Connectivity in a Changing World: Turkic States and the Middle Corridor

CONNECTIVITY
IN A CHANGING WORLD

Turkic States and the Middle Corridor

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Published in partnership and support of the Representation Office
of the Organization of Turkic States in Hungary

Representation Office of the Organization
of Turkic States in Hungary,
2025

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Introduction

The book is a result of a conference organized by the Representation Office of the Organization of Turkic States in Hungary with the participation of several experts in October 2024 inspired by the "Joint Working Plan between the Organization of Turkic States and the Ministry of Foreign Affairs and Trade of Hungary for supporting the development of the Organization of Turkic States – European Union relations in 2024" signed in May 2024, Budapest. Subsequently the aim of that event was to give on overview about the rise and the current stage of the Middle Corridor in line with the transport enhancement with special focus on Hungary's EU Presidency. It covered various topics ranging of EU and Chinese aspects as well as transport rail development and energy connectivity ranging from China to the EU focusing mainly on Central Asian, South Caucasian and Anatolian trading routes.

Based on the findings of the conference, this book has a greater ambition to provide a deeper knowledge and understanding about the development of the Middle Corridor as one of the most spectacular examples of nowadays connectivity projects. Subsequently, it has five chapters addressing a wide range of topics. The first chapter penned by László Vasa, Eszter Lukács, Péter Bárkányi intends to give insight about the geopolitical context of the Middle Corridor primarily focusing on Central Asia. It outlines the rising importance of Central Asia since the Soviet collapse. It presents the Middle Corridor as a critical alternative to the Northern Corridor amid geopolitical tensions, especially due to Russia's reduced reliability. It outlines that the corridor's relevance is situated within global competition, particularly among China (via BRI), Russia (via EAEU), and Türkiye. The authors emphasize how Central Asian states balance foreign interests while seeking infrastructure upgrades and sovereignty. The paper highlights the ambitions of several relevant actors such as China, Russia, Türkiye as well as regional cooperation initiatives as well.

The next chapter, wrote by Zoltán Egeresi highlights the relations of European Union and the Middle Corridor under an EU perspective shaped by multilevel engagement, energy and economic needs. It points out the several EU-led initiatives, notably TRACECA and the Global Gateway strategy, but is often criticized for bureaucratic hurdles and lack of strategic coherence. The EU's challenge lies in transforming its economic presence into geopolitical influence within the Middle Corridor framework.

Tamás Szigetvári's chapter about the economic cooperation and trade development of the Turkic States explores economic opportunities and barriers among Organization of Turkic States (OTS) members and observers (Türkiye, Azerbaijan, Kazakhstan, Uzbekistan, Kyrgyzstan, Turkmenistan, and Hungary). While resource-rich economies like Azerbaijan, Kazakhstan, and Turkmenistan rely on energy exports, others like Türkiye and Hungary offer industrial and manufacturing capacities. It argues that trade complementarity exists, but institutional differences (e.g., EU Customs Union vs. EAEU membership) hinder deeper integration. Nevertheless, the Middle Corridor offers a promising East-West trade route, yet suffers from inefficiencies and infrastructure gaps.

The next chapter of András Deák gives an overview about the geopolitical and economic changes for the Middle Corridor countries energy market and exports brought by the Russian aggression in Ukraine, in 2022. It argues that the war granted a one-time-boom for the energy exporter countries, however, on the longer run they have to develop a lasting strategy and keeping in mind the other competitors (e.g. LNG) as well.

The fifth chapter wrote by Péter Bucsky highlights the state of regional rail transportation system and development of transport. The chapter argues that rooted in Soviet-era infrastructure, the corridor now requires substantial investments in ports, railways, customs procedures, and regulatory coordination to improve its efficiency. These enhancements are essential for reducing costs, accelerating transit times, and increasing competitiveness.

While the route currently lags behind the northern route in volume and speed, its future lies in handling high-value goods and boosting regional trade integration. With ongoing development and cooperation, the Middle Corridor is poised to become a key player in transcontinental logistics, supporting the economic growth of the Central Asian and Caucasus region.

This volume's closing chapter, its afterword wrote by Dávid Biró highlights how the Turkic States along the Middle Corridor are increasingly asserting themselves as central actors in Eurasian connectivity through the development of the Middle Corridor, a major east-west transit route. Once seen as peripheral, these nations are now shaping the geopolitical and economic architecture of the region by leveraging strategic infrastructure, coordinated diplomacy, and shared cultural heritage. He also emphasizes the importance of the Organization of Turkic States within this transformation which is a crucial engine in practical cooperation in trade, energy, logistics, and digital infrastructure.

The Middle Corridor is portrayed not just as a physical trade route but as a symbol of renewed Turkic identity, agency, and multivector diplomacy. It reflects a strategic, sovereign effort to foster resilience, economic diversification, and regional cohesion in a competitive global environment. The book concludes that this movement marks a proactive re-centering of Eurasia around the Turkic world.

Zoltán Egeresi

The geopolitical context of the Middle Corridor

Dr. László Vasa,[1] Dr. Eszter Lukács,[2] Péter Bárkányi[3]

Introduction

After the Soviet Union broke up in 1991, Central Asia became much more important in world politics. The region has a lot of natural resources and is in a key location between Europe and Asia. Because of this, big countries started to compete more in this area (Völgyi & Lukács, 2021). In this new situation, building trade and energy routes through Central Asia became a way to help economic cooperation between the East and the West (Bárkányi & Vasa, 2023a; Vasa & Bárkányi, 2023).

This paper wants to show which countries or international players are active in the region, what they want, and how their goals match or don't match with the goals of the Central Asian countries. China and Russia are especially strong here. Russia leads the Eurasian Economic Union, and China is behind the Belt and Road Initiative (Vasa & Bárkányi, 2023). But other players like the United States, Türkiye, and the European Union are also trying to become more influential in Central Asia (Bárkányi & Vasa, 2023a).

The main topic of this paper is the transport corridors in Eurasia, especially the Middle Corridor. This route is also called the Trans-Caspian International Transport Route. It connects China with Europe through Kazakhstan, Azerbaijan, and Georgia, using different kinds of transport (like trains, ships, trucks). Because of new political problems with the usual "Northern Corridor", the Middle Corridor is becoming more important as another option for global trade (Vasa & Bárkányi, 2023).

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This study wants to answer these questions:

- What are the main goals and interests of countries like China, Russia, the Central Asian states, and Türkiye in developing the transport corridors, especially the Middle Corridor?
- How do cooperation and competition between powerful countries affect the development of these routes and the freedom of Central Asian countries?
- What are the opportunities and problems of the Middle Corridor in practice (for example: missing infrastructure, need for investment, transport difficulties, security issues)?
- How does the Middle Corridor fit into Türkiye's "Re-Asia" strategy and China's BRI program?
- How do regional groups like the EAEU and wider projects like the BRI influence the growth of transport corridors in Eurasia?

This paper uses a qualitative method. It is based on secondary sources like academic papers, expert reports, and documents from international organizations such as the World Bank. By reading and comparing these sources, the goal is to give a clear picture of the geopolitical situation in Central Asia, how big powers cooperate or compete there, and what the current and future situation of the transport corridors—especially the Middle Corridor—looks like.

Competition for Influence in Central Asia – Geopolitical Background

In international relations, when a stronger country has influence over a region, it often results in an unequal relationship. A larger power can utilize its military, economic, political, or cultural resources to dominate that region. In the case of Central Asia, this influence has historical roots. After gaining independence, the countries in the region retained many aspects from their Soviet past, such as institutions, government systems, and partnerships (NATO, 2001).

China and Russia exert significant influence in the region. Both countries surpass the Central Asian states in population, economy, and military power, creating a clear situation of dependence. Although this paper primarily focuses on China and Russia, the geopolitical landscape of the region is more complex. Following the dissolution of the Soviet Union, various other actors sought to engage in the region, especially from the 2000s onwards. The United States aimed to stabilize the area through military presence, limit Russian and Chinese influence, curb religious radicalism, and prevent Iran from gaining strength (Stronski & Ng, 2018). Türkiye, Iran, and the European Union also endeavored to play roles, but their influence remained comparatively limited (Clingendael Institute, 2025).

After achieving independence, the Central Asian countries had to rapidly establish new international political and economic ties. The five former Soviet republics in the region—Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan—were closely linked economically and politically. This interconnectedness complicated the processes of nation-building, border delineation, and the development of national identities. Strengthening sovereignty became a top priority, but this often conflicted with regional integration efforts and hindered participation in international organizations (The Diplomat, 2023).

Still, the countries in the region have tried to balance the influence of big powers. Through what is called a "multi-vector" foreign policy, they have built economic and military partnerships in different directions,

so they are not dependent on just one side (Vanderhill et al., 2020). After China and Russia reached one of their shared goals—removing the U.S. military presence from the region—their influence became more stable. But from that point on, their strategic interests began to grow apart, which could lead to tensions, especially in energy and economic policy (Stronski & Ng, 2018).

Central Asia's importance is also growing because it connects East and West by land. It is a key part of trade and energy routes. This gives the region a chance to play an active role in economic integration across Eurasia. At the same time, real regional cooperation is still difficult because of internal disagreements, different goals of political elites, and the competing interests of outside powers (Rakhimov, 2010). The attitude of regional leaders is very important in this process. A good example is the leadership change in Uzbekistan, which gave new energy to regional cooperation (The Diplomat, 2023). Still, the countries in Central Asia have different geopolitical directions, and it is likely that they will continue to join different regional projects led by different great powers.

China's Goals and the Belt and Road Initiative

When the Soviet Union ended in 1991, Central Asia became more important. It has a lot of resources and is between Europe and Asia. Because of that, big powers started to show more interest. Countries like Russia and China wanted to be more active there. They used money, military, or culture to grow their influence. At the same time, new energy and trade routes between East and West made this region even more important (Central Asia Program, 2018).

China had a few reasons to focus on Central Asia. First, it was about its own safety. In Xinjiang, many Uyghur people live, and some of them wanted independence. China didn't want problems in that area to grow. Second, China wanted better relations with nearby countries like Kazakhstan, Kyrgyzstan, and Tajikistan. It wanted to trade more and solve

border problems. Third, China needed more oil and gas. So it started to invest in energy projects in the region, especially in Kazakhstan, and build pipelines (Zhou, He, & Yang, 2020).

In 2001, China and Russia, with some Central Asian countries, created the Shanghai Cooperation Organization (SCO). The goal was to work together against terrorism and separatism (Vasa & Nurimbetov, 2022). In the same year, China and Russia also signed a partnership. They wanted to cooperate more, but their goals were not always the same (Central Asia Program, 2018).

Later, around the end of the 2000s, China became stronger in the region. After the U.S. army left, there was more space for China to grow. Then in 2013, Chinese President Xi Jinping started something called the Belt and Road Initiative (BRI). It's a big plan. China helps build roads, railways, and pipelines in different countries. This is different from Russia's Eurasian Economic Union. That is a formal group, but the BRI is more open. Countries don't need to join anything. They just take part in projects if they want (Council on Foreign Relations, n.d.).

With the Belt and Road Initiative (BRI), China wants to improve trade, build better transport systems, and connect more with other countries. Central Asia is very important in this plan because it lies between China and Europe. That's why China has invested a lot in this region—for example, it helped build a gas pipeline from Turkmenistan and an oil pipeline from Kazakhstan. These projects help China get energy from different places and reduce Russia's control over energy routes (Putz, 2015).

One key project in the BRI is the Middle Corridor, also called the Trans-Caspian route. It connects China and Europe through Kazakhstan, Azerbaijan, and Georgia, using both trains and ships. This route is becoming more popular because it avoids Russia and supports the idea of more trade options for many countries (Putz, 2017).

In 2015, China and Russia agreed to work together on their regional plans. They wanted to support trade and help small and medium-sized businesses. This led to new railway projects and efforts to connect different regional systems, sometimes called the "integration of integrations" (Korolev, 2020).

Still, Central Asian countries are careful. They welcome Chinese money and projects to help their economies but don't want China to have too much power. So they try to stay balanced, working with both China and Russia while keeping their independence (Putz, 2017).

In short, China's goals with the BRI are to keep the region stable, grow trade, and secure energy supplies. At the same time, Central Asian countries want to use these chances for their own development while staying free and independent.

Russia's Interests and the Eurasian Economic Union (EAEU)

After the Soviet Union broke up in 1991, Russia wanted to keep its influence over the former Soviet countries. This idea is often called the "near abroad" strategy. Russia saw these nearby countries as a kind of buffer zone to protect its own interests. At first, Russian foreign policy was more focused on building good relations with the West. But later, problems in the region and the wish to stay important in Central Asia made Russia change direction. When Vladimir Putin came to power, this plan became even stronger (Kaczmarski, 2021).

One of the main parts of this strategy is the Eurasian Economic Union (EAEU). This is one of Russia's biggest geopolitical and economic projects. The EAEU officially started in 2015, but its roots go back to the early 2000s. Before that, there was the Eurasian Economic Community and a customs union between Russia, Kazakhstan, and Belarus. The idea of economic integration was first suggested by Kazakhstan's president, Nursultan Nazarbayev, but Russia became the main leader of the union. Through the EAEU, Russia wants to reach several goals (Delcour, 2022):

Type of interest	What it means
Geopolitical	Keep control over the former Soviet area, stop other big powers like the EU or China from becoming too strong there.
Geo-economic	Build a bigger economic zone, help trade, support free movement of goods, money, services, and workers.
Security	Use the CSTO (military alliance) to keep the region stable and defend Russian interests.

Table 1. — Source: compiled by the authors.[4]

The EAEU and China's Belt and Road Initiative (BRI) are very different. Here's a short comparison (Delcour, 2022):

Feature	EAEU	BRI
Who started it	Russia	China
When it started	2015	2013
Type of system	Formal group, shared rules and customs union	No official group, just project deals
Goal	Integrate former Soviet economies, keep Russian influence	Improve transport and trade across Eurasia
Membership	Limited, official membership needed	No membership, open cooperation
Main features	Economic regulations, Customs Union, financial institutions	Infrastructural projects, logistics

Table 2. — Source: compiled by the authors.[5]

In trade between the EAEU countries, Russia clearly dominates. For example:

Trade partners	Share estimate
Russia – Belarus	~60%
Russia – Kazakhstan	~30%
All other combinations	~10%
EAEU internal trade (vs total)	~15%

Table 3. — Source: compiled by the authors.[6]

4 From references cited in the bibliography.
5 From references cited in the bibliography.
6 From references cited in the bibliography.

The EAEU wants to create a single market with shared rules, common infrastructure (like energy, transport, and communication), and similar tax systems. But there are big imbalances. Russia is much bigger in size, population, and GDP than the others. That means it has the most power in the group. Often, Russia makes trade decisions alone, which makes smaller members trust it less (Delcour, 2022).

Economically, the EAEU is not a big player globally. Its total GDP is about the same as Canada or South Korea (Giucci, 2017). But in energy, the union is more important – around 6.4% of global energy output comes from the EAEU (Pastukhova, 2016). Still, most of the trade happens between just three countries: Russia, Belarus, and Kazakhstan. Internal trade is only about 15% of their total trade. This low number shows that lack of trust is a big problem and makes deeper integration hard (Delcour, 2022).

For Russia, the EAEU is also a way to push back against the EU and China in the region. Even if trade with the EU is limited now, energy exports may lead to more cooperation in the future (Delcour, 2022).

The relationship with China is also important. In 2015, Russia and China agreed to connect the EAEU with the Belt and Road Initiative. They said they want to help trade, start joint infrastructure projects, and maybe make a free trade zone in the future. People often call this cooperation the "integration of integrations" (Gabuev, 2018). This plan included 39 major projects, most of them in the field of railway transport (Gabuev, 2018).

But it's important to remember: Russia and China don't always want the same things. Russia sees the BRI as a transport route that supports its political power. China, on the other hand, sees the BRI more as an economic project to grow prosperity (Defraigne, 2017).

Many former Soviet countries – like Georgia, Moldova, Ukraine, Azerbaijan, Uzbekistan, and Turkmenistan – decided not to join the EAEU. One reason is they don't want Russia to have too much control. But they are interested in the BRI, which is more flexible and doesn't require formal membership (Dragneva & Wolczuk, 2017).

Russia now faces financial problems and can't invest as much as before. Because of this, it may need to cooperate more with China and

support Chinese transport projects. Russia also needs to deal with protectionist ideas inside the EAEU that stop free trade (Dragneva & Wolczuk, 2017).

In conclusion, the Eurasian Economic Union is mostly a tool for Russia to stay powerful in the former Soviet region. Its global economic role is small, but its energy and strategic position are still important. The future of the EAEU depends not only on Russia's economy, but also on trust between members and how the group works with outside powers – especially China (Delcour, 2022).

Central Asian Perspectives and the Challenges of Regional Cooperation

After the Soviet Union collapsed in 1991, Central Asia became much more important. The five former Soviet republics – Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan – suddenly became independent. These countries have a lot of natural resources and a key location between Europe and Asia. Because of this, big powers became more interested in the region. For the new countries, the first goal was to protect their independence. But they also saw the need to work together, especially to solve economic and infrastructure problems.

1. Problems with Regional Cooperation

Problems with Regional Cooperation In the first years of independence, the Central Asian countries tried to create their own regional groups. Some examples were the Central Asian Economic Union (CAEU) and later the Central Asian Economic Community (CAEC) and Central Asian Cooperation Organization (CACO). But these projects didn't last. One reason was lack of trust between countries. Another problem was the big differences in their economies and politics (Linn, 2012).

Here are the main challenges that made cooperation hard:

Challenge	Details
Protecting national sovereignty	Countries didn't want to give power to shared organizations.
Economic and social differences	Big gaps in population, size, resources, and development levels.
Lack of trust and past tensions	Some countries had bad history or rivalry from Soviet times.
Political instability	Changing leaders and strongman regimes slowed cooperation.
Border issues and water disputes	There are still problems with borders, rivers, and enclaves.

Table 5. — Source: compiled by the authors.[7]

2. Outside Powers and Foreign-Led Groups

Some cooperation in the region comes from outside powers. Russia, China, and the West created or supported different groups. These include:

- CSTO – military group led by Russia (Collective Security Treaty Organization, n.d.)
- SCO – security cooperation between China and Russia (Shanghai Cooperation Organization, n.d.; Vasa & Nurimbetov, 2022)
- TRACECA and CAREC – projects supported by the EU and the West to help trade and infrastructure (CAREC Program, n.d.; TRACECA, n.d.)

3. Ongoing Challenges

One big problem for Central Asian countries is finding a balance. They want to stay independent, but also want the economic and strategic benefits of international cooperation. Some key points:

- Sovereignty and nation-building: Most governments prefer to stay fully independent and don't want deep integration (Cornell & Starr, 2018).
- Economic dependence: Many countries depend on exports of oil, gas, or raw materials, and are tied to global markets (Reuters, 2024).

7 From references cited in the bibliography.

- Political differences: Countries have very different political systems. For example, Turkmenistan is very closed, while Uzbekistan is now more open (Reuters, 2024).
- Outside powers: The USA, China, Russia, and the EU all have different plans, and this makes the region more divided and vulnerable (Kassenova, 2024).

4. Possible Future Paths

Even though past regional projects had little success, there are some new signs of cooperation:

- Since 2016, Uzbekistan's foreign policy has changed and now supports more regional cooperation (Eurasian Research Institute, n.d.).
- Türkiye and the Organization of Turkic States (OTS) are creating a new platform for working together (Organization of Turkic States, n.d.).
- Some countries now focus on practical projects, like building shared infrastructure, even if their politics are different (Asian Development Bank, 2023).

So, regional cooperation in Central Asia is not just about economy. It's also about politics, security, and strategy. There are still many problems: countries don't fully trust each other, they worry about losing independence, and outside powers are always involved. But the region also needs to work together. It's important for trade, energy, and transport. That's why in the future, cooperation may not be formal (like the EU), but more flexible and based on individual projects. Countries will likely work together where it helps them, while still keeping their own paths.

The Middle Corridor (Trans-Caspian International Transport Route – TITR): Potential and Challenges

In today's global economy, with many political problems in the world, land trade routes are becoming more important. One of these routes is the Middle Corridor, which connects China to Europe through Central Asia and the Caucasus. This route, also called the Trans-Caspian International Transport Route (TITR), is gaining strategic value. It is not only useful for making global trade routes more flexible, but it also helps the countries along the route – especially Kazakhstan, Azerbaijan, Georgia, and Türkiye – become more important in the region (Ernst & Young, 2023; Caspian Policy Center, 2023).

Strategic Potential of the Middle Corridor

The Middle Corridor has many advantages. In some cases, it can even replace the older trade route that goes through Russia (the Northern Corridor). Here is a short summary of the main strengths of the Middle Corridor (Geopolitical Monitor, 2023):

Type of Advantage	Description
Geopolitical	An alternative if the Northern Corridor becomes unstable
Geographical	Passes through Central Asia, the Caucasus, and Türkiye
Logistical	Uses a mix of rail, sea, and road transport
Economic	Supported by Chinese, Turkish, and Kazakh investments
Political	Can connect with China's BRI and Türkiye's Re-Asia strategy

Table 6. — Source: compiled by the authors.[8]

A key part of this corridor is the Baku–Tbilisi–Kars (BTK) railway. It started working in 2017 and allows goods to move from ports on the Caspian Sea toward Türkiye. The route offers good transport times and lower costs, especially for container shipments (RailFreight.com, 2022).

8 From references cited in the bibliography.

Development Plans and Regional Goals

Kazakhstan plays a central role in building and improving the infrastructure of the Middle Corridor. The country is working on big railway projects like expanding the Dostyk–Moyinty and Beineu–Kurik lines. Kazakhstan is also planning to build free trade zones and introduce digital logistics systems to make transport faster and easier (Times of Central Asia, 2023):

Project	Goal	Expected Result
Dostyk–Moyinty railway	5× capacity increase, 1,500 km/day speed	Better flow of goods
Aktau and Kurik port expansion	More sea cargo	Up to 6 million tons per year
Digital corridor system	Smoother customs process	Less paperwork and border delays
Free trade zones	Lower taxes and migration limits	Attract international logistics companies

Table 7. — Source: compiled by the authors.[9]

Azerbaijan is also very important for the corridor. The Port of Baku is one of the most modern in the Caspian region. Goods can be moved quickly between ships, trains, and trucks. New projects like the Baku International Sea Trade Port and the Alat Economic Zone will make Azerbaijan even more competitive in the future (AFEZ, n.d.; Caspian Policy Center, 2023).

Another project is the Zangezur Corridor, which would connect Azerbaijan directly to Türkiye by passing through Armenia. This would make the Middle Corridor more flexible and efficient (Geopolitical Monitor, 2023).

Türkiye sees itself as a strategic bridge between Europe and Asia. The BTK railway helps Türkiye take an active role in shaping trade across Eurasia. In the future, there could be a connection with the Lapis Lazuli Corridor, which includes Afghanistan and could expand trade even more (Jamestown Foundation, 2023).

9 From references cited in the bibliography.

New regional value chains are starting to grow along the Middle Corridor. These can help countries reduce their dependence on raw material exports and make their economies stronger. Reports by the World Bank and Asian Development Bank show that better logistics usually lead to more trade (World Bank, 2023; Asian Development Bank, 2024). Rail freight along the corridor has a lot of room to grow. In 2018, only about 2% of the full capacity was used. This means traffic could grow up to 40 times in the future (Bárkányi & Vasa, 2023b).

Countries in the region are now trying to bring in more investment in "green" industries, eco-friendly technologies, and logistics. They are building digital multimodal corridors, using GIS systems for traffic, and creating green corridors to support sustainability (World Bank, 2023).

Challenges and Geopolitical Risks

Even though the Middle Corridor has many benefits, there are still serious problems:

- Infrastructure problems, especially at Caspian Sea ports and rail border crossings
- Lack of common regulations, which makes smooth transport difficult
- Political tensions like the Russia–Ukraine war, which affect stability
- Changes in global trade routes, which can bring new security risks and political pressure

The Middle Corridor – More Than Just a Trade Route

Today, the Middle Corridor is no longer just an alternative trade route. It is becoming the base of a larger economic area that connects Europe and Asia. The role of Azerbaijan, the development of railway and sea infrastructure, and new regional and global cooperation all help this route become a key land trade link in the future. For success, countries need to work together with clear development plans, political stability, and good coordination – not only in Central Asia, but also in the South Caucasus (Biró, 2023; Geopolitical Monitor, 2023).

The table below shows the main parts of the Middle Corridor and the infrastructure in each section:

Section	Main Infrastructure	Countries
China–Kazakhstan	Khorgos border crossing, Dostyk railway	China, Kazakhstan
Inside Kazakhstan	Beineu–Mangystau, Mangystau–Kurik railways	Kazakhstan
Caspian Sea	Aktau, Kurik ferry ports, Port of Baku	Kazakhstan, Azerbaijan
Azerbaijan–Georgia	BTK railway	Azerbaijan, Georgia
Georgia–Türkiye	Final section (Kars, Istanbul)	Georgia, Türkiye

Table 9. — Source: compiled by the authors.[10]

Even with these developments, the corridor still faces some serious problems. These could stop long-term success. Here are the main challenges:

Type of Challenge	Details
Infrastructure	Limited capacity of railways and sea ports, congestion in some terminals (OECD, n.d.)
Administration	Border crossings are slow, customs processes take too long (World Bank, 2023)
Political	No strong coordination between countries, national interests sometimes clash (Shiriyev, 2025)
Logistics	Problems with combining different transport systems (multimodal transport) (OECD, n.d.)
Geopolitical	Tensions between big powers, such as China's BRI vs. Russia's EAEU (RUSI, 2025)

Table 11. — Source: compiled by the authors.[11]

That's why the Middle Corridor is not only a transport option now – it is also a geopolitical tool. It can help change how Eurasian regions connect. But without more investment, stronger political support, and better regional cooperation, the corridor cannot reach its full potential. Even with ongoing development, the future of the Middle Corridor will still depend a lot on how well countries can coordinate their actions – and how global politics changes (Geopolitical Monitor, 2023).

10 From references cited in the bibliography.
11 From references cited in the bibliography.

In today's world of shifting global politics and trade, the Middle Corridor (Trans-Caspian International Transport Route – TITR) is becoming more important for connecting Europe and Asia. The route goes through Kazakhstan, Azerbaijan, and Georgia, and uses trains, ships, and trucks (multimodal transport). It gives a good alternative to other routes that are unstable or politically sensitive – like the Northern Corridor through Russia. In this situation, Türkiye is not only a country the goods pass through – it is becoming an active player. With its strategy and infrastructure, Turkiye is helping to shape the future of the Middle Corridor in a big way (Geopolitical Monitor, 2023).

Türkiye's Role in Making the Middle Corridor Stronger in Geopolitics

As global politics and trade routes keep changing, the Middle Corridor (Trans-Caspian International Transport Route – TITR) is becoming more important than before (Trans-Caspian International Transport Route, n.d.). This transport route connects China and Europe by going through Kazakhstan, Azerbaijan, and Georgia. It is a good option when other routes, like the one through Russia, become risky or unstable. In this situation, Türkiye is not just a country that goods go through. It is now playing a real role in shaping the future of the Middle Corridor. Türkiye is doing this by building new infrastructure and being more active in the region (Insight Turkey, n.d.).

Türkiye's location between Asia and Europe gives it a big advantage. It is like a natural bridge. That makes it very useful for trade, transport, and connecting different parts of the corridor.

One important part of the route is the Baku–Tbilisi–Kars (BTK) railway. It started working fully in 2017. It is around 846 km long and connects Azerbaijan to Türkiye, passing through Georgia. This railway became one of the main ways to move goods from China to Europe by land. It is now the key part of the Middle Corridor's western section. It also links to TEN-T, which is Europe's main transport system (Daily Sabah, 2017).

Türkiye's foreign policy wants to make the country more important in the Eurasian region, both in trade and in politics. One example of this is the "Re-Asia" (Yeniden Asya) plan, which wants stronger relationships with Asian countries (Republic of Türkiye Ministry of Foreign Affairs, n.d.). Another plan is the "Century of Türkiye", started in 2023, which talks about improving east–west trade. The Middle Corridor is a big part of both ideas (Insight Turkey, n.d.). Türkiye is building more railways and ports, but also trying to work more with countries in Central Asia and the Caucasus. (Egeresi, 2023)

Türkiye is helping the Middle Corridor in different ways:

Area	Contribution
Infrastructure	BTK railway, new port developments
Politics	Re-Asia strategy, "Century of Turkey" vision
Regional integration	Stronger ties with Caucasus and Central Asian countries
Economy	Logistics services, trade centers
Security	Supporting safety along the transport routes

Table 12. — Source: compiled by the authors.[12]

Here are some more points about Türkiye's role:

- Multimodal connection – With the BTK, Türkiye provides a direct land link between Asia and Europe. This is very important now, especially because of the war in Ukraine and problems with the Russian route (SWP Berlin, 2022).
- More trade options – The Middle Corridor offers countries an alternative, reducing dependence on Russia for transporting goods (SWP Berlin, 2022).
- Helping regional cooperation – Türkiye supports the Organization of Turkic States (OTS), which brings together countries with similar languages. This fosters regional collaboration and strengthens the corridor (Organization of Turkic States, n.d.).

12 From references cited in the bibliography.

Even with these good things, there are still problems that make things slower:

- Border and customs issues – Border checks are not always efficient. Different logistics services don't always coordinate well, leading to delays (OECD, 2023).
- Infrastructure problems – Some parts of the BTK still need improvement. The tracks and stations are not yet ready for high-volume traffic (Eurasian Research Institute, n.d.).
- Geopolitical problems – Türkiye's sometimes complex relationship with the EU, which can hinder long-term cooperation (The Diplomat, 2023).

Still, Türkiye is a key player in the Middle Corridor—not only in transport but also in politics. Its location, active diplomacy, and infrastructure projects make it an important part of the future. If Türkiye continues to build partnerships and helps improve cooperation in the region, it will become even more important in connecting Asia and Europe.

Other Eurasian Transport Corridors – A Short Comparison

The Middle Corridor (Trans-Caspian International Transport Route – TITR) is important, but it should not be seen alone. To understand the full picture of Eurasia's logistics and geopolitics, we also need to look at the other transport routes that already exist or are being planned. These different corridors have different goals, directions, and political backgrounds. Some of them compete with each other, but others work together.

The BRI as a Main Framework

The biggest and most global idea for connections is China's Belt and Road Initiative (BRI). The BRI wants to connect China and Europe by building transport, energy, and digital routes. Countries that join the BRI receive investments in infrastructure and become part of China's export-based system. The BRI has many parts – including the Middle Corridor – that follow different routes and have different strategies:

- Middle Corridor: A key part of the BRI that uses the Caspian Sea and a mix of trains, roads, and ships to connect China and Europe.
- Northern Corridors: Traditional land routes through Russia, but these are less used now because of political tensions like the war in Ukraine.
- Southern Corridors: Other options that go through South Asia, the Indian Ocean, and Iran to reach Europe.

Other International Projects

Besides the BRI, there are also several regional or topic-based programs that shape transport in Eurasia:

- TRACECA (Transport Corridor Europe-Caucasus-Asia): Supported by the European Union, it connects Europe and Central Asia through the Caucasus. It overlaps with the Middle Corridor but focuses more on EU relations (TRACECA, n.d.).

- INOGATE: Another EU-supported program, focused on oil and gas transport. It works on building energy pipelines and harmonizing energy rules between Europe and former Soviet states (INOGATE, n.d.).
- CAREC (Central Asia Regional Economic Cooperation): A regional program for Central Asian countries to help improve roads, railways, and logistics (CAREC Program, n.d.).
- US New Silk Road idea: A U.S.-backed idea to connect Central and South Asia, mostly focused on projects in and around Afghanistan (U.S. Department of State, n.d.).

The EAEU and BRI Together

The Eurasian Economic Union (EAEU) – with members like Kazakhstan and Kyrgyzstan – also plays a role in shaping transport in the region. Even though its main goal is economic integration, it also helps with the movement of goods and services. This means the EAEU has an effect on how logistics works in Eurasia. In some cases, the EAEU and BRI already cooperate, especially in railway transport. This shows that these two systems don't have to compete – they can also work together (Vinokurov, 2019).

Corridor/ Project	Countries Involved	Focus	Route Type	Notes
Middle Corridor	China, KAZ, AZE, GEO, TUR	Freight transport	Caspian–BTK–Türkiye	Part of BRI, alternative to Russian route (Geopolitical Monitor, 2023)
BRI	China + ~140 countries	Multi-sectoral	East–West, North–South	Largest Chinese global strategy (Kenderdine, 2022)
Northern Corridor	China, Russia, EU	Freight transport	Russian railways	High political risk (Kenderdine, 2022)
TRACECA	EU, Caucasus, Central Asia	Infrastructure	Through the Caucasus	Supported by the EU (TRACECA, n.d.)
INOGATE	EU, CIS	Energy transport	Gas and oil pipelines	Energy-focused initiative (INOGATE, n.d.)

Corridor/ Project	Countries Involved	Focus	Route Type	Notes
CAREC	Central Asian countries	Regional cooperation	Roads, rail, trade	Development program with ADB support (CAREC Program, n.d.)
EAEU	Russia, KAZ, KGZ, etc.	Economic integration	Land-based trade	Cooperates in some areas with BRI (Vinokurov, 2019)

Table 12. Comparison of the Main Eurasian Corridors — Source: compiled by the authors.[13]

There are many transport and logistics projects across Eurasia. Each of them reflects different geopolitical and economic interests. These corridors are not just about roads or trains – they are also part of big-power strategies. Right now, the Middle Corridor has become more important, partly because of global political changes and because of the active role of Türkiye and China. But for the future of the region, the key things will be working together on development, keeping the region politically stable, and making sure all systems can work together technically. No matter which corridor becomes the most dominant, these things will be essential for success (TRACECA, n.d.).

Conclusion

After the collapse of the Soviet Union, Central Asia became more important in global politics and trade. The region has rich natural resources and a key position between East and West. It offers land-based trade routes as alternatives to sea transport. Over the last 30 years, it became clear that true regional integration did not happen from inside. Instead, outside powers — especially Russia and China — created the main cooperation frameworks (Council on Foreign Relations, n.d.; F1000Research, 2022).

13 From references cited in the bibliography.

Even though the countries in Central Asia are independent, they still live between two pressures: the need to cooperate and the desire to stay sovereign. Old Soviet infrastructure, economic differences, and political goals to keep independence made strong regional unity difficult. Because of this, projects like the Eurasian Economic Union (EAEU) and the Belt and Road Initiative (BRI) became leading forces for development (Eurasianet, 2018).

The EAEU, led by Russia, uses formal rules and systems to support trade. But trade levels are still low, and Russia dominates. The project has structure but also limits (Eurasianet, 2018).

The BRI, started by China in 2013, is more flexible. It works through bilateral agreements and offers infrastructure and investment. Central Asian countries prefer it because they do not need to give up control and can get real economic gains (F1000Research, 2022). The BRI is not only about China and Europe — it is part of China's global strategy (Council on Foreign Relations, n.d.).The EAEU and BRI sometimes work together — especially in rail transport. But their goals are different. Russia wants to protect its regional influence, while China wants to expand its global trade. This makes deep cooperation between them difficult.

One important focus of this study was the Middle Corridor (Trans-Caspian International Transport Route – TITR), a Belt and Road Initiative (BRI) route that connects China to Europe through Kazakhstan, Azerbaijan, Georgia, and Türkiye. It offers an alternative to Russian routes and sea routes. In recent years, due to the war in Ukraine and supply chain disruptions, the Middle Corridor has gained increased importance. It provides shorter transport times, reduced political risk, and multimodal transport options (Geopolitical Monitor, 2023).

Kazakhstan plays an important role in the Middle Corridor. It is working to improve railways, build better logistics centers, and make customs work faster. The country is also investing in the Aktau and Kuryk seaports. A new container hub in Aktau will help move up to 300,000 containers (TEU) every year (Commonspace.eu, 2024). Kazakhstan also made customs procedures digital to speed up cargo transit (Times of Central Asia, 2024).

Türkiye is also a strong partner. It supports the Middle Corridor through the Baku-Tbilisi-Kars (BTK) railway, which links to Europe. Türkiye's "Re-Asia" and "Century of Türkiye" plans show the country wants a long-term role in Eurasian trade (Insight Turkey, 2020).

Azerbaijan is another key country. It has a modern port in Baku that connects the Caspian Sea to railways and highways. The country is improving digital systems and logistics. Azerbaijan is also part of the Zangezur Corridor and new trade zones. This shows Azerbaijan is not only a transit country but also wants to shape the future of east–west trade (Jamestown Foundation, 2020).

At the same time, Central Asian countries follow a "multi-vector" foreign policy. They try to stay neutral and work with both Russia and China, but also want to keep their independence. However, for real regional cooperation, more is needed: a local system to solve problems, reduc differences, and build trust (DGAP, 2023).

In the future, trade and transport development in Central Asia will affect its global role. The growth of the Middle Corridor, the balance between the EAEU and BRI, and the strategies of each country will shape what happens next.

To have peace and long-term progress, the region needs to:

- balance external powers,
- strengthen its own initiatives, and
- build cooperation based on shared benefits.

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The European Union and the Middle Corridor

Zoltan Egeresi[14]

Introduction

Since the early 1990s, the European Union (EU) has implemented various initiatives aimed at enhancing and redefining its relationships with neighboring regions. This strategic approach includes the accession of several Northern, Central, and Southeastern European countries in 1995, 2004, 2007, and 2013, alongside the establishment of special relations with Eastern European nations, countries in the South Caucasus, the Middle East and North Africa (MENA) region, and Central Asia. However, the EU has not formulated a comprehensive and unified strategy specifically targeting the Turkic States. Instead, it has entered accession negotiations with Türkiye, incorporated Georgia and Azerbaijan into the Eastern Partnership framework, and concluded numerous partnership agreements with Central Asian states.

Economic factors have played a pivotal role in fostering deeper political cooperation with these countries. The presence of European companies in these emerging markets has expanded, with several nations becoming significant energy suppliers to EU member states. Aligned with its overarching economic interests, the European Union has been a proponent of various transport projects since the dissolution of the Soviet Union, which aim to incorporate Turkic countries into broader economic and infrastructural frameworks. These initiatives have been instrumental in enhancing connectivity between existing trade routes

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and in establishing new transportation corridors throughout the Caucasus, the Balkans, and Central Asia.

The significance of transportation and trade has been further underscored by the geopolitical landscape following Russia's invasion of Ukraine in February 2022. A plethora of political declarations, analyses, and scholarly articles have increasingly highlighted the strategic importance of the Middle Corridor, which may serve as a conduit for new Eurasian connectivity while circumventing routes that could expose EU member states to sanctions imposed on Russia and the instability associated with the Red Sea and Horn of Africa, where threats from Houthi militants and Somali pirates persist (Eldem, 2022) (Çolakoğlu, 2022) (Popławski, Baniak, Michalski, & Popławski, 2024) (World Bank, 2023) (Biró & Vasa, 2024).

In addition to the economic incentives, growing geopolitical competition has intensified the EU's interests in the region encompassing the Middle Corridor (MC). China has been actively developing transportation routes through Central Asia, previously branded as the Belt and Road Initiative, and has also shown a keen interest in the contemporary concept of the Middle Corridor. Concurrently, the Organization of Turkic States has identified the Middle Corridor as a flagship initiative for transport cooperation in recent years.

The Middle Corridor has become a focal point of discussion among the Turkic States, which has spurred high-level forums and bilateral agreements. Academic literature has increasingly turned its attention towards analyzing the implications and potential of the Middle Corridor, particularly considering the strategic roles of Türkiye and Azerbaijan at the intersection of East-West and North-South transport corridors (Huseynov & Mammadova, 2024) (Üngör, 2024).

Despite the considerable body of literature addressing the potential of the Middle Corridor and the interests of the participating states, research focusing specifically on the European Union's engagement remains limited. Policy analyses often encourage the EU to take a more proactive stance regarding transport projects within this context (Rizzi, 2024). Such caution is understandable, as the feasibility of the Middle Corridor can only be fully appreciated through the lens of rela-

tions between the originating country of the transport routes, namely China, and the destination region, the European Union. It is important to highlight the distinctive position of the Middle Corridor within the triad of the People's Republic of China, the European Union, and the post-Soviet economies, including Türkiye. An examination of these regions reveals that the PRC is in an industrializing phase, the economies associated with the Middle Corridor are semi-industrialized, while Europe embodies a post-industrial economic framework. The integration of these three macroeconomic regions through a cohesive containerized rail transport system presents formidable challenges, both politically and institutionally, as well as economically (Kenderdine & Bucsky, 2021).

This paper aims to provide a comprehensive overview of the EU's policy regarding transportation routes and projects along the Middle Corridor, with particular emphasis on relations with the Turkic States. Initially, it will delineate the political framework established by the European Union over the past few decades. Subsequently, the analysis will focus on various programs and institutions initiated by the EU that encompass transport corridors, including TRACECA and Global Gateway. Finally, the paper will assess the EU's current stance toward the Middle Corridor and its implications for regional connectivity and cooperation.

Developing relations with Middle Corridor countries

As it was already mentioned, the European Union has developed differentiated relations with countries of the MC based on historical and geographical as well as political circumstances. Among them we can see EU membership candidate countries (Türkiye and Georgia), countries being part of the European Neighborhood Policy, and Eastern Partnership (launched in 2009), like Azerbaijan, and states of Central Asia with which the EU signed partnership and cooperation agreements during the previous decades.

The closest relations were developed with Türkiye which has announced its willingness to become an associate member of the European Economic Communities just shortly after the Treaty of Rome was signed (1957). It has become associate member of the EC in 1963 by signing the Ankara Agreement which settled the relations and reinforced the cooperation with Western European states. These years, early 1960s witnessed the labor agreements which paved the way towards the inflow of hundred thousand Turkish workers in Europe creating a strong link between these economies.

Türkiye under the premiership of Turgut Özal declared its ambitions to join the EC as a full member in 1987, however, its endeavors found closed doors in Brussels. Despite the difficulties, in 1996 Customs Union Agreement entered into force between the EU and Türkiye. In 1999, Türkiye got the candidate status at the Helsinki Summit, which has given a fresh impetus to the EU harmonization efforts. These successful efforts culminated into the start of negotiations in 2005. Nevertheless, after closing one chapter in 2006 (Science and Research), negotiations were slowed down because of certain Member States resistance, the unresolved Cyprus issue as well as the EU's growing enlargement fatigue and internal crises that became increasingly striking after the global financial crisis hit Europe in late 2008. Although keeping the accession as a primary goal, Türkiye's foreign policy turned to its neighboring regions, especially after the unset of the Arab Spring in 2011 which changed tremendously the country security environment. This change had later on repercussion to the EU itself: the refugee crisis in 2015-16 transformed Türkiye a key actor in guaranteeing the Union's security in tackling irregular migration. The EU-Türkiye joint statement in March 2016 created a framework to manage the waves of irregular migrations to the EU and forced the Community to provide financial assistance to Syrians living in Türkiye. Although that time two chapters were opened, due to the turbulent domestic and geopolitical developments as well as diverging perceptions about the political trajectory in Türkiye hindered a real breakthrough in the bilateral relations during recent years, in 2018 European Council proclaimed that accession negotiations were standstill (EC, Türkiye, 2025) Nevertheless, Türkiye's position as an

important country for the EU augmented. In the first months of 2025, thanks to the new American administration's pressure on European allies to ameliorate their defense sector and security, opened the way to Türkiye to participate in the reconstruction of European security architecture.

Georgia, geographically the closes country to the European Union within the South Caucasus region tried to develop close relations with the European Union and NATO, however, security reasons, breakaway entities and Russian intervention in 2008 blocked deeper integrational process. Nevertheless, the country joined the Eastern Partnership and participated in several infrastructural projects. Georgia signed association agreement with the European Union in 2014 which entered into force in 2016. Due to the Russian war in Ukraine, Georgian government accelerated the process of Europeanization thus declared the country's willingness to join the EU in Spring 2022. After negotiations and delays, European Council granted candidate status to the country in late 2023 (EC, 2025). However, due to contested results of the parliamentary elections in Autunm 2024, the government decided to suspend country's accession process (Euronews, 2024).

The main framework of European Union – Azerbaijan relations are the European Neighborhood Policy, the Eastern Partnership and EU-Azerbaijan Partnership and Cooperation Agreement signed in 1996 and entered into force in 1999. Since 2004, Azerbaijan has been part of the European Neighborhood Policy (ENP) as a Southern Caucasus country, and since 2009, it has also participated in the Eastern Partnership initiative. In 2016, a Protocol was signed outlining Azerbaijan's involvement in EU Programs and Agencies. The EU and Azerbaijan decided to launch negotiations of the new partnership agreement were launched in February 2017 (EC, Azerbaijan, 2025).

During the Second Karabakh War in 2020, European Union leaders called several times for ceasefire agreements and negotiations. Since 2021, the European Union tried to play a constructive role as mediator in the normalization of relations between Azerbaijan and Armenia (Biró, 2023). Several meetings contributed to bring together the two countries' leaders, however, despite the effort key breakthrough could

not be reached. The anti-terror operation in September 2023 which led to the total liberation of the occupied territories and the subsequent dissolution of the Armenian entity left the EU's position in the air (Topchubashov Center, 2023). Furthermore, normalization efforts were slow downed by several factors, among others due to the support provided by certain EU member state to Armenia.

Beyond the question of Karabakh, bilateral relations gained momentum in the late 2010s when Azerbaijan managed to increase its share in European energy supply after the opening of several new pipelines (TANAP, TAP). The country's importance was augmented due to the war in Ukraine, too. This turn was demonstrated when President of the European Commission Ursula von der Leyen visited Baku in July 2022 and the EU and Azerbaijan signed an MoU on Strategic Partnership in field of energy to double imports of natural gas (Euronews, 2022)

In case of Central Asian countries, the European Union plays an important economic role as investor and trade partner. Mainly bilateral Partnership and Cooperation Agreements (PCAs) as well as Enhanced Partnership and Cooperation Agreement (EPCAs) settle the EU and Central Asian states' relations. The first agreements were signed in the late 1990s. The EPCA between the European Union and Kazakhstan has been in force since 2020, marking a significant step in deepening political, economic, and sectoral cooperation. In June 2024, a similar EPCA was signed with Kyrgyzstan, underscoring the EU's strategic interest in reinforcing its engagement with Central Asian partners. Meanwhile, negotiations with Uzbekistan are progressing steadily. As for Tajikistan, EPCA negotiations were officially launched in February 2023 and successfully concluded in 2024 (EEAS, 2025). The first EU special representative for the region was appointed in 2005. In 2007, the European Union adopted a Strategy for Central Asia outlining the main objectives vis-á-vis the region. Twelve years later, in 2019, a new Strategy was published which updated the previous one and portrayed new goals and tools to foster bilateral relations (EC, 2019).

During these decades Central Asia also went through significant change. While the 1990s were rather the years of political and economic transformations, the late 2000s and 2010s showed the rising

commitment of these states to be integrated increasingly in international trade and gain more geopolitical weigh in international politics. The establishment of the Turkic Council in 2009 with the signing of the Nakhchivan Agreement (since 2021 Organization of Turkic States) was a clear sign of these developments. After 2016, Uzbekistan also launched a reform program and opening policy that has become one of the engine of the rise of Central Asia during the previous one decade.

Despite the achievements and new strategies, Central Asian elites feel that the EU is practically invisible in Central Asia, unknown to society, characterized by complicated bureaucratic procedures, and perhaps most importantly, that its ambitions exceed its actual power potential and execution capabilities. The most likely reason for this is that the EU lacks a comprehensive Eurasian dimension and approach (Vasa, 2020).

The war in Ukraine also elevated the region's geopolitical significance for the European Union as well (Urciuolo, 2024), (Biró & Vén, 2023). The European Council accepted the Joint Roadmap for Deepening Ties between the EU and Central Asia in 2023 aiming to help advance dialogue and practical cooperation in selected five key areas to enhance overall EU-Central Asia relations. These key areas are: Deepening the inter-regional political dialogue and cooperation, 2) Enhancing economic ties, trade and investment, 3) Engaging on energy, climate neutral economy, connectivity under the Global Gateway and cooperating on the European Green Deal, 4) Addressing common security challenges, 5) Strengthening people-to-people contacts and mobility. Along with these areas, the Council of the European Union determined 79 actions ranging from more frequent high-level meetings and fora between EU and Central Asian leaders (EC, 2019).

As the war in Ukraine and developments in the Red Sea region changed the geopolitical landscape for the transportation routes opening the way towards a stronger commitment from the EU's side towards Central Asia, other factors also augmented its importance. The EU accepted several sanction packages against Russia for strategic sectors. However, sanction evasion has become a new challenge with some Central Asian countries being key countries. Thus, sanction circum-

ventions also appeared on the bilateral agenda. High-level visits from the part of European countries' leaders have became more frequent. Frank-Walter Steinmeier, German President visited Aktau in June 2023, while Emanuel Macron, French President visited Kazakhstan and Uzbekistan in Autumn 2023 (Popławski M. , 2023).

Other EU members state, Hungary also intensified its relations with Middle Corridor countries and voiced its support for these partners. The country, situated in Central Europe has started its ambitious foreign policy and economic opening at the beginning of 2010, the so called "Eastern Opening." The main aim of the initiative was to strengthen economic relations with non-EU partner countries (in practice, geographically East to the country) accompanied by the amelioration of political relations. This endeavor was intensified by the fact Hungary has special historical and cultural relations with Turkic countries along the Middle Corridor. Thus, accession to the Organization of Turkic States (then Turkic Council) as an observer member in 2018 opened the way towards closer cooperation with these countries. Hungary supported many initiatives, like strengthening Visegrád countries-OTS relations as well as economic cooperation projects, such as the establishment of Turkic Investment Fund. Last year, during the Hungarian EU Presidency, Hakan Fidan, Minister of Foreign Affairs of Türkiye participated in the informal meeting of EU Ministers of Foreign Affairs (Türkiye Ministry of Foreign Affairs, 2024).

During recent years, Hungarian energy companies such as MOL and MVM Group entered the Azerbaijani market as took part in energy connectivity. Hungary also see itself as part of the Middle Corridor. The country, situated in the Center of Europe is a key country in transport corridors stemming from Türkiye or the Balkans and going towards Germany. The flagship project to cement its key position, the Budapest-Belgrade railway road was launched in the mid-2010 and is under process. Hungarian Foreign Ministry voiced several time its interest in Middle Corridor, energy connectivity (Green Energy Corridor) (Zeynalova, 2023). Consequently, Hungary has become not only an actor fostering bilateral relations but an active member of the development of transportation routes.

To conclude, development of political relations with the Middle Corridor countries gained momentum in recent years, high-level meetings were initiated by the European Union to foster and develop relations. Although there is a long road for deeper political and economic cooperation, the EU tries to play a constructively in the development of the region. In this field, transport cooperation has a key role.

Transport projects of the EU to support the Middle Corridor

The European Union (EU) has played an active role in fostering infrastructural cooperation across the Black Sea, South Caucasus, and Central Asia regions, particularly through its strategic initiatives aimed at enhancing connectivity and economic integration. One of the earliest and most significant milestones in this endeavor was the Pan-European Transport Conference held in Helsinki in 1997, which identified the Black Sea region as a critical component of the broader Pan-European Transport Area. This recognition laid the groundwork for the EU's subsequent efforts to promote regional transport networks and facilitate economic linkages between Europe and its eastern neighbors. In 2018, the European Union adopted an Asia-Europe connectivity plan emphasizing the importance of rail transport (EC, 2018).

1. TRACECA

A cornerstone of the EU's engagement in this domain was the establishment of the Transport Corridor Europe-Caucasus-Asia (TRACECA) program, initiated shortly after the dissolution of the Soviet Union. Launched in 1993 during a conference in Brussels, TRACECA brought together representatives from the Ministries of Trade and Transport of Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. The conference culminated in the adoption of the Brussels Declaration, which articulated a shared vision for enhancing connectivity between Europe, the Black Sea, the South Caucasus, and Central Asia. Over the ensuing decades, TRACECA

underwent significant expansion and institutionalization. In 1996 and 1998, Moldova and Ukraine joined the program, followed by Bulgaria, Romania, and Türkiye, which formally applied to the European Commission for membership in March 2000. Further broadening its scope, Iran became a member state in 2009, while Lithuania acceded as a permanent observer in the same year (TRACECA, 2025).

A key milestone in the institutionalization of TRACECA was the signing of the Basic Multilateral Agreement (MLA) on International Transport for the Development of the Europe-the Caucasus-Asia Corridor in Baku in 1998, a development that underscored the strong commitment of Azerbaijan to the program. This agreement marked a significant step toward formalizing the legal and operational framework for regional transport cooperation. The establishment of the Permanent Secretariat of the Intergovernmental Commission (IGC) TRACECA in Baku in 2001 further solidified the program's institutional structure. The Secretariat has played a crucial role in coordinating efforts among member states, monitoring the implementation of decisions, formulating recommendations, and facilitating the execution of various infrastructural projects. Additionally, TRACECA has developed a range of strategic documents, including the Border Crossing Guide, the Multilateral Permit, and several plans and strategies, which have provided a structured pathway for advancing transport cooperation.

Between its inception and 2020, the EU, within the framework of the TRACECA program, financed 85 projects, comprising 14 investment projects and 71 technical assistance projects, with a total investment exceeding 187 million EUR (TRACECA, 2020). However, despite these efforts, the scale of investment has been criticized as insufficient to drive major infrastructural transformations. The program's focus on the development of ports, the rehabilitation of terminals, and minor multimodal investments has not been adequate to establish a commercially viable transport corridor. Moreover, the necessity of multiple mode changes (e.g., rail–sea–rail–sea–rail) along the TRACECA route has rendered it less attractive from a commercial perspective, limiting its effectiveness as a competitive transport link between Central Asia and Europe.

In conclusion, while the EU's TRACECA program has made notable contributions to fostering infrastructural cooperation and connectivity in the Black Sea, South Caucasus, and Central Asia regions, its impact has been constrained by limited financial commitments and operational inefficiencies. To realize the full potential of this initiative, greater investment and strategic focus on creating seamless, commercially viable transport corridors will be essential. The program's institutional achievements, such as the MLA and the Permanent Secretariat, provide a robust foundation for future efforts, but sustained political will and financial support will be critical to overcoming existing challenges and achieving long-term objectives Az űrlap teteje (Kalyuzhnova & Pomfret, 2021).

2. Smaller programs

Smaller projects were launched by the EU during previous years as well. Ready4Trade in Central Asia launched at the beginning of 2020 until end of 2023, which aimed at developing intra-regional and international trade in the five Central Asian countries with a value of EUR 15 million. It tools consisted of increasing the transparency of cross-border requirements, eliminating regulatory and procedural obstacles, enhancing the capacity of businesses to adhere to trade formalities and standards, and advancing the efficiency and accessibility of cross-border e-commerce. (EEAS, 2020). There are other newly adopted programs, such as regional transport program for Central Asia, backed by EUR 30 million, as well as the Central Asia Prosperity Program, which allocates EUR 28.4 million to promote economic development and connectivity. In addition, the EU's "Securing Connectivity in Central Asia" program, also funded with EUR 30 million, aims to strengthen infrastructure, improve regional integration, and enhance the security and resilience of transport networks across the region (EEAS, 2025).

3. Global Gateway Initiative

The European Union has launched the its so called Global Gateway initiative in 2021 in order to tackle China's rising the role in international infrastructure projects. Ursula von der Leyen declared in 2022 that "Global Gateway is above all a geopolitical project, which seeks to position Europe in a competitive international marketplace. It is a critical tool because infrastructure investments are at the heart of today's geopolitics." (EC, 2022) The Global Gateway Initiative, mobilizing EUR 300 billion between 2021 and 2027 provided by Team Europe, represents the European Union's ambitious global investment strategy aimed at strengthening sustainable infrastructure and fostering deeper international partnerships. This initiative is designed to promote inclusive, smart, and green connectivity across key sectors—particularly digital networks, energy systems, and transportation corridors—in partner countries worldwide. By prioritizing environmental sustainability, good governance, and social responsibility, the EU seeks to offer a high-standard, transparent alternative to traditional infrastructure models (Andžāns & Djatkoviča, 2023).

The European Investment Bank produced a report about the opportunities of different infrastructural projects for Central Asia (EBRD, 2023). In this report, a collaborative effort led by the European Bank for Reconstruction and Development (EBRD) and financially supported by the European Union (EU), undertakes a comprehensive analysis to identify and prioritize sustainable transport connections between Europe and Central Asia. The primary geographic focus encompasses the five Central Asian nations – Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan – and their linkages to the EU's extended Trans-European Transport Network (TEN-T). The study's core objective is to formulate actionable strategies for developing these transport connections, with careful consideration given to a multifaceted range of sustainability criteria, including environmental impact, social equity, economic viability, and political feasibility.

The Central Trans-Caspian Network (CTCN) emerges as the most promising and sustainable transport option based on the study's rigorous assessment framework. To unlock the full potential of the CTCN,

the report proposes a two-pronged approach, encompassing both "soft" and "hard" connectivity measures. The "soft" connectivity measures, numbering seven in total, focus on enhancing the enabling environment for trade and transport. These include initiatives such as the digitalization of transport documents to streamline border procedures, improvements in interoperability to facilitate seamless transfers between different modes of transport, and the promotion of public-private partnerships (PPPs) to attract private sector investment.

On the "hard" infrastructure side, the report identifies 33 key investment needs, encompassing a wide array of projects aimed at modernizing and expanding transport infrastructure. These include the rehabilitation and modernization of railway and road networks to improve efficiency and capacity, enhancements to port infrastructure to accommodate growing trade volumes, and the development of multimodal logistics centers to facilitate seamless transfers between different modes of transport.

The estimated total investment required to implement these hard infrastructure projects is substantial, amounting to approximately EUR 18.5 billion. However, the report argues that these investments are crucial for unlocking the full potential of the CTCN and realizing its numerous benefits. By implementing both the soft connectivity measures and the hard infrastructure investments, the report projects a significant increase in transit container volume on the CTCN, fostering stronger regional coordination, driving economic growth, and promoting environmental sustainability. The report emphasizes that each project will require careful assessment and thorough due diligence to ensure its feasibility and alignment with international best practices.

Recent years, one may see a rising interest from the part of the EU and EU countries in the Middle Corridor countries, with high emphasis on transport and energy connectivity – recently these are presented in the framework of Global Gateway Initiative. The first (in-person) EU-Central Asia Economic Forum, which took place in Bishkek, Kyrgyzstan, on 5 November 2021 which beyond acknowledging the EU support in coping the Covid-19 pandemic mainly focused on green recovery, digitalisation and better business environment (EEAS, 2021)

In May 2023, the EU and Central Asian countries held their second European Union-Central Asia Economic Forum in Almaty. Participants recognized the impact of climate change on Central Asian economies and discussed alternative energy supply routes, along with the region's shift toward sustainable, climate-neutral, and competitive economies. Improving the business climate was also a key focus, including the need for structural reforms to create a level playing field, streamline administrative procedures, and strengthen regional cooperation. The Forum featured the presentation of the EU Study on Sustainable Transport Connections between the EU and Central Asia, prepared by the European Bank for Reconstruction and Development, which included recommendations for collaboration between EU and Central Asian firms. (EEAS, 2023)

The report's findings were crucial in elaborating the transport strategy of the EU for Central Asia for the upcoming years. The Global Gateway initiative's Central Asia dimension got a strong impetus at the beginning of 2024 when at the Investors Forum for EU-Central Asia Transport Connectivity a EUR 10 billion commitment was accepted by the EU financed by TEAM Europe. Within this context, European Investment Bank signed a Memorandum of Understanding of EUR 1.47 billion with Governments of Kazakhstan, Kyrgyzstan and Uzbekistan as well as the Development Bank of Kazakhstan. European Bank for Reconstruction and Development (EBRD) also signed a Memorandum of Understanding with Kazakhstan, with an investment pipeline worth €1.5 billion (EC, 2024).

On 4 April 2025, the European Union leaders and the five Central Asian states held the first EU-Central Asia summit in Samarkand, Uzbekistan, demonstrating the EU commitment to strengthen relations with the region. The declaration accepted at the event confirmed the participants commitment to develop a strategic partnership, as well as reinforced their common interest in addressing security challenges, sanction circumvention, strengthening democracy and rule of law, coping with environmental hardships, pollution, climate change, lack of water. The EU reaffirmed its willingness to support connectivity in line with the Global Gateway initiative and the participants "addition-

ally agreed to support the Coordination Platform for the Trans-Caspian Transport Corridor and critical infrastructure projects along the Middle Corridor, ensuring mutual market access and long-term cooperation. We also agreed on the importance of peace and stability in the South Caucasus as a prerequisite to the successful implementation of these projects." (EC, 2025) Furthermore, it EU pledged a package of EUR 12 billion for Central Asian region under its Global Gateway investment program, including EUR 2.5 billion for critical raw materials in Central Asia, EUR 3 billion for the development of the Middle Corridor, EUR 6.4 billion for regional environmental projects and €100 million for digital connectivity (Euractiv, 2025).

Conclusion

Recent years created a unique opportunity for countries along the Middle Corridor to realize their potential in close cooperation with the European Union. The EU's engagement with the Middle Corridor is driven by a blend of strategic, economic, and environmental considerations. Strategically, the corridor offers an important alternative to the traditional Northern Corridor, which passes through Russia. This alternative route has gained renewed importance in 2014 and especially after 2022, as the EU seeks to reduce its reliance on Russian-controlled transit pathways. The Middle Corridor fits into the EU's broader vision of establishing a resilient, interconnected Eurasian trade network capable of withstanding global disruptions and enhancing strategic autonomy.

From an economic standpoint, the Middle Corridor provides a direct and increasingly vital connection to the dynamic markets of Central Asia and China. It opens new opportunities for European businesses by improving access to Asian economies. Through investments in infrastructure and efforts to harmonize regulations along the route, the EU aims to streamline trade, enhance export competitiveness, and strengthen modern supply chains. This, in turn, supports increased trade volumes, deeper investment ties, and sustained economic growth across the region. Environmentally, the EU's support for the Middle Cor-

ridor reflects its commitment to sustainable development and climate goals. By emphasizing rail-based transport and promoting renewable energy initiatives, the EU is transforming the corridor into a model of green connectivity.

Based on the frequency of high-level meetings and summits, diplomatic activities from the EU's side got a new impetus. Even key European countries leaders decided to visit these countries, especially Central Asia marking a new chapter in the bilateral relations. These developments are positive; however Middle Corridor countries seek more transit and infrastructural cooperation.

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Economic cooperation and trade development among Turkic States: opportunities and barriers

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Introduction

The strategic position and importance of the Central Asian region have increased significantly in the recent period. The economic rise and success of the countries of the Far East, but especially China, has increased the strategic and economic value of the neighboring areas. Especially those that are rich in raw materials and mineral resources. Most of the Central Asian countries are also in a good position in this regard, as they are extremely rich in crude oil and natural gas, but also in metals and other mineral resources.

However, a big question is how these countries are connected to the changing economic world order. Are they able to improve their position by strengthening cooperation with each other, and exploit new opportunities under more favorable conditions, asserting their own interests better.

The organization of Turkic countries, as an important instrument to achieve these goals, was established in Nakhchivan (Azerbaijan) on 3 October 2009 as the Cooperation Council of the Turkic Speaking States (Turkic Council). The original Agreement was signed by Azerbaijan, Kazakhstan, Kyrgyzstan, and Türkiye, while Uzbekistan joined the Organisation in 2019. Hungary (2018), Turkmenistan (2021)

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and Turkish Republic of Northern Cyprus (2022) (recognized only by Türkiye as a state) have an observer status in the Organisation of Turkic States (OTS).

In the first part of our study, we review the economic structure and potential of the Turkic States based on UN data, what their current foreign trade structure is like, and who their main trade partners are. After that, we will examine the possibilities of closer economic relations with each other, as well as the limitations.

Economic structure of OTC States: complementary assessment

The overall GDP of the OTS countries made up 1,546 bn USD in 2023, of which almost 72% was produced in Türkiye. Even if we add the observer states (Hungary and Turkmenistan), 61% of the 1,818 bn USD GDP is produced in Türkiye, followed by Kazakhstan (14%), Hungary (12%), Uzbekistan (5%), Azerbaijan (4%), Turkmenistan (3%) and Kyrgyzstan (under 1%). Based on the GDP per capita, Hungary's level of economic development is the highest (over 22 thousand USD per capita), and interestingly, Kazakhstan (23,137 USD per capita) was slightly ahead of Türkiye (12,987 USD), based on 2023 World Bank data.

	GDP (USD, 2023)	GDP/capita (USD, 2023)	Oil rents	Trade (openness)
Azerbaijan	72,356	7,155	21%	87
Kazakhstan	261,421	13,137	14.8%	68
Kyrgyzstan	13,783	1,970	0.1%	99
Türkiye	1,108,022	12,987	0.1%	81
Uzbekistan	90,889	2,496	0.9%	72
Hungary	212,389	22,147	0.2%	187
Turkmenistan	59,887	9,191	5.8%	33

Table 1. Some relevant economic indicators of OTS members and observer states based on UNCTAD – Source: World Bank

Compared by the activity of foreign direct investments in the OTS, Türkiye (164 bn USD) and Kazakhstan (154 bn USD) hosts more FDI currently then Hungary (104bn USD). Turkmenistan (41bn USD) and Azerbaijan (29bn USD) are also popular investment spots, mostly due to their oil and gas industries (which is also an important factor in the case of Kazakhstan). Türkiye (56bn USD) and Hungary (41bn USD) are increasingly active in investing abroad, partly in the Central Asian region.

	FDI inward stock (m USD)	FDI outward stock (m USD)	FDI inflow, 2022 (m USD)	FDI outflow, 2022 (m USD)
Azerbaijan	29,436	26,858	-4,474	172
Kazakhstan	154,183	22,056	6,108	-1,808
Kyrgyzstan	3,768	23	54,9	-458
Türkiye	164,909	56,681	12,881	4,715
Uzbekistan	13,631	202	2,531	4,000
Hungary	104,254	41,681	8,571	4,241
Turkmenistan	41,537	—	936	—

Table 2. Foreign direct investments in OTS members and observer states based on UNCTAD – Source: UNCTAD

In Türkiye, the Netherlands is the largest foreign investor (15,6%), followed by the US (7.9%), the UK (7.6%), the Gulf countries (7.3%) and Germany (6.9%). From the other OTS members, Azerbaijan (4%) was the largest investor (Investment Office). In the case of Kazakhstan, the largest investor is also the Netherlands (29.2%), followed by the US (13.7%), Switzerland (8.6%), China (6.1%) and Russia (5.2%) (Investing in Kazakhstan). The special position of the Netherlands is to be explained: many multinational companies prefer using a Dutch limited (BV) or joint stock company (NV) as a doorstep for their investments in third countries due to the liberal tax structure in the Netherlands.

In Uzbekistan, the situation is quite different: here, China (25.5%) was on the first place, followed by Russia (13.4%), Saudi Arabia (7.9%), Türkiye (6.4%) and the UAE (5.8%) (Investing in Uzbekistan), similarly to Kyrgyzstan, where Russia, China, Kazakhstan, the US and the UK

are the main investors. In the case of Azerbaijan, traditionally Russia was the largest investor, however, in recent years Türkiye (22.2%) took this position, followed by UK (17%), Norway (9.8%), Iran (7%) and Russia (7%) (2024 Investment).

Regarding trade intensity (see Table 1), Hungary has the highest trade openness (measured by the share of exports plus imports to GDP), with a 187% ratio, far ahead of Kyrgyzstan (99%) and Azerbaijan (87%). Of course, here the size of a country used to have a negative impact on openness, also the larger the country the less it needs to trade with others. On the other hand, membership in trade integrations, participation in global value chains, diversified economy are all factors that increase the openness of an economy. The level of per capita exports volumes is tree times higher in case of Hungary than in the second ranked Kazakhstan, and five times higher than in Türkiye.

Concerning trade volumes, Türkiye has far the largest exports (262 bn USD) followed by Hungary (145bn) and Kazakhstan (99bn USD). While the countries with huge oil and natural gas reserves and exports, as Azerbaijan, Kazakhstan, Turkmenistan have a huge trade surplus, Hungary and Türkiye have a more or less balanced trade, with slight deficits mostly due to energy imports. On the other hand, Uzbekistan and especially Kyrgyzstan suffer from an immense and barely sustainable trade deficit.

	Expors (bn USD)	Imports (bn USD)	Exports (USD per capita)	Imports (USD per capita)
Azerbaijan	38.9	14.8	3820	1450
Kazakhstan	98.7	58.9	5030	2950
Kyrgyzstan	2.5	21.3	367	3130
Türkiye	262	299	3070	3510
Uzbekistan	16.9	29.9	474	837
Hungary	145	153	15000	15800
Turkmenistan	12.5	4.6	1940	711

Table 3. Exports and imports of OTS members and observer states based on UNCTAD – Source: Observatory of Economic Complexity

Strength, weaknesses and trade relations of OTS economies

After a comparative overview of some main characteristics of the OTS countries, in the next part, we will take a closer look on the strength and weaknesses of the OTS members and observers and analyse the current structure and potential of their trade.

Türkiye

The Turkish economy boasts several strengths, including a young and growing population, a strategic geographic location, and a diversified industrial base. The country has experienced significant economic growth in recent decades, driven by strong domestic demand and a vibrant private sector. Türkiye also possesses a skilled workforce and a competitive manufacturing sector, particularly in areas like automotive, textiles, and construction.

However, the Turkish economy also faces significant challenges. High inflation, a volatile currency, and a large current account deficit pose persistent risks. Political and geopolitical uncertainties can also impact investor confidence and economic stability. Furthermore, the country's dependence on energy imports and its vulnerability to external shocks remain key concerns. Addressing these challenges requires a combination of sound macroeconomic policies, including prudent monetary and fiscal policies, structural reforms to enhance productivity and competitiveness, and a focus on sustainable growth.

Türkiye's foreign trade structure is quite diverse and dynamic, reflecting its growing economy and strategic location. In the exports, manufactured goods are the dominant category, with a focus on textiles, clothing, automotive parts, machinery, and electrical appliances. The agricultural products exports are also significant, based on the strong fruits, vegetables, nuts, and tobacco sectors. Türkiye also exports chemicals, minerals, and fuels, partly based on imported raw materials.

In case of imports, intermediate good are essential for Türkiye's manufacturing sector and include raw materials (e.g. oil and natural gas), semi-finished goods, and components. The imports of capital goods as machinery and equipment used for production are also significant, reflecting Türkiye's ongoing industrial development. As the Turkish

population's living standards rise, there's increasing demand for imported consumer goods as well.

Concerning its trade partners, the European Union is Türkiye's largest trading partner (around 40%), reflecting strong economic ties and geographical proximity. As a single country, Germany (9.1% of total trade) is the leading export destination in the EU for Turkish products, followed by Italy (4.6%), France (3.9%) and Spain (3.6%). The United States (5,9% of exports) is another significant trading partner, particularly for manufactured goods and agricultural products, just as the UK (5.5%) and the UAE (5.4%).

Despite ongoing political tensions, Russia remains a significant supplier of energy to Türkiye, accounting for 14% of its energy imports. China has emerged as a crucial trading partner, contributing 13% of Türkiye's imports, primarily in the form of intermediate and capital goods. Following Russia and China, Germany (8.6%), Switzerland (5.2%), the US (4.7%), and Italy (4.5%) are Türkiye's next largest import partners.

Azerbaijan

Azerbaijan's foreign trade is heavily influenced by its abundant oil and gas reserves, which dominate its production structure and are the most important sources of income. Better infrastructural connection to the world economy, especially the completion of the Baku-Tbilisi-Ceyhan Pipeline and the Trans-Caspian Gas Pipeline has boasted the export of these raw materials, especially after the Millenium. Incomes have slowed in the last decade, however. The effects of 'Dutch disease', the rent-like inflow of income that is not based on an increase of productivity makes the diversification efforts of the country harder.

The exports of Azerbaijan are also dominated by mineral fuels, crude oil (50%) and natural gas (40%), constitutes the vast majority of country's exports. While dwarfed by energy exports, Azerbaijan also exports some agricultural products (fruits, vegetables), chemicals, and manufactured goods (though these are still underdeveloped).

In imports, machinery and equipment are essential for Azerbaijan's ongoing industrial development and include a range of capital goods.

Azerbaijan imports a variety of food items to meet domestic demand. As living standards rise, imports of consumer goods are also increasing.

As far as key trading partners are concerned, several EU countries, particularly Italy (47%), are major importers of Azerbaijani oil and gas. Türkiye is also a significant trading partner for both exports (9%) and imports (16%), reflecting strong economic and cultural ties. Due to historical ties, Russia is a key supplier (19%) of various goods to Azerbaijan, including machinery, food, and other products, while China has become an increasingly important trading partner, particularly for imports (14%) of machinery and equipment.

Azerbaijan's foreign trade remains heavily reliant on energy exports, making it susceptible to price fluctuations in the global energy market. The government is actively seeking to diversify its export base and promote non-energy sectors to reduce this dependence. Strengthening trade relationships with countries in its region, including those in Central Asia and the Caucasus remains a priority for Azerbaijani foreign trade policy.

Kazakhstan

The Kazakh economy boasts significant strengths, including abundant natural resources, particularly oil and gas, which have fuelled substantial economic growth in recent decades. The country possesses a well-developed infrastructure, including a modern transportation network and a growing financial sector. Furthermore, Kazakhstan enjoys a strategic geographical location, that may serve as a crucial transit point for trade between Europe and Asia.

However, the Kazakh economy also faces several challenges. Heavy reliance on the oil and gas sector makes it vulnerable to fluctuations in global commodity prices and increases its exposure to environmental risks. Diversifying the economy away from its dependence on natural resources remains a key challenge. Corruption and bureaucratic hurdles can also hinder economic growth and investment. Additionally, addressing social inequalities and improving human capital through investments in education and healthcare are crucial for sustainable long-term development.

Kazakhstan's foreign trade is quite like the Azerbaijani: it is largely shaped by its abundant natural resources, particularly oil and gas, that makes up the vast majority (52%) of Kazakhstan's exports. Kazakhstan is also a significant exporter of ferrous and non-ferrous metals, including gold (10%), copper (4%), silver (1.5%), and zinc (1%). While less significant than the above, Kazakhstan also exports some agricultural products (grains, meat), chemicals, and manufactured goods.

By the imports, machinery and equipment are essential for Kazakhstan's industrial development, while with higher living standards, imports of consumer goods are also increasing. Regarding key trading partners, China has become Kazakhstan's largest trading partner (14% of exports, 27% of imports), driven by growing demand for resources and increasing trade in other goods. Russia, however, remains a significant trading partner (9% of exports, 26% of imports), particularly for imports of machinery, equipment, and other products. Several EU countries are major importers of Kazakh oil and gas, particularly Italy (12.6%) and the Netherlands (5.5%). Recently Kazakhstan is trying to diversify its trading partners, with increasing trade with countries in Central Asia, Türkiye, and South Korea.

Like Azerbaijan, Kazakhstan's foreign trade is heavily reliant on resource exports, making it vulnerable to price fluctuations in global commodity markets, so the government is actively working to diversify its economy and promote non-resource sectors to reduce this dependence.

Uzbekistan

Uzbekistan possesses significant reserves of gold, natural gas, and other minerals, which form the backbone of its production and exports. A young and growing population provides a substantial domestic market for consumer goods and services and makes the country attractive for foreign investors. Even more, because recently the government has implemented reforms aimed at liberalizing the economy, improving the business environment, and attracting foreign investment. Uzbekistan's geographical position at the crossroads of Central Asia provides potential for increased regional trade and connectivity.

Since the Uzbek economy remains heavily reliant on the extraction and export of natural resources, with limited development of other sectors – just as in the case of Kazakhstan – over-reliance on the export of a few key commodities makes the Uzbek economy vulnerable.

The huge trade balance deficit shows the unsustainability of the current trade structure as well, while limited transportation and logistics infrastructure can hinder trade efficiency and competitiveness. Corruption and bureaucratic hurdles remain significant challenges for businesses, hindering investment and economic growth.

Uzbekistan's trade is also characterized by a significant reliance on exports of natural resources, primarily gold (31%), cotton (8%) and natural gas (6%).

Uzbekistan's most important export market is Switzerland (25%), mostly due to gold, followed by Russia (15%), China (12%) and Türkiye (9%). Russia (17%) is still the major source of imports for the country, due mainly to strong historical ties it is supplying energy, machinery, and other goods. China (11%) is a rising source of imports, particularly machinery, electronics, and consumer goods, followed by Türkiye (10%). Within the Central Asian region Kazakhstan (8%) is the most significant import partner.

Uzbekistan typically faces a trade deficit, with imports (29.9 bn USD) exceeding exports (16.9 bn USD). Being a double-landlocked country (with all its neighbouring country being landlocked-countries as well) can pose challenges for efficient trade and transportation.

Kyrgyzstan

Kyrgyzstan is the smallest among the Central Asian OTS countries, with a total export amount of 2.5 bn USD. The country's most important export products are raw materials, as gold (6%), precious metals (5%), copper (4%), and coal (3%), but despite its modest size, it is relatively diversified, with different cotton products, metal mountings, agricultural and food products as well. Landlocked geography presents challenges for efficient trade and transportation, increasing costs and limiting market access.

Its mayor trade partners are Russia and China. Currently Russia (43%) is the most important market of its export products, followed by Kazakhstan (18%), Uzbekistan (10%) and Türkiye (6%). Russia (25%) is also a major source of imports, including machinery, energy, and consumer goods, but China (42%) is the dominant player in Kyrgyz imports, supplying a wide range of goods. Kazakhstan (8%) and Türkiye (5%) follow the two dominant players with a much lower share.

Kyrgyzstan has a persistent trade deficit, with imports (21,3 bn USD) eight times higher than exports highlight the country's heavy reliance on imports and the need to increase its exports capacity further.

Hungary

Hungary's trade structure is characterized by a strong focus on exports, particularly within the European Union. Key export sectors include automotive industry, a major contributor of manufacturing production, with a significant presence of foreign car manufacturers. A diverse range of machinery and equipment is exported, reflecting Hungary's industrial base. Food processing and the chemical industry play a significant role in Hungarian exports as well. Hungary's main trading partners are within the European Union, with Germany (24.4%) Italy (5.5%), Romania (5.5%) and other neighbouring countries being key markets.

Hungary has increasingly focused on developing high-value manufacturing sectors, such as automotive and electronics. As a member of the European Union, Hungary benefits from free movement of goods and services within the single market. Significant foreign investment, particularly in the automotive sector, has played a crucial role in driving exports. Its trade openness (187% of the GDP) is far higher than the same indicator of other OTSs.

Turkmenistan

Turkmenistan's trade is heavily reliant on energy exports, particularly natural gas, with China as its primary customer. Natural gas (74%) constitutes the vast majority of Turkmenistan's exports, together with refined and crude petroleum (together 14%). The major market of these

products is China, that has a 71% share in Turkmenistan's exports, followed by Türkiye (7%), Uzbekistan (5%) and Azerbaijan (4%).

While efforts are underway to diversify exports. The opening of several new cotton-processing plants has dramatically increased the capacity for processing domestically produced cotton, their share and relevance in exports is still insignificant. Limited transportation infrastructure and connectivity also pose significant challenges for efficient trade.

Opportunities and barriers of cooperation

Economic cooperation serves as a primary driver for collective action within the OTS. The geographic location and evolving geoeconomic landscape have significantly contributed to the OTS's economic growth potential (Koçak, 2023, 120).

The 'Turkic World Vision–2040' document addresses economic resilience through a sectoral approach, outlining ambitious goals for deepening economic cooperation among Member States. The "Turkic World Vision–2040" emphasizes deepening economic cooperation among Member States through various measures. These include harmonizing national economic policies, increasing trade volume by fostering trade complementarity and eliminating trade barriers, and improving multimodal connectivity across the Trans-Caspian International East-West Middle Corridor (TITR). This involves simplifying customs and transit procedures, liberalizing transport sectors, and minimizing logistical costs to ensure efficient and seamless movement of goods across borders.

Due to its geographical location, Central Asia is a natural link between the Far East and Europe. However, to take advantage of the opportunities inherent in the geographical location, huge infrastructural developments are necessary. The implementation of this is facilitated by Chinese ideas, the infrastructural developments of the New Silk Road plan have a positive effect on the railway and road connections of the countries of the region, and in the medium term they can great-

ly promote the integration of the Central Asian region into the world economy – and to each other.

The Middle Corridor is a multimodal transport route utilizing rail and sea to move goods from China to Europe via Central Asia, the Caspian Sea, the South Caucasus, and Türkiye. This route offers a significant advantage over Russia's Northern Corridor, being approximately 3,000 km shorter. By bypassing Russia, the Middle Corridor mitigates risks associated with sanctions and provides a more efficient and attractive alternative for businesses seeking new trade routes and markets. Cargo transit volume on the Middle Corridor has surged, reaching 1.9 million tons in the first nine months of 2023, an 89% increase year-on-year (Jafarova, 2024, 756). This record growth demonstrates the corridor's potential to meet rising global trade demands. While the current capacity (5.8 million tons per year) is lower than the Northern Corridor, strategic investments can significantly increase its potential. By 2030, however, travel time to Western Europe could be halved, and cargo volume triple, underscoring the corridor's immense growth potential (ibid.)

While the Middle Corridor has demonstrated significant growth potential, operational inefficiencies, including unpredictable delays (ranging from 14 to 45 days, and potentially up to 60 days), high costs, and limited port capacity, continue to hinder its competitiveness (ibid.). These challenges often force operators to revert to sea routes. Poor rail infrastructure further exacerbates these issues, contributing to operational inefficiencies. While lack of coordination among operators is a major concern, the introduction of a single operator could potentially address this issue.

Still immense affords and financial investments are needed to upgrade the Middle Corridor's current infrastructure. Key investment priorities include: rehabilitating and modernizing rail and road networks; expanding railcar capacity; increasing port capacity; and improving border crossings, multimodal logistics hubs, and interconnectivity among participating countries. (Jafarova, 2024, 759)

Energy carriers are also an important and potentially growing link between OTS countries. While Azerbaijan, Kazakhstan or Turkmenistan are significant producers and exporters of these raw materials,

Türkiye and Hungary are significant receiving markets and connecting countries to European markets. In order to exploit the full potential, serious infrastructural developments and the development of the existing pipe network are needed. Here, China is more interested in eastern developments, but the European market, separated from Russian resources, may be interested in the realization of these developments.

The dissolution of the Soviet Union and the emergence of independent Turkic Republics ushered in a new era in Türkiye's relations with these states. Turkish companies have become key players in their economic and commercial spheres, capitalizing on abundant resources and attractive market opportunities. Notably, Türkiye plays a significant role in developing and transporting the energy resources of these republics. This strategic engagement fosters mutually beneficial economic relations within the Turkic world. Furthermore, among the Turkic Republics, Türkiye is most profoundly impacted by globalization.

Türkiye has the highest potential to significantly contribute to expanding trade relations within the Organization of Turkic States. To achieve this, concrete steps are necessary to attract Turkish producers and sellers to the markets of OTS member and observer states. Furthermore, Türkiye could offer special trade concessions to other OTS members to facilitate market access (Baghirov, 2022, 65). Çentinkaya and Demirel (Çentinkaya & Demirel, 2024) found that only Türkiye experienced an increase, suggesting that it derived more economic benefits from its membership than other members. Their results also show that linguistic proximity is a strong influencing factor, i.e. the strengthening of cultural cooperation has a positive effect on the strengthening of economic cooperation as well.

Observer states can also play a crucial role in boosting OTS trade. As a middle-sized, open economy, Hungary places significant emphasis on economic cooperation in its foreign policy (Baranyi, 2022, 125). And as a member of the European Union, Hungary could serve as a bridge between OTS member states and the European market. Many OTS member states face challenges in exporting their manufactured goods and food products to the EU due to differing standards. Hungary, through its EU membership, could play a vital role in assisting OTS

member states in adopting EU production standards. This would not only facilitate their access to the European market but also significantly contribute to the overall development of trade potential within the OTS (Baghirov, 2022, 65).

One of the main limitations of closer cooperation is the existing and institutionalized commercial and economic ties. Türkiye concluded a customs union agreement with the European Union in 1995, while Kazakhstan and Kyrgyzstan are members of the Eurasian Economic Union (EAEU) established by Russia. By its very nature, the customs union agreement limits the commercial sovereignty of the member states, since the customs union determines a common external tariff level with countries within the very integration.

The Eurasian Customs Union formed in 2010 by Russia, Belarus and Kazakhstan and the Eurasian Economic Space created in 2013 (with Ukraine among its members) was transformed into an Economic Union as of 1 January 2015. Most of the former Soviet republics were offered membership. Armenia and Kyrgyzstan joined, while Georgia, Moldova and Ukraine have signed FTAs with the EU.

Russia's historical ties with former Soviet states and its economic dominance give it significant influence within the Eurasian Economic Union. This influence is reflected in the EAEU's trade structure, which resembles a "hub and spoke" model with Russia at the centre. Given Russia's dominant 85% share of the EAEU's GDP, this structure limits the potential for genuine economic integration and shared decision-making among member states, however (Koçak, 2023, 123). In is interesting, moreover, that while Russia within the Eurasian Economic Union focuses more on deeper political integration, Kazakhstan prioritizes the economic dimension of the union (Kiratli, 2023, 144). Since February 15, 2013, the Eurasian Customs Union (EAC), the trade-related part of the integration has required an EAC Certificate for goods entering its member states (Russia, Kazakhstan, Belarus, and Kyrgyzstan). This quota-based system has created significant obstacles for Turkish exports to Central Asia, hindering the development of trade within the Organization of Turkic States (OTS). Furthermore, Russia's efforts to strengthen a common economic area through the EACS may negatively

impact the existing economic integration efforts within the OTS (Kiratli, 2023, 148).

On the other hand, Türkiye (and as an EU member, of course Hungary as well) is a part of the EU Customs Union. The membership for Türkiye in the Customs Union was offered in the early 1990s. After the conclusion of the Customs Union Treaty in 1996, Türkiye removed the tariffs on industrial products made in the EU, which substantially increased the quantity of European products flowing in Türkiye. Tariff dismantlement also exerted a major influence on Türkiye's capability to attract capital, while Türkiye's enhanced competitiveness had a favourable effect on exports. From 2001 to 2006, exports rose from 31 billion dollars to 85 billion dollars, and then in 2012, to 152 billion. However, it has been stagnating since then.

Turkish exports underwent massive changes in terms of structure and relations. In parallel with the economic restructuration, the rate of textile products (which used to dominate exports) fell, while the share of mechanical and electronic products and vehicles grew. The export rate of agricultural and food products remained significant, but their ratio did not grow (Szigetvári, 2020).

Türkiye has long wanted to renegotiate the customs union agreement, however. At the end of 2016, the European Commission asked for a mandate to launch talks with Türkiye to modernise the EU–Türkiye customs union (EC, 2016). The EC's analysis formulated two proposals: the current customs union could be supplemented by an FTA pertaining to trade in services and agricultural products; alternatively, the EU–Türkiye customs union could be replaced by a DCFTA-type agreement. It is not clear which of the two options would be more beneficial for Ankara. Abandoning the customs union and negotiating a new FTA is a costly option: according to World Bank estimates, exports to the EU would decline by 3–7% (World Bank, 2014). In addition, such a decision would be a negative projection in respect of Türkiye's prospective EU accession. On the other hand, these downsides could be to some extent offset by the trade policy freedom regained.

The Eurasian Economic Union could be a possible alternative framework for cooperation. Former President Nazarbayev of Kazakhstan

proposed the admission of Türkiye, India and Syria in the EAEU (Raikhan, 2013). Ankara is potentially interested but affiliation would only be possible if Türkiye terminated the customs union with the EU. The economic rationale does not support the idea of swapping the EU for the EAEU as Turkish export to the EU is almost four times bigger than to Eurasia. If Turkish accession to the Eurasian Economic Union is not on the agenda, Ankara raised the idea to sign a free trade agreement with the EAEU. But currently even this is not possible, because Türkiye is bound by EU trade policy whereby unless the EU sings an FTA with Russia, in theory Türkiye cannot do so either.

The OTS could learn from the EU and EAEU models of integration, however. The EU, with Germany as a leading actor, evolved from a customs union into a politically integrated entity. Similarly, while Russia dominates the EAEU, the OTS, with Türkiye as a leading force, could benefit from establishing a customs union as a crucial step towards deeper economic and political integration (Kiratli, 2023, 150). Türkiye's ongoing free trade negotiations with the EAEU can provide valuable insights and facilitate the development of a customs union within the OTS.

For successful integration within the Organization of Turkic States (OTS), economic complementarity among member states is crucial. Given that Türkiye and Central Asian countries exhibit complementary economic structures, their integration efforts are likely to be more successful. If these economies were direct competitors in the same sectors, integration challenges would be significantly greater (Kiratli, 2023, 162). Major global powers, including the US, EU, Russia, and China, recognize the OTS region's geopolitical and economic significance. While efforts are underway to strengthen intra-OTS trade through bilateral agreements, the region's members maintain diverse trade relationships, reflecting their engagement with global powers beyond the OTS (Koçak, 2023, 125).

While in the case of trade, in addition to exploitable opportunities, institutional obstacles may limit integration efforts, in the field of investments these trade policy obstacles do not have a significant effect. Investments by Turkish companies play a growing role in Azerbaijan

and Central Asian countries, but Hungary also sees a good opportunity in the presence in the region and the development of corporate relations. The investments of both Türkiye and Hungary can have a serious modernization effect, since both countries are integrated into the global economic system, so their companies also adopt these standards in the Central Asian markets. Analysis of FDI inflows within the Organization of Turkic States (OTS) by Yin Lin and Yoziev reveals several key impediments to growth, however, even in the presence of favourable macroeconomic conditions (Yin Lin & Yoziev, 2023). These impediments often stem from ineffective institutions, including weak investor protection, rule of law inadequacies, and poor governance. Furthermore, the low efficiency of institutions is frequently linked to poor macroeconomic regulation.

Conclusion

The geopolitical and geostrategic appreciation of the Central Asian region gives particular importance to the integration of the OTS states. Analysing the capabilities of the OTS countries, we were able to establish that many complementarities can be discovered between their economies, which provides a good opportunity for economic cooperation. The supply of mineral resources, access to developed markets, different degrees of economic diversification are all potential areas of cooperation, the better exploitation of which can benefit all the countries of the integration.

At the same time, the development of relations has many preconditions and limitations. One of the important prerequisites is the development of infrastructural connections, as the transport and energy networks between the countries of the integration are currently only developed to a limited extent. Here, other great powers in the region are interested, primarily China and the EU's efforts to promote the development of these connections, although the different priorities do not necessarily support the integration of the OTS countries among themselves.

Existing trade commitments also limit the economic cooperation potential of OTS countries. Since Kazakhstan and Kyrgyzstan are part of the Eurasian Economic Union, while Türkiye and observer status Hungary are part of the European Customs Union, the creation of a closer trade union is not possible in the case of the OTS. Regulations within integrations, such as the limitation of shipping permits, are also an obstacle. At the same time, the cooperation may facilitate market access support for OTS countries not participating in the given integration.

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Is the EU's exit from Russian fossil fuels an opportunity, a threat, or a nuance for Central Asian energy exporters?

András Deák[16]

Introduction

The EU's Russian fossil fuel exit has changed the context of Central Asian energy exports considerably. Before Russia's renewed aggression against Ukraine in February 2022, Russia's hydrocarbons provided roughly 40% of Europe's demand. Three years later, Russian exports have retreated only to a handful of countries within the EU, holding only small margins in their former market. According to Eurostat, the share of Russia in direct EU energy imports was 5.4% in 2023, falling from 29.3% in 2019. One might think that disappearing Russian exports have been opening up a huge market for alternatives, among others, Central Asian suppliers. In reality, energy warfare between the European Union and Russia raises various infrastructural, market, and notional barriers before Kazakh, Azerbaijani, and potential Turkmen exporters. These new constraints increase already existing uncertainty regarding the future of EU fossil markets and may deteriorate its business attractiveness in the eyes of Central Asian producers.

The paper provides an early analysis of major change factors relevant to the Central Asia-EU energy bridge. Understandably, we focus on fossil fuel markets, primarily oil and gas, and skip prospective seg-

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ments, such as minor or rare minerals and renewable energy. In the first section, we provide an overview of relations prior to 2022 and the shifts after the war restarted. We discuss the problems of Kazakh oil transit through Russia, the potential of Azerbaijani oil and gas exports, and their future conditions. In the second part of the paper, we try to outline the dynamics between the EU's Russia fossil fuel exit and its decarbonization agenda—two contradictory drivers, offering only a limited and shrinking rationale for major investments in European exports in Central Asia.

Central Asian exports and their flexibilities

Russian aggression against Ukraine in February 2022 prompted a rapid detachment in EU-Russia energy relations. In the natural gas sector, Russia used its leverage and initiated supply cuts to European consumers, plausibly with the purpose of limiting European financial and military support to Ukraine. In the coal and oil markets, it was the European Union and its member states that introduced a boycott, sanctioning oil imports and the oil trade beginning in early 2023. The REPowerEU program, which was created by the Commission and approved by the Council in March 2022, brought all of these different steps together under one roof. Its goal was for Russia to completely stop using fossil fuels "as soon as possible" (European Commission, 2022a). Accordingly, the EU shall stop importing any Russian oil, gas, or coal "well before 2030" in the Commission's interpretation.

While this effort can be considered only as an indicative target, market and policy measures to a great extent justify the EU's tough line. In the case of piped natural gas, important pieces of transport infrastructure were destroyed (the Nord Stream) or stopped (the Yamal pipeline in Poland, the Ukrainian transit network). Restoration and reopening of these capacities with the partial exception of the Ukrainian network remain highly uncertain. Many European gas importers sued Gazprom for its contractual breach, creating a major legal barrier before restarting Russian piped gas imports. Furthermore, US and EU sanctions in-

creasingly push back Russian LNG exports to Europe, with their full stoppage in hindsight. Unlike in the gas sector, in the oil branch the infrastructure is intact; exports theoretically may restart as soon as the political environment enables this. Still, European business leaders have put money into unbundling, making more flexible contracts, and building new import capacities. Improvements are also being made to refineries. As time passes, these new contours of the European oil market gradually evolve, making Russia's comeback to the market increasingly difficult.

Consequently, the prospects of Russian energy exports to the EU are bleak. Current sanction trends can easily be extrapolated, at least as long as the war continues, more likely until the end of the Putin era in Russia. The costs of further diversification away from Russian fuel imports decrease as market adaptation continues. Simultaneously, the risks arising from sanctions, military activities, and policy measures targeting Russian energy are gradually increasing, thereby negatively impacting the business calculus of Russian imports. The end of hostilities in Ukraine may offer a moderate relief and potentially stop new measures from entering into force. Nonetheless, restarting EU-Russia energy trade would require rebuilding political and business confidence, restoration of transport networks, and reshaping the newly established contractual regimes. All this may happen only slowly, step-by-step, if all conditions are present.

The long and lasting exit of Europe from Russian export markets may open up opportunities for Central Asian energy exporters. Central Asian hydrocarbon exports mean Kazakh oil, Azerbaijani gas and oil transports, and potentially Turkmen natural gas exports. Accordingly, it makes little sense to use the term Central Asian, since sectoral and geographical differences put these countries and their fuels into very specific situations. Kazakh exports are closely tied with Russia, while Azerbaijani export routes bypass Russian territory. Western energy companies have already constructed Kazakh and Azerbaijani export infrastructure, but Turkmen gas deliveries still miss critical networks. Central Asian producers may turn to China at high but reasonable costs, establishing infrastructure for incremental supplies. For Azerbaijan,

such a turn seems to be distant. Consequently, this paper will discuss respective challenges separately, underlining potential common characteristics and cooperation.

Kazakh oil exports

Kazakhstan started its oil development program in the late 1980s, in the framework of the Soviet planned economy. Oil production started to rise in the second half of the 1990s, primarily relying on the onshore Tengiz field at the Caspian Sea, operated by Chevron Texaco. Due to this and other extraction sites mainly in Western Kazakhstan, production was around 1.8 million bpd of oil and condensate combined in 2023. Exports comprised 1.42 million bpd of oil equivalent, of which more than 95%

Map 1. Central Asian oil and gas pipelines, 2025 – Source: EIA US

went to and through Russia (Kazakh Stat Office). Before the war, roughly 78% of exports were commissioned via the Caspian Pipeline Consortium pipeline to Russian Black Sea ports and further on to European consumers. Another 17% was sold to Russia directly and transported through the Atyrau-Samara pipeline. The port of Aktau transported only minor volumes via the Caspian Sea, while the Atasu-Alashankou pipeline took them to China (Akhmedov, 2023).

High reliance on Russian transit came from historical and geographic factors. At the time of Tengiz field development, in the mid-1990s, the international consortium also had to make critical decisions about future export markets and routes. The Chinese market, becoming so attractive two decades later, was undeveloped and very distant. Transportation from landlocked Western Kazakhstan would have required the construction of a huge network stretching not only through Kazakhstan but also much of Western China. Europe was the best option at hand. Southern routes to Europe would have required a good deal of transport arrangements with the respective countries and also assumed Iranian transit, an unlikely option then and even today. Transcaspian routes were highly uneconomic due to multiple loading/unloading between ships and pipelines. Furthermore, in those years there was no infra-

	2010		2021		2024e		Est. netback price at Atyrau in 2023, USD/b
	mt	%	mt	%	mt	%	
Caspian Pipeline Consortium (CPC)/through Russia	29.9	42	53	79	55.4	80.5	68
Atyrau-Samara pipeline/ through Russia	15.3	22	12	17	8.6	12.5	72-75
Port of Aktau/partly through Russia	9.3	13	2	3	3.6	5.2	61-62
Atasu-Alashankou pipeline/to China	10.1	14	1	1	1.1	1.6	63
Railway	6	8	min	min	min	min	

Table 1. Transport of Kazakh crude oil, 2010-2024, mln tonnes, %, and USD/barrel – Source: Akhmendov, 2023; Kemelova, 2024; and Kazenergy, 2024, p. 129.

structure on the other side of the Caspian. Consequently, the original plan, interconnection to the Russian system, was a highly logical choice. Political and regulatory risk was, to some extent, managed through special legal status, granted by Moscow and ownership patterns. Even now, the Caspian Pipeline Consortium (CPC) is the only oil pipeline on the territory of Russia, not in the hands of Transneft, but held by US and Western companies.

The war and the consecutive Western sanction regime put Kazakh oil exports into a difficult situation. Practically, Kazakh oil exporters found themselves unintentionally within the sanction regime, where separation of Russian and Kazakh volumes was only possible through self-declaration. Western governments had little proof of the origins of the oil except the owners' declaration. Furthermore, export companies, mostly Western corporations, got into a highly sensitive political situation. Moscow could use Kazakh deliveries as an implicit leverage against Western sanctions. It was highly unlikely that, in case of a prohibitive Western boycott, Russia would leave Kazakh export volumes unaffected, raising the costs of economic warfare on the consumers' side. Kazakh oil exports became highly "sanction-sensitive", prompting a wish for diversification away from Russia.

The positive side of sanctions is that they opened up a considerable market segment for Kazakh exporters. Historically, Western Europe and the Balkans, including Türkiye, were the primary destinations for Kazakh oil exports (Kazenergy, 2022). Simultaneously, CEE refineries focused almost exclusively on optimizing Urals. These units still needed a considerable amount of a stable and permanent supply of Urals or similar blends, most easily accessible from Kazakhstan. Kazakh crude became attractive as the optimal substitute for Russian crude, as it is physically identical (through the Transneft system) with somewhat similar (through the CPC system) and can be transported through the already established logistical chains. In Romania and Bulgaria, where refineries rely on maritime imports from the Black Sea, Kazakh crude has a huge price advantage. Alternative blends shall be transported through the Turkish Straits, with considerable time lag and respective costs. These refineries have been utilizing Kazakh oil in increasing

volumes since 2022. Both seaborne and pipeline imports of Kazakh oil grew in supply to Czech and some German refineries.

The latter case, the Kazakh exports to the East German Schwedt refinery, reveals some dilemmas regarding the specific use of Central Asian crude. After discontinuing Russian imports, the Rostock sea terminal could provide volumes sufficient only for 60% utilization of the Schwedt refinery. (Kedzierski, 2023). Accordingly, the German side substituted Russian crude with Kazakh pipeline deliveries through Druzhba. These volumes remained limited, raising the utilization rate only by 15-20%. Still, the move raised a good deal of controversy within the German public, since German imports remained slightly dependent on Russia, and consumers paid for Transneft, the Russian pipeline operator, for its services. Consequently, the German government underlined the temporary nature of the contract and initiated the construction of an additional oil import pipeline from Rostock.

Differentiation between Kazakh and Russian crude, distancing the two sorts, is important not only for the European importer but also for the Kazakh exporters. Firstly, it was necessary to distinguish the Kazakh blend from the Russian Urals blend. In the case of the CPC route, the CPC blend was at hand— a heavier and sweeter than Urals sort of oil, containing only limited Russian crude (roughly 15% of CPC volumes came from Russian producers before the war). When it comes to oil from Kazakhstan going through the Transneft system, this isn't so much of a physical diversification because the two blends of oil at the Russian network exits are the same. Still, before the war, Kazakh crude had been marketed under the blend Urals. After February 2022, the Urals blend became flagged, causing a considerable price differential and financial loss for Kazakh exporters. European refineries did not want to buy Russian crude; thus, its oversupply spoiled the Urals market. While the Brent-Urals spread was in the range of 3-5 USD/barrel prior to 2022, this differential increased to 20-30 USD/barrel in the first two years of the war. At the same time, Kazakh "Urals" were in high demand, but their marketing was bundled with the plummeting price of Urals.

In order to disassociate Kazakh-origin oil from Urals, Kazakh exporters created the KEBCO blend in the early days of the war. This was

meant to make it easier for CEE refineries to identify pipeline Kazakh crude and collect a price premium for its use by the exporters. The major setback was KEBCO's low liquidity and accessibility on the market. While importers contracted shipments, there was only a limited free flow of the blend, and its supply remained highly dependent on Kazakh production volatility (Katona, 2024).

The diversification of transit routes is complicated due to the maturity of Kazakh production. Major Kazakh fields reached their production plateau with the potential exception of Kashagan, located in the northern part of the Caspian Sea. While the Kazakh government plans to increase production, Astana has already been overproducing its OPEC+ quota. Extraction and transportation bottlenecks also turn incremental production growth into an uneasy undertaking (Zajmi & Maguire, 2024). Thus, the construction of new infrastructure seems to be unreasonable and only a last resort solution. The bulk of the existing network was optimized on CPC, which runs relatively peacefully, at least taking into account the conditions.

Some measures have been taken to facilitate trans-Caspian shipment from the port of Aktau to Baku and Mahackala (Ualikhanova, 2024). In the former scenario, the BTC pipeline supplies oil, which then travels to the Mediterranean in Türkiye. Despite growing volumes, the amount transported through these routes is insignificant. The Kazakh government has ambitious plans to expand Transcaspian and BTC shipments potentially up to 400,000 bpd (Zajmi & Maguire, 2024). This is a slowly emerging technical possibility, due to the decline of Azerbaijani oil production and growing idle capacity within the system. Still, it requires a considerable investment in Caspian tanker capacity or laying a crude oil pipeline through the Caspian Sea.

The Kazakh side also has some leverage on Russia due to the 400,000 bpd capacity Atasu-Alashankou pipeline between Central Kazakhstan and Western China, launched in 2008. This is mostly utilized by Russian companies delivering their oil from Western Siberia. Given the sanctions and Russia's logistical problems, this route has gained increasing attention, and Putin publicly proposed its expansion in Astana in December 2024 (Abbasova, 2024). Altogether, Russian reliance on Kazakh-

stan in oil transit to China, coupled with the relatively favorable political relations between Moscow and Astana, looks like a delicate balancing act, enhancing the uninterrupted flow of Kazakh oil to Europe. In this regard, while the CPC transport route causes considerable discomfort and raises business and political risks, it seems to be the most viable option at hand without a credible and full-fledged alternative.

Azerbaijani oil and gas exports

On the other side of the Caspian Sea, Azerbaijan has developed its oil and gas fields a bit later than Kazakhstan, from the early 2000s. Similarly to its Central Asian counterpart, Western companies played a crucial role both in the construction of production lines and transport infrastructure. The ACQ oil field and the Shah-Deniz 2 gas and condensate fields are the two biggest locations, contracted in production sharing agreements (PSAs) and providing a major stream of export revenue for the country. In both cases, the respective pipeline infrastructure had to be constructed, transporting oil to the Mediterranean Sea through the Baku-Tbilisi-Ceyhan route and gas to Türkiye and, further along, to Italy via the TANAP-TAP systems. In the case of Azerbaijan, Chinese exports were not a viable option. Nonetheless, the construction of an export channel not passing through Russia was a major political success at the time. Technically, interconnection and capacity expansion to the Russian networks were possible. Nonetheless, both the Western companies and the Azerbaijani government insisted on an alternative transit infrastructure and could achieve this relatively fast.

In the case of oil, the Azerbaijani Light blend gives only moderate relief to European and CEE importers. It can only be imported after reloading to tankers at the Ceyhan oil terminal, functioning as normal seaborne imports. It may offset Suez Canal and long-distance risks, giving a minor advantage. Technically, Azerbaijan could transport its crude to the Black Sea port of Supsa through an idle pipeline, reaching out to Bulgarian and Romanian refineries on a shorter route. These exports were halted in spring 2022 due to security concerns. Restarting

is feasible, and there are some discussions to utilize its capacity for Kazakh oil deliveries (TRTRussian, 2024). Azerbaijani oil and condensate production is in the late-maturity phase with naturally declining production rates. Oil production fell by 40% since its peak in 2010 and was around 0.6 million bpd in 2023. Exports are well below 0.5 million bpd. Additional investments could stabilize production rates in the coming years for a while (Coleman, 2024). No new major oil field development is expected, turning Baku's attention increasingly towards gas exports.

Unlike Azerbaijani oil, the natural gas landscape is constantly evolving. The Southern Corridor (TANAP-TAP) system interconnects Azerbaijani production with European networks at multiple points. It has access to SEE and Southern European markets, with a potential extension to some CEE countries. This is increasingly important, since SEE-CEE markets are landlocked, where network interconnections were underdeveloped. Azerbaijan also has additional gas reserves, primarily offshore. The development of these fields is technologically challenging and costly, but given the presence of transport capacity, it is financially attractive either way. Consequently, Baku could provide an important relief for EU countries in a region where alternative, non-Russian supplies were only moderately accessible.

In July 2022, at the onset of Europe's energy crisis, the EU and Azerbaijan signed an MoU on strategic partnership in the field of energy (European Commission, 2022b). While this was not the first document of this kind, it set short-term and specific objectives for the sides. The European Union committed to enhancing the Southern Corridor's capacity to over 20 billion cubic meters by 2027, a measure that was initially considered optional in the original planning. Ilham Aliyev, the Azerbaijani President, promised to double EU exports and fill the extended capacity until 2027. He also set to increase its gas supplies to 12 bcm in 2022, up from 8.1 bcm in 2021. This short-term export improvement was possible due to the expiration of a few supply contracts in Türkiye and production increases. In the midst of Europe's energy crisis, these promises provided an important help and signal, especially for regional importers.

The 2027 deadline for 20 bcma EU exports seems to be rather short in terms of production development. The natural gas production within the country is highly concentrated, with Shah-Deniz providing more than 70% of total output. In recent years, Shah-Deniz Stage 2, commissioned in 2018, has boosted production, bringing the unit close to its full capacity (Bowden & Roberts, 2024). The launch of Phase 2 of the Absheron gas field, operated by TotalEnergies, may deliver an incremental 4 bcma, even if this was only expected to start in 2029 (Interfax, 2024a). The new European price and market reality may also boost domestic onshore production, but these prospects are uncertain and still too small.

	Market size, bcma	Azerbaijani share, %
Georgia	3.1	80
Türkiye	50	20
Greece	4.5	25
Bulgaria	2.5	50
Italy	61	15

Table 2: The significance of Azerbaijani gas exports on its main national markets, bcma, % – Source: OIES, Bowden & Roberts, 2024, p. 5.

Non-incremental sources may add to Azerbaijan's EU exports considerably. Azerbaijani suppliers hold a 10 bcma contractual portfolio in Türkey, and another 2 bcma in Georgia (Bowden & Roberts, 2024). Freeing up some of these volumes for exports into the EU may fill much of the gap. Understandably, these markets lie along the Southern Gas Corridor in transit countries, enjoying some business advantages due to shorter delivery distances and marketing. Another, relatively sizeable pool is domestic consumption, growing rapidly in the resource-rich environment. In this regard, domestic demand can also threaten the export targets. Nonetheless, the development of renewables, solar, and wind energy can easily substitute natural gas in the generation segment. Azerbaijani officials set the target to raise the RES share from the current 20% to 30% in electricity generation by 2030, an easily deliverable objective in the current technological matrix (Gavin, 2024).

Furthermore, current prices within EU markets make these efforts highly profitable, low-hanging fruits.

The third option is natural gas import, freeing up domestic gas for exports. As it was the case with Kazakh oil transit, Azerbaijan may and does import gas from the other side of the Caspian Sea. Turkmen gas exports restarted in 2022 through a gas swap deal with Iran. Even more peculiar, Azerbaijan buys natural gas from Russia. Combined imports constituted 2.9 bcm in 2023, according to AzStat, a considerable amount if looking at export volumes. It is needless to say that both solutions, especially the one from Russia, raised questions in Europe and risked the reputation of Azerbaijani gas (Gavin, 2024). Until recently, major controversy has been avoided, and this practice was tolerated.

While much of the Azerbaijani gas flows to Italy through the TAP pipeline, it is the SEE environment where it provides and may offer an important supply security premium for importers. The SEE markets, particularly the Western Balkans and Bulgaria, feature fragmented, small to medium-sized national markets that are difficult to access. The renewal of the Russian-Ukrainian war brought a new impetus to market building, enhancing interconnectivity, while LNG from Greece and Türkiye has been increasingly available for consumers. Still, it is the piped Azerbaijani gas that fits most of these markets, due to its easy scalability and long-term availability. SOCAR or other Azerbaijani producers provide a one-stop shop for gas imports, directly from the field, while contracting LNG would require mediators or bigger volumes and investments in an unknown market segment. Not surprisingly, it was not only Bulgaria, cut off from Russian gas, that turned to Azerbaijan. Serbia secured a 400 tcma contract starting from 2024 (Stojanovic, 2024), North Macedonia approached Baku in order to diversify its imports (Petrushevska, 2024). Romania and Hungary also contracted smaller supplies in 2022 and 2023, amid the energy crisis in Europe (Interfax, 2024b).

Turkmen gas exports

The issue of Turkmen gas exports to Europe, which have been discussed in sectoral circles for decades, has not changed much due to the Russian gas exit from the EU. Turkmenistan has switched its export markets from Russia and Iran to China between 2008 and 2014, building a robust new network through Central Asia to the East. In 2022, 32.9 bcm, 81% of total gas exports, went to China (Bochkarev, 2024, p. 5.). Unlike Kazakhstan and Azerbaijan, the market switch was commenced in a coercive environment when Gazprom cut off much of Turkmen exports, and the country had no money and leverage to access new markets. In such a situation, Ashgabat badly needed Chinese support, investment, and market building, laying the foundations for a robust Chinese presence in the Turkmen gas industry. These include financial obligations, sectoral debts, contractual relations, and political leverage.

Russia's exit from European markets turns it from a potential buyer into a real competitor in Central Asia. Uzbekistan has already contracted Gazprom exports at very favorable terms (160 USD/tcm in 2023) and deliveries shall reach 11bcma by 2026 (Bochkarev, 2024, p.8.). Similarly, Gazprom has been pushing for more Chinese purchases from Russia, putting Turkmenistan's role for incremental supplies into a competitive framing in Beijing. Asghabat cannot feel its market shares are secure, while it has limited options when looking for alternatives.

The prospects of the long-discussed Transcaspian pipeline between Azerbaijan and Turkmenistan seem to be distancing fast. Since Azerbaijani supplies need all the available pipeline capacity to reach Europe, a brand new system should be built from the eastern shores of the Caspian Sea to the Balkans. This is beyond current reality and would require settling a high number of political, financial, and sectoral arrangements. The Iranian route, in the form of direct transit or gas swaps, remains open for additional exports, offering a 20- bcma perspective. The deal with Azerbaijan in November 2021 has already been mentioned above. Moreover, Turkmenistan agreed to supply Iraq 9 bcma in October 2023 (Bochkarev, 2024, p. 9). Understandably, all these transactions through

Iran are highly sanction-sensitive and may cause political and business headaches for stakeholders. Turkmenistan could potentially develop its chemical and fertilizer industry as a final resort. This has been an official policy, showing its first results. Investors from South Korea have already shown interest in such cooperation (Fertilizer Daily, 2025, January 25), even if large-scale chemical and fertilizer product exports also require substantial logistics improvements.

The case of mixed signals: Europe

European receptivity regarding Central Asian hydrocarbon exports remains complex and sometimes contradictory. Reservations and limitations stem from a broad range of issues. Market dynamics and rising price levels, coupled with security concerns, constrain EU consumption—that of natural gas in particular. Decarbonization and the Green Deal are still in full swing, especially in Brussels, limiting readiness to subsidize fossil fuel infrastructure from common funds. Security concerns remained very high on the sectoral agenda, often spoiling the image of Central Asian energy resources if these are linked to Russia in any form. Given the high variety of these factors and considerations, it would be difficult to characterize European receptivity in general. It varies by country and industry, making local context essential when looking at future prospects.

The European Commission reacted surprisingly fast to the war (European Commission, 2022c). Two weeks after the aggression, the Commission concluded that "phasing out our dependence on fossil fuels from Russia can be done well before 2030". In order to achieve this, the "Fit for 55" program was substantially redesigned, adding a list of measures for a full Russian fossil fuel exit by 2030. This set of measures, called REPowerEU, cannot be considered as scientifically justified objectives, but they reveal a good deal of the Commission's preferences. Therefore, the plan was to substitute less than one-third (60 bcm) of the 155 bcm Russian gas imports through geographic diversification of sources. Moreover, this was to be done by the end of 2022, signaling the

Commission's unwillingness to support further investments into the gas network and import infrastructure. The plan relied almost exclusively on the existing capacities and foresaw only modest investments in network expansions from sectoral and member state sources. All the other substitutions should have come from non-fossil sources, labeled as a "fast forward for green transition". Another 40-65 bcm offset should have come from biomethane and hydrogen production and imports by 2030, while the remaining 30-55 bcm should come from a combination of smaller measures, such as doubling the deployment rate of heat pumps, increasing rooftop solar panel and wind generation expansions, and savings— called later "structural demand reduction" in EU phraseology. By March 2022, the EU Council approved the REPowerEU plan, refining and recalibrating all these measures (European Commission, 2022a).

The EU's reaction was in sharp contrast with its attitude 15 years earlier, after the 2009 Russian-Ukrainian transit dispute. In those years, the Commission's interconnectivity program provided substantial subsidies for network expansion in solidarity with improving natural gas security within the Union. Not surprisingly, the Commission's REPowerEU plan received only limited support among member states. The majority of its measures, particularly those allocating funds for new capacities, garnered easy acceptance. In March 2022, EU leaders in the European Council also agreed to phase out Russian energy imports "as soon as possible". The Russian oil exit was agreed to on a quasi-consensual basis as a sanction measure, with a derogation for Hungary without deadlines. Nonetheless, setting sharp deadlines for the Russian natural gas exit met resistance from those dependent on it and not cut off by Gazprom entirely. At the time of writing this article, in early 2025, there were only a few and non-prohibitive legal limitations on Russian LNG imports and no constraint on pipeline imports. A wide array of national and policy gestures have been made against Russian gas, but a handful of member states still imported its LNG, while Hungary and Slovakia expressed their wish to maintain Gazprom contracts in the longer run.

Member state attitudes toward the EU's "faster forward in green transition" are diverse at best. Reflections in the updated National Energy and Climate Plans (NECPs) reveal acceptance and ambition

to accelerate decarbonization in a few cases (i.e., Austria, Lithuania). However, many countries projected only a pivot away from Russia and showed only limited readiness to speed up hydrocarbon decommissioning. Poland, Czechia, Bulgaria, or Serbia are predominantly concerned about their respective coal and lignite exits and look at natural gas as a prospective transition fuel. These markets can be considered optimal targets and potential long-term buyers of Central Asian energy. The third group, i.e., Hungary, Slovakia, and some Western Balkan countries, do not want to disrupt Russian logistical and value chains, are rather silent about their respective Russian fossil fuel exits, and do not set sharp deadlines for their completion. These countries may potentially increase their Central Asian imports, but the prospects remain somewhat murky.

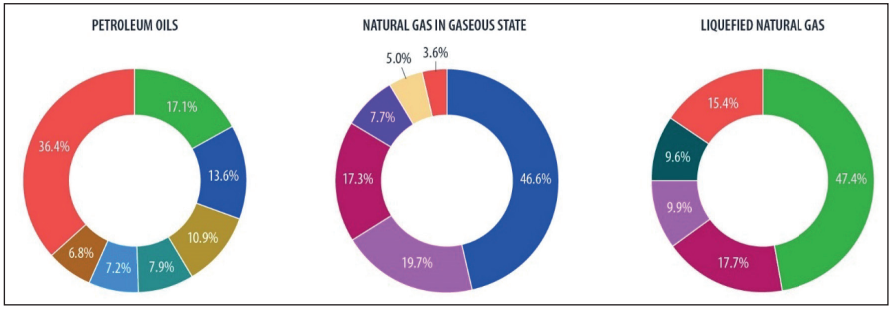

Figure 2: EU energy imports by partner, 2024 Q1, %
– Source: Eurostat, 2024

Market dynamics have sharply affected European consumption patterns either. Demand reduction due to high prices was increasingly visible in the gas industry; EU consumption of natural gas fell by 19.5%, from 397 to 319.5 bcma between 2021 and 2023 (BP). A good deal of this reduction was structural, stemming from savings, decommissioning of gas-intensive plants, and efficiency increases. It is justified to say that half of the lost Russian volumes were simply saved, and much of these savings may prove to be irreversible. While EU TTF price levels were around 20 EUR/MWh and stable in the second half of the 2010s, natural gas trade had to adapt itself to high volatility in the range of 30

to 50 EUR/MWh in 2023-24. Consequently, the EU gas demand now is at the level of the mid-1990s, in a very different environment with uncertain prospects. Oil consumption has also been in a long and structural decline, stemming from the mature motorization patterns, decarbonization policies, and sluggish European growth. Oil demand has fallen by 20% since 2006, and the 2035 deadline for the ban on new car sales with combustion engines is still in force.

Security and sanction attitudes, the Russian liaison also may play a decisive role in some particular cases. According to Eurostat, Poland has gradually decreased and then halted its Kazakh oil imports in 2022, presumably due to security concerns stemming from Russian transit (Mroczek, 2019). Nonetheless, most of the SEE and CEE countries, to a varying degree, look at Kazakh oil as a potential substitute for Russian supplies and keep buying it in larger amounts. Azerbaijani oil became increasingly popular in refineries with oil import capacity from the Mediterranean Sea, as did Czechia and Austria. Hungary and Slovakia consider both Kazakh oil and Azerbaijani hydrocarbon supplies as potential alternatives to Russian fossil fuels, should Russian deliveries become unfeasible.

The economic warfare between the EU and Russia also put some sectoral assets into a peculiar situation. Several Russian oil and gas companies faced suspension and asset freezing at the start of the war. While many of these are simply traders, Rosneft, Gazprom, and Lukoil also had major refineries and infrastructure in their portfolio. The German government put Rosneft's assets, estimated at 7 billion EUR, into its trusteeship (Alkousaa & Steitz, 2024). Lukoil plans to sell its Bulgarian Burgas refinery under the pressure of new oil supply realities, and Serbia and Bosnia also have refineries in Gazprom's ownership, hit by US sanctions. All these are flagged assets, legally disputed or troubled units from the sectoral point of view. Paradoxically, these units would both fit into Kazakh and Azerbaijani logistical and value chains. Not surprisingly, Kazmunaygaz gave a bid for Rosneft assets in Germany, while both Kazmunaygaz and SOCAR were among the finalists for the Lukoil Bulgarian refinery. It is the Kazakh side who needs additional demand security by locking Western refineries, and exactly this vulner-

ability is what makes importing countries' governments so cautious in this regard. The German assets remained in the government's trusteeship despite multiple bids, while the decision regarding the Bulgarian refinery was expected only after the paper was submitted.

Outlook

The basic outlines of cooperation between the EU and Central Asia have not changed fundamentally due to the war. Central Asian producers, most notably Kazakhstan and Azerbaijan, are to a significant extent dependent on European markets. Redirection of exports would require significant and sometimes prohibitively expensive investments. The relations are asymmetric, even if the fragmented nature of European energy markets provides room for maneuvering for Astana and Baku. Due to European decarbonization plans, it has become increasingly difficult to pursue fossil fuel policies within the continent. Solid fuel and coal decommissioning still gives a humble prospect in a handful of countries, but beyond that, hydrocarbon consumption is projected to inherently fall. According to European plans, natural gas and oil demand will start inherently and irreversibly decreasing in the early 2030s, a deadline too close for any major new investments in these market segments. Besides their own production constraints, Central Asian exporters shall keep in mind all the uncertainties coming from sustainability.

The Russian-Ukrainian war can be considered a single, one-time driver, working mostly against these fundamental trends. SEE and CEE markets, where Central Asian suppliers have also been present for a while, are in need of substitutes for Russian energy. New markets have been opening up with much better price outlooks in the case of natural gas in particular. Europe's quest for alternatives weakens and even balances past asymmetry, creating high demand for Central Asian energy. This surely gives a small bonanza in Azerbaijan and will result in a major recalculation and reconsideration of past development plans within the country. Baku, being integrated into the Western value

chains and having decoupled from Russia's transit routes, is certainly one of the beneficiaries of the EU's Russian fossil fuel exit. The case of Kazakh oil has been more complex since it could not, and likely will not, fully diversify Russian transit risks. Paradoxically, Astana requires guarantees and deeper integration into the value chains to manage potential threats to its export routes.

Nonetheless, the basic trend remains the same. Central Asian exporters will have to compete with alternative suppliers, LNG deliveries, and potentially returning Russian exports. The markets have been shrinking due to a high number of factors; demand outlooks are bleak. Consequently, apart from a one-time boost to profitability and already planned investments, all this pushes local governments and Western corporations toward caution. Collecting the rents from Europe's energy crisis, rather than making huge incremental and risky investments, can be the bottom-line strategy for many in the long term.

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China-Europe by rail on the Middle Corridor

Péter Bucsky[17]

Introduction

The collapse of the Soviet Union in 1991 left the successor countries in Central Asia and the Caucasus region in the field of transport in an unpleasant situation. The transport system, which overwhelmingly consisted of railway lines – and pipelines for hydrocarbons – were all gravitating toward Russia and Moscow (Högselius, 2022). The Soviet Union was a land focused empire: see exists were possible in the Baltic Sea by Saint Petersburg and the Baltic ports in Estonia, Latvia and Lithuania. The Blak Sea ports had higher capacity in Ukraine, Russia and Georgia, but the capacity of the Bosporus was a limiting factor (Gray, 1987). In addition, only ports in the Far East, namely Vladivostok could be used.

Not only the sea transport connections were limited, but rail too. There were several rail connections to the Central Eastern European members of the Council for Mutual Economic Assistance (COMECON). However, east of the Black Sea in Asia there was only one railway line connection to Türkiye, one to Mongolia and the original Trans-Siberian route via Manchuria (Harbin) to Vladivostok and China. That means 3 connections on a distance of 8 thousand kms. The transport needs of the countries of Central Asia – but also to a lesser degree of the Caucasus – could only be managed through Russia. After the fall of the Soviet Union transport corridors were reliant on other neighboring countries

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and with newly established border and customs procedures this was time-consuming and expensive. Later, regional co-operations like the Commonwealth of Independent States, Eurasian Economic Union or OTS helped the level of coordination within the region.

It was rapidly understood in the 1990s that new transport corridors must be established. The first proposal for that was the Transport Corridor Europe-Caucasus-Asia (TRACECA), later known as the Middle Corridor (De Lathauwer, 1995). It represented a significant initiative aimed at enhancing connectivity and economic integration across Eurasia – long before the Chinese One Road, One Belt project. It was established in 1993 with the facilitation of the European Union (EU) – the 12 member EU was also formed officially that year. The initial program's aim was to facilitate trade and transport links between Europe, the Caucasus, and Asia. The railway transport corridor, a critical component of TRACECA, has played a pivotal role in achieving these objectives as modal share of rail accounted for 90% of total transport volumes in tonkms if not considering pipelines that serve the hydrocarbon exports (International Monetary Fund, 1991). Rail freight transport volumes were 27 times higher than road transport – therefore rail played simply a much more important role in the transport of the entire region.

TRACECA was launched in May 1993 during a conference in Brussels, involving representatives from Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan (How TRACECA Started, n.d.). The program aimed to develop a transport corridor that would enhance economic relations, trade, and transport communication between Europe and Asia. The European Union (EU) played a crucial role in the initial stages, providing technical assistance and funding (Guliyev, n.d.). Since 1995, 14 projects have received funding under TRACECA. The value was 51 million EUR – these were funding mainly for planning and smaller-scale projects in ports. This shows, that TRACECA could not deliver any major impact.

The TRACECA program was formalized with the signing of the Basic Multilateral Agreement (MLA) on International Transport for Development of the Europe-the Caucasus-Asia Corridor in Baku, Azerbaijan,

on September 8, 1998 (European Commission, 1998). This agreement laid the foundation for the development of a comprehensive transport network, including road, rail, and maritime routes. This policy development helped to facilitate cooperation between countries along the corridor.

One of the key milestones in the development of the railway corridor was the establishment of the Permanent Secretariat of the Intergovernmental Commission (IGC) TRACECA in Baku in 2001. The Secretariat has been instrumental in coordinating efforts among member states, developing strategic plans, and securing funding for infrastructure projects.

Not only European, but also Asian intuitions started to understand the impotence of the transport corridors in the region. The Asian Development Bank (ADB) facilitated the creation of the Central Asia Regional Economic Cooperation (CAREC) program in 1997. Members are Afghanistan, Azerbaijan, China, Georgia, Kazakhstan, Kyrgyzstan, Mongolia, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan.

CAREC members include several multinational institutions, that also deliver financing for projects. There are the ADB, the Asian Infrastructure Investment Bank (AIIB), the European Bank for Reconstruction and Development (EBRD), the International Monetary Fund (IMF), the Islamic Development Bank (IsDB), the United Nations Development Programme (UNDP) and the World Bank.

CAREC has facilitated the implementation of projects aimed at modernizing railway lines, upgrading signalling systems, and enhancing cross-border connectivity. They play a crucial role in the development of rail and road transport corridors, coordinate the developments between countries. They also monitor the development of corridors. CAREC is not only about transport, but 67% of their project portfolio is devoted to this field – and with 34 billion USD investment volume they could have a sensible impact on this field (CAREC, 2024). These investments could noticeably improve the quality of infrastructure, which helped to vitalize the traffic flows on the Middle Corridor.

EU-China rail transport

Since the beginning of the 1990s the idea of providing a new transport corridor by rail between Central Asia and Europe to China has existed (Canfield, 1992; Naribayev, 2018; Walsh, 1993). Revival of the silk road was a popular idea, but the first major concrete steps in the infrastructure development and the creation of a program for that came from Kazakhstan in 2008 (Akorda, 2008). Bringing trade to and from China overland was a new aspect. Traditionally, China's external trade and transport is maritime focused, as 90% of China's external trade is organized through shipping, which a very high figure compared to 45% in the case of the EU (Bucsky, 2020). The One Belt One Road (OBOR) initiative, also known as the Belt and Road Initiative (BRI), is a global development strategy adopted by the Chinese government in 2013. The initiative aims to enhance regional connectivity and embrace a brighter economic future by building infrastructure and broadening trade links between Asia, Africa, and Europe. The BRI is composed of two main components: the Silk Road Economic Belt, which is land-based, and the 21st Century Maritime Silk Road, which is sea-based (Schramm & Zhang, 2018).

The Silk Road Economic Belt was introduced in Kazakhstan in September 2013, while the 21st Century Maritime Silk Road was unveiled in Indonesia in October 2013. The initiative draws inspiration from the ancient Silk Road, which was a network of trade routes that connected the East and West, facilitating not only trade but also cultural exchanges.

The goals of the OBOR initiative are very divergent and not clearly defined. They have investment, infrastructure development and trade development aspects. In the case of land transport it includes railway development projects all over the world, from Indonesia to Serbia and Hungary to Kirgizstan to Ethiopia. However, there is one very specific policy regarding transport, and that is the facilitation of rail transport between China and Central Asia, Russia and Europe.

These connections are often labelled as China-Europe Railway Express (CR Express). It is known for significantly reducing transit times

for goods, offering a faster alternative to maritime transport. However, that is not a real novelty.

The link between European and Asian railways was not established for a long time, and the Trans-Siberian Railway was opened only in 1917. It was connected to China from 1955 by the broad-gauge railway through Mongolia. The Soviet-Chinese agreement for the development of a new joint railway line was signed in 1954, and construction was due to start in 1959 (Ezhelya, 2018). Due to the deteriorating Soviet-Chinese relations, this did not happen for a long time, and the Chinese railway line stopped at Ürümqi in 1962. Four decades later, in 1990, the Soviet-Chinese rail link was opened at Druzhba station in present-day Kazakhstan, connecting to Alashankou on the Chinese side. A new Chinese border link was also built between Khorgos in Kazakhstan and Korgas in China in 2011 – before the idea of OBOR. This border crossing provides a better connection to Almaty, as well as to Iran and other Central Asian countries.

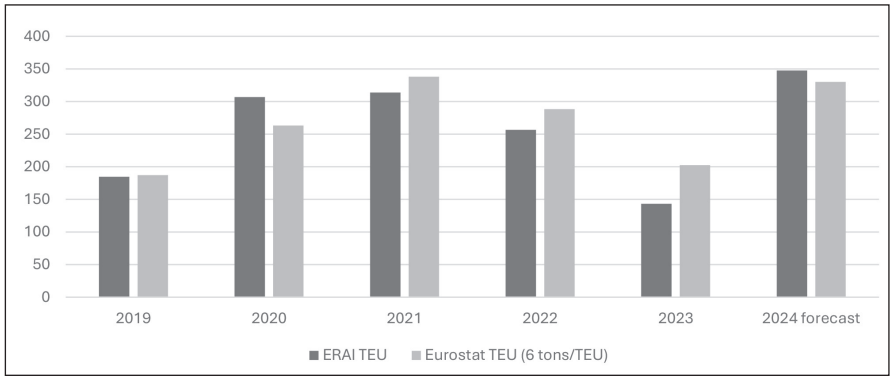
The rail infrastructure links between East Asia and Europe have been in place for decades, but for a long time they were not used for transcontinental freight transport. Major international shipments were initiated by Japanese companies in 1971. There was a rapid increase in traffic, reaching 80 thousand TEU by 1976. (Miller, 1978). By the mid-1970s, this was such a significant volume that a quarter of the freight traffic between Japan and Western Europe was arriving in Europe by rail via the Soviet Union (Roth, 2017). The volume of Japan-Europe rail freight transport remained high, with 80-110 thousand TEUs per year via the Trans-Siberian railway until the late 1980s according to UNCTAD annual reports, but in the 1990s this traffic fully collapsed (UNCTAD, 1988). The main reason was that the economic collapse of the Soviet Union in the late 1980s was accompanied by a shortage of foreign exchange revenues, which led to an increasing increase in transit tariffs, making it uneconomic to transport goods.

Deutsche Bahn, the German state-owned railway company and the Russian State Railways (RZSD) set up a joint venture, Trans Eurasia Logistics GmbH in 2008 to develop rail freight transport between Europe and the former Soviet Union, which was later extended to the Chi-

nese market. The first test trains were operated on the Beijing-Hamburg line, and in 2010 the so-called Northern (on the Trans-Siberian Express line) and Southern (via Kazakhstan) routes (Nožička, 2016). Since then, the major rail connection is via Kazakhstan between Europe and China.

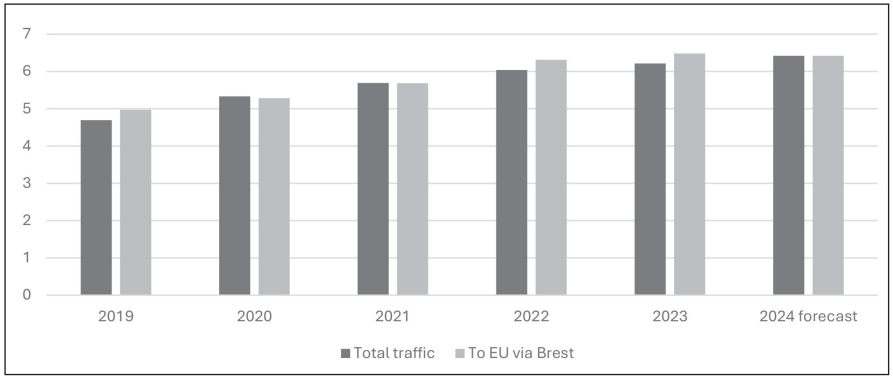
This connection is viable only thanks to state aid in China, which varies region by region (Popławski et al., 2018). This helped to grow transport, but as intended these subsidies are phased out. The Covid epidemic, the logistic problems, the hight sea shipping fees helped to sustain the traffic volume, but the that could not grow to a significant volume – it is not much more, than Japan-Western Europe traffic in the 1970s and 1980s.

This volume is well managed by the already serving infrastructure, and the China-Kazakhstan-Russia-Belorussia-Poland route is not only the fastest, but the cheapest. The start of the Ukraine-Russia war in 2022 created a new chapter in that. Transporting goods via Russia became more risky due to sanctions, insurance of goods became problematic. However, this had no real impact on traffic flows (1. Figure). The traffic volumes were calculated from the rail alliance statistics of Russian, Kazah and Belarussian railways and compared to Eurostat trade data.



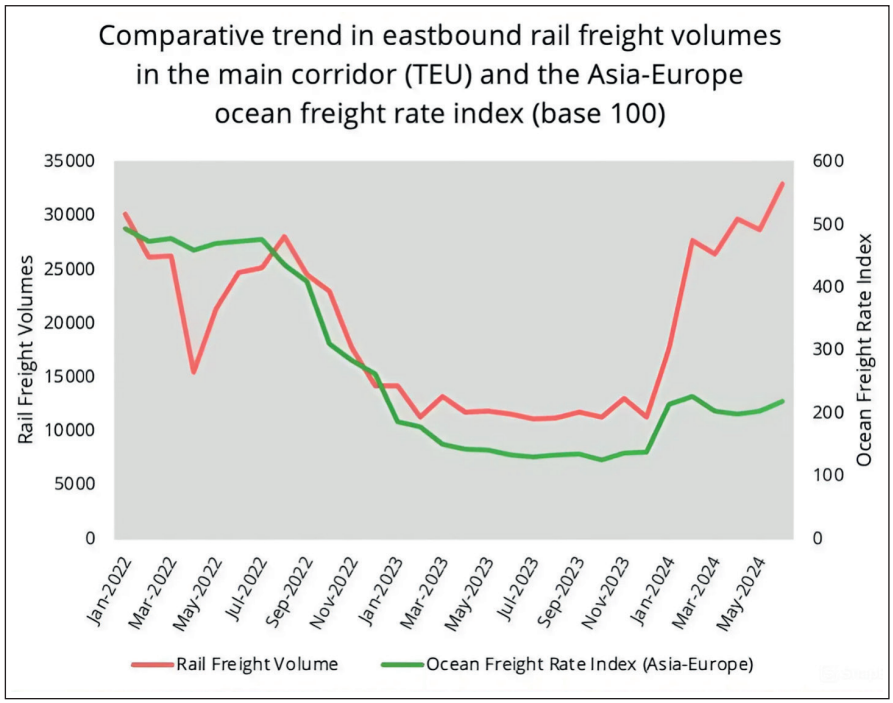
1. Figure. EU import from China by rail – thousand TEU – Source: ERAI website (www.erai.com) and Eurostat

The traffic volume decreased in 2022 slightly, and 2023 a bit more – but is the highest in 2024 since the start of these traffic flows. Not only the Europe-China traffic peaked, but Russia is importing ever more products from China by rail due to sanctions (Fortescue, 2024). Not only the traffic was growing, but also the efficiency: the average load per container (TEU) exceeded 6 tons (2. Figure). This still not much, as the maximum tonnage is 21,6 tons – but rail is used by higher value products, transporting really heavy cargo is still more viable via sea.



2. Figure. Average load (tons/TEU) China – EU container rail transport via Central Corridor – Source: ERAI

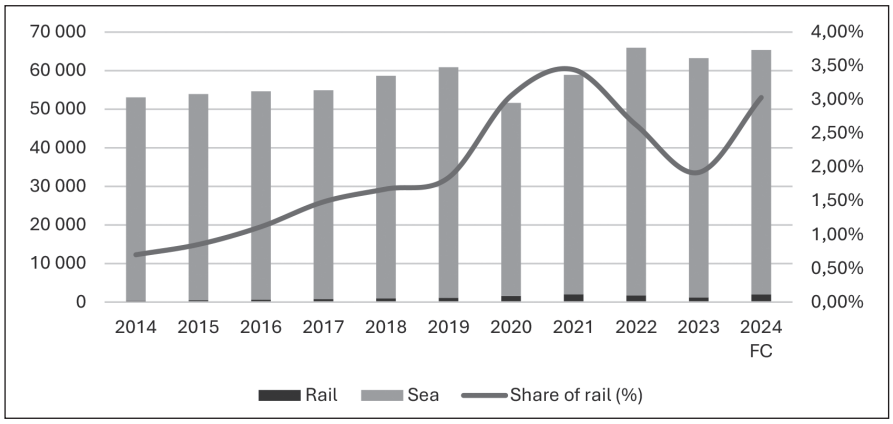
The traffic volume is mainly influenced by shipping rate volatility – which can be observed in Figure 3. Transporting one TEU from China to Europe by sea is around 3 thousand USD, by rail 6-10 thousand USD. In the case of maritime transport the transport to and from ports is also several thousand dollars – in Europe typical transport cost is 1 EUR per TEU per km.



3. Figure: Shipping and rail freight rates on the China-Europe route – Source: Upply (https://market-insights.upply.com/en/the-development-of-china-eu-rail-freight-in-the-first-half-of-2024)

To understand the importance of rail transport on EU-China trade, trade volumes were analysed from the Eurostat trade database by mode of transport. The database includes information on the value (in EUR) and volume (in tons) of goods transport. This shows, that the measured in the volume of rail transport was growing in the last decade, but decreased with the start of Ukraine-Russia war (4. Figure).

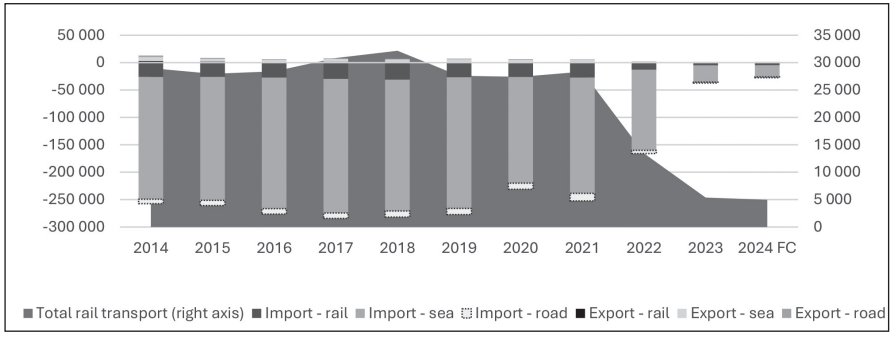
The peak was achieved during the Covid epidemic, when logistics systems were paralysed and there was a need for fast transport in the case of medical equipment. The share of rail in 2024 is forecasted to reach 3% in the modal share. This shows, that this type of transport can be attributed as a supplementary service to maritime transport – it is faster but more expensive. In the case of exports, rail plays a much



4. Figure. Volume of imports from China to EU (thousand tons) – Source: Eurostat

less important role: only 1% of EU goods by volume were exported to China in 2024 based on forecasted data.

The volume of the imports from China to EU in 2024 is set to reach 350 thousand TEUs – and practically all cargo is containerised. This amount of containers is equal to 12 trains per day, as one block train can transport c. 80 TEU in Europe and China. The capacity for this transport is given in Russia. Especially, as due to sanctions trade volumes by all modes of transport were collapsing in 2022 between Russia and the EU (5. Figure).



5. Figure. EU-Russia trade (thousand tons by mode of transport) – Source: Eurostat

While the EU-Russia transport volume shrunk to one-sixth of its pre-war level, the transport volumes by rail between China and Russia grew to more than double in value (1. Table). The breakdown in volume and mode of transport is not published by Chinese authorities and Russia does not publish similar data neither. But the volume growth itself – and the reported congestions in railway media – suggests, that there are infrastructure and organisational constraints of this type of growth.

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Chinese exports	44.1	49.6	53.7	34.8	37.3	42.8	48.0	49.7	50.5	67.2	76.1	110.9
Chinese imports	44.1	39.7	41.6	33.3	32.3	41.4	59.1	61.2	57.8	79.6	114.1	129.2

1. Table. Trade between China and Russia (billion USD) – Source: Comtrade

Travel time via Russia between Poland/Germany and China is 14-16 days in the ideal case, but rarely over 20-22 days. China to Europe currently via Middle Corridor for block trains is over 20 days. Therefore Middle Corridor is currently not competitive by travel time. Containers transported along the Middle Corridor from China to Europe peaked in 2021 (9 thousand TEU). The transport costs between China/Kazakhstan border and Istanbul are around 4 thousand USD, that is comparable with the Northern routes via Russia (UNECE, 2022). The emphasis therefor should be on the reduction of transport times.

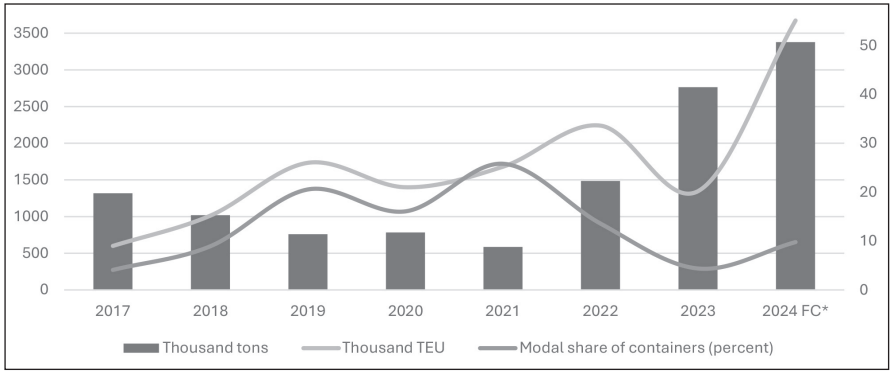
Middle Corridor and EU-China rail transport

The Ukraine-Russia war increased the demand for an alternative transport corridor between China and Europe, which bypasses Russia. But not only for this traffic, but also for the Central Asian and Caspian region it is vital to have transport connections to Europe and China which are not related to Russia.

The traffic volume development seems to underpin this change: the volume of transported goods and transported containers grew significantly at the Middle Corridor since 2021 (6. Figure). It has to be emphasized however, that the volume of containers is still much lower, around one seventh compared to the China-EU rail transport on the China-Kazakhstan-Russia corridor.

Despite the fact, that the volume of containers has been growing fast in the past, the modal share of containers is not growing, but on the contrary, it is declining on the Middle Corridor. In 2024 it was 10%. That is generally low – in the EU the unitization rate is around 40% in the case of rail transport (Eurostat, 2024).

The high growth of traditional, non-containerised goods shows, that the major importance and growth opportunity for the Middle Corridor



6. Figure. Traffic volume of the Middle Corridor
*– Source: https://middlecorridor.com/en/, Remark: * based on 1-11 month*

lies outside of the China-Europe containerised transport. The transport needs of the Central Asian and Caucasus region are evolving rapidly, and as this region can be served overland only to major maritime ports, this can be the major focus of development. The need for containerisation however is set to grow, as more and more products can be transported this way. Also, with economic growth, development of economic and trade complexity, the demand for containerisation is also growing (Guerrero & Rodrigue, 2014; Rodrigue & Notteboom, 2013). Currently the trade of the Middle Corridor countries is still focused on natural resources.

In the countries along the Middle Corridor Türkiye is the most populous country and it dominates also the economic output and trade of the region – it accounts for 64% of exports (2. Table). It also features the most complex trade structure, with lower portion of bulk goods, like minerals. Minerals and agriculture products dominate the export structure of the other countries, which require high volume, low cost bulk transport – for which maritime transport is most ideal. But if that is not given, than rail is the second most efficient transport mode. That is an explanation, why the transport volumes are dominated by conventional rail freight.

The Middle Corridor region – not just countries along it, but which are connected – are concentrated economically. Without Türkiye, Kazakhstan accounts for 53% of export, followed by Azerbaijan (26%) and Uzbekistan (11%). The other countries account for 10% (Turkmenistan does not provide trade data to international statistics).

cmdCode3	Türkiye	Kazakhstan	Azerbaijan	Uzbekistan	Georgia	Armenia	Kyrgyzstan	Tajikistan	TOTAL	TOTAL - w/o Türkiye
Minerals	8.8%	75.0%	92.8%	8.7%	22.8%	19.2%	16.2%	53.6%	30.1%	67.4%
Iron, steel, metals	17.9%	7.8%	1.5%	39.3%	13.0%	26.7%	9.3%	22.5%	15.2%	10.6%
Machinery, transport equipment	21.7%	1.8%	0.3%	5.2%	20.5%	10.1%	10.5%	0.9%	14.9%	2.9%
Chemical	11.2%	5.8%	1.5%	4.5%	5.8%	2.7%	4.0%	1.3%	8.7%	4.3%
Food and agriculture products	11.8%	7.3%	2.4%	11.7%	22.4%	23.1%	19.6%	4.5%	10.3%	7.8%
Textiles	13.5%	0.1%	0.1%	10.7%	4.4%	4.4%	17.1%	1.7%	9.2%	1.8%
Electronics	5.4%	1.3%	0.1%	1.3%	2.0%	9.8%	5.4%	0.2%	3.9%	1.4%
Other	3.9%	0.2%	0.1%	2.6%	2.2%	3.0%	3.3%	0.1%	2.7%	0.6%
Wood & paper	2.3%	0.2%	0.0%	0.9%	1.3%	0.4%	2.3%	0.3%	1.5%	0.3%
Glass, ceramics	2.2%	0.1%	0.1%	1.2%	0.3%	0.7%	4.8%	0.0%	1.5%	0.3%
Cotton, silk, wool	0.9%	0.1%	0.6%	11.1%	0.1%	0.0%	7.6%	15.0%	1.2%	1.7%
Fertilizers	0.4%	0.3%	0.6%	2.7%	5.1%	0.0%	0.0%	0.0%	0.5%	0.8%
Share of total exports	*63.8%*	*19.1%*	*9.6%*	*3.8%*	*1.4%*	*1.3%*	*0.6%*	*0.4%*		

2. Table. Export structure of Middle Corridor countries (2022) – Soucre: Comtrade

As 67% of non-Turkish regional exports are minerals – mostly oil and oil products –, followed by 11% iron and steel, 8% food and agriculture products, these are all ideally transported by rail.

The Middle Corridor can serve as a vital link to facilitate trade of the landlocked countries of the region. This is also the case, as the Blak Sea ports are the closest from the biggest population and economic centres of the region. Theoretically, from some region Iran's port could offer a closer option, but the rail link is not that developed there and also transit through Iran and Turkmenistan is more complicated and also rail infrastructure is less developed. Middle Corridor is also more important, as major trade partners of the countries of the region are on that route: namely Europe and China.

City	Poti (Georga)	Bandar Abbas (Iran)	Shanghai (China)
Almaty	3,500	3,200	5,000
Astana	3,800	3,500	5,200
Baku	700	1,600	6,400
Bishkek	2,800	2,400	4,400
Dushanbe	3,500	1,700	4,800
Tashkent	3,000	2,800	4,800

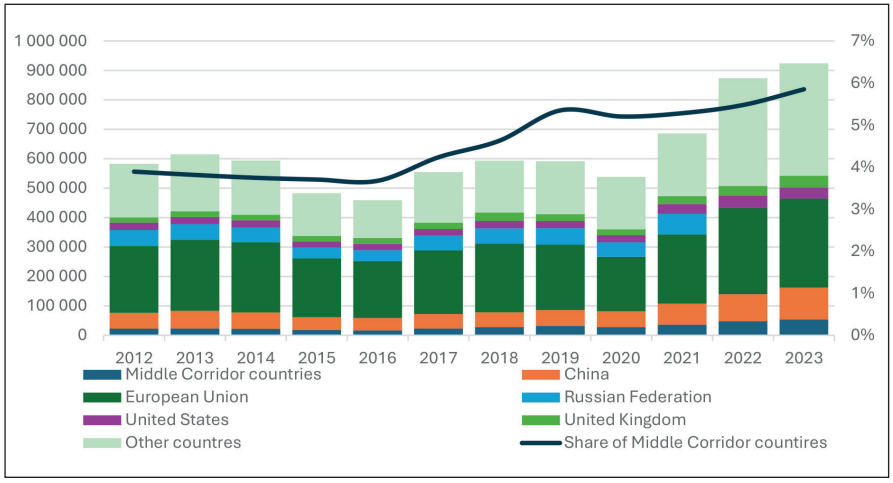
3. Table. Approximate distance from port of major cities in the Middle Corridor region – Source: own collection

Modal share of rail transport was around 45% in Central Asia (Bucsky & Kenderdine, 2021). This is high compared to 18% for the European Union, and 33% for the United States, but is lower than around 60% modal share in Russia. Central Asia shares a lot economic and geographical similarities with Russia, for instance large distances, high capacity wide gauge rail system, distant export markets, and high volumes of minerals and natural resources in exports. Therefore it can be assumed, that rail transport could be even better utilised. For that, however a well-functioning rail connection is needed by the trade partners, which is China, Europe and Türkiye.

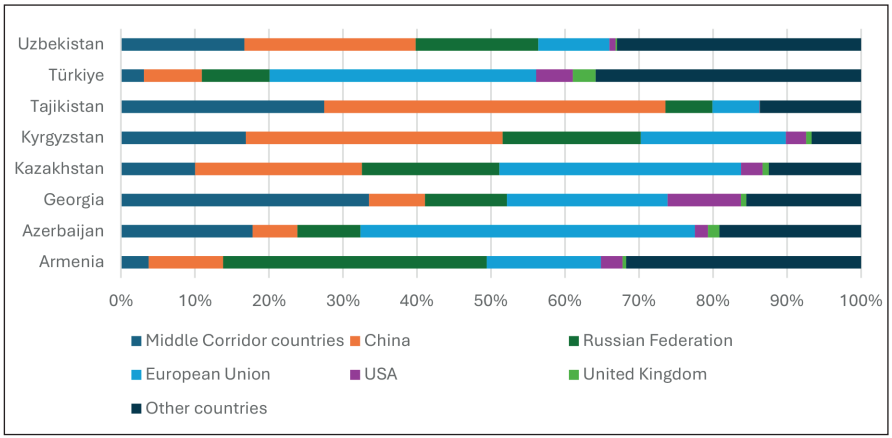
Trade and demand

For international transport corridor the trade volumes and trade growth are the most important factors to facilitate transport. In the case of Central Asia, Caucasus region and Türkiye the total trade volume is growing fast: between 2012 and 2023 the annual average compound growth rate was 3,9%. The growth rate accelerated significantly after 2021. The trade of the region is very diverse geographically. The biggest trade partner is the EU – with 33%. China is also a major partner with 12%. The Middle Corridor countries however are not that important partners for each other, they account for 6% of trade, Türkiye is the most important partner. This share is growing however. The Middle Corridor connects half of the import and export markets of the region – but also trade to other countries are relaying on ports in Georgia, Türkiye. Russia does not publish trade data after 2022, it's share is around 13%, and it was not really changing.

There is a substantial difference in the trade orientation of the countries of the region. Türkiye, the biggest economy in the region has the



7. Figure Trade value of Middle Corridor countries (million USD) – Source: Comtrade

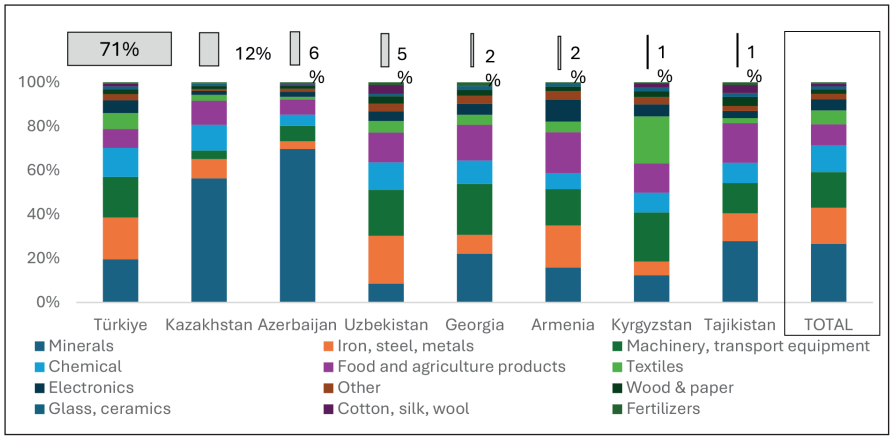


8. Figure. Trade partners of Middle Corridor countries (value in USD, %, 2023) – Source: Comtrade, Tajikistan 2022 data

lowest trade share with other countries in the region and the highest share with the European Union after Azerbaijan. China is important for all countries, but most for those that are neighboring it.

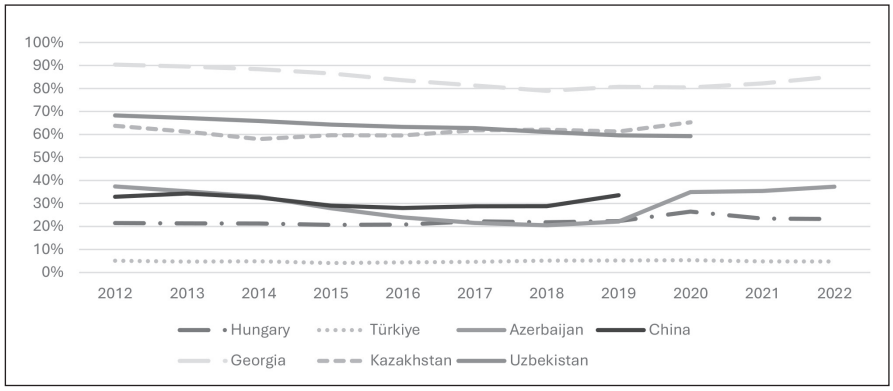
The traded goods of the region are very concentrated: minerals account for 27% of value, while iron and steel 17%. Without Türkiye these are 43% and 11% – half of the trade value is minerals and steel (9. Figure). It has to be noted, that that by volume the share is even higher – and for transport demand that is more important, but this information is not available in UN Comtrade. As the biggest Central Asian economy, Kazakhstan's trade is heavily concentrated around minerals – most of trade is related to that. The overwhelming importance of minerals is not set to change: between 2012 and 2022 the trade value grew by 71%, and minerals saw an even higher growth with 78%18. Higher value electronics (+79%) and machinery (+76%) is growing faster than average, but it is an incremental change in the composition of goods base.

18 Data for 2012 for Armenia, Tajikistan, Uzbekistan not available, changes calculated without them.



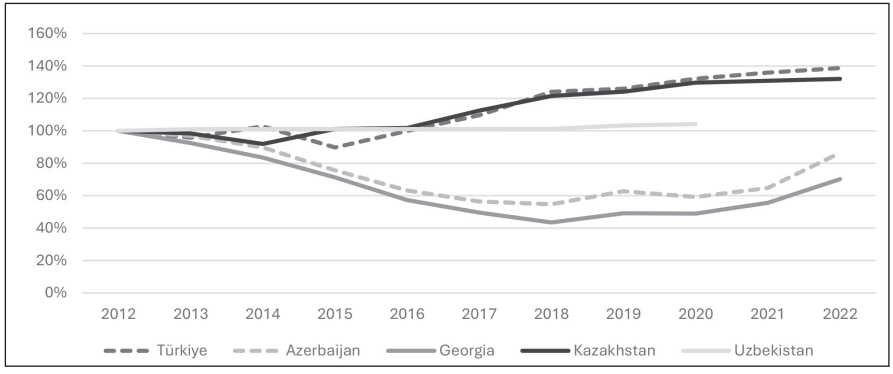
9. Figure: Distribution of trade value of Middle Corridor countries by type of goods and the share from total trade value (2022, based on USD, %) – Source: Comtrade

Trade volumes play an important role for transport demand. But it is also important to track, how demand for different transport modes is changing, as the Middle Corridor is a rail route. The modal share of transport modes is not available for all countries, but road and rail transport volumes can be compared for the most of them from OECD and UN databases. Pipeline transport was excluded, as it is used to transport only hydrocarbons, internal waterways do not play a siginifcant role, therefore road and rail are the two options. The major challenge seems to be, that modal share is very different in the region: Georgian transport sector is close to 90% dominated by rail, and on the other hand Türkiye has a very low modal share of 5% for goods transport (10. Figure). Kazakhstan and Uzbekistan has more than 60% modal share for rail. As a comparison Hungary and China has been shown too: the two major trade partners, Europe and China are not using rail extensively. The Kazakhstan-Caspian Sea-Azerbaijan-Georgia corridor is through countries that use rail extensively, and Uzbekistan has high capacity connections also. The connection of Türkiye seems to be a bottleneck in this regard.



10. Figure. Modal share of rail transport in land transport (road and rail, tonkms) – Source: OECD, UN

Rail freight transport volumes are developing in different direction in the region: Georgia and Azerbaijan faced decreases in the second half of the 2010s, but they are catching up to previous volumes (11. Figure). Uzbekistan – despite the high economic growth – faces stagnant volumes. Kazakhstan and Türkiye recorded moderate growth. This can be seen, as there is capacity potential on rail networks. But on the other hand, international rail transport functions well, if there is a vivid connecting network within the countries.



11. Figure. Rail freight volumes in the Middle Corridor region – Source: OECD, UN

The role of rail in trade is highly unutilized in Türkiye. Based on TÜİK Kurumsal data in 2024 only 0,7% of total Turkish trade was transported by rail (measured in value). The share of sea was 56%, road transport 25%, air transport 11% and other – mostly pipelines – 7%. These shares were mainly intact in the last decade, there is no hint on growth in the rail sector.

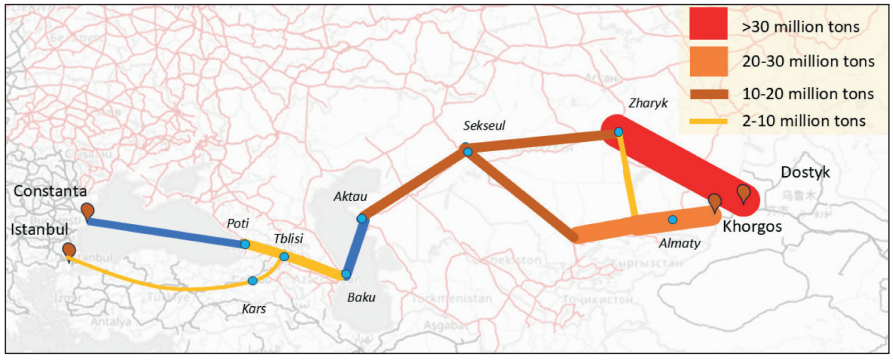
The outlook for further grows is strong – but it can be only materialised if infrastructure and soft developments will be carried out. The European Bank for Rebuild and Development (EBRD) created a report on the future outlook of the Middel Corridor in 2023 – focusing on the transport needs of Central Asia with Europe. The report states: "in 2022, around 33,000 containers were carried between Aktau and Baku ports. Based on stakeholder consultations, 18,000 TEUs of these volumes were assumed to have been carried along the CTCN. Using project-specific models, it is estimated that container traffic on the CTCN will grow from 18,000 TEUs in 2022 to 130,000 TEUs by 2040" (EBRD, 2023).

A more complex analysis was created by the World Bank also in 2023. (World Bank, 2023). They calculated with a trade volume growth between the EU and China with 30% between 2022 and 2030, and also forecast similar growth for trade growth between the EU and Azerbaijan, Georgia and Kazakhstan. It translates to a yearly average growth rate of around 3%. That is in line with growth rate in the past decade, but recent years has even shown higher growth. Therefore it can be realistically assumed, that transport demand will also increase substantially. As state before, the Middle Corridor plays a much more important role for the region itself, than for Transeurasian trade between Europe and China, but with the development of the quality – higher speed, lower costs – this has the potential to divert a portion of the trade from the current routes via Russia.

The trade volume growth will not be identical by goods types, higher-value and mid-value products will see a higher growth rate. The characteristics of goods and transport costs by mode influence both, which transport type is used. According to the World Bank modelling, it is to be assumed, that the total trade volume on the Middle Corridor is set to triple – or grow by 209% – until 2030. In total, the

transit volume of current 3,6 million tons per year will increase to 11 million tons, from which 7 million tons growth is coming from Middle Corridor countries – mainly from Kazakhstan (6,2 million tons), and 4,4 million tons from transit. From transit CR Express represents 2,7 million tons (equal to c. 450 thousand TEU) and 1,3 million tons from Uzbekistan-Europe trade (World Bank, 2023).

The traffic flows are very different along the Middle Corridor, East section in Kazakhstan managing most of the traffic (12. Figure). This is due to the fact, that those sections manage the China-Russia, China-Europe, China-Central-Asia traffic, and also Kazakh export and import with Europe, Russia and almost all other countries than China. From Georgia most of the traffic towards Europe is transported through the Black Sea – simply due to capacity constraints and slow speed through Türkiye.

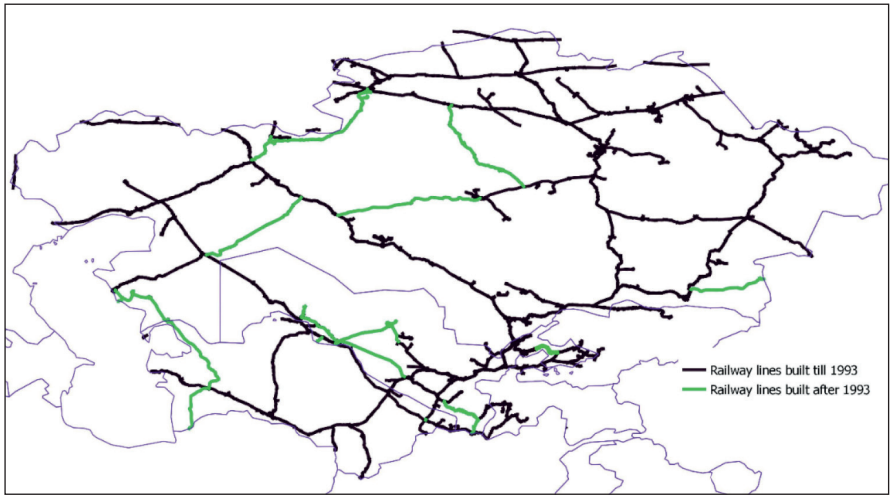


12. Figure. Traffic volume along the Middle Corridor (2021) – Source: own editing based on World Bank data (World Bank, 2023)

From Georgian ports not only Romania's Constanta port is a viable option for cargo – especially not towards Western and Central Europe. Romanian and Hungarian railway infrastructure is notoriously low quality, delays and uncertainty is hindering traffic, border crossing is time consuming. Towards Poland, Czechia, Germany, Netherlands and Northern Europe the sea transport towards Odessa and than from Ukraine to Poland is the fastest route – but due to war situation currently not ideal. For the development of the Middle Corridor transport towards Europe the availability of this section can be important.

Railway infrastructure

Countries along the Middle Corridor – with exception of Türkiye – inherited their transport infrastructure from the Soviet Union. This legacy included a Moscow/Russia centred corridor system, with limited connections between the former Soviet republics. The East-West connection in Kazakhstan, the North-South corridor from Kazakhstan to Uzbekistan and Turkmenistan, connecting to Iran (13. Figure). Also, a new railway crossing to China was opened in Khorgos – and the third railway crossing to China is planned in Bakthy (Sultanbek et al., 2024). The region expanded the rail network substantially since 2010, with total network growth of 14% and electrified track growth of 27% (Bucsky & Kenderdine, 2021).



13. Figure. Railway network of Central Asia – Source: own editing

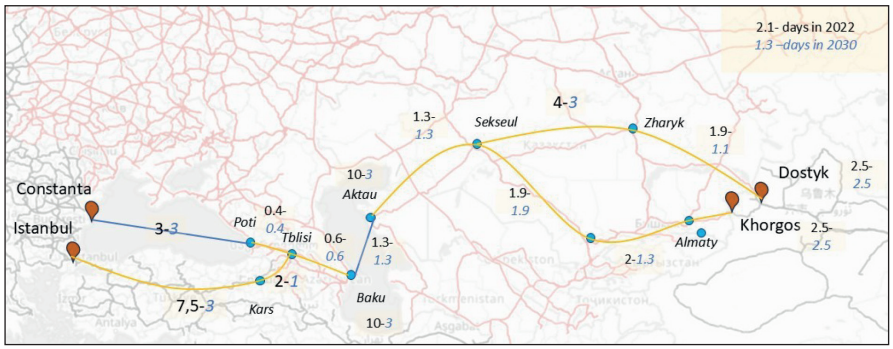
The CR Express container rail services to Europe and Russia are using Kazakh dryports and cross the country from Central East to North West. With the newly built rail lines it is possible to cross the country East to West to the port of Aktau (Rodemann & Templar, 2014).

This connection was completed in 2014 after the an almost thousand km section (Zhezkazgan-Beyneu) was completed (Yang & McCarthy, 2013). This was the major enabaler of bypassing Russia on the China-Europe route, but also a vital connection for Kazakhstan and Central Asia to get access to Caucasus via ferries on the Caspian Sea. The port of Aktau was also continuously expanded, and also a second port was built to offer higher capacity (Kuryk) (Chubarov, 2019). Both ports feauter not only transloading of cargo and container capabilities, but also RoRo terminals for trains, entire trains can be loaded onto ships. This makes the transfer from tracks to sea much faster. The container transport service is available since 2019. The new port by Baku (Alat) can serve up to 12 million tons of cargo and 50 thousand TEU per year, with possibility for further extension. Aktau port can handle 11 million tons of goods, Kuryk up to 2,2 million tons (The Astana Times, 2024).

In Central Asia Uzbekistan and Turkmenistan have expanded their rail infrastructure – major lines have been electrified, new connections created. In the Caucasus region the Baku-Poti/Batumi railway line offers high capacity and fast transport times. The pots handled 12,4 million tons of cargo in 2022, additionally 477 thousand TEU (Ports Europe, 2023). The port capacities are sufficient both on the Black Sea and the Caspian Sea (Vasa & Barkanyi, 2023).

There is however a problem, the high transloading and waiting time. Containers and bulk cargo must spend on average 10 days in ports on both the Black Sea and the Caspian Sea (14. Figure). The current travel time from the Chinese-Kazakh border Dostyk/Khorgos to Constanta is approximately 25/23 days – from which half is spent in ports. This is similar to Istanbul, the total transport time is 30/28 days. The biggest potential to reduce transport time is to decrease transhipment time in ports – and that can be achieved with relatively low investment needs. According to the World Bank outlook, cutting waiting times in port to 3 days will reduce the transport time to Constanta by third (to just 16/15 days) and by almost half to Istanbul (16/15 days as well).

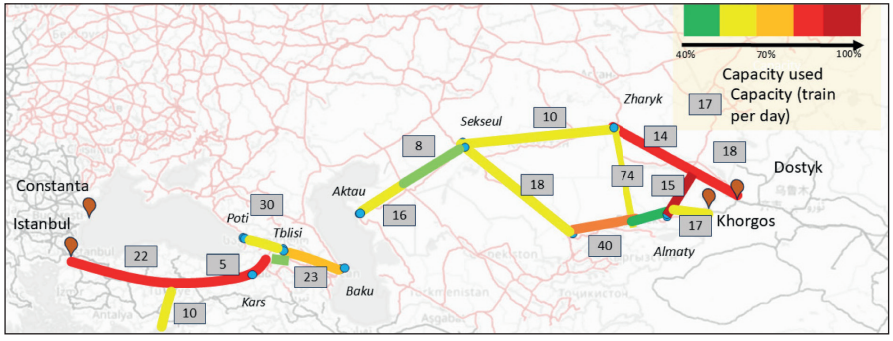
Not only travel time, but aloo capacity can be a limiting factor for further growth. Currently, the rail network has no constraints in



14. Figure. Transport time along the section of the Middle Corridor – Source: own editing based on World Bank data (World Bank, 2023)

capacity. But the current infrastructure cannot manage much more trains, as in certain sections the capacity is exploited. It is especially true for the Dostyk-Aktogai line and in the area around Almaty. Around Almaty works are ongoing to create extra capacity, the third Chinese-Kazakh railway border can help with the other bottleneck (Railway Pro, 2023). Also, the Baku-Tbilisi line is close to it's capacity. Here oil and oil products are the main commodity, around one third of the traffic (CAREC, 2021). At least partially these could be transport by pipelines, which could be the most efficient way to create new capacity.

The Baku-Tbilisi-Kars railway line is high capacity, double track, electrified between Baku and Tbilisi. From Tbilisi to Akhalkalaki – the



15. Figure. Capacity of rail line along the Middle Corridor Source: own editing based on World Bank data (World Bank, 2023)

transhipment point between broad gauge in Georgia and normal gauge in Türkiye – it is one track, but electrified. The transhipment facilities and the line have been update in 2024, now they can handle 5 million tons of cargo – up from 1 million prior (Karimli, 2024).

The Tbilisi-Kars-Istanbul rail line lacks capacity on its full Turkish section. The line east of Ankara is single track, non-electrified – the capacity is only 5 freight trains daily. There is no realistic chance of much higher capacity here. The whole Turkish rail network is characterised by low capacity.

In Türkiye there is a massive rail development project ongoing, but the focus is on high-speed rail (HSR). The opening of the Ankara-Sivas HSR line in 2024 is helping however the freight transport only minimally. The reason is, that east of Svias the capacity constrain was not changed. Also, in the area of Ankara the frequent suburban passenger train service is hindering the capacity of freight trains – they can pass that area practically only at night. Freight trains can be serviced until Ankara only by diesel haulage – that is costly and slow, has limitation on train length and tonnage. Also, the axle load is only 20 kN on most of Turkish network, the mountainous sections are less favourable for freight sections, signalling needs upgrades, which are all limiting effectiveness of the rail transport services. The liberalisation of rail transport services in 2000s helped to vitalize the rail freight transport sector (Çelebi, 2023). Despite that, Türkiye features very low modal share for rail – only around 5% and it is not growing in the latest decades, despite investment in rail.

The Turkish rail transport to connected to the European network, but basically only until Istanbul. The Halkalı terminal is a major part of the European intermodal transport network. That terminal is lacking capacity – but there is an infrastructure development project ongoing, to solve that (Rail Freight, 2024).

Between Ankara and Istanbul there is an operating HSR line, but on the electrified one track conventional line is still heavily used by commuter trains, therefore there is a lack of capacity for freight trains. Also, in Istanbul the Marmaray trains – a 77 km commuter train between Halkalı on the European and Gezbe on the Asian side – are using extensively the only tracks linking the two continents. The service is ongoing

from 6:00 a.m. to 12:00 p.m., on weekends until 1:30 a.m. There are only some hours for freight trains available to use it, but also maintenance works have to be carried out this time – therefore it is an extremely limited possibility. The tunnel is not open to dangorus goods – those are a sizable share of freight transport, like chemicals. The tunnel can manage only 21 freight trains per day maximally (Rail Cargo Group, 2024). Each freight train requires a separate license from the Turkish railways (TCDD) and it needs to be checked and controlled before entering the tunnel – it is a time consuming and costly task.

The most common way to cross the Bosphorus strait is either transloading to trucks or to ships. Between Asian and European side of Turkish rail network there is a rail ferry between Tekirdağ-Derince since 2013. The ports and ships have been privatized.

A possibility would be to use the Yavuz Sultan Selim Bridge for freight trains. The bridge was opened in 2013, but only for road transport. There is no deadline to open the connecting train tracks, but it will be used according to current plans for HSR. Maybe at night limited capacity for some freight trains can use the network, but again this can be a limited capacity. This will reduce reliability the lengthen transport times.

The Turkish state has an ambitious plan to upgrade the rail network, but it this is focused on HST and there is no detailed information about rail freight related developments. In the Transport and Logistics Master Plan 2053 there are no details available on these issue (Ministry of Transport and Infrastructure, 2022).

To enhance the efficiency and competitiveness of the Middle Corridor, a key area for improvement lies in streamlining customs procedures. This is not analyzed in this paper, but harmonization and simplification of regulations across all countries along the route is a cheap and fast possibility to reduce costs and accelerate transport speed. It can be easier and faster achieved than infrastructure development. As crossing borders takes on average three days (ranging from 1 to 4) according to World Bank analysis, reducing it can result several days of travel time reduction (World Bank, 2023).

Furthermore, digitization plays a crucial role in modernizing customs operations. Implementing electronic data exchange platforms

for customs declarations, payments, and risk assessments can expedite clearance processes. The development of a single window system, where traders can submit all necessary documents through a single online portal, would significantly streamline interactions with customs authorities. Leveraging data analytics can help identify and address bottlenecks, improve efficiency, and enhance risk management capabilities.

Also, infrastructure bottlenecks can be addressed by developing signaling and bottlenecks at marshalling yards, in rolling stocks. A formal network management institution could facilitate decision making, help regulatory harmonization and operational standardization on rail transport in the region.

Conclusions

The Middle Corridor has emerged as an important transport link between Europe and Asia, particularly in light of recent geopolitical developments, such as the Russia-Ukraine war and the subsequent sanctions on Russia. This corridor not only facilitates trade between China and Europe but also serves as a vital connection for Central Asian countries, enhancing their access to international markets. The historical context of the transport infrastructure, largely inherited from the Soviet Union, has paved the way for the establishment of new routes and initiatives aimed at improving connectivity.

Despite the potential of the Middle Corridor, challenges remain. The need for significant investments in infrastructure, regulatory reforms, and customs procedures is paramount to unlock its full capacity. Further coordination of infrastructure, customs processes and reduction of red tape can facilitate the transport demand on the corridor – decreasing transport costs, shortening transport time and helping further growth for trade and economic development for the Central Asian a Caucasus region.

The growth of trade volumes in the region are focused around minerals, but better and fester transport connections could help the rail

transport of high-value goods. While the Middle Corridor currently lags behind the China-Kazakhstan-Russia route in terms of travel time and container volumes, there is a strong potential for growth, especially if improvements can be made in port efficiency and railway capacity.

Looking forward, the Middle Corridor is set to play an increasingly vital role in facilitating trade not only between Europe and China but also for the landlocked Central Asian nations. With concerted efforts toward infrastructure development and enhanced cooperation among member states, the corridor's significance in global trade dynamics is likely to expand, positioning it as a key player in the future of trans-continental logistics.

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Afterword

This volume closes at a moment when the Turkic World stands at the forefront of a historical opportunity. The Middle Corridor, once an emerging concept of alternative transit, has matured into a platform where the Turkic States are no longer just participants, but principal architects of connectivity and cooperation across Eurasia.

Throughout the chapters, a consistent message emerges: the Turkic States along the Middle Corridor – Türkiye, Azerbaijan, Kazakhstan, Uzbekistan, Kyrgyzstan, and Turkmenistan – have begun to redefine the terms of regional leadership. Hungary, an observer member in the very center of Europe also made efforts to contribute to this transformation. No longer content with peripheral status, these countries are actively shaping trade, transport, and diplomatic routes that connect East and West. Through the Organization of Turkic States (OTS) and bilateral initiatives, they are institutionalizing a common vision rooted in sovereignty, pragmatism, and mutual advancement.

This book not only charts the infrastructure and logistics of the Middle Corridor but also reveals the deeper geopolitical and civilizational dimensions at play. In fostering East–West connectivity through the Caspian and Caucasus regions, the Turkic States have positioned themselves as custodians of regional resilience. In doing so, they are also safeguarding their autonomy in a competitive global order.

The Middle Corridor is more than a series of railways and ports - it is a corridor of identity, agency, and renewal. It enables the Turkic States to assert their shared heritage while accommodating diverse national strategies. Türkiye's "Re-Asia" initiative, Azerbaijan's strategic hub and keystone country ambitions, Kazakhstan's infrastructure leadership, and Uzbekistan's regional re-engagement all point to a polycentric but cohesive Turkic approach to Eurasia.

What is perhaps most striking is the ability of these states to navigate global power dynamics with a multivector diplomacy that remains

cooperative without being dependent. The evolving triangle between the Turkic world, China, and the European Union – alongside calibrated relations with Russia – underscores their growing confidence in international affairs.

This confidence is reinforced by a vision of the Middle Corridor not merely as a backup to other trade routes, but as a principal artery of the 21st century. Its success depends on continued investment, regulatory harmonization, and political will. But more fundamentally, it rests on a shared Turkic commitment to regional stability, economic diversification, and cultural solidarity.

We believe the Turkic States are well-positioned to translate this vision into reality. Their collaboration through OTS is evolving from symbolic unity into tangible progress. In many ways, the future of Eurasian connectivity will be shaped not in the boardrooms of distant powers, but in the capital cities of the Turkic world—where tradition meets innovation, and regional ambition meets global relevance.

The Organization of Turkic States (OTS) has become the primary political framework through which these ambitions are coordinated. No longer a symbolic cultural alliance, the OTS is transforming into a platform for real-world initiatives in trade, energy, logistics, and digital infrastructure. The institutional deepening of this body is a testament to the growing maturity of the Turkic cooperation model – one that values mutual respect, flexible alignment, and strategic pragmatism.

Each of the Turkic States has contributed uniquely and decisively to the success of the Middle Corridor: Türkiye, as both a NATO member and Eurasian gateway, has taken on the role of strategic integrator. Through the Baku–Tbilisi–Kars railway, the Marmaray tunnel in Istanbul, and its "Re-Asia" foreign policy strategy, Türkiye is both anchoring the Corridor in Europe and extending it diplomatically into Asia. Its leadership in promoting OTS initiatives, including the Turkic Investment Fund and regional energy cooperation, underscores its central coordinating role.

Azerbaijan has emerged as a logistical and energy linchpin. The Port of Baku and the Alat Free Economic Zone are setting new standards for multimodal connectivity across the Caspian. In tandem, Azerbaijan's

investment in green logistics and the development of the Zangezur Corridor demonstrates its ambition to evolve from a transit country into a shaping force in the region's geo-economic order.

Kazakhstan, with its vast geography and infrastructure leadership, is the bedrock of the Corridor. Through major upgrades to its rail systems (e.g., Dostyk - Moyinty) and ports (Aktau, Kuryk), Kazakhstan is demonstrating how strategic vision can be implemented at scale. Its "middle power" diplomacy and role as a key link between China and the West further highlight its pivotal status.

Uzbekistan, once regionally isolated, is now one of Central Asia's most dynamic actors. Since 2016, Tashkent has championed regional integration, modernized customs systems, and invested in logistics zones. Its bilateral and multilateral engagement within OTS has injected new energy into intra-Turkic economic and transport cooperation.

Kyrgyzstan and Turkmenistan each contribute vital corridors and linkages. Kyrgyzstan's geographic positioning and its participation in the China–Kyrgyzstan–Uzbekistan railway enhance north–south complementarity. Turkmenistan, with its Caspian Sea ports and neutral diplomacy, remains a valuable transit and energy partner, especially in east–west gas and transport infrastructure.

Hungary, situated in Central Europe also emerged as a strong supporter of various connectivity projects ranging from Green Energy to transport routes along the Middle Corridor. Moreover, it perceives itself as a bridge between Turkic States and the EU. Having the inspiration to boost its role as a regional transport hub and key transport route, it also launched its own railway project to facilitate trade to reach core EU countries.

Together, these states demonstrate that Turkic cooperation is not monolithic - it is modular, adaptive, and grounded in mutual benefit. The Middle Corridor is a product of this diversity, and its success is a reflection of how coordination across differing national strategies can yield a cohesive regional outcome.

The contributions in this book show that the Middle Corridor is not simply a geopolitical adjustment – it is the materialization of a shared aspiration: a Eurasian axis where the Turkic world reclaims its historic

role as the connective tissue between civilizations. If the 20th century defined Eurasia through division, the 21st - led by the Turkic States - may yet redefine it through cooperation.

It is with this conviction that we close this volume: confident that the rise of the Middle Corridor marks not just a geopolitical trend, but the beginning of a Turkic renaissance in Eurasia. As this volume concludes, one truth stands above all: the Turkic States are no longer at the edges of Eurasia—they are defining its center. From the shores of the Caspian to the plains of Central Asia and the Bosporus, the Turkic world has emerged as a driver of transcontinental integration through the Middle Corridor. This is not a reactive movement to external pressure, but a strategic project rooted in shared history, sovereign agency, and future-oriented diplomacy.

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ISBN 978-615-82707-0-0

Responsible for publishing: Balázs Hendrich Executive Director
Managing editors: Elbay Aliyev and Dávid Biró
Types set and design: Gabriella Fekete

Printed and bound by Grafit Pencil Nyomda Kft.
Responsible for printing: Gábor Szabó Managing Director