

POLICY BRIEF
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THE MIDDLE CORRIDOR'S
REALITY CHECK:
ADVANCEMENTS AND CHALLENGES IN
PORT INFRASTRUCTURE

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The Middle Corridor's Reality Check: Advancements and Challenges in Port Infrastructure in the Greater Caspian Region

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The Middle Corridor's Reality Check: Advancements and Challenges in Port Infrastructure in the Greater Caspian Region

Recent geopolitical upheavals, including Russia's war in Ukraine and the escalating Houthi threat in the Red Sea, have reignited interest in the [Trans-Caspian International Transport Route \(TITR\)](#), also known as the 'Middle Corridor.' The corridor puts the Caspian Sea and Greater Caspian Region at the centre of transcontinental transport links by offering an alternative to the longer and politically compromised [New Eurasian Land Bridge \(NELB\)](#) or 'Northern Corridor' that crosses Russia. This new multimodal 'Middle' corridor connects China and Europe by traversing China, Central Asia, the Caspian Sea, the South Caucasus and the Black Sea before reaching the EU in just [15 days](#). Beyond offering strategic diversification away from Russia and traditional sea routes, the TITR [enables](#) the Central Asian and South Caucasus states to foster economic growth and regional development to create robust and efficient logistical networks.

According to the World Bank, the volumes of goods along the Middle Corridor are [expected](#) to triple by 2030, reaching 11 mt (million tonnes) annually, primarily due to economic growth in the Greater Caspian Region, which includes the South Caucasus and Central Asian countries. Given the strong interest from freight forwarders in [using](#) this route, the TITR has grown substantially, with cargo volumes [rising](#) by 63% in the first 11 months of 2024 to reach 4.1 mt, while container shipments [surged](#) by an impressive 2.6 times to 50,500 TEU (Twenty-foot Equivalent Units). By the end of 2024, total freight volumes were [expected](#) to reach approximately 4.47 mt, with container traffic projected at approximately 55,000 TEUs. As trade along the Middle Corridor continues to expand rapidly, [projections](#) indicate that its transit capacity will reach 130,000 TEUs by 2040. This traffic could grow to as much as 1.4 million TEUs, plus an additional 470,000 TEUs of container traffic between the regional countries if existing [bottlenecks](#) are successfully removed.

This is where the strategic importance of the Caspian Sea comes into play. The [Caspian Sea](#), the world's largest inland body of water, covers an area of 392,600 km² divided into three regions—Northern, Middle and Southern—each characterised by distinct geological features, ranging from the shallow shelves of the northern section to depths exceeding 1,000 metres in the south. Ports like Aktau and Kuryk in Kazakhstan, Turkmenbashi in Turkmenistan and Baku/Alat in Azerbaijan are vital hubs in this network linking the Greater Caspian Region with global markets. On average, the regional ports have a throughput capacity [ranging](#) from 5 to 17 mt per year. However, despite this relatively modest capacity, the infrastructure has yet to be fully utilised.

The expansion of infrastructure and capacity along the Middle Corridor is set to play a pivotal role in fostering economic growth and enhancing trade. The ports of the Caspian Sea serve as crucial gateways for international commerce and maximising their logistical potential is vital in strengthening the trade links between Europe and the Indo-Pacific. The Middle Corridor's success underscores its rising significance within the global logistics network, solidifying its position as a key route for international trade and economic integration across the Greater Caspian Region.

1. Azerbaijan: Unlocking the Potential of the Middle Corridor

The South Caucasus is one of the most important geostrategic regions and is becoming an increasingly attractive transport route hub between Europe and Asia. Strategically located between the Black Sea and Central Asia, Azerbaijan [plays](#) a pivotal role along the TITR, serving as a crucial hub in the Greater Caspian Region for the transit of commodities and other goods across the Caspian Sea. It borders Russia in the north and Iran in the south, both of which are sanctioned by several countries, which [makes](#) it a compulsory crossing in the land and sea routes between Europe and China.

The transportation and storage sector [contributes](#) 7% to the country's GDP, with construction [adding](#) a further 6.7%. Between January and November 2024, revenues from the transport and warehousing sector [totalled](#) approximately 7.67 billion USD, reflecting a 13.7% increase compared to the same period in 2023. The logistics industry is [poised](#) for significant growth, with costs related to the movement, storage and distribution of goods expected to reach 10.78 billion USD by 2029, reflecting an anticipated compound annual growth rate (CAGR) of 2.49% from 2025 to 2029. Additionally, container port traffic is [projected](#) to increase to 0.54 million TEUs by 2025, highlighting the country's growing importance in regional trade and logistics. The focus on developing modern transport infrastructure across Azerbaijan reflects a dedicated effort to enhance the country's connectivity and transit capabilities. In recent years notable investments have been made to establish comprehensive transport networks, with approximately 2.66 billion USD [allocated](#) for this purpose in 2022. The country has [undertaken](#) substantial efforts to enhance its transportation infrastructure, spearheading significant projects such as the [Baku-Tbilisi-Kars \(BTK\)](#) railway and the development of the new Baku International Sea Trade Port CSJC in Alat, where the establishment of an [Alat Free Economic Zone \(AFEZ\)](#) has injected fresh momentum into cargo transportation.

Sea and water cargo transportation have a crucial importance for the country, with the transportation volume of sea cargo [reaching](#) 8.6 mt in 2024. Altogether, Azerbaijan maintains the largest fleet in the Caspian Sea, [comprising](#) over 270 vessels, a noteworthy figure when compared to the fleets of the two Central Asian countries Kazakhstan and Turkmenistan. Its fleet includes 51 ships operated by the ['Azerbaijan Caspian Shipping' Closed Joint Stock Company \(ASCO\)](#), among which 20 tankers, 12 ferries, 16 dry cargo, one Roll-on/Roll-off (Ro-Ro) vessel and two for passengers (Ro-Pax). Additionally, a specialised fleet of [204 vessels](#) enhances operations, featuring 22 cranes, 18 tow trucks, 25 Ro-Pax, two pipeline vessels, six

fire fighting vessels, five geological survey vessels, 10 diving vessels and 116 service and auxiliary craft. The offshore support fleet [consists](#) of 162 vessels, including 21 crane vessels, eight tankers, three supply vessels, two tugboats, 15 combined supply and tug vessels, 21 geological survey ships, seven harbour tugs, two pipelay barges, five fire fighting vessels, four geological survey ships, 10 diving support vessels and 64 additional support vessels.

1.1 Baku International Sea Trade Port CSJC

Historically, the [port of Baku](#) has been the largest on the Caspian Sea, handling about 80% of freight in transit. In 2007, the government initiated the construction of the Baku International Sea Trade Port CSJC in Alat (70 km from Baku) to centralise all freight activities and alleviate congestion. The construction is being [carried out](#) in two phases, with the first phase completed in 2018, enabling the port to commence operations with an annual capacity of 15 mt and 100,000 TEUs in containers. Upon the conclusion of the second phase, it is anticipated that cargo handling capacity will increase to 25 mt of general cargo, including 500,000 TEUs in containers, although a specific date for completion has not been announced thus far. Currently, it [covers](#) an area of 400 hectares. Capable of accommodating vessels with capacities between 7,000 and 10,000 tonnes and lengths of 150 to 160 metres, its infrastructure [includes](#) a 9,400 m² closed warehouse and a 35,000 m² open storage area, ensuring efficient cargo handling and storage. With 13 berths, including dedicated facilities for Ro-Ro operations, a ferry terminal, a general cargo terminal, and a water depth of 7 metres, the port [demonstrates](#) its versatility and capacity to support diverse maritime activities. Notably, in 2019, the port was [awarded](#) a Ports Environmental Assessment System certification (PERS) and EcoPorts status, reflecting its commitment to environmental sustainability and best practices in port operations.

Baku International Sea Trade Port is well [connected](#) to the country's railway network, allowing for easy multimodal connections. The ferry terminal at the port [plays](#) a crucial role in the Middle Corridor, handling 80% of its operations as transit cargo primarily from Kazakhstan and Turkmenistan. To accommodate existing double-decker railway ferries, each berth is [equipped](#) with four ferry tracks capable of holding 26 carriages with a length of 364 metres. Among the other international railway connections, the port enjoys connectivity to the BTK railway, linking Azerbaijan to the Black Sea and Turkey's coastline. Furthermore, the main Azeri highways—the M1 to Russia, the M2 to Georgia and the M3 to Iran— all meet at Alat. These routes form key segments of the [TRACECA](#) and [International North-South Transport Corridor \(INSTC\)](#).

The groundbreaking opening ceremony for the AFEZ, linked to the port, [took place](#) on 1 July 2021. Less than a week later, an executive order was [issued](#) defining the legal framework for the AFEZ, an export-focused industrial zone encouraging the

country's economic diversification away from oil. In July 2023, 60 hectares were opened for business. The Azeri government thereby [aims](#) to establish one of the largest free economic zones (covering a total area of 850 hectares) in the Caspian Sea region. This initiative is geared towards bolstering high value-added, export-oriented production while also enticing investors to Azerbaijan. These investors are expected to offer innovative technology services, thus fostering dynamic and sustainable economic growth in the country. Companies investing in this zone are mandated to export a minimum of 75% of their produced goods. This free economic zone operates under unique government-approved legislation, granting it the ability to provide a range of incentives and advantages unparalleled in other parts of the country. These benefits include reductions or exemptions from taxes and customs duties, along with a self-regulated arbitration process. Additionally, the government has established the Alat Free Economic Zone Authority (AFEZ) to oversee various aspects such as promotion, client facilitation, approvals, licensing, and client development within the zone.

The AFEZ is unlikely to [face](#) significant competition from preexisting free economic zones in other countries in the Greater Caspian Region in the near future. Numerous similar zones are found within a 1,000 km radius, but several of them have not demonstrated noteworthy success, while others are situated at considerable distances. Although Iran boasts a larger number of such economic zones compared to other regional nations, the competitiveness of these ports has been diminished due to United States sanctions and ongoing tensions with the West. On the opposite shore of the Caspian Sea, the current activities of the Aktau Seaport Special Economic Zone (SEZ) [seem](#) complementary to the AFEZ, rather than create competition.

1.2 Baku Hovsan International Trade Sea Port

The Baku Hovsan International Trade Sea Port is a maritime facility located in the Surakhan district of Baku. Since 12 October 1956, the port has been operational year-round, [facilitating](#) cargo transportation with ports in other Caspian countries and providing transit services for cargo to Türkiye and other nations. Covering an area of almost 14 hectares and a water area of 3.9 km², the port [features](#) nine berths, each stretching 1.13 km in length, with a minimum depth of 6.5 metres. The cargo terminal [has](#) a handling capacity of 8.6 mt per year, including 3.43 mt of bulk cargo and 2 mt of dry cargo. The container terminal [manages](#) 134,400 TEUs annually.

The passenger terminal can [accommodate](#) up to 500,000 passengers per year. Vessels with maximum dimensions of 6.5 metres draught, 150 metres length and 20 metres breadth are [permitted](#) to enter. The port [offers](#) 13,600 m² of closed warehouse space and 150,000 m² of open storage area.

1.3 Sangachal Sea Port

The Sangachal Sea Port, in the Garadagh district of Baku, has been operational since 30 March 2003, providing year-round navigation services. Spanning a total territory of 3.94 km², the port [includes](#) a water area of approximately 45 hectares. Its infrastructure [consists](#) of 5 berths with a combined length of 1.17 km and a minimum water depth of 6 metres, accommodating a wide range of vessels and cargo types.

The port [has](#) a substantial cargo handling capacity, capable of processing up to 20 mt of bulk and dry cargo annually. It also [supports](#) container operations, with a capacity of 320,000 TEUs per year. The Sangachal Sea Port [offers](#) wide storage space, including 2,000 m² of closed warehouses and 2,000 m² of open storage areas. Its liquid cargo tanks [have](#) a total volume capacity of 320,000 m³, ensuring efficient management of liquid commodities.

1.4 Zira Sea Port

The Zira Sea Port, situated in Baku's Khazar district, has been operational year-round since its commissioning on 23 December 2013. It [provides](#) a comprehensive range of services for marine companies, with facilities sufficient for the construction of cargo vessels and other infrastructure to enhance maritime operations. The port [covers](#) an area of 30 hectares (14 hectares of land and 16 hectares of water), [equipped](#) with nine berths, totalling 1.2 metres in length and maintains a minimum water depth of 6.5 metres.

The cargo terminal [boasts](#) an annual capacity of 1 mt, accommodating up to 140,000 tonnes of bulk cargo, 500,000 tonnes of dry cargo and 15,000 TEUs of containerised goods. The port can [handle](#) vessels with maximum dimensions of 6,5 metres draught, 150 metres in overall length and 30 metres in breadth. Additionally, it [offers](#) 33,600 m² of closed warehouse space and 62,000 m² of open storage area.

1.5 Zykh Dry Cargo Sea Port

The Zykh Dry Cargo Sea Port, in Baku's Kathai district, has been operating as a structural subdivision of the Marine Transport Fleet (MTF) under ASCO since 28 February 2011. It functions year-round, [supporting](#) various maritime activities such as providing services to vessels and passengers involved in commercial shipping and performing cargo operations.

The port [covers](#) a total area of almost 1.3 km² and has a water territory spanning 10 hectares. It [features](#) 7 berths with a combined length of 1.18 km and a minimum water depth of 5.5 metres at the berths. These specifications make it a critical hub

for cargo and vessel management. In terms of capacity, the port [handles](#) up to 1.6 mt of bulk cargo, 950,000 tonnes of dry cargo and 14,400 tonnes of liquid cargo annually. The port [accommodates](#) vessels with maximum dimensions of 5.5 metres in draft, 150 metres in overall length, and 18 metres in breadth. For storage, the Zyxh Dry Cargo Sea Port [provides](#) 6,000 m² of closed warehouses and 4,500 m² of open warehouses and liquid cargo tanks with a total volume of 12,000 m³.

The table below (Table 1) offers an overview of Azerbaijan's Ports, their key assets, features and facilities.

Table 1: Baku Ports Comparison

Ports	Area Size (ha)	Water Area (km ²)	No. of Berths	Min. Depth (m)	Cargo Capacity (mt/year)	Container Capacity (TEUs/year)	Vessels (L x B x D in m)	Closed storage (m ²)	Open Storage (m ²)
Alat	400	N/A	13	7	15 (Phase 1), 25 (Planned)	100,000 (Phase 1), 500,000 (Planned)	150-160 x N/A x 7,000-10,000 tonnes	9,400	35,000
Hovsan	14	3.9	9	6.5	8.6	134,400	150 x 20 x 6.5	13,600	150,000
Sangachal	N/A	0,45	5	6	20	320,000	N/A	2,000	2,000
Zira	30	0,16	9	6,5	1	15,000	150 x 30 x 6.5	33,600	62,000
Zyxh	1.3	0,1	7	5.5	1.6	14,400	150 x 18 x 5.5	6,000	4,500

2. Kazakhstan's Strategic Push for Maritime and Transport Infrastructure

The emanating global power struggle is compelling Central Asian countries to diversify their logistics routes. Kazakhstan has already [invested](#) 35 billion USD in its transport and logistics infrastructure over the past 15 years. The country continues modernising and expanding its transport network to boost efficiency, develop transit transportation, and increase customer satisfaction while adhering to environmental, social, and governance (ESG) principles. The transport and logistics sector's share of Kazakhstan's GDP is anticipated to [rise](#) from 6.2% in 2022 to 9% by 2025. The Kazakh freight and logistics market size is [estimated](#) at 11.98 billion USD in 2025 and is [projected](#) to reach 15.61 billion USD by 2030, with a CAGR of 5.44% during the period 2025-2030.

Its Caspian ports, such as Aktau and Kuryk, further enhance its logistics capabilities. Currently, the country's merchant fleet [consists](#) of 17 vessels: 10 tankers, four cargo ships and three container ships. To enhance its maritime capabilities, Kazakhstan [plans](#) to expand the fleet to 24 vessels by constructing seven new ships, including three tankers, two ferries and two container ships. Between January and November 2024, 2.6 mt of cargo were [transported](#) by sea through its ports, marking a 2.2-fold increase compared to the same period in 2023. Cargo turnover [reached](#) 1,453 mt-km, doubling the figure recorded during the previous year. These developments highlight Kazakhstan's growing capacity to handle maritime logistics and strengthen its role in regional and global trade.

The key takeaway is that Kazakhstan's ports are getting aligned with European standards, which facilitates smoother trade and transportation links with the EU and its markets. This is reflected in the achievement of the ports of [Aktau](#) and [Kuryk](#) of the PERS certification and EcoPorts status, showcasing the country's commitment to sustainable development and environmental responsibility in its maritime infrastructure. Kazakhstan also [offered](#) the ports of Aktau and Kuryk, along with 22 airports, for management to European investors in a bid to strengthen economic relations.

The international ports of Aktau and Kuryk in Kazakhstan [have](#) a combined annual capacity of 21 mt, both of which are operated by the National Railway Company (KTZ) with private capital involvement. The port of Aktau, located south of the Mangyshlak Peninsula on the eastern coast of the Caspian Sea, is home to two significant 'subports.' The state-owned [Aktau Sea Commercial Port \(ASCP\)](#) is an open, ice-free port with 11 berths ranging from 5.1 to 7 metres deep. It features extensive facilities, including terminals for ferry, petroleum, metals, and grain, with an annual capacity of 11.8 mt. This includes 2 mt for the ferry terminal, 7.5 mt for oil, 1 mt for grain, and 2.5 mt for dry cargo. Additionally, the ASCP operates the Bautino Terminal, which [handles](#) non-standard industrial and construction freight, particularly for oilfield services, up to 200,000 tonnes of cargo. North of ASCP, the public-private

[Aktau Marine Northern Terminal \(AMNT\)](#), inaugurated in 2014, is equipped with 4 berths and is also ice-free. It boasts a total storage area of 100,000 m² and handles between 4 and 4.5 mt of cargo annually. This includes a container terminal with a capacity of 70,000 TEU, a general cargo terminal handling 2 mt, and a grain terminal with a capacity of 1 mt.

In the first quarter of 2024, the total cargo transshipment through the Aktau seaport [exceeded](#) 1.1 mt, reflecting a 14% increase compared to the same period in 2023. During this period, the port exported 24,000 tonnes of grain and over 920,000 tonnes of oil and oil products, which are the key commodities in its export activities. Additionally, it handled 7,400 TEUs, marking a 33% rise from the previous year. By 2025, a new container hub is set to be [established](#) at the Aktau seaport, with a planned capacity exceeding 200,000 TEUs. The so-called ‘Sarzha project’ is expected to cost 42.3 million USD. Plans have been announced to [boost](#) cargo traffic along the trans-Caspian route to 500,000 containers per year by 2030. To support this goal, projects to expand the port’s capacity, including a container hub at the [Aktau Seaport Special Economic Zone \(SEZ\)](#), are being implemented to enhance transport connectivity along the TITR route.

The state-owned [Kuryk Port Ferry Terminal](#) is another vital component of the TITR. The port of Kuryk has been developed in a strategic location, [supported](#) by new rail operations that connect it to road and railway networks, including the Kuryk–Tazhen Customs Point and the Kuryk–Khorghos Gateway dry port. It is an ice-free port equipped with four berths, each with a depth of 7-8 metres, spanning a total area of 67,400 m². The port accommodates railway and motorway ferries, with an annual handling capacity of 4.1 mt through its railway terminal and 1,9 mt via its automobile terminal. The terminal can process up to five ferries per day, each capable of carrying up to 54 railway wagons. The port is currently [constructing](#) a universal reloading terminal with a capacity of 3 mt for containers, general, and bulk cargo, as well as a liquid cargo terminal with a capacity of 2.9 mt. Additionally, the rail ferry terminal at Kuryk has a capacity of 6 mt per year. The port [planned](#) to launch a grain terminal with a 1 mt annual capacity and simultaneous storage for 25,000 tonnes of grain crops by the end of the year. However, the start date for the construction work remains unclear.

On 29 April 2024, the government approved the [‘Comprehensive Maritime Infrastructure Development Plan for the Republic of Kazakhstan for the years 2024-2028’](#). This document outlines the necessary initiatives for the effective development of the seaports, aiming to improve logistics services for international transport and advancing digitalisation in the transport sector. Over the next five years, the initiative seeks to establish a robust transport and logistics hub centred on the seaports of Aktau and Kuryk. This plan focuses on enhancing maritime infrastructure, promoting regional development, creating new jobs, and providing state support to small and medium-sized enterprises (SMEs). By 2030, the projected

capacity of the seaports is expected to reach 30 mt per year, including the handling of 200,000 TEU. The expected results of this initiative include achieving a threefold increase in container handling capacity, doubling the volume of transit cargo traffic, and enhancing export and import volumes by 1.5 times. Additionally, the plan aims to reduce ship handling and cargo clearance times in ports by 1.5 times by 2028.

To achieve these goals, several notable plans and projects have been outlined for 2025. For Aktau Port, the initiative includes the realisation of 19 hectares of [land plots](#) for trade and logistics infrastructure, the construction of a [container hub](#) to increase the port's throughput capacity to 240,000 TEUs per year, and dredging in the water area of the Aktau Port and its approach channel. Additional projects include the construction of various terminals, dredging works at the Bautino Terminal, pier reconstruction and upgrades to transshipment machinery. While dredging activities were already underway alongside terminal construction, the Belgian company Jan De Nul's dredger 'Vesalius' [started](#) with substantial dredging operations for the expansion of the port of Bautino [following](#) the completion of major dredging works at Kuryk in November 2024. The fact that leading European dredging companies, such as Jan De Nul, are bringing modern and technologically advanced dredging equipment to the Caspian Sea highlights the region's potential to enhance the Middle Corridor's connectivity between Europe and Central Asia.

For the Kuryk Port, plans include dredging the water area and approach channel, [completed](#) in November 2024, expanding the railway line at the Ersai marine terminal, and constructing a bulk cargo terminal for transshipping granulated sulfur and mineral fertilizers by December 2027. By 2025, the port aims to build the [Sarzha Multimodal Marine Terminal](#). It will feature four berths with a 7-8 metres depth and cover an area exceeding 110,000 m². Planned facilities include a grain terminal with a capacity of 1.5 mt, a general cargo terminal of 1.65 mt, an oil terminal with a capacity of 2.6 mt, and a container terminal capable of handling 150,000 TEUs. Additional projects [encompass](#) the construction of a liquid cargo terminal, scheduled for 2026-2028 and a universal terminal, set to be developed between 2024-2026. Both projects will be financed through extrabudgetary sources and loans, with funding provided by the Ministry of Transport of Kazakhstan and the Kazakh company Semurg Invest LLG. As a result of these investments, the port's planned transshipment volume for 2025 is [expected](#) to reach approximately 2.5 mt—22% higher than in 2024.

3. Turkmenistan's Maritime Growth and Infrastructure Expansion

Turkmenistan plays an important role in the Greater Caspian Region's distribution networks, benefiting from its Caspian Sea access, which connects Central Asia to the South Caucasus and beyond, including the EU. Recognising the significance of its transport and communications sectors, Turkmenistan [allocated](#) 14 billion USD to these sectors between 2015 and 2021. 36.2% of these revenues came from the state budget, 34% from private investments and 16.5% from banking sector loans. However, considering Kazakhstan's substantial investments in this area, Turkmenistan's allocation appears relatively modest, underlining the need for further expansion. Nevertheless, the country has been actively investing in the development of its transport system, including rail, road, air and sea routes. The transport and communication sector [accounted](#) for 8.8% of the country's GDP in 2022, up from 7.4% in 2015. In [January-September 2024](#), the industrial sector grew by 3.5%, construction by 9.3%, transport and communications by 6.8% and trade by 9%. Transportation costs in the logistics market are [projected](#) to reach 11.48 billion USD by 2029. This market is [projected](#) to expand at a CAGR of 2.65% between 2025 and 2029, reflecting the sector's significant potential for growth. Meanwhile, container port traffic in Turkmenistan is [forecasted](#) to rise to 2.61 million TEUs by 2025, reflecting the growing importance of the country's logistics infrastructure.

Turkmenistan's enlarging production capacity has facilitated the export of various goods abroad, with maritime transport opening new routes for trade cargo. Particularly, the national fleet [covers](#) 20% of the country's export-import cargo. In 2019, the Marine Merchant Fleet CJSC was [granted](#) the status of 'National Carrier at Sea,' a designation that has enhanced the quality of its services. At present, the Marine Merchant Fleet CJSC [operates](#) a fleet of 20 vessels. These ships are designed to transport oil and petroleum products, general cargo, vehicles, passengers and dry goods. Among these, there are two Ro-Pax vessels for vehicles and passengers, eight tankers, four dry cargo ships, one towing vessel, four small passenger ships and one yacht. The maritime trade fleet in Turkmenistan has shown impressive growth, exceeding its cargo transportation goals for the first quarter of 2024. With a 14.1% [increase](#) in total cargo volume compared to the same period in 2023, the fleet transported 586,500 tonnes of cargo, achieving 133.3% of its planned targets.

These modernisation efforts are part of a broader strategy to develop Turkmenistan's transport infrastructure, especially in light of its increasing cargo volumes and economic growth. The Turkmen Maritime and River Transport Agency [outlined](#) several key initiatives for the period between 2019 and 2025, including the [expansion](#) of the marine fleet by the construction of two new dry cargo ships by 2025, to increase the cargo traffic through the port of Turkmenbashi. Another significant [project](#) involves constructing an oil spill response vessel designed to manage oil and petroleum spills efficiently while adhering to international

environmental standards. Equally significant is the project to [introduce](#) Ro-Ro ferries designed for transporting both rail and road vehicles. The existing ferries between Baku and Turkmenbashi already operate at high capacity, reflecting strong demand for this route. Plans are underway to expand the network and grow the fleet, adding ferries specifically equipped for rail transport. Additionally, there is a need for a new transport and tugboat to support offshore oil platform operations. The Agency also aims to [construct](#) a dredging vessel to deepen and widen the navigation channels at Turkmenbashi International Sea Port, enhancing its capacity and efficiency.

The [Turkmenbashi International Seaport](#) underscores the country's commitment to the Middle Corridor as an important transit hub. As a central link along the Caspian Sea, Turkmenbashi not only facilitates regional trade but also enhances Turkmenistan's role within the evolving TITR. In 2023, the port [achieved](#) a significant environmental milestone by earning the EcoPorts certificate, which acknowledges high standards in sustainable port operations and environmental management. This certification underscores Turkmenistan's commitment to enhancing the ecological performance of its primary maritime gateway on the Caspian Sea. Spanning over 150 hectares, the port is built to manage substantial cargo traffic, [boasting](#) an annual capacity of around 17–18 mt. This includes service for roughly 300,000 passengers, 75,000 trucks, and about 400,000 TEU containers per year. It also handles diverse cargo types—3 mt of bulk goods and 4 mt of general goods—through specialised terminals such as ferry, passenger, container, bulk, and polypropylene terminals.

The [general cargo terminal](#) spans an area of 261,000 m² and has a handling capacity of up to 4 mt of general cargo annually. Its automated control systems streamline loading and unloading, [allowing](#) simultaneous management of four vessels. The construction of the [bulk cargo terminal](#) has significantly streamlined the logistics of bulk cargo exports and transit. As the region's only bulk cargo terminal, it covers an area of 180,000 m², boasts a handling capacity of 4 mt of bulk cargo per year and can accommodate up to four ships at a time. One of the key terminals is the [container terminal](#), which plays a vital role in modern transportation and logistics. The terminal facilitates the transport of containers via both road and rail networks, making it an important hub for regional trade. Designed with a capacity of 400,000 TEUs per year, the terminal accommodates the simultaneous loading and unloading of three ships with a deadweight of up to 5,000 tonnes. Further enhancing its capabilities, the port [includes](#) 200,000 m² of warehouse space, ensuring efficient storage solutions for various cargo types.

In conclusion, Table 2 compares the size and capacity of the ports in Kazakhstan, Turkmenistan and Azerbaijan, while Table 3 offers a comparative overview of the individual ports in these three littoral countries of the Caspian Sea.

Table 2: Caspian Sea Countries Comparison

Metrics	Kazakhstan	Turkmenistan	Azerbaijan
Port Infrastructure	Aktau & Kuryk expansion	Turkmenbashi expansion	Baku Int. Port, AFEZ
Freight Market Size	15.61B USD (2030), CAGR:5.44%	11.48B USD (2029), CAGR: 2.65%	10.78B USD (2029), CAGR: 2.49%
Merchant Fleet	17 vessels → 24 planned	20 vessels	270+ vessels (ASCO:51, support: 204)
Maritime Cargo (2024)	2.6 mt (Jan-Nov)	0.59 mt	8.6 mt
Container Port Traffic (2025)	N/A	2.61M TEUs	0.54M TEUs
Major Investments	Aktau and Kuryk ports	New vessels, Ro-Ro, dredging	BTK railway, Alat Port upgrade

Table 3: Caspian Sea Ports Comparison

Category	Aktau Port (Kazakhstan)	Kuryk Port (Kazakhstan)	Turkmenbashi Port (Turkmenistan)	Baku/Alat Port (Azerbaijan)	Other Azeri Ports
Annual Capacity	16-16.3 mt	4.1 mt (expanding)	17-18 mt	15 mt	31.2 mt
Operator	KTZ (State-owned & private capital)	KTZ (State-owned & private capital)	Turkmen Maritime and River Transport Agency (State-owned)	Baku Port CJSC (State-owned)	State-owned
Number of Berths	11 (ASCP: 7m deep) + 4 (AMNT)	4 (7m deep)	Multiple berths	13 (up to 7m deep)	30 (depth range between 5.5 and 6.5m)
Ice-Free	Yes	Yes	Yes	Yes	Yes

Main Terminals	Ferry, petroleum, metals, grain, dry cargo	Rail & motorway ferry, liquid, bulk, general, grain	Ferry, passenger, container, bulk, polypropylene	Ferry, container, Ro-Ro, bulk, oil & gas	Bulk, dry cargo, containers, passengers
Ferry Terminal Capacity	2 mt	6 mt (rail ferry)	Ferry terminal for cargo & passengers	Largest Ro-Ro terminal in the Caspian	N/A
Oil Cargo Capacity	7.5 mt	2.9 mt (planned)	Handles oil-related cargo	Handles oil & gas cargo	0.29 mt
Grain Terminal Capacity	1 mt	1 mt (storage for 25,000 tonnes planned)	N/A	Planned expansion	N/A
General Cargo Capacity	2.5 mt	3 mt (universal reloading terminal planned)	4 mt	15 mt	3.45 mt
Container Terminal Capacity	70,000 TEUs (expanding to 200,000 TEUs)	Under construction	400,000 TEUs	100,000 TEUs (expanding to 500,000 TEUs by 2030)	469,400 TEUs
Storage Space	100,000 m ²	67,400 m ²	200,000 m ²	100,000+ m ²	273,700 m ²
Recent Developments	1.1 mt transhipped in Q1 2024 (+14%), 33% rise in TEUs, Sarzha project (42.3m USD)	Planned grain & liquid cargo terminals	Earned EcoPorts certification in 2023	Expansion to 25 mt capacity, 500,000 TEUs by 2030	Trade, logistics, cargo handling

4. The EU's Role in Developing Caspian Sea Ports for Regional Connectivity

The Caspian Sea ports highlight similarities but also differences in infrastructure, roles and development. Kazakhstan is focused on diversifying its port capabilities, with Aktau handling bulk and oil exports while Kuryk is emerging as a key rail ferry hub to strengthen connectivity in the Greater Caspian Region. Turkmenistan, with the Turkmenbashi port, is investing in modernisation but faces the challenge of achieving greater international integration and attracting the investment needed to realise its full potential. In comparison, this makes it relatively less competitive than its regional counterparts.

As the most developed and strategically positioned, Azerbaijan's Baku International Sea Trade Port CJSC in Alat serves as a critical transit hub along the TITR, particularly with its expanding container capacity and strong integration with the BTK railway. This gives Azerbaijan a clear competitive advantage in facilitating trade between Europe and the Indo-Pacific region. Complementing this, the country's other maritime facilities—Baku Hovsan, Sangachal, Zira and Zykh—further enhance its role along the corridor. These ports are essential for transshipment across the Caspian Sea, handling bulk, dry and liquid cargo while strengthening connectivity between Central Asia and the South Caucasus. Their integration into wider transport networks, supported by ongoing modernisation efforts, reinforces Azerbaijan's position as a pivotal transit hub in the Middle Corridor.

Despite the relatively modest capacities of ports along the Caspian Sea, their potential has yet to be fully utilised. Unlocking the full logistic potential of the Caspian Sea [requires](#) a multifaceted approach, focusing on infrastructure modernisation, regulatory reform and enhanced regional cooperation. While Kazakhstan and Turkmenistan need to improve intermodal connectivity, Azerbaijan is well-positioned to lead in container traffic, provided it continues its strategy of managing the growing volumes through increasing investments. The effective utilisation of these ports is crucial to bolstering trade flows along the Middle Corridor, which connects Europe with the Indo-Pacific via the Greater Caspian Region, but more significantly has strategic importance for Europe in enhancing its connectivity to Central Asia. The Caspian Sea's ports offer several advantages, including their ability to support multimodal logistics and specialised terminals, but major challenges still need to be overcome. While attempts have been made to [enhance](#) transshipment capacities, more substantial investments are necessary to move goods across the Caspian Sea efficiently.

Compared to the three largest European ports, the Greater Caspian Region's ports activities continue to operate on a much smaller scale. In the [first quarter of 2024](#), Rotterdam alone handled 99.9 mt of cargo, while Antwerp-Bruges processed 63 mt and Hamburg 23.8 mt. Similarly, in [2023](#), Rotterdam was the EU's largest container port, handling 13.1 million TEUs, followed by Antwerp-Bruges with 11.4 million TEUs

and Hamburg with 7.7 million TEUs. In contrast, even with ongoing modernisation and expansion plans, Caspian ports handle significantly lower volumes, underlining the gap in scale and efficiency.

Terminal operations are predominantly government-owned or operated through joint ventures, [creating](#) opportunities for public-private partnerships (PPPs) to enhance efficiency and productivity. Berths often operate below capacity, [leaving](#) room for expansion and optimisation. Each country's strategy shows significant growth potential, with Kazakhstan and Azerbaijan expected to play leading roles in the trade and logistics sector, while Turkmenistan could benefit from further opening its ports to international collaboration.

To unlock the full potential of the Middle Corridor, significant efforts are needed to address the challenges that hinder the Caspian Sea's role as a trade and logistic hub. Limited port capacities, outdated infrastructure as well as limited ship capacity [remain](#) major obstacles, despite the surge in traffic [driven](#) by recent geopolitical shifts. Regional ports, constrained by insufficient cargo handling capabilities and the absence of more modern container terminals and automated systems, [require](#) comprehensive updates. Faster vessel turnaround times, achieved through modernised facilities and better operational practices, could significantly [boost](#) the competitiveness of the Caspian Sea ports. By investing in infrastructure, implementing regulatory reforms and fostering regional cooperation, the efficiency of cargo movement can be [maximised](#), leading the way for a substantial increase in trade volumes. Although South Caucasus and Central Asian countries have [made](#) significant progress in eTIR and e-CMR systems to improve transit flows along the Middle Corridor and the Caspian Sea, fully unlocking their potential requires appropriate legal frameworks and the implementation of effective support mechanisms by governments. In the Greater Caspian Region, Azerbaijan is still the only country in the area that has already [finalised](#) the process and is ready to implement the e-CMR and eTIR systems.

The EU's potential role lies in fostering sustainability, infrastructure investments, strategic partnerships and regulatory frameworks as well as improving logistics efficiency and support to enhance port connectivity in the Greater Caspian Region as a crucial part of improving the logistic infrastructure link connecting the EU to Central Asia. Indeed, the EU has a strong need to differentiate its transport and logistic routes to Asia and cooperation in the field of transport and logistics is [proving](#) to be fundamental.

EU investments in the Middle Corridor are set to [strengthen](#) regional connectivity and collaboration. The EU's [Global Gateway](#) initiative, backed by a 300 billion EUR budget for connectivity projects from 2021 to 2027, aims to strengthen global economic ties by enhancing infrastructure and coordinating investments. This initiative is instrumental in developing efficient transport and trade routes between

the EU and the Greater Caspian Region, with Azerbaijan's strategic geographic position playing a pivotal role in fostering interregional connectivity.

The Baku International Sea Trade Port CSJC has been [collaborating](#) with the EU since 2016, successfully [implementing](#) five Technical Assistance and Information Exchange (TAIEX) initiatives from the European Commission, along with three long-term technical assistance projects. As part of these projects, collaboration with European ports and operators was strengthened in areas such as operations, digitalisation, management, business, human resources, the establishment of the Port of Baku Training Centre, as well as labour and environmental protection and public relations. In April 2024, then EU Special Representative for Central Asia, Ambassador Terhi Hakala, [reaffirmed](#) the strategic importance of the port of Baku. This [underscored](#) its key role in fostering regional sustainable economic development, its strategic significance in connecting Europe and the Indo-Pacific via the Middle Corridor and strengthening of the port's existing sustainable development projects and public-private partnership.

The establishment of the new [Trans-Caspian Transport Corridor Coordination Platform](#) demonstrates the EU's increasing engagement with Central Asia and the South Caucasus. This platform aims to enhance the Middle Corridor by coordinating efforts to implement priority projects in both hard and soft infrastructure across the Greater Caspian Region and Türkiye. The initiative is crucial for the EU in coordinating investments in modernizing port infrastructures and enhancing logistic efficiency, offering both economic support and technical expertise to littoral countries, particularly through the development plans in Kazakhstan, Turkmenistan and Azerbaijan, to ensure the efficient expansion of the Middle Corridor and broader regional integration. Moreover, greater private sector involvement in port operations could bring much-needed innovation and efficiency, further enhancing the region's role as a vital link along the TITR. Targeted investments in port infrastructure in the Greater Caspian Region could significantly [improve](#) the route's efficiency and reliability.

[European companies](#) could be encouraged to enhance their equity in key maritime projects, establish strategic partnerships and apply their expertise to deepen their presence in the region. Through these efforts, European companies could bolster supply chain security while [advancing](#) the EU's objectives of diversification and stable connections. Yet, a major obstacle for EU companies to invest in the region's infrastructure is the geopolitical risk, with for instance Iran and Russia—two of the five littoral Caspian Sea countries—being hit with Western sanctions. For EU investors, the long-term geopolitical risks in financing infrastructure projects risk to outbalance the short-term prospects of such investments as they may not seem immediately profitable, particularly when weighed against the significant capital required.

The EU could play a major role in mitigating these geopolitical risks for European companies by establishing a Geopolitical Risk Guarantee Mechanism. Such a mechanism could serve as a regulatory framework, consisting of an investor geopolitical risk insurance system—based on the same principles of an export credit agency (ECA). To implement such a regulatory framework, the EU could use its financial institutions. With substantially less financial input required compared to direct financing through grants or loans, the EU could leverage and increase access to private finance resources for European companies investing in the Greater Caspian Region, reducing their long-term risks.

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