

OSW REPORT



PIVOT TO THE EAST
RUSSIA'S TRANSPORT POLICY

Iwona Wiśniewska

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Contents

MAIN POINTS | 5

INTRODUCTION | 7

I. THE CONSEQUENCES OF THE INVASION OF UKRAINE FOR RUSSIA'S TRANSPORT SECTOR | 8

1. Rising costs, a slight drop in freight | **9**
2. The collapse of air freight transport | **11**
3. The growth in road transport volumes | **12**
4. The adaptation of Russian ports | **12**
5. Challenges in rail transport | **16**

II. THE OBJECTIVES AND IMPLEMENTATION OF RUSSIA'S TRANSPORT POLICY | 18

1. Expanding rail infrastructure beyond the Urals | **19**
2. Increasing the use of the Northern Sea Route | **23**
3. Access to the Indian Ocean | **25**
4. Expanding infrastructure to serve Belarus and the Russian military | **28**
5. Developing port infrastructure | **29**

III. CONCLUSIONS: RUSSIA'S SHIFT AWAY FROM THE EU AND GROWING DEPENDENCE ON CHINA | 31

MAIN POINTS

- As a result of Russia's aggression against Ukraine, which has been ongoing since 2014, and the ensuing Western sanctions, Russia has reoriented its foreign trade towards the East. This is a permanent shift which stems from Russia's security objectives. Consequently, the full-scale war against Ukraine has not altered the Kremlin's priorities; instead, it has further reduced Russia's dependence on economic ties, and thus transport links, with Europe. The Russian government believes it is engaged in an existential conflict with the West and that the war in Ukraine is part of this broader struggle. This situation has strengthened China's position as Russia's largest economic partner. Alongside India, China has emerged as the leading market for Russian energy resources and the dominant supplier of essential goods to Russia.
- Russia's transport sector has borne the brunt of the immense changes in foreign trade, while also needing to prioritise deliveries for the military and ongoing war efforts. It has been grappling with infrastructural constraints and an underdeveloped road and rail network in the Asian part of the country, along with the impact of the sanctions, including shortages of spare parts and technology, and the withdrawal of Western partners. These factors have led to increased shipping and warehousing costs, longer delivery times, and reduced transport safety (partly due to difficulties in maintaining vehicles in proper technical condition), while the overall transport volume has only slightly decreased.
- The war and the sanctions have impacted the aviation sector most severely. Pipeline transport has also been affected by a significant reduction in gas and oil supplies to Europe. However, road and maritime transport have both increased while rail freight has remained at levels similar to those prior to the invasion of Ukraine.
- Russia has aligned its transport strategy with its foreign policy objectives, primarily focusing on the pivot towards the East. From the Kremlin's perspective, the primary role of freight transport infrastructure is to ensure the diversification of export routes, particularly for energy resources. Consequently, the government has prioritised projects to expand the country's railway and pipeline networks towards Asia.

- The Russian government has concentrated on increasing the capacity of railway lines, which has also enhanced the cargo handling capabilities of the country's seaports. Expediating the long-running expansion of the rail network in the Russian Far East is a priority infrastructure project. Consequently, freight traffic on routes in this region has increased significantly, but it still cannot fully satisfy the rapidly growing demand.
- Sanctions and the suspension of energy projects in the Arctic have slowed the pace of investment in expanding the infrastructure along the Northern Sea Route (NSR), a shipping lane intended to relieve pressure on land routes towards the East. Russian companies were expected to fund most investments in the NSR, but they have been forced to reduce their involvement in the region after being denied access to Western technologies. Recently, however, Chinese entities have become increasingly active in the region, while the Kremlin has shown a growing willingness to cooperate with Beijing in expanding the route's capacity.
- The Russian government's priority is to develop the multimodal International North-South Transport Corridor (INSTC), intended to provide access to global markets via the Indian Ocean. Its primary aim is to establish a direct connection between Russia and countries such as India while also increasing shipments to Turkey (via the Middle Corridor), and Afghanistan. However, this route has limited transport capacity and is not expected to play a significant role in Russian exports in the coming years. It also requires substantial infrastructural investments from both Russia and the countries it passes through, particularly Iran.
- Expanding the capacity of alternative routes to those leading to the West has enabled Russia to mitigate the challenges arising from the reorientation of its trade and the impact of sanctions. Increased spending on such projects has also become one of the drivers of the Russian economy, resulting in improved macroeconomic performance. As a result, the Kremlin has increased public spending to support this objective. However, it is difficult to predict how long the government will maintain sufficient financial resources, as the war is consuming an ever-increasing share of the budget. Additionally, Russian companies have also been curtailing their investments due to sanctions, further casting doubt on the future development of the country's transport infrastructure.

INTRODUCTION

For more than a decade, Russia has been reorienting its foreign policy, including its economic strategy, towards the East. This shift is a result of the Kremlin's aggressive policies, including the illegal annexation of Crimea and the war against Ukraine, which created a rift with the West. Consequently, Russia has distanced itself from its former key economic partners, particularly the EU, while strengthening ties with countries in the Global South.

In the past two years, this pivot to the East has led to a surge in Russia's trade with China, while Russian-EU cooperation has been sharply curtailed. This shift has prompted Russia to align its transport strategy with the reorientation of its trade flows. Moscow has increased investments in expanding transport routes that connect it to Asian countries and global markets through eastern ports. As part of this strategy, it has prioritised projects focused on increasing the capacity of railway lines in the Russian Far East, as well as those leading southward and to all Russian ports.

This report is divided into two sections. The first chapter presents conclusions on the impact of the war and the resulting Western sanctions on Russia's transport sector, specifically in terms of freight. The second chapter discusses the Kremlin's priority infrastructure projects, particularly in the railway sector. Pipeline transport is only briefly covered, as it has already been thoroughly analysed in several earlier OSW publications.¹

¹ See, for example, S. Kardaś, 'The calm before the storm: the state and prospects of Russia's oil sector', *OSW Commentary*, no. 479, 5 January 2023; F. Rudnik, 'Partial success: Russia's oil sector adapts to sanctions', *OSW Commentary*, no. 528, 9 August 2023; *idem*, 'Fanning the flames: crisis on the Russian fuel market', *OSW Commentary*, no. 548, 18 October 2023, osw.waw.pl.

I. THE CONSEQUENCES OF THE INVASION OF UKRAINE FOR RUSSIA'S TRANSPORT SECTOR

Russia's invasion of Ukraine, along with the sweeping sanctions and corporate boycotts that followed, has posed a significant challenge to the Russian transport sector. It has shouldered the burden of major changes in foreign trade while also needing to prioritise deliveries for the military and the ongoing war effort (for further details, see below: 'Western sanctions on Russia's transport sector').

As a result, **Russia's foreign trade has shifted towards the East**. Europe's share of Russian exports plunged from over 50% in 2021 to 20% in 2023, while imports from Europe fell from 42% to 28% of Russia's total imports. During the same period, Asia's share of Russia's exports and imports soared from 40% to 72% and from 47% to 66% respectively. In particular, China has solidified its position as Russia's main trading partner, with trade turnover between the two countries surging by 65% over the two years of the full-scale war.

Western sanctions on Russia's transport sector

In response to its invasion of Ukraine, Russia has been blocked from purchasing and servicing railway equipment (including locomotives), other modes of transport (such as cars and aircraft), and machinery used in construction. The supply of components, engines, spare parts, and electronics, as well as the provision of leasing and maintenance services to Russia by leading Western companies has also been prohibited. In addition, the EU has closed its airspace to Russian planes and banned Russian road freight carriers from entering EU territory.

Furthermore, Western entities have been prohibited from handling maritime transport of Russian oil exported at a price higher than \$60 per barrel (the so-called price cap), including accepting vessels at EU ports. Western automotive companies, which halted local production, along with major shipping lines (such as Maersk, CMA, CGM, and Hapag-Lloyd), have also pulled out of Russia, severely impacting the Russian shipping market. Since the invasion commenced, many European importers of Chinese goods have ceased using railway transit through Russian territory (the so-called Northern Corridor or the Railway Silk Road), though this traffic started to recover by late 2023.

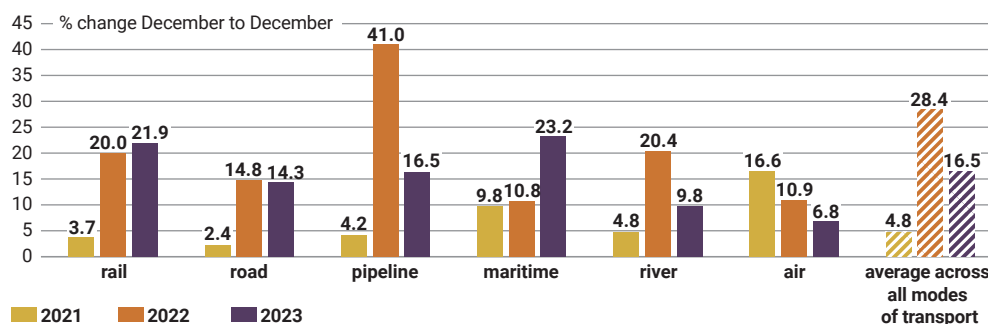
1. Rising costs, a slight drop in freight

Sanctions and the need to reorient foreign trade have resulted in higher transport costs and longer delivery times in Russia (see Chart 1). At the same time, transport safety, including environmental safety, has declined, particularly in maritime and air freight within Russia. Outdated equipment, maintained by unlicensed companies, is now being used to transport goods. Additionally, labour shortages have resulted in significantly higher workloads, especially for drivers and train operators.

The role of the state in the transport sector has also expanded, with state-owned companies further consolidating their position, particularly in the rail and maritime sectors. Rosatom, which already controlled the transport of goods along the Northern Sea Route before the invasion of Ukraine, has emerged as the dominant player in Russia's transport market. In 2023, the nuclear monopoly also acquired FESCO (which owns the Vladivostok Commercial Port and container terminals in Novorossiysk and Vladivostok) and Delo (the owner of TransContainer, Russia's largest container transport operator, along with 47 inland container terminals and nine port terminals with access to all the seas surrounding Russia).

The Kremlin is also the principle investor in this sector, having increased public spending, particularly on rail and road infrastructure. Additionally, it exerts influence over the sector through extensive regulations. Depending on market conditions, the government takes a hands-on approach to managing rail transport, allocating quotas to ensure guaranteed shipments of goods via the Trans-Siberian Railway, and offering discounted shipping tariffs, primarily benefiting coal and fuel producers.

Chart 1. Tariffs for the transport of goods in Russia



Source: Rosstat.

The shift in trading partners necessitated the development of new logistics chains in Russia, including significantly increasing the use of the underdeveloped transport infrastructure in the Asian part of the country.² For many industries, such as the timber sector in Karelia, which previously maintained close ties with the West, the shift in buyers resulted in significantly longer distances to new markets. In particular, for oil exports, replacing the EU market with China and India necessitated the creation of a separate tanker fleet and led to extended transport times, as cooperation with European shipping companies was sharply curtailed. Consequently, Russia was required to further develop its transport infrastructure and machinery fleet and to adapt them to new economic demands, posing a significant challenge under the sanctions regime.

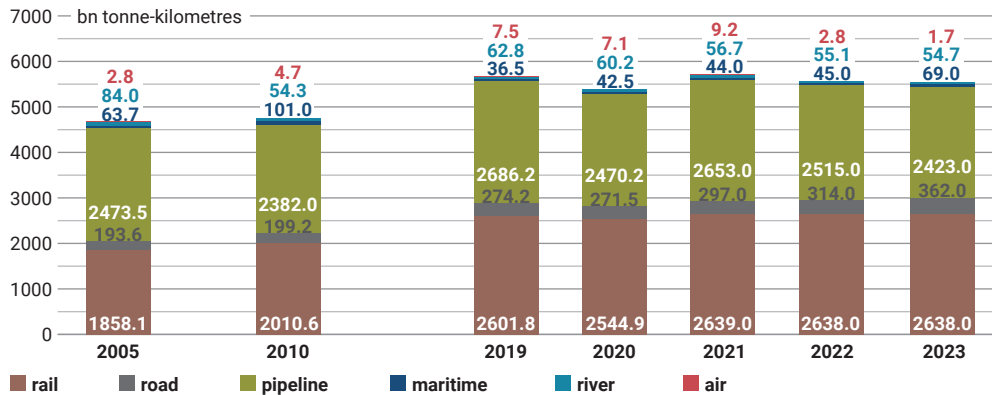
The disruptions from the reorientation of foreign trade and sanctions caused **only a slight drop in Russia's freight volume** in both the first and second year of the war. In 2023, it totalled 5,551 billion tonne-kilometres, 3% less than before the invasion. Air transport has been hit the hardest, and negative trends have also affected pipeline shipments due to the significant reduction in oil and gas supplies to Europe. In contrast, road and maritime transport have both increased. Rail transport, which is primarily responsible for shipping bulk goods such as coal, grain, construction materials, and mineral fertilisers, has largely maintained its freight volumes at pre-invasion levels. On the one hand, the limited capacity of eastbound railways has prevented them from handling all the freight previously destined for the West. On the other hand, a drop in transit between China and the EU has provided a significant boost by freeing up some capacity. Rail is primarily used for transporting goods over long distances, accounting for nearly half of all freight in tonne-kilometres, despite carrying only 15% of the total mass transported in Russia.

In terms of mass transported (measured in tonnes), road transport plays a key role, accounting for over 70% of the total volume (but only 6.5% of freight in tonne-kilometres). The sector maintained strong growth after the invasion, transporting 16% more goods in 2023 than in 2021 (6.5 billion tonnes). This increase largely resulted from road transport taking over some freight previously handled by the rail sector; moreover, commercial activity gained

² According to the Russian logistics information website Logirus (logirus.ru), the infrastructure on the Russia-China border consists of 24 border crossings, most of which are for road traffic; only four are for rail transport. However, in early 2022, partly due to COVID-related restrictions, only 10 of these crossings were operational, for only a few hours a day. In addition, there are 10 border crossings on the Russia-Mongolia border, including two rail crossings into China.

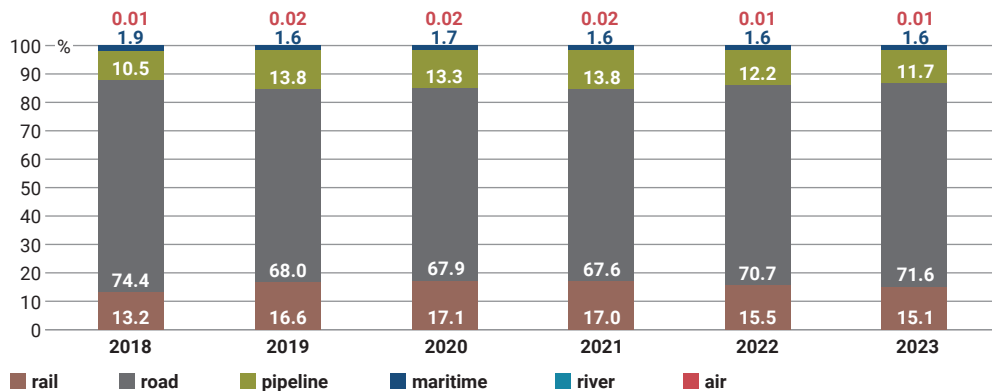
momentum (including in the e-commerce industry) as carriers increasingly moved out of the grey market, prompted by stricter inspections that drove many small firms into bankruptcy. At the same time, the mass of goods transported by other means in Russia has decreased in the two years following the invasion.

Chart 2. Freight volumes in Russia (by transport work)



Source: Rosstat.

Chart 3. The structure of freight transport in Russia (by transported mass)



Source: Rosstat.

2. The collapse of air freight transport

Western restrictions have impacted air freight the hardest. After EU countries closed their airspace to Russian aircraft and Western companies terminated aircraft leases and insurance for Russian carriers (most passenger and cargo planes were leased from companies based in places such as Bermuda

and Ireland), these planes could be confiscated abroad at the request of their actual Western owners. To prevent this, Russian carriers stopped flying these aircraft abroad, resulting in the loss of their most lucrative EU market and a significant reduction in cooperation with non-Western countries.

Shortages of spare parts and maintenance services have also led to a significant reduction in domestic flights. Consequently, part of Russia's aviation fleet was grounded, many international routes were suspended, and air safety declined. Over two years, air freight volume plummeted by more than 80% reaching 1.7 billion tonne-kilometres in 2023. A sharp rise in aviation incidents (which more than tripled year-on-year in 2023) led to increased demand for long-distance passenger transport by other means, further limiting the capacity for shipping goods by rail. In Russia, as in other countries, passenger rail transport is considered a priority.

3. The growth in road transport volumes

Despite the collapse of the Russian automotive industry – with passenger car production plunging by 60% in 2023 compared to pre-invasion levels and truck production falling by 10% – **road transport volume has increased by over 20% during the two years of the full-scale war, reaching 362 million tonne-kilometres.** Russian companies have managed to partly regain access to Western vehicles and spare parts through parallel imports, primarily via Belarus. They have also begun sourcing replacements from third countries. In 2022, imports of trucks from China quadrupled to 31,000 units, and in 2023, this figure grew by another three and a half times. As a result, the share of Chinese-made vehicles in new truck sales in Russia soared to 60%.

Furthermore, domestic production has partly resumed, albeit with the use of much less advanced technological solutions. Road transport, operated by private companies, including small and medium-sized enterprises, has proven to be the most flexible. As a result, it has started handling deliveries over increasingly longer distances, especially given the limitations of the rail infrastructure.

4. The adaptation of Russian ports

Sanctions have delivered a significant blow to Russian ports and oil terminals in the Baltic Sea and Black Sea regions. Additionally, due to the war and imposed restrictions, the costs of maritime insurance services in the Black Sea region have risen sharply. After the withdrawal of Western shipping

companies, on which Russia's maritime transport had heavily relied (in 2021, they handled nearly 90% of the country's maritime container shipping and 85% of its oil shipments), Russian companies began expanding their own fleet, primarily by purchasing outdated vessels from European shipowners (such as Greek, Cypriot, and Maltese companies), while also strengthening cooperation with non-Western partners.

Maritime container shipping between Russian ports and foreign markets has primarily been handled by Russian-registered companies. These include FESCO, now controlled by the state-owned Rosatom, which primarily serves routes to China and Turkey and has also launched the intermodal Minsk–St. Petersburg–Shanghai route; RusCon, controlled by Delo Group, operating from St. Petersburg and Novorossiysk to Turkey; and Transmasters, which sails to China and has chartered three medium-sized Chinese container ships (each with a capacity of 1,662 TEU) that were previously destined for scrap. The connection to China is also serviced by the Hong Kong-registered Global Field Line,³ while Turkish shipping companies, including the newly established Sidra Line (founded in 2022), are heavily involved in shipping between Russia's Black Sea ports and Turkey.

The export of sanctioned Russian oil is managed by tankers flying the Russian flag and the so-called 'shadow fleet' – vessels that are neither registered in the West nor insured by reputable companies. According to S&P Global, by June 2024, after steady growth, the number of such ships was estimated to be nearly 600.⁴ Furthermore, despite the sanctions, Western entities (from the G7 countries, the EU, and Norway) continue to transport Russian fuels and oil, as well as insure these exports: in December 2023, they accounted for 36% of Russia's oil shipments and 62% of its fuel shipments, down from 80% in March 2022.⁵ To circumvent the restrictions, vessels of the 'shadow fleet' often switch off their transponders or use them to send false location signals. Russian fuels and oil are also transferred at sea onto larger vessels (side by side) to obscure the origin of their cargo, often by mixing Russian oil with other grades.⁶

³ For more details, see 'Новые морские контейнерные сервисы между портами Китая, Азии и портом Санкт-Петербург', the shipping company Аэростар, 15 June 2024, aerostar.by.

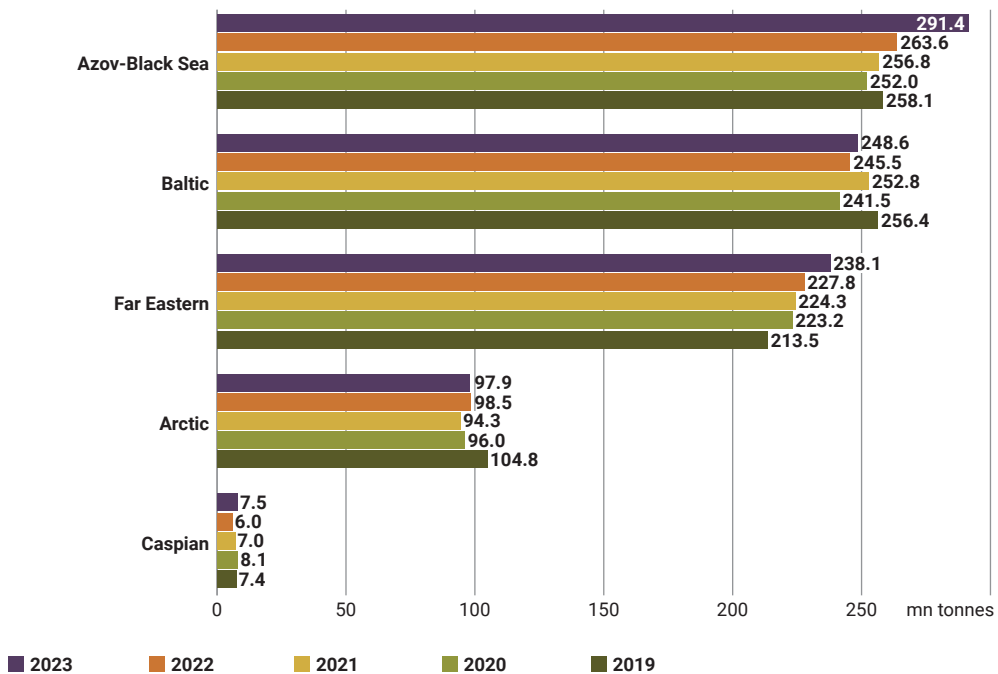
⁴ B. McKinney, J. Domballe, M.F. Esposito, M. Lin, 'Russia's shadow fleet – Formation, operation and continued risks for sanctions compliance teams', S&P Global, 19 June 2024, spglobal.com.

⁵ I. Levi, 'December 2023 – Monthly analysis on Russian fossil fuel exports and sanctions', Centre for Research on Energy and Clean Air, 23 January 2024, energyandcleanair.org.

⁶ For more details, see F. Rudnik, 'Partial success...', *op. cit.*

As a result, over the two years of the full-scale war, Russian ports have adapted to the new conditions and fulfilled the growing demands of Russian companies. Maritime oil terminals have taken over the export of crude oil that was previously transported to Europe via the northern branch of the Druzhba pipeline. Ports in the Baltic Sea region, for their part, have begun handling the export of Belarusian mineral fertilisers, which were previously shipped through ports in the Baltic states.⁷ Moreover, since mid-2022, driven by a strong harvest and the Kremlin’s decision to boost grain exports, shipments of agricultural goods have soared, with grain exports rising by nearly 20 million tonnes over the past two years. Furthermore, due to the limited capacity of its eastbound railways, Russia continues to use the ports in European Russia to export raw materials, including coal, to Asian markets.

Chart 4. Cargo throughput at Russian ports by sea basin



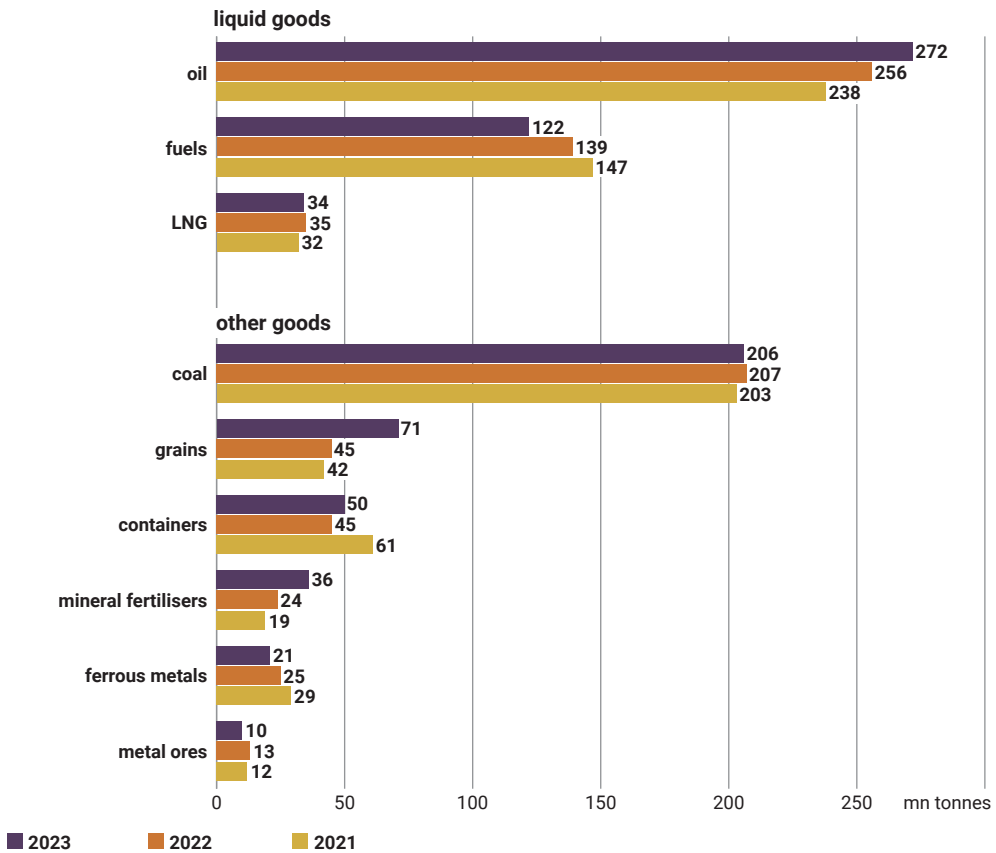
Source: Russia’s Association of Commercial Sea Ports (ASOP).

Consequently, in 2023 the throughput of Russian seaports was 6% higher than in 2021, reaching over 880 million tonnes. This increase was primarily driven

⁷ In 2023, Belarus exported over 6.5 million tonnes of mineral fertilisers through the port of St. Petersburg, accounting for 70% of its foreign sales of these goods. An additional 1.7 million tonnes were shipped to China in containers via the Railway Silk Road.

by higher volumes of oil and petroleum products (up 6%), grain (up 60%), containerised cargo (up 10.5%), and mineral fertilisers (up 50%). Only Russian ports on the Baltic Sea failed to surpass their pre-invasion throughput in 2023. The largest growth was recorded by ports in the Black Sea region (up 13%) and the Far East (up 6%).

Chart 5. The commodity structure of cargo throughput at Russian ports

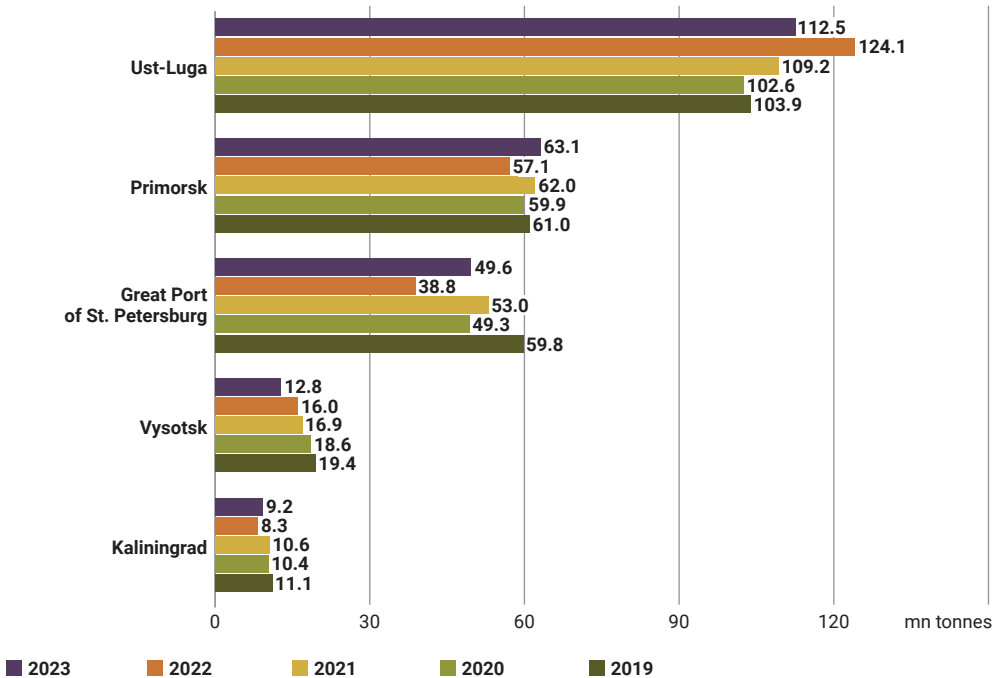


Source: Russia's Association of Commercial Sea Ports (ASOP).

Russian ports on the Baltic Sea saw a nearly 3% drop in throughput in 2022 but partially recovered in 2023, with Primorsk, St. Petersburg, and Kaliningrad all reporting year-on-year growth, though the latter two still fell short of pre-invasion levels. This was primarily due to a slump in container traffic (down 50% to 1 million TEU in St. Petersburg and approximately 70% to 160,000 TEU in Kaliningrad) and a decline in iron and steel exports. Increased exports of mineral fertilisers from St. Petersburg and more cabotage shipments to Kaliningrad, an enclave now reliant on maritime supplies for sanctioned goods, were insufficient to offset these declines. The largest Baltic port for

handling bulk cargo is Ust-Luga, which reported lower throughput in 2023 than in the record year of 2022, though still higher than pre-invasion and pre-pandemic levels. Built in 2001, this port is well-connected to Russia’s rail, road, and pipeline networks and has been expanding rapidly for many years, with oil and coal accounting for over half of its throughput (split evenly at 50/50) – see Charts 4, 5, and 6.

Chart 6. Cargo throughput at Russian ports in the Baltic Sea region



Source: Russia’s Association of Commercial Sea Ports (ASOP).

5. Challenges in rail transport

The rail system has been the weakest link in Russia’s effort to reorient its trade towards the East. Its limited capacity, particularly in the Far Eastern section, which was already operating at full capacity before the invasion, has made it impossible to accommodate all of the growing demand.⁸ Investments in upgrading and expanding this infrastructure have indeed increased

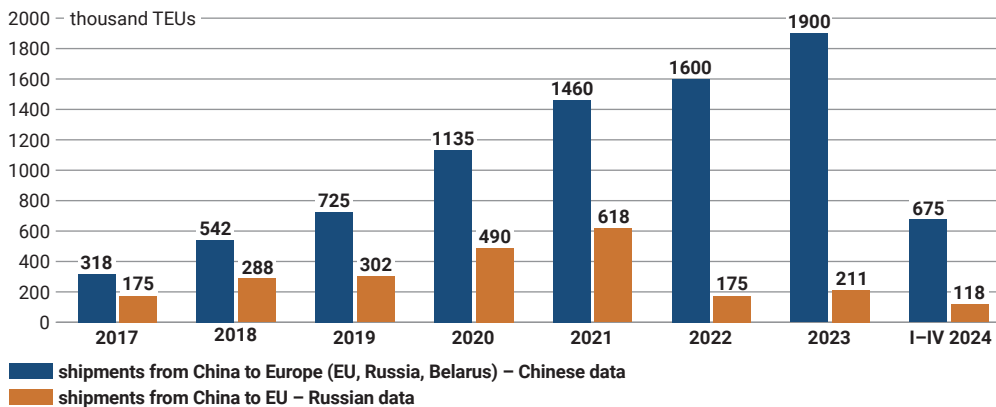
⁸ In 2023, 238 million tonnes of goods passed through ports on Russia’s eastern coast, while the total capacity of Russian railways in this region was 173 million tonnes. As a result, these ports are currently operating at only 70–90% of their capacity. For more details, see E. Владимиров, ‘Доигрались: мощностей Восточного полигона не будет хватать все следующие 10 лет’, Морские вести России, 2 May 2024, morvesti.ru.

capacity, but they have also created new bottlenecks in the process. Eastbound rail transport clearly benefitted from the significant reduction in container shipments along the Northern Corridor of the Railway Silk Road, which runs between China and Europe, mainly through Kazakhstan (in 2023, these shipments were about 65% lower than in 2021). This decline freed up capacity in the Asian part of Russia’s railway network, enabling it to handle the growing trade between Russia, Belarus, and China (see Chart 7).

Since December 2023, due to attacks by Yemeni Houthi rebels in the Red Sea, the Northern Corridor has regained its importance for shipments between China and the EU. Freight volumes have approached pre-invasion levels, reaching 189,000 TEU in the first half of 2024, compared to 303,000 TEU during the same period in the record year of 2021.

The overall reorientation of Russia’s trade towards Asia has also freed up transport capacity in the European part of the country. Coal producers have capitalised on this by periodically increasing their exports through ports on the Baltic Sea and in Murmansk.

Chart 7. Rail shipments between China and Europe



Source: CR Express; Eurasian Rail Alliance (UTLC ERA), a transportation and logistics company.

II. THE OBJECTIVES AND IMPLEMENTATION OF RUSSIA'S TRANSPORT POLICY

From the Kremlin's perspective, Russia is engaged in a systemic, existential conflict with the West, and the war in Ukraine is merely one aspect of this broader struggle.⁹ As a result of this outlook, Russia's transport strategy has been subordinated to its security objectives. In this context, the Kremlin's key priorities include achieving greater diversification and reducing the country's dependence on economic ties, including transport links, with Europe, while strengthening its ties with China, regarded as a strategic ally. This necessitates expanding alternative transport routes leading directly to countries in the Global South, particularly Eurasian rail corridors, which increasingly handle the rapidly growing China-Russia and China-Belarus trade.

The impetus for Russia's reorientation towards the East originated from the rift with the West following its 2014 annexation of Crimea and aggression against Ukraine. However, this process intensified after the 2022 invasion and the imposition of sweeping Western sanctions on Russia. **The full-scale war against Ukraine has not changed the priorities of the Kremlin's transport policy but has merely accelerated their implementation.**

From the Kremlin's standpoint, the primary role of the country's transport infrastructure is to **ensure the diversification of routes for exporting Russian resources**, particularly energy supplies. This explains the government's focus on expanding the country's railway and pipeline network towards Asia, both eastward and southward. One of Vladimir Putin's objectives is to make Russia independent not only from the West but from any foreign country in general. According to this plan, imports should fall to 17% of GDP by 2030 (down from 19% in 2023 and 26% in 2019). Imports should be diversified and restricted to essential goods and services, allowing Russia to maximise domestic production of goods and provision of services.

The underdevelopment and chronic underinvestment in transport infrastructure, particularly in rail and road networks, represent major obstacles to achieving these goals. Intermodal transport, including the necessary network of transshipment terminals and logistics centres, is particularly underdeveloped. This market did not experience rapid growth until the COVID-19

⁹ See, for more extensive analysis, M. Menkiszak, *Winning the war with Russia. The West's counter-strategy towards Moscow*, OSW, Warsaw 2023, osw.waw.pl.

pandemic and the subsequent rebound in cargo transit between China and Europe through Russian territory. Several large logistics centres for handling the transfer of goods between different modes of transport have since been established around Moscow, near key railway hubs, and in the vicinity of ports such as Kaliningrad, Vladivostok, Novorossiysk, and St. Petersburg. Containerisation remains low, with rail transport standing at only around 5.5% in 2023. Investment in the transport sector averages about 2% of GDP, roughly half of what developing and developed countries allocate for such purposes. Only 30% of these funds are allocated to constructing new infrastructure, with the remainder directed towards maintaining existing facilities. This issue largely stems from the poor quality of investment projects.¹⁰

Redirecting Russian energy resources to the Asian market has been a key aspect of Russia's pivot to the East. While it was possible to reorient Russian oil exports from Europe to China and India without additional investments in pipeline infrastructure,¹¹ gas transport requires time-consuming and costly projects. However, so far, Beijing has shown no interest in building additional pipelines to connect Russian gas fields with China, while Western sanctions have hindered the expansion of LNG facilities needed to export gas in liquefied form.¹² As a result, the Russian government is now focused on expanding the capacity of the country's railways and ports, which are vital for sustaining foreign trade, supplying the regions and occupied territories, and supporting the war effort.

1. Expanding rail infrastructure beyond the Urals

Due to Russia's vast size, **rail remains the primary mode of transport, particularly for long-distance routes.** In 2023, it accounted for nearly 50% of freight volume (approximately 2.6 trillion tonne-kilometres), but only 14% of the total mass transported. Around 80% of goods transported by rail fall into five categories: coal, oil products, construction materials, metal ores, and metals. These goods are prioritised in rail transport, often at the expense of container shipping. However, the railway network in the Asian part of Russia is

¹⁰ For more details, see [Распоряжение Правительства Российской Федерации от 27 ноября 2021 года №3363-р «Об утверждении Транспортной стратегии Российской Федерации до 2030 года с прогнозом на период до 2035 года»](#), Ministry of Transport of the Russian Federation, mintrans.gov.ru.

¹¹ For more details, see F. Rudnik, 'Partial success...', *op. cit.*

¹² For more details, see *idem*, 'The Power of Siberia-2 gas pipeline remains in the design stage', OSW, 6 April 2023; *idem*, 'The effect of the sanctions: the Russian LNG sector's problems', *OSW Commentary*, no. 578, 7 March 2024, osw.waw.pl.

underdeveloped. The backbone of the rail infrastructure leading to the Pacific Ocean consists of two parallel lines: the Trans-Siberian Railway, which ends at the port of Vladivostok, and the Baikal-Amur Mainline (BAM), which leads to the port of Vanino in Khabarovsk Krai (see Map 1). However, BAM's capacity is severely limited (approximately 40 million tonnes as of early 2024), due to its lack of electrification and the presence of only a single track along most of its length.

In addition to the insufficient capacity of rail infrastructure in Russia's Asian regions, rail transport faces several significant challenges nationwide. These include shortages of rolling stock, especially locomotives and specialised freight cars such as tankers, a lack of spare parts (such as bearings), an insufficient number of train operators, significant delays in implementing digital solutions for improving railway traffic management, and the limited capacity of infrastructure providing access to nearly all of the country's ports.

Russia has improved its rail infrastructure over the past decade, with many investments focused on expanding capacity to accommodate the rapidly growing container shipments from China to Europe transiting through Russian territory during the COVID-19 pandemic. Consequently, in 2023, the two main rail lines in the Russian Far East transported a total of 173 million tonnes of goods, compared to 144 million tonnes in 2021 and about 60 million tonnes in 2012.

However, the railway system is still unable to meet all the transport needs of the Russian economy; it has even struggled to fulfil its quota obligations to coal producers. In the coming years, the government plans to ramp up investment, partly through the National Wealth Fund. In 2024, 400 billion roubles (approximately \$4.5 billion) will be allocated to increasing the capacity of both main lines in the Russian Far East, compared to 250 billion roubles (\$3 billion at the exchange rate of the time) in 2023. These funds will primarily be used to eliminate bottlenecks, such as the one near the Tayshet station in Irkutsk Oblast where BAM originates, the construction of a second track along part of this route, electrification near the port of Vanino, and the introduction of digital traffic management solutions. The infrastructure of Russian Railways in the Far East is expected to increase its capacity to 210 million tonnes annually by 2030 and 270 million tonnes by 2032. In addition to public investments, private companies have also been working to expand infrastructure. A 530-kilometre private railway line is under construction to connect the Elga coking coal deposit

in Yakutia,¹³ with the nearly completed Elga port on the coast of Khabarovsk Krai. This infrastructure is expected to handle the export of 15 million tonnes of coal by 2025, with a projected increase to 50 million tonnes in the following years.

Russia has been expanding border infrastructure in the Asian region bordering China and Mongolia, particularly at Zabaykalsk, the largest rail border crossing in the area, which handles about half of the freight traffic passing through Russia's Far Eastern borders. In 2023, it processed 22 million tonnes of goods, a 30% year-on-year increase, with 19.5 million tonnes of coal and other goods exported to China. By the end of 2025, the construction of a second standard-gauge track (1,435 mm) is expected to increase the crossing's capacity to 37 million tonnes. In 2023, Zabaykalsk also increased its container processing by 15% year-on-year to 550,000 TEU, accounting for half of all container shipments passing through Russia's borders with China and Mongolia.¹⁴

To manage its rapidly growing trade with China, Russia is increasingly relying on Kazakhstan's rail infrastructure. In 2023, 3.8 million tonnes of goods were transported between Russia and China via Kazakhstan, a 35% increase from the previous year. Before Russia's invasion of Ukraine, Kazakhstan's transit routes were used to a limited extent, primarily for shipments between China and the EU. In recent years, Kazakhstan has consistently invested in transport infrastructure, particularly its rail network, strengthening its position in regional transit, especially on routes to China. These efforts include the ongoing expansion of two existing rail links across the Kazakh-Chinese border (Khorghos–Altynkol and Dostyk–Alashankou), as well as the start of construction on a third connection (Bakty–Tacheng). By 2027, these projects will increase the capacity of the infrastructure on the border with China from 28 million tonnes to 48 million tonnes. In parallel, Kazakhstan has been striving to diversify its infrastructure by expanding transport routes leading southward (to Kyrgyzstan, Uzbekistan, and Turkmenistan), westward (across the Caspian Sea to Azerbaijan), and northward (to Russia).

¹³ It is one of the largest coking coal deposits in Russia. Production began in 2011 and reached 21 million tonnes in 2023, with an expected increase to 50 million tonnes by 2027. The deposit is controlled by Albert Avdolyan, who has close ties to Sergey Chemezov, the CEO of the state-owned defence corporation Rostec.

¹⁴ 'Перевозки через погранпереход Забайкальск – Маньчжурия выросли на треть в 2023 году', Телеграмма РЖД, 30 January 2024, t.me/telerzd.

Map 1. Railways of the Russian Far East



Source: Russian Railways; A. Сидоров, 'Восточный полигон: тревожные ожидания участников перевозок', Морские вести России, 4 April 2024, morvesti.ru.

2. Increasing the use of the Northern Sea Route

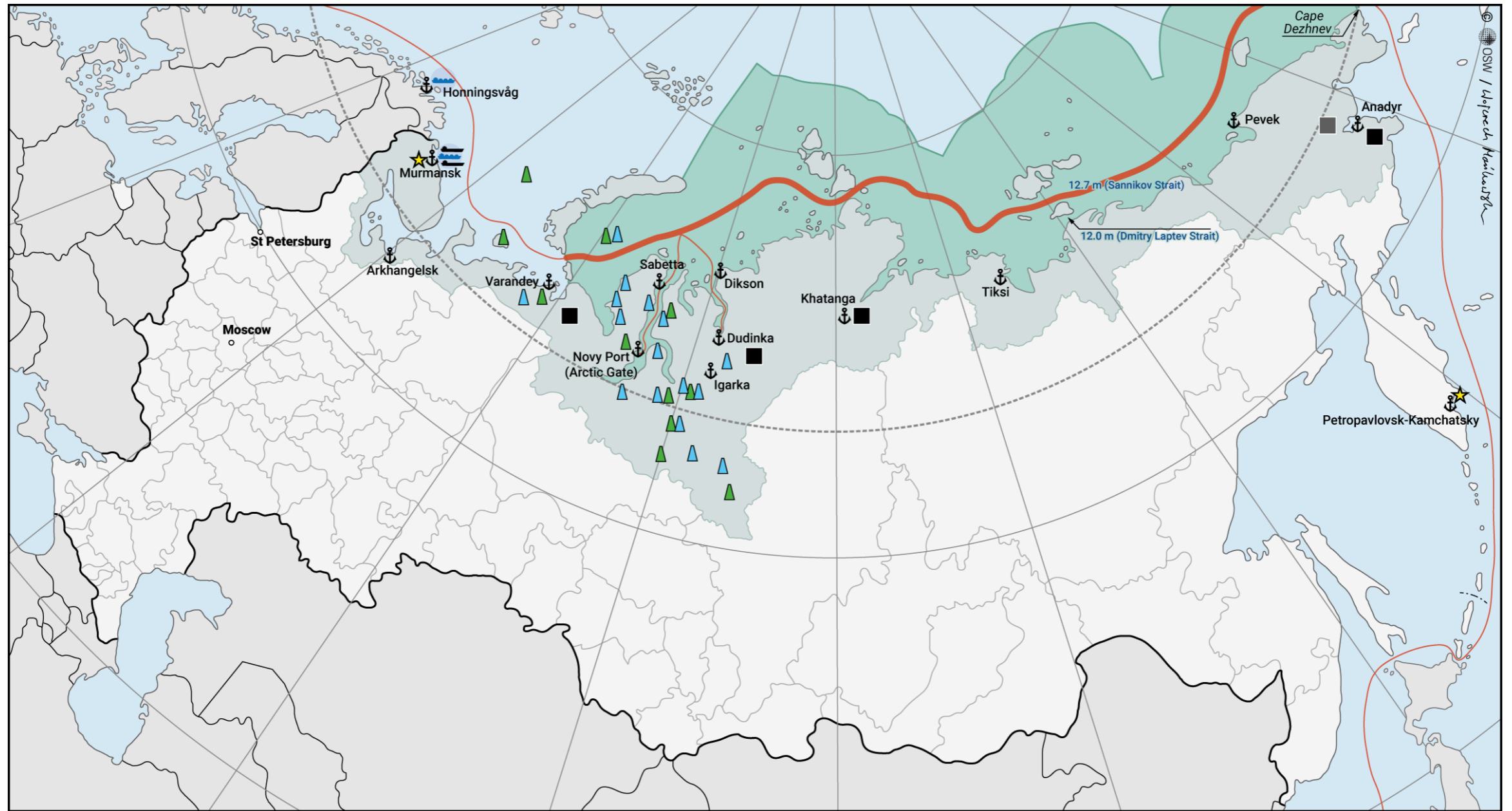
To alleviate pressure on land routes leading eastward, Russia seeks to **increase the use of the Northern Sea Route (NSR)**, which passes through the Arctic (see Map 2). Although the development of this route remains a priority for the Kremlin, investments in expanding its infrastructure (such as ports, access points, bunkering facilities, and navigation systems) and building specialised vessels, support ships, and icebreakers have not progressed as planned. This is mainly due to sanctions and a slowdown in energy projects in the region, partly as a result of limited access to essential technologies. The expansion of this route was expected to rely largely on non-budgetary funding from Russian corporations, as government plans envisioned the NSR primarily as a route for exporting resources extracted in the Arctic. Transit was expected to account for only a small portion of cargo traffic along this route (approximately 8%, or 10 million tonnes, by 2035, compared to 5%, or 2.1 million tonnes, in 2023).¹⁵

The Kremlin views cooperation with China as a way to overcome the challenges in developing the NSR. After transit along this route plummeted in 2022, 75 shipments transporting a total of 2.1 million tonnes of goods were recorded the following year, with voyages between Russia and China (mainly oil transported from Baltic Sea ports) accounting for nearly 95% of the freight traffic.¹⁶ By contrast, containers accounted for only 3% of the cargo. Since 2013, the largest Chinese shipping company, COSCO Shipping Lines, had operated on the NSR, completing 42 voyages between 2013 and 2021, but suspended operations after the full-scale war in Ukraine commenced. It was replaced by another Chinese company, New Shipping Line, which launched regular services between ports in northern Russia (Kaliningrad, St. Petersburg, and Arkhangelsk) and China/South Korea during the summer season. In 2023, it completed eight such voyages, with 12 planned for 2024.

¹⁵ I. Wiśniewska, 'Północna Droga Morska w polityce Rosji', *Komentarze OSW*, no. 400, 14 July 2021, osw.waw.pl.

¹⁶ M. Humpert, 'China Pushes Northern Sea Route Transit Cargo to New Record', *High North News*, 18 December 2023, highnorthnews.com.

Map 2. The Northern Sea Route



- Russian Arctic zone
- NSR waters (official NSR boundaries extending 200 miles from the coastline according to Russian law)
- Northern Sea Route's optimal route
- LNG transshipment areas
- ports
- oil transshipment tankers
- LNG terminals (under construction)
- natural gas deposits
- oil deposits
- hard coal deposits
- lignite deposits

Source: А. Никишин, 'Арктика: территория лидерства', Парламентская газета, 4 December 2017, pnr.ru; 'Акватория Северного морского пути', ФГБУ «ИАСЦ», nsra.ru.

3. Access to the Indian Ocean

Another key project for the Kremlin is the development of **the multimodal International North–South Transport Corridor (INSTC)**.¹⁷ Since Russia’s invasion of Ukraine, the corridor’s importance has increased despite its numerous infrastructural limitations. Russia has been using it extensively, primarily for maritime connections with Iran and land routes through the South Caucasus to Turkey, partly as an effort to bypass Western sanctions. In 2023, shipments across the Caspian Sea to Iran surged by 55% reaching 5.5 million tonnes (up from 3.5 million tonnes in 2022), though this route still plays a minor role in Russia’s overall transport network due to its limited capacity. Rail transport, primarily through Azerbaijan, whose network is connected to Turkey via Georgia, grew by 14% in the same period, reaching 11.6 million tonnes.

The Kremlin hopes that by further developing the INSTC and utilising routes through Central Asia, the South Caucasus, and the Caspian Sea, Russia will gain direct access to the Indian Ocean via Iran’s Chabahar port (although this would first require connecting it to Iran’s rail infrastructure). The countries involved in the INSTC initially assumed that it would also capture some trade flows from the Scandinavian countries towards Asia, similar to the Middle Corridor.¹⁸ However, Russia’s invasion of Ukraine has disrupted these plans (see Map 3).

Regarding the INSTC, Russia remains dependent on cooperation with third countries. Currently, the main constraint on developing rail transport along the shortest route is that Iranian and Azerbaijani rail infrastructure are not connected. In 2023, Russia signed an agreement with Iran to build the Rasht–Astara section by 2028 to address this issue. The project, which will be financed by Russian loans, is estimated to be worth \$1.6 billion. However, the total cost of modernising and expanding the INSTC’s transport infrastructure, including ongoing and planned projects, is expected to exceed \$13 billion. Most of these investments focus on the route through the South Caucasus, as it also provides access to Turkey. This will enable the connection of the INSTC with the Middle

¹⁷ The construction of the INSTC was initiated in 2000 by Russia, India, and Iran. In the following years, more countries joined the initiative, including Azerbaijan, Armenia, Belarus, Kazakhstan, Kyrgyzstan, Oman, Syria, Tajikistan, Turkey, Turkmenistan, Ukraine, and Bulgaria as an observer. For more details, see E. Vinokurov, A. Ahunbaev, N. Usmanov, A. Zaboiev, *International North–South Transport Corridor: Investments and Soft Infrastructure*, Reports and Working Papers 22/2, Eurasian Development Bank, April 2022, at: papers.ssrn.com.

¹⁸ K. Popławski, S. Baniak, A. Michalski, M. Popławski et al, *The Middle Corridor. A Eurasian alternative to Russia*, OSW, Warsaw 2024, osw.waw.pl.

Corridor, which runs from China through Kazakhstan, the Caspian Sea, Azerbaijan, and Georgia, before continuing either through Turkey or across the Black Sea to the EU.

To support the development of the North–South Corridor, Russia has been investing in the modernisation and expansion of its port infrastructure on the Caspian Sea, particularly in Astrakhan and Makhachkala. It plans to replace its aging fleet and auxiliary vessels, although the transport capacity of this route is significantly constrained by geographical and climatic factors. The Caspian Sea is shallow, with a maximum draught of around five metres for ships carrying 7,500 tonnes, which effectively means that only barges and small ferries can navigate it. In addition, storms frequently disrupt navigation for hours; during winter, ice forms in the northern part of the sea, requiring vessels to be assisted by icebreakers. According to government estimates, shipments along this route are expected to increase to 8 million tonnes by 2030 and 20 million tonnes by 2050. However, achieving this goal will require substantial investments from both Russia and Iran. This includes modernising and expanding rail routes leading to ports, upgrading inland infrastructure, deepening waterways, and maintaining navigable depths (since 2023, ships with a draught of up to 4.5 meters have been able to navigate the Volga–Caspian Canal, linking Astrakhan to the sea via the Volga Delta). Furthermore, the fleet is expected to grow by 20 vessels, including 10 container ships, by 2030.

Major investments are also planned for the eastern branch of the North–South Corridor, which runs through Kazakhstan and Turkmenistan. Although the rail link between Russia and Iran is heavily used, the capacity of the border crossings between Turkmenistan and Iran (approximately 10 million tonnes at Sarahs–Sarahs and 2 million tonnes at Ak Yayla–Incheh Borun) remains a constraint. This capacity is crucial, especially since the route is also used by Central Asian countries and China. Furthermore, additional transshipments are required due to the different rail gauge in Iran (1,450 mm). Alongside the expansion of rail infrastructure, ongoing investments are being made in the road network.¹⁹

The North–South Corridor is becoming increasingly important for shipments to Afghanistan and Pakistan. Russia sees an opportunity to boost trade with these countries through the planned construction of the Trans-Afghan Railway,

¹⁹ *Коридор «Север-Юг»: Новые возможности для внешней торговли России*, Росконгресс, June 2024, roscongress.org.

which will run through Termez in Uzbekistan, Mazar-i-Sharif, and Kabul in Afghanistan, all the way to the border crossing with Pakistan at Kharlachi. According to plans, the route's capacity is expected to reach 15 million tonnes annually by 2030. The project's estimated cost is \$6 billion, but the sources of financing remain unclear. To date, only the modernisation of the rail line at the Uzbek-Afghan border has commenced this year.²⁰

Map 3. The route of the North-South Transport Corridor



Source: *International North-South Transport Corridor: Investments and Soft Infrastructure*, op. cit.

²⁰ 'Пакистан, Афганистан и Узбекистан построят Трансафганскую железную дорогу', Trans.ru, 19 July 2023.

4. Expanding infrastructure to serve Belarus and the Russian military

In recent months, the war effort and the need to ensure continuous supply to occupied Crimea have compelled the Kremlin to commence **the construction of a railway line connecting Rostov with Sevastopol, passing through Donetsk and Mariupol**. The line will run along the coast of the Sea of Azov, away from the front lines and parallel to an existing road (see Map 4). It is intended to serve as an alternative supply route should the Ukrainian military succeed in destroying or damaging the Crimean Bridge. According to Russian Railways, it is expected to become operational by the end of 2024.²¹

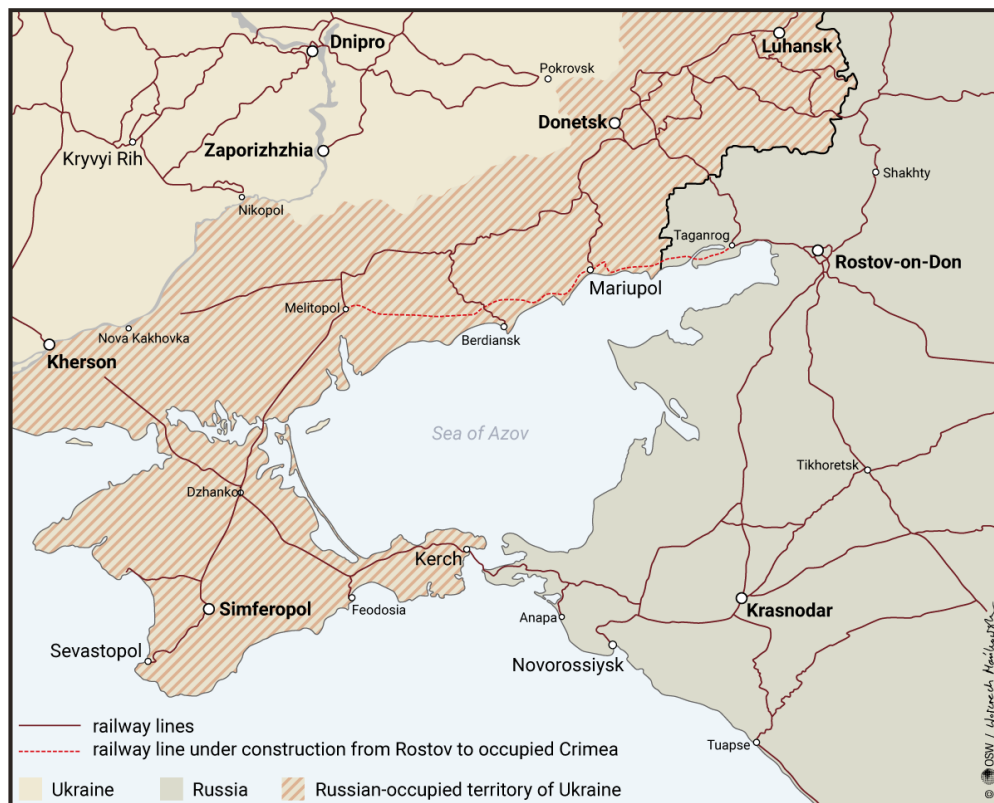
Following the imposition of **sanctions on Belarus by the West** in 2020, and their subsequent tightening, **Russia became the country's sole transport corridor for goods subject to these restrictions**, particularly mineral fertilisers and imports. In 2023, Belarus exported 70% of its potash fertilisers (over 6.6 million tonnes) through the port of St. Petersburg; another 17% (1.6 million tonnes) went directly to China via the Railway Silk Road in containers. Since the sanctions imposed on Belarus and Russia have not been synchronised, Belarus has also become an important channel for Russia to circumvent these measures. For example, cars from the EU are imported into Russia through Belarus. To handle the growing flow of goods, Russia has decided to expand its transport links with Belarus.

In 2023, the railway operators from both countries signed an agreement to modernise the route from Minsk to the ports in Leningrad Oblast. In 2024, Belarus plans to transport nearly 13 million tonnes of goods to St. Petersburg, a volume that could rise to 20 million tonnes by 2027. Russia has committed to constructing five turnouts on the Novosokolniki–Luga section (at Dno and Batetskaya stations) by 2026 to connect the line with the rest of the Russian network. Additionally, it has also pledged to upgrade the traction network and communication systems. In the next phase, access to Bronka port in St. Petersburg, the primary hub for handling Belarusian exports, will be enhanced. Belarus also requires investments in its northbound railway lines to implement plans for building a transshipment terminal for mineral fertilisers at the port of Murmansk with a capacity of 5–7 million tonnes annually. This project is not yet underway, as the Belarusian side is still assessing its viability. In addition to expanding its infrastructure towards the north, Belarus seeks to upgrade

²¹ В. Юхневич, 'Новая ЖД, новые территории, старые угрозы', Вгудок, 19 April 2024, vgudok.com.

its connections with the Russian regions bordering Ukraine, including the rail hub near Zhlobin station.²² This route may be used for military purposes.

Map 4. The route of the railway from Rostov to Sevastopol via Mariupol



Source: В. Южневич, 'Новая ЖД, новые территории, старые угрозы', *op. cit.*

5. Developing port infrastructure

In recent years, Russian exporters of raw materials and logistics companies have been rapidly developing maritime transport, particularly port infrastructure, but it continues to face significant infrastructural constraints. As a result, only 70–90% of terminal capacity is currently utilised. Most investments are now focused on addressing the most critical challenges, which primarily stem from neglect by state-owned entities. These include limited rail capacity on approaches to ports, an overused auxiliary fleet, a shortage of deep-water ports in the Black Sea and Baltic Sea regions capable of

²² 'Беларусь и РФ используют порты Ленинградской области как оптимальный маршрут для перевалки белорусских нефтепродуктов – эксперт', Прайм Пресс, 12 April 2024, primepress.by.

accommodating large vessels (current depth limits allow vessels with a maximum draught of 13 metres, restricting container ships to a capacity of up to 5,000 TEU, while shippers typically use vessels with capacities of 10,000–14,000 TEU, with the largest exceeding 24,000 TEU), and a lack of specialised ports for handling specific goods, such as mineral fertilisers and grain.

III. CONCLUSIONS: RUSSIA'S SHIFT AWAY FROM THE EU AND GROWING DEPENDENCE ON CHINA

The expanding capacity of alternative routes to those leading to the West has enabled Russia to overcome sanctions-related challenges, turning increased spending on such projects into one of the key drivers of the Russian economy, leading to short-term improvements in macroeconomic performance. As a result, over the past two years, the Kremlin has increased budgetary spending on these initiatives, partially by allocating additional funds from the National Wealth Fund. However, it is difficult to predict how long the Russian budget can sustain these projects. So far, the government has stuck to its commitment to maintain high levels of spending, but it is increasingly shifting the financial burden of these investments onto the private sector.

Under the current conditions, and given the uncertainty surrounding Russia's economic outlook and the future of the sanctions, it remains unclear whether Russian companies will be able to fully exploit resource deposits and invest in the infrastructure necessary for exporting these resources. A sharp slowdown in the growth of trade with China in the first quarter of 2024 (down to 5.5% year-on-year compared to 40% in 2023), along with the suspension of energy projects in the Arctic, has highlighted the potential challenges in this area.

Developing alternative transport routes away from the West strengthens Russia's security. As a result, the Kremlin is determined to pursue these projects at any cost. **Russia is bracing for the possibility of a complete shutdown of its economic and transport links with Europe**, either due to an anticipated escalation in its confrontation with the West or a potential intensification of the China-US rivalry in the Pacific. Moreover, Russia appears willing to employ a range of measures to accelerate this scenario, such as increasing migration pressure, launching hybrid operations against NATO countries, and, in extreme cases, resorting to military aggression. Such actions could also disrupt rail transport and transit between China and Europe, potentially forcing Poland to close its border with Belarus, including the crucial Małaszewicze Transshipment Area.

The land-based transport corridors from Russia to the West, including those passing through Poland, are no longer a priority for the Kremlin. The importance of the rail route through Poland (mainly used for transporting bulk goods such as coal and timber from Russia) in Russia's trade relations with the EU has decreased significantly, especially after the imposition of Western

sanctions. In 2023, the EU imported \$3 billion worth of goods weighing around 5 million tonnes by rail from Russia, accounting for about 6% of the EU's total imports from Russia in both value and weight. Meanwhile, the EU's exports to Russia by rail totalled around €300 million and 115,000 tonnes, representing less than 1% of its total exports to Russia by value and weight. Trucks are the primary method of transporting goods from the EU to Russia: in 2023, they carried 3.6 million tonnes of goods worth €35 billion, accounting for around 70% of the EU's total exports to Russia by weight and 90% by value. As for the EU's imports from Russia, nearly 50% of supplies (approximately €24 billion and 39 million tonnes) were transported via pipelines (oil and gas for Central European countries), while over 35% (approximately €18 billion and 30 million tonnes) were shipped by sea.

Thus far, **maintaining the existing transport infrastructure between Russia and the EU has been essential for Moscow's efforts to circumvent the sanctions.** Loopholes in EU law and weak enforcement of restrictions by the EU's member states have enabled Russia to use trade between the EU and Central Asian countries as a primary channel for supplying its domestic market. Furthermore, the lack of harmonisation in the EU's sanctions policies towards Russia and Belarus has enabled both countries to assist each other in circumventing the restrictions. Russia has become the main channel for the export of Belarusian potash fertilisers, while Belarus has ensured the supply of various goods, primarily cars, to the Russian market.