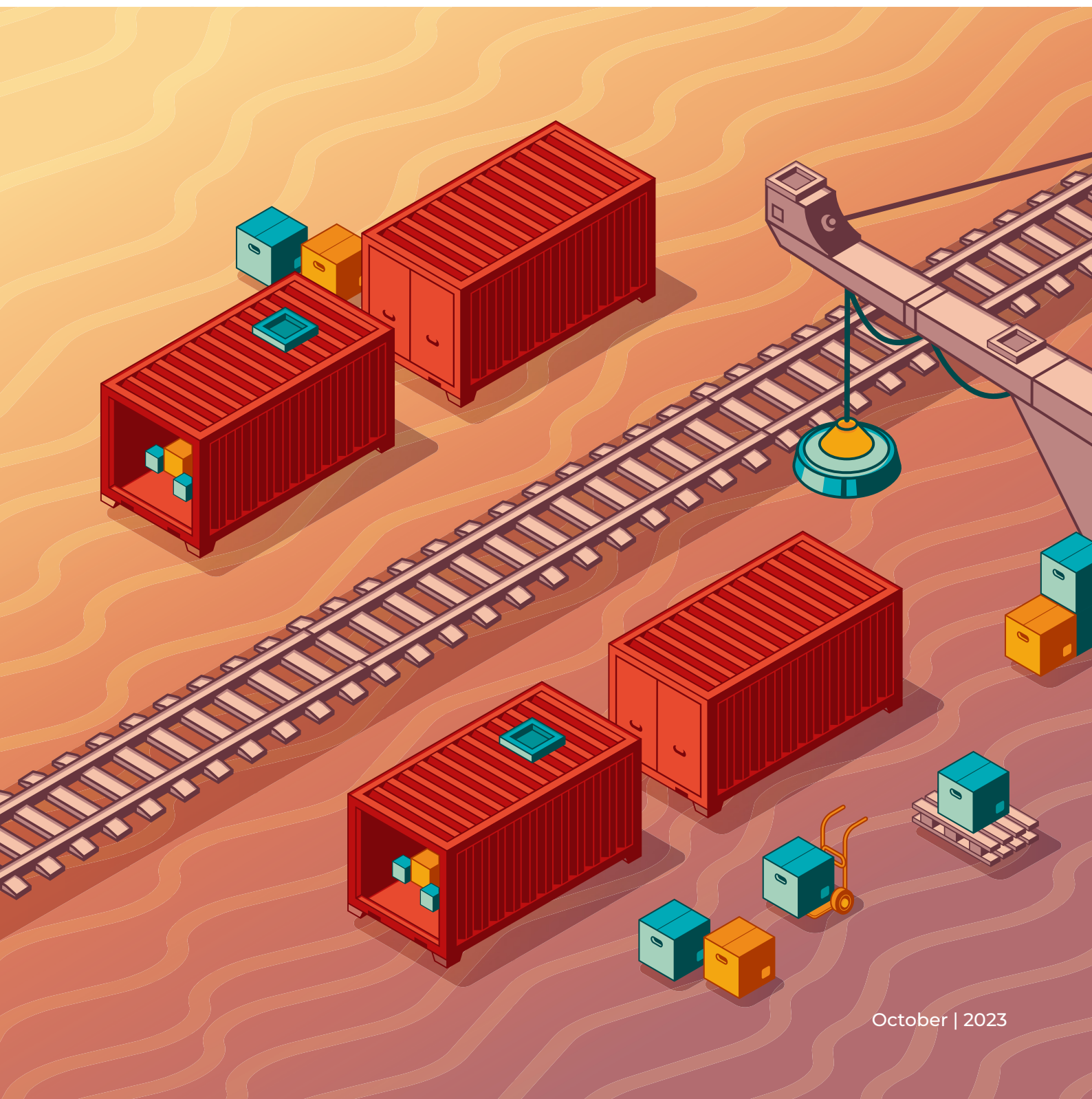


## ANALYSIS AND PROSPECTS FOR THE TRANS-CASPIAN INTERNATIONAL TRANSPORT ROUTE



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# INTRODUCTION

In the context of the informatization of global transport processes and the development of international transport relations, there is a need to establish stable transport links between various parties to international economic relations. Transport logistics leads to a technical and technological convergence of participants in the transport process and to the harmonization of their economic interests. The creation of transport systems is ensured, among other things, with the help of international transport corridors (ITC).

ITCs, as an element of the process of globalization of trade and transport markets, contributes to the development of international cooperation and deepening of industrial cooperation between countries. ITCs are of particular importance in Eurasia, where two economic poles have formed - China and the European Union (EU), which has caused avalanche-like growth in trade volumes between Europe and Asia.

The East-West International Transport Corridor (East-West ITC) is of strategic importance for the development of international economic activity and the sphere of transit services, due to the demand for this route for transit cargo transportation between China and the EU. This corridor represents an alternative to the traditional sea route for delivering goods from Southeast Asia through the Suez Canal to Europe.

# ROUTES OF THE EAST - WEST INTERNATIONAL TRANSPORT CORRIDOR

The Trans-Siberian Railway (Trans-Siberian) serves as the basis of the East-West ITC. It crosses the territory of Russia, providing access in the east to the railway networks of Korea, China, Mongolia and Kazakhstan, and in the west to European countries, offering transport and economic connections between the countries of Asia and the Pacific region on one hand and European countries on the other.

Most of the existing routes of the East-West ITC, to one degree or another, involve the Trans-Siberian Railway: including northern routes through the border crossings of the Far East with access to China directly and through Mongolia (Naushki), as well as the Eurasian route through Kazakhstan. At the same time, the main artery for the transit of goods by rail between China and the EU is the Eurasian route (Kazakhstan, Russia, Belarus), which accounts for about 90% of the transit container traffic traveling by rail along the China-Europe-China route.

A network of the most important international road and rail transport corridors passes through the territory of the member states of the Eurasian route, ensuring freight traffic in East-West shipping. The route runs between stations on the border of the EAEU with the European Union (Brest, Bruzgi, Svisloch, stations in the Kaliningrad region) and the border stations of Dostyk and Altynkol in Kazakhstan on the border with China.

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# ARCHITECTURE OF THE TRANS-CASPIAN INTERNATIONAL TRANSPORT ROUTE (TITR)

The new states of Central Asia and Transcaucasia are striving to optimize their transit networks to access foreign markets. In this regard, they are developing an alternative to the existing northern route. The interest of Western countries in such transport projects is due, among other things, to the desire to diversify cargo delivery routes and stimulate the development of alternative transport corridors. China, which is implementing the Silk Road Economic Belt (SREB) initiative, is following a similar strategy. Obviously, one of the goals of the SREB is to stimulate the development of the central and western provinces of the PRC, which, among other things, are in need of supplies of raw materials from Central Asia and the Caucasus.

Another promising project in the region is the Lapis Lazuli Corridor, which unites the transport and logistics infrastructures of Azerbaijan, Georgia, Turkey, Turkmenistan and Afghanistan. The corridor runs from the Afghan province of Herat to Ashgabat, then through Tbilisi to Ankara with branches in Poti and Batumi, and from Ankara to Istanbul with a further route to European countries. An obstacle to the actual implementation of this concept is political instability in countries along the route.

The Trans-Caspian International Transport Route (TITR) runs through China, Kazakhstan, the Caspian Sea, Azerbaijan, Georgia, Turkey and further through the Black Sea to Europe. In addition to the strategically promising Eurasian route, the TITR has become an interesting corridor for Kazakhstan, connecting railway infrastructure, maritime communications, and a dry port. The TITR is a multimodal route that involves two modes of transport: rail and sea.

## THE TRANS-CASPIAN INTERNATIONAL TRANSPORT ROUTE



Source: Middle Corridor Trans-Caspian International Transport Route <https://middlecorridor.com/ru/marshrut>

## Creation and establishment of the Trans-Caspian international transport route

The TITR project began on November 7, 2013 in Kazakhstan within the framework of the New Silk Road II International Transport and Logistics Business Forum, at which NC Kazakhstan Temir Zholy JSC, Azerbaijan Railways CJSC and Georgian Railway JSC signed an Agreement on the establishment of a Committee for the Development of the TITR Project. In 2014, NC Aktau International Sea Trade Port JSC, Azerbaijan Caspian Shipping Company CJSC, Baku International Sea Trade Port CJSC and Batumi Sea Port LLC joined the project. Particular support for the project was provided by China and the EU in terms of drawing up technical documentation. After the creation of the Nomad Express container service, three pilot container trains were organized:

- 07/28/2015: Shihezi (China) - Kishly (Azerbaijan);
- 11/29/2015: Lianyungang (China) - Istanbul (Türkiye);
- 01/15/2016: Ilyichevsk (Ukraine) - Dostyk (Kazakhstan).

In 2015–2016 Ukraine expressed interest in such a route for transporting growing imports from China, as well as for exporting iron amid rising prices to China. However, in the latter case, an obstacle for Ukrainian exporters was the virtual absence of modern rolling stock, which deprives Ukraine of significant export income. In February 2018, Turkish Railways also joined the TITR.

The next step towards the development of the route was the creation of the International Association TITR, which is an association of legal entities that operates in accordance with the Constitution of the Republic of Kazakhstan and is located on the territory of the Republic of Kazakhstan. The headquarters is located in Astana. The Association is engaged in attracting transit and foreign trade cargo to the TITR, developing integrated logistics products along the route, pursuing an effective tariff policy and cost optimization, creating a unified technology for the transportation process, and also helping to reduce administrative barriers (border and customs procedures, processing of cargo and containers in ports and connecting stations).

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## Cargo flow statistics for the TITR

The TITR began operating in 2017. The length of the route is 11,000 km. The current throughput is 6 million tons per year. By 2025, it is planned that this volume will reach 10 million tons per year.

Multimodal transport service on the China - Kuryk/Aktau - Baku/Alyat - Batumi/Poti route and further to third countries, including via the new Baku - Tbilisi - Kars line, was established in 2017. In the year of opening, the volume of container traffic amounted to only 8,900 TEUs (within the territory of Kazakhstan, 300 TEUs), but the following year, transportation increased to 15,200 thousand TEUs (within the territory of Kazakhstan, 3,900 TEUs).

At the end of 2018, the first container train was launched from the Kazakh-Chinese logistics terminal in the port of Lianyungang (PRC), which traveled along the TITR through Kazakhstan, Azerbaijan, Georgia and Turkey to its final destination - Istanbul. The first train included twenty-one 40-foot containers and transported cargo such as machinery and equipment, electronics, and consumer goods.

In 2019, the volume of cargo turnover at TITR almost doubled and amounted to 26,000 TEU (on the territory of Kazakhstan - 7,400 TEU). The growth was due to the provision by the operator Kazakhstan Temir Zholy (KTZ) of favorable tariffs for the transportation of petroleum products, grains and legumes, mineral fertilizers, potatoes, meat, sugar, non-ferrous and ferrous metals, cotton, vegetable oil, raw sugar, fresh fruits and vegetables, poultry meat, textiles, polypropylene, as well as establishing transit flow to Uzbekistan and back.

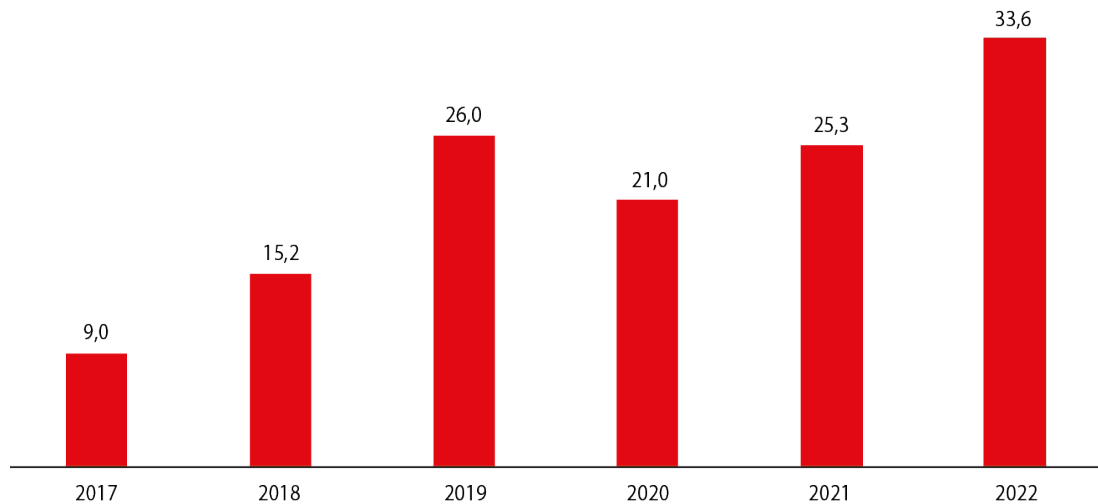
As a result of the crisis caused by the coronavirus pandemic in 2020, cargo traffic decreased by 26% compared to 2019 and amounted to 21,000 TEU. However, according to KTZ, in 2020 the pandemic did not have a significant restraining effect on container freight forwarding in transit, although it slowed its growth to 9% more than in 2019, or 8,100 TEU.

In total, over four years - from 2017 to 2020 - more than 71,000 TEU, or 3.9 million tons, of foreign trade cargo were transported along the entire length of the route, of which 2.1 million tons were Kazakh export cargo.

In 2021, cargo transportation along the TITR route picked up again. For the full year 2021, forwarding of container transportation in transit traffic, according to KTZ, amounted to 14,700 TEU, and the volume - 266,900 tons (along the entire TITR route - 25,300 TEU and in volume - 586,200 tons). Exports from Kazakhstan amounted to 135,200 tons.

In 2022, the volume of cargo transportation along the TITR route increased 2.5 times and reached 1.48 million tons. 33,600 TEUs were transported along the route, which is 33% more than last year. Exports of Kazakhstani cargo increased 6.5 times compared to 2021 and amounted to 891,000 tons. However, in 2022, there was a decline in the volume of transit traffic by 3.5%, to 257,500 tons, as well as container traffic - by 25% with a final volume of 11,000 TEU.

### CARGO FLOW VIA TITR, THOUSAND TEUS



Source: <https://trans.info/ru/obyem-gruzoperevozok-po-transkaspjskomu-koridoru-353419>

## TITR operators

TITR operators, namely ADY Container (Azerbaijan), ACSC Logistics (Azerbaijan), Alliance Logistics (Azerbaijan), GR Logistics & Terminals (Georgia) and KTZ Express (Kazakhstan), are part of the International Trans-Caspian Transport Consortium. Of these, ADY Container is engaged in container platforms and rail container transportation, ACSC Logistics implements sea freight, Alliance Logistics specializes in rail and sea transportation, GR Logistics & Terminals carries out rail transportation and owns large container terminals, while KTZ Express deals with rail container transportation.



# TRANSIT OF GOODS ALONG THE TITR ROUTE THROUGH THE TERRITORY OF KAZAKHSTAN

The growing confrontation between global centers of power is forcing the countries of Central Asia to diversify their logistics routes. Thus, Kazakhstan is actively investing in one of the country's key ports on the Caspian Sea - Aktau.

According to KTZ, more than 2.6 million tons of dry and oil cargo were handled through the Aktau Sea Trade Port in the first half of 2023, which is 24% higher than during the corresponding period last year.

Over the first seven months of 2023, the port processed 142,000 tons of grain, 114,000 tons of metal, and over 13,000 TEUs. Oil transshipment increased 58% compared to 2022, to 2.1 million tons, due to the reorientation of Kazakh oil exports to the Baku-Tbilisi-Ceyhan route through the port of Aktau. Metal transportation increased 87% due to an increase in the export of non-ferrous metals through the port of Aktau..

The total actual throughput capacity of the Aktau port is 11.8 million tons. The port has three oil berths with an annual capacity of 7.5 million tons, three universal dry cargo berths for handling general, packaged and oversized cargo, a grain transshipment berth and a ferry berth with a throughput capacity of 2 million tons per year, as well as a grain terminal with a capacity of 800 thousand tons per year.

In 2025, a container hub will be commissioned on the territory of the seaport. The project will allow us to provide a full range of container transshipment services (up to 300,000 TEUs per year). A number of measures will also be taken to increase the capacity of dry cargo berths.

President of Kazakhstan Kassym-Jomart Tokayev said that by 2030, cargo traffic along the trans-Caspian route will be increased to 500,000 containers per year.

For these purposes, the implementation of projects aimed at expanding the port's capacity has been initiated in the port of Aktau. Among them is a project to create a container hub on the basis of the Aktau Seaport special economic zone, which will improve transport connectivity along the TITR route.

In May 2023, within the framework of the Kazakh-Singapore business forum, JSC NC Kazakhstan Temir Zholy (KTZ) and the Singaporean company PSA International (PSA), one of the world's largest operators of container port terminals, signed an agreement to create a joint venture that will promote the development of TITR and the expansion of trade flows from Southeast Asia and China to Europe through Kazakhstan. PSA's portfolio of port and cargo solutions includes more than 60 deepwater, rail and inland terminals at 160 locations in 42 countries, including two leading port operations in Singapore and Belgium, as well as subsidiaries in supply chain management, logistics, maritime and digital services.

In October 2023, Kazakh transport and logistics investment company PTC Holding will begin construction of a container terminal at the Georgian port of Poti on the Black Sea coast to increase freight volumes on the TITR, with a plan for commissioning in the first quarter of 2024. Poti is one of Georgia's largest ports, and the most important transshipment point on the Black Sea for the transportation of goods along the TITR. The container terminal will allow Kazakhstan to participate in the formation of cargo flows. The harbor is the final point for the transportation of goods along the TITR on the Black Sea. According to PTC Holding, the total investment in the project is estimated at \$15-20 million. The terminal will be located on an area measuring 8 hectares; its maximum capacity, taking into account the operating technology, will be 450 thousand TEU per year. It is expected that in the first years of operation within the TITR route, the terminal will allow processing 80 thousand TEU per year with a further increase in volumes.

According to the project, the terminal will be able to deliver containers from port to terminal and back, deliver containers from other terminals and in the opposite direction, form shuttle trains in the direction Poti - Alyat - Poti, reload cargo from universal wagons and vehicles into containers and vice versa, and handle oversized cargo.

The port of Kuryk is another key link of the TITM. During the first six months of 2023, cargo transshipment exceeded 1 million tons, which is 18% more than during the same period in the previous year. According to the forecasts of Port Kuryk LLP, by the end of 2023 an increase of 20% is expected.

During the second half of the year, there are plans to put into operation a grain terminal with a capacity of 1 million tons per year at the port with simultaneous storage of 25 thousand tons of grain crops.

By 2025, the port plans to build a multifunctional sea terminal, "Sarzha", which will include grain and universal terminals, liquid and general cargo terminals, as well as a transport and logistics center.

Following the port of Aktau, the port of Kuryk received a certificate from the Port Environmental Assessment System and EcoPort status from the European Seaports Organization. The certificate provides an opportunity to expand relationships with European ports, and also stimulates the improvement of the natural environment in the Caspian region.

In addition to ports, Kazakhstan is actively developing its railway network. In the region, the construction of second railway tracks is underway on the Dostyk-Moynty section and on Almaty station's railway bypass line, which will increase the capacity of the Kazakh-Chinese transport corridor five-fold - from 24 to 120 trains per week, as well as increase the speed of container trains to 1,500 kilometers per day.

As part of the TITR, the transit time for goods passing through Kazakhstan was half what it was in 2022, to six days instead of twelve. According to the Prime Minister of Kazakhstan, there are plans to cut this figure by another day by the end of 2023.

# CURRENT INDICATORS OF THE TRANS-CASPIAN INTERNATIONAL TRANSPORT ROUTE

## Cargo transportation via the TITR

During the first seven months of 2023, the volume of cargo transportation via the TITR increased by 86% compared to the same period in 2022 and amounted to 1.6 million tons. At the same time, the share of exports from Kazakhstan via the TITR accounted for 1.2 million tons (an increase of 2.5 times). In 2023, the container transportation rate is projected to be 53,000 TEUs. The statistics include data on China - Europe – China transit, as well as transportation between countries within the TITM corridor.

According to KTZ, the range of transit container cargo from China to Southern Europe and Turkey includes chemicals, equipment, food, etc., while non-ferrous metals, ferroalloys, food (cereals, lentils) come from Kazakhstan via the TITR.

## Tariff rates for the TITR route

Regular multimodal transport services along the TITR route are provided at approved comprehensive tariff rates. The countries participating in the project review and approve them for the upcoming freight year, after which the rates become mandatory for all transportation operators.

As part of transportation along the TITR route, tariff rates range, depending on the transportation of goods by wagon load, the transportation of universal containers with the participation of a feeder vessel through the port of Baku (Alyat), or through the port of Baku Hovsan, as well as the transportation of universal loaded containers using a ferry.

The range of cargo transportation by carload includes coal, coal coke, non-ferrous metals, LPG, sulfur, ferrosilicon, grains, oilseeds and legumes, raw sugar and milk cake.

The longest route is Zhana Karaganda - the port of Batumi / Poti (3,550 km in 17 days). The highest tariff rate is for the transportation of non-ferrous metals (loaded - \$106.48/t, empty - \$31.23/t).

When transporting universal containers through the port of Baku (Alyat), the most expensive route is Altynkol - Aktau - Baku (Alyat) - Boyuk-Kyasik - Gardabani - Batumi - Constanta, with tariff rates of \$2,247/TEU and \$3,768/FEU. Rates for transportation along the same route, but through the port of Hovsan instead of Baku (Alyat), are even higher: \$2,273/TEU and \$3,797/FEU..

## — Delivery times

In June 2023, Georgia and Kazakhstan signed an agreement on the creation of a logistics company for the TITR, thereby joining previously reached agreements between Kazakhstan and Azerbaijan on the development of a transport corridor. The tripartite agreement covers the development of transport infrastructure, the digitalization of cargo flows and the creation of a single logistics operator on the TITR. The operator's tasks will have to include issues of tariff policy, cargo handling and simplification of transport processes on the Trans-Caspian route.

According to the Ministry of Industry and Infrastructure Development of Kazakhstan, previously the delivery time for cargo from China to ports on the Black Sea via the TITR was 53 days. Currently, cargo travels the route in 18 to 23 days. According to the Minister of Transport of Kazakhstan, thanks to the agreement, there are plans to reach the figure of 18 days by the end of 2023, and for it to be reduced even further, to 10-15 days.

# CONCLUSION. POTENTIAL OF THE TRANS-CASPIAN INTERNATIONAL TRANSPORT ROUTE

Against the backdrop of sanctions restrictions against the Russian Federation, the desire of countries along the Trans-Caspian route to use alternative routes for delivering goods from China to Europe is understandable. However, the three main ports on the Caspian Sea - Aktau, Baku and Turkmenbashi - have insufficient capacity, just like the port of Constanta in Romania, through which European transit passes. Projects for the development of the main Caspian ports are still at their development stage, and the timing of their implementation, given international political changes, may fluctuate. Another problem is the shortage of cargo ships in the Caspian Sea (container ships). To resolve this issue, it is necessary to attract investment or develop cooperation between European and Chinese companies.

Transportation via the TITR is multimodal in nature: transportation is carried out via different modes of transport (in the case of the TITR - railway and ferry services). The presence of two sea crossings and the need for transshipment via four ports affect the costs and time of cargo transportation, especially taking into account weather conditions. In addition, the connectivity mismatch of the railway network in the form of different gauges also leads to additional time spent on transshipment (the gauge in Kazakhstan, Azerbaijan and Georgia is 1520 mm, while in Turkey and the EU, it is 1435 mm).

Sustainable market growth depends on transparency and openness, so constant access to up-to-date information is vital for market participants. The weakness of the TITR route lies precisely in this - the absence of a single logistics operator to combine tariffs and process all China-Europe cargo. Just this past summer, a tripartite agreement was signed between Kazakhstan, Azerbaijan and Georgia on the creation of such an operator.

Currently, the shipper can find out the complex tariff rate for transporting a container from documents approved by the TITR member countries for the entire year. For example, the approved rate from January 1 to December 31, 2023 on the TITR's Altynkol - Aktau - Govsan - Boyuk-Kyasik - Gardabani - Batumi - Constanta route is \$3,797/FEU. By comparison, shippers can use the ERAI index, which provides easy access to the current cost of rail transit services along the Eurasian route. Thus, according to data as of August 2023, the ERAI index for transit along the Dostyk / Altynkol - Brest / Bruzgi / Svisloch / Kaliningrad rout was equal to 2,943 dollars /FEU .

The cost of transit along the Eurasian route is 30% lower than the cost of cargo transportation along the TITR, which is undoubtedly an important factor for shippers. In terms of cargo delivery times, the TITR is also inferior to the Eurasian route, along which the transit time on the China-Europe-China route ranges from 5 to 7 days. During the same time, cargo from China will only be delivered via TITR to Azerbaijan. Multimodal transportation with a change in modes of transport between rail, road and ferry leads to increased costs, risks to the safety of cargo, and also slows down its processing, in comparison with rail transportation along the Eurasian route.

The continued attractiveness of the TITR for China is due to its desire to develop its western provinces and provide them with access to regional markets. At the same time, one cannot draw a conclusion about the ability of the TITR to “pull” the entire volume of cargo for delivery to Europe. China is focusing on this route, subject to its economic efficiency.

The EU countries are now extremely interested in the development of the route, as they consider this transport corridor as one of the main ones for the delivery of goods from China, since it bypasses Russia.

Turkey, Azerbaijan and Kazakhstan are equally interested in the route for their own reasons. In the context of the development of the TITR, Azerbaijan sees an opportunity to strengthen its transit role and become the largest transport hub. Turkey, in turn, continues to extend its influence to Azerbaijan and Central Asia. The development of the TITR also contributes to an increase in supply volumes between the three countries. Thanks to the transport corridor, large volumes of Kazakh grain will be supplied to Azerbaijan and Turkey, and Azerbaijani fruits and vegetables to Kazakhstan.

Corridors such as the TITR and the Lapis Lazuli Corridor increase the connectivity of countries in Central Asia and the Middle East. The fundamental purpose of transit along the route is replaced by an opportunity for individual participants to enhance their advantageous geostrategic location.

For Kazakhstan, the development of the TITR is important in the context of diversifying oil export supplies, since now 80% comes from the Caspian Pipeline Consortium (CPC), which is controlled by Russia. Reducing Russia's role in oil supplies from Kazakhstan is also beneficial for the EU in the context of general political tension.

The signing in February 2023 of a memorandum of cooperation on the development of transport routes between the TITR and TRACECA (a program of international cooperation between the EU and partner countries for the organization of the Europe-Caucasus-Asia transport corridor) has led to the attraction of investments from international financial institutions. According to a study by the European Bank for Reconstruction and Development, according to preliminary estimates, improving uninterrupted supplies along the TITR will require investments totaling 18.5 billion euros, a significant part of which EU countries will be willing to undertake.

Currently, TITR shipping occurs without any single digital platform through which shippers and other stakeholders can access real-time updates on where their containers are located along the corridor. At the moment, this disadvantage is compensated by the clients themselves by installing a GPS-based tracking system, but this requires additional costs.

Despite the fact that TITR railway operators have created several working groups to digitize the CIM/SMGS document flow, digital solutions have yet to be implemented at the corridor scale.

The Trans-Caspian route is relatively new, and its transit potential is limited. Developing transport and logistics infrastructure will still require a lot of time and money, but the high cost of an intermodal route without compensation for acceptable transit speeds may tempt Chinese and European shippers to use alternative routes.