

## RAIL CONTAINER TRANSPORTATION IN THE EURASIAN SPACE IN 2024



---

# Contents

Summary.....	2
<b>China-EU transit cargo transport market.....</b>	<b>3</b>
EU-China mutual trade volumes remain stable.....	3
Steady rail tariffs — fluctuating maritime rates.....	5
<b>Eurasian rail route in 2024.....</b>	<b>8</b>
Increase in freight traffic and return of transit cargoes.....	8
Cargo base and maintaining the trend for maximising utilisation.....	11
Shipment destinations.....	15
China-Europe-China transit container traffic structure.....	17
<b>Conclusion: Outlook for 2025.....</b>	<b>19</b>

# SUMMARY

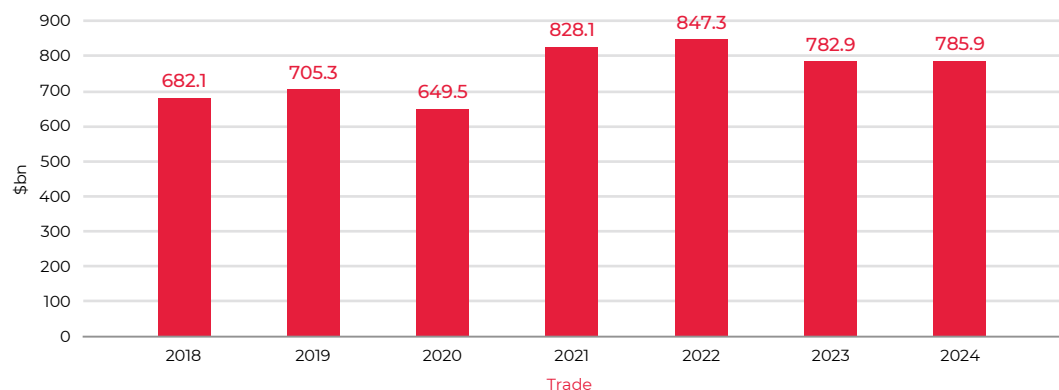
- 1.** In 2024, 745,900 TEUs were transported along the Eurasian rail route, which is 10.6% more than in 2023 (674,000 TEUs). The main growth was provided by China-EU-China transit transport, which increased by 80.3% to 380,600 TEUs.
- 2.** Trade between the EU and China amounted to \$785.9 billion (+0.4% on 2023). At the same time, EU imports from China increased by 3.1% (\$516.5 billion), while EU exports to the PRC fell by 4.4% (\$269.4 billion), further exacerbating trade imbalance (-\$247.1 billion).
- 3.** The WCI Drewry Index fluctuated sharply rising by 112.8% from April to July (to \$5,851 per FEU) and falling 44.5% by October (\$3,244 per FEU). In contrast, the ERAI index remained stable, rising by only 4.2% (from \$3,085 to \$3,215 per FEU).
- 4.** In 2024, 372,600 TEUs were transported westbound from China to EU, and 56,900 TEUs from EU to China; 86.8% of cargo in China-Europe-China transit traffic is westbound.
- 5.** In 2024, goods worth \$29.4 billion (+84.9% on 2023) were transported along the Eurasian rail as part of China-Europe-China route passing through Kazakhstan, Russia and Belarus. Traditional categories — electrical devices, mechanical equipment and automotive equipment — showed a 50% growth, but their combined share in container traffic fell from 44.3% to 38.1%. Shipments of knitted garments (+291.5%), footwear (+350.1%), and paper (+188.8%) increased substantially.
- 6.** The share of empty containers fell to 4%, which is a record low for the last eight years. The share of laden containers going from the EU to China reached 94%, while in the China-EU direction it holds at 96%–99%.
- 7.** Transit time went down from 7.72 days to 7.35 days, and average train speed increased from 707 to 740 km/day. These improvements are due to infrastructure improvements and simplified customs procedures under the EAEU common transit system agreement.
- 8.** Key European hubs include Duisburg, Hamburg, Bremerhaven, Lodz and Malaszewicze, and Chinese hubs are Xi'an, Chengdu, Chongqing, Zhengzhou, and Yiwu. The main China-EU route is Xi'an-Malaszewicze (84,456 TEUs), and EU-China route is Duisburg-Xi'an (8,970 TEUs).
- 9.** The Eurasian route via Kazakhstan, Russia and Belarus has retained its leading position and serves 88.6% of the transit container flow. Cargo transport along the Trans-Caspian route (TITR) showed a 13-fold growth (to 36,200 TEUs), and its share amounted to (8.4%).

# CHINA-EU TRANSIT CARGO TRANSPORT MARKET

## EU-China mutual trade volumes remain stable

China-EU trade remains the backbone of trans-Eurasian transit cargo transport. In 2024, China-EU trade reached the \$785.9 billion mark, up 0.4% from last year's figure (\$782.9 billion). Even though trade figures have declined over the past two to three years, current trade levels have remained steadily high.

### EU-27-CHINA TRADE



Source: Authors' own compilation based on General Administration of Customs of the People's Republic of China's data

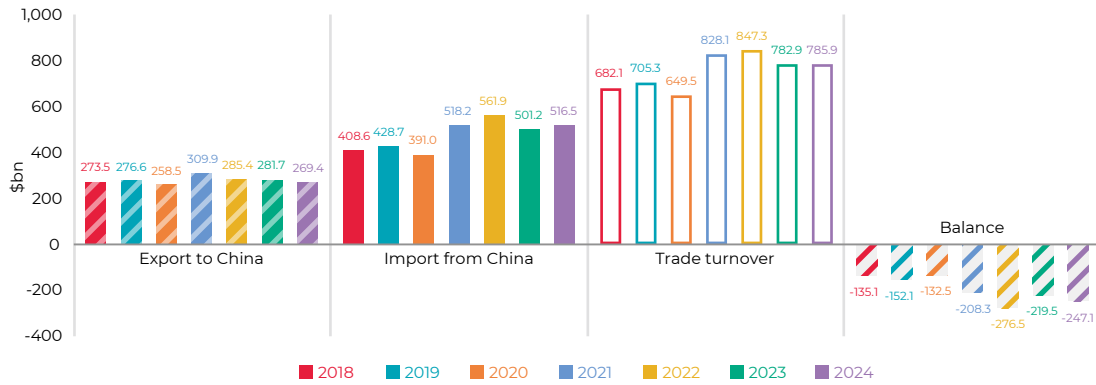
China-EU trade peaked out in 2021–2022 when the global economy was recovering from the pandemic-induced crisis. In 2022, trade between the partners peaked at \$847.3 billion. Despite more modest figures for 2023–2024, they show an 11%–15% increase in mutual trade compared to the pre-pandemic period of 2018–2019.

The current state of the EU's trade and economic cooperation with China suggests that mutual trade remains the backbone of global trade and forms the core of trans-Eurasian continental cargo transport. The prevailing trend for growing bilateral trade contributes to formation of favourable prospects for the expansion of the freight base of Eurasian rail transit.

In 2024, EU imports from China increased by 3.1% year-on-year to \$516.5 billion, while EU exports to China declined by 4.4% to the lowest level over the period under review (excluding the pandemic year of 2020) of \$269.4 billion.

At the same time, the China-EU bilateral trade imbalance has remained in place. Traditionally, the EU imports more goods from China than it exports resulting in the negative trade balance for the EU: the 2024 figure (-\$247.1 billion) shows an increase in imbalance, even though it is still below the record-high trade imbalance of 2022 (-\$276.5 billion).

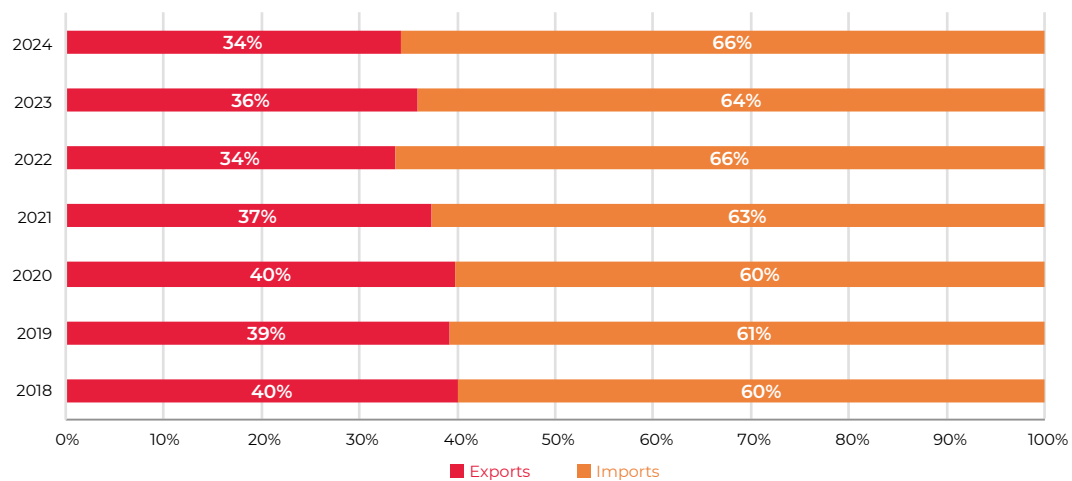
### EU-27-CHINA FOREIGN TRADE



Source: Authors' own compilation based on General Administration of Customs of the People's Republic of China's data

The commodity flow ratio in bilateral China-EU trade acts as a factor in balancing cargo flows and affects the operation of transport routes and corridors. If in 2018, the EU export/import ratio in its trade with China was 40% to 60%, in 2024, the ratio stood at 34% to 66%. Against the backdrop of the global labour division, the growing competitiveness of Chinese manufacturers and ongoing de-industrialisation in the EU which goes hand-in-hand with withering appeal of European exports, Chinese cargoes continue to dominate the cargo flow balance.

### EXPORT/IMPORT RATIO IN EU-27'S TRADE WITH CHINA



Source: Authors' own compilation based on General Administration of Customs of the People's Republic of China's data

As a consequence, the volumes of freight traffic along the Eurasian continental corridors along China-Europe and Europe-China route are skewed in favour of the western direction. In 2024, 372,600 TEUs were transported from PRC to the EU, while 56,900 TEUs were transported in the opposite direction. The share of the westbound traffic in Eurasian transit transport stands at 86.8%.

At the same time, in China's export-import trade with the EAEU, the volumes of cargoes transported along the Central Eurasian Corridor (Kazakhstan-Russia-Belarus) show more commensurate indicators. In 2024, 133,800 TEUs were imported into the EAEU countries and 205,700 TEUs were exported. That is, the ratio was about 40/60 in favour of exports from the EAEU to China. The attraction of the EAEU cargoes also acts as a factor in equalising the balance of cargo flows from China and in the opposite direction. Nevertheless, one should be mindful of the fact that the overall market numbers in China- EAEU-China transport route, taking into account other transport routes and operators, are fairly high.

The following event was quite notable for China-EU trade: [the 100,000<sup>th</sup> freight train](#) left Chongqing, China for Duisburg, Germany in late 2024. China-EU-China rail traffic continues to make strides, which shows the both sides' push to maintain mutually beneficial cooperation and to strengthen the capacity of the transport infrastructure in order to ensure steady supplies.

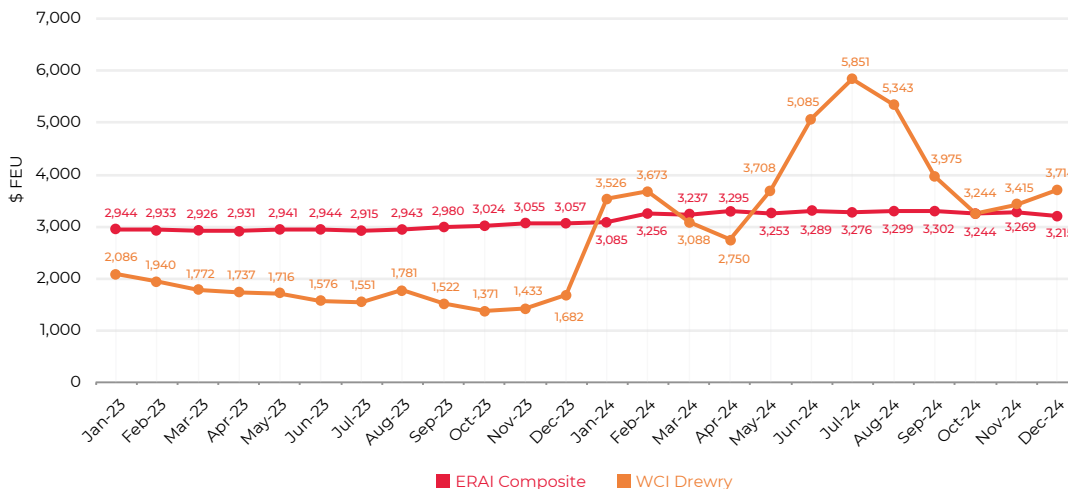
---

## Steady rail tariffs — fluctuating maritime rates

Early 2024 marked a sharp, more than two-fold, increase in maritime transport rates due to instability in the Red Sea and the Suez Canal. From December 2023 to January 2024, the shipping rates grew by 109.6%. In December 2023, Yemen's Houthis [said](#) they would attack all ships in the Red Sea. The route through the Red Sea leads to the Suez Canal, which is the shortest waterway between Europe and China. As a result, in order to avoid risks, transport companies were forced into changing routes in favour of safer, but less lucrative and economical routes. The alternative route went around Africa's Cape of Good Hope. This route increases the transit time by 14–15 days compared to 28 days it takes to cross the Red Sea, which makes the former less attractive for shippers, including due to higher transport costs.

During the year, the WCI Drewry Index monthly average fell on only two occasions below the ERAI Index, which shows the cost of transporting a container on a 1,520 mm gauge space from border to border. The WCI Drewry reached its peak in July at \$5,937 per FEU. On Shanghai-Rotterdam Route, [the freight cost rose](#) to a whopping \$8,267 per FEU.

### ERAI COMPOSITE AND WCI DREWRY INDEX DYNAMICS IN 2023-2024

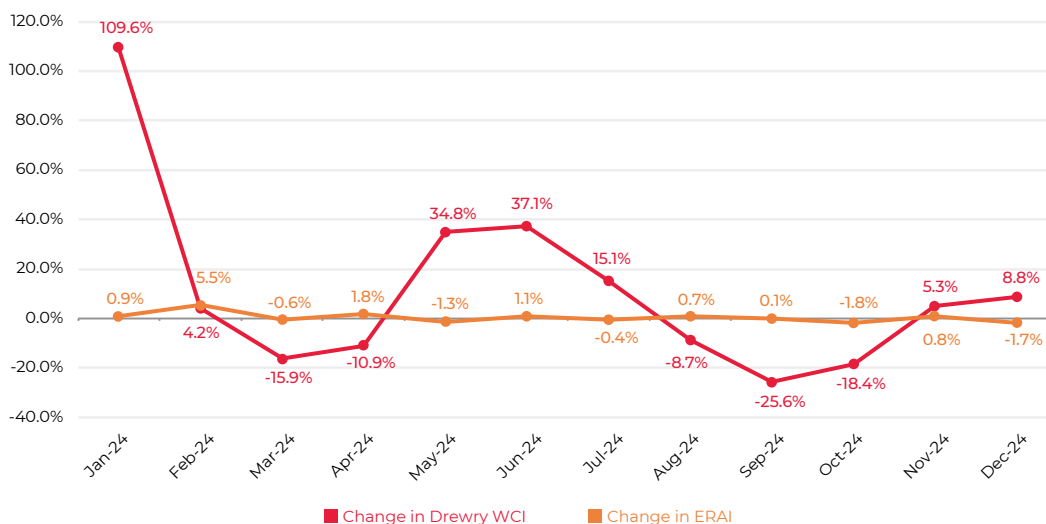


Source: ERAI website

Between April and July, freight rates increased by 112.8% (from \$2,750 to \$5,851 per FEU), before falling to \$3,244 per FEU in October. In May 2024, Drewry predicted an increase in shipping rates from China, citing increased demand, capacity constraints and the need to move empty containers as reasons.

While ocean freight rates remained volatile during the year, rail freight rates were stable. A comparison of ERAI's January (\$3,085 per FEU) and December (\$3,215 per FEU) 2024 rates shows a 4.2% increase. Moderate price increases with zero volatility provide shippers with comfortable long-term planning, which is a competitive advantage of the Eurasian rail route.

### ERAI И WCI DREWRY RATE CHANGE DYNAMICS IN 2024

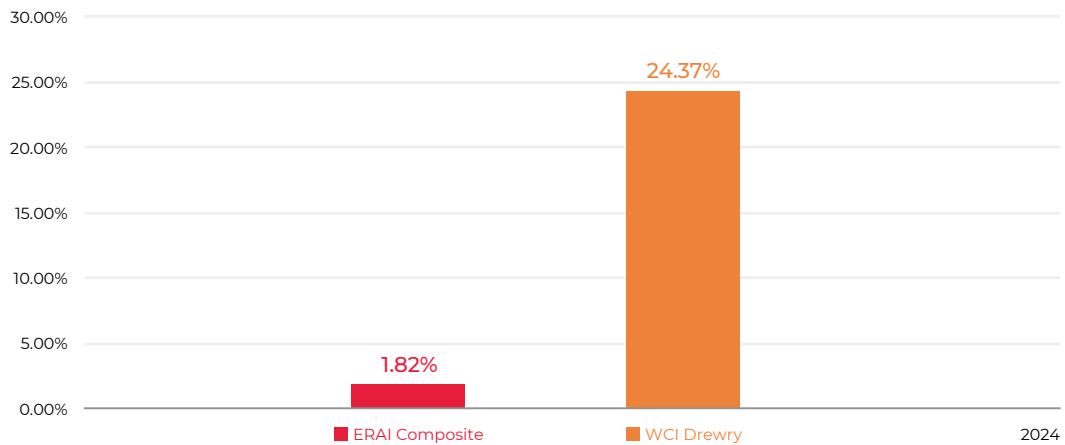


Source: ERAI website

The ERAI index averaged \$3,252 per FEU with the variability index of 1.82%<sup>1</sup>, and the median value was \$3,263 per FEU. Only February saw an unusual 5.5% change in rates.

The average WCI Drewry Index value stood at \$3,948 per FEU in 2024, which is a stark departure from the median value of \$3,691 per FEU. The variability index of the WCI Drewry Index stood at 24.37%, which implies high volatility.

#### ERAI AND WCI DREWRY RATE VARIABILITY INDEX IN 2024



Source: Authors' own compilation based on ERAI index website data

<sup>1</sup> A coefficient of variation value of less than 10% indicates insignificant variability, between 10% and 20% indicates medium variability, and over 20% indicates significant variability.

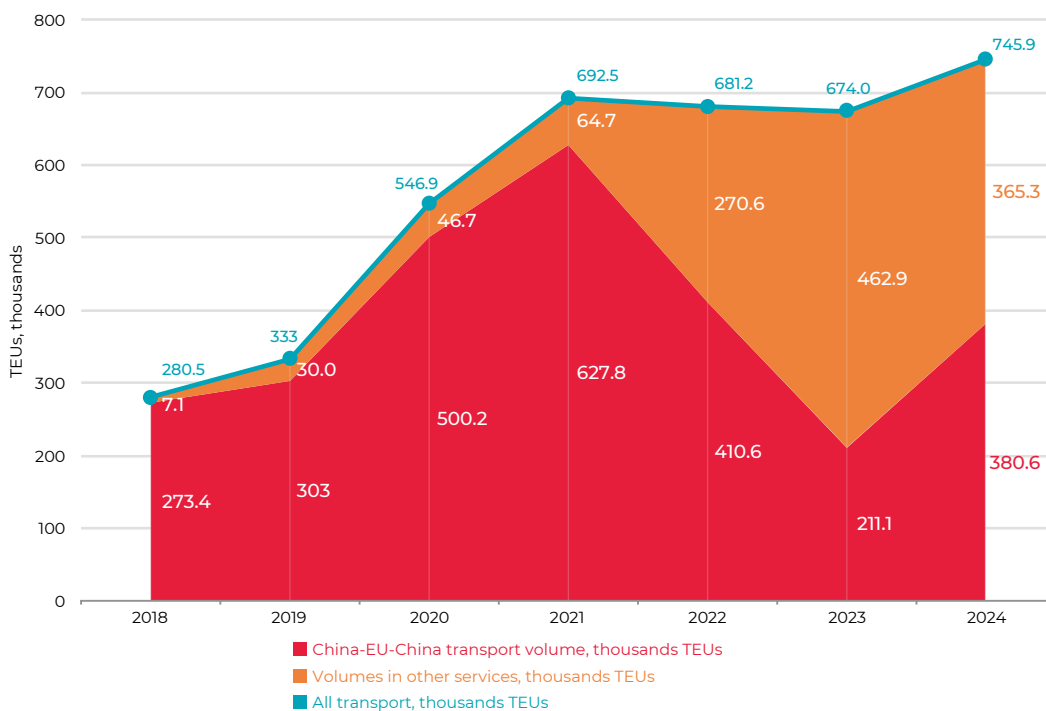


# EURASIAN RAIL ROUTE IN 2024

## Increase in freight traffic and return of transit cargoes

In 2024, a total of 745,900 TEUs travelled along the Eurasian rail route, up 10.6% from 674,000 TEUs in 2023. At the same time, the volume of China-EU-China transit transport increased by 80.3%, from 211,100 to 380,600 TEUs. Thanks to stable rates and good operation of the route, container transport volumes reached a record-high.

AGGREGATE TRAFFIC FLOW BY SEGMENT IN 2024

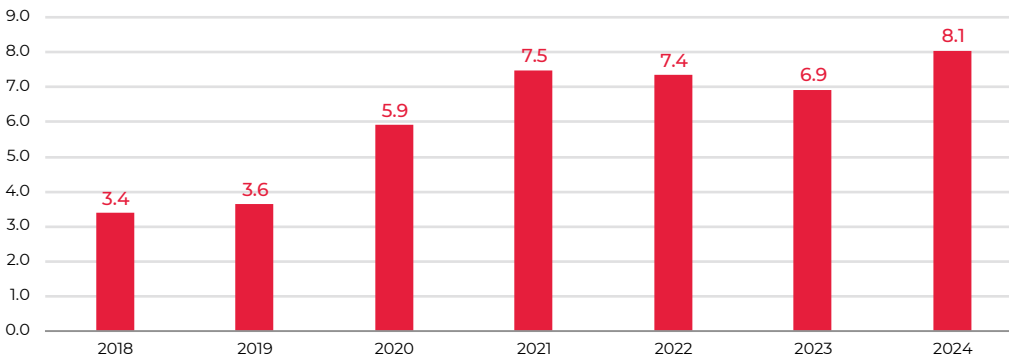


Source: Authors' own compilation

Notably, the increase in rail transport volumes became possible precisely due to China-EU transit traffic. The recent trend of increased freight handled by EAEU-China transport route was replaced by a reduction in the amount of 21.1% to 365,300 TEUs.

Against the backdrop of increased volume of transported cargo, the key transport numbers showed positive dynamics as well. More than 8,100 trains were used to carry cargo along the China-Europe-China route in 2024, up 17.4% on last year.

### NUMBER OF EAST-WEST-EAST TRAINS, THOUSANDS



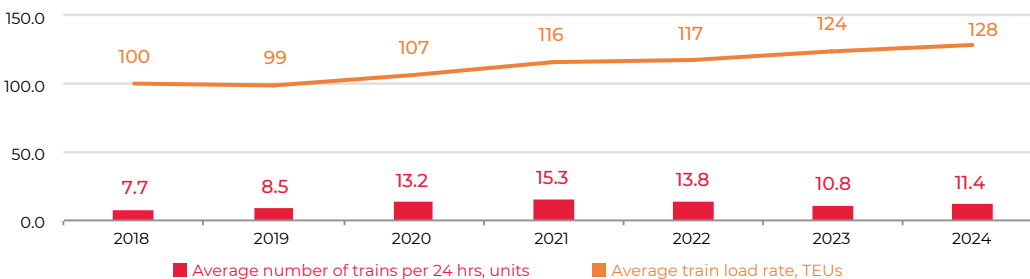
Source: Authors' own compilation

The key operator of the Eurasian route pools trains to streamline the 1,520 mm rail track gauge train schedule. Streamlining makes it possible to reload containers from two 1,435 mm-gauge trains arriving from China to Kazakhstan into one full-length 1,520 mm-gauge container train (the 2in1, or 3in2 system.) Using this arrangement reduces the load on rail infrastructure and increases the capacity of rail sections at cross-border division points.

In 2024, the average number of trains per day on a 1,520 mm gauge track showed a slight increase from 10.8 units in 2023 to 11.4 units. At the same time, the average load per train increased from 124 to 128 TEUs over that period. These changes indicate efforts to improve the efficiency of cargo transport along this route.

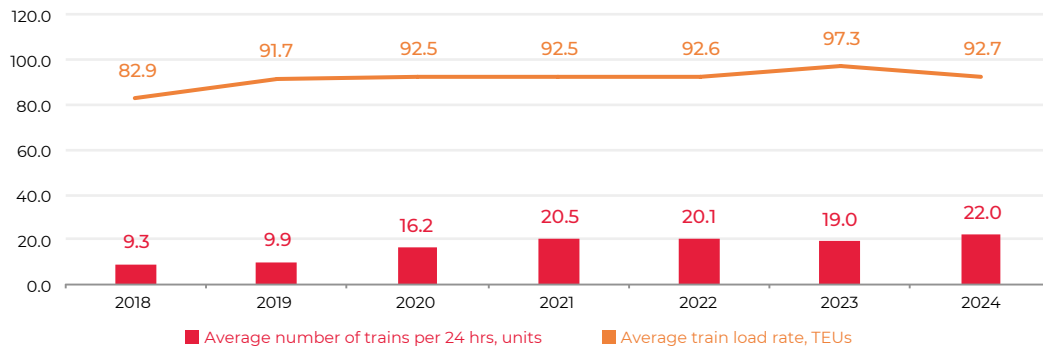
A comparison drawn between the average daily number of trains operating on the route and similar indicators for trains that are formed outside the 1,520 mm gauge network (primarily in China) reveals the use of the train pooling technology. Thus, in 2024, the number of trains formed outside the 1,520 mm network averaged 22 units per day. Accordingly, the train load rate (92.7 TEUs) was lower than that for a route within the 1,520 mm-gauge track.

### AVERAGE NUMBER OF TRAINS PER DAY AND THEIR LOAD RATE (TRAIN FORMATION WITHIN THE 1,520 MM SPACE, I.E. INCLUDING TRAIN POOLING)



Source: Authors' own compilation

## AVERAGE NUMBER OF TRAINS PER DAY AND THEIR LOAD RATE (TRAIN FORMATION OUTSIDE THE 1.520 MM SPACE)



Source: Authors' own compilation

As a result, the approach of the route's key operator within the 1,520 mm-gauge space makes it possible to increase utilisation rates and to maximise the utilisation of infrastructure capacity.

The increase in transport volumes along the Eurasian route results in a greater load on infrastructure, which affects train speeds and shipping time.

In 2018-2020, the average speed of container trains was 975 km/day, and the average transit time within the EAEU member states was 5.72 days. The best transport speed numbers were achieved in the pre-pandemic 2019 with the volume of transported cargo standing at 333,000 TEUs.

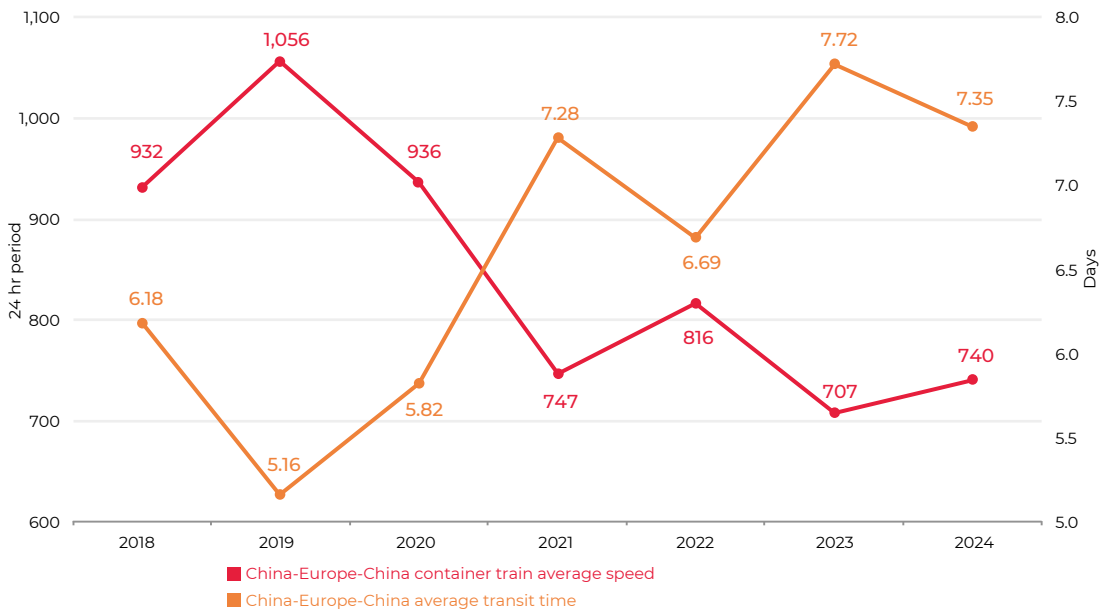
The post-pandemic period saw fluctuating numbers. In 2022, the average train speed increases to 816 km/day compared to 2021, but in 2023, there was a marked 24-hour increase to 7.72 days. In this regard, the average train speed decreased as well, which is also due to the limited throughput border crossing capacity.

In 2024, the average transit time decreased to 7.35 days despite an increase in the volume of shipped goods. The average speed of container trains travelling across the EAEU along the China-Europe-China route increased from 707 to 740 km/day.

The improved performance makes the route more appealing to shippers and reflects the systematic work to improve the level of service carried out by the route operator, as well as the efforts of the EAEU countries to simplify customs procedures. In particular, in December 2024, the EAEU member states [signed an agreement](#) on a unified customs transit system of the EAEU and third countries, which will make it possible to speed up and to cut the cost of cargo transport by increasing connectivity.

Also, starting in January 27, 2025, it became mandatory to use [navigation seals](#) for a number of goods when importing them into the Union State (Russia and Belarus) from third countries. This requirement applies to motorway and rail transport alike. The seals are removed upon arrival at a customs post at the destination point, which guarantees the safety of goods every mile of the route.

### CHINA-EUROPE-CHINA ROUTE SPEED AND TRANSIT TIME VIA EAEU TERRITORY



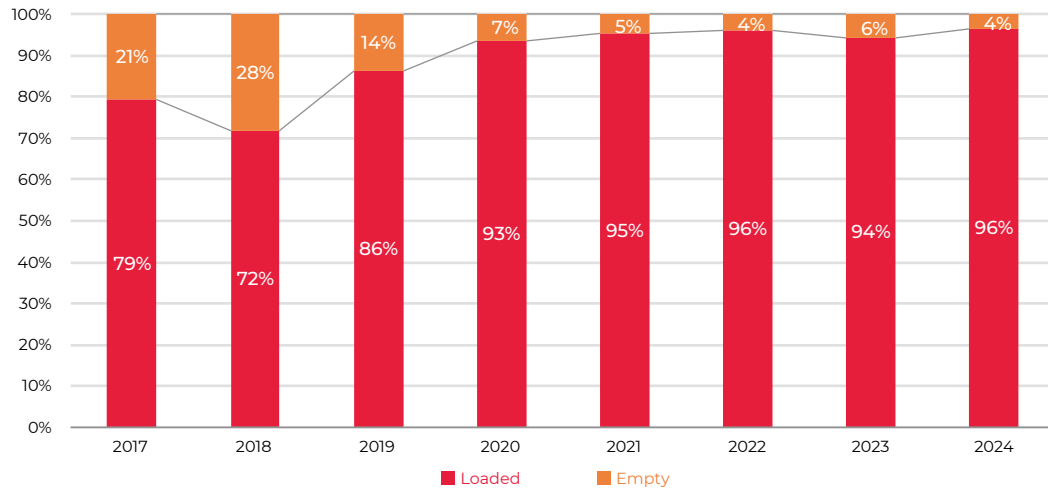
Source: Authors' own compilation

## Cargo base and maintaining the trend for maximising utilisation

Loaded/empty container ratio is among the crucial transport indicators which is particularly important for a Eurasian rail route due to China-EU bilateral trade imbalances. The EU's trade deficit with China against the backdrop of the Western sanctions poses a challenge for trans-Eurasian rail transport. In addition, the availability of containers in China is a pricing factor on the global market of transport and logistics services due to the country's special position in the global division of labour.

In recent years, the number of empty containers on the Eurasian China-Europe-China route tended to decrease. In 2024, the share of empty containers amounted to 4%, which is the best result (on a par with 2022) over the past eight years. Compared to the 2018, the difference is 24 p.p.

### EMPTY/LOADED CONTAINER RATIO

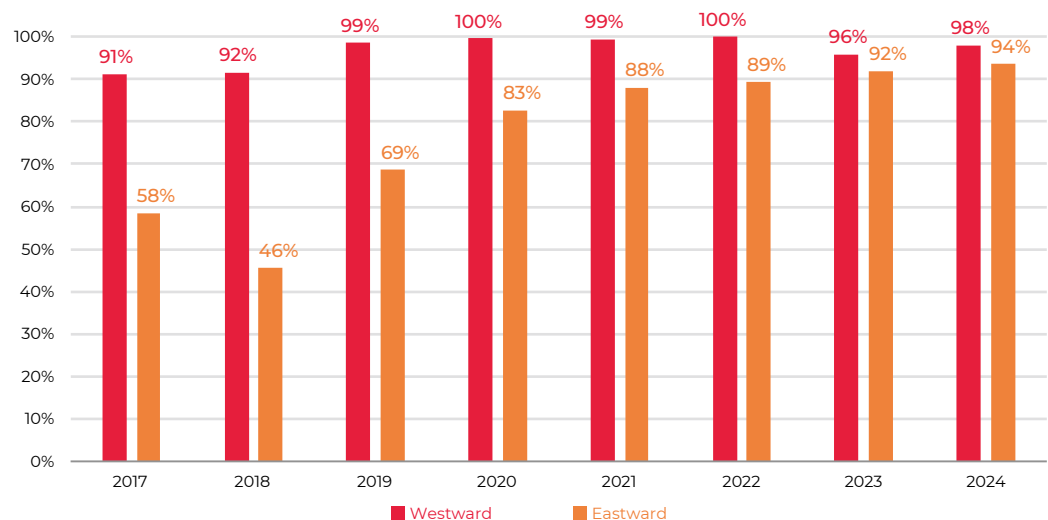


Source: Authors' own compilation

Over the past few years, we witnessed a steady increase in the number of loaded containers going from Europe to China. Decisions to transport empty containers and to fill them in Belarus or Russia played an important role in ensuring this increase. Considering trade imbalance between Europe and Asia, transporting empty containers from the EU to China may become a promising area. Evacuation of containers by rail makes more economic sense than sea evacuation due to shorter shipping time, frequent rail runs, and greater flexibility of routes. This approach not only reduces container downtime, but also contributes to a more efficient distribution of container equipment in Eurasia.

The share of loaded containers going from China to Europe has been consistently high. After a minor decline in 2023 (96%), it went to 98% in 2024. From 2019 to 2022, the figure has consistently been not lower than 99%.

### SHARE OF LOADED CONTAINERS IN CARGO TRAFFIC, BY DIRECTION



Source: Authors' own compilation

According to the ERAI website, in 2024, 86 types of goods from a corresponding number of categories at the level of two Customs Commodity Code (FEACN) digits were transported along the China-Europe-China Eurasian rail route. In 2023, this number stood at 88 categories, and in 2022 — 92 categories. With regard to four-digit FEACN level goods, 837 categories of goods were transported in 2024, 807 in 2023, and 899 in 2022. Certain contraction in the diversity of transported categories is indicative of a cargo base consolidation around traditional shippers and destinations.

The value of freight carried along the Eurasian China-Europe-China rail route amounted to \$29.4 billion in 2024. This represents an 84.9% increase from last year's \$15.9 billion. The share of total amount of goods from annual trade between Europe and China in 2024 reached 3.7%; the figure for 2023 was 2.1%.

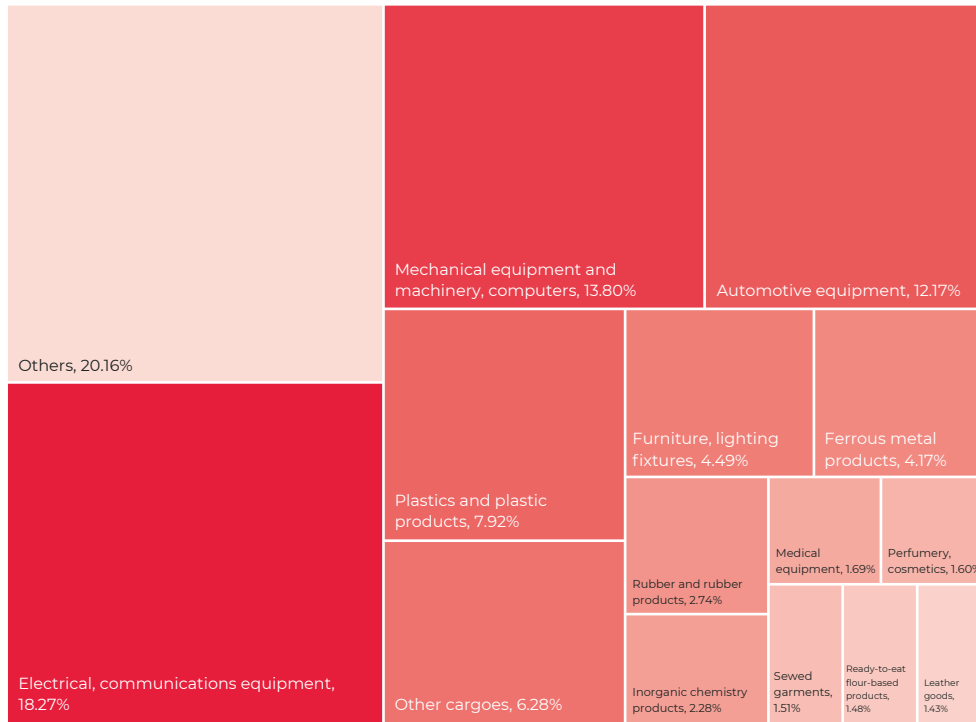
Traditionally, the main categories of goods transported along China-Europe-China Eurasian rail route include electrical devices, and mechanical and automotive equipment. The combined volume of the three categories totaled 144,884 TEUs in 2024, but the share of these goods in total containerised traffic decreased from 44.3% in 2023 to 38.1% in 2024.

Even though all three categories showed a 50% growth in terms of the number of transported cargoes, the share of each type of goods decreased by several points: electrical devices by 2.9 p.p, mechanical equipment by 1.6 p.p, and automotive equipment by 1.7 p.p.

Plastics and plastic products are the second-largest group of transported cargo. Even though their share decreased by 1.8 p.p. compared to 2023, the number of transported goods increased by 38.4%. The share of furniture and lighting equipment increased by 1.6 p.p. with the volume of transport of 23,000 TEUs, which is comparable to the volume of transported plastics. The share of ferrous metal products edged up by 0.2 p.p. The share of sewed garments increased noticeably from 2023 by 1.1 p.p., as did the share of toys and sporting equipment by 1 p.p, also from 2023.

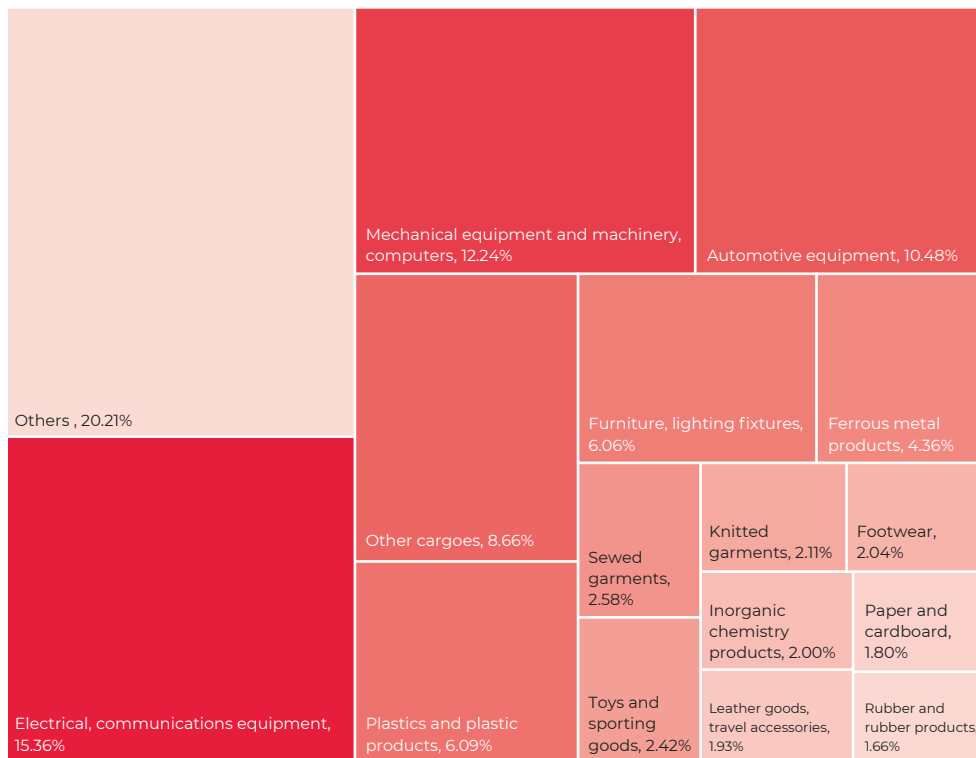
At the same time, the transport of goods such as knitted garments, footwear, paper and cardboard saw a significant increase. In 2024, 8,022 TEUs were transported in the Knitted Clothing category, an increase of 291.5% compared to 2023. Transport numbers with regard to the Footwear category goods reached a volume of 7,742 TEUs in 2024, an increase of 350.1%, while the Paper & Paperboard category showed an increase of 188.8% and reached the 6,852 TEUs transport performance numbers. The combined share of the three commodities in total container traffic amounted to 5.9% compared to 2.9% in 2023.

### MAIN CARGOES IN CHINA-EUROPE-CHINA TRAFFIC IN 2023



Source: Authors' own compilation

### MAIN CARGOES IN CHINA-EUROPE-CHINA TRAFFIC IN 2024



Source: Authors' own compilation

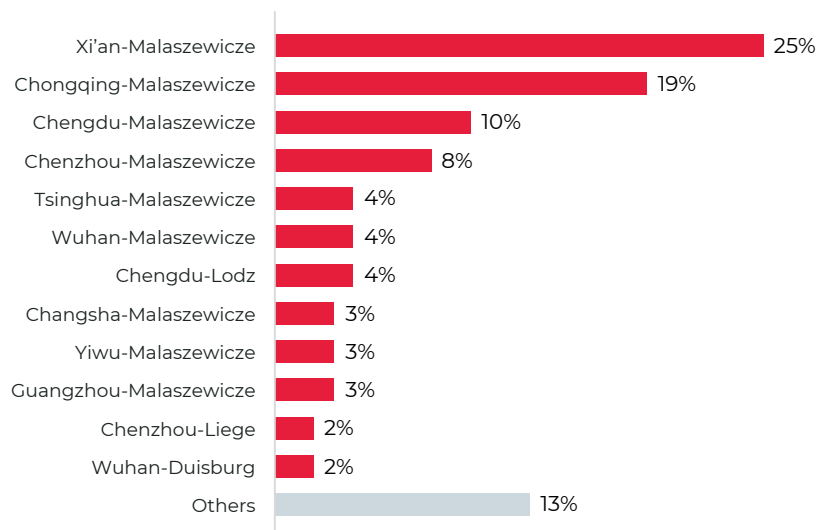
## Shipment destinations

As of the end of 2024, the key points of the Eurasian railroad route in Europe included major ports in Germany (Duisburg, Hamburg, Bremerhaven), as well as the Polish ports of Lodz and Malaszewicze. On the Chinese side, Xi'an, Chengdu, Chongqing, Zhengzhou and Yiwu are the most important shipping and receiving points.

The main supply routes from China to Europe in 2024 were as follows:

- Xi'an-Malaszewicze (82,962 TEUs);
- Chongqing-Malaszewicze (61,704 TEUs);
- Chengdu-Malaszewicze (32,268 TEUs).

### MAIN CHINA-EUROPE (WESTWARD) ROUTES IN 2024



Source: Authors' own compilation

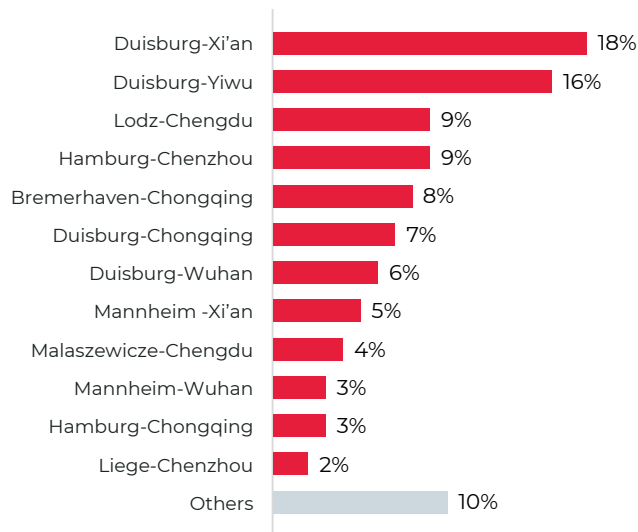
The railway station in Malaszewicze, Poland, accounted for 84.7% of cargoes transported from China to Europe in 2024, which in absolute figures equals 280,200 TEUs.

The main shipment routes from Europe to China in 2024 were as follows:

- Duisburg-Xi'an (8,730 TEUs);
- Duisburg-Yiwu (8,120 TEUs);
- Lodz-Chengdu (4,676 TEUs).



## MAIN EUROPE-CHINA (EASTWARD) ROUTES IN 2024



Source: Authors' own compilation

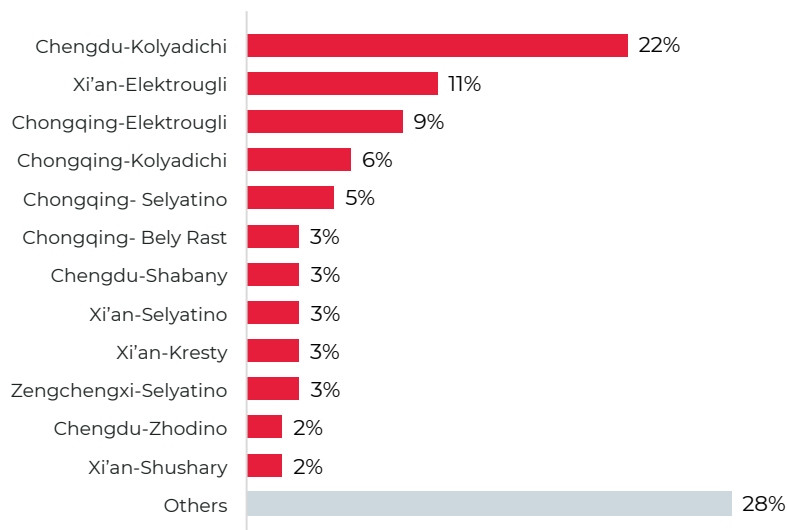
When analysing export-import transport routes, the routes between China and Russia stand out particularly. According to the authors, they include:

- Xi'an-Elektrougli (11%);
- Chongqing-Elektrougli (9%);
- Chongqing-Selyatino (5%);
- Chongqing-Bely Rast (3%).

The routes from China to Belarus stand out as well:

- Chengdu-Kolyadichi (22%);
- Chongqing-Kolyadichi (6%).

## MAIN CHINA-EAEU ROUTES IN 2024

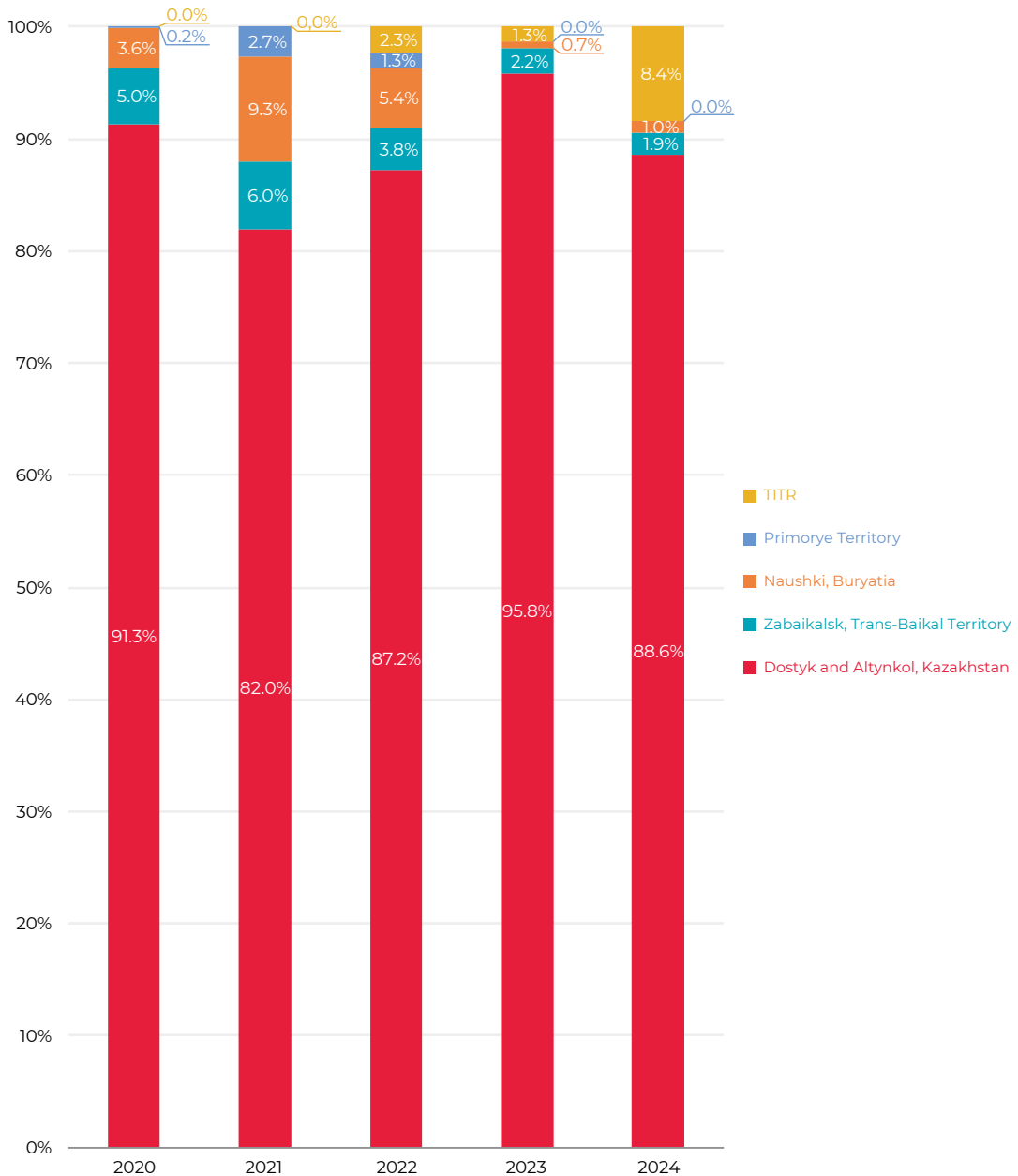


Source: Authors' own compilation

# China-Europe-China transit container traffic structure

China-Europe-China transit container traffic structure in the context of the main border crossings reflects the continued leadership of the Eurasian railway route that goes across Belarus, Kazakhstan, and Russia using Dostyk and Altynkol border crossings. According to border crossing statistics, the Eurasian route (Dostyk, Altynkol) accounts for 88.6% of the China-EU container transit traffic.

## CONTAINER TRAFFIC ON CHINA-EUROPE-CHINA MAIN TRANSIT RAILWAY ROUTES BY BORDER CROSSINGS



Source: Authors' own compilation

The share of the Trans-Caspian International Transport Route (TITR), which includes Dostyk and Altynkol border crossings and then goes across the Caspian Sea, Azerbaijan and Georgia to the EU and Türkiye, has increased significantly. In 2024, the volume of transit container transport along the TITR reached 36,200 TEUs, or 8.4% of the total volume. Compared to 2023, the number of transported containers increased 13-fold. Analysts estimate the potential of TITR at 200,000 TEUs per year. The development of TITR is associated with individual countries and shippers willing to diversify the geography of transit, but the route still has a number of critical limitations, including the need to change the mode of transport at least when crossing the Caspian Sea.

Against the backdrop of an overall increase in the container traffic in 2024, the Naushki border crossing showed a threefold increase in trans-Eurasian containerised transit traffic from 1,500 TEUs to 4,400 TEUs after a decline in 2023. The Zabaikalsk border crossing doubled its performance and reached 8,200 TEUs. However, compared to Dostyk and Altynkol border crossings, which are also used on the TITR Corridor (416,900 TEUs), the total share of these border crossings does not exceed 3%.

# CONCLUSION: OUTLOOK FOR 2025

The past year, 2024, reflects adaptation of Eurasian rail transit freight traffic to the operating environment that changed after 2022. The continuing upward trend in the volume of transit freight transported along the China-Europe-China route reflects the recovery of traffic and the return of shippers to continental routes.

The Red Sea crisis supported the resumption of volumes. It highlighted the advantages of stable and safe cargo shipment by rail across the EAEU. The likely continued threat to shipping across the Red Sea posed by Yemen's Houthis will continue to support "switching to rail," given the inherent competitive advantages provided by continental shipment, such as speed of delivery and cargo safety.

A greater challenge is posed by growing protectionism in global trade amidst exacerbated state competition and tariff escalation by the United States. A significant portion of China-EU trade volumes is made up of cargoes that are part of the transnational corporations' supply chains. The intensification of international political rivalry will negatively impact trade not only between the United States and China, but also between China and the EU. However, in the medium term, the commitment of both the EU and China to preserving mutual trade and economic ties will ensure preservation and growth of shipped cargo, albeit moderate.

Nevertheless, overcapacity in the maritime transport market, a slowdown in the EU economy and potential tariff wars involving China are likely to reduce the cost of sea freight in Asia-Europe trade over the course of the year and, as a result, make maritime transport more attractive than rail. In the long term, the market will be influenced by several key factors, such as resumption of transit traffic across the Red Sea, expansion of transport capacity through introduction of new and reallocation of current resources against the backdrop of a deteriorating supply-demand balance, the economic situation in China and Europe, and changes in global trade flows.

Ongoing efforts to develop the 1,520 mm gauge infrastructure and speed up customs procedures, including through digitalisation, will contribute to the growing attractiveness of continental modes of cargo transport. Examples of infrastructure development affecting freight throughput capacity include launching a second track on the Balkhash-Moyinty section scheduled for 2025 as part of the construction of second tracks on the Dostyk-Moyinty section in Kazakhstan, as well as the Eurasian Development Bank-supported project to create the Bakhty border crossing in addition to existing Dostyk and Altynkol border crossings. At the same time, the unified customs transit system agreement adopted at the level of EAEU member states has a favourable impact on shipping time and contributes to faster speed of container trains, while the mandatory use of navigation seals will ensure safety of goods.

The geography of continental rail freight traffic also tends to become more diversified due to newly available routes, including the TITR corridor. The diversity of Eurasian routes makes it possible to offset the potential impact of economic or foreign policy risks. Given the importance of maintaining stable supplies, both China and the EU are seeking to diversify their cargo delivery routes by developing various transport and logistics corridors.