98%	98%	98%

Source: estimates of EDB analysts.

The Central Eurasian Corridor is expected to maintain its leading role in the delivery of containerised goods between China and the EAEU countries, as well as on the China–EU–China route, in 2030 — under the targeted scenario, the volume of container traffic may reach 1.5 million TEU.

This will be facilitated by a coordinated tariff policy on the 1,520 mm gauge railroad, which has enabled the stability of freight rates to be maintained, in contrast to the volatility of sea freight rates (disruptions during the COVID period, instability of the situation on the Red Sea, etc.).

An important prerequisite for increasing container transit is the effective work of UTLC ERA JSC, which effectively manages the development of container traffic on the Central Eurasian route. It has ensured a high level of freight security, and the share of containers not separated from their trains for technical or commercial reasons was 99.99% in 2023 (ERAI, 2024).

A significant role in increasing the attractiveness of the Central Eurasian Route will be played by the introduction of technical innovations, in particular the implementation of the agreement signed in December 2023 by the authorised operators of the EAEU countries to work with navigation seals. The use of navigation seals ensures the security and reliability of cargo transport and minimises the need for control measures along the transport route.

4.3. TRACECA

The Transport Corridor Europe–Caucasus–Asia (TRACECA) was originally established in 1993 as an international programme initiated by the EU to develop external economic relations, trade, and transport links in the Black Sea Basin, the South Caucasus, and Central Asia.

The TRACECA was funded through the TACIS Programme, as well as directly by the EU. However, since 2009, funding has come from the membership fees of countries participating in the programme and signatories to the 1998 Basic Multilateral Agreement (BMA) on International Transport for Development of the Europe–Caucasus–Asia Corridor.

The TRACECA, identified as a key Euro-Asian corridor at the Second International Euro-Asian Conference on Transport (UNECE, 2000), generally coincides with EATL rail route 3, EATL road route 4, and OSJD rail corridor No. 10 (Figure 14).

Following the signing of the BMA, TRACECA was transformed from a TACIS programme into a fully-fledged regional international organisation — the TRACECA Intergovernmental Commission (IGC TRACECA), based in Baku (Republic of Azerbaijan). The Permanent Secretariat of the IGC TRACECA, also based in Baku, is the executive body and performs functions managing the corridor.

As of March 2024, 14 countries are members of the IGC TRACECA — Armenia, Azerbaijan, Bulgaria, Georgia, Iran, Kazakhstan, Kyrgyzstan, Moldova, Romania, Tajikistan, Türkiye,

Turkmenistan (joined the BMA in November 2023), Ukraine, and Uzbekistan. Thus, three out of five EAEU countries and four out of six EDB member states are participants of the corridor.

The TRACECA BMA and its technical annexes on international rail transport, international commercial shipping, international road transport, customs procedures and documentation processing define the main goals and objectives of regional transport cooperation between the participating countries:

- To develop economic relations, trade and transport communication in the regions of Europe, the Black Sea, Caucasus, Caspian Sea, and Asia;
- To facilitate access to international road, air, and rail transport, and commercial shipping markets;
- To facilitate international transport of goods and passengers, as well as international transport of hydrocarbons;
- To ensure traffic safety, security of goods, and environmental protection;
- To harmonise transport policy and the legal framework in the field of transport; and
- To create equal conditions for competition for all actors in the transport market along the corridor.

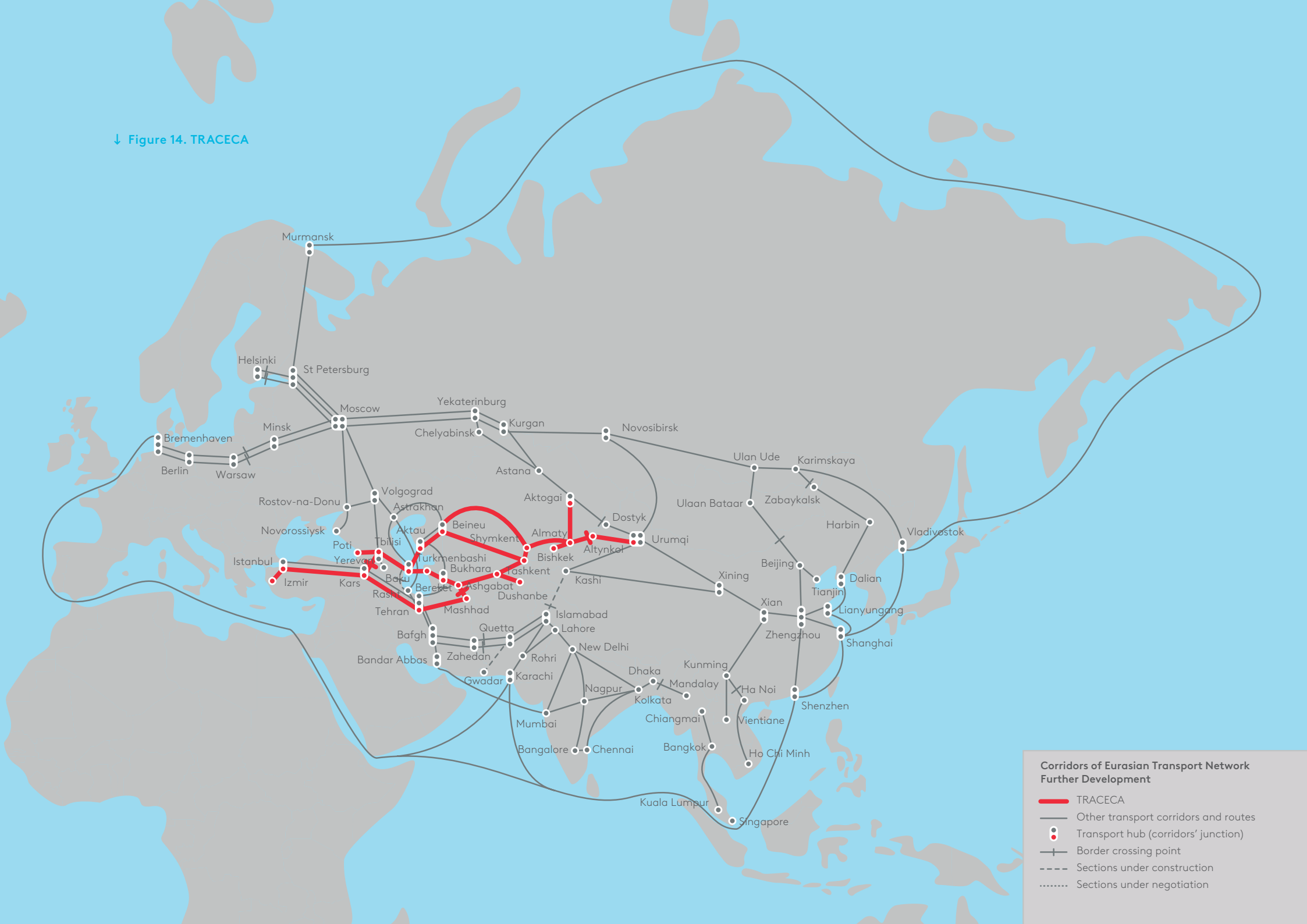
The corridor extends from countries of Eastern Europe (Bulgaria, Moldova, Romania, and Ukraine) as well as Türkiye, where it connects to the Trans-European Transport Network (TEN-T). Multimodal branches of the corridor (ferry lines) then cross the Black Sea to the Georgian ports of Poti and Batumi, through which the transport network of the South Caucasus countries is integrated. The land branch of the corridor running through Türkiye connects it to the network of the Islamic Republic of Iran. The connection of Türkiye to the railways of Georgia was enabled by the commissioning of the Kars–Akhalkalaki rail line, which is part of the Baku–Tbilisi–Kars line. The latter, in turn, is part of the TRACECA. From Azerbaijan, through the Caspian ferry lines (Alat–Turkmenbashi, Alat–Aktau/Kuryk), the TRACECA extends to the rail and road networks of the Central Asian countries and right through to their borders with China and Afghanistan.

Several sections of the TRACECA are connected and coincide with other Eurasian transport corridors also endorsed by the Second International Euro-Asian Conference on Transport (UNECE, 2000). In particular, the section from Istanbul to Tehran coincides with the Southern Eurasian Corridor, while the sections on the territory of Turkmenistan and Iran coincide with the Eastern Route of the INSTC (Figure 1).

Over the last decade, the TRACECA has developed strongly as evidenced by the signing and implementation of a number of documents aimed at improving the competitiveness of transport and harmonising legislation in the member countries.

The Agreement on Joint Financing was signed in 2006, and in 2009 it was followed by the Agreement on the Development of Multimodal Transport. One of the pioneering solutions for the development of international long-haul road transport was the adoption of the Agreement on a Single Transit Permit TRACECA. The agreement allows road carriers to use a single electronic document (e-Permit) for transit transport, even without cargo, on the territory of the participating countries. The use of electronic transit permits enables, firstly, the development of international transport across several borders in Central Asia and the Southern Caucasus. Further, it is a state-of-the-art initiative supporting the digital transformation of international road transport.

↓ Figure 14. TRACECA



Important features of the TRACECA include the following:

- Several national borders are crossed, which increases the importance of harmonising rules and procedures for trade, transport and border crossing, inspection of vehicles and containers, and the unification of shipping, customs, and other related documents;
- Different gauge systems are used — breaks of gauge at the border between Georgia (1,520 mm) and Türkiye (1,435 mm), Azerbaijan (1,520 mm) and Iran (1,435 mm), and Turkmenistan (1,520 mm) and Iran (1,435 mm), which require the use of efficient transshipment technology at the border and/or the introduction of change-of-gauge technology;
- Freight handling at the interface between land and sea (the Caspian and Black seas). Each additional transshipment in port increases freight costs and transport times. This why an important condition is the introduction of regular feeder and ferry lines, as well as the use of modern technologies and equipment in container and ferry terminals at seaports;
- The number of navigation days in the Caspian and Black seas is limited due to weather conditions.
- In terms of physical infrastructure, the main bottlenecks of the TRACECA are the rail and ferry connections across Lake Van between Türkiye and Iran, as well as BCPs, especially at break-of-gauge points. The presence of single-track and non-electrified railroad sections, especially in Central Asian countries, limits the effective transit speed.
- In terms of soft infrastructure, the bottlenecks are the lack of mutual recognition of the AEO institution, the fact that Türkiye, Uzbekistan, and Turkmenistan do not use the uniform CIM/SMGS consignment note, the lack of a modern fleet, the lack of harmonisation in the field of trade and border crossing in the interpretation of the WTO Trade Facilitation Agreement, and the slow introduction of digital tools in international transport and transit.
- At the same time, the role of the TRACECA corridor is extremely important in ensuring economic, trade, and transport connectivity between the countries of Central Asia, and between the regions of Central Asia, the South Caucasus, Türkiye, and the countries of Southern Europe.
- The TRACECA is in fact a network of routes linking Central Asia with China, Afghanistan, and Russia through junctions with the Central Eurasian Corridor, the INSTC, and the Southern Eurasian Corridor.

The TRACECA does not compete with the Northern and Central Eurasian corridors as they have fundamentally different points of origin and destination of freight traffic in the west. While the Northern and Central Eurasian Corridors focus on transit to/from Western and Northern Europe, the TRACECA is oriented towards Türkiye, the countries of the Black Sea region, and Southern Europe. At the same time, the TRACECA competes with the Southern Deep Sea Route in providing links between China and Türkiye, as well as other countries in the Black Sea region and Southern Europe.

The TRACECA corridor and the INSTC complement each other in the Caspian region. Both corridors contribute to the development of China–Iran and Russia–Türkiye transport and economic links.

TRACECA cargo is mainly driven by both transit traffic on the China–Türkiye/Southern Europe route and trade between the countries of Central Asia and the South Caucasus. At the same time, Kazakhstan, Azerbaijan, and Türkiye are the drivers of the growth of international trade along the corridor. The average annual growth rate in foreign trade of the countries of the region was mostly 10–15% in 2018–2022 (Table 10).

↓ **Table 10. Foreign Trade of Individual IGC TRACECA Member Countries and Countries Gravitating Towards them, USD millions**

Country	2018	2019	2020	2021	2022	Growth rate	
						2022/21	5 years' average
Kazakhstan	93,490	96,080	85,031	101,736	134,435	+32.1%	+9.5%
Azerbaijan	30,949	33,285	24,465	33,912	52,686	+55.4%	+14.2%
Uzbekistan	28,233	36,200	33,082	37,759	43,551	+15.3%	+11.4%
Georgia	9,731	10,099	8,698	10,989	13,925	+26.7%	+9.4%
Turkmenistan	12,932	6,535	5,882	7,719	19,371	+151.0%	+10.6%
Tajikistan	4,218	4,444	4,451	6,005	7,513	+25.1%	+15.5%
For reference:							
Türkiye	390,971	391,218	389,172	496,687	617,883	+24.4%	+12.1%
Afghanistan	8,282	7,641	10,554	9,361	9,226	-1.4%	+2.7%
Iran	137,854	92,625	79,846	128,103	139,626	+9.0%	+0.3%
EU (28) — China	757,710	765,459	811,250	987,001	1,091,656	+10.6%	+9.6%
Europe — Asia[13]	2,697,991	2,623,845	2,527,167	3,115,243	3,619,899	+16.2%	+7.6%

Source: estimates of EDB analysts based on the International Trade Centre (ITC) Trade Map data for 2022, URL: http://www.trademap.org.

In 2018–2022, trade between the EU and China grew steadily — from USD 758 billion in 2018 to USD 1.1 trillion in 2022, despite the COVID-19 pandemic and global supply chain disruptions.

In 2023, however, the volume of trade between China and the EU decreased — according to the PRC customs service, trade turnover with the EU, China's second biggest trading partner, amounted to USD 782.9 billion. Exports to the EU countries were USD 500 billion in 2023 (minus 10%), while imports from the EU stood at USD 281.7 billion (minus 0.9%).

A major factor for the utilisation of the TRACECA by the corridors under consideration could be the growth of freight transit along the routes China–Southern Europe–China and China–Türkiye–China. In this case, measures to develop the transport arteries will have an effect on the growth of the regional centres and economies of Central Asia and the South Caucasus, despite competition from the sea routes.

Hence, the freight traffic on the TRACECA includes transit traffic from the PRC to Türkiye and Eastern Europe as well as intra-regional traffic between Kazakhstan, Azerbaijan, Turkmenistan, Uzbekistan, and Georgia.

Between 2018 and 2023, international freight traffic from China through the Alashankou–Dostyk and Altynkol–Khorgos BCPs increased by a factor of 1.9, exceeding 10 million tonnes in 2023 (Table 5). The average annual growth rate over those five years was over 13%.

[13] Asia incorporates 50 countries, including China, India, Japan, the United Arab Emirates, Türkiye, the Republic of Korea, Saudi Arabia, Indonesia, etc., according to the classification adopted by the ITC. The data are presented to compare the growth trends.

In total, over 28 million tonnes of goods were transported on the China–Kazakhstan route in 2023.

The structure of import and transit (for Kazakhstan) traffic in 2023 is as follows:

- 27.1% — traffic with Russia (minus 0.5 p.p. compared with 2022);
- 72.9% — traffic with countries of the TRACECA, including traffic with Uzbekistan (18.1%).

The average annual growth rate of traffic to Russia for 2020–2023 was +20.5%, and to other destinations it was +18.5%. At the same time, year-on-year growth in 2023 was +14.9% for Russia and +23.7% for other destinations, which indirectly (in the absence of more detailed data) indicates the potential for traffic growth through the TRACECA and the associated TITR (Table 11).

↓ Table 11. Distribution of Freight Traffic from China through Alashankou–Dostyk and Altynkol–Khorgos Railroad BCPs between the Central Eurasian Corridor and the TRACECA, '000 tonnes

	2018	2019	2020	2021	2022	2023	2023/18
Total	5,800	6,000	7,350	9,200	9,188	10,738	By a factor of 1.9
of which:		+3.4%	+22.5%	+25.2%	-0.1%	+16.9%	+13.1% CAGR 23/18
to Russia (Central Eurasian Corridor)	1,524	1,394	1,668	2,219	2,536	2,915	+20.5% CAGR 23/20
to Uzbekistan (TRACECA)	n/a	n/a	2,150	2,426	1,896	1,942	-3.3% CAGR 23/20
other destinations (TRACECA, TITR)	n/a	n/a	3,532	4,555	4,756	5,881	+18.5% CAGR 23/20
to Russia	-	-	*22.7%*	*24.1%*	*27.6%*	*27.1%*	
to Uzbekistan	-	-	*29.3%*	*26.4%*	*20.6%*	*18.1%*	
other destinations	-	-	*48.1%*	*49.5%*	*51.8%*	*54.8%*	

Source: estimates of EDB analysts.

The picture is different for container transport. In 2023, 788,800 containers (in TEU) were received from China at Dostyk and Altynkol stations, a decrease of 7.7% compared with 2022. However, containerised freight traffic with Russia and other states of the Central Eurasian Corridor increased to 511,500 TEU (+8.8% compared with 2022), with the share of Russia above 80% (Table 12).

In total, Kazakhstan transported 1,282,000 TEU of transit containers in 2023 (+13.5%).

The share of container transit from China through the port of Aktau, although only 2.2% of the total traffic received at Dostyk and Altynkol stations, is steadily increasing (Table 13). While in 2019, 7,400 TEU were transported through the port of Aktau in transit from China, in 2022 it was already 13,800 TEU (growth by a factor of 1.9).

The 835 km Baku–Tbilisi–Akhalkalaki–Kars (BTK) rail route, which connects the 1,520 mm gauge rail networks in Azerbaijan and Georgia with the 1,435 mm gauge rail network in Türkiye, is an integral part of the TRACECA. The BTK route was opened on 30 October 2017.

↓ **Table 12. Container Traffic from China through Dostyk and Altynkol, '000 TEU**

	2018	2019	2020	2021	2022
Total received, of which	457.6	494.0	704.1	854.2	788.8
% y-o-y		+8.0%	+42.5%	+21.3%	–7.7%
Imports	89.9	115.3	142.8	171.8	156.6
Transit	367.7	378.7	561.2	682.5	632.3
of which Central Eurasian Corridor	154.8	204.1	363.9	470.2	511.5
% y-o-y		+31.8%	+78.3%	+29.2%	+8.8%
TRACECA (to Uzbekistan, Kyrgyzstan, along the TITR)	212.9	174.6	197.3	212.3	120.8
% y-o-y		–18.0%	+13.0%	+7.6%	–43.1%
Share of the Central Eurasian Corridor in transit	42.1%	53.9%	64.8%	68.9%	80.9%
Share of the TRACECA in transit	57.9%	46.1%	35.2%	31.1%	19.1%

Source: estimates of EDB analysts.

↓ **Table 13. Transfer of Transit Containers from China through Aktau Port, '000 TEU**

Transit through Aktau	2018	2019	2020	2021	2022
Total transferred, of which	0.6	8.8	11.8	16.6	15.0
Exports	0.5	1.4	2.2	6.7	1.2
Transit	0.1	7.4	9.6	9.9	13.8
% of total traffic received from China at Dostyk and Altynkol	0.03%	2.0%	1.7%	1.5%	2.2%

Source: estimates of EDB analysts.

With the construction and commissioning of the Marmaray undersea railroad tunnel under the Bosphorus Strait in Istanbul, the BTK route provides a direct rail link to the Trans-European Transport Network (TEN-T). Another advantage of the BTK route is that it provides an alternative to the old Türkiye–Iran route, which is constrained by the need for a ferry across mountainous Lake Van.

Georgia, like Azerbaijan, is at the crossroads of several routes through the South Caucasus. In Georgia, the BTK route connects with the Yerevan–Tbilisi and Yerevan–Poti/Batumi lines, which enables transport to be developed.

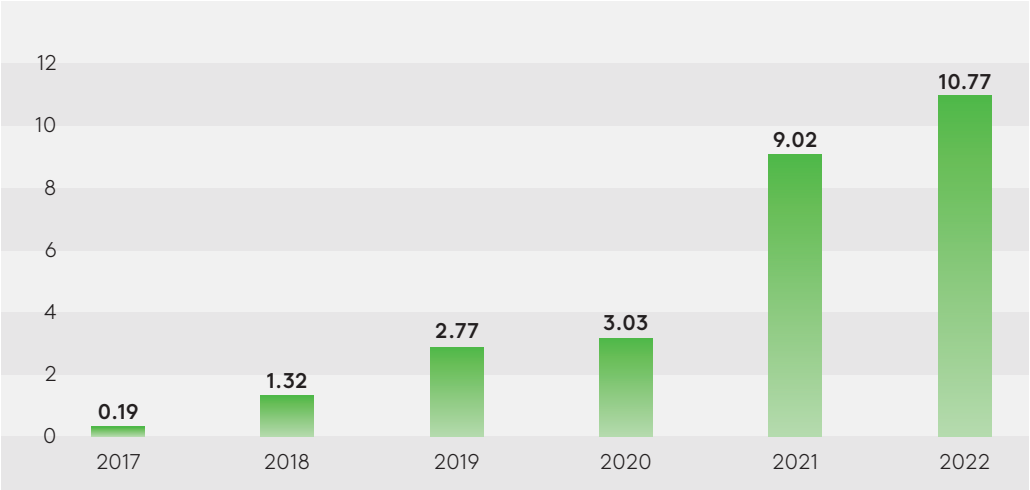
Georgia is currently implementing a major project to build a deep water port at Anaklia on the Black Sea (with a draught of up to 16 m), which will complement the existing ports of Poti with a handling capacity of up to 550,000 TEU and Batumi with up to 200,000 TEU. The port of Anaklia will be able to receive vessels with a capacity of 1,500 TEU. Once the first phase is completed, the port's handling capacity will be 900,000 TEU per year. Once the entire project is completed, the total handling capacity of Georgia's ports will exceed 1.5 million TEU.

Georgia's railroad upgrading projects, which were nearing completion in early 2024, will increase the throughput capacity from 27 to 48 million tonnes per year.

After the opening of the BTK route, 190 TEU were transported on it in 2017, while in 2022 freight traffic exceeded 10,000 TEU, up more than 20 times (Figure 15).

Transportation between Georgia and Türkiye on the BTK route was suspended from 22 May until the end of 2023 due to the reconstruction of the Tbilisi–Marabda–Alalkalaki–Kartsakhi section (Georgia's national border with Türkiye).

In general, the container traffic on Georgia's sections of the TRACECA was 179,600 TEU in 2023 (+8.5% compared with 2022, which was 165,600 TEU), including transit of 164,200 TEU, or 91% of the total freight traffic (+8.1% compared with 2022, which was 151,800 TEU).



← Figure 15. Container Traffic on the Georgian Section of the BTK Route

Source: Georgian Railways.

Significant freight traffic through the TRACECA is generated in Azerbaijan. Since the signing of the BMA, freight traffic on the busiest section of the TRACECA in Azerbaijan has increased by a factor of 2.4, amounting to 51.4 million tonnes in 2022 (Table 14), while freight turnover reached 12.65 billion tonne-km, which is 29.8% and 31.9% more than in 2021, respectively. 28 million tonnes, or 54.4% of this cargo, were transported by road, 16.8 million tonnes or 32.7% by rail, and 6.6 million tonnes or 12.9% by sea. Transit goods comprised 13.6 million tonnes, or 26.5% of the total freight transport along the corridor.

↓ **Table 14. Freight Transport by the TRACECA on its Busiest Section in the Republic of Azerbaijan, '000 tonnes**

Type of transport	2018	2019	2020	2021	2022
Total for TRACECA, of which:	52,674	52,762	38,491	39,627	51,421
– Rail	12,564	13,327	12,820	13,463	16,841
including Baku–Tbilisi–Kars route	7.0	111.5	224.4	477.4	412.5
– Marine	6,875	4,824	5,015	4,558	6,613
– Road	33,235	34,611	20,656	21,606	27,967
of which transit transport:	9,345	8,077	8,382	8,826	13,635
– Rail	3,045	3,796	4,132	4,585	7,478
including Baku–Tbilisi–Kars route	5.3	99.9	217.0	428.9	341
– Marine	6,300	4,281	4,250	4,241	6,157
– Road	...	...	...	...	...

Source: State Statistical Committee of the Republic of Azerbaijan.

Transit traffic along the TRACECA through the Republic of Azerbaijan increased by almost 1.5 times between 2018 and 2022, while on the new Baku–Tbilisi–Kars rail route the growth was by a factor of 60, from 5,300 tonnes in 2018 to 341,000 tonnes in 2022.

Rail container traffic in Azerbaijan was 74,700 TEU in 2021 and 84,600 TEU in 2022 (growth of 13.3% compared with 2021). At the same time, transit accounted for 55% of total international container traffic across the country (Table 15).

↓ Table 15. Container Traffic of Azerbaijan Railways, '000 TEU

	2019	2020	2021	2022 (est.)
Imports	20.8	23.4	15.7	15.8
Exports	14.7	17.2	18.0	16.8
Transit	28.2	30.6	41.0	52.1
Total	63.8	71.2	74.7	84.6
% y-o-y		+11.6%	+4.9%	+13.3

Source: State Statistical Committee of the Republic of Azerbaijan.

Growth in freight traffic along the TRACECA at its busiest section in the Republic of Azerbaijan is estimated at 60 million tonnes by 2030 under the baseline scenario, and 70 million tonnes under the optimistic scenario.

Under the optimistic scenario, the growth of freight traffic will be facilitated by measures to increase it on the Trans-Caspian International Transport Route, the Lapis Lazuli Corridor, and on routes between Russia and Türkiye, taking into account the junctions of the TRACECA with the INSTC. The most significant increase will come from road transport, whose share could rise to 60% by 2030.

The increase in international road transport will be achieved due to the rapid development of the economy and foreign trade of the Republic of Azerbaijan, as well as the growth of transit road transport on the routes Central Asia–Türkiye, Central Asia–Europe, and Russia–Türkiye.

The expansion of international road freight traffic on the TRACECA sections in Central Asia is driven by the sharp growth of its economies as well as by an increase in trade both within the region and with third countries, in particular with Türkiye and China. The implementation of a comprehensive programme of measures to harmonise and facilitate trade, transport, and border crossing procedures, as well as the digital transformation of the transport process and shipping documents, also play an important role.

Fundamental conditions for increasing international road transport along the corridor include: the development of regular ferry and Ro-Ro services in the Caspian Sea, and the renewal and replenishment of the fleet, which will expand the geography and increase the frequency of journeys, as well as reducing tariffs on the Black Sea.

The upgrading and development of the Baku–Tbilisi–Kars rail route, in particular, the upgrading of the Kars–Akhalkalaki Railroad BCP with an increase in its throughput capacity, will contribute to the growth of rail transit traffic.

Turkmenistan's East-West rail network also needs to be upgraded. At present, it consists almost entirely of single-track, diesel-powered lines. Its throughput capacity prevents it from servicing more than 31,000 TEU of transit cargo traffic to the port of Turkmenbashi per year.

Bulk oil cargoes, as well as container transit, will make a significant contribution to the growth of freight traffic on Azerbaijan's section of the TRACECA by 2030.

4.4. Trans-Caspian International Transport Route

The TITR, also known as the Middle Corridor, connects China with Türkiye and the Black Sea countries of the EU. It is multimodal, fully integrated into the TRACECA routes, and includes at least one offshore section across the Caspian Sea.

The TITR starts at the border between China and Kazakhstan (Dostyk and Altynkol Railroad BCPs), then it goes by rail through Shymkent and Beyneu to the ports of Aktau and Kuryk, feeder or ferry lines across the Caspian Sea from the ports of Aktau and Kuryk to the port of Alat, and then by rail through Azerbaijan and Georgia to the ports of Poti and Batumi with subsequent delivery by the Black Sea to ports in the Black Sea region, or along the Tbilisi–Akhalkalaki–Kars line to Istanbul or the ports of Izmir and Mersin (Figure 16).

The heads of three railway companies — National Company Kazakhstan Temir Zholy JSC, Azerbaijan Railways CJSC, and Georgian Railways JSC — signed the Agreement on the Establishment of a Coordination Committee for the Development of the Trans-Caspian International Transport Route during the II International Transport and Logistics Business Forum "New Silk Road" in Astana on 7 November 2013. The said companies became the founding members of the TITR Association, which began its work in February 2017.

The membership of the TITR Association has expanded significantly to include other modes of transport and the transport and logistics industry (Box 3).

Box 3. Membership and Objectives of the TITR Association

Full members:

- Rail carriers: Azerbaijan Railways CJSC, Georgian Railways JSC, National Company Kazakhstan Temir Zholy JSC, Ukrzaliznytsia JSC, and TCDD Transportation JSC (Türkiye);
- Seaports: Aktau (Kazakhstan) and Baku (Azerbaijan);
- Sea carriers: Azerbaijan Caspian Shipping CJSC.

Associate members:

- PKP Broad Gauge Metallurgical Railway Line LLC (Poland);
- Lianyungang Port Holding Group (China);
- Batumi Seaport LLC (Georgia);
- NMSK Kazmortransflot LLP (Kazakhstan), and others.

Headquarters: Astana, Republic of Kazakhstan.

Financing arrangement: membership fees**.**

The statutory objectives of the Association are:

1) attracting transit and foreign trade cargo;

2) development of integrated logistics products;

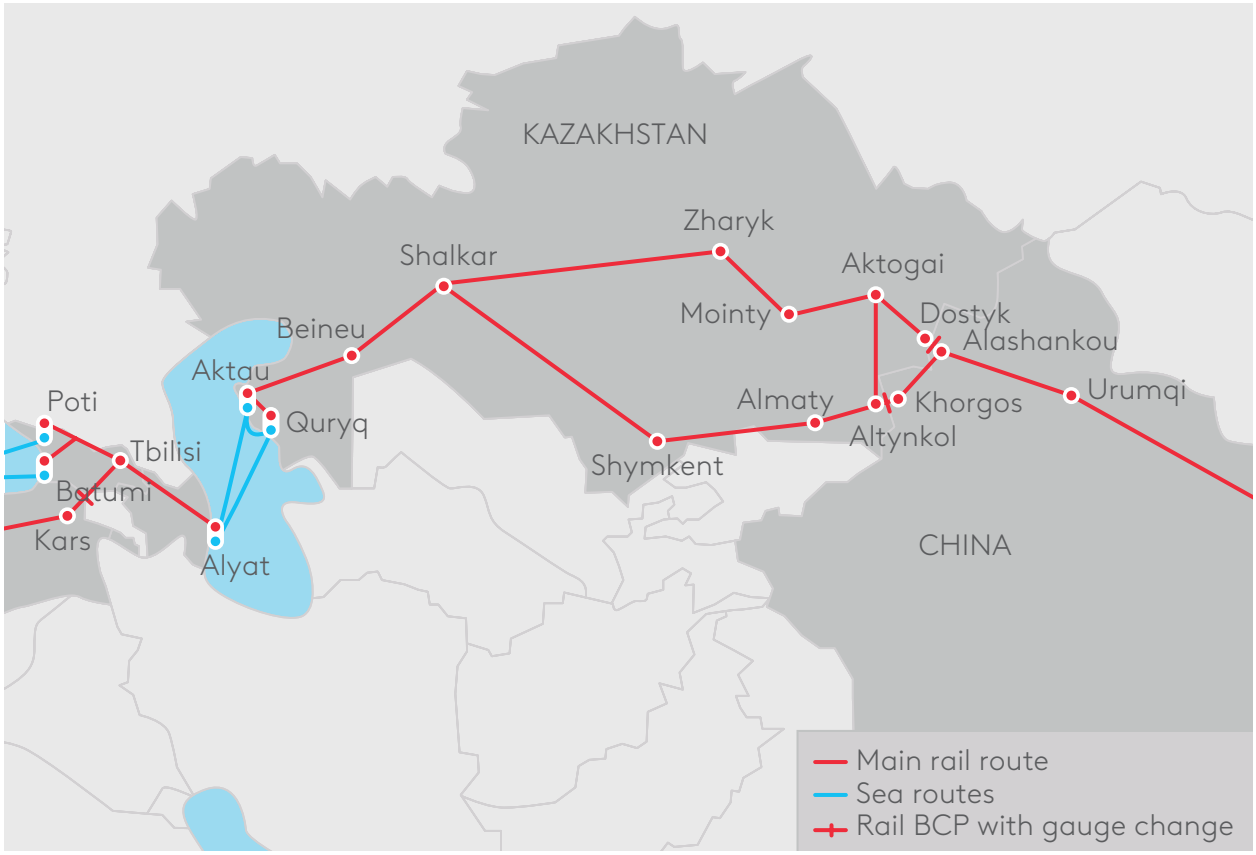
3) development of an integrated solution (technology) for the transportation process;

4) promotion of competitiveness in comparison with alternative routes;

5) operating an effective tariff policy and optimisation of costs; and

6) removal of administrative barriers due to border and customs procedures and the processing of goods and containers in ports and at junction stations.

↓ **Figure 16. Trans-Caspian International Transport Route**



Source: EDB.

The Association acts as a coordination mechanism for the management of the TITR. A Memorandum of Cooperation between the TITR Association and the Permanent Secretariat of the IGC TRACECA was signed in Tbilisi on 10 February 2023, during the meeting of the IGC TRACECA. It contains agreements on the joint promotion of mutually beneficial cooperation in the development of transport routes, the attraction of foreign trade goods and the expansion of freight turnover, the mutual exchange of transport-related information, and the improvement of socio-economic conditions in Europe, the Caucasus, and Asia in order to create a favourable business and investment climate.

During the seven years of work of the TITR Association, the following main results have been achieved:

1) Effective integrated rates for container transportation have been adopted, as have preferential tariffs for the transportation of fuel oil, gas oil, and grain;

2) The procedure for interaction between transport companies for the passage of container trains along the route China–Kazakhstan–Azerbaijan–Georgia–Türkiye using rail and sea transport to ensure railroad-ferry linkage has been approved;

3) Regular feeder services have been established between the ports of Aktau and Alat (for the first time in the history of Caspian Sea shipping).

On 25 June 2019, an Agreement was signed by Association members on the organisation of container transportation involving direct international rail and water connections with the participation of feeder vessels between the ports of Aktau and Baku (Alat). The Agreement sets out the rules and procedures for the interaction of the actors in the transport process and envisages the use of a single SMGS consignment note for the whole of the TITR route.

The Agreement establishes:

- To use and preserve the original SMGS consignment note throughout the container route;
- To transfer the SMGS consignment note to the sea carrier at the port of loading of the container onto the ship as an attachment to the ocean bill of lading;
- To make appropriate changes in box 7 "wagon" of the SMGS consignment note at the port of discharge after loading the container onto the wagon;
- To use SMGS consignment notes further by carriers after the waterway section.

The feeder line has fundamentally changed transport practice along the TITR route, significantly improving the efficiency of transport. It has also helped to increase the turnover of railroad rolling stock, optimising the transport process, containerising the route, and reducing the transport times for bulk and containerised goods.

In addition, to expedite and simplify customs procedures for the processing of goods and containers at interstate crossing points, the TITR parties have drafted agreements on the electronic exchange of data on the location and condition of the rolling stock.

A Memorandum of Cooperation has been signed between the Association and the OSJD enabling the participation of the Association's Secretariat in the development of new regulatory legal instruments.

In particular, the OSJD is drafting amendments and addenda to the Agreement on International Railway Freight Communications (SMGS) concerning the use of the SMGS consignment note in rail and maritime transport, for example on the ferry sections of the Caspian and Black seas integrated into the TITR and the TRACECA. This avoids the need to reissue SMGS consignment notes repeatedly at different sections of the TITR, speeding up and reducing the cost of transport.

The current throughput capacity of the TITR in both directions (destinations and ports of Türkiye, as well as the Black Sea ports of the EU countries) is estimated at 5.8 million tonnes, including up to 80,000 containers.

As part of the development and capacity building of the TITR, as well as to maintain uninterrupted freight transport to European countries, in early March 2022 Kazakhstan initiated the creation of a joint logistics company to develop the corridor and ensure high-quality multimodal transport, address issues of end-to-end tariff setting and freight declaration, apply unified IT solutions, and consolidate transit freight on the route. The

company is expected to include the administrations of railroads, ports, sea carriers, and railroad operators of the countries participating in this initiative.

This initiative intends to replicate the success of the existing joint venture of National Company Kazakhstan Temir Zholy JSC, RZD OJSC (Russian Railways) and BCh (Belarusian Railways) — UTLC ERA JSC, the creation of which in 2016 helped to increase container traffic on the China–Europe–China route by a factor of more than 20.

The factors behind the operation of the TITR are similar to those behind the development of the TRACECA. These include: the existence of several national borders, the break of gauge at the Georgia–Türkiye border, the transshipment at the Caspian and Black Sea seaports, the fact that Türkiye is not a member of the OSJD and does not use SMGS and CIM/SMGS consignment notes, which requires the re-registration of goods (and hence change in the transport law) at the border between Georgia and Türkiye, as well as weather constraints on the Black and Caspian seas.

Containerised cargos transported by the TITR are loaded onto feeder vessels in the port of Aktau for delivery to the port of Alat, while carloads are carried by the Kuryk–Alat railroad ferry.

The total rail freight traffic along the TITR route was 2.76 million tonnes (a 47.6% load) in 2023, which was 86% more than in 2022.

The greatest growth is in the westward direction. In particular, 891,100 tonnes of goods were transported in this direction in 2022, which was 6.5 times more than in 2021. The main increase was delivered by non-ferrous metals — 266,150 tonnes (absolute growth) and ferrous metals — 192,000 tonnes (4.8 times growth compared with 2021). That was accompanied by a decrease in coal transport (by 10.3% y-o-y).

Kazakhstan's imports on the TITR route were 336,200 tonnes (+82.6%).

Transit in 2022 amounted to 257,500 tonnes (minus 3.5% compared with 2021). At the same time, transit to third countries (westbound) decreased by 8.9% compared with 2021 to 169,600 tonnes, although the food commodity group showed an increase of 7% in 2022.

The nomenclature of export freight traffic was as follows in 2022. Transport of non-ferrous metals from Kazakhstan was in first place. Their absolute volume was 266,150 tonnes, which was 266,100 tonnes more than in 2021.

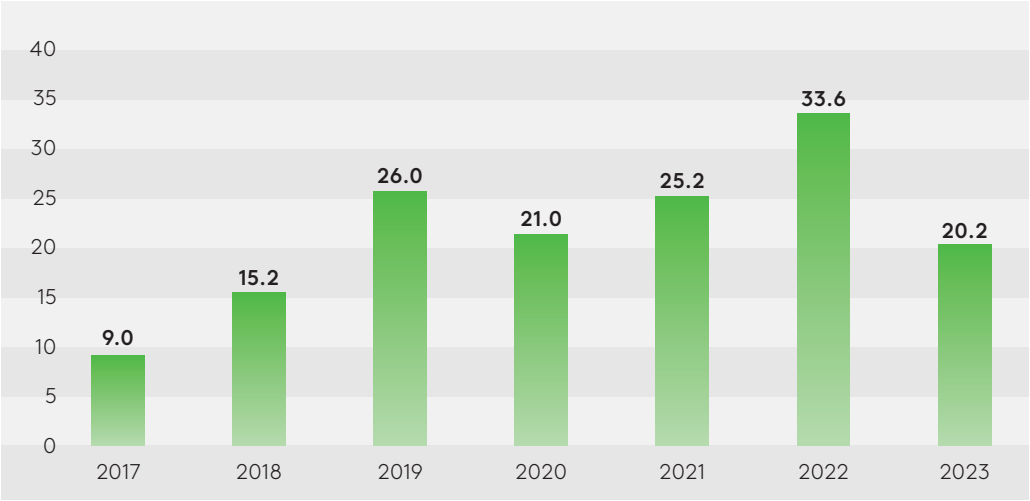
According to TITR data, 20,200 TEU were transported in total in 2023, which was 39.9% less compared with the previous year (Table 16, Figure 17). At the same time, Kazakhstan's ports of Aktau and Kuryk (according to these ports' data) handled 28,700 TEU. Freight traffic is being redistributed from the port of Kuryk to the port of Aktau. In particular, the port of Aktau has seen a rapid increase in container handling — from 700 TEU in 2018 to 21,400 TEU in 2022.

↓ Table 16. Transport of Containers through the Ports of Aktau and Kuryk, '000 TEU

	2018	2019	2020	2021	2022
Total through Kazakhstan's ports on the Caspian Sea	22.0	29.6	26.3	29.6	28.7
Aktau	0.7	10.9	16.9	23.5	21.4
Kuryk	21.3	18.7	9.4	6.1	7.3

Source: TITR, port statistics.

In total, more than 8 million tonnes of goods were transported along the route between 2017 and 2023, including 150,000 TEU.



← Figure 17. Container Transport by the TITR, 2017 and 2023, '000 TEU

Source: TITR Association, Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan.

↓ Table 17. Freight Traffic along the TITR across Kazakhstan, 2021–2022 and 8 months of 2023, '000 tonnes

Direction	2021	2022	%	8m 2022 total, excluding oil and non-ferrous metals	8m 2023 total, excluding oil and non-ferrous metals
Total	586.2	1,484.7	+153.3%	943	945
Of which containers, '000 TEU	25.3	33.6	+32.8%	19.9	12.6
Exports from Kazakhstan	135.2	891.1	+559.1%	530	540
Imports to Kazakhstan	184.1	336.2	+82.6%	216	268
Transit through Kazakhstan, of which	266.9	257.5	-3.5%	196	136
East–West traffic	186.1	169.6	-8.9%	130	34
West-East traffic	80.7	87.9	+8.9%	67	103

Source: TITR Association, Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan.

The main transport product developed by the TITR is the Nomad Express container service. This service introduced container trains running from China (Shihezi) to Azerbaijan (Kishli), from China (Lianyungang, Chengdu) to Türkiye (Istanbul), as well as from Ukraine (Ilyichevsk) to Kazakhstan (Dostyk).

The favourable development of the corridor is facilitated by coordinated efforts of the corridor member countries and their railroad companies.

Activities are undertaken on an ongoing basis within the framework of the IGC TRACECA and the TITR Association to increase the traffic and improve the competitiveness of the corridor.

Following the meeting held on 24–25 November 2022 in Aktau (Kazakhstan), the heads of Ministries of Foreign Affairs and Transport of Azerbaijan, Georgia, Kazakhstan, and Türkiye signed the Roadmap for 2022–2027 aimed at improving the efficiency of the TITR while eliminating bottlenecks along the entire route. The implementation of the Roadmap is intended to ensure a significant increase in throughput capacity of the TITR route.

↓ Table 18. Planned and Actual Freight Traffic along the TITR across Kazakhstan, January–August 2023, '000 tonnes

Direction	2023 Plan	8m 2023		Growth
		Plan	Actual	+/-	%
Transit through Kazakhstan, '000 tonnes	375	245	136	-109	-44%
of which TEU:	20,000	13,080			
Imports to Kazakhstan, '000 tonnes	400	267	268	1	0%
of which TEU:	8,000	5,350			
Exports from Kazakhstan, '000 tonnes	1,340	904	540	-364	-40%
oil products	265	185	364	179	97%
ferrous metals	100	64	22	-42	-66%
non-ferrous metals	280	183	42	-141	-77%
chemicals and soda	225	172	39	-133	-77%
grain, oilseeds, legumes	20	10	19	9	90%
coal	100	60	0	-60	-100%
others	350	230	54	-176	-77%
of which TEU:	18,000	11,400			
Total, '000 tonnes	**2,115**	**1,416**	**945**	**-471**	**-33%**
of which TEU:	**46,000**	**29,830**	**12,600**	**-17,230**	**-58%**

Source: TITR Association.

As part of the work of the TITR, measures are undertaken to reduce container transit times on the corridor (Table 19).

↓ Table 19. Container Transport Time along the TITR from China to Poti/Batumi/Akhalkalaki, days

	2022	2023	2024 (target)
China (Urumqi) — Dostyk/Altynkol railroad BCP	3	3	3
Dostyk/Altynkol railroad BCPs — ports of Aktau/Kuryk	12	6	5
Ports of Aktau/Kuryk — Alat — Akhalkalaki/ports of Georgia	23–38	10–14	6–10
Total	38–53	19–23	14–18

Source: TITR Association.

On 17 May 2023, a Memorandum was signed between the Government of the Republic of Kazakhstan and the Government of the People's Republic of China on the development of the Trans-Caspian International Transport Route, which provides for measures to:

- Stimulate and increase export-import and transit container train transport through the TITR;
- Improve the efficiency of transport and establish competitive tariffs along the TITR route;
- Streamline rail, port, and maritime logistics and transport operations, reduce transport time, and improve service quality;
- Remove administrative barriers related to customs processing at BCPs and the processing of goods and containers in ports and at junction stations.

On 23 May 2023, a Memorandum of Understanding was signed between railroad operators in Azerbaijan, Georgia, Kazakhstan, Türkiye, and Ukraine on the organisation of pilot projects for use of electronic CIM/SMGS consignment notes along selected TRACECA routes, including the TITR. The Memorandum establishes the principles for the organisation of pilot projects between the parties on the use of CIM/SMGS consignment notes along the TRACECA routes.

A joint Action Plan for 2023–2025 was signed to pilot container trains using electronic consignment notes.

In January 2024, Ankara (Türkiye) hosted meetings of the Working Group and the General Meeting of the International Association "Trans-Caspian International Transport Route", as well as a Round Table "TITR: Trends, Challenges, and Prospects" with the participation of financial institutions (EBRD, World Bank), the global multimodal digital platform DTCGlobal, and shippers from Kazakhstan and Türkiye.

During the event, plans and tariffs for 2024 were approved and further steps to intensify activities and prospects for expanding routes were discussed. 4 million tonnes of goods are planned for transportation along the route in 2024.

The potential capacity of the TITR is estimated at 10 million tonnes of goods and 300,000 TEU per year by 2030. However, at present, there are a few "bottlenecks":

- The capacity of Kazmortransflot (KMTF) is 156,000 TEU;
- The capacity of the ports of Kazakhstan is 190,000 TEU (Table 20);
- The capacity of the ports of Azerbaijan is 111,000 TEU due to the low throughput capacity of the port stations;
- The capacity of the TITR sections on the territory of the Republic of Kazakhstan, taking into account the spare throughput capacity of the Dostyk and Altynkol Railroad BCPs, is 80,000 TEU;
- The capacity of the Akhalkalaki/Kars Railroad BCP is from 0 to 40,000 TEU (it was closed for upgrading in 2023).

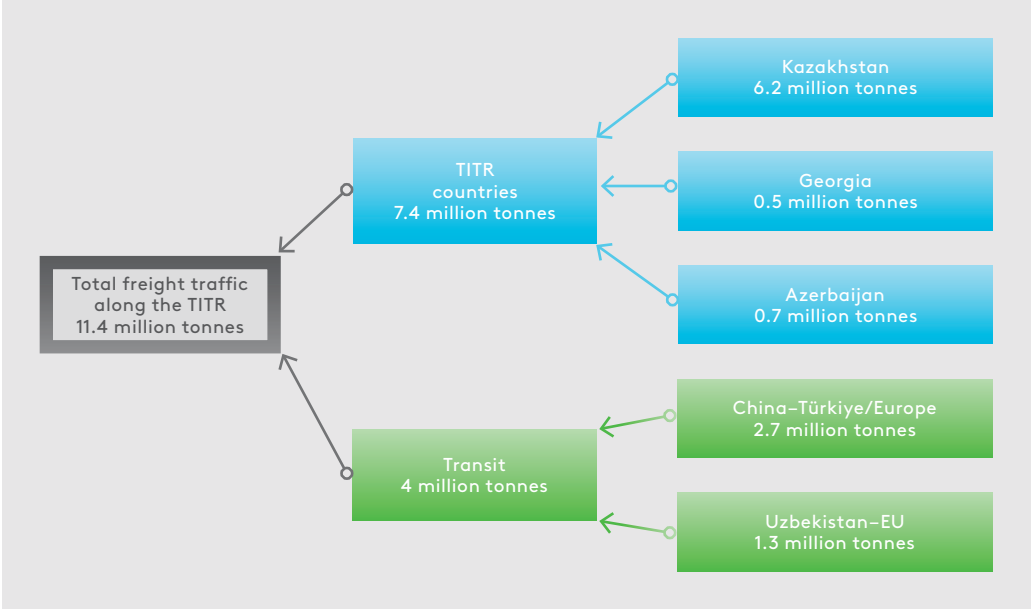
↓ **Table 20. Throughput Capacity of Container Terminals in the Caspian Ports of the Republic of Kazakhstan, 2022**

Ports	Throughput capacity	
	Total, million tonnes	Of which containerised, '000 TEU
Aktau	12.2	120
Aktau Marine North Terminal (AMNT)	3.0	70
Kuryk	6.0	-
Total	21.2	190

Source: TITR Association.

According to the World Bank, freight traffic along the TITR is projected to triple by 2030 (an optimistic estimate based on simplified modelling), but it will remain mostly a regional corridor, with intercontinental trade accounting for less than 40% of its traffic (World Bank, 2023).

Of the total freight traffic along the TITR, about 4 million tonnes will be projected demand for container transport (Figure 18). If the planned measures are not implemented, the demand for transport will be 35% lower than projected. This is explained by the availability of other options for intercontinental trade, most notably the option of maritime shipping between Asia and Europe.



← **Figure 18. Composition of Traffic along the TITR, World Bank's optimistic scenario, 2030**

Source: World Bank (World Bank, 2023).

The increase of 4.4 million tonnes under this model is due to the transit between China and Türkiye/EU. The TITR will play the greatest role in the development of the China-Türkiye trade, as well as transport links between Türkiye and the countries of Central Asia.

The main increase in freight traffic along the TITR will be driven by traffic to and from Kazakhstan (an increase of 4 million tonnes by 2030) in the east, and to and from Türkiye in the west. The development of the TITR will allow the transport of up to 16% of rail traffic between China and Türkiye/Europe (2.3 million tonnes by 2030), which will lead to a 30% increase in freight traffic along the TITR.

Under the targeted forecasts, transit to the EU along the TITR will amount to up to 20% by 2030 with a high proportion of containerised goods. Westbound exports of oil and coal are expected to remain high (up to 50% of westbound trade in 2030, compared to 58% in 2021, while the share in eastbound trade will not exceed 1% by 2030). Eastbound container deliveries will increase (59% in 2030 compared to 39% in 2021).

By 2030, westbound trade will account for 80% of freight traffic along the TITR, mainly due to energy exports from Kazakhstan. Kazakhstan's exports will also account for the largest share of trade flows in absolute terms.

The inertial forecasts include an average annual growth rate of +9% per year, which is lower than the achieved level of growth over the past three years. However, the growth will mainly be driven by an increase in transport of oil and oil products, ferrous and non-ferrous metals, coal, and other raw materials from Kazakhstan. The transit of containerised goods from China will grow annually at an average rate of 13%.

↓ Table 21. Forecasts of Freight Traffic along the TITR to 2030

Goods	2021		2030 (inertial)			2030 (targeted)		
	'000 tonnes	Composition, %	'000 tonnes	Composition, %	Average annual growth rate	'000 tonnes	Composition, %	Average annual growth rate
Total, of which:	**3,688**	**100%**	**7,920**	**100%**	**+9%**	**11,385**	**100%**	**+13%**
oil cargo	1,106	30%	2,487	31%	+9%	3,553	31%	+14%
ferrous metals	372	10%	707	9%	+7%	943	8%	+11%
coal and coke	615	17%	802	10%	+3%	891	8%	+4%
non-ferrous metals	175	5%	418	5%	+10%	597	5%	+15%
grain	159	4%	381	5%	+10%	476	4%	+13%
fertilisers	50	1%	229	3%	+18%	286	3%	+21%
agricultural goods, excluding grain	166	5%	192	2%	+2%	240	2%	+4%
minerals	117	3%	147	2%	+3%	184	2%	+5%
food products	89	2%	108	1%	+2%	135	1%	+5%
all types of ore	3	0%	5	0%	+5%	6	0%	+8%
other containerised goods	836	23%	2,444	31%	+13%	4,074	36%	+19%
(in TEU)	25		75	13%	+13%	125	20%	+20%
Share of containerisation, %	*23%*		*31%*			*36%*		

Source: estimates of EDB analysts.

Under the targeted scenario, the key elements of the growth of freight traffic along the TITR to 2030 are the following: Kazakhstan's exports would grow by 5 million tonnes, Azerbaijan's exports would grow by 0.3 million tonnes, and Georgia's exports would grow by 84,000 tonnes.

4.5. Southern Eurasian Corridor

The Southern Eurasian Corridor was identified at the Second International Euro-Asian Conference on Transport (UNECE, 2000) as one of the key ITCs linking Europe and Asia, along with the Trans-Siberian, the TRACECA, and the INSTC.

The corridor is to link the EU with Singapore via Türkiye, Iran, Pakistan, India, Bangladesh, Myanmar, Thailand, and Malaysia (Figure 19).

In its western section, it coincides with the TRACECA (on the territory of Türkiye and partially Iran), and also connects with the INSTC on the territory of Iran.

The Southern Eurasian Corridor is fully operational only in its western section between Türkiye, Iran, and Pakistan. Its core elements are the Istanbul–Tehran–Islamabad rail and road routes, measuring 5,981 km and 5,508 km, respectively.

↓ Figure 19. Southern Eurasian Corridor

The rail route became operational following the completion and commissioning in 2009 of the Kerman–Bam (Iran)–Zahedan railroad section. Zahedan is a BCP and the point of gauge change from 1,435 mm to 1,676 mm.

The first freight train was launched on 14 August 2009 on a pilot basis under an Economic Cooperation Organisation (ECO) project. However, between 2011 and 2021, the rail freight service between Iran and Pakistan was not regular. It was decided to resume railroad transportation at the 10th ECO meeting of Ministers. A new pilot train carrying 150 tonnes of pink salt left Islamabad on 21 December 2021 and arrived in Ankara 14 days later.

Regular freight rail transport services are available only between Türkiye and Iran.

The Istanbul–Tehran–Islamabad road route received an impetus for a significant increase in freight traffic along its entire length following Pakistan's accession to the TIR Convention in 2016 and the use of the TIR Carnet in that country from 2021, including for the transit of goods along the Southern Eurasian Corridor.

The advantage of road transport along the Southern Eurasian Corridor is the absence of congestion along the route and simplified border crossing procedures, which make it possible to deliver goods between Islamabad and Istanbul in 9–10 days.

The ITI road route also enables the transport of goods from third countries through the interface of the Southern Eurasian Corridor with other ITCs. In particular, goods transported between Afghanistan and Türkiye pass through the Iran–Pakistan Taftan/Nirjava International Road BCP located on the corridor.

In August 2021, the first road shipment of mangoes from Pakistan to Iran and on through Azerbaijan to Russia used that same border crossing, thanks to the connection of the Southern Eurasian Corridor with the INSTC.

Pakistan and Iran signed a Memorandum of Understanding with the International Road Union (IRU) in May 2017 in Geneva, which contributed to the development of international road traffic between the two countries. The parties agreed to implement internationally harmonised procedures and best practices in the field of international road transport. These include, first and foremost, the core UN conventions on international road transport and transit — the 1975 TIR Convention, the 1956 CMR Convention, and the 1982 Convention on the Harmonisation of Frontier Controls of Goods.

In 2022, the international freight traffic through the Taftan/Nirjava International Road BCP was about 0.6 million tonnes, of which 77% was bilateral trade between Iran and Pakistan, 16% was transit to Pakistan, and a further 7% was transit of goods from Pakistan.

The freight traffic by road through the Bazargan/Gurbulak International Road BCP located on the border between Türkiye and Iran was 3 million tonnes in 2022, of which about 66% was bilateral trade between Iran and Türkiye, 24% was transit to Türkiye, and 10% was transit to Iran.

Only about 0.3 million tonnes of goods are transported along the rail section between Türkiye and Iran, due to the bottleneck in Türkiye associated with the crossing of Lake Van. In addition, some goods are diverted from rail to road due to low tariffs for road transport in Iran. At the same time, Iran and Türkiye agreed to increase the volume of rail freight traffic along the corridor to 1 million tonnes in 2023.

The Southern Eurasian Corridor does not function on its eastern route between Pakistan and Singapore. The main reasons for this include:

1. Some sections are unfinished (between India and Myanmar, Myanmar and Thailand, and Malaysia and Singapore);
2. The repeated break of gauge (1,435/1,676 mm between Iran and Pakistan, and 1,676/1,000 mm between India and Myanmar).

3. The poor technical condition of railroads in a number of countries in South and South-East Asia. For example, in Myanmar, the speed of freight trains does not exceed 15–20 km/h.
4. The closed border between Pakistan and India.
5. The lack of harmonised legislation allowing international rail transport (most countries in the region — Pakistan, India, Myanmar, Thailand, Malaysia, etc. — are not members of the OSJD, do not use OSJD shipping documents, and do not have bilateral or regional agreements that would regulate the transport of goods and passengers, car turnover, mutual settlements, transit conditions, etc.).
6. Given the low level of technological advancement and underdeveloped technologies, freight transport is not widespread in many areas, especially on narrow gauge railroads (1,000 mm).

The development of the railroad network in the countries of the corridor requires significant investment that is not affordable for their governments.

Meanwhile, the Eastern route of the Southern Eurasian Corridor is open for international road transport. In particular, it carries international freight traffic between India, Bangladesh, and the countries of South-East Asia — Thailand, Malaysia, and Singapore.

The construction of the four-lane international India–Myanmar–Thailand highway (IMT Highway), which is 1,360 km long, is close to completion. It should connect Moreh-Tamu (India), Mandalay (Myanmar), and Mae Sot (Thailand). A large number of sections of the highway have already begun operating. As part of the Southern Eurasian Corridor, the IMT Highway will contribute to the development of trade in the Association of South-East Asian Nations (ASEAN)–India Free Trade Area (FTA), which became operational in 2010, is the largest such association in the world, and covers countries with a population of 1.9 billion people.

As part of its Act East Policy, India has taken the initiative to expand the IMT route to Laos, Cambodia, and Vietnam — bringing its total length to 3,200 km. It includes existing, upgraded, and brand new sections. The most important effect of the highway's operation will be the growth of bilateral trade and investment within the India–ASEAN FTA.

The demographic boom in Pakistan, India, and Bangladesh, and the growth of their economies, will require further development of land-based cross-border links, including the routes of the Southern Eurasian Corridor. This will be facilitated by the development of transport infrastructure in the countries of the region, including China's BRI and India's Act East Policy. Ongoing and planned projects that will contribute to increased transport connectivity include the new seaports of Chabahar in Iran and Gwadar in Pakistan, the East-West motorway system in Pakistan, rail corridors across India, and major road and bridge construction projects undertaken by India in Bangladesh (Starr, 2018).

China plays a significant role in the development of the infrastructure of the Southern Eurasian Corridor in South-East Asia. China has financed a cross-border PPP project to build and operate the China–Laos 1,435 mm railroad mainline (Vinokurov et al., 2023), and there are projects planned to extend this line from Vientiane to Bangkok and build a 1,435 mm high-speed mainline to Singapore. Another important project is the construction of the Kunming–Hanoi–Ho Chi Minh City railroad.

An essential role in the development of the Southern Eurasian Corridor will be played by its connection with the transport network of Central Asia and the creation of reliable links between Central and South Asia (Starr, 2018). The new Uzbekistan–Afghanistan–Pakistan railroad line under discussion has the potential to provide such a link and become the second North-South corridor for Central Asia.

There are significant political risks in the development of the Southern Eurasian Corridor due, in particular, to relations between Pakistan and Afghanistan as well as Pakistan and India. However, the growing trade between these countries — in particular, trade between India and Pakistan reaches USD 2.5 billion per year — could well be served by land transport (Starr, 2018).

4.6. INSTC

The multimodal INSTC connects the north-western part of the EAEU, the Baltic and Scandinavian countries with the countries of Central Asia, the Persian Gulf, and the Indian Ocean. The corridor includes rail, road, inland waterway, and marine transport infrastructure, 10 major Caspian Sea ports (Astrakhan, Olya, Makhachkala, Baku/Alat, Aktau, Kuryk, Turkmenbashi, Anzali, Nowshahr, and Amirabad), Persian Gulf ports (Bandar Khomeini, Bandar Abbas, and Chabahar), road and railroad BCPs, logistics infrastructure, and international airports.

The legal framework for the creation of the North–South corridor is the Intergovernmental Agreement on the International North–South Transport Corridor signed on 12 September 2000 during the Second International Euro-Asian Conference on Transport (St. Petersburg, Russian Federation) by three countries — the Republic of India, the Islamic Republic of Iran, and the Russian Federation. The Declaration of the Conference endorsed the INSTC as one of the key corridors linking Europe and Asia (UNECE, 2000).

The starting points of the routes on the territory of the Russian Federation depend on the type of freight: for grain — the South of Russia and the Volga Region, for industrial goods — the Chelyabinsk and Sverdlovsk Regions, for mineral fertilisers — the Perm Territory, or for containers — the agglomerations of Moscow and St. Petersburg.

There are three routes within the INSTC (Figure 20).

The **Western route** links Russia, Azerbaijan, and Iran, and connects to the TRACECA and the TITR near Baku. The railroad route passes through the Samur/Yalama Railroad BCP on the border between Russia and Azerbaijan, as well as the Astara Railroad BCP on the border between Azerbaijan and Iran. The Western route is the main one for international road freight transport along the INSTC. Freight transport goes through the main Astara and Yarag–Kazmalyar International Road BCPs. The connection of the INSTC in Tehran and Bafk with the Southern Eurasian Corridor makes it possible to deliver goods between the EAEU countries and Pakistan. Road transport is the most effective means of organising logistics chains for the delivery of goods along the Western route of the INSTC under the current conditions.

The **Eastern route** takes advantage of direct rail links through Kazakhstan and Turkmenistan with access to the Iranian railway network through the Turkmenistan–Iran BCPs of Sarakhs and Akyaila/Inche Burun. The Eastern route connects with the TRACECA, the TITR, the Lapis Lazuli Corridor, and the CAREC corridor network, which helps to maximise the development of transport and economic ties between Russia, the Central Asian countries, Iran, and the western regions of Afghanistan.

The **Trans-Caspian route** is a multimodal one. The Russian seaports of Astrakhan, Olya, and Makhachkala, and the Iranian ports of Bandar Anzali, Nowshahr, and Amir Abad, are all used for transport. Freight is transported to the seaports by road, rail, and inland waterways. It is also possible to deliver goods to Iranian ports by river-sea vessels.

The INSTC is the shortest trade route between India, the EAEU countries and the countries of Central Asia. The time required to transport goods from India to Russia along the INSTC land route can be 18–30 days, which is significantly faster than the deep sea route through the Suez Canal (30–45 days).

In total, 19 million tonnes of goods were transported along the INSTC in 2023.

↓ Figure 20. INSTC

Western Route of the INSTC

The Western route of the INSTC has historically been the busiest, due to the large volumes of international road and rail freight traffic between Russia and Azerbaijan. Due to the connection with the TRACECA, transport between Belarus and Russia on the one hand and between Georgia and Türkiye on the other goes through Azerbaijan.

The North–South road corridor linking Russia, Georgia, and Armenia via the Verkhny Lars/Daryali International Road BCP (until 2006 — Kazbegi) may be putatively included in the Western route. This is the only direct road route connecting Armenia with other EAEU member states. In 2021–2023, a major reconstruction of the international road BCP was undertaken on the Russian side, increasing the number of lanes for cars, trucks, and buses to 39. As a result, the throughput capacity of the Verkhny Lars International Road BCP had increased from 700 to 1,500 trucks per day (about 11 million tonnes per year) by early 2024.

However, the bottleneck of this route is still the section of the Georgian Military Road between Kvesheti and Kobi in Georgia, where the Cross Pass is located. Heavy snowfalls and the avalanche risk make the section unpassable for about 100 days per year on average (Vinokurov et al., 2022).

To avoid long delays on the access roads to the Verkhny Lars/Daryali International Road BCP, especially in winter, a significant part of the traffic currently flows through Azerbaijan. The major reconstruction of the Yarag–Kazmalyar (Russia–Azerbaijan) BCP completed in December 2023, as well as the opening of the Tagirkent–Kazmalyar International Road BCP to freight traffic after its reconstruction, enabled a near five-fold increase in throughput capacity of the Western route of the INSTC on the Russia–Azerbaijan section by January 2024, from 400 to 1,900 trucks per day (equivalent to almost 14 million tonnes of goods per year).

The 22.7 km Kvesheti–Kobi bypass, with six bridges and five tunnels, is under construction with funding from the Government of Georgia and loans from the EBRD and ADB. In 2024, a repeat tender was announced for the construction of a new section, 4.5 km long, from Stepantsminda to Gveleti, 88% of which will go through overhead roads and tunnels.

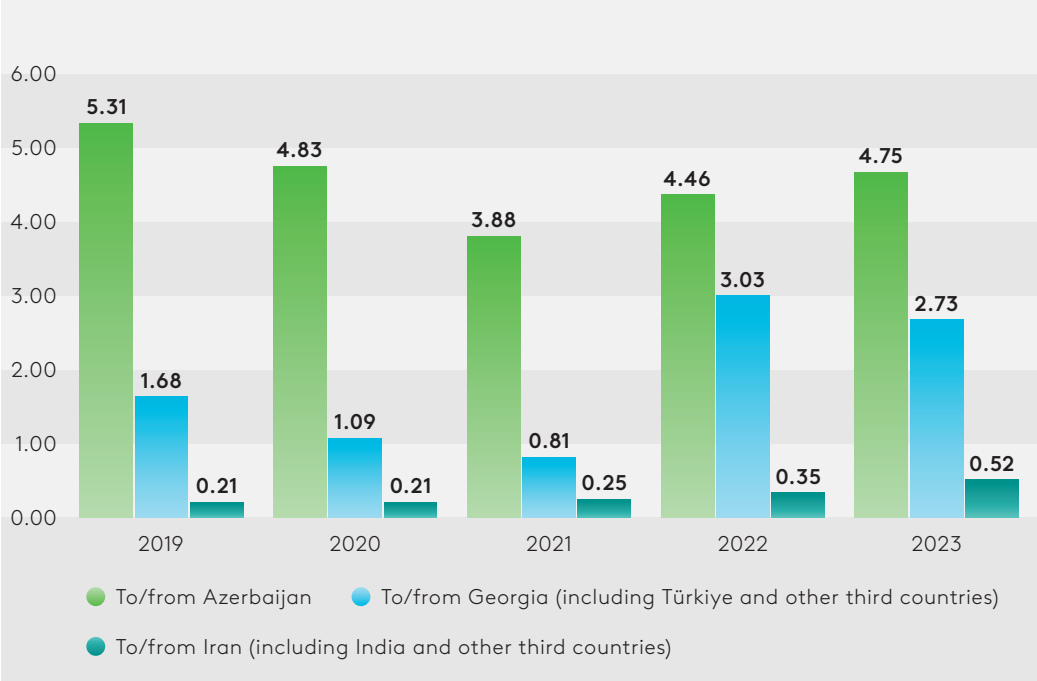
When it is completed, the journey time from Tbilisi to Daryali will be reduced to 1 hour 45 minutes (from the current 2.5 hours), and transit travel by road will be possible year-round.

The Western route of the INSTC is used for road freight transport between Belarus, Russia, and Iran, as well as between Belarus, Russia, and third countries in transit through Iran. In addition to direct international door-to-door road transport, road transport is used in multimodal delivery networks. In particular, all goods delivered to Astara by rail are loaded onto trucks, as are almost all goods delivered by sea to the port of Anzali on the Caspian Sea, from where they are transshipped for destinations in Iran or Iranian ports on the Persian Gulf coast.

The key attractions of using it for international road transport are:

- A permit-free system (in force between Russia and Iran, while the Additional Protocol to the Agreement between Belarus and Iran on International Road Transport signed in Tehran on 13 March 2023 envisages that the two countries will also move to a permit-free system);
- Favourable road conditions in Iran (the high quality of Iran's road infrastructure);
- The low cost of motor fuel in Iran (IRR 3,000 or USD 0.07 per litre of diesel);
- The high level of integration of different modes of transport, including access to ports and Iran's transport and logistics infrastructure. In particular, 93% of the volume of goods transshipped at the Iranian port of Bandar Abbas is transported to and from the port by road.

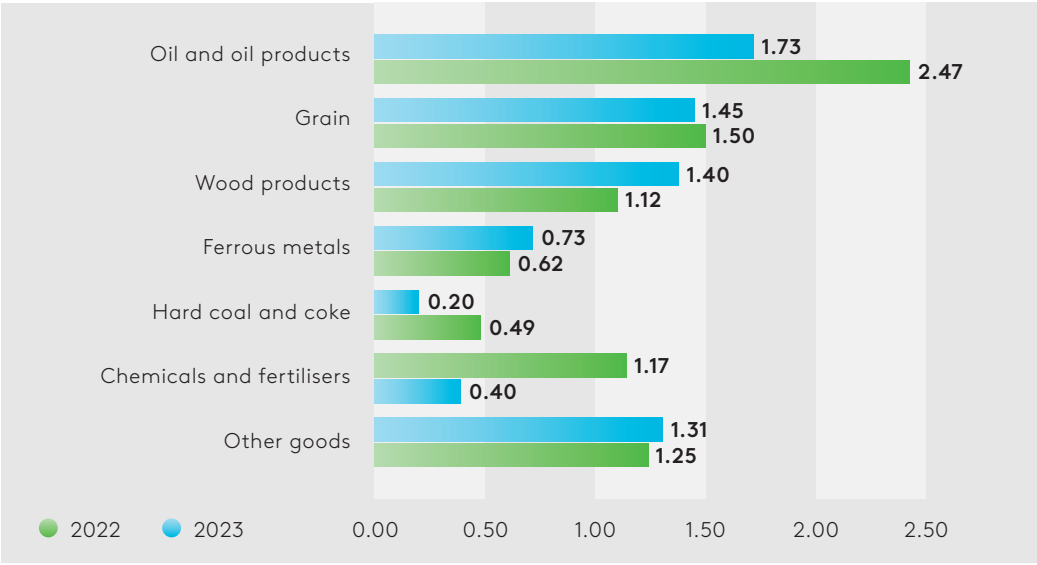
As estimated by EDB analysts, over 1.5 million tonnes of goods were transported by road along the Western route of the INSTC in 2023, including the Russia–Georgia–Armenia road corridor through the Verkhny Lars International Road BCP.



← **Figure 21. Rail Freight Transport along the Western Route of the INSTC, 2019–2023, million tonnes**

Source: estimates of EDB analysts.

In terms of rail transport, the main volume of freight transport between Russia and Azerbaijan, as well as Georgia, is carried along the Western route of the INSTC. Goods in transit to Iran are transferred to road transport at the Astara BCP (Figure 22).



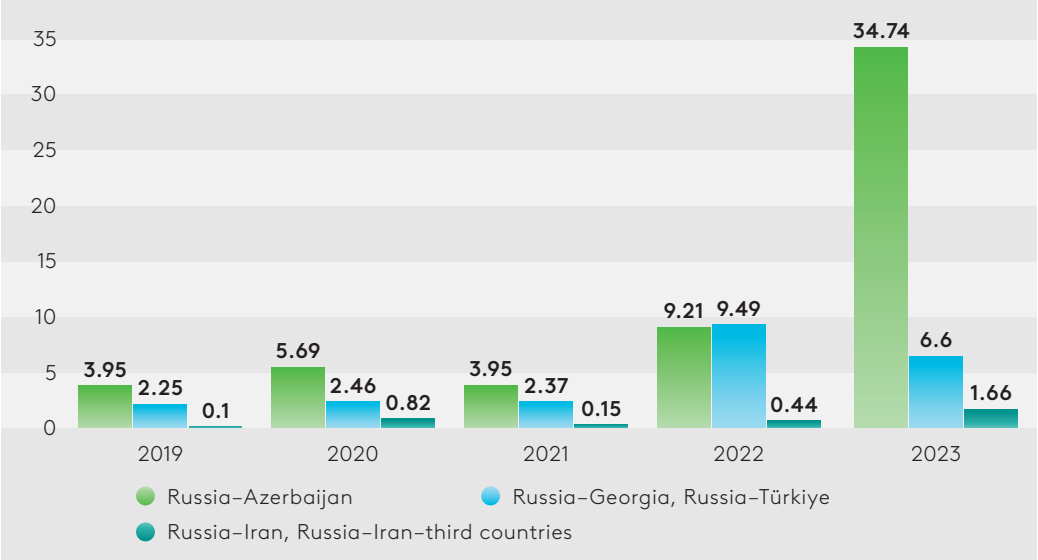
← **Figure 22. Commodity Composition of Rail Transport along the Western Route of the INSTC, 2022–2023, million tonnes**

Source: estimates of EDB analysts.

In 2023, 8 million tonnes of goods, including 43,000 TEU containers, passed through the Samur–Yalama BCP between Russia and Azerbaijan. Container traffic increased two-fold compared with 2022 (19,100 TEU), despite the fact that the total volume of freight traffic grew by only 2%. Of the total volume of freight traffic, traffic with Iran was more than 0.52 million tonnes and 1,700 TEU. In 2023, there was no transport between Russia and India through the Western railroad.

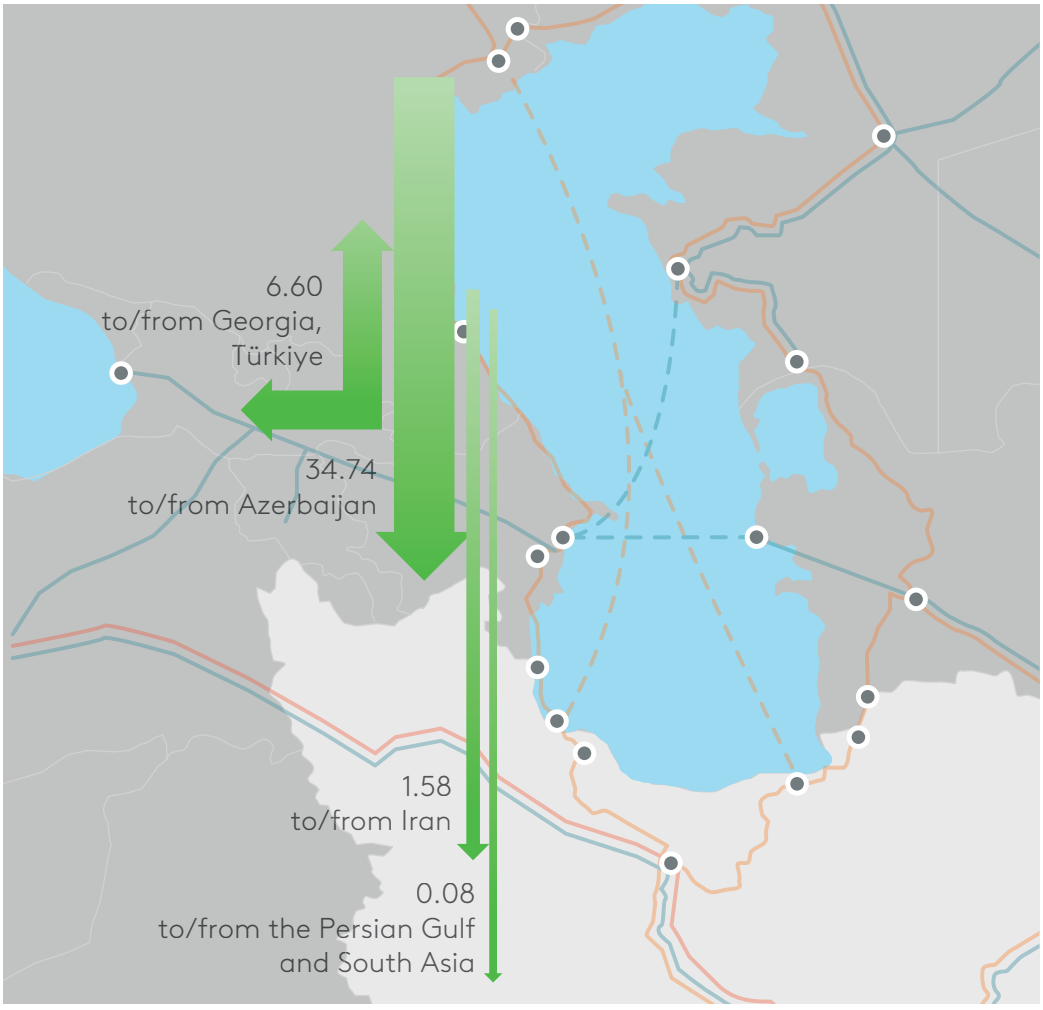
The largest shares of freight transport along the Western route of the corridor in 2023 were those of: oil and oil products (22%), grain (18%), wood products including paper (18%), chemicals and fertilisers (15%), and ferrous metals (9%). The increase in freight volumes in 2023 was mainly due to wood products and ferrous metals, while oil transport decreased by about 30%.

In 2023, 43,000 TEU were transported along the Western route of the INSTC (Figure 23), of which bilateral traffic between Russia and Azerbaijan accounted for 80.8%. Another 15.3% of container freight traffic used the connection of the INSTC and the TRACECA on the Russia–Georgia–Russia and Russia–Türkiye–Russia routes. Only 3.9% of container freight traffic went along the Western route to/from Iran. At the same time, Indian container traffic was insignificant at 5 TEU in 2023, with a further 68 TEU passing through Iran to/from third countries (Figure 24).



← **Figure 23. Container Freight Traffic along the Western Route of the INSTC, '000 TEU**

Source: estimates of EDB analysts.



← **Figure 24. Distribution of Container Freight Traffic along the Western route of the INSTC in 2023, '000 TEU**

Source: estimates of EDB analysts.

The containerisation of freight traffic on the Western route of the INSTC increased to 9% in 2023, compared with 4.1% in 2022, but was still significantly lower than on other transport corridors of the Eurasian Transport Network.

An impetus for the development of end-to-end rail transport along the Western route of the INSTC will be given by the implementation of a project for the construction of the Rasht-Astara section, which will link Azerbaijan's and Iran's rail networks (Box 4).

Box 4. Construction of the Rasht–Astara Railroad Section

The Agreement on the construction of the Qazvin–Rasht–Anzali–Astara road was signed by Azerbaijan, Iran, and Russia in 2005.

The total length of the rail line in Iran is 360 km, while that in Azerbaijan is 8.5 km. The construction of the Qazvin–Rasht section began in 2006.

By spring 2024, the Qazvin–Rasht section had been built and was operational, including several tunnels and Iran's longest railroad bridge, as well as the Astara Iran–Astara Azerbaijan section.

The 37 km section from Rasht to Anzali Port (Caspian) is expected to be commissioned in the summer of 2024.

Source: EDB.

On 17 May 2023 an agreement was signed between the Government of Russia and the Government of Iran on cooperation in financing the design, construction, and supply of goods and services for the creation of the Rasht-Astara railroad section in Iran to develop transport along the INSTC.

The total cost of the project is EUR 1.6 billion, of which EUR 1.3 billion is a Russian intergovernmental loan, which is to be repaid over the payback period of the project[14].

The project's feasibility study was prepared in 2023–2024. The line is scheduled to be completed and operational by 2028.

The line is expected to have a throughput capacity of 15 million tonnes of cargo per year.

Eastern Route of the INSTC

The Eastern route of the INSTC is the most recent element of the corridor's infrastructure. It has only been in operation for 10 years, after the Zhanaozen–Gyzylgaya–Bereket–Etrek–Gorgan railroad line, over 900 km long, was opened in December 2014, linking Kazakhstan, Turkmenistan, and Iran along the eastern shore of the Caspian Sea.

[14] Na proekt zh/d uchastka Resht - Astara vydelili mezhgosudarstvennyj kredit v €1,3 mlrd (An interstate loan of €1.3 billion was allocated for the Rasht-Astara railway section project). TASS. 14 https://tass.ru/ekonomika/17767315

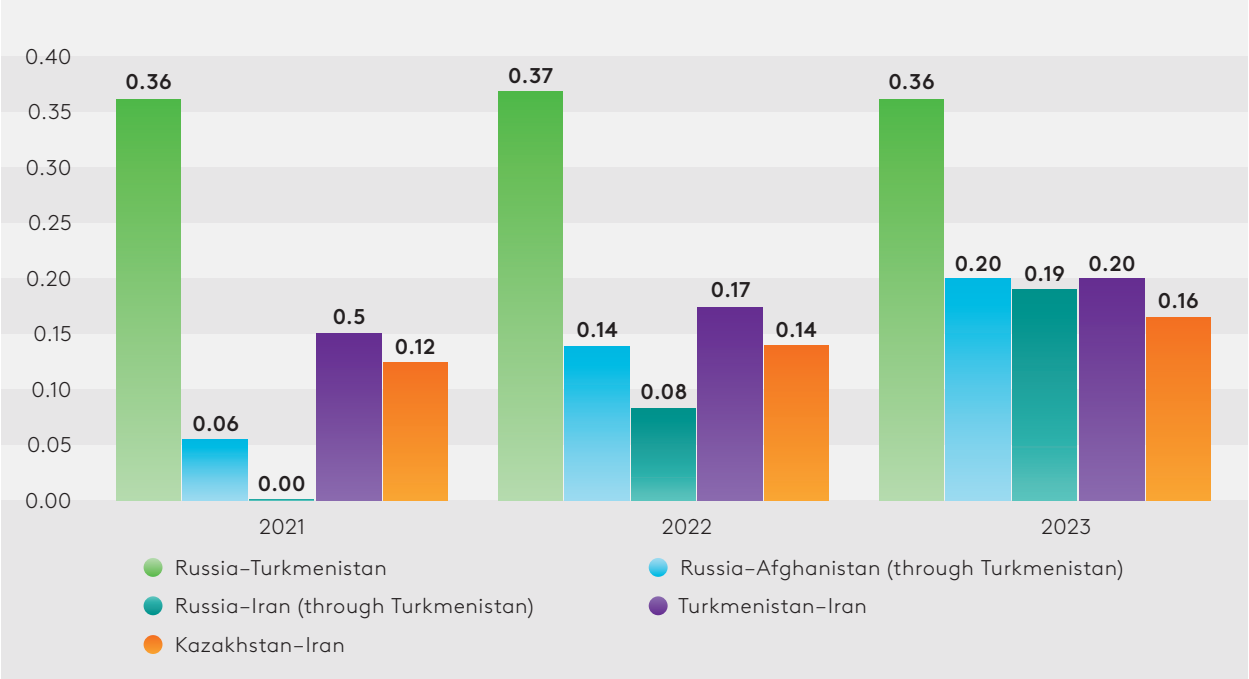
The Eastern route is predominantly a railroad one. Cargoes are currently delivered by road between Turkmenistan and other Central Asian countries on the one hand and Iran on the other. International road freight traffic in this direction was estimated to be around 0.5 million tonnes in 2023.

The development of international road transport along the entire length of the Eastern route will be facilitated by the construction of a four-lane motorway that will connect Kazakhstan, Turkmenistan, and Iran, including a bridge crossing over the Kara-Bogaz-Gol Bay.

The Eastern railroad route is fully operational and is used to transport all types of goods. Break-of-gauge points are located at the Turkmenistan–Iran BCPs of Akyaila/Inche Burun and Sarakhs/Sarakhs.

Freight traffic on the Eastern route is estimated at 1.1 million tonnes, which is 63% more than in 2021 (0.68 million tonnes). This freight traffic includes transport between Russia and Turkmenistan, Russia and Iran, Kazakhstan and Iran, Turkmenistan and Iran, as well as Russian transit to Afghanistan through Turkmenistan (Figure 25).

↓ **Figure 25. Rail Freight Transport along the Eastern Route of the INSTC, 2021–2023, million tonnes**



Source: EDB.

The largest shares in freight transport along the Eastern route of the corridor in 2023 from Russia to Turkmenistan, Iran, and Afghanistan were those of: wood products including paper (28%), grain (20%), and chemicals (5%). The increase in volumes in 2023 compared with the level of 2022 was mainly due to wood products, grain, and other goods (Figure 26).

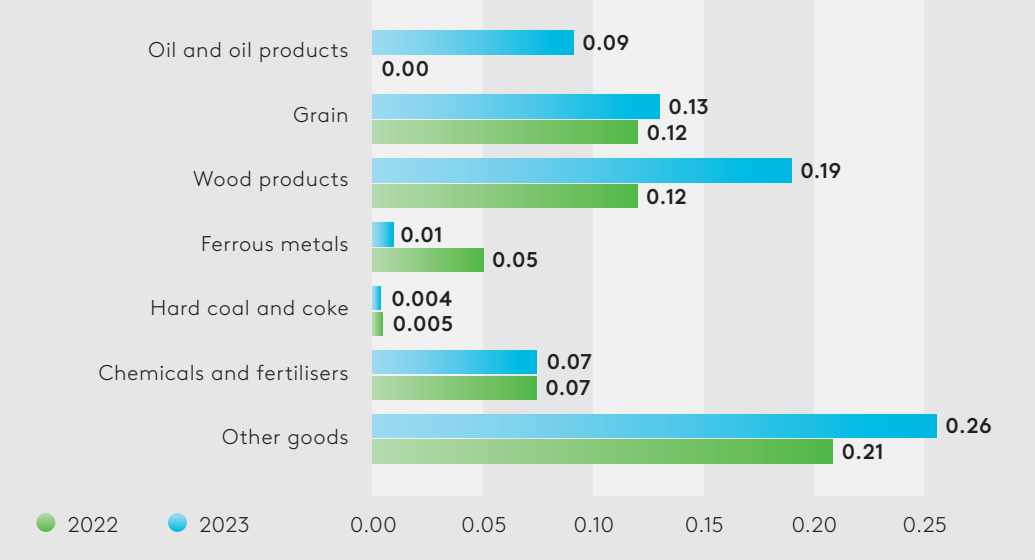
In 2023, options for transport of bulk oil between Russia, Iran, and third countries along the Eastern route were tested. In three months (February–April 2023), 88,000 tonnes of light oil products, including gasoline and liquefied petroleum gases (propane-butane) were transported through the Sarakhs Railroad BCP, of which 66,700 tonnes went to Türkiye, 11,300 tonnes to Iran, and 10,000 tonnes to Iraq. Tanks of oil products were sent to the Iranian side of the Sarakhs Railroad BCP, where they were transshipped. However, the experiment was not expanded due to significant hold-backs of empty tanks on Iranian territory.

↓ Table 22. Container Freight Traffic along the Eastern Route of the INSTC, '000 TEU

Direction	2021	2022	2023	2023/2021, %
Russia–Turkmenistan	0.69	0.91	0.49	69.5
Russia–Iran (via Akyaila and Sarakhs Railroad BCPs)	-	0.39	1.13	-
Russia–Afghanistan (via Akyaila and Sarakhs Railroad BCPs)	-	-	2	-
Total	**0.69**	**1.30**	**1.61**	**233.7**

Source: estimates of EDB analysts.

The containerisation of freight traffic on the Eastern route of the INSTC increased from 1.1% in 2022 to 1.3% in 2023.



← Figure 26. Commodity Composition of Rail Transport along the Eastern Route of the INSTC between Russia on the One Hand, and Turkmenistan, Iran, and Afghanistan on the Other, 2022–2023, million tonnes

Source: EDB.

In 2023, agreements were implemented between the railways of Russia, Iran, Kazakhstan, and Turkmenistan on the application of competitive tariffs for end-to-end transport. The agreements have been extended into 2024.

One of Russia's transport and logistics companies, RZD Logistics JSC, launched a regular container service along the Eastern route of the corridor in October 2022. In 2023, 21 container trains travelled to Iran (carrying construction materials, paper products, refrigerated containers with food commodities, etc.) and then by sea to India, Saudi Arabia, and the United Arab Emirates. Four container trains with cargoes from Iran travelled in the opposite direction to the Russian Federation.

Until 2024, RZD Logistics JSC's container services operated through the Sarakhs BCP, but from 2024 it is planned to organise transport through the Akyaila/Inche Burun BCP as well.

On 17 April 2023, a Memorandum of Understanding was signed between Transport and Logistics Centre of Turkmenistan OJSC, KTZ Express JSC, and RZD Logistics JSC, providing for the creation of a joint venture, North South Express, and its registration with the Astana International Financial Centre on the territory of the Republic of Kazakhstan. The founding partners will participate on an equal basis. This approach has worked well in organising container services on the Central Eurasian Transport Corridor through the creation of UTLC ERA.

Trans-Caspian Route of the INSTC

The Trans-Caspian route of the INSTC involves the use of the maritime shipping lane across the Caspian Sea with the delivery of goods to and from ports by road, rail, and inland waterways. It is also possible for Russian river-sea vessels to transport goods from the river ports of the Unified Deep Water System to the Caspian ports of Iran, but the use of this course is hampered by the lack of a modern fleet and a number of other factors.

In 2023, over 5.5 million tonnes were transported along the Trans-Caspian route, which is more than 1.5 times the tonnage transported in 2022.

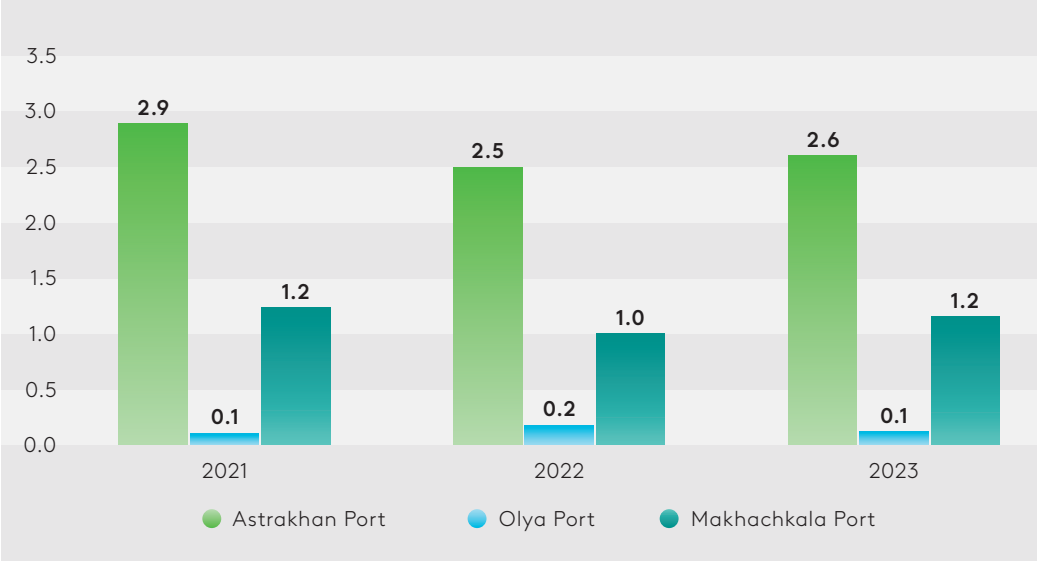
In 2023, the INSTC accounted for over 70% of the total freight transshipment at Russian ports of the Caspian basin, while the share of the Trans-Caspian route of the INSTC in freight transshipment at the ports of Astrakhan and Olya is close to 100%. In addition to the freight moving along the corridor, the port of Makhachkala serves significant freight traffic from Kazakhstan's ports of Aktau and Kuryk (East–West route).

In 2023, the total freight turnover of the seaports of the Caspian basin amounted to 7.8 million tonnes (+29.7% y-o-y), of which the volume of dry cargo transshipment was 5 million tonnes (an increase of 1.6 times) and of liquid cargo — 2.8 million tonnes (a decrease of 2.3%). The volume of freight transshipment of the port of Astrakhan increased to 3.7 million tonnes (up 48.5%), the port of Olya freight transshipment increased to 0.6 million tonnes (up 32.3%), and the port of Makhachkala freight transshipment increased to 3.4 million tonnes (up 13.9%). The combined freight turnover of the ports of Astrakhan and Olya in 2023 was a 10-year high.

In early 2024, freight traffic along the Trans-Caspian route of the INSTC continued to grow. The freight turnover of the ports of Astrakhan and Olya in January–February 2024 doubled compared to the same period last year and amounted to 928,000 tonnes.

The rapid growth in freight traffic along the Trans-Caspian route through the ports of Astrakhan and Olya has been facilitated by the most extensive dredging of the Volga-Caspian Sea Shipping Canal in recent decades. In 2023, the VCSSC achieved a draught of 4.5 m, which helped to make better use of ship tonnage. An unprecedented fleet of more than 40 dredging and support vessels was involved in the work on the canal.

In 2023, 3.9 million tonnes of goods were transported by rail to the seaports of Astrakhan, Olya, and Makhachkala (+5.5% on 2022). The recording methodology includes the volume of rail freight transported to domestic port stations.



← **Figure 27. Rail Freight Transport to Russian Seaports in the Caspian Sea on the Trans-Caspian Route of the INSTC, 2019–2023, million tonnes**

Source: estimates of EDB analysts, Association of Russian Seaports.

2.6 million tonnes were transported to the port of Astrakhan, and 0.13 million tonnes to the port of Olya (Figure 27). However, container freight transport was 2,000 TEU in 2023, 11% less than in 2022 (Table 23).

↓ **Table 23. Container Freight Transport to Russian Seaports in the Caspian Sea on the Trans-Caspian Route of the INSTC, 2019–2023, '000 TEU**

Direction	2019	2020	2021	2022	2023	2023/2015, %
Astrakhan Port	0.11	0.04	0.20	1.08	0.37	347.2
Olya Port	0.78	0.73	0.61	1.04	1.59	203.8
Makhachkala Port	-	-	0.23	0.16	0.07	-
Total	**0.89**	**0.77**	**1.04**	**2.28**	**2.03**	228.5

Source: estimates of EDB analysts.

It should be noted that at present the throughput and carrying capacity of rail transport allows the delivery of up to 10 million tonnes of goods per year to the Russian ports of the Trans-Caspian route of the INSTC. There are no rail sections on the approaches to the ports that would limit this capacity.

At the same time, the railroad infrastructure adjacent to the North-South Trans-Caspian route is being upgraded to accommodate potential growth in freight traffic. As part of the implementation of the Comprehensive Plan for the Upgrading and Development of Mainline Infrastructure to 2025, projects are underway to upgrade the 361 km Aksarayskaya–V. Baskunchak–Trubnaya railroad section and to construct a western bypass for the Saratov Railroad Hub.

Overall, rail transport on the three routes of the INSTC carried 12.5 million tonnes of freight in 2023, of which 77.2% were Russian exports, 6.2% were imports, and 16.6% were transit through Russia (Table 24).

↓ **Table 24. Composition of Rail Freight Traffic along the INSTC, including Goods Delivery to Ports of the Trans-Caspian Route, by type of transport, million tonnes and '000 TEU**

Direction	2019	2020	2021	2022	2023	2023/2019, %
Total, of which:	**7.5**	**6.5**	**9.6**	**12.1**	**12.5**	166.7
exports	5.7	5.2	8.1	8.9	9.7	170.2
imports	0.8	0.7	0.9	0.7	0.8	100.0
transit	1.0	0.6	0.6	2.5	2.1	210.0
Of which in containers, '000 TEU:	**7.3**	**10.0**	**8.1**	**22.7**	**46.6**	638.4
exports	3.1	4.5	3.9	10.2	23.4	754.8
imports	3.1	4.7	3.4	9.3	19.9	641.9
transit	1.1	0.8	0.8	3.2	3.3	300.0
Containerisation of traffic, %	1.6%	2.6%	1.4%	3.2%	6.2%	+4.6%

Source: estimates of EDB analysts.

Since 2019, the volume of freight transport along the INSTC has increased by 67%, with transit freight transport, including that from Belarus, growing the most rapidly (2.1 times). While in 2019 transit accounted for 13.3% of freight traffic, in 2023 it was already 16.8%.

There is still a significant imbalance in rail transport in different directions — 12 times more freight is transported southwards than northwards. This affects the efficiency of the use of rolling stock. At the same time, the situation in the container transport segment is more balanced — the ratio of export versus import traffic is 54%/46%.

Export container traffic by rail along the INSTC in Russia was 23,400 TEU (up by a factor of 2.3 compared with 2022), import freight traffic was 19,900 TEU (up by a factor of 2.1 compared with 2022), and transit traffic was 3,300 TEU (+3.1% compared with 2022).

The main traffic volume is carried by the Western route through the border station of Samur of the North Caucasus Railway. In 2023, 43,000 TEU were transported (4 times more than in 2022). 81% of this was traffic to/from Azerbaijan. Container traffic to/from Iran also increased five-fold, reaching 1,600 TEU. The containerisation of traffic along the Western route of the corridor was also the highest — 9% in 2023.

The INSTC has a high development potential, however, the features of its transport infrastructure in certain sections are a deterrent to the growth of freight traffic, preventing end-to-end delivery of potential freight volumes.

On 8 September 2022, during a trilateral governmental meeting in Baku, Russia, Azerbaijan, and Iran signed an Action Plan on the development of the INSTC. According to the roadmap, the corridor's capacity will increase to 15 million tonnes by 2027.

Taking into account regional trade, as well as the prospects for increasing the throughput capacity of the stations at Sarakhs and Akyaila to 7–10 million and 4 million tonnes respectively, freight traffic through the INSTC is likely to exceed 30 million tonnes by 2030.

In May 2023, President of the Republic of Kazakhstan K.J. Tokayev proposed the introduction of high-speed freight trains along the Chelyabinsk–Bolashak–Iran mainline. According to him, there are good prospects for the development of the INSTC in connection with the Trans-Caspian route. In this context, Kazakhstan can act as a logistical hub for the EAEU. To do this, the existing infrastructure of the INSTC can be used with a freight consolidation centre created in Chelyabinsk. Kazakhstan, for its part, is ready to reconstruct the "bottlenecks" on its Beyneu-Mangystau rail network and on the Beyneu-Shalkar road section.

According to available expert estimates, the transit of Russian goods on the Eastern route of the INSTC can potentially increase in 2024 by 2 million tonnes against the achieved level.

Russian hard coal and coke shippers have expressed an interest in using the route under competitive pricing conditions. There is certain potential for redirecting the transport of potash fertilisers (including those from Belarus), which is currently handled by the Russian ports of the Azov-Black Sea basin and the Caspian Sea, to this route. There is also demand for transport from the metallurgical, petrochemical, wood processing, and grain producing industries.

The transit of goods from Belarus along the INSTC has great potential. The most important commodities that can be attracted to the Eastern route are potash fertilisers, perfumes and cosmetics, light industry products, dairy products, and food products in general.

Transit traffic from the Republic of Belarus to Iran, Iraq, and Afghanistan has been growing since 2022. In 2023, 111,000 tonnes of goods were transported from Belarus along all routes of the INSTC:

- 60,000 tonnes of lumber and plywood and 2,000 tonnes of food commodities through Samur–Astara Station (to Iran and Iraq);
- 10,000 tonnes of gasoline through Aksarayskaya-2–Galaba Station (to Afghanistan);
- 39,000 tonnes of fertilisers through Makhachkala (to Iran).

The growth of freight traffic along the Trans-Caspian route will depend both on the development of rail and port infrastructure and on the increase in the size of the fleet and its deadweight tonnage. In this context, projects to build new vessels for the Trans-Caspian route are of great importance. In early 2024, an order was placed for 25 new Volgo-Don Max container ships, 10 dry cargo ships, and 5 chemical tankers. There are applications from shipowners for preferential financing (leasing) of another 90 vessels of different classes.

The growth rate of the total traffic along the INSTC is projected at +10% on average per year between 2024 and 2030 under the conservative scenario and at +15% per year under the targeted scenario (Table 25).

↓ Table 25. Forecasts of Freight Traffic along the INSTC to 2030, million tonnes

Direction	2023 Actual	2024 Estimate	2025		Forecast 2030	
			Inertia	Targeted	Inertia	Targeted
Total	13.0	14	16	20	25	32
of which along INSTC routes						
Western	8.0	8.5	9	10	13	18
Eastern	1.1	1.2	2	3	4	5
Trans-Caspian	3.9	4.3	5	7	8	9

Source: estimates of EDB analysts.

As a result, total freight traffic through the ITC could be between 25 and 32 million tonnes in 2030. The main increase, taking into account the interface of the INSTC with the BTK route, is expected along the Western route of the corridor. By 2030, its freight traffic is likely to reach 17–20 million tonnes.

The freight traffic on the Eastern route is projected to reach 4–5 million tonnes, and on the Trans-Caspian route it is projected to reach 8–9 million tonnes.

At the same time, these forecasts assume an increase in containerisation along the entire INSTC from an estimated 6.2% in 2023 to 7.8% in 2030 (Table 26).

↓ Table 26. Forecasts of Container Traffic along the INSTC to 2030, '000 TEU

Direction	2023 Actual	2024 Estimate	2025		Forecast 2030	
			Inertia	Targeted	Inertia	Targeted
Total, of which by routes:	46.6	49.7	58.0	65.6	102.9	150,0
Western	43.0	44.7	47.7	53.4	87.9	129.2
Eastern	2.0	3.0	8.1	9.7	12.0	16.6
Trans-Caspian	1.6	2.0	2.1	2.5	2.9	4.2
Containerisation, %	6.2%	6.5%	6.5%	6.7%	7.1%	7.8%

Source: estimates of EDB analysts.

Further, total container traffic along the ITC is likely to be between 103,000 and 150,000 TEU by 2030, including exports from Russia between 47,000 and 69,000 TEU, imports between 48,000 and 71,000 TEU, and transit between 8,000 and 11,000 TEU (based on the scenarios).

The main increase is expected on the Western route of the ITC, where container traffic could be between 88,000 and 129,000 TEU. Relatively faster growth of container traffic on the Eastern route would result in 12,000 to 17,000 TEU, and the Trans–Caspian route would handle from 3,000 to 4,200 TEU.

Based on these forecasts, the most significant growth in rail freight transport is expected to come from exports from Russia. The core of the increase in export volumes is projected to be grain and other food commodities (up to 5.2 million tonnes by 2030, with its share increasing to 24% of the total), ferrous metals and products made from them (3.4 million tonnes, 16% by 2030), wood and paper (3.3 million tonnes, 15%), and chemical industry products (2.8 million tonnes, 13%). The growth of export transport of hard coal will be small and the transport of coal products will amount to about 1.6 million tonnes by 2030.

4.7. EATL Road Route 9

Meridional EATL road route 9 connects the Russian city of Novosibirsk and Urumqi in the XUAR through the territory of Mongolia (Figure 28). In the future, a complete North-South road route (Asian Highway AH4) may be created, linking Western Siberia, Altai, Western Mongolia, and XUAR with Pakistan and the port of Karachi on the Indian Ocean coast.

On the territory of Russia, the 962 km long route completely coincides with federal highway R256 Chuisky Tract. The road is hard surfaced throughout. One of the main infrastructural problems in the development of this route has long been the unsatisfactory condition of several sections on Mongolia's territory that do not have a hard surface.

At the third session of the UNESCAP Ministerial Conference on Transport in December 2016, a trilateral agreement was signed on the development of the AH3 and AH4 routes connecting Russia, Mongolia, and China.

In November 2022, work was completed on the reconstruction and new construction of several sections of the AH4 highway in Mongolia, allowing commercial vehicles to travel along the direct route. The project was one of the largest ever undertaken in Mongolia and was funded by the national budget, a loan from the Chinese Government, and a grant from the Asian Development Bank.

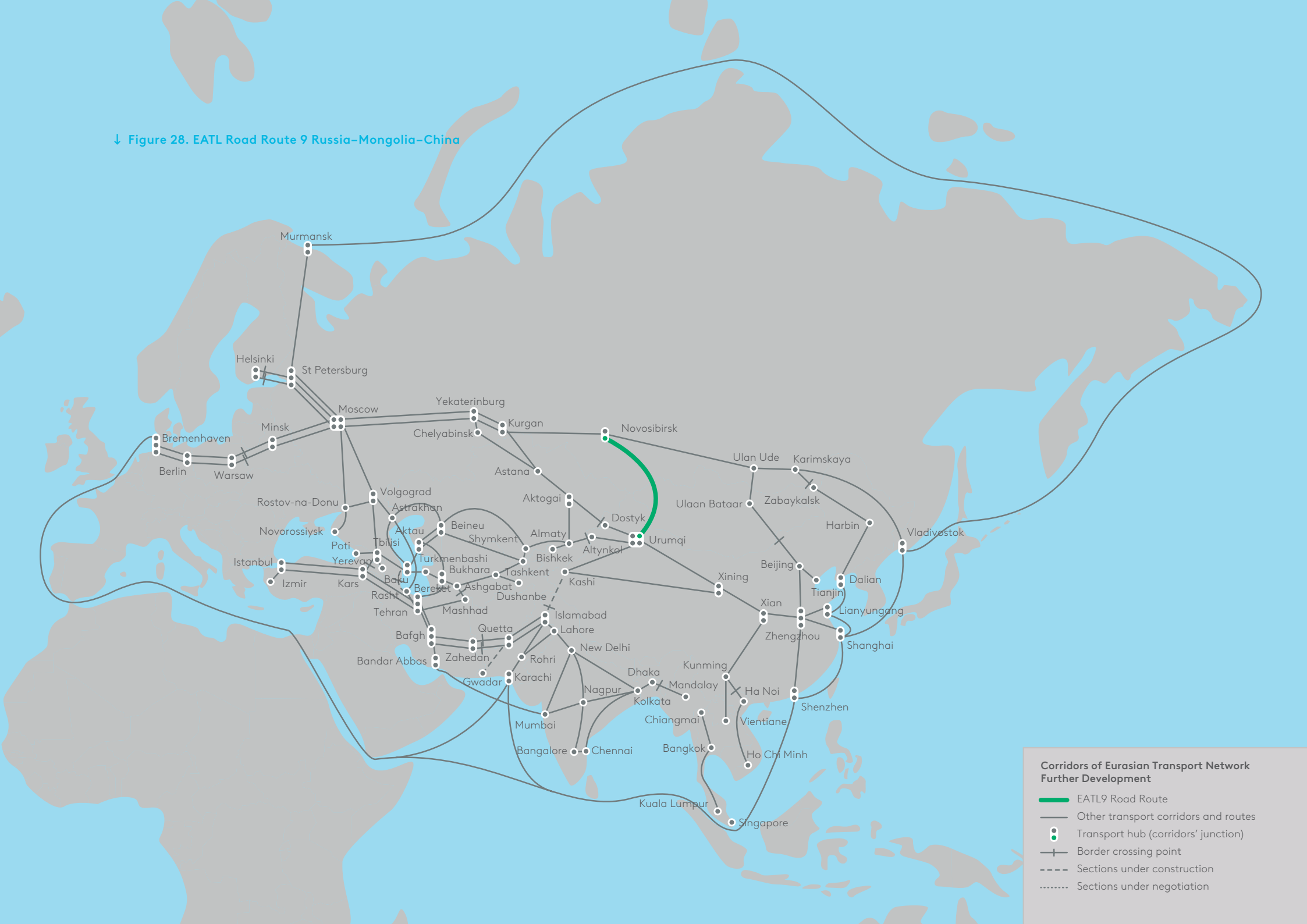
On 30 October 2022, the Tsagaannuur International Road BCP (Tashanta International Road BCP on the Russian side) began operating in Bayan-Olgii Province. On 2 February 2023 the free zone in the area of Tsagaannuur International Road BCP became operational.

In September 2023, a demonstration run of nine truck trains (three from each country) was completed on the route Urumqi–Takeshikan (PRC)–Yarantai–Ulanbaishint (Mongolia)–Gorno-Altaysk–Barnaul–Novosibirsk, confirming the technical feasibility of commercial international road transport between the three countries.

The main advantage of the route is a significant reduction in the time and distance of transport between points in Western Siberia and Altai on the one hand and points in Western China on the other hand.

New opportunities for using this route to organise road transport to Pakistan along the AH4 highway (EATL road route 9 and further along the CPEC corridor) opened after the conclusion of a new intergovernmental agreement on international road transport between the Russian Federation and the Islamic Republic of Pakistan (signed on 16 November 2022, entered into force on 11 September 2023). The benefit of the Agreement is that it enables international road transport with third countries with which Russia and Pakistan also have bilateral agreements on international road transport.

↓ Figure 28. EATL Road Route 9 Russia–Mongolia–China



4.8. Prospective Corridors and Routes

The Eurasian Transport Network is constantly evolving. In addition to projects for upgrading, reconstruction, and enhancement of the infrastructure of existing corridors and routes of the Eurasian Transport Network, the countries of the region are considering projects for new corridors, routes, and their branches to create new opportunities for ensuring transport and logistics links.

This report outlines only a few projects that could significantly improve transport connectivity in the region. Some of these projects are cross-border. The cross-border PPP mechanism could be used for their implementation.

Project for the construction of the Ayagoz–Bakhty rail line and a third railroad BCP between Kazakhstan and China

The project aims to increase significantly the throughput capacity of the Central Eurasian Corridor through the construction of a new railroad section from Ayagoz Station on the Almaty–Aktogay–Semey–Lokot line to the Bakhty BCP on the Kazakhstan–China border. In addition to the existing Bakhty Road BCP, a new railroad BCP is to be built (Figure 29).

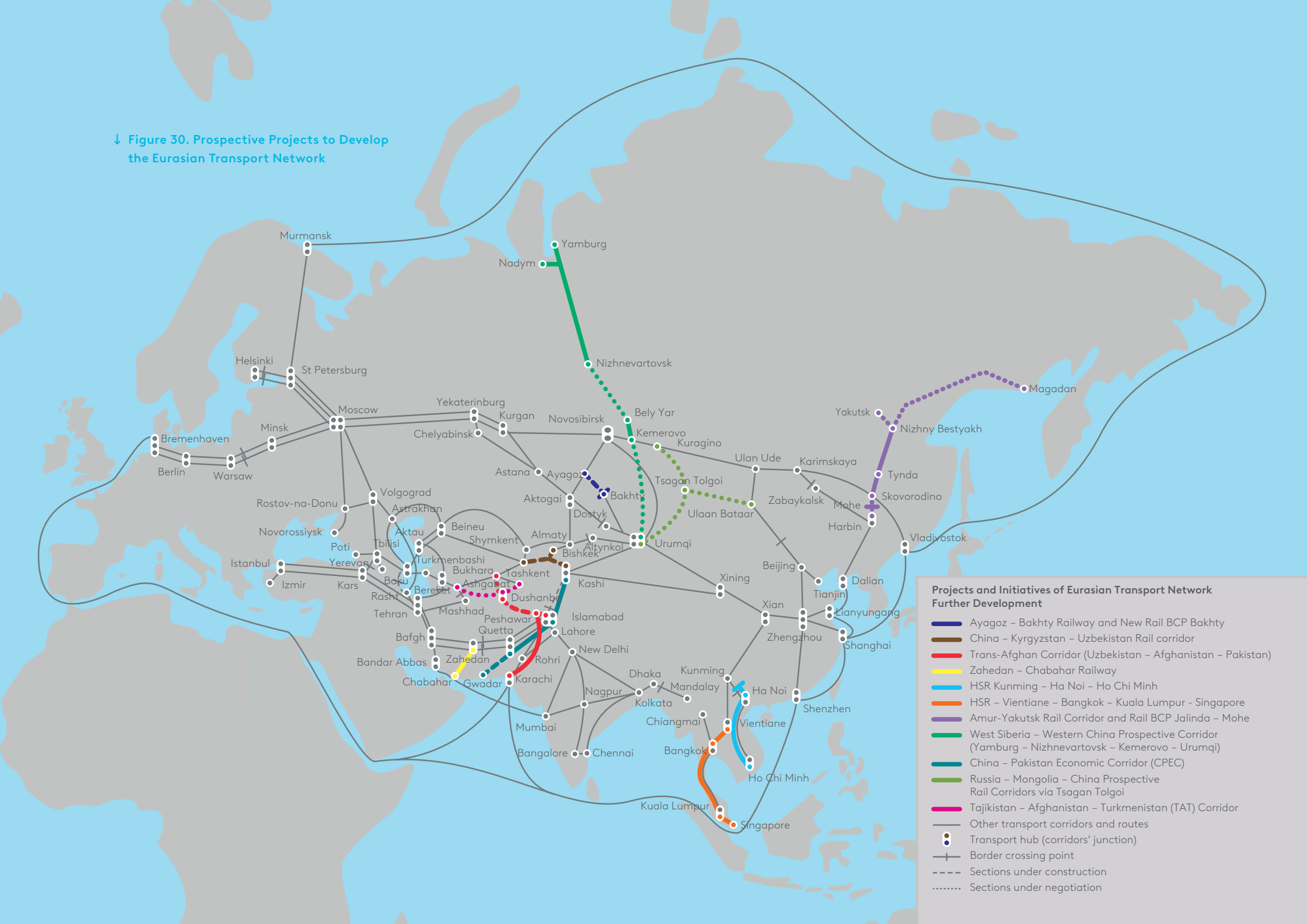
↓ **Figure 29. Construction Project of the New Ayagoz–Bakhty Railroad Line**

Source: EDB.

According to the feasibility study, which was carried out with the help of a grant from the EDB Technical Assistance Fund, the new line will be 272 km long[15].

[15] According to the data shared in the presentation of National Company Kazakhstan Temir Zholy JSC at the Fourth Railway Congress (15 December 2023).

↓ **Figure 30. 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

It is planned to build a single-track railroad line and open the Bakhty Interstate Railroad BCP with appropriate rail infrastructure facilities.

Five years after the start of operation, it is planned to build a continuous second track with additional trackage at certain points, as well as additional tracks and transshipment terminals at Bakhty Station with the necessary railroad facilities.

The main outcome of the project will be an increase in the throughput capacity of railroad BCPs on the border between Kazakhstan and China of 20 million tonnes per year, as well as a significant expansion of opportunities for the development of container services on the China–EAEU–China and China–Europe–China routes.

China–Kyrgyzstan-Uzbekistan Main Railroad Line Construction Project

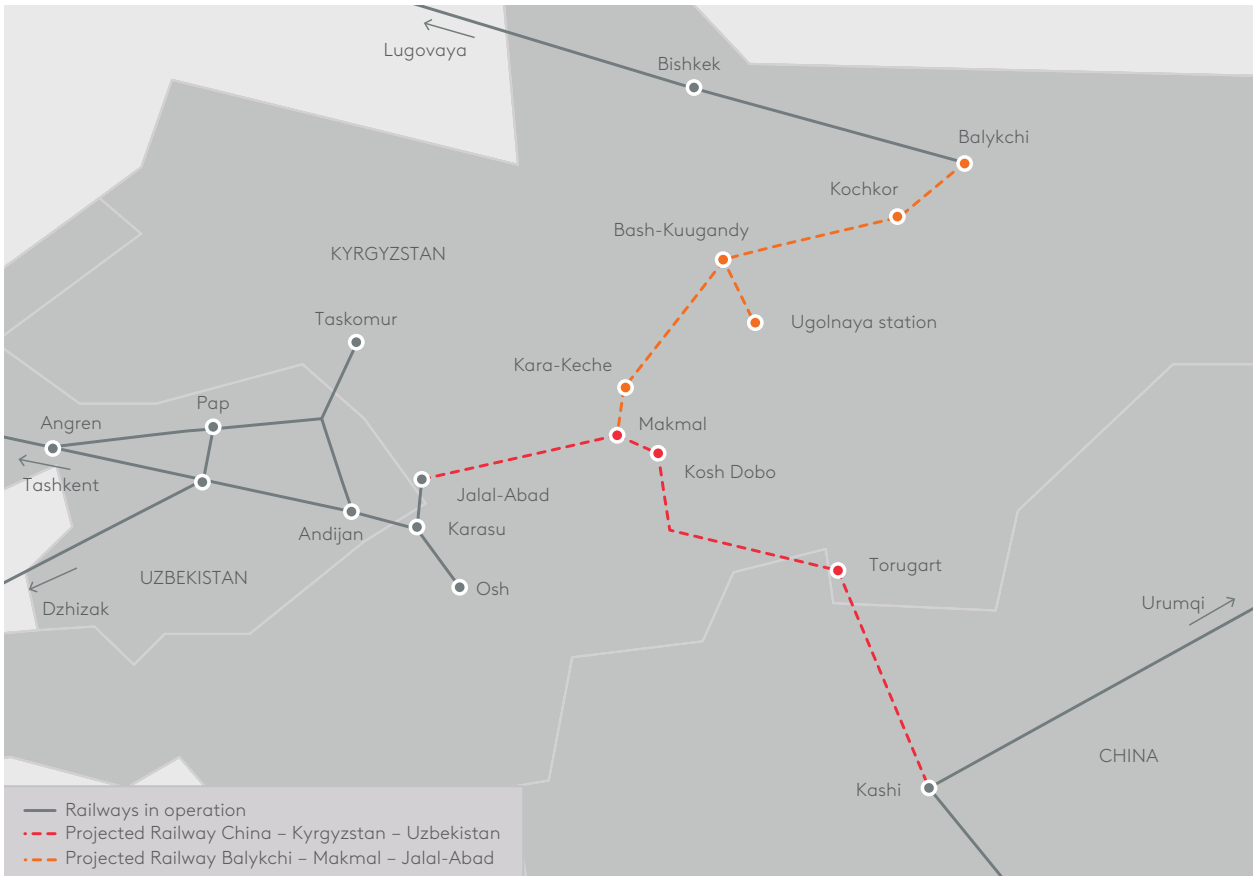
The aim of the project is to connect the railroad systems of China, Kyrgyzstan, and Uzbekistan, and to organise direct passenger and freight traffic between the three countries.

The main route selected during negotiations was Kashi (China)–Torugart–Arpa Valley–Makmal–Jalal-Abad–Kara-Suu–Andijan (Uzbekistan) (Figure 31).

The total length of the railway lines will be 523 km — 213 km will pass through China, 260 km through Kyrgyzstan, and 50 km through Uzbekistan. It is planned to build 90 tunnels, sidetracks, bridges, and section and transshipment railroad stations.

The potential for freight transport is estimated at between 7 million to 13 million tonnes per year. The construction may take from 6 to 8 years.

↓ **Figure 31. China–Kyrgyzstan–Uzbekistan Main Railroad Line Construction Project**



Source: EDB.

The idea for the project was born in 1996, but until recently there had been no consensus among the countries of the region about its implementation. The cost of the project is high — around USD 3–5 billion.

Another factor is the incompatibility of the gauge standards used in China (1,435 mm) and in Kyrgyzstan and Uzbekistan (1,520 mm), therefore, the key issue in the negotiations between the parties was the location of the break-of-gauge station for changing bogies and handling goods and containers (as well as for other operations such as weighing goods, making up and breaking up trains, changing locomotives, sorting containers, etc.).

If implemented, the new line will become part of the transcontinental Eurasian route linking China, Central Asia, the Middle East, Türkiye, and Europe by connecting with the INSTC and the TRACECA in Turkmenistan. The new route would not be in competition with the Russian Trans-Siberian Railway and the rail corridor from China through Kazakhstan, as it focuses on different target markets, involves a large number of transit countries, multiple handling of goods, etc.

At the same time, the project will enable some foreign trade and transit freight traffic to be shifted from road to rail, as almost all of Kyrgyzstan's trade and much of the trade between Uzbekistan and China relies currently on road transport.

The benefits of the project for Kyrgyzstan include: the resolution of the problems of the transport deadlock, increased transit revenues, as well as the development of domestic transport connectivity between the northern and southern regions of the country. In addition, the new cross-border corridor will allow to create a container service between China and Uzbekistan by the shortest distance.

A tripartite intergovernmental agreement on cooperation in jointly promoting the China-Kyrgyzstan-Uzbekistan railway project was signed on June 6, 2024 in Beijing.

Trans-Afghan Corridor Construction Project (Uzbekistan–Afghanistan–Pakistan Main Railroad Line)

The aim of the project is to link the rail systems of Uzbekistan, Afghanistan, and Pakistan, and to provide a direct rail link from the Central Asian countries to Pakistani ports on the Indian Ocean (Figure 32).

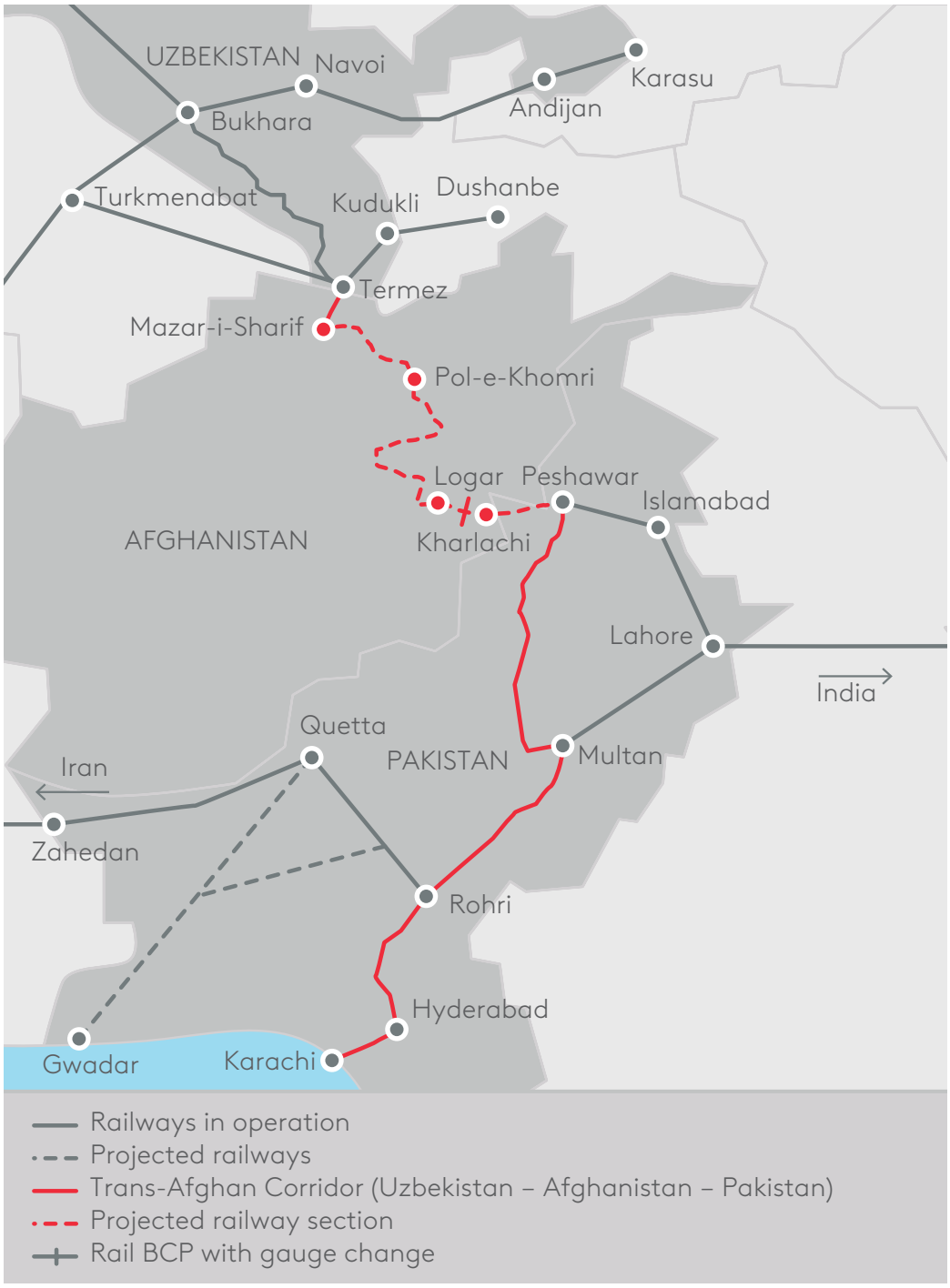
A route Termez (Uzbekistan)–Mazar-i-Sharif–Logar (Afghanistan)–Kharlachi (BCP between Afghanistan and Pakistan)–Torkham (Pakistan) with further access to the existing railroad network of Pakistan via Peshawar and Rohri to the international commercial port of Karachi is being discussed.

The new mainline is planned to have a gauge of 1,520 mm throughout Afghanistan. The break-of-gauge point will be the new Afghanistan–Pakistan railroad BCP.

The new sections from Mazar-i-Sharif to Torkham will be about 760 km long. The cost of the project is estimated by the parties at USD 4.8 billion.

The project is at a very early stage — the parties have only agreed the route so far. It will require a survey of the area through which the rail line will pass, the preparation of a feasibility study, the selection of a contractor, the identification of financing arrangements, and the project's implementation. Given the nature of the project, one of the possible options for its implementation could be a cross-border PPP.

Difficulties in implementing the project include the mountainous terrain in Afghanistan, unresolved issues of Afghanistan–Pakistan cooperation, the need to upgrade Pakistan's railroads to allow new freight traffic and ensure security along the new corridor, etc.



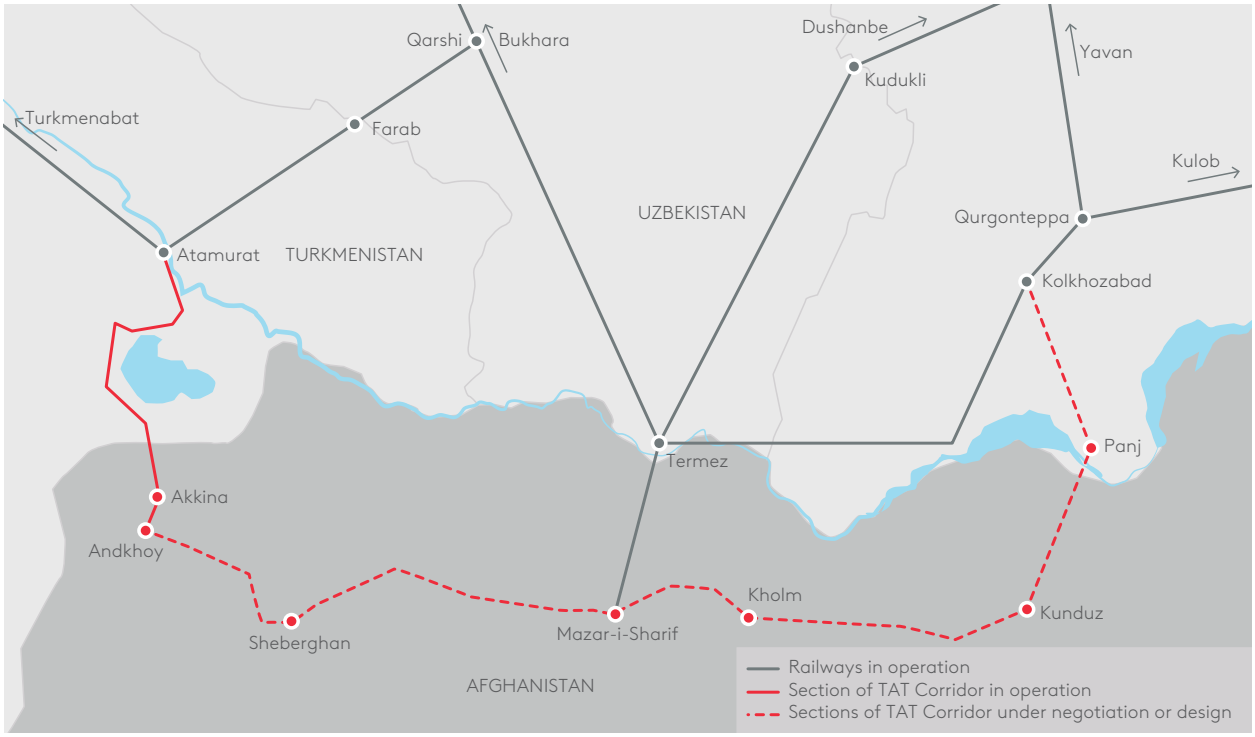
← **Figure 32. Trans-Afghan Corridor (Uzbekistan–Afghanistan–Pakistan) Construction Project**

Source: EDB.

Tajikistan–Afghanistan–Turkmenistan Rail Corridor

The project of the new Tajikistan–Afghanistan–Turkmenistan railway (TAT) should link Dushanbe, Panj, Mazar-i-Sharif, and Ashgabat along the North of Afghanistan. A memorandum on the construction of the railroad was signed on 20 March 2013 in Ashgabat by the Presidents of Turkmenistan, Afghanistan, and Tajikistan (Figure 33).

↓ **Figure 33. TAT Rail Corridor Project**



Source: EDB.

In June 2013, the heads of the three states inaugurated the construction of the new mainline in Atamyrat (Turkmenistan).

The new sections are 650 km long, including 150 km on the territory of Turkmenistan, 450 km in Afghanistan, and 50 km in Tajikistan.

The new railroad will have a gauge of 1,520 mm, taking into account the fact that Tajikistan and Turkmenistan are part of the "1520 Space".

To date, the design and construction has only been completed in Turkmenistan. In 2016, the Atamyrat–Imamnazar (Turkmenistan)–Akina (Afghanistan) section was commissioned, becoming the first phase of the TAT Project.

In September 2022, Tajikistan applied to the Korean International Cooperation Agency (KOICA) to attract South Korean investment for the implementation of the TAT Project. Specialists from the Republic of Korea are expected to carry out preliminary work for the preparation of a feasibility study for the construction of the Jaloliddin–Balkhi–Jayhun–Pyanji–Poyon railroad line, 50 km long, on the territory of Tajikistan, including a 1 km bridge over the Pyanj River.

There is no information on any work being undertaken on the territory of Afghanistan so far.

The implementation of the TAT Project will open a new transit corridor between Central Asia and Afghanistan. The railroad line may become a component of the Lapis Lazuli Corridor connecting Afghanistan, Turkmenistan, the countries of the South Caucasus, and Türkiye.

For Tajikistan, the new corridor will be the shortest direct route for the delivery of goods to Iran, Türkiye, and global markets.

Amur-Yakutsk Mainline Project and its Extension to China

At the BRI Forum in Beijing in 2023, Russia presented a project to create a new rail corridor that would connect Yakutia and, potentially, the port of Magadan with China's rail network (Figure 34).

To create the new corridor, it is necessary to complete the section between Skovorodino Station on the Trans-Siberian Mainline (Northern Eurasian Corridor) and Mohe Station in China, followed by access via the existing railroad to Harbin. The proposed railroad BCP should be located in Jalinda, a locality already hosting an international road BCP of the same name and crossed by a motorway. It will also require the construction of a new railroad bridge over the Amur River.

Starting from Skovorodino Station, the Skovorodino–Tynda–Nizhny Bestyakh rail line is already operational, connecting the BAM and the Trans-Siberian Mainline with Yakutsk — the construction of a railroad bridge over the Lena River is planned to connect Yakutsk with Nizhny Bestyakh Station.

At a later stage, the construction (extension) of a 1,900 km line from Yakutsk to Magadan could be considered.

The project is currently under development. No feasibility study for the construction of the new rail line, the new bridge, or the Russia-China Jalinda/Mohe Railroad BCP had been undertaken as of March 2024.

↓ **Figure 34. Amur–Yakutsk Mainline Project, with Proposed Extensions to Magadan and Prospective New Russia–China Railroad BCP between Skovorodino and Mohe**

Source: EDB.

The new corridor will become the shortest route for exporting Russian coal and other minerals from Yakutia and neighbouring regions to the north-eastern regions of China. If implemented, the project may significantly reduce the burden on the Eastern Range by changing the route of coal transport to the ports of the Far East.

New Russia–Mongolia–China Rail Corridors

The Action Plan to implement the Socio-Economic Development Strategy of the Siberian Federal District to 2035, approved by Executive Order of the Government of the Russian Federation No. 2846-r dated 16 October 2023, includes the preparation of project justification for two new rail corridors:

- the Northern Rail Corridor (Kuragino–Kyzyl–Tsagan Tolgoi–Erdenet–Zamyn-Uud–Erlian–Zhangjiakou–Beijing–Tianjin) and
- the Western Rail Corridor (Kuragino–Kyzyl–Tsagan Tolgoi–Kobdo–Takeshken–Hami District–Changji–Urumqi).

↓ **Figure 35. New Russia–Mongolia–China Rail Corridor Projects**

Source: EDB.

The purpose of both projects is to create new transit rail corridors and reduce the burden on the Eastern Range by diverting coal shipments, to develop transport links between the Siberian regions of the Russian Federation and western regions of China, as well as to stimulate the development of the regions of Russia, Mongolia, and China where the new rail lines are planned.

The main export cargo of the new corridors will be raw materials, primarily coal. Machinery and equipment as well as containerised goods can account for a significant share of imports.

No feasibility studies have yet been undertaken for the projects (except for the Kuragino–Kyzyl section).

There are three main challenges that need to be overcome when implementing projects to create the new Russia–Mongolia–China rail corridors.

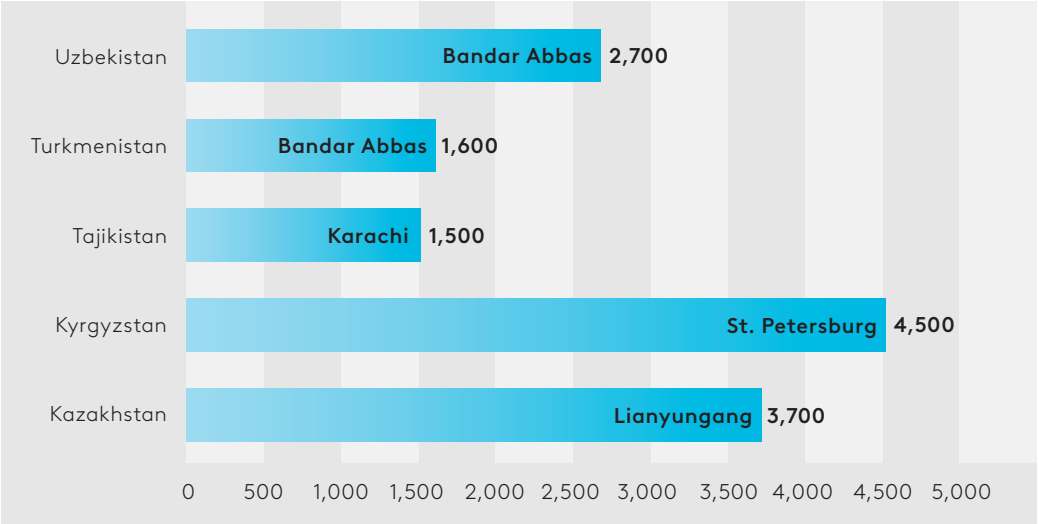
The first challenge is related to the particular terrain layout and the presence of national parks and protected areas, which will complicate the design of the new rail lines.

The second challenge is the need to reach agreement between the three participating countries — Russia, Mongolia, and China, whose territory the corridors will cross. This agreement can be formalised in a trilateral intergovernmental agreement.

The third challenge is to find investment for the implementation of the project. An important task should be the search for private investment — in addition to public funding.

5. CENTRAL ASIA IN THE EURASIAN TRANSPORT NETWORK

The Eurasian Transport Network plays a key role in enhancing the trade, economic, social, and transport connectivity of Central Asia. By participating in the Eurasian Transport Network, the countries of the region address their objectives of facilitating access to seaports and commodity markets. The development of multimodal transport and transit corridors is a solution that has no alternative for the countries of Central Asia, primarily due to the considerable distances to the closest seaports (Figure 36).



← **Figure 36. Commercial Seaports Closest to Central Asian Countries, km**

Source: EDB.

However, the shortest distance does not always guarantee stable freight traffic for the countries of the region. The shortest road route from Dushanbe to the port of Karachi (Pakistan) passes through the territory of Afghanistan and transport along this route is fraught with difficulties, including crossing the border between Afghanistan and Pakistan.

High transport costs due to long distances, estimated by UNCTAD to reach 60% of the value of imported goods (UNCTAD, 2021), limited access to international markets, and weak transport connectivity within the region itself are all constraints to sustainable socio-economic development.

Road transport has been prioritised for development in most Central Asian countries, facilitated by the rapid construction of the region's road network and the opening of new international routes. In particular, road transport plays a crucial role in international freight transport in Kyrgyzstan and Tajikistan. Its role in the foreign trade of Uzbekistan and Turkmenistan is also significant.

Despite the lack of funding in national budgets, the region has made significant progress over the past two decades in building and upgrading transport infrastructure, including the Asian Highway Network (AHN), the CAREC corridors (Figure 37), the TRACECA, and the INSTC, largely relying on loans and grants from international development banks.

↓ **Figure 37. CAREC Rail Corridors in Central Asia**

Source: CAREC.

The key road projects in Kazakhstan are the construction of the TRACECA section of Beyneu–Shalkar–Yrgyz (648 km, 2025–2028) and the Aktobe–Uralsk–Samara road (523 km, 2025–2030). The new EWC ITR passing through Kazakhstan is the first express motorway in Central Asia connecting China, Kazakhstan, and Russia, that fully complies with international standards.

The main projects that have been completed or are ongoing in Kyrgyzstan include the construction of an alternative North-South road, as well as the reconstruction of the Bishkek–Osh, Tyup–Kegen, Bishkek–Naryn–Torugart, Kochkor–Aral, and Osh–Batken–Isfana–Khujand roads. The construction of the Balykchy–Karakol and Tyup–Kegen international roads is underway.

In Tajikistan, the volume of investment in the development of the road network over the past 30 years has exceeded USD 1.8 billion. More than 2,100 km of international and 1,000 km of domestic roads, 31 km of tunnels, and 240 bridges have been reconstructed. The Kulob–Khorog–Kulma–Karokurum (Shohon–Zigar and Shkev–Zigar), Dushanbe–Kurgan-Tube–Kulob, Dushanbe–Chanak, Vahdat–Chirgatol–Saritosh (border with the Kyrgyz Republic), Dushanbe–Tursunzade (border with Uzbekistan), Aini–Penjikent (border with Uzbekistan), Vose–Khovaling, and Khujand–Isfara motorways have all been built and reconstructed. New tunnels Ozodi, Istiklol, Shahriston, and Chormagzak have all opened.

Turkmenistan is upgrading and building a 13,700 km motorway network (Vinokurov et al., 2022a). 118 bridges have begun operation. Construction works are underway on the Turkmenbashi–Ashgabat motorway (564 km). In 2019, the construction of a 600 km section of the Ashgabat–Turkmenabat motorway, part of the AHN (near the border with Uzbekistan) was announced to be completed by 2030. The planned express motorway Turkmenbashi–Garabogaz–border with Kazakhstan, including a bridge over the Kara-Bogaz-Gol Bay (298 km, of which 225 km on the territory of Turkmenistan), should be part of the Eastern road route of the INSTC.

Major projects implemented in Uzbekistan include: the reconstruction of 77 km of the Karshi–Kitab section on the A380 and M39 motorways; expansion of the 75 km road section of CAREC corridor 2 between the cities of Pungan and Manangan, etc. Uzbekistan is considering the option of reconstruction and development of a 920 km motorway from Uzbekistan to China via Kyrgyzstan (Andijan–Osh–Irkeshtam–Kashi). The road has been used for freight traffic since February 2018 and is important for the whole of Central Asia.

However, further effective development of international road transport in Central Asia will largely depend on the elimination of numerous barriers that increase transport times and costs and, therefore, constrain trade, as evidenced by the results of several international studies such as NELTI (IRU, NEA, 2010). Measures to improve the soft infrastructure, including those aimed at the development of international road transport in Central Asia, are discussed in Chapter 9 of this report.

The development of railroads is of strategic importance in all Central Asian countries. The volume of freight traffic within the region, with the exception of Kazakhstan, used to be relatively small. At present, new rail routes and container services are being created, allowing companies to better integrate into global supply chains.

Kazakhstan is building second main tracks on the Dostyk–Moyynty section (836 km, 2022–2025). This will increase capacity fivefold from 12 to 60 pairs of freight trains per day. Construction of the Darbaza–Maktaaral railway line has begun (152.3 km, 2023–2026). The new line will increase the volume of cargo transportation between Kazakhstan and Uzbekistan by 10–14 million tons per year (in 2023, the volume of transportation was 31 million tons). The construction of a railway line bypassing Almaty (73 km, 2023–2025) will reduce the load on the Almaty hub by 40% and increase the speed of traffic by 2 times. Work has begun on the design of a new railway line Ayagoz-Bakhty (272 km, 2024–2027), which will become the third connection between the railway networks of Kazakhstan and China and will significantly increase the transit potential of the country. There are also plans to upgrade the rolling stock, for example by organising its domestic production.

In order to address the problem of fragmentation of Kyrgyzstan's rail network, it is planned to link separate northern and southern sections. This will become possible after the implementation of two projects — the construction of the Balykchi–Kochkor–Kara-Keche–Makmal–Jalal-Abad railway, as well as the construction of the cross-border railway corridor China–Kyrgyzstan–Uzbekistan.

In Tajikistan, the Dushanbe–Kurgan-Tube rail line began operating in 2016, including three tunnels and eight bridges. However, the northern section of the railroad can still only be connected to the central and southern sections through the territory of Uzbekistan. One of the major projects should be the Trans-Afghan Corridor, which will connect Tajikistan, Afghanistan, and Turkmenistan, and open alternative access for Tajikistan to Iran, Türkiye, and the countries of the South Caucasus.

Several important projects have been implemented in Turkmenistan to expand the 5,188 km long rail network. In 2014, the construction of a 700 km line between the town of Serkhetyak

on the border with Kazakhstan and the town Ak-Yayla on the border with the Islamic Republic of Iran was completed. An 85 km section between the town of Kerki (formerly Atamurat) and Ymamnazar village on the border with Afghanistan began operating in 2016. In 2017, the Serhetabat (Turkmenistan)–Torghundi (Afghanistan) rail line, which is 13 km long, was completely reconstructed. Plans include electrification of 2,000 km of mainline sections.

Of the total length of Uzbekistan's railroads of 6,950 km, 1,200 km are new lines built over the past 30 years. The implemented projects include: the Navoiy–Uchquduq–Sulton–Uvays–Tog-Nukus line, 700 km long; the railroad bridge over the Amu Darya River, 681 m long; and the Tashguaz–Boysun–Kumkurgan line, 223 km long. In addition, more than 3,800 km of rail lines have been upgraded and reconstructed, and almost 1,100 km have been electrified (UNESCAP, 2022). Recent projects include the electrification of the new 124 km Pap–Angren rail line, which connects three regions in the Fergana Valley with the rest of the country, bypassing Tajikistan. The development of the rail network has enabled domestic transport to move without transit through the border areas of neighbouring Tajikistan and Turkmenistan. The implementation of the Trans-Afghan Corridor project will provide a link through Afghanistan to the seaports of Karachi and Gwadar in Pakistan, by its connection with other corridor under construction — CPEC

Developing ITCs and increasing transport connectivity, attracting container transit, ensuring sustainable green mobility, and reducing transport costs for economies are priorities of national strategies, as well as bilateral and multilateral cooperation of the Central Asian countries. Efforts are also focused on creating alternative routes that will diversify the capabilities of each of the countries. Kazakhstan is the most active participant in all current international programmes and initiatives to develop the transit potential on the East-West and North-South routes, and is striving to gain the status of a Eurasian transport and logistics hub. Priorities for the implementation of Kazakhstan's transport and transit potential are included in the 2050 Strategy (adopted in 2012) and the State Infrastructure Development Programme "Nurly Zhol" for 2020–2025 (approved in 2019). In accordance with the Comprehensive Plan for the Development of Maritime Infrastructure of the Republic of Kazakhstan for 2024–2028 (approved in April 2024) a container hub based on the ports of Aktau and Kuryk, grain and other terminals will be created, as well as the acquisition of new sea vessels is being explored. The Program for the Development of Railway Transport of the Republic of Kazakhstan until 2029 and the Program for Cargo Containerization and Container Transportation in the Republic of Kazakhstan are being developed.

TITR, which connects Kazakhstan with the countries of the South Caucasus and Türkiye is one of main transport corridors where Kazakhstan is an active participant. The President of the Republic of Kazakhstan K.J. Tokayev emphasised the priorities of developing the TITR and increasing its freight traffic to 10 million tonnes in a meeting with President of Azerbaijan I. Aliyev in March 2024.

Cooperation between Kazakhstan and Uzbekistan has reached a new level. Work is underway on the Turkestan–Shymkent–Tashkent high-speed passenger mainline, the construction of the Darbaza–Maktaaral–Jizzakh railroad line, and the upgrading of BCPs. The countries agreed to start the construction of the Kyzylorda–Uchquduq motorway and railroad from 2025. Kazakhstan is interested in Uzbekistan's participation in the development of the TITR route and the INSTC, which will increase traffic to South Asian markets.

Kyrgyzstan is implementing a national Socio-Economic Development Programme for 2018–2040, which aims to ensure freedom of movement for the population and get the country out of its transport deadlock.

The priorities for the development of Tajikistan's transport sector are defined in the National Socio-Economic Development Programme to 2030. Given its geographical features, Tajikistan

is striving to overcome its physical isolation and diversify its transport routes to foreign markets as much as possible.

The priorities for the development of Turkmenistan's transport sector are included in the National Socio-Economic Development Programme for 2019–2025. Turkmenistan is working toward transforming the country into an East-West and North-South transport and communication hub. Major projects are underway to upgrade existing and build new roads and railroads, and to renovate and expand civil aviation and shipping facilities and resources. Turkmenistan initiated six UN General Assembly Resolutions on sustainable transport between 2014 and 2023.

The Strategy for the Development of the Transport System of the Republic of Uzbekistan to 2035 focuses on ensuring transport connectivity of the country's regions and creating transport corridors that should open access for exported goods to seaports in third countries and connect the country with China, Russia, Afghanistan, Iran, Turkmenistan, Türkiye, and India.

International programmes and initiatives to improve trade and transport connectivity play an important, sometimes strategically essential role in the development of transport, trade, and economic cooperation in Central Asia. These programmes include:

- The CAREC Programme, which is developing six regional transport corridors and has invested more than USD 31.5 billion in transport systems, trade, and transport connectivity;
- The UN SPECA Programme, launched in the late 1990s on the initiative of Kazakhstan and with the participation of the UNECE and UNESCAP;
- The Belt and Road Initiative, a large-scale project of transport, trade, and economic connectivity implemented by China.

Support for the development of transport corridors and routes in the Central Asian countries is provided by many international organisations, including UNECE and UNESCAP, UNCTAD, UN OHRLLS, ECO, the Eurasian Economic Commission (EEC), IGC TRACECA, OSJD, IRU, as well as by MDBs, including the World Bank, ADB, IsDB, EBRD, EDB, etc.

Central Asia lies at the crossroads of major land routes, historically linking East and West, North and South, and currently forming the backbone of the Eurasian Transport Network.

The distinct feature of the Eurasian Transport Network is the ability to connect the ITCs passing through Central Asia, creating multivariant logistics opportunities for the countries of the region. In particular, the INSTC is interfaced in Central Asia with the TRACECA, the TITR, the Lapis Lazuli Corridor, etc. This creates opportunities to exploit the advantages and benefits of the intersection of transport, logistics, and transit (Vinokurov et al., 2022b).

In parallel with the development of transport infrastructure, the countries of the region should make significant efforts to optimise the "soft" (intangible) infrastructure — harmonising transport regulations and simplifying border crossing procedures (e.g., customs transit and border control), as well as promoting the digital transformation of transport and transit.

6. DEVELOPMENT OF INTERNATIONAL TRANSPORT CORRIDORS AND ROUTES IN THE EURASIAN ECONOMIC UNION

Creation and development of Eurasian transport corridors, realisation and development of transit potential within the EAEU, coordination of transport infrastructure development, and creation of logistics centres and transport organisations ensuring optimisation of transport processes are the main priorities of the coordinated (harmonised) transport policy pursued in the EAEU in accordance with Article 86 of the Treaty on the Eurasian Economic Union dated 29 May 2014.

Transport infrastructure development is coordinated within the framework of the Focal Points and Implementation Stages of the Coordinated (Harmonised) Transport Policy of the EAEU Member Countries; the Strategic Guidelines for the Development of the Eurasian Economic Integration to 2025; the Action Plan (Roadmap) for the Execution of the Focal Points and Implementation Stages of the Coordinated (Harmonised) Transport Policy of the EAEU Member Countries; the Executive Order of the Eurasian Intergovernmental Council (EIGC) on the List of Priority Transport Infrastructure Integration Projects of the EAEU Member Countries; the Executive Order of the EEC Board on approval of the List of Eurasian Transport Corridors and Routes; the Recommendations of the EEC Board on common approaches to digital logistics in the EAEU; the Recommendations of the EEC Board on the development of transport and logistics hubs within the EAEU; and other policy documents adopted within the framework of the EEC, which is the permanent regulatory body of the EAEU.

In 2023, the heads of state of the EAEU countries signed the Eurasian Economic Path Declaration on further development of economic processes within the EAEU to 2030 and for the period up to 2045. In accordance with the document, the key area of action for the coming period should be the creation of a common transport and logistics space, including the coordination of the efforts of the countries to develop jointly transport, logistics, and digital infrastructure of international transport corridors in order to increase the transit of goods, including the creation of backbone transport hubs and logistics centres, as well as expansion of the throughput capacity of existing routes.

By its Executive Order No. 179 dated 5 December 2023, the EEC Board approved the Comprehensive Plan for Developing Eurasian Transport Corridors. The document contains a list of 10 practical measures aimed at the development of the Eurasian transport corridors of the EAEU, which was approved by Executive Order of the EEC Board No. 175 dated 26 October 2021.

The list groups international transport corridors and routes into the following categories (Figure 38):

- Single-modal rail routes (five routes);
- Eurasian multimodal route: border of the People's Republic of China–Altynkol–Almaty-1–Lugovaya–Arys-1–Sekseul–Shalkar–Beyneu–Aktau/Kuryk Seaport, then by ship (ferry) to the seaport of Makhachkala and further to the seaport of Novorossiysk (multimodal route

↓ Figure 38. Eurasian Transport Corridors in the EAEU

through the seaports of Aktau, Kuryk, Makhachkala and Novorossiysk) with a road branch Vladikavkaz–border of Georgia (in the direction of the border of the Republic of Armenia) and further to Yerevan; and

- Key international motorways in the EAEU member states.

↓ **Table 27. Comprehensive Plan for Developing Eurasian Transport Corridors of the EAEU**

Activity	Implementation time-frame
1. Definition of targets (indicators) for the development of Eurasian transport corridors (routes).	2024–2025
2. Preparation of Eurasian transport corridor (route) data sheets, including the format of the Eurasian transport corridor (route) data sheet, as well as the list of information required for the data sheet.	2024–2025
3. Drafting requirements for Eurasian transport corridors (routes).	2024–2025
4. Identification of measures for the development of certain sections of Eurasian transport corridors (routes), identification and elimination of bottlenecks (as proposed by member states).	2023–2024
5. Review of the outcomes of measures implemented by the member states to develop rail, road, and port infrastructure included in the Eurasian transport corridors (routes).	Annually
6. Review of the implementation of priority transport infrastructure integration projects of the member states envisaged by EIGC Executive Order No. 19 dated 26 August 2022.	Annually
7. Review of the best international practices in the use of new technologies for the development of international transport corridors (routes), elaboration of positions of the member states on their use for the development of Eurasian transport corridors (routes).	Annually
8. Drafting of proposals for the development and improved efficiency of the Eurasian transport corridors (routes), including through the introduction of digital solutions and services of the ecosystem of digital transport corridors of the EAEU.	Annually
9. Preparation of a map of Eurasian transport corridors (routes).	2023
10. Preparation of information on the implementation of this Comprehensive Plan as part of the Report on the creation and development of transport infrastructure in the member states on the East–West and North–South routes, including in connection with China's Belt and Road Initiative, envisaged by Clause 7.4.1 of the Action Plan for the Implementation of the Strategic Guidelines for the Development of Eurasian Economic Integration to 2025, approved by Executive Order No. 4 of the Council of the Eurasian Economic Commission dated 5 April 2021.	Annually

Source: Eurasian Economic Commission.

The List of Priority Transport Infrastructure Projects in the EAEU countries was approved at the meeting of the EIGC held in Cholpon-Ata (Kyrgyzstan, 25–26 August 2022).

The List includes projects from all countries of the EAEU[16]. For example, the North–South Road Corridor Programme (Phase 4) from Armenia and the reconstruction of the M-1/E30 motorway Brest (Kozlovichi)–Minsk–border of the Russian Federation (Redki) from Belarus. From Kazakhstan, the List includes the reconstruction of Kazakhstan's sections of the M–32 motorway, which is part of the EWC ITR. Kyrgyzstan proposed a project for the electrification of the Lugovaya–Balykchy railroad section to be added to the List. Construction and upgrading of Russian sections of motorways within the EWC ITR is included in the document from the Russian Federation.

[16] EAEU Countries Approbated Transport Infrastructure Projects. EEC. https://eec.eaeunion.org/en/news/strany-eaes-soglasovali-infrastrukturnye-proekty-v-sfere-transporta/

Initially, the List contained seven projects of the EAEU countries at different stages of implementation. They are all aimed at developing Eurasian transport corridors and routes, transit potential and transport infrastructure that is part of the international East–West and North–South transport corridors, including in conjunction with China's Belt and Road Initiative. In accordance with the EIGC Executive Order dated 2 February 2024, the List of Priority Transport Infrastructure Projects of the EAEU Member Countries is expanded.

In particular, it is planned to modernize the existing railway infrastructure in Kazakhstan on the Orsk–Kandyagash–Makat–Beyneu–Bolashak, Iletsk-1–Aktobe, and Chelyabinsk–Tobol–Nikeltau sections, as well as the Aksarayskaya–Makat and Shalkar–Beyneu–Mangystau INSTC sections. The List also includes a project for the construction of the Darbaza–Maktaaral railroad line and second tracks on the Kazaly–Arys section, which is part of the Russia–Central Asian Countries corridor. New projects proposed by the Kyrgyz Republic include the Balykchy–Kochkor–Kara-Keche–Makmal–Jalal-Abad Railroad Construction Project and the Bishkek Northern Bypass Road Reconstruction Project.

The Eurasian Economic Commission is working to prepare and update the List of transport infrastructure bottlenecks (limitations) within the territories of the EAEU member states on the East–West and North–South routes.

Much of the EEC's work focuses on the digital transformation of transport and transport corridors.

By its Executive Order No. 12 dated 8 June 2023, the EIGC adopted the Action Plan for the Development of Electronic Document Management at Sea BCPs of the EAEU Member States for 2023–2025. The purpose of such actions is complete transition to electronic document management and the use of digital technologies at sea BCPs of the member states, ensuring the unification of data within the framework of electronic document management (EEC, 2024).

By its Executive Order No. 17 dated 20 August 2021, the EIGC approved the Priority Action Plan for Digital Transformation of Rail Freight Transport in the interests of developing trade and economic cooperation between the EAEU and the PRC. The document was developed in cooperation with the rail carriers of the EAEU member states and envisages the transition to using integrated electronic technology for rail freight transport in bilateral and transit freight traffic between the countries, including the transition to legally valid electronic document management for shipping and forwarding documents.

As part of the implementation of Resolution No. 12 adopted on 11 October 2017 by the Supreme Eurasian Economic Council On Guidelines for the Implementation of the EAEU Digital Agenda to 2025, the following documents were approved by the EAEU bodies:

- EIGC Executive Order No. 4 dated 31 January 2020 On the Formation of Digital Transport Corridors of the Eurasian Economic Union with an Action Plan for the Formation of the EAEU Ecosystem of Digital Transport Corridors;

- Executive Order of the EEC Council No. 29 dated 23 November 2020 On the List of Services and Digital Infrastructure to be Implemented to Form the EAEU Ecosystem of Digital Transport Corridors; and

- Resolution of the Council of the Commission No. 87 dated 14 September 2021 On Implementation of the Creation of the Information and Communication Showcase of National Services of the EAEU Ecosystem of Digital Transport Corridors Project (the Showcase Project).

The Showcase Project was adopted for implementation in late 2021. It should initiate the formation of an entire ecosystem of EAEU digital transport corridors. Prototypes should be created and tested for the services and digital infrastructure proposed for implementation in the below list. The services developed under the Showcase Project are expected to include:

- a queue reservation service at a road vehicle BCP of a member state (if there is an electronic queue system at the checkpoint);
- a service for the use of electronic transport (shipping) and/or forwarding documents for rail freight transport;
- a service for the use of electronic international consignment notes (for road transport);
- a service for the use of electronic permits for the international road transport of oversized and heavy loads, as well as the control of such transport, including weight and size control; and
- a service for the use of electronic navigation seals.

As part of the transition to legally valid electronic documents in international freight transport by road, the Russian Federation and the Republic of Belarus implemented a pilot project in 2022–2023 to test the use of the electronic international consignment note (e-CMR) in the format approved by the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT). The e-CRM was developed in accordance with the Additional Protocol to the Convention on the Contract for the International Carriage of Goods by Road. The results of the pilot project confirmed the technical and practical importance of international road transport using e-CMR within the EAEU.

The Agreement on the use of navigation seals for monitoring transport within the EAEU was signed by the heads of the EAEU member states on 19 April 2022. The Agreement establishes the legal framework for the use of a new high-tech tool — navigation seals — within the EAEU to monitor the movement of vehicles, freight transport, and transit.

The use of navigation seals facilitates online monitoring of the vehicle over a long distance and records any illegal activity with the goods in the sealed load compartment. It ensures the transparency of transportation.

The agreement aims to minimise state control measures in the transport of goods (transit, export and bilateral trade) and to ensure their legal turnover on the territory of the EAEU.

The Agreement envisages the phased introduction of tracking, taking into account the categories of goods and modes of transport used for freight transport. This approach will ensure that transport operators and state bodies gradually adjust to the new working conditions in line with modern requirements.

The scope of the Agreement applies exclusively to transport across the territories of two or more EAEU countries (EEC, 2024).

7. BOTTLENECKS AND MISSING LINKS OF THE EURASIAN TRANSPORT NETWORK

In line with the UNECE methodology, the concepts of "bottlenecks" and "missing links" are used to assess the prospects for the development of transport infrastructure.

The term "bottleneck" is in common use in discussing our day-to-day experience of using transport networks. According to the Oxford English Dictionary, it is: a narrow entrance to or stretch in a road, comparable to the neck of a bottle in shape; a narrow or confined space where traffic may become congested; or anything obstructing an even flow of production or impeding activity.

The term "missing link" defines a place where the deviation from a straight route is a substantial proportion and/or where the traffic is heavy. It is necessary to add a new link to allow a direct connection to replace an indirect one.

UNECE suggests the following criterion for assessing missing links: "a situation in which the quality of service has extreme low values due to the fact that no direct link exists between two points" (UNECE, 2009).

With regard to the Eurasian Transport Network, notable examples of bottlenecks are the Eastern Range on the Northern Eurasian Corridor and the section of the Akhalkalaki–Kars rail line between Georgia and Türkiye, which is part of the TITR and the BTK rail route. An example of a "missing link" is the Rasht–Astara section on the Western route of the INSTC.

The terms "bottleneck" and "missing link" facilitate the process of discussing national and international transport policy and decision-making in the field of investment in transport infrastructure development.

It is also important to note that the growth of passenger and freight traffic along certain transport corridors or routes that are part of the Eurasian Transport Network may lead to new bottlenecks, even if there are no delays for vehicles, passengers, and goods at present and with current traffic flows.

Missing links can include both mainline transport infrastructure facilities and auxiliary infrastructure serving the transport process. In particular, the lack of high-quality warehouse infrastructure in the Eurasian countries is a bottleneck for the development of accelerated freight transport within e-commerce logistics chains. The same could be said of the lack of modern transport and logistics centres along the border routes linking Russia and China. Most of these centres in the border areas on the Russian side are overloaded, which means that not all operations are available for processing international shipments[17]. The shortage of warehouses, including "cold" ones, hampers agrologistics.

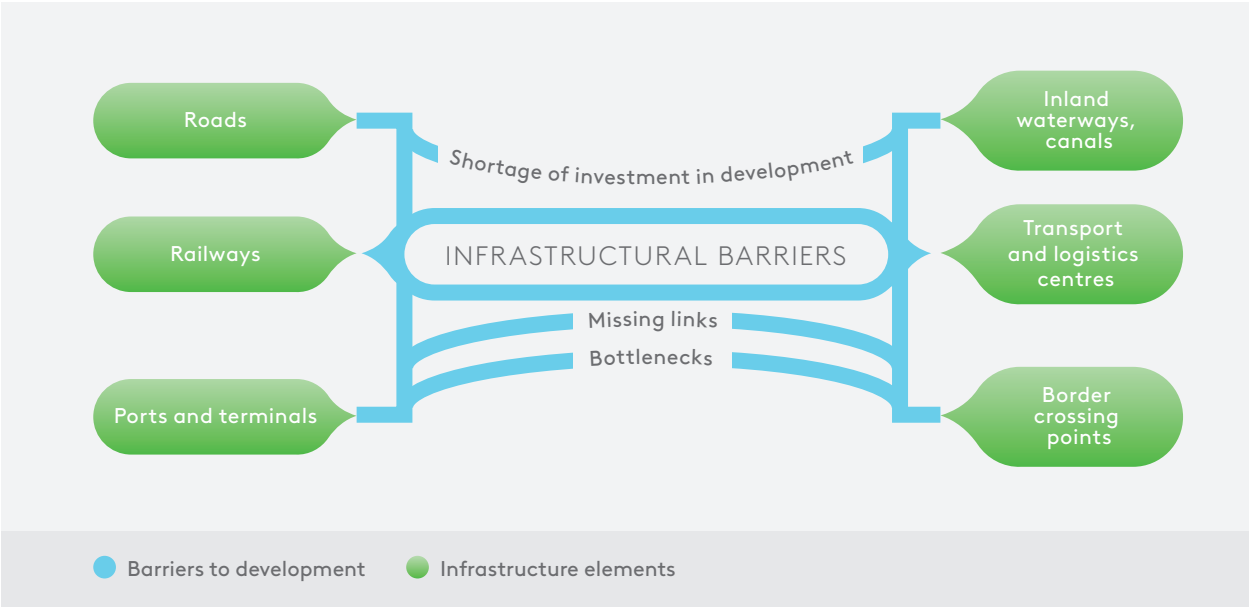
This section offers an overview of the key bottlenecks in the Eurasian Transport Network that constrain the development of international trade and transport.

[17] Kitayskim tovaram tyazhelo skladyvat'sya (It's difficult to store Chinese goods), *Kommersant*, 18 January 2024. https://www.kommersant.ru/doc/6455421.

This review identifies where investment by national governments, MDBs and transport and logistics companies should be focused. As investment is scarce, the problems caused by infrastructure bottlenecks and missing links will only mount.

In other words, bottlenecks and missing links become infrastructure barriers, the height of which increases transport costs and in some cases makes the use of certain routes, corridors or modes of transport within the Eurasian Transport Network unprofitable (Figure 39).

↓ **Figure 39. Transport and Auxiliary Infrastructure Facilities where Bottlenecks and Missing Links Form Infrastructure Barriers to Development of the Eurasian Transport Network**



Source: EDB.

One of the main infrastructure barriers is break of gauge at railroad BCPs. There are eight different railroad systems operating on the Eurasian continent. The rail routes included in the Eurasian Transport Network have different gauge widths — wide (1,520, 1,676 mm), standard (1,435 mm), and narrow (1,000 mm, etc.). In international freight transport, break of gauge leads to goods transshipment, which requires time and appropriate infrastructure (Figure 40).

Other key bottlenecks of the Eurasian Transport Network are summarised below:

Northern Eurasian Corridor

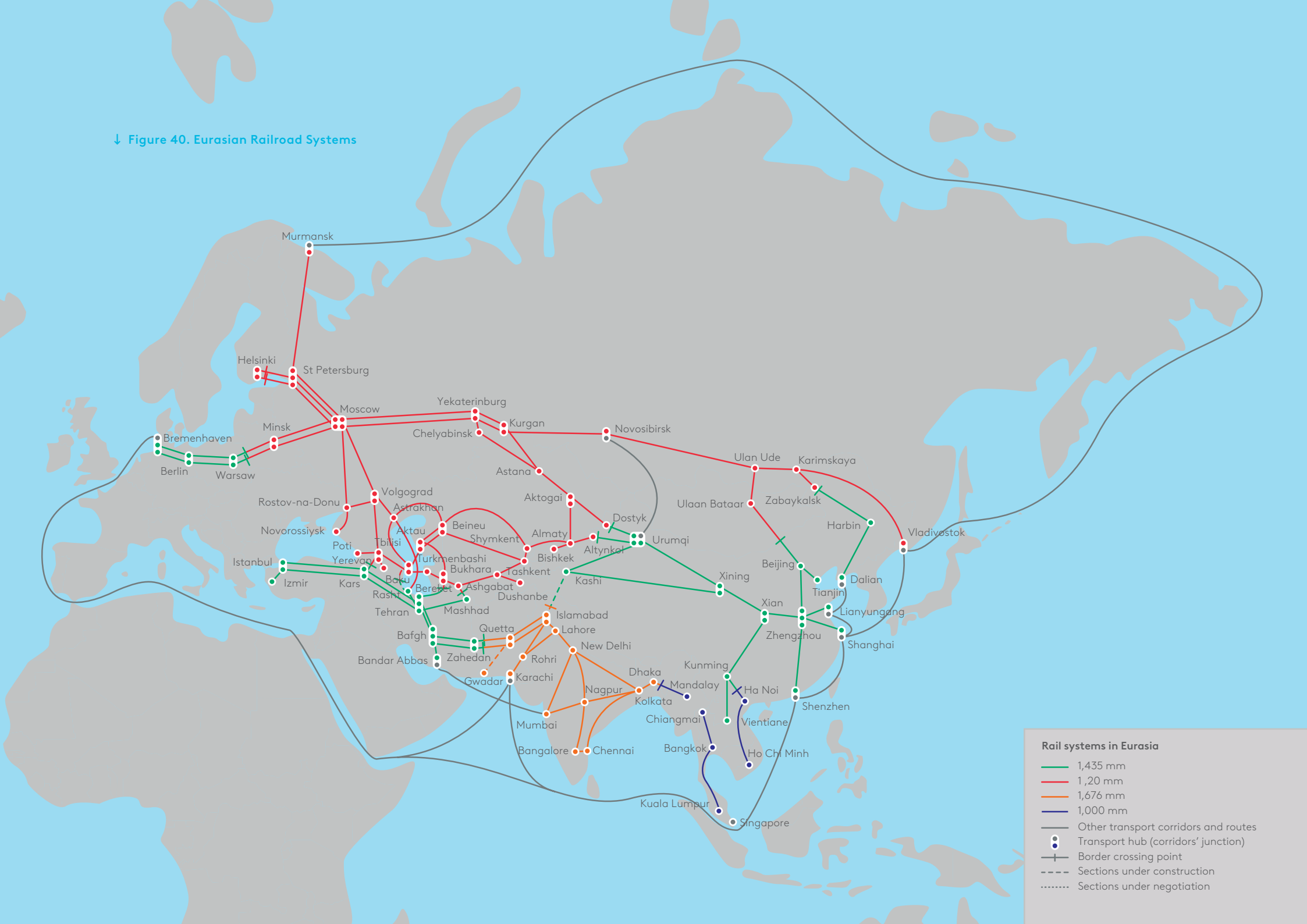
The strong growth of the APR economies in the 21st century, especially China, has led to a sharp increase in demand for power generating, coking, and other types of coal, resulting in a rapid increase in its production in Russia and exports to international markets.

Between 2003 and 2023, the volume of coal transported by rail to ports in the Far East increased fivefold (from 20 to 100 million tonnes), while the throughput capacity of the feeder mainlines — the BAM and the Trans-Siberian Mainline — did not increase as rapidly.

The BAM is different to the Trans-Siberian Mainline, which is double-track and electrified. The total length of the BAM mainline from Taishet of the Irkutsk Region to the port of Sovetskaya Gavan is 4,300 km, including:

- an electrified double-track section from Taishet to Zvezdny Station (774 km);

↓ Figure 40. Eurasian Railroad Systems



- an electrified single–track section from Zvezdny to Taksimo (655 km); and
- the remaining two-thirds of the total length of the mainline consists of single-track diesel-powered sections.

As freight traffic increases, there is significant competition for regular services, not only on the BAM, but also on the parallel Trans-Siberian Mainline heading for the ports of the Far East. In 2022, the situation deteriorated dramatically due to the redirection of all export-import logistics to the East.

The lack of spare throughput capacity in the context of increasing coal traffic has become a deterrent to other goods, above all high-margin container traffic.

Box 5. Baikal-Amur Mainline: Effects of Major Transport Infrastructure Development Projects on Total Railroad Throughput Capacity

The commissioning of the 15.3 km long Severomuysky Tunnel in December 2003 significantly reduced train journey times and increased the throughput capacity of the BAM by shifting freight traffic from the originally operated bypass section with 40 m gradients over 1 km of track, which could only be used by freight trains with a limited number of wagons, while passenger traffic was prohibited.

A significant increase in the BAM's throughput capacity was achieved through the construction of the Kuznetsovsky Tunnel (3.9 km), which was opened to traffic in 2012, removing the existing weight restrictions for freight trains and increasing freight transport capacity to 22 million tonnes per year.

In July 2021, an even more ambitious 6.68 km Baikal Tunnel was opened on the BAM. It was built to new standards for seismic areas on the Delbichinda–Daban line on the boundary between the Irkutsk Region and Buryatia. The construction of the new tunnel increased the carrying capacity of this mainline section to 35 million tonnes per year.

The missing links of the Northern Eurasian Corridor include the relatively small number of BCPs on the border between Russia and China, and their insufficient throughput capacity and logistics facilities (temporary storage warehouses, equipped platforms for transshipment, etc.). This limits the freight traffic and in some cases leads to the need for transshipment at the Far East seaports, which adds to the burden on the Eastern Range.

An important step towards increasing the number of railroad BCPs on the Russia–China border was the opening of new cross-border bridges over the Amur River and two BCPs — the Nizhneleninskoye–Tongjiang Railroad BCP in 2022 and the Kanikurgan–Heihe Road BCP in 2021.

The bottlenecks of the Northern Eurasian Corridor include the insufficiently advanced technological infrastructure of many international road BCPs on the border between Russia and China, as well as access infrastructure to the international road BCPs, including logistics infrastructure (dry ports, container terminals, temporary storage warehouses, transshipment points, etc.).

Barrier Removal Mechanism	Upgrading of the Eastern Range involves a package of measures to build second main tracks, duplicate tunnels, and bridges, as well as the electrification of sections. Major infrastructure projects, such as the construction of the duplicate Severomuysky, Kodarsky, and Kuznetsovsky tunnels and a new bridge over the Amur River, are to be implemented using EPCF contracts — a relatively new method of financing for the transport industry. The main measures include the development and upgrading of existing railroad and road BCPs between Russia and China with appropriate access and auxiliary infrastructure, among which are temporary storage warehouses and transshipment facilities. New BCPs, as well as sections of roads and railroads with bridge crossings over the Amur River, can be constructed on the basis of cross-border PPP principles.

Central Eurasian Corridor

The container transit transport along the Central Eurasian Corridor projected under the targeted scenario could reach 1.5 million TEU by 2030. In addition, the Government of Kazakhstan has set a target to increase the traffic on the TITR, which uses the same Dostyk and Altynkol BCPs as the Central Eurasian Corridor, to 0.5 million TEU.

Under these conditions, the throughput capacity reserve at the Dostyk and Altynkol Railroad BCPs, including access lines, transshipment platforms, warehouses, etc., will be close to fully utilised. This will restrain not only container transit, but also trade between Kazakhstan and China. Kazakhstan and China are implementing a project to upgrade the Dostyk/Alashankou Railroad BCP.

Barrier Removal Mechanism	Construction of a third railroad BCP — Bakhty/Chuguchak — on the Kazakhstan–China border and the Ayagoz–Bakhty railroad line to link the new BCP with Kazakhstan's railroad network

TRACECA and TITR

Bottlenecks along the TRACECA include:

- Insufficient equipment of some railroad sections in Central Asia and the South Caucasus:
  - The Marabda–Akhalkalaki railroad section, due to a large number of steep gradients and small radius curves, significantly limits (up to 4–5 pairs of trains per day) the volume of freight traffic between Central Asia, Azerbaijan, and Georgia on the one hand and Türkiye on the other. Comprehensive reconstruction of this line may increase its throughput capacity by a factor of 5 — from the current 2 million tonnes to 10 million tonnes, which is one of the targets of the TITR's development;
  - The single-track diesel-powered Turkmenabat–Ashgabat–Turkmenbashi rail line. Its throughput capacity in terms of container traffic is limited to 31,000 TEU, despite the fact that the container terminals of the new commercial seaport of Turkmenbashi are capable of processing up to 250,000 TEU. The construction of second main tracks and electrification are required;

  - The single-track Shalkar–Beyneu–Aktau railroad line used for freight transport, including containers, along the TITR (the capacity of the Shalkar–Beyneu section is 6 pairs of trains per day);
- The capacity and equipment of both rail and road BCPs;
- The handling capacity of Kazakhstan's ports of Aktau and Kuryk will limit container transit in the event of a multi-fold increase in its volume, which is envisaged in the plans of the Government of the Republic of Kazakhstan;
- The number and specialisation of merchant vessels in the Caspian Sea for freight transport (containers, rolling stock, liquid cargo) between the ports of Aktau and Kuryk on the one hand and the port of Alat on the other;
- Lack of modern wagons and locomotives;
- A shortage of specialised refrigerated containers, which hinders the development of modern services for the delivery of fresh fruit and vegetables;
- A shortage of fitting platforms;
- Infrastructure and technology lagging markedly behind best practices in other transport corridors in terms of journey times and border crossing times;
- Lack of developed auxiliary infrastructure and roadside services (rest areas, motels, petrol stations, guarded parking areas for overnight truck stops), resulting in higher costs for road carriers and poorer road safety;
- Insufficient development of container terminals, logistics infrastructure for processing, consolidation and deconsolidation of goods along the corridor routes, especially at the junctions of the TRACECA with other latitudinal corridors and international routes.

Barrier Removal Mechanism	Comprehensive reconstruction of the Marabda–Tbilisi railroad section; Construction of second tracks and electrification of the Turkmenabat–Ashgabat–Turkmenbashi line; Development of Aktau and Kuryk seaports, while increasing the capacity of container terminals; Addition of modern universal vessels, ferry vessels, and Ro-Ro vessels to the fleet; Replenishment of the fleet of 20- and 40-foot refrigerated containers; Expansion of the fleet of mainline freight electric locomotives, diesel locomotives, and wagons, including modern railroad fitting platforms; Construction of transport and logistics centres and cold warehouses to develop food logistics; Development of BCPs with appropriate access and auxiliary infrastructure, including temporary storage and transshipment warehouses; Implementation of a programme of measures to develop roadside infrastructure (rest areas, motels, safe parking areas for trucks, etc.) on major international motorways.

INSTC

The main missing links and bottlenecks are:

- for the Western route — a lack of connection of the Rasht–Astara line in Iran;
- for the Trans-Caspian route — a lack of linear multimodal container service, a shortage of container ships, and insufficient depths of the VCSSC;
- for the Eastern route — the quality of road infrastructure and the lack of high-speed road connections along the Eastern shore of the Caspian Sea, insufficient capacity of railroad BCPs between Turkmenistan and Iran.

The key bottlenecks along the corridor that will prevent a volume of 30–35 million tonnes of freight traffic per year from being achieved include:

1. the single-track non-electrified Osmanly–Astara section, with a length of 183 km and a throughput capacity of 3 million tonnes (Azerbaijan). Construction of a second main track and electrification are required[18].

2. The Yalama–Balajary section with a length of 188 km and a throughput capacity of up to 7 million tonnes (Azerbaijan). The deterioration of the tracks makes it impossible to increase freight traffic.

3. The Astara Iran terminal (Iran), with a handling capacity of less than 1 million tonnes. Reconstruction and development, bringing the range and volume of operations into line with international best practices for railroad BCPs, are required.

4. a 165 km long single-track non-electrified section of the Rasht–Qazvin railroad line crossing mountainous areas (Iran). Insufficient number of crossing loops prevents an increase in traffic.

5. the single-track non-electrified section Garmsar–Inche Burun with a length of 495 km and a throughput capacity of 2.5 million tonnes (Iran). The section runs in the mountains and has a significant number (about 100) of tunnels. It is characterised by insufficient trackage and length of receiving-and-departure tracks at stations, as well as an outdated train traffic control system.

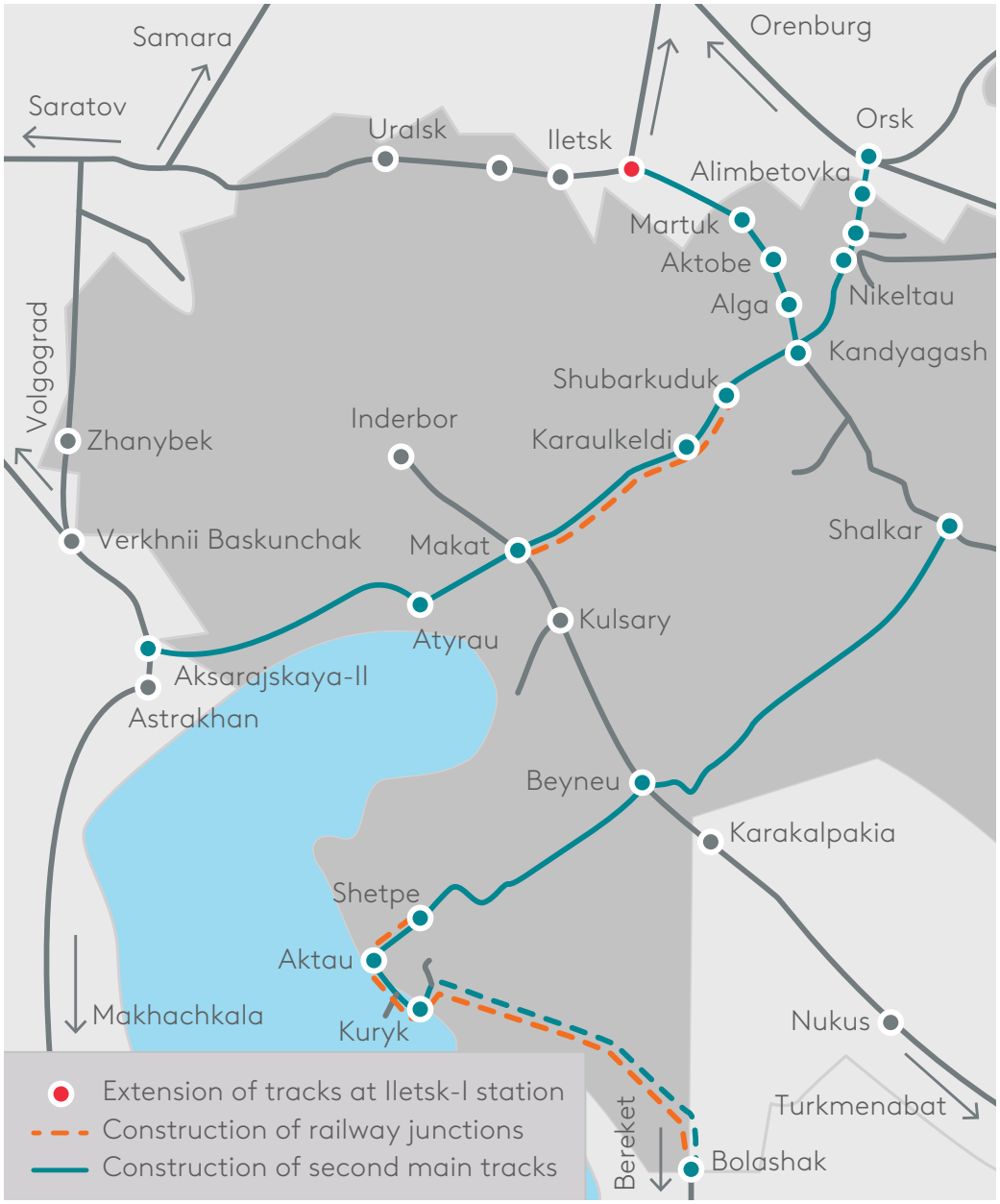
6. the sections Orsk–Kandyagash, with a throughput capacity of seven pairs of trains per day, Makat–Sagyz (eight pairs), Beyneu–Mangystau (nine pairs), Shalkar–Beyneu (six pairs), and Mangystau–Uzen (seven pairs) (Kazakhstan). The construction of second main tracks, sidetracks and lengthening of tracks at Iletsk-1 Station is required (Figure 41)[19].

7. Derbent Railroad BCP (Russia). The existing throughput capacity is 7.9 million tonnes. The development of the border station, 37 km away from the border, is hindered by its location within a densely-built city area.

8. Sarakhs and Akyaila border stations (Turkmenistan), with a handling capacity of 7–10 and 4 million tonnes, respectively. There is a need for the introduction of modern technologies for handling goods and rearranging containers.

In addition, the implementation of the Ashgabat–Mary (Turkmenistan) Railroad Electrification Project can contribute to further development of transport and logistics routes along the INSTC.

[18] Pokoleycheskiy konflikt (Gauge Conflict). *Kommersant*, 23 April 2024. https://www.kommersant.ru/doc/6663745?from=glavnoe_3.
[19] Presentation of National Company Kazakhstan Temir Zholy JSC at the Fourth Railway Congress (15 December 2023).



← **Figure 41. Bottlenecks on Kazakhstan's Sections of the INSTC and Infrastructure Measures to Remove them**

Source: Presentation of National Company Kazakhstan Temir Zholy JSC at the Fourth Railway Congress (15 December 2023).

Barrier Removal Mechanism

Comprehensive reconstruction and modernisation of the Yalama–Balajary and Osmanly–Astara lines on the Western route of the INSTC with construction of second main tracks, transition to alternating current traction, and increasing throughput capacity to 15 million tonnes per year.

Construction and modernisation of the Astara Iran, Sarakhs, and Akyaila Railroad BCPs to reach a capacity of 15 million tonnes per year.

Construction of the Rasht–Astara 1,435 mm rail section with a capacity of up to 10 million tonnes per year.

Reconstruction of the Rasht–Qazvin section with the construction of double-track parts and increasing the throughput capacity to 7 million tonnes per year.

Reconstruction of the Garmsar–Inche Burun line, including its electrification, introduction of a modern railway signals and interlocking system, and increasing the line capacity to 10 million tonnes per year.

8. INVESTMENT PROJECTS FOR DEVELOPMENT OF THE EURASIAN TRANSPORT NETWORK

The development of each transport corridor that is part of the Eurasian Transport Network involves the implementation of investment projects aimed at completing missing links and eliminating transport infrastructure bottlenecks that hinder the development of international freight transport and the increase in its volume. In addition to the development of the transport infrastructure itself, projects should be implemented to upgrade rolling stock, as well as transshipment and other equipment — so that it operates as efficiently and safely as possible, offers customers best quality transport and logistics services, and consistently reduces adverse impacts on the environment and climate.

Investment projects for the development of ITC infrastructure are often financed from national budgets or the budgets of large state infrastructure companies. This includes the construction of toll-free public railroads, motor roads, and BCPs. Therefore, these facilities tend to have long payback periods. In parallel, an increasing number of transport corridor infrastructure facilities are being built, reconstructed or upgraded with the involvement of private investors or MDBs.

Given the limited investment opportunities in most Eurasian countries, increasing the number of projects attractive to international development banks and private investors, including those based on PPP principles, should become a priority area for physical infrastructure development. A significant share of Eurasian Transport Network projects are financed exclusively by national budgets or state-owned companies. Only a small number of projects generate cash flow from the operation of facilities — toll roads, bridges, etc. However, several major national and cross-border projects can be implemented on the basis of paying fees for the use of infrastructure. Cross-border PPPs can also be used to implement projects for the construction and operation of cross-border rail lines and motorways, bridges and tunnels.

"Bankable" projects include projects to develop various kinds of auxiliary infrastructure — transport and logistics centres, dry ports, container terminals, etc. A number of Eurasian countries, in particular Türkiye, have gained positive experience in building and upgrading border crossing points. 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. International development banks have an important role to play in the development of transport infrastructure, as their engagement enables projects that would otherwise be impossible for middle-income or lower-middle-income developing countries to undertake.

As part of the work on the formation and development of the Eurasian Transport Network, the EDB has initiated the creation of the Observatory of Transport Projects of the Eurasian Transport Network.

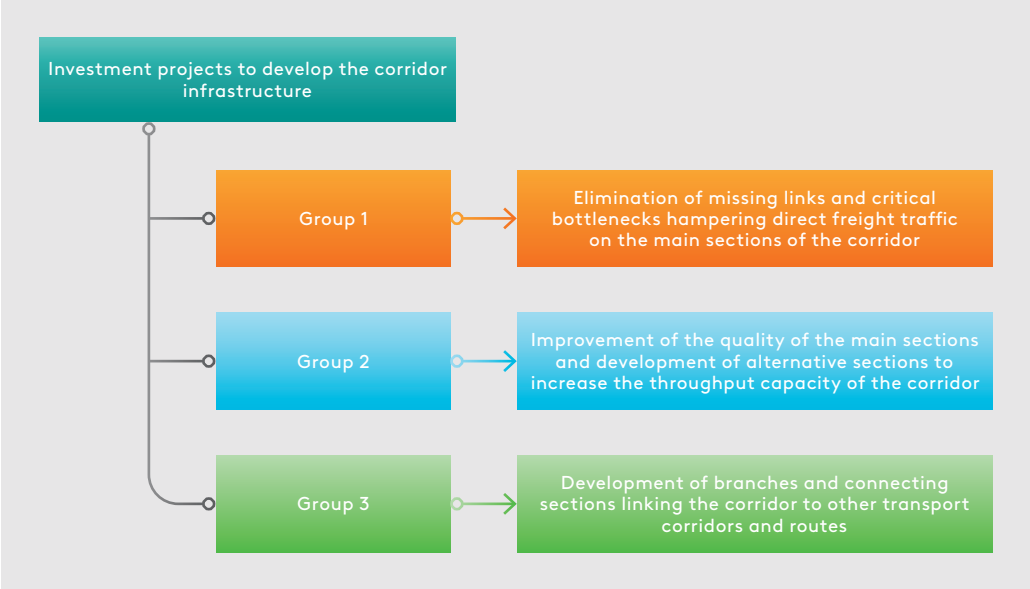
In terms of its methodology, the Observatory of Transport Projects in Eurasia is similar to the observatory created by UNECE for the European region.

To identify the contribution of an investment project to the ITC development, an important step is to prioritise projects (Figure 42).

The **first group** includes the **top priority projects** aimed at eliminating missing links and critical bottlenecks in the transport infrastructure along the main route of the corridor, which are now hampering the development of end-to-end international freight transport and transit.

The **second group** consists of projects aimed at **the improvement of the quality characteristics of infrastructure on the main routes of the corridor and the development** of duplicate (alternative) transport infrastructure elements. The construction, reconstruction or upgrading of alternative sections of road, rail and other infrastructure can free up some of the throughput capacity on the main ITC sections. The outcome of these projects is an increase in vehicle speeds and a reduction in transport times.

The **third group** of projects is the construction, reconstruction, upgrading, and development of junctions and branches to the main ITC routes, ensuring interface with other international transport corridors and routes. Therefore, these projects indirectly contribute to the development of the logistics capabilities of a particular corridor and attract additional freight traffic.



← Figure 42. Classification of Prioritised Investment Projects to Develop the INSTC

Source: EDB.

Key projects and measures to develop the transport infrastructure of corridors and routes included in the Eurasian Transport Network

Northern Eurasian Corridor

According to the project data sheet[20], RZD OJSC is implementing federal project "Development of the Railroad Infrastructure of the Eastern Range", thus ensuring additional freight transport by Russian companies and an increase in the carrying capacity of the Eastern Range mainlines to 180 million tonnes in 2024.

The national Comprehensive Plan for the Upgrading and Development of Mainline Infrastructure to 2024 envisages a four-fold increase in transit container traffic, as well as

[20] Official website of the Ministry of Transport of Russia https://mintrans.gov.ru/documents/8/12716

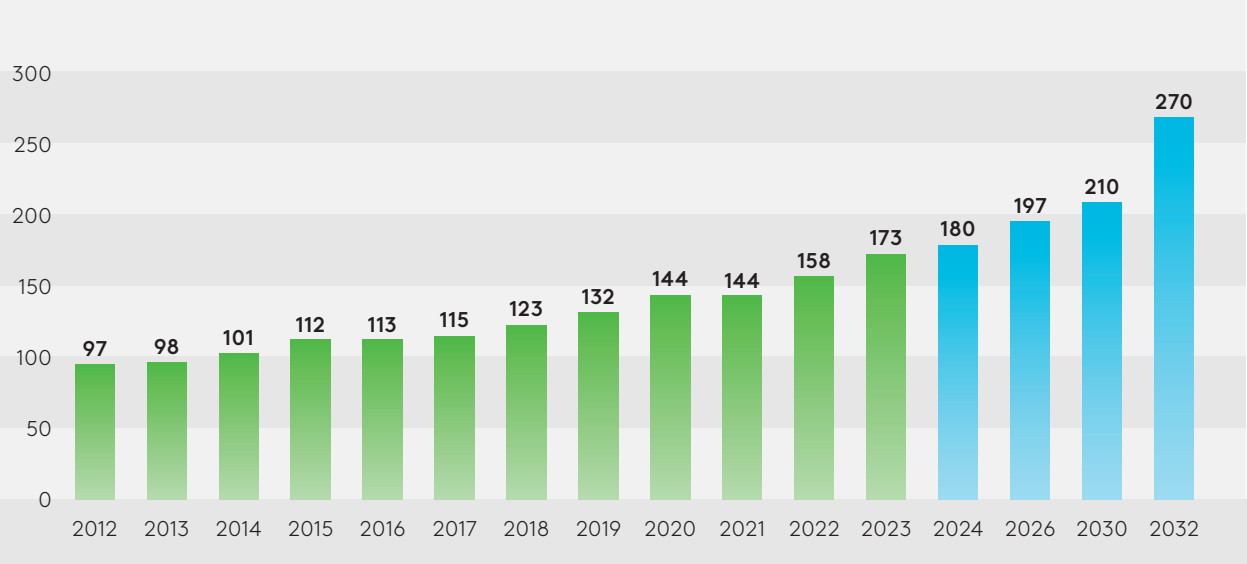
a reduction in the transport time from the Far East to the western border of the Russian Federation to seven days.

The second phase of the project for the development of the Eastern Range is currently underway. The completion of the construction of about 1,700 km of additional main track is planned, including station tracks of more than 300 km, reconstruction of 29 stations, and other works.

In 2023, the targets for the total carrying and throughput capacities of the BAM and the Trans-Siberian Mainline totalling 173 million tonnes per year were achieved.

The second phase of the expansion of the BAM and the Trans-Siberian Mainline, to be completed this year, will be followed by the third phase, which will increase the capacity from 180 million to 210 million tonnes by 2030 (Figure 43) and 255 million tonnes by 2032[21]. The cost of the third phase of the project will be about RUB 2.7 trillion[22].

↓ **Figure 43. Forecasts of Throughput Capacity of the Eastern Range to 2030, million tonnes, end of year[23]**



Source: official RZD website, *Kommersant*.

The parameters of the third phase of the project are based on the objectives of transporting coal from the Republic of Sakha (Yakutia) to the port of Vanino and increasing freight traffic from the central part of the Russian Federation to the east.

In parallel, efforts are underway to reconstruct and upgrade railroad BCPs:

- Zabaikalsk–Manzhouli — the second 1,435 mm main track is under construction on the Zabaikalsk–Manzhouli line (until the end of 2024). The 1,435 mm sorting system is under reconstruction to expand services for perishable, heavy, and bulk cargo. The handling capacity of the transshipment complex will be increased by 45% to 453,000 tonnes per year, while the time of transshipment of wagons with standard types of load will be reduced to 4 hours. The standard handling time for imported goods will be reduced from 48 to 18 hours. The next stage of reconstruction will increase the throughput capacity of Zabaikalsk Station from 18 pairs of trains per day from Russia to China and 24 from China to Russia to 32 pairs in each direction[24].

[21] BAM rasshiryat po polnoy programme (BAM will be extended big time). *Kommersant*, https://www.kommersant.ru/doc/6507967.
[22] Ibidem.
[23] Official website of RZD OJSC, https://cargo.rzd.ru/ru/9787/page/103290?id=19721#main-header.
[24] Sukhoputnyye vorota (The land gate). *Kommersant*, 11 September 2023. https://www.kommersant.ru/doc/6197186.

- Grodekovo–Suifenhe — increasing the throughput and carrying capacity of the section between the stations due to technical re-equipment of Grodekovo-II Yard of Grodekovo Station in 2024 and reconstruction of Sosnovaya Pad Yard of Grodekovo Station in 2025. As a result of the project, throughput capacity of Grodekovo Station will increase by 5.5 million tonnes to 17.7 million tonnes in 2026[25], and the handling capacity of the terminal for container transshipment will rise to 230,000 TEU per year. The Pogranichny BCP will be able to carry out technical operations with trains of a unified weight of 6,300 tonnes and a length of 71 standard wagons, instead of the current standard train length of 42 standard wagons.

- Makhalino–Kamyshovaya–national border with the PRC — development of the rail infrastructure of the section by the end of 2024. Four new tracks have been commissioned on the Makhalino–Kamyshovaya section and the traffic control system at the station has been upgraded.

- Naushki — the reconstruction of the freight yard is underway, including an increase in the number of inspection sites (from six to eleven), while cargo loading and unloading operations during inspection are being optimised. The outcome of the reconstruction should be lower downtime of wagons while waiting for cargo inspection.

Several prospective projects and initiatives to create new railroad BCPs between Russia and China are also being considered.

1. Jalinda–Mohe. This BCP, located in the Amur Region, was closed in 2008. The cargo capacity of the project is estimated at 24 million tonnes per year, and the cost of its implementation is USD 250 million[26]. On the Chinese side, it will be necessary to build a 95 km long Chanyin–Lianyang rail line in Heilongjiang Province. A combined road and rail bridge should also be built. On the Russian side, it is necessary to upgrade the 68 km long inactive section of the track from Skovorodino to Reinovo. It is anticipated that the BCP will be a combined rail/road/water crossing until the bridge is completed. In case private investors are brought on board, the project may be implemented in the format of a cross-border PPP. This project is discussed in more detail in Section 4.8 of this report as part of the new China–Russia meridional route.

2. Blagoveshchensk–Heihe. A key element of the new border crossing project is the construction of a railroad bridge across the Amur River, following the road bridge built as a cross-border PPP (Vinokurov et al., 2023) and commissioned in 2022. In addition to the construction of the main railway infrastructure, it will be necessary to expand the terminal infrastructure in Blagoveshchensk, modernise equipment at the Berezovka Station node, upgrade its terminal, etc.

3. Starotsurukhaituisky (Priargunsky)–Heishantou. The new railroad BCP is to be located in the area of the existing international road BCP bearing the same name. The main aim of the project is to increase the volume of Russian export coal transported to China. The cargo base of the potential railroad BCP is estimated at 45 million tonnes.

Other investment projects for the development of the Northern Eurasian Corridor include:

- reconstruction of the M-1/E30 Brest (Kozlovichi)–Minsk–border of the Russian Federation (Redki) motorway;

[25] Sukhoputnyye vorota (The land gate). *Kommersant*, 11 September 2023. https://www.kommersant.ru/doc/6197186.
[26] Ibidem.

- construction of additional main tracks, development and reconstruction of stations (as part of the development and renovation of railway infrastructure at the approaches to the ports of the North-West Basin), upgrading of power supply facilities;

- development of the railway infrastructure of the Central Transport Hub;

- development of the Perm railway hub with the construction of a bridge crossing;

- construction of the Omsk Northern Bypass toll motorway;

- construction of additional main tracks, upgrading of power supply facilities, and development of stations on certain sections of the corridor.

Central Eurasian Corridor

The most important project for the development of the Central Eurasian Corridor involves the creation of the third railroad BCP — Bakhty/Chuguchak — on the Kazakhstan–China border, the construction of the Ayagoz–Bakhty railroad line, as well as the development of terminal infrastructure at the new railroad BCP. The project is discussed in more detail in Section 4.8 of this report.

In addition, work is planned to construct the Aksaraysky Railroad BCP on the Russia–Kazakhstan section of the national border.

As to international road transport, the development of the EWC ITR will continue. Between 2009 and 2017, the route was completely reconstructed and new four-lane sections were built. Due to the increase in traffic between 2023 and 2030, it is planned to gradually upgrade the 1,363 km section from Kyzylorda to the Russian border (Martuk) to technical category I, with four lanes. The full list of works includes reconstruction of the section from Aktobe to Ulgaisyn (262 km), as well as sections Ulgaisyn–Kyzylorda (960 km) and Aktobe–border with the Russian Federation (101 km). The project is included in the List of Priority Transport Infrastructure Integration Projects of the EAEU Member Countries.

The construction and upgrading of motorway sections included in the EWC ITR will continue on the territory of Russia. In 2023, the main part of the EWC ITR in Russia began operation — the Moscow–Nizhny Novgorod–Kazan motorway, 810 km long. The construction of a 99.3 km bypass around Tolyatti with a bridge over the Volga River is scheduled for completion in 2024. The plan is to build new and reconstruct existing sections of roads between Kazan, Orenburg, and Kazakhstan's border.

As an integral part of the future Meridian ITR on the territory of Belarus, it is planned to reconstruct the M-10 motorway running from the border of the Russian Federation (Selishche) to Gomel and then to Kobrin. In Russia in the future, after 2028, it is planned to build sections from the border with Belarus to Bryansk, Bryansk–Saratov (871 km) and Saratov–border with Kazakhstan. The Meridian ITR Project is included in the List of Priority Transport Infrastructure Integration Projects of the EAEU Member Countries.

TRACECA and TITR

The roadmap for the harmonised removal of bottlenecks and development of the TITR up to 2027 includes the following elements:

- construction of a second rail track on the Dostyk–Moyynty section. It will increase the transit traffic between China and Türkiye/Europe, improve the throughput capacity (by up to five-fold), and increase the transport speed to 1,500 km/day;

- construction of the Almaty rail bypass. The project will ease the burden on the Almaty hub by 30% and reduce transport times to 24 hours;
- construction of the multifunctional sea terminal Sarzha in the port of Kuryk (commissioning is scheduled for 2027);
- construction of berths and an additional ferry complex in the port of Kuryk (2024–2026);
- construction and acquisition of ferries;
- reconstruction and extension of berths, dredging of the water area, renewal of the fleet of transshipment equipment, construction of a container hub in the port of Aktau (2023–2026);
- construction of phase 2 of the Baku Port and increasing the throughput capacity of the dry cargo berth, 2024–2026;
- acquisition/attraction of a fleet of wagons for Azerbaijan Railways (2024);
- completion of the upgrading of Georgian Railways, including the Tbilisi–Marabda–Akhalkalaki–Kartsakhi section (April 2024);
- increasing the handling capacity of the port stations of the ports of Poti and Batumi;
- acquisition/repair and/or attraction of locomotives for Georgian Railways (2024–2025);
- construction of a 400-meter berth and a new terminal complex for containers and general cargo in the port of Poti, with an implementation period of 2 years.

In order to develop the rail and road transport potential of the TRACECA, the following key infrastructure projects need to be implemented:

1. construction of the Darbaza–Maktaaral line, 152 km long. This project will reduce the transit distance between Kazakhstan and other Central Asian countries and increase freight traffic — in 2023, the rail freight traffic along the TRACECA between Kazakhstan and Uzbekistan exceeded 27 million tonnes. As part of the project, a new BCP will be opened on the border between Kazakhstan and Uzbekistan, relieving congestion at the main Saryagash BCP, which is operating at capacity[27];
2. construction of second rail tracks on the Kazaly–Arys section;
3. the Balykchy–Kochkor–Kara-Keche–Makmal–Jalal-Abad railroad project, 405 km long, with construction costs of USD 4.06 billion. The project is implemented in close connection with the construction of a new rail line between China, Kyrgyzstan, and Uzbekistan (discussed in Section 4.8). This project is also included in the List of Priority Transport Infrastructure Integration Projects of the EAEU Member Countries;
4. electrification of the Lugovaya–Balykchy railroad line, 321.5 km long, in Kyrgyzstan;
5. reconstruction of the Bishkek Northern Bypass Road;
6. construction of the Bishkek–Belogorka–Suusamyr Southern Bypass Road.

[27] Stroitel'stvo zheleznodorozhnoy linii Darbaza–Maktaaral startovalo v Turkestanskoy oblasti (Construction of Darbaza–Maktaaral Railroad Line Started in the Turkestan Region). Kazinform International News Agency, 23 November 2023. https://www.inform.kz/ru/kazahstan-i-uzbekistan-svyazhet-novaya-zheleznaya-doroga-2b4960

Another road corridor is the 1,868 km road route Almaty–Karaganda–Astana–Petropavlovsk–border of Russia and then to Kurgan, which is part of the TRACECA in its southern section. This corridor enables transit traffic from Central Asian countries through Kazakhstan to Russia and on to Europe. At the same time, part of the transit comes from China.

The third route is the corridor Astana–Kostanay–border with the Russian Federation and then to Chelyabinsk, 860 km long. This corridor also enables transit traffic from Central Asian countries through Kazakhstan to Russia and on to Europe. Due to the increase in traffic intensity, it is planned to upgrade the section Astana–Kostanay–border with the Russian Federation to Chelyabinsk to category I by 2030.

The fourth corridor is border with the PRC–Maykapshagai–Kalbatau–Semey–Pavlodar–border with the Russian Federation and then to Omsk, 1,116 km long. This corridor is one of the main routes of the eastern region, through which transit traffic passes from China through the territories of Kazakhstan, Russia and on to Europe. At present, reconstruction of the section border with the PRC–Maykapshagai–Kalbatau is in progress.

The fifth corridor is Almaty–Taldykorgan–Ust-Kamenogorsk–Shemonaikha–border with the Russian Federation and then to Barnaul, 1,210 km long. It is also the most popular route for transit from Central Asia and China through Kazakhstan to eastern regions of Russia and the Far East. At present, reconstruction of the Taldykorgan–Ust-Kamenogorsk motorway is in progress.

The sixth corridor is Aktobe–Kandyagash–Makat–Atyrau–border with Russia and then to Astrakhan, 893 km long. This corridor in the western region serves as a transit route for Uzbekistan and Turkmenistan through the territory of Kazakhstan, Russia and on to Europe. Reconstruction is underway along the Aktobe–Kandyagash and Atyrau–Astrakhan sections.

The seventh corridor is Aktobe–Uralsk–Samara, 523 km long, a branch of the corridor connecting Western Europe and Western China, which runs through Uralsk to Samara and further through the city of Brest to Europe. Due to the increase in traffic intensity by 2030, it is planned to upgrade it to category I with four lanes.

INSTC

As part of the work to develop the infrastructure of the western section of the INSTC, Russian Railways continues to implement projects for transition of the section Derbent–Samur (to the national border) to alternating current traction and development of the Derbent Railroad BCP of the North Caucasus Railway. This will reduce the costs of maintaining and operating fixed assets, servicing and repairing locomotives, as well as train downtime at Derbent Station for the change of current type.

In order to ensure direct rail transport along the Western route of the INSTC, an agreement between the Government of the Russian Federation and the Government of the Islamic Republic of Iran on cooperation in financing the design, construction, and supply of goods and services for the creation of the Rasht–Astara rail line in Iran was signed on 17 May 2023 in Tehran during the meeting of the Co-Chairs of the Russia-Iran IGC.

The project will ensure the transportation of up to 15 million tonnes of cargo from Russia to the countries of the Persian Gulf, which is enshrined in the Baku Declaration on the Development of the North-South International Transport Corridor dated 9 September 2022. The document outlines the expected freight traffic of 15 million tonnes through the territories of the three countries by 2030, as well as the intention to prepare a draft tripartite intergovernmental agreement on the Rasht–Astara rail line project and to set up a joint working group to identify physical barriers.

Work is also underway to draft an intergovernmental agreement between the Russian Federation and the Republic of Azerbaijan to ensure the coordination of the parties' actions in the development of railway infrastructure and freight transport on the Western route of the INSTC and to co-finance the necessary activities for the development of Azerbaijan's section of the INSTC using Russian state export credits. In addition, national tariff policies will be coordinated.

The implementation of the investment programme of the North-South road corridor in Armenia is in progress. The construction of the following sections is envisaged:

- Artashat–Sisian (162 km);
- Sisian–Kajaran (60 km);
- Kajaran–Agarak, sections 1 (32 km) and 2 (10.3 km, including a 7 km tunnel).

Projects include the development of the Eastern route of the INSTC with the upgrading of the existing railroad infrastructure on the Orsk–Kandyagash–Makat–Beyneu–Bolashak, Iletsk-1–Aktobe, Chelyabinsk–Tobol–Nikeltau, Aksarayskaya–Makat, and Shalkar–Beyneu–Mangystau sections (Figure 41).

On the Trans-Caspian route of the INSTC, it is planned to build a port and logistics complex in the port of Olya (Astrakhan Region).

This section provides a non-exhaustive list of projects planned to be implemented as part of the development of Eurasian transport corridors and routes. The EDB is implementing a project to create an Observatory of Transport Projects of the Eurasian Transport Network, which will be posted on its website and updated regularly.

9. SOFT INFRASTRUCTURE OF THE EURASIAN TRANSPORT NETWORK

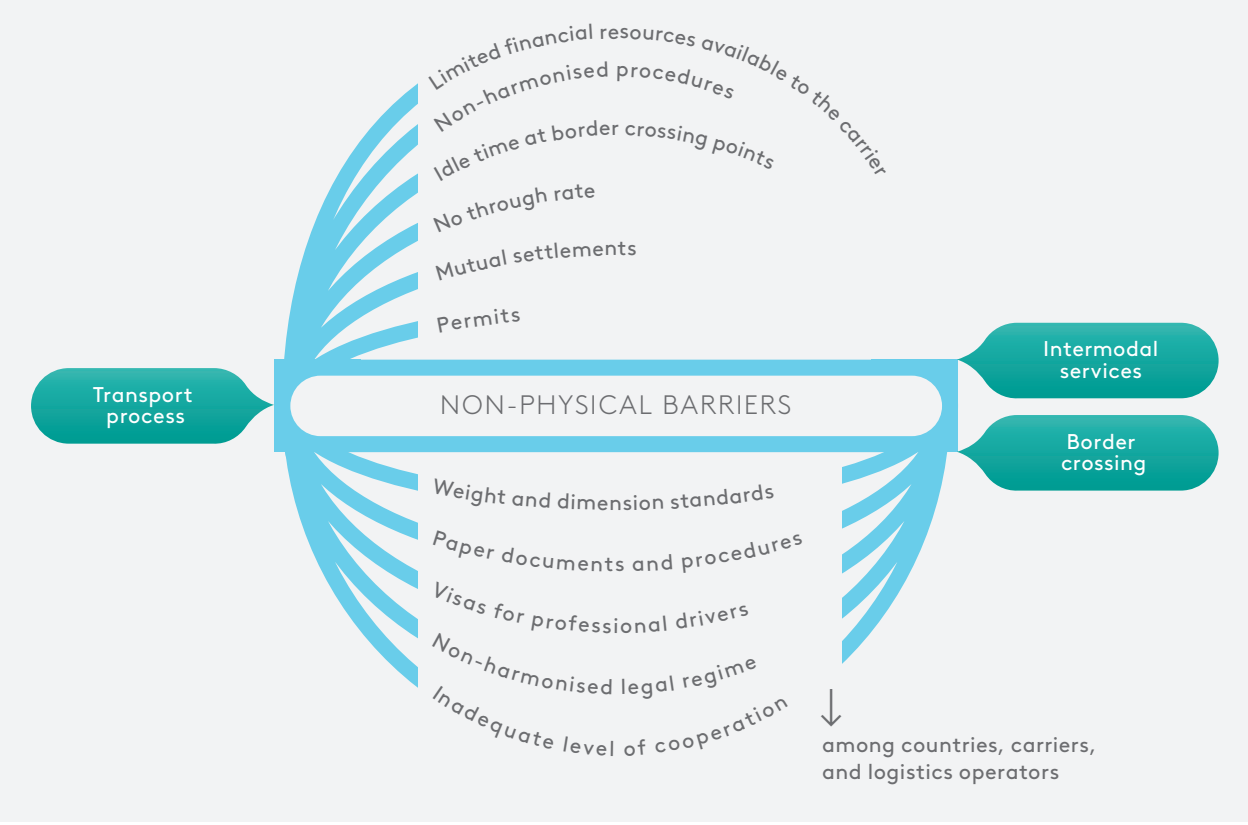
The development of the Eurasian Transport Network is also hampered by various non-physical barriers. They can be universal for all transport corridors and routes, for example:

- barriers associated with crossing national borders, including customs, border, and transport barriers;
- "paper" barriers associated with the insufficient level of digital transformation of transport and transit.

There are also non-physical barriers specific to each transport corridor — tariff, administrative, financial, technical, and cross-border.

Examples of specific barriers in relation to the INSTC (Figure 44) were studied in detail by the EDB in its previous report (Vinokurov et al., 2022).

↓ **Figure 44. Non-Physical Barriers Impeding Development of the Eurasian Transport Network**



Source: EDB.

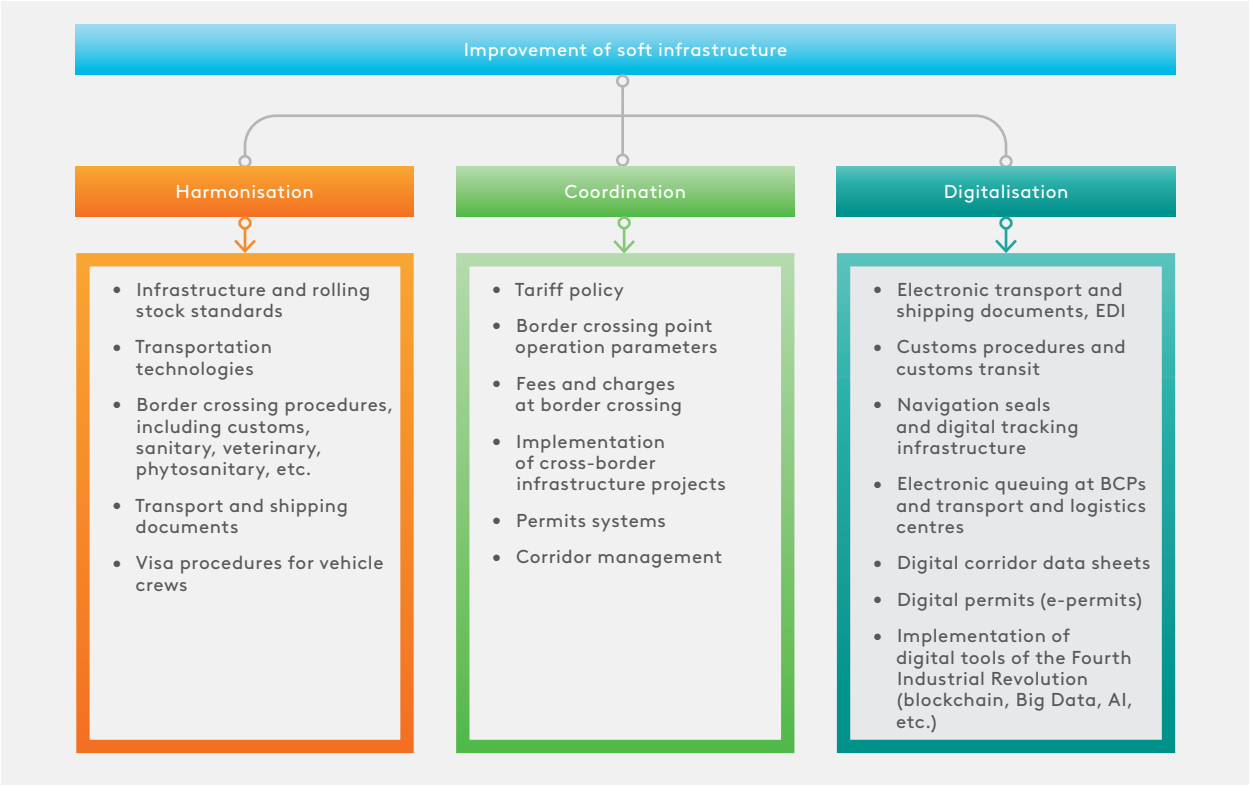
Non-physical barriers greatly impact the market for transport services and international transport. They result in reduced market access for carriers, increased costs and transport times, lower transport efficiency and, ultimately, lower competitiveness of transported goods as transport costs are built into their prices.

The implementation of infrastructure projects (removal of infrastructure barriers) without the removal of non-physical barriers carries the risk of longer payback periods and ultimately lower project profitability. For example, administrative barriers at the border, which increase downtime and costs for carriers, impede the movement of freight across what is supposed to be a cross-border toll bridge between two countries, and therefore reduce the overall efficiency of the investment in building the bridge. The removal of non-physical barriers is therefore one of the mechanisms for attracting additional traffic and improving the investment attractiveness of transport infrastructure facilities.

Measures to remove non-physical barriers are usually compared to the improvement of soft infrastructure, which implies the application of international standards and best practices, the harmonisation of legal and technological standards and procedures, the coordination of transport regulation by various actors in the transport process (governments, rail administrations, carriers, etc.), and the digital transformation of transport and transit.

Improvement of soft infrastructure involves the implementation of measures in three key areas — harmonisation, coordination, and digital transformation (Figure 45).

↓ **Figure 45. Improvement of Soft Infrastructure of the Eurasian Transport Network**



Source: EDB.

9.1. Introduction of Digital Technologies for the Development of International Transport and Transit

Digital transformation is one of the mechanisms for reducing the time and cost of using international transport. The maximum effect is achieved on international transport corridors crossing several national borders.

Digital transformation involves the implementation of several digital technologies.

Use of electronic shipping documents

At present, freight transport along all corridors of the Eurasian Transport Network — without exception — is supported mainly with paper documents. This applies to consignment notes (SMGS and CIM/SMGS for rail transport, CMR for road transport, bills of lading for sea sections of multimodal corridors); carnets for international transport of goods by road (TIR); bilateral, transit and "to/from third countries" permits for road transport; customs declarations and other shipping and customs documents.

A number of countries in the region have reported positive experiences with the digital transformation of electronic shipping documents for rail transport.

In particular, RZD OJSC and Belarusian Railways have already implemented paperless digital technologies for almost all rail transport of loaded (according to an agreed goods nomenclature) and empty wagons and containers in bilateral traffic, with the exception of the Kaliningrad direction, abandoning the use of traditional paper-based shipping documents. Since 2022, paperless transportation of empty fitting platforms has been organised in the Belarus–Russia–Kazakhstan transit service. Electronic data interchange (EDI) is being actively implemented in international freight traffic for the 1,520 mm rail network of Belarus, Russia, Kazakhstan, and a number of other countries.

Within the framework of the EAEU, the Priority Action Plan for Digital Transformation of Rail Freight Transport was approved in 2021 with a view to developing trade and economic cooperation between the EAEU and the PRC. It includes the transition to an integrated electronic technology for bilateral and transit freight transport by rail between the EAEU member states, including transition to legally valid electronic exchange of shipping and forwarding documents.

The introduction of the electronic CMR consignment note (e-CMR) for road transport in the region is expected to bring great benefits. However, the procedure for using this electronic tool is currently only available in the EU. In the Eurasian area, a pilot project was implemented in 2022–2023 to test the use of the UN/CEFACT e-CMR for international road transport between the Republic of Belarus and Russia. The transition to geographically wider piloting of e-CMR is hampered by the fact that a number of Eurasian countries have not yet acceded to the 2008 Additional Protocol to the CMR Convention on the use of e-CMR.

Box 6. Electronic Consignment Note (e-CMR)

The rules for the international carriage of goods by road are governed by the CMR Convention, adopted under the auspices of the United Nations in 1956. This document standardises carriers' terms of contract and their liability, based on fundamental rule of private international law.

The CMR consignment note is also often used by control authorities, including customs authorities, to verify data on goods and information on shippers/consignees/carriers for customs clearance in international trade.

In 2008, the Additional Protocol to the CMR Convention concerning the electronic consignment note (e-CMR) was adopted. It entered into force on 5 June 2011 and, by the beginning of 2024, 34 countries had acceded to the e-CMR Additional Protocol.

Harmonised approaches to the operationalisation of e-CMR are actively discussed within the UNECE working bodies. In addition, a number of pilot projects on the use of e-CMR in bilateral and multilateral formats have been implemented in recent years. The projects had a different focus and tested B2B, G2G, and B2G data exchange. Among the latest ones is the e-CMR pilot project implemented in late 2023 by Belarus and Russia based on the UN/CEFACT international standards.

Foreign trade and transport market actors expect the e-CMR to retain all the benefits of the paper consignment note, while increasing transparency, speed, and reliability of information exchange and reducing costs. It is therefore advisable to implement the e-CMR on the basis of IT tools already available, focusing on the mechanism of mutual recognition of digital documents and the compatibility of the existing e-CMR IT solutions on the market, which requires, as a first step, an analysis of the current legal frameworks and procedures in place at the national level.

The implementation of the electronic TIR customs transit guarantee system (e-TIR) has begun. A pilot transport run from Iran to Azerbaijan using e-TIR was carried out on 18 June 2019. In 2021–2022, pilot transport runs took place in Central Asia along the TRACECA routes. In 2023, e-TIR began to be used for transport along this corridor between Uzbekistan and Azerbaijan.

Box 7. e-TIR International System

The TIR system (TIR), established by IRU in 1949 and later transformed into the Customs Convention on the International Transport of Goods under Cover of TIR Carnets, is one of the most successful UN Conventions for the development of international road transport and facilitation of border crossing, based on a balance of state and business interests and uniting 78 Contracting Parties.

On 25 May 2021, Annex 11 to the TIR Convention entered into force, creating the legal framework for complete digital transformation of the TIR system (the so-called e-TIR international system).

The e-TIR international system enables secure exchange of data between national customs authorities on international cargo, vehicles and containers, thereby enhancing and expanding the benefits of the TIR system for transparent and efficient international trade and multimodal transport of goods. At the same time, existing channels for data exchange between private sector actors, as well as a tool that allows carriers to transmit preliminary information to customs authorities for preliminary risk analysis, are also maintained, which makes border crossing much easier and even safer.

IRU and UNECE have established a two-way link for the exchange of e-TIR data. The final stage — connecting national customs authorities to the e-TIR international system — is underway. However, in order to benefit from e-TIR now, the UNECE TIR Secretariat has developed a national e-TIR web application that allows national customs officials to exchange e-TIR data with the e-TIR international system until the information systems are fully integrated.

The digital transformation of the TIR system will minimise the number of documents used in the transit of goods and speed up risk assessment through the electronic exchange of information between national customs authorities. IRU estimates that e-TIR helps cut transport times by 80% and costs by 38% (IRU, 2021).

One of the most promising areas for the use of digital tools is the introduction of electronic SMGS and CIM/SMGS consignment notes along all Eurasian transport corridors.

Creation of a digital ecosystem of international transport and logistics

As part of the implementation of Resolution of the Supreme Eurasian Economic Council No. 12 dated 11 October 2017 On Guidelines for the Implementation of the EAEU Digital Agenda to 2025, and EIGC Executive Order No. 4 dated 31 January 2020 On Formation of Digital Transport Corridors of the Eurasian Economic Union, work is underway to create an Ecosystem of Digital Transport Corridors (EDTC) of the EAEU. The key idea behind the concept is to create an open ecosystem of transport and logistics information services based on advanced digital technologies and platform solutions, including existing ones, that ensure effective interaction between carriers and cargo owners both within the EAEU and with third countries.

In addition to electronic shipping and forwarding documents, the range of services and digital infrastructure of the EDTC includes:

- a queue reservation service at road BCPs;
- a service for the use of electronic permits for the international road transport of oversized and heavy loads, as well as the control of such transport, including weight and size control; and
- a service for the use of electronic navigation seals.

The creation of a system of navigational seals to monitor the movement of goods and vehicles is currently making good progress. An international treaty — the Agreement on the Use of Navigation Seals — was signed by the heads of the EAEU member states on 19 April 2022.

The adoption of the Agreement was preceded by a number of pilot transport operations involving road and rail transport runs on routes between Russia, Belarus, and Kazakhstan. The Agreement entered into force on 3 April 2023 and its application will begin in 2024.

The use of navigation seals facilitates online monitoring of the vehicle over a long distance and records any illegal activity with the goods in the sealed load compartment (breach of the sealed compartment, unloading or substitution of cargo in transit, change of route, etc.), thus ensuring the transparency and customs security of transportation.

The Agreement envisages the phased introduction of monitoring, taking into account the categories of goods and modes of transport. This approach will ensure the gradual adaptation of transport operators and state bodies to the use of electronic navigation seals.

In addition to monitoring the movement of cargo, containers, and vehicles, this system can ensure a high level of reliability and seamlessness of supply chains. At the same time, the data collected by these systems along the corridor or transport route can be used to analyse and plan optimal transport routes and fuel consumption.

Furthermore, important areas for the digital transformation of international freight transport within the Eurasian Transport Network should be:

- ensuring the electronic exchange of data between the customs services of the countries involved in the development of a specific transport corridor or route;
- use of preliminary electronic declaration of goods along the transport corridor;

- ensuring the electronic exchange of data between border services, introductions of electronic visas for drivers and other crew members of vehicles;

- introduction of electronic permits for international road transport of goods (the Permanent Secretariat of the IGC TRACECA has positive experience with the use of electronic transit permits);

- introduction of electronic bills of lading for the transport of goods between ports on the Caspian Sea; and

- implementation of an electronic queuing system at international road BCPs, maritime automobile terminals, and transport and logistics centres.

Use of digital tools of the Fourth Industrial Revolution in the transport sector

These include digital twins and digital modelling, artificial intelligence, Big Data, distributed registries (blockchain), the Internet of Things, cloud technologies, digital platforms, automatic identification and tracking of cargo, etc. Many of these tools are already widely used in international maritime shipping, in particular on southern deep-sea routes between Europe and Asia (for example, blockchain in the issuance of bills of lading and the use of satellite navigation seals).

In the medium term, rail transport, in particular in the EU and China, is expected to transition to the use of 5G digital communication technologies (Future Railway Mobile Communication System, FRMCS). Their implementation will, among other things, reduce the time between trains (thus increasing the throughput capacity of the lines) and improve traffic safety, which together will lead to a reduction in the cost of rail transport and an increase in the efficiency of the use of rail infrastructure. This technology could be applied at the Eastern Range to reduce the intervals between freight trains. It is also planned to introduce autonomous driving systems, unmanned vehicles, and other smart transport systems, which can be implemented primarily at large transshipment terminals, transport and logistics hubs, and seaports (following the example of the fully automated commercial seaport of Nansha in China).

9.2. Harmonisation of International Transport and Border Crossing Procedures

Measures to improve the soft infrastructure include legal harmonisation of transport, transit, and customs clearance, exchange of information, the introduction of a Single Window, and the transition to the use of the AEO concept.

It is important to introduce uniform standards in the field of transport infrastructure and rolling stock based on international agreements and UN Conventions. The standards and recommended practices that should be used within the Eurasian Transport Network are detailed in the following agreements and UN Conventions:

- European Agreement on Main International Traffic Arteries (AGR);

- European Agreement on Main International Railway Lines (AGC);

- European Agreement on Important International Combined Transport Lines and Related Installations (AGTC);

- European Agreement on Main Inland Waterways of International Importance (AGN);

- Intergovernmental Agreement on the Asian Highway Network (AHN);
- Intergovernmental Agreement on the Trans-Asian Railway Network (TAR);
- Intergovernmental Agreement on Dry Ports;
- Agreement concerning the adoption of harmonised technical UN Regulations for wheeled vehicles, equipment and parts which can be fitted and/or used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these UN Regulations;
- Agreement concerning the Adoption of Uniform Conditions for Periodical Technical Inspections of Wheeled Vehicles and the Reciprocal Recognition of such Inspections;
- Agreement concerning the Establishing of Global Technical Regulations for Wheeled Vehicles, Equipment and Parts which Can be Fitted and/or be Used on Wheeled Vehicles.

In order to harmonise and simplify procedures for international transport and border crossing along the international transport corridors included in the Eurasian Transport Network, it is necessary to implement the standards, rules, and recommended practices presented in the following basic UN agreements and conventions:

- International Convention on the Harmonisation of Frontier Controls of Goods;
- International TIR Convention, 1975;
- International Convention on Containers and Convention on Customs Treatment of Pool Containers used in International Transport.

Legislative harmonisation in the field of customs clearance and simplification of border crossing procedures should provide for the effective interaction of all actors of logistics supply chains, alongside ensuring modern information support both for decision-making in the transportation process and border crossing procedures, as well as providing carriers, cargo owners, and forwarders with comprehensive information services based on three elements:

- creation of a single information space, including the totality of information about transport market elements (real-time data on freight traffic, on loading/unloading status, and on loading applications, etc.). A single information space should ensure exchange of data on transport units and freight moving through the territory of all participating countries, as well as the compatibility of information systems used by the transport, customs, and border authorities of the countries involved in the development of the transport corridor.
- a unified legal framework in the field of transport (unified shipping documents, uniform rules for interaction at transport hubs). SMGS and/or CIM/SMGS (for transport to Türkiye) consignment notes for rail transport, CMR consignment notes for road transport, ocean bills of lading for sea transport, FIATA multimodal bills of lading, waybills and packing lists, and veterinary and phytosanitary certificates, etc. should be used as unified shipping documents.
- a unified legal framework in the field of interaction between customs authorities — the use of the World Customs Organisation (WCO) data model and the Automated System for Customs Data (ASYCUDA), which makes it possible to increase the efficiency of customs procedures by automating them and reducing the time required for customs clearance.

The TIR system, particularly in Central Asia, significantly reduces border crossing times by nearly a third and costs by almost sixfold[28].

The Single Window principle should be implemented in accordance with Recommendation No. 33 (Recommendation and Guidelines on Establishing a Single Window to Enhance the Efficient Exchange of Information between Trade and Government) developed by UNECE and UN/CEFACT.

The implementation of the Single Window principle for international transport should bring significant benefits to state bodies, as well as transport companies, cargo owners, and forwarders.

The introduction of the Single Window will help improve the management of customs and other risks, enhance the level of security and increase revenues if stricter compliance with the established requirements by foreign trade and transit actors is ensured.

The interaction of the customs authorities of the countries participating in the development of the corridors and routes of the Eurasian Transport Network should include the following key elements recommended by the WCO[29]:

1) exchange of information between customs authorities;

2) use of the guarantee system;

3) harmonised simplification of formalities;

4) use of a risk management system;

5) introduction of the AEO concept;

6) use of electronic navigation seals;

7) coordinated border management; and

8) transparency of requirements and anti-corruption.

To enable efficient data exchange between the government agencies involved, it is proposed to use the WCO standards — the WCO Data Model and Globally Networked Customs (GNC) tools.

Agreements to simplify visa procedures for drivers, train crews, and ship crews could become a distinct area of cooperation between the border services of the countries along the corridor. To this end, a separate multilateral agreement may be concluded to address the following issues:

- issuing visas to vehicle crews at the border or at the port;
- harmonising the list of documents required (company licences, driver's licence, vehicle information, etc.) and the cost and timing of visas for vehicle crews; and
- issuing multiple-entry visas for vehicle crews.

Under such an agreement, the border authorities of interested countries may exchange information on visas issued to vehicle crews, bona fide international carriers, and on visa offenders.

[28] Asia-Pacific trade forum focuses on sustainable and resilient supply chains. IRU. https://www.iru.org/news-resources/newsroom/asia-pacific-trade-forum-focuses-sustainable-and-resilient-supply-chains.
[29] World Customs Organisation (2017) Transit Guide: Route for efficient transit regime.

9.3. Coordination Mechanisms for Corridor Management, Including Tariff Policy

As the experience of operating container services on the Northern and Central Eurasian corridors has shown, coordination of the transport process and management of the functioning of the corridor, including marketing policy, play an important role in increasing efficiency.

Coordination should cover all actors of the transportation process, be it state bodies (transport, customs, border, veterinary, sanitary, phytosanitary, etc.), companies that own infrastructure, operators (carriers, forwarders, logistics service providers), or other interested businesses, as well as experts from stakeholder international organisations.

The aim of coordination is to create the most favourable conditions possible for international transport along the corridor and border crossing procedures.

Coordination should cover the following aspects: countries' plans and projects for infrastructure development, coordinated tariff policies, unified transport technologies and border crossing procedures (including their digital transformation), harmonisation of the regulatory framework, a system of customs guarantees, security issues, marketing policies, etc.

To coordinate work on the development of the ITC, temporary or permanent working groups, commissions, steering (coordination) committees, associations, project offices, etc. can be created. The experience of the TITR has shown that an association is an effective public-private vehicle for stimulating the development of the corridor. Based on its statutory objectives, the association will represent the interests not only of the countries but also of the companies (railroad companies, freight forwarders, shipping companies, road transport companies, seaports, etc.) involved in the development of transport along the corridor. The association can develop agreed tariffs along the route, coordinate the work of sea and rail transport, simplify border crossing procedures, and organise regular (scheduled) services — container block trains on the Western and Eastern routes of the INSTC, as well as a container feeder or ferry line between the ports of the Caspian Sea.

In order to promote the services provided along the transport corridor, attract freight traffic and investment in the development of its infrastructure, it is advisable to inform cargo owners and logistics companies from the countries in the APR, the Persian Gulf, and South Asia about the measures taken to create favourable conditions for the transport of goods along the corridor.

International support for the development of the corridor may be provided in the following areas:

- creation of a web portal to post transport conditions, tariffs, contact information about the transport corridor as such, and the services provided along it;
- promotion of the corridor within international, regional, and sectoral international organisations — UN Commissions, OSJD, ECO, SPECA, etc.;
- multilateral and bilateral agreements and memorandums;
- investment cooperation with MDBs to attract investment in the development of the corridor; and

- demonstration runs of trains and caravans.

Mechanisms for coordinating the development of the INSTC and removing non-physical barriers could include:

- intergovernmental programmes and action plans for the development of the transport and logistics infrastructure of the corridor;

- organisation of regular meetings of transport ministers of the countries participating in the corridor, as well as meetings of representatives of the business community and business associations in the field of transport;

- involvement of private investors and international development banks in the implementation of regional projects;

- expanded use of the multilateral legal instruments enshrined in international agreements and UN Conventions in the field of transport;

- improvement of the bilateral and multilateral legal framework for cooperation between the countries of the Caspian region, including the introduction of amendments and additions to existing bilateral intergovernmental agreements and the conclusion of new multilateral agreements, in particular a multilateral agreement on international commercial shipping in the Caspian Sea.

The tariff policy for transport along each corridor should be coordinated by interested rail carriers along the entire freight route.

The purpose of the end-to-end tariff is to significantly reduce the successive freight transit payments charged per 1 TEU/1 FEU (for containerised goods) or per 1 tonne of cargo / 1 standard wagon (for general cargo).

The proportional distribution of the end-to-end transit payment will be determined in negotiation between the rail carriers and other parties involved.

Information about end-to-end tariffs must be published.

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
AEO	authorised economic operator
AH	Asian Highway
AIIB	Asian Infrastructure Investment Bank
APR	Asia-Pacific region
BAM	Baikal–Amur Mainline
BCP	border crossing point
BMA	Basic Multilateral Agreement
BRI	Belt and Road Initiative
BTK	Rail Route Baku–Tbilisi–Kars
CAREC	Central Asia Regional Economic Cooperation
CIM-SMGS	unified railway consignment note
CIS	Commonwealth of Independent States
CMR	Convention on the Contract for the International Carriage of Goods by Road
COVID-19	coronavirus disease 2019
CPEC	China Pakistan Economic Corridor
EAEU	Eurasian Economic Union
EBRD	European Bank for Reconstruction and Development
e-CMR	electronic CMR consignment note
ECO	Economic Cooperation Organisation
EDB	Eurasian Development Bank
EEC	Eurasian Economic Commission
EFSD	Eurasian Fund for Stabilization and Development
EFTA	European Free Trade Association
EIGC	Eurasian Intergovernmental Council
EPCF	Engineering, Procurement, Construction, Financing — a form of contracting for the construction of a facility
ESPO	Eastern Siberia–Pacific Ocean oil pipeline system
e-TIR	electronic TIR carnet
EU	European Union
EWC ITR	Europe–Western China International Transport Route
FMCG	fast-moving consumer goods
FTA	free trade area
FTL	full truck load
IGC	Intergovernmental Commission
IRU	International Road Transport Union

ITC	international transport corridor
ITR	international transport route
LTL	less than truck load
MDB	multilateral development bank
NSR	Northern Sea Route
OSJD	Organisation for Cooperation between Railways
PJSC	Public Joint Stock Company
PPP	public-private partnership
PRC	People's Republic of China
SCO	Shanghai Cooperation Organisation
SDGs	Sustainable Development Goals
SPECA	United Nations Special Programme for the Economies of Central Asia
TAR	Trans-Asian Railway
TAT	Tajikistan–Afghanistan–Turkmenistan transport corridor
TEN-T	Trans-European Transport Network
TEU	twenty-foot equivalent unit
TIR	International Road Transport system
TITR	Trans-Caspian International Transport Route (the Middle Corridor)
TRACECA	Transport Corridor Europe–Caucasus–Asia
UN	United Nations
UN ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UN/CEFACT	United Nations Centre for Trade Facilitation and Electronic Business
UNECE	United Nations Economic Commission for Europe
US	United States of America
UTLC ERA	United Transport and Logistics Company — Eurasian Railway Alliance
VCSSC	Volga-Caspian Sea Shipping Canal
WCO	World Customs Organisation
XUAR	China's Xinjiang Uygur Autonomous Region
%	percent
% y-o-y	annual growth rate
'000	thousand
km	kilometre
m	meter
USD	United States dollar

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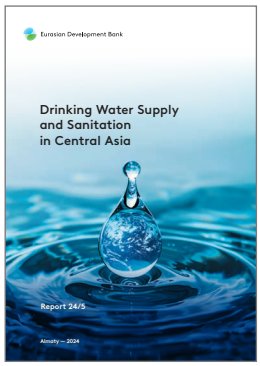
Macroeconomic Outlook
(RU/EN)

Macroeconomic Outlook 2024–2026

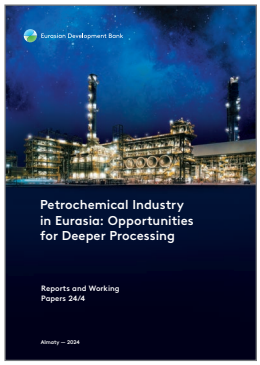
The EDB forecasts that the aggregate GDP of the Bank's member countries will grow by more than 3% in 2024. The economic growth rates of the Eurasian region will be higher than the global average



Report 24/5
(RU/EN)

Drinking Wateer Supply and Sanitation in Central Asia

In Central Asia, 10 million people do not have access to safe drinking water. Given the priority importance of drinking water for public health and the scale of the challenges, a comprehensive approach is required in the region. A new EDB report presents a set of practical steps that shape such an approach.



Report 24/4
(RU/EN)

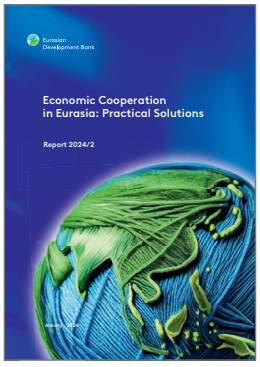
Petrochemical industry in Eurasia: Opportunities for Deeper Processing

The analytical report uses a balance approach to assess the production and export potential of the petrochemical complex of the Eurasian region (Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Turkmenistan, Uzbekistan) in the perspective up to 2035.

Report 24/3
(RU/EN)

Infrastructure in Eurasia: short-term and medium-term trends

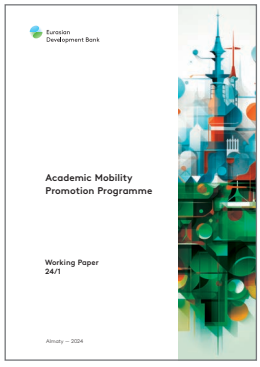
The EDB's report highlights ten important short- and medium-term investment and institutional trends in the region's energy, transportation, logistics, water supply and telecommunications sectors.



Report 24/2
(RU/EN)

Economic Cooperation in Eurasia: Practical Solutions

The EDB's report "Economic Cooperation in Eurasia: Practical Solutions" contains a "menu" of pragmatic applied solutions that can be enabled relatively fast and with flexible configurations among participating countries aimed at fostering mutually beneficial economic cooperation among Eurasian countries.



Report 24/1
(RU/EN)

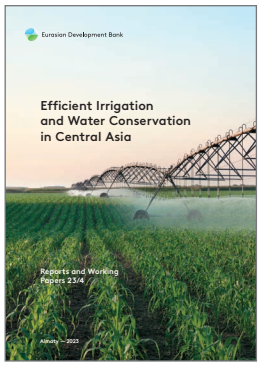
Academic Mobility Promotion Programme

The EDB's working paper "Academic Mobility Promotion Programme" contains a comprehensive analysis of problems and specific practical solutions to ensure the sustainable growth of interuniversity relations and educational exchanges across the Eurasian region (the EAEU and CIS countries).

Report 23/5
(RU/EN)

EDB Monitoring of Mutual Investments — 2023

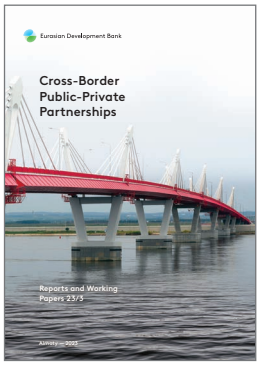
Eurasian countries' FDI stock reached $48.8 billion by mid-2023, following a 5.4% increase in 2022 and with continued growth in 2023.



Report 23/4
(RU/EN)

Efficient Irrigation and Water Conservation in Central Asia

A new EDB study outlines ten practical steps for preserving irrigated land potential and promoting water conservation. The list includes four recommendations for adoption at the regional level and six at the national level.



Report 23/3
(RU/EN)

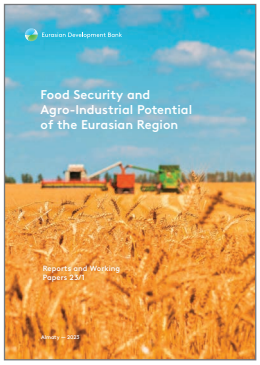
Cross-Border Public-Private Partnerships

The report outlines the criteria and scope of cross-border PPP projects, evaluates their potential for fostering cross-border infrastructure development in the EAEU, Central Asia, and the South Caucasus, and suggests guidelines for the successful implementation of cross-border PPPs in the region.

Report 23/2
(RU/EN)

Global Green Agenda in the Eurasian Region. Eurasian Region on the Global Green Agenda

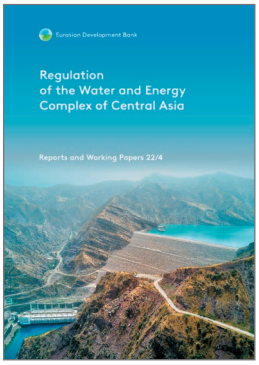
The report provides a comprehensive analysis of the challenges and prospects for low-carbon transition in Eurasia, covering EAEU countries, Tajikistan, and Uzbekistan.



Report 23/1
(RU/EN)

Food Security and Agro-Industrial Potential of the Eurasian Region

Based on the balance approach, the report analyses the production, resource, and export potential of the agro-industrial complexes of the EAEU countries, Tajikistan, and Uzbekistan for the period until 2035.



Report 22/4
(RU/EN)

Regulation of the Water and Energy Complex of Central Asia

The report scrutinises historical data and international experience to suggest five institutional solutions for effective regulation and development of Central Asia's water and energy complex that would benefit all countries of the region.

Report 22/3
(RU/EN)

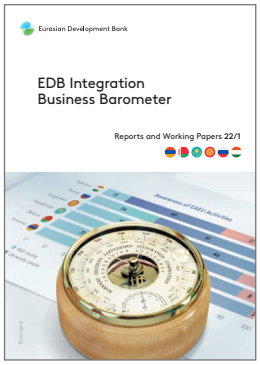
The Economy of Central Asia: A Fresh Perspective

The report provides a renewed perspective on Central Asia as a large, dynamic and promising economic region and analyses its current structural changes and major growth areas.

Report 22/2
(RU/EN)

International North–South Transport Corridor: Investments and Soft Infrastructure

The study assesses the investment potential of the INSTC, identifies barriers to its development and provides recommendations on how to eliminate them.



Report 22/1
(RU/EN)

EDB Integration Business Barometer

About 73% of companies feel positive about the EAEU and say it makes doing business easier.

Eurasian Development Bank

RESEARCH DEPARTMENT
EURASIAN DEVELOPMENT BANK

Your comments and suggestions
concerning this document
are welcome at: pressa@eabr.org

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