EURASIAN RAIL TRAFFIC DEVELOPMENT
SOUTHERN AND MIDDLE CORRIDOR

22 april 2021
WEBINAR START AT 10:00h CET

EURASIAN RAIL TRAFFIC DEVELOPMENT
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22 april 2021 10:00h – 12:00h
WEBINAR

Agenda

AGENDA OF TODAY

10:00 – 10:10	**Welcome**	Sandra Géhénot (UIC) Philip Van den bosch (UIC)
10:10 – 10:35	**UICs Eurasian Corridor Study with focus on the middle and southern corridor: presenting the conclusion**	Francois Davenne (UIC) Andreas Schwilling (Roland Berger) Xiang Li (Roland Berger)
10:35 – 11:25	**Running trains through the corridors: a shippers and operators perspective**	Sergio Barbarino (P&G) Alberto Grisone (HUPAC) Thomas Kargl (ÖBB Rail Cargo Group) Yekaterina Ryabushko (DB Cargo Eurasia) Xavier Wanderpepen (Forwardis)
11:25 – 11:45	**Institutional aspects of corridor development**	Roel Janssens (UNECE) Özgür ALGAN (TCDD) Iranian Railway authority
11:45 – 12:00	**Linking Eurasian corridors to the TEN-T network**	Asset Assavbayev (TRACECA)
12:00	**Conclusions**	Sandra Géhénot Sebastian Reimann

UIC and Eurasian Corridor development

Francois Davenne (UIC)

UICs Eurasian Corridor Study with focus on the middle and southern corridor

Andreas Schwilling & Xiang Li (Roland Berger)

INTERNATIONAL UNION
OF RAILWAYS

Roland Berger

Silk Road Middle and Southern Corridors

Presentation of main study findings

Paris, April 22, 2021

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Source: Roland Berger

A. Silk Road – Today and Tomorrow

We have accompanied the development of the Silk Road rail since its inception and are committed to deliver transparency and insights

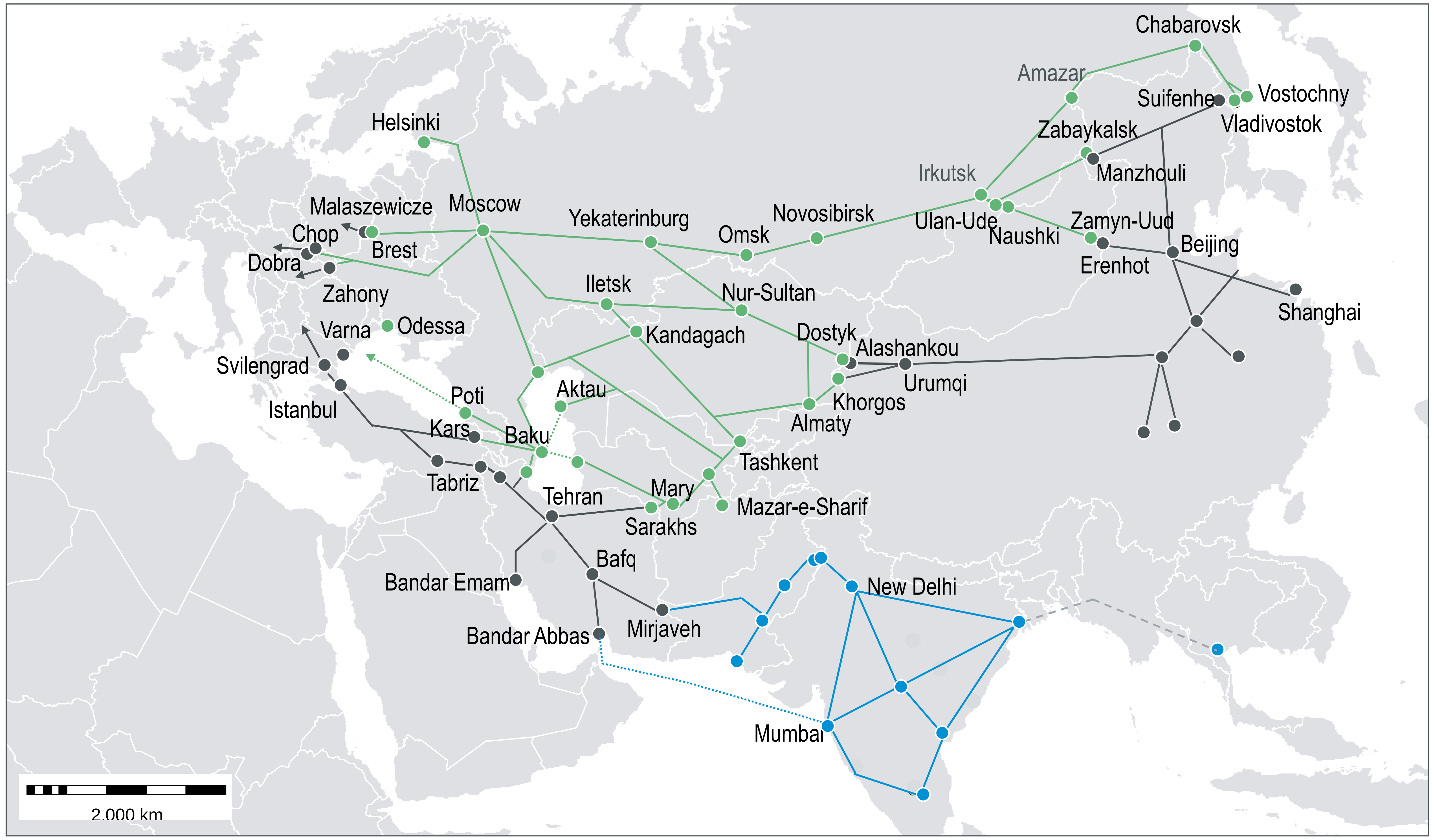
Our journey until now, objectives of this study

Beginning of Eurasian rail traffic	***Phase of rapid growth***	***Today – Vibrant Silk Road Market***
ICOMOD Study (2010)	2nd UIC Study (2017)	3rd UIC Study (2021)
• Market exploration • Initial study on rail market potential between Europe and Asia	• Transparency on status of development and forecast with focus on northern route • Performance evaluation of northern and southern routes	• Transparency on current situation and development of Eurasian rail traffic, volume forecast until 2030 for Silk Road and upside potential estimation for southern routes • **Focus middle and southern corridors**: transparency on current state (regarding geography, projects, market, services, players, etc.) and identification of bottlenecks and needs for action • Recommendations for players and UIC for corridor development

Source: UIC, Roland Berger

The Silk Road consists of three corridors – The northern corridor is the most developed

Silk Road corridor overview[1)]



Track gauge

1,520 mm — 1,435 mm — 1,676 mm

1 Northern corridor

The northern corridor links Europe and the Pacific, via Germany, Poland, Belarus, Russia, Kazakhstan, Mongolia, China, and South Korea using the Trans-Siberian Railway, followed by a ferry to Japan starting in Vladivostok

2 Middle corridor

The middle corridor goes from South-Europe to central China via the Trans-Caspian routes connecting Turkey (or bypassing Turkey via Black Sea), Georgia, Azerbaijan, Kazakhstan, and China

3 Southern corridor

Being characterized as the least developed, the southern corridor spans from South-Europe to China, connecting Turkey, Iran, Turkmenistan, Uzbekistan, Kazakhstan – with potential to link to South Asia

1) Conical projection to minimize visual distortion of distances; numbering based on route usage for Eurasian rail cargo transport

Involved countries invest in and promote Eurasian rail transport –Policies and subsidies support overall project development

Overview of recent developments

1 Policies

- Development of rail cargo volume supported by new policies (strategic partnerships for common tariffs within corridors, introduction of mechanisms to facilitate customs, lifting of sanctions) in recent years
- Negative impact and higher trade costs from new sanctions, new competitive free trade agreements (e.g. RECP), and inefficient trade procedures
- Increasing efforts by countries to harmonize processes and procedures and to simplify the financing of infrastructure projects
- Further efforts needed to support the Silk Road rail cargo development

2 Subsidies

- Chinese subsidies expected to decline in the long-term, forcing rail freight price to adjust and market to mature
- Rate and time of subsidy decline unknown as implementation and compliance on regional level differ
- Decline possible, but sharp drop or cancellation unlikely in near future as trains still not operating profitably
- Currently, subsidies between 2500-4500 USD/FEU
- Russian subsidies for transit container trains in form of reduction of track access charges (870 EUR/FEU for west- and 580 EUR/FEU for eastbound connections), eligible only for transit traffic handled via Russian companies

3 Projects

- Infrastructure and rail connection projects between Asia and Europe since 2013 mostly northern corridor focused
- Increasing interest in middle corridor as alternative route to China through the development of the Baku-Tbilisi-Kars railway in 2017 as well as projects in Kazakhstan, Turkmenistan and Uzbekistan
- Regular rail freight service from Turkey to China since December 2020
- Southern corridor via Turkey, Iran, Pakistan, and China currently not in place – Some projects under construction/planned
- Overall minor role for middle and southern corridors at the moment

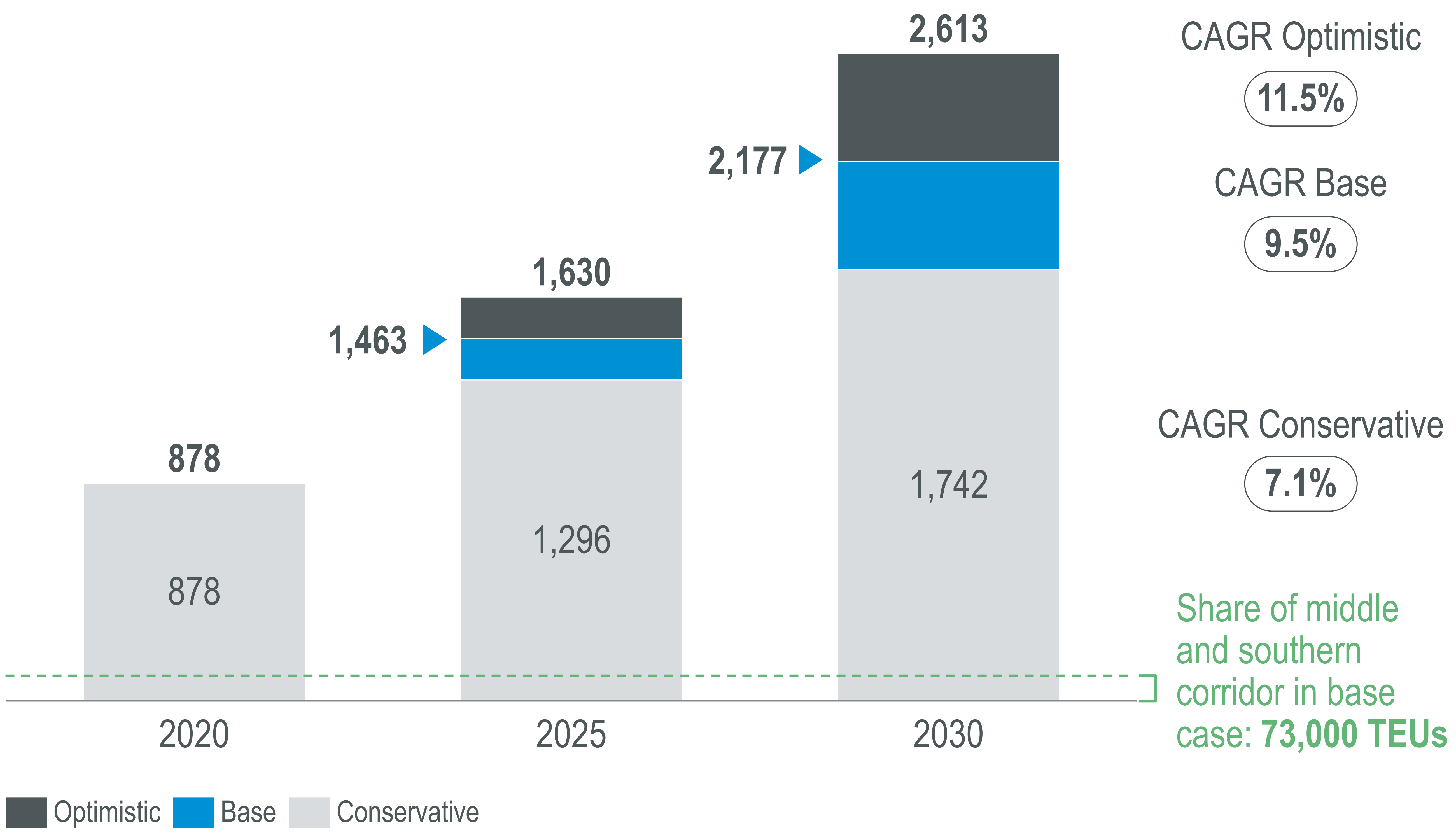
4 TEN-T connection

- Progress made for connection with European RFCs – In particular alternatives to Mala-Brest entrance expanded
- The construction of the Fényeslitke terminal at the Hungarian border as most noteworthy development
- Integration of Belt and Road Initiative and TEN-T complicated – BRI not well defined and not adequately planned within TEN-T projects and strategy
- Inflexibility when reacting to volume increase due to long duration of projects
- Further concerns from European side regarding Chinese rail dominance, unfair practices, etc.

The Eurasian Silk Road rail traffic is expected to continue to grow strongly, reaching 1.7-2.6 million TEUs by 2030

Rail transport volume forecast between Europe and Asia

Europe (excl. Russia) to Asia rail traffic [1] [in '000 TEUs]



1) Defined as EU28 (all European Union countries + UK) to Asia 5 (Kazakhstan, Mongolia, China, Japan, South Korea)

Key take-aways and assumptions

Strong growth for Silk Road rail traffic

Although slower than previous years, the Eurasian Silk Road rail traffic is expected to continue growing strongly in the higher single digits, reaching approx. 2.2 m TEUs until 2030

Rail expected to be a stable alternative

Currently, rail has only a ~2% share of containerized traffic, experts expect the share to increase gradually over the years but will stabilize at ~4-6%, as there will always be goods that need the low cost of sea and the high speed of air. If the rail performance can be further improved without cost increase, an upside of up to 10% share is possible

Better filled containers as result of less imbalance

It is expected that the trade imbalance will improve as more freight will consider rail as a viable option. This leads to less empty and better filled containers

Southern route will grow, but remains minor

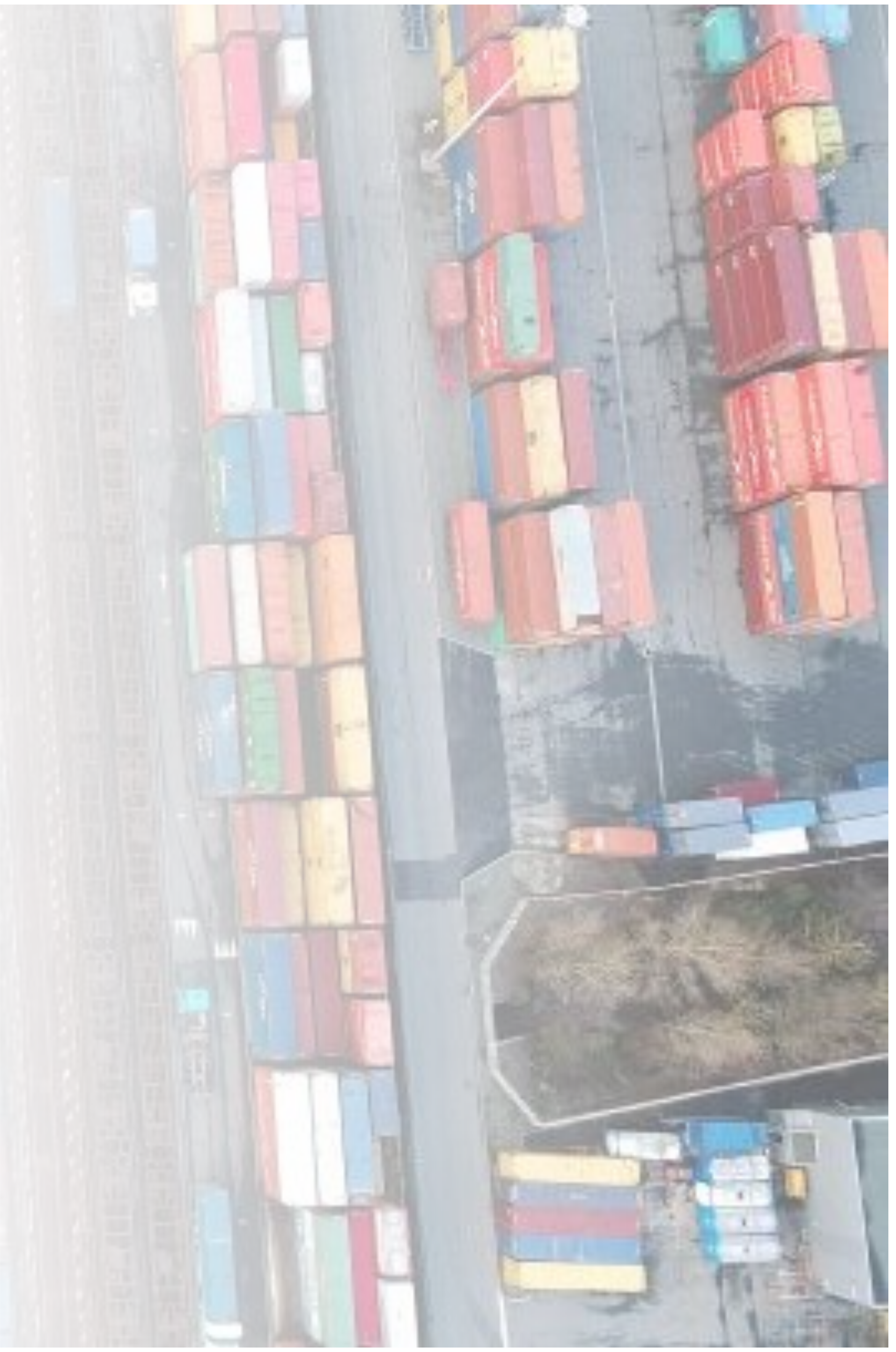
The southern and middle corridors can obtain more share based on trade flows within their natural catchment areas if they can become more competitive in performance – Even so they are likely to remain minor

Source: Expert interviews, Roland Berger

B. Middle and Southern Silk Road Corridors

The middle and southern Silk Road corridors are still in nascent stages in terms of market and service – Projects are going on

Current situation on middle and southern corridors

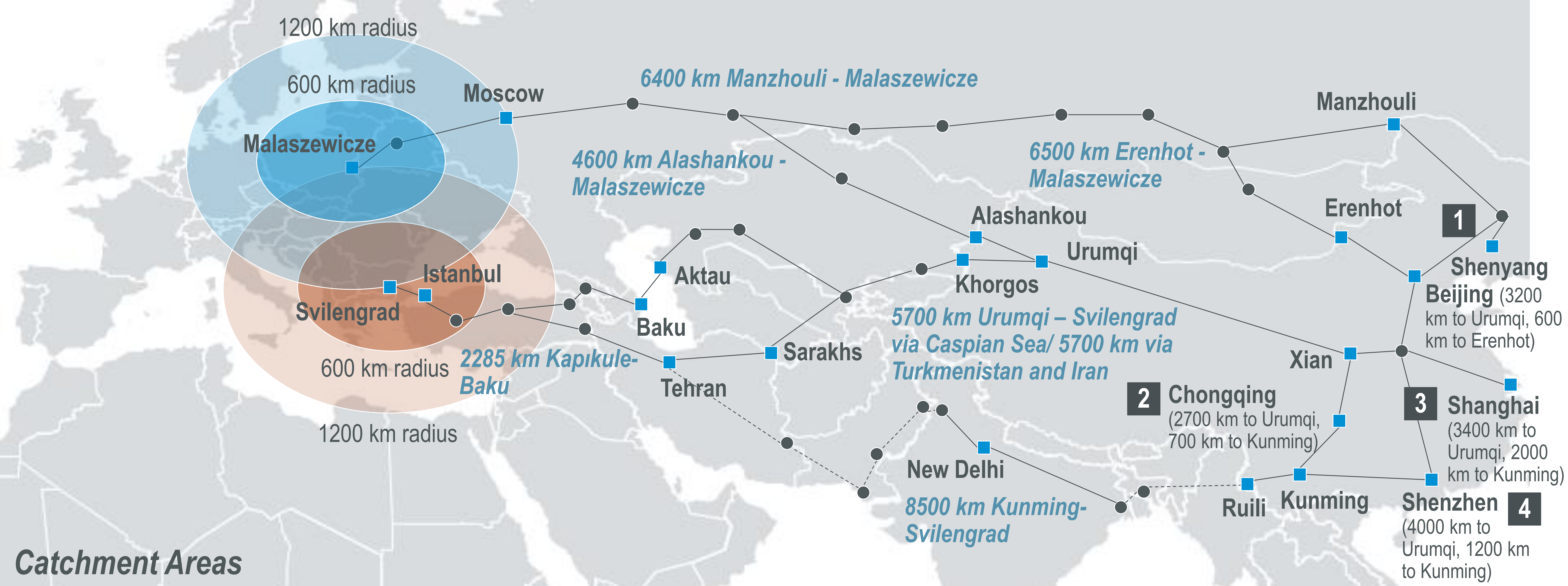


1. Natural catchment areas with limited demand potential
2. Scarcity of active players on corridor
3. Limited scheduled train service
4. Limited and non-scheduled ferry services
5. Many ongoing projects and initiatives

Source: Roland Berger

Geographically, the southern and middle corridors are only advantageous for a few niche destinations

Catchment area for Silk Road rail routes



- Geographically, **Mala-Brest superior** for most **Central and all Western** European destinations, Svilengrad better for South East Europe only
- For major Chinese industrial clusters in **Central West China, Central China and Yangtze delta**, via Alashankou and Kazakhstan **northern route** is by far the **superior** alternative; Erenhot and Manzhouli have indisputable advantage for the North East industrial cluster and Beijing. Distance-wise, **middle and southern** corridors are **advantageous** for **Turkey** and **Bulgaria** for most CN origin cities
- For **Pearl delta** industrial cluster and **South Asian destinations, southern route** via India is the **better** (and for South Asia the only) alternative

1 North East industrial cluster (Shenyang, Harbin, Changchun)

2 South/Central West industrial cluster (Chongqing, Chengdu)

3 Yangtze delta industrial cluster (Shanghai, Yiwu, Suzhou)

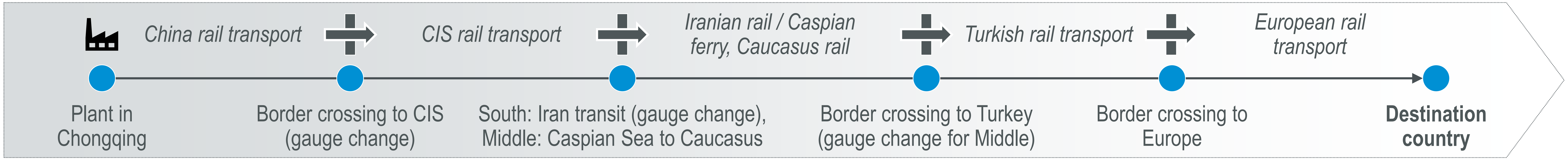
4 Pearl delta industrial cluster (Guangzhou, Shenzhen, Zhuhai)

■ Major cities and border points ● Important transit points —— Rail routing (dashed for uncertainty)

Source: Google Maps measurements, Desk research, Roland Berger

The middle corridor still lacks powerful integrators – There is no player offering marketable service on the southern corridor

Players along the value chain



Chinese logistics platform

- Freight volume collection, set up and organization of Silk Road trains
- Provision of local connection and arrangement of subsidies

Broad gauge traction & infrastr.

- Traction service, wagon provision, and infrastructure access for rail service in broad gauge countries

Caspian/Black Sea ferry operator

- Offers regular and chartered ferry service to carry containers from Aktau to Baku
- For Black Sea: offers ferry service between Poti-Varna/Odessa

IR and TR traction & infrastructure

- Traction service, wagon provision, and infrastructure access for rail service in Iran and Turkey

European carrier & infrastructure

- Traction service, wagon provision, and infrastructure access for rail service in Europe

Terminal operator

- Operation of terminals at border crossings and key transit points

Silk Road operator

- Train operation and coordination from Chinese border to Europe

Freight forwarder

- Last mile transportation service, point of contact for clients

There are few scheduled services on the middle corridor – Only occasional pilots were run on the southern corridor

Pilot trains and services on the middle/southern corridor

Trains	Days	Frequency	Start	Type	Comments
Istanbul/Turkey-Azerbeijan-Kazakhstan (Khorgos)-China/**Xian**	15	2x per week (planned)	2020	Pilot (to become scheduled)	Piloted on 4th Dec. 2020, carrying 42 containers with refrigerators, passing Marmaray tunnel and Baku-Tbilisi-Kars railway
Xian/China-Kazakhstan (Khorgos)-Georgia-Turkey/**Izmit**	18	1x per week	2020	Scheduled	Started by Maersk as part of its intercontinental rail network starting from May 2020, every Tuesday of the week
Jinhua/China-Kazkhstan-Azerbeijan/**Baku**-Turkey/Southern Europe	15-18	-	2020	Pilot	Piloted on 10th Sep. 2020, containing electrical and metal tools, consumer products, travels via Khorgos, Aktau, and then to Baku
Lianyungang/China-Kazkhstan-Azerbeijan-Georgia-Turkey/**Istanbul**	18-19	3x per month	2018	Scheduled	Piloted on 28th Nov. 2018, carrying 21 containers of machinery, electronics, consumer goods. Now 3x per month on 8th, 18th, 28th
Hohhot/China-Kazakhstan-Turkmenistan-Iran/**Bam**	15	-	2018	Pilot	Piloted on 4th Sep. 2018, carrying 41 containers with goods (machinery, automotive parts), planned to be 2x monthly
Chengdu/China-Kazakhstan-Azerbeijan-Georgia-Turkey/**Istanbul**	15-16	N/A	2016	Scheduled	Piloted on 6th Sep. 2016, carrying 41 containers with goods from Shanghai and Shenzhen
Shihezi/China–Kazakhstan–Azerbaijan/**Kishly**	6	N/A	2015	Scheduled	Piloted on 28th Jul. 2015, carrying 82 containers of caustic soda, passing Dostyk and Aktau port

Source: Desk research, Roland Berger

Only ASC is operating ferry service across the Caspian Sea – Black Sea services are operated by Navibulgar and UkrFerry

Ferry services on the intermodal sections of southern and middle corridors

Sea routes	Ferry operator	Services	Equipment	Comments
Caspian Sea 	ASC	• ASC - Alat (near Baku) – Kurik (near Aktau, no scheduled service) • ASC - Alat – Turkmenbashi (no scheduled service)	• 13 ferries, average age 25 years old, of types: Daghistan (28 wagons), Academician Zarifa Aliyeva (52 wagons), Barda (54 wagons) • 3 Ro-Ro vessels, average age 36 years old	• ASC is the only company with own ferry vessel fleet at Caspian Sea, price at 1200 USD/FEU • Used to have very unstable service due to bad weather – Larger fleet improved situation
Black Sea 	UKRFERRY	• Navibulgar – Chornomorsk (near Odessa) – Poti 48 hours • Navibulgar – Varna – Poti 54 hours • UkrFerry – Chornomorsk – Batumi/Poti 59 hours	• Navibulgar 2 ferries, each with carrying capacity of 108 wagons • UkrFerry 3 Ro-Ro vessels, average age 34 years old, each capable of carrying 50 rail cars	• The rates by UkrFerry are perceived as high with 2000-2400 USD per wagon + special tariffs up to 1700 USD and the ferries are outdated and slow • Rates by Navibulgar for trucks depend on types of goods, ranging from 700 to 4700 USD
Indian Ocean 		• Evergreen Marine Corp – Port Kelang – Singapore – Nhava Sheva – Dubai – Jebel Ali – Bandar Abbas – Mundra – Nhava Sheva – Port Kelang (weekly)	• Four 1,100 TEU vessels on 28 days round trip service	• There are currently two direct lines connecting Mumbai, Mundra, Chabahar, and Bandar Abbas • Unclear whether the EMC service is counted towards the two existing lines

Source: ASC, Navibulgar, UkrFerry, Roland Berger

While some infrastructure projects focus on Trans-Caspian route, Iran and Turkey are also heavily investing in railway infrastructure

Selected infrastructure projects on southern routes

Turkey

- **Domestic:** Doubling of the Plovdiv-Istanbul line including upgrades to the Svilengrad-Kapıkule border crossing in Bulgaria planned
- High speed railway development program linking, e.g. Istanbul-Edirne, Ankara-Izmir
- **BRI:** Construction of rail logistics centers in Kars and Izmir/Kemalpasa
- Turkey and Iran plan to attract foreign investment for Kars-Tabriz railway link after feasibility study ended in March 2020

Iran

- Electrification upgrade of the Tehran-Mashhad line with a length of 926 km – Currently under construction
- **BRI:** Launch of the 225 km long Khaf-Khorosan Razavi-Herat border to connect Iran with Afghanistan for a total investment of USD 665 m
- **North-South Transport Corridor:** In December 2019, Iran and Azerbaijan started construction of the 130 km long Rasht-Astara railway that will link Iran with the 2018 established Astara terminal
- **North-South Transport Corridor:** Railway to connect Chabahar is being construc-ted (finished in three years)

Georgia

- **Connectivity to the Black Sea:**
  - For EUR ~100 m, a new deep-water terminal will be built in the port of Poti, which will enable it to receive additional 2.5 m tons of cargo per year
  - **Eastern Partnership joint policy initiative:** EU provides EUR 233 m for Anaklia port development under the EaP[1)]
  - **CAREC:** Construction of new railroad link to connect Anaklia to the railroad network of Georgia

Azerbaijan

- **International North-South Transport Corridor:** Modernization prepared of the 167 km Sumgait-Yalama Railway section as a response to the reconstruction of the Baku-Sumgait section to enable time and cost savings for cargo operations
- **CAREC:** Modernization of Baku-Yalama and Alat-Astara railways to increase speed from 40 km/h to 120 km/h currently under construction

Turkmenistan

- **CAREC:** Modernization of railways between Turkmenabat, Mary, Ashgabat and Turkmenbashi
- **China, Turkmenistan, Uzbekistan corridor initiative** - Launch of the Bereket-Etrek-Turkmenistan-Iran border railway after government of Turkmenistan received funding from IsDB[2)]
- The port of Turkmenbashi has received substantial investment and project contracts are signed. It is expected to gain importance in the future

1) EU-Eastern Partnership; Islamic Development Bank

Source: Desk research, Roland Berger

The time is ripe for the development of the southern routes despite current hurdles

The case for middle and southern Silk Road corridors

Decade of rail brought by need for sustainability

- Countries along the corridors ready to commit to corridor development
- Rail put in spotlight by calls for sustainability and CO_2 reduction – Time to act is now

Reduced development effort due to existing infrastructure

- Infrastructure on middle and southern corridors already in place, with TITR as operator
- Avoidance of detours by applying best practices from northern route

Demand confirmed to justify investment

- High demand potential for countries in catchment and specific goods
- Demand amplified if further regions are connected

Complemented system with development of the south

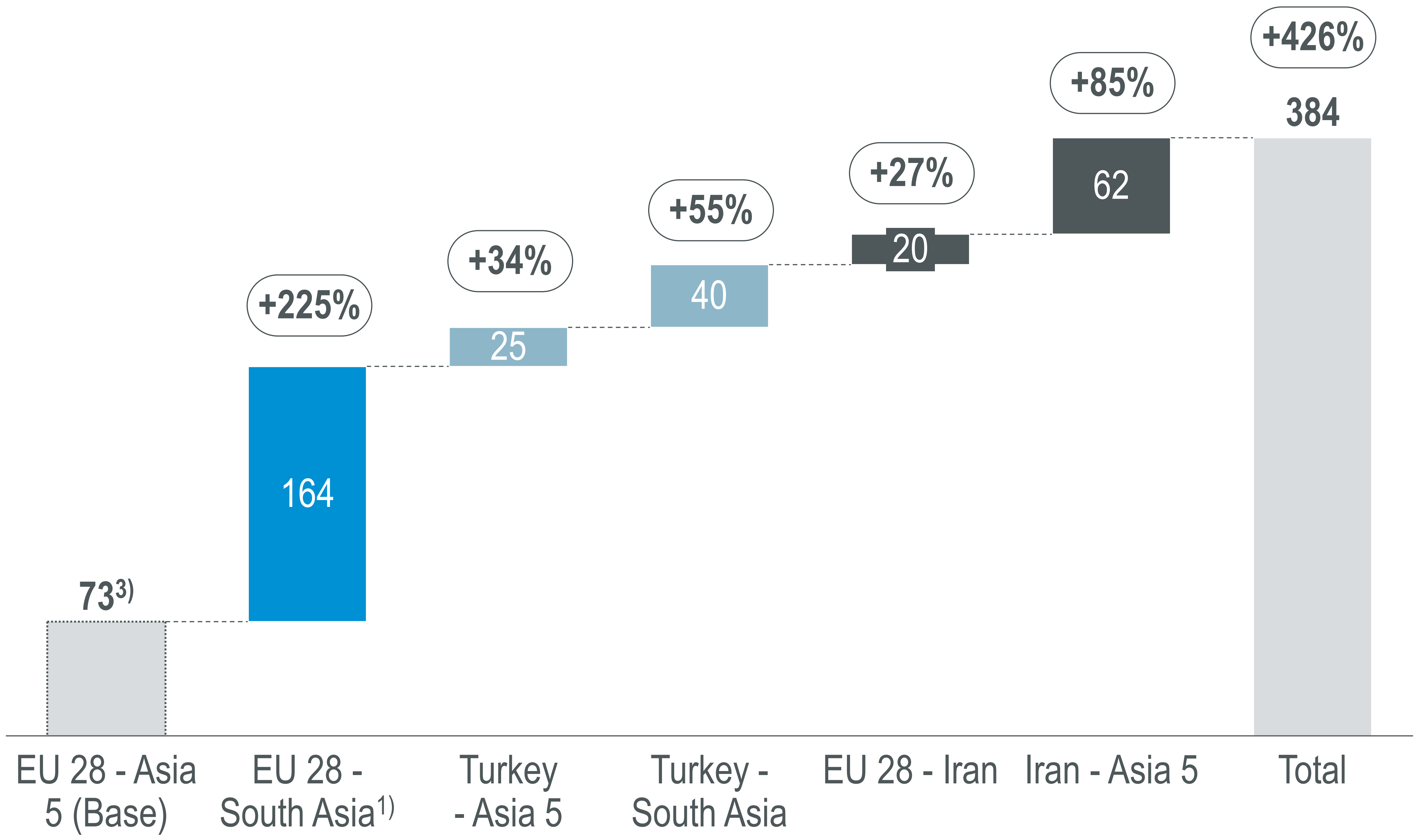
- Increased competition, faster maturation with development of southern routes
- Hedge for shortage and uncertainties in the north, more stability in system

Source: Roland Berger

Traffic from traditional Eurasian flows has limited potential for middle and southern corridors – But total potential of 400k TEUs

Middle and southern corridors volumes and upsides

Volumes middle & southern corridors and upsides[2)] ['000 TEUs]



Key take-aways and assumptions

Middle/Southern corridor will not become significant with "traditional" Eurasian flows alone

"Traditional" flows between Europe and the Asia 5 countries will not create enough flow to form a booming market. This is mainly due to the natural catchment area of the southern and the middle corridors and the heavily used, high performing alternative in the north

Major potential comes from upsides with countries that have no other alternative

For countries like Turkey, Iran, and the countries in South Asia, the southern and the middle corridors are not only the natural, but the only rail route. Those volumes will not be split with the northern route and can thus be considerable

All upsides come with heavy pre-conditions that need to be met

South Asia, esp. India, has huge potential volume-wise. However, it can only be realized if political rivalries with Pakistan can be resolved or circumvented and if the rail connection towards Myanmar is established. Similarly, Iran's potential is heavily depending on the status of the country's sanctions

1) Defined as Pakistan, India, Nepal, Bangladesh, Myanmar, Thailand. Of the potential with EU, majority >50% is attributable to India
2) All numbers for the year 2030, upsides only refer to flows with enough distance between them, but not adjacent flows 3) The 73,000 TEUs are included in the base case calculation on prev. slide, the upsides are excluded

Source: Expert interviews, Roland Berger

C. Gaps and Bottlenecks

The middle corridor has made noteworthy progress during the last survey whereas the southern corridor is stagnating

Evaluation of success factors for middle and southern corridors

Parameter	Importance for rail link	2017 Results[1)]	Middle Corridor	Southern Corridor	Comments regarding southern routes
Transport time	◕	◔	◔	○	• Speed significantly slower than on northern routes • Long distance, more border crossings, and modal changes
Reliability	●	○	◕	○	• Regular service on middle corridor with reliable performance • No regular service on southern routes
Availability	◑	○	◔	○	• Minimal regular service on middle corridor but frequency not sufficient; no service on southern corridor yet
Balanced flows	◕	◔	◑	◔	• Smaller Eastward transport volumes also true for middle corridor – Generally base demand is comparably small, additional streams need to be unlocked
Price	◕	◔	◑	◑	• Infrastructure costs not significantly higher, however lower efficiency results in higher cost in the end • Middle and southern corridors are not subsidized
Customs	●	◔	◑	◑	• Customs processes are no longer perceived as game breaking, but still optimization possible compared to northern corridor

Legend: Higher filling of importance harvey balls shows higher importance; For corridor assessment fully harvey balls show relative performance compared to northern corridor, with full balls showing better performance, 3/4 being on par with north and empty meaning the criteria cannot be assessed due to lack of service

1) The 2017 survey did not differentiate middle and southern corridors. The evaluation system was different. The results are translated into the new system

Lack of reliable service and northern competition is preventing the southern routes from unlocking their potential

Bottlenecks – Market, services and demand

Views from experts

"We are trucking our Turkish cargo to Budapest to use Russian rail. If you give me Istanbul-Shanghai in 18 days, I'm there" - Operator

"These can be huge markets (TR, IR, KZ)…But you know, sometimes demand is there just because they simply cannot go elsewhere" - Shipper

"I need predictable, fixed schedules – There are current-ly just not enough frequencies" - Operator

"We looked at the middle corridor because of Russian embargo, now they solved it – And I need T2T[1] only 14 days, Turkey more than 30" - Operator

Key take-aways and bottlenecks

1 **Good theoretical demand perspective for countries on southern routes**
- Turkey, Kazakhstan, and Iran certified to have high demand potential
- Willingness to attempt connection given resolution of complications
- Preferred route for temperature-controlled goods

2 **Low service level and the chicken-egg deadlock between supply and demand**
- Poor availability and quality of rail and ferry service on the middle corridor
- Higher cost due to lack of efficiency despite comparable cost of infrastructure – Diminished competitiveness of rail
- Without much demand, no incentives for increased service

3 **Heavy competition from far superior alternative from the north**
- Northern route vastly outperforming in terms of transit time and cost (14 vs. 30 days), reliability, and complexity
- Phenomenon of redirection of southern demand to northern route

4 **Smaller catchment for southern routes in Europe**
- Geographically no advantage for majority of European countries to use middle and southern corridors
- Particularly after better connectivity of Hungary with northern route

1) Terminal to terminal 2) Particularly for rail in Turkey and Turkmenistan, Caspian Sea waiting time can reach 4-5 days

For infrastructure, there are under-developed areas that need to be addressed – Capacity regarding further growth is put into question

Bottlenecks – Infrastructure

Views from experts

"If you realize that on broad gauge the trains are taking 7 days and in Europe 12, you know where the problem lies" - Carrier

"Infrastructure in Eastern part (of Turkey) has for sure room for improvement" - Operator

"Currently, the infrastructure in UA is ok, but we need investment at border points if volume really goes up as we want them to" - Carrier

"Sometimes, if the ferries do a wrong manoeuvre, they are out of service for two days. It's a magical lake (Van)" - Operator

Key take-aways and bottlenecks

1 Good rating for broad-gauge infrastructure, doubt regarding further growth

- Kazakh broad-gauge infrastructure with high spare capacity and good performance and connection (Section West of Khorgos of ~100 km in need of reconstruction)
- Terminals not perceived as bottlenecks, except the ones on Kazakh-Chinese border
- General doubt about capacity in the system considering the substantial rise of traffic volume

2 Infrastructure in Eastern Turkey and Turkish rolling stock to be improved

- Sections of tracks in Eastern Turkey are single track and non-electrified
- Occasional rolling stock shortage in Eastern Turkey due to trade flow imbalance
- Van Lake ferry service perceived to be unreliable – Rail construction around the Van Lake planned, but realization time consuming

3 Suboptimal infrastructure in Southeast Europe and lack of coordinated effort

- European infrastructure perceived as problem due to low priority of freight trains and interoperability issues
- Infrastructure in Romania outdated and in need of reconstruction, hampering growth
- Lack of coordinated effort between countries regarding infrastructure projects to guarantee continuous traffic flows

Customs is generally more complicated for rail – Digitization and coordinated harmonization are major improvement potentials

Bottlenecks – Customs and border crossing

Views from experts

"Between Kazakhstan and Russia there are basically no borders, on the middle corridors there are so many" – Int. Org.

"Sometimes the customs is not built in the terminal, if they need to inspect rail cargo, they need to truck it to the customs, open it and truck back – That is kind of ironic" – Int. Org.

"Of course there are problems with customs, but they are normal 'customs problems' – Nothing we cannot handle" - Operator

"The current consignment note in paper form leaves room for corruption and increases time due to bad translation" – Int. Org.

Key take-aways and bottlenecks

1 Customs perceived to be manageable but with a lot of improvement potential

- Number of border crossings and non-efficient customs processes as bottlenecks
- Border crossing procedures perceived to be cumbersome but manageable by operators
- Mostly "first time" issues or "normal" problems

2 Lack of data digitization and CIM/SMGS harmonization complicating processes

- Many documents such as consignment notes and declarations still done with paper at certain borders – Time-consuming and error-prone processes
- Common CIM/SMGS consignment note is still not accepted in Turkey, Uzbekistan, Tajikistan, and Turkmenistan

3 Suboptimal physical infrastructure at some border crossing points

- Lack of modern systems and qualified personnel at some customs
- Cargo inspection difficult and time-consuming (due to trucking) if customs not integrated in terminal

4 Rail naturally more difficult for customs due to inherent characteristics

- Long distance over land in the transit country mandatory for rail cargo
- Customs mandated to conduct stricter controls for hazardous and illegal goods

Source: Expert interviews, Roland Berger

Geopolitical tensions are often cited as major roadblocks for middle and southern corridors – Especially with many parties involved

Bottlenecks – Politics and policies

Views from experts

"… And there are always the political tensions, it is always a political issue" – Int. Org.

"We have many American customers, they will never let us transit through Iran" - Operator

"The biggest problem for us is, there is currently no subsidies for the middle corridor" - Operator

"There is no coordinated alliances, each country is trying to attract volumes on its own" – Int. Org.

"Russia has never really relinquished its control over Central Asia" – Operator

Key take-aways and bottlenecks

1 Middle corridor even less competitive with lack of subsidies

- Northern route outperforming and subsidized – High priority given to northern routes by Chinese subsidies due to their importance
- Middle corridor subsidies discussion started with Xi'an but interrupted by COVID-19
- Subsidies from China or countries along the route as potentially effective way to kickstart the market

2 Individual political efforts and lack of coordinated corridor management

- Many corridor strategies and initiatives ongoing around Central Asia – Currently, missing centralized coordination of efforts
- Many countries trying to attract volumes individually – Without effective alliance
- Coordinated corridor management needed to direct all resources towards efficient development

3 Complicated situation aggravated by sanctions and geopolitical tensions

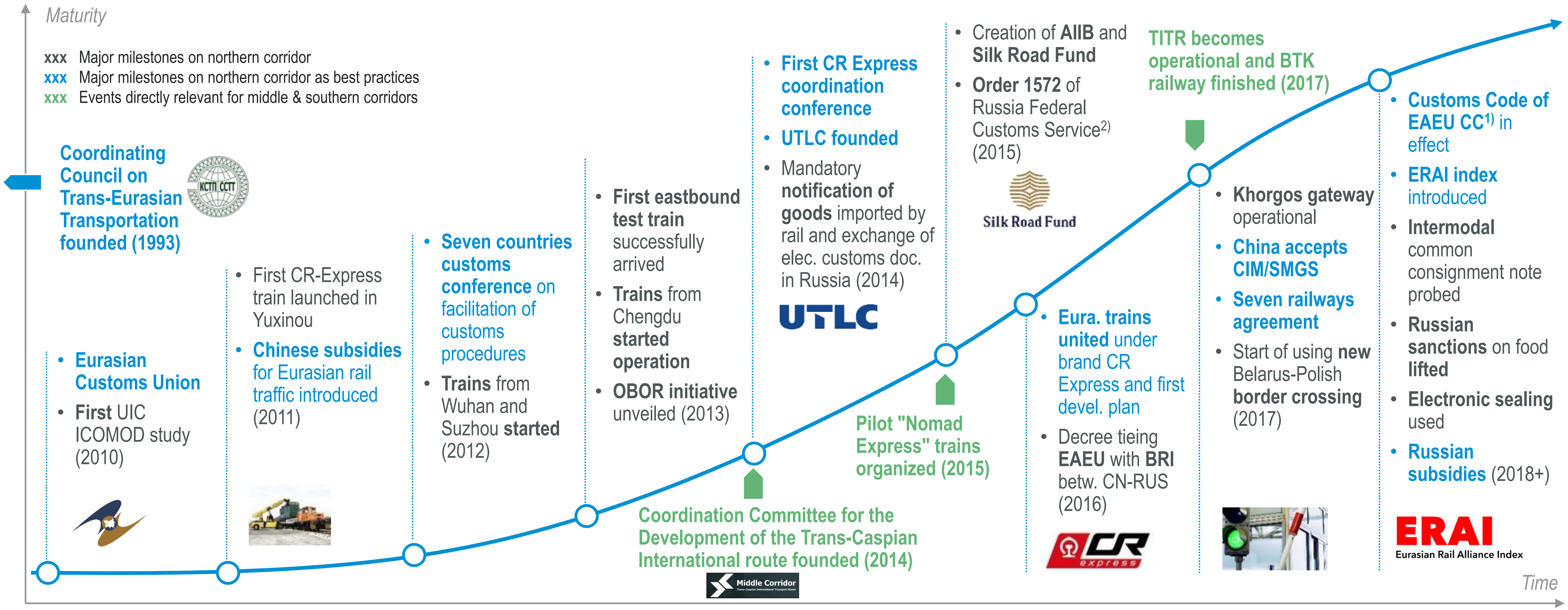
- Naturally higher complication with more countries involved on middle and southern corridors
- Iranian sanctions blocking all possibilities for the southern corridor
- Geopolitical rivalries and cultural tensions standing in the way of effective collaboration (particularly South Asia)

Source: Expert interviews, Roland Berger

D. The Way Forward

Multilateral effort on many fronts was necessary to make the northern route a success – Southern routes several years behind

Major milestones on the Silk Road corridors



1) Eurasian Economic Union Customs Union 2) On Approval of Procedures for the Use of Uniform Automated Customs Information System for Completion of Customs Formalities with Respect to Railway Vehicles and Goods Transported by Railway Vehicles as Part of International Freight Traffic Subject to Submission of Documents and Information in Electronic Form

Source: ZBW, MPRA, OBOR, UIC, CCTT, Desk research, Expert interviews, Roland Berger

The development of middle and southern corridors needs joint efforts from all players

Fields of action for players on middle and southern Silk Road corridors

Awareness and promotion
- Promote and advertise middle corridor to European and Chinese stakeholders
- Pinpoint and address concerns to instill trust in the system and to trigger demand

Key players: *UIC, all key stake-holders on corridor*

Cooperation and coordination
- Involve more stake-holders into corridor development process
- Intensify cooperation between countries and national carriers
- Create platform to bundle and coordinate corridor management programs

Key players: *UIC, TRACECA, UNECE, other int. org.*

Digitization and harmonization
- Digitization and harmonization considered as major uplift potentials
- Spread usage of CIM/SMGS (intermodal) consignment note
- Foster digitization of customs processes
- Adapt transit guidelines and foster cross-national customs alignment

Key players: *CIT, CCTT, WCO*

Operationali-zation
- Ramp-up frequencies and improve service level on middle corridor
- Establish integrator role with contact to end client and marketable product
- Improve transparency on fares & tariffs, transport status, service schedule, etc.

Key players: *Operators, national railways*

Investment and public support
- Continuous investments in rail infrastructure, border crossings, and ferries, with primary focus on bottlenecks
- Enter dialogue and secure direct or indirect subsidies (in form of reduced tariffs) from China and countries along the corridor

Key players: *TITR, countries along corridor*

Source: Roland Berger

UIC should continue to help raising awareness for middle corridor and strive to enable an economical operation

UIC action modules part of the Freight Department multiregional work plan

Raise awareness for southern routes

Organize two corridor conferences to promote corridors and foster collaboration of all involved stakeholders

Establish cost competitiveness

Launch dialogue with CN-regions on subsidies and connect MDBs and carriers to provide loans for fixed schedule services

Strengthen operationalization

Offer assistance to strengthen TITR's performance and standing, initiate talks on establishment of integrator

Promote harmoni-zation and digitization

Harmonize technical standards and processes along transport route, promote digitization of documents and processes

UIC Actions

European politics can support the development of the middle and southern corridors by five direct and indirect actions

Fields of action for European politics[1)]

Coordinating BRI and TEN-T

- Addressing current concerns (e.g., unfair practices), establish legal guardrails to increase participation of European players
- Planning integration of BRI as it is not adequately planned within TEN-T projects and strategy yet
- Leveraging BRI for Eastern European countries to improve condition of their infrastructure

Establishing favourable legal framework

- Creating legal framework to facilitate adaption of CIM/SMGS consignment note in EU and EUCU (e.g. in Turkey)

Establish general enabling conditions

- Solving issue of depriorization of freight traffic in order to reduce intra-European transit time (e.g. in Germany and Poland)
- Improving interoperability of rail systems between European countries

Increased and coordinated investments

- Increasing infrastructure investment, e.g., to create capacity through additional entrances to EU from which middle corridor can benefit
- Creating coordinated infrastructure investment management between countries along key rail routes in EU

1) To communicate to European decision-makers by international organizations with respective networks (e.g. TRACECA)

Source: European Commission, Expert interviews, Roland Berger

Joint efforts are now needed to make the development of the middle and southern corridors a success

Conclusion

Northern corridor has been an exceptional success story

- Multiple best practices as milestones for efficient Eurasian rail operations
- Impressive volume growth in <10 years

Timing is right for middle and southern corridor

- Increased demand
- Need for sustainability and increased environmental awareness

UIC study on the Silk Road identifies needs for action, e.g.

- Increase harmonization & digitization
- Establish integrator
- Establish financial support

Joint effort is now needed to take the step forward

- Next steps drafted
- Collaboration needed

Source: Roland Berger

Running trains through the corridors: a shippers and operators perspective

Sergio Barbarino (P&G)
Alberto Grisone (HUPAC)
Thomas Kargl (ÖBB Rail Cargo Group)
Yekaterina Ryabushko (DB Cargo Eurasia)
Xavier Wanderpepen (Forwardis)

INTEROPERABILITY

Rail Cargo Group
Member of ÖBB

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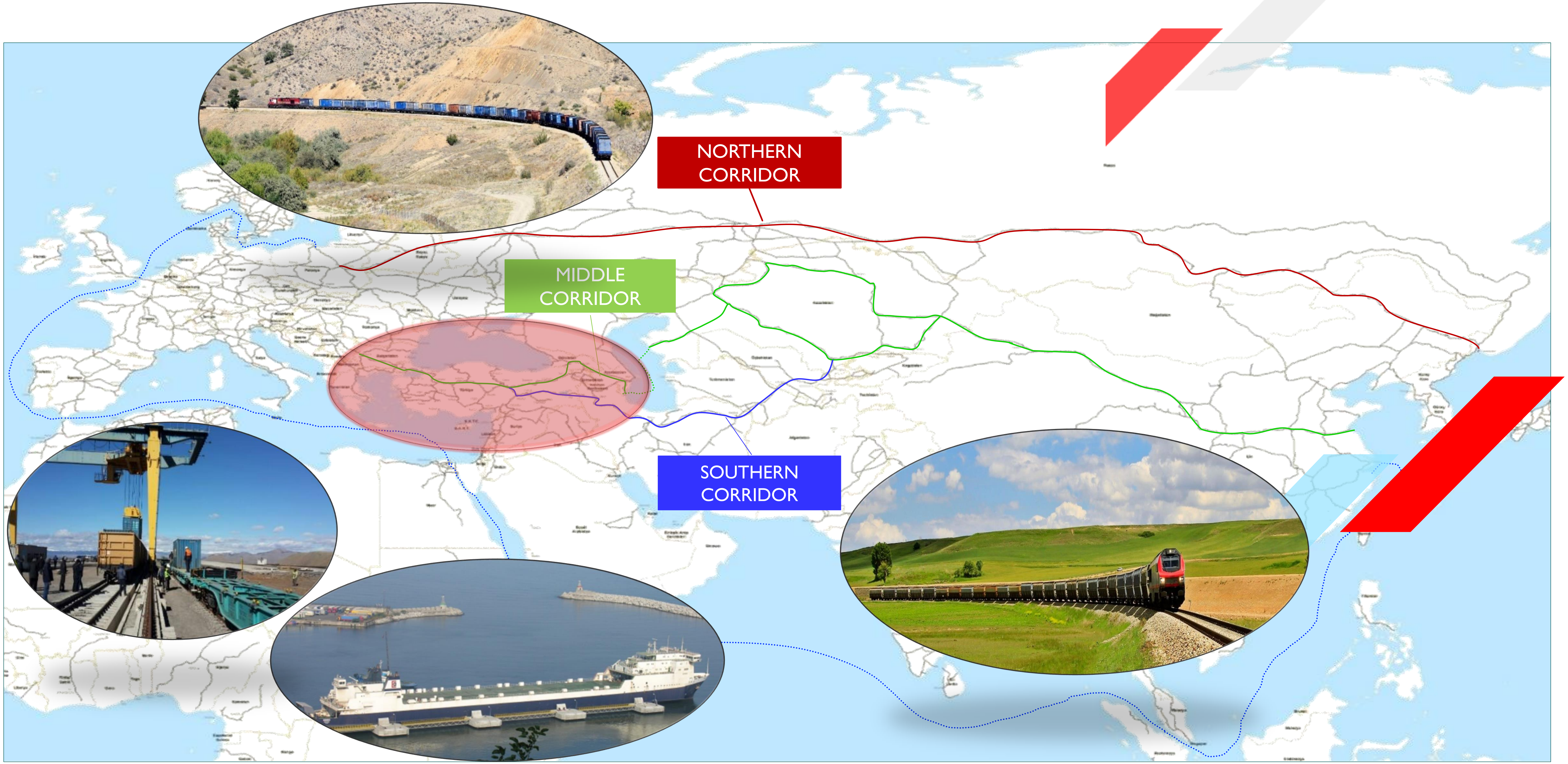
Institutional aspects of corridor development

Roel Janssens (UNECE)
Özgür Algan (TCDD)
Representation from the Iranian Railway authority

Roel Janssens (UNECE)

Özgür Algan (TCDD)

EURASIAN RAIL TRAFFIC DEVELOPMENT:
OPPORTUNITIES AND CHALLENGES FOR THE SOUTHERN AND MIDDLE CORRIDORS



22.04.2021

Turkish Railways Current Status

TCDD

Management of rail traffic

Maintenance of Infrastructure

Capacity Management

Infrastructure Construction

Operation of Ports and Ferryboats

SUBSIDIARY

TCDD TAŞIMACILIK AŞ

Passenger Transport

Freight Transport

Maintenance of rolling stock

AFFILIATED COMPANIES

Rail Traffic management was given via law to TCDD as monopoly

İZBAN (%50)
(İzmir Suburban Train Operations Co.)

SİTAŞ (%15)
(Sivas Concrete Sleeper Manafacturing Industry Co.)

HYUNDAI EUROTEM (%15)

TCDD TECHNICS (%50)
Rail Systems Engineering Consultancy Co.)

VADEMSAŞ (%15)
(Voestalpine Kardemir Railway Systems Industry Co.)

TCDD was restructured as infrastructure manager.

- Sector was re-organized and liberalisation was ensured with Decree No: 655 and Law No: 6461 and new railway operators were included in the sector.
- "TCDD Taşımacılık A.Ş", which was established as a subsidiary of TCDD to carry out freight and passenger transportation, started its activities as of January 1, 2017.
- There are 5 affiliated companies of our Enterprise.

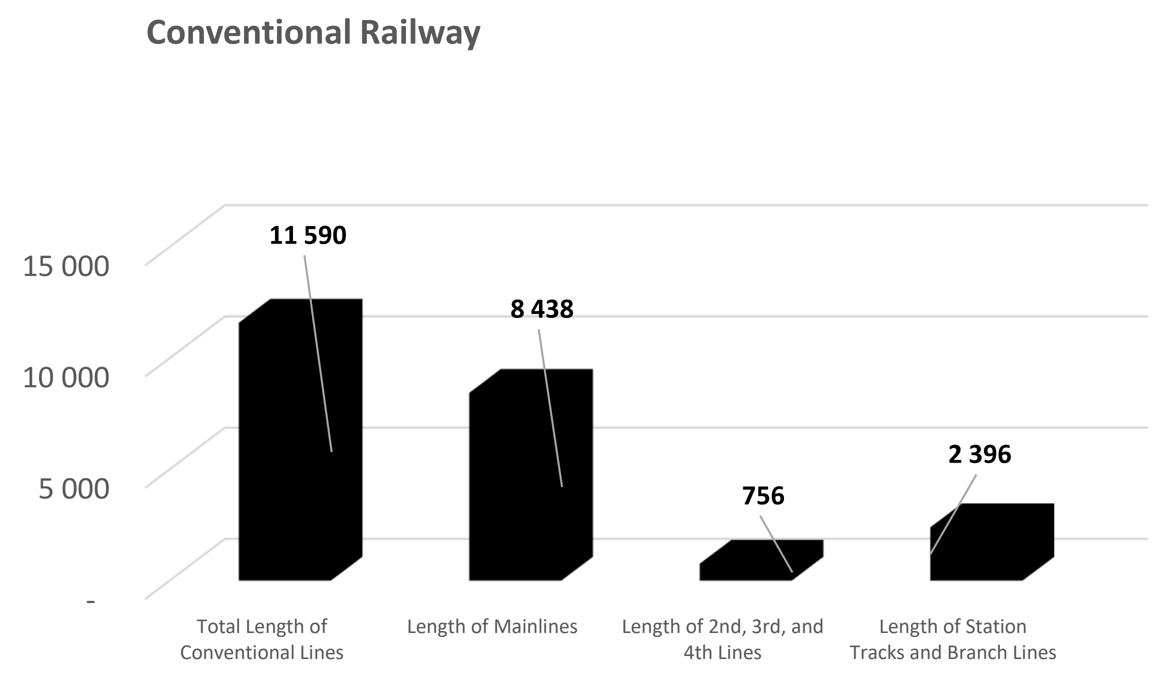
Current Asset Status

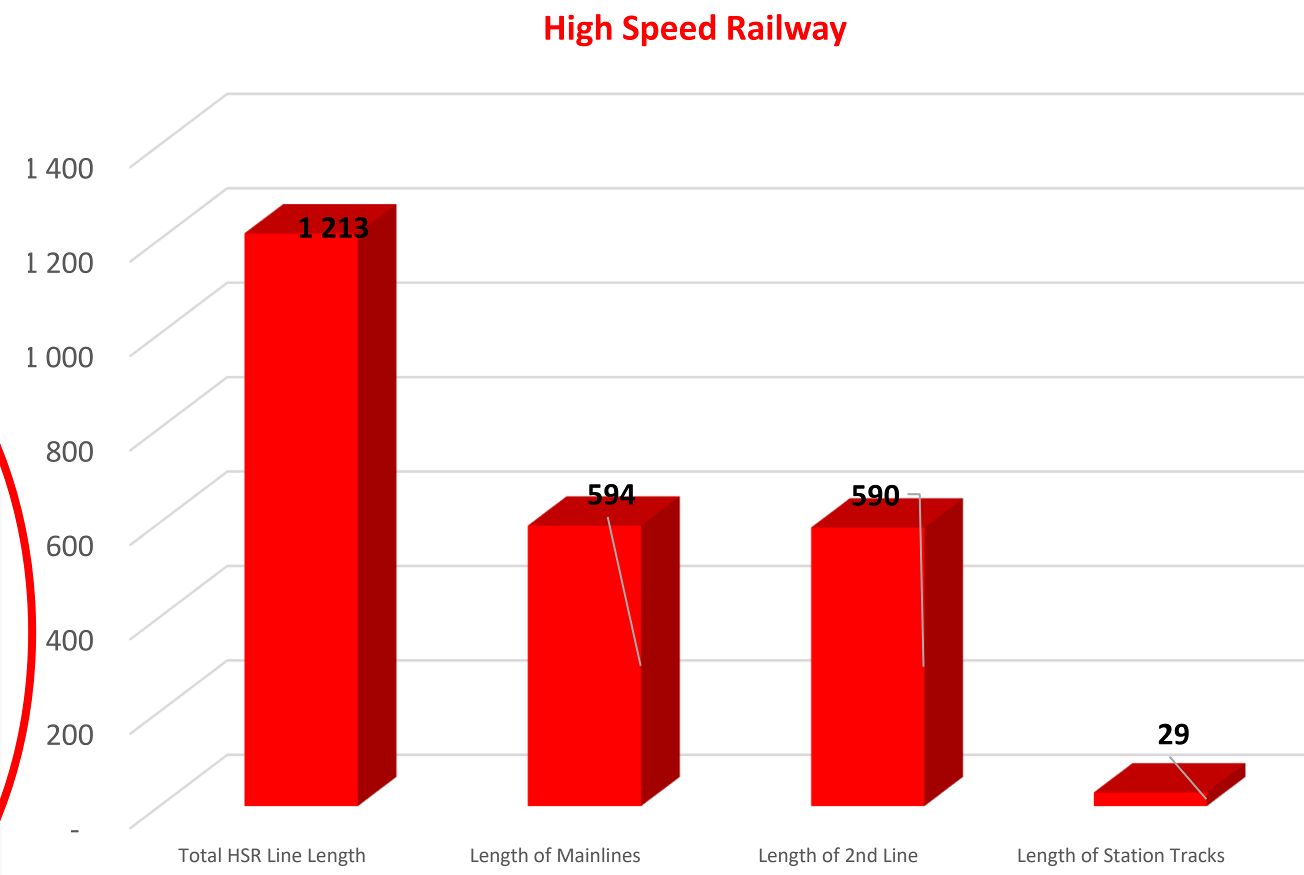
11.590 km CONVENTIONAL LINES

1.213 km HIGH SPEED LINES

12.803 km

TUNNELS	VIADUCTS	BRIDGES-CULVERTS	LEVEL CROSSINGS	TRACK and MAIN CONSTRUCTION MACHINES	TERMINALS AND STATIONS	LOGISTIC CENTERS
837 281 km	62 30 km	24.993 109 km	2.778	394	981	11

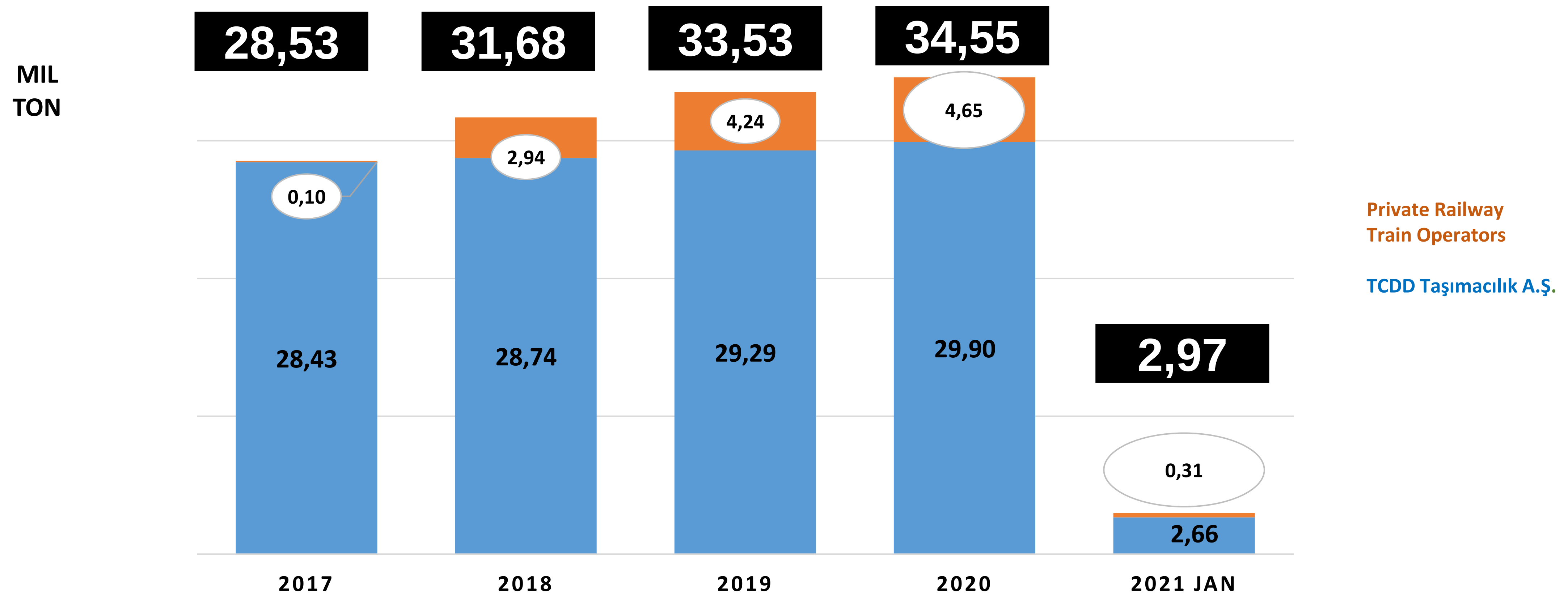




Railway Transportation

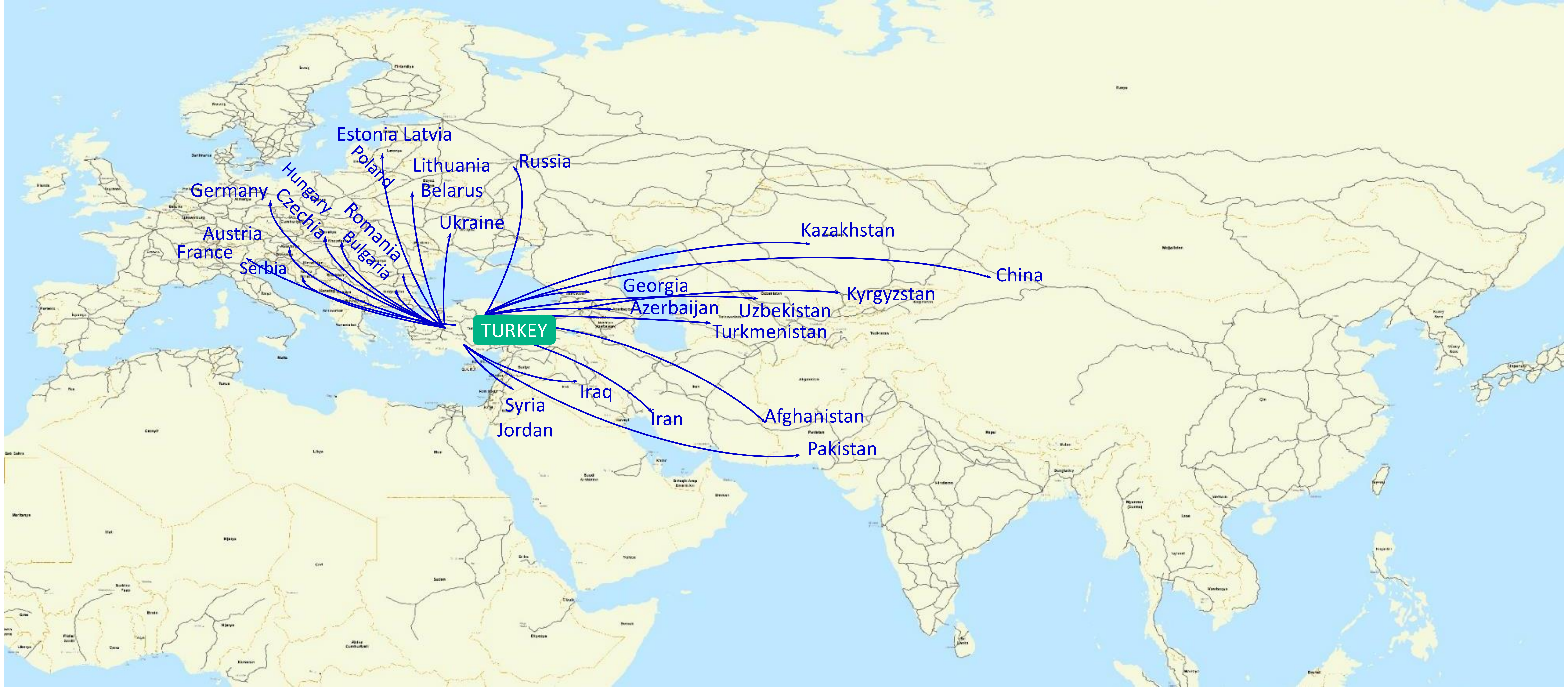
34,55 mil. tones freight in 2020

Freight transportation



Transportations	YEARS				2019/2020 Difference %	PERIOD		2020/2021 (January) Difference %
	2003	2018	2019	2020		2020 Jan.	2021 Jan.	
Freight transportation								
Net tone (thousand)	15.941	31.673	33.535	34.549	3%	2.590	2.968	15%
Net tone Km (Million)	8.699	14.481	14.707	15.429	5%	1.226	1.329	8%

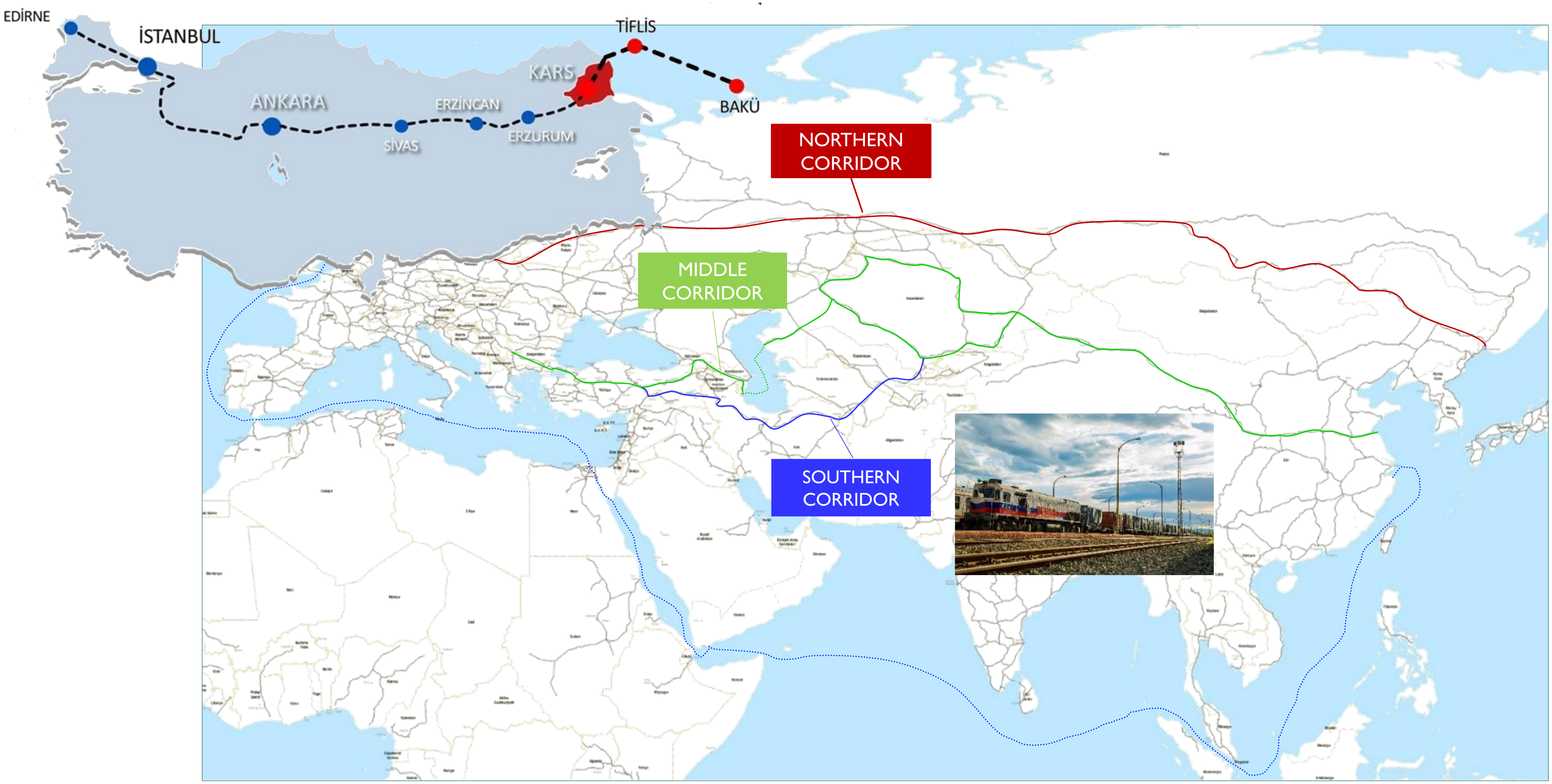
Uninterrupted Railway Corridor between Asia and Europe



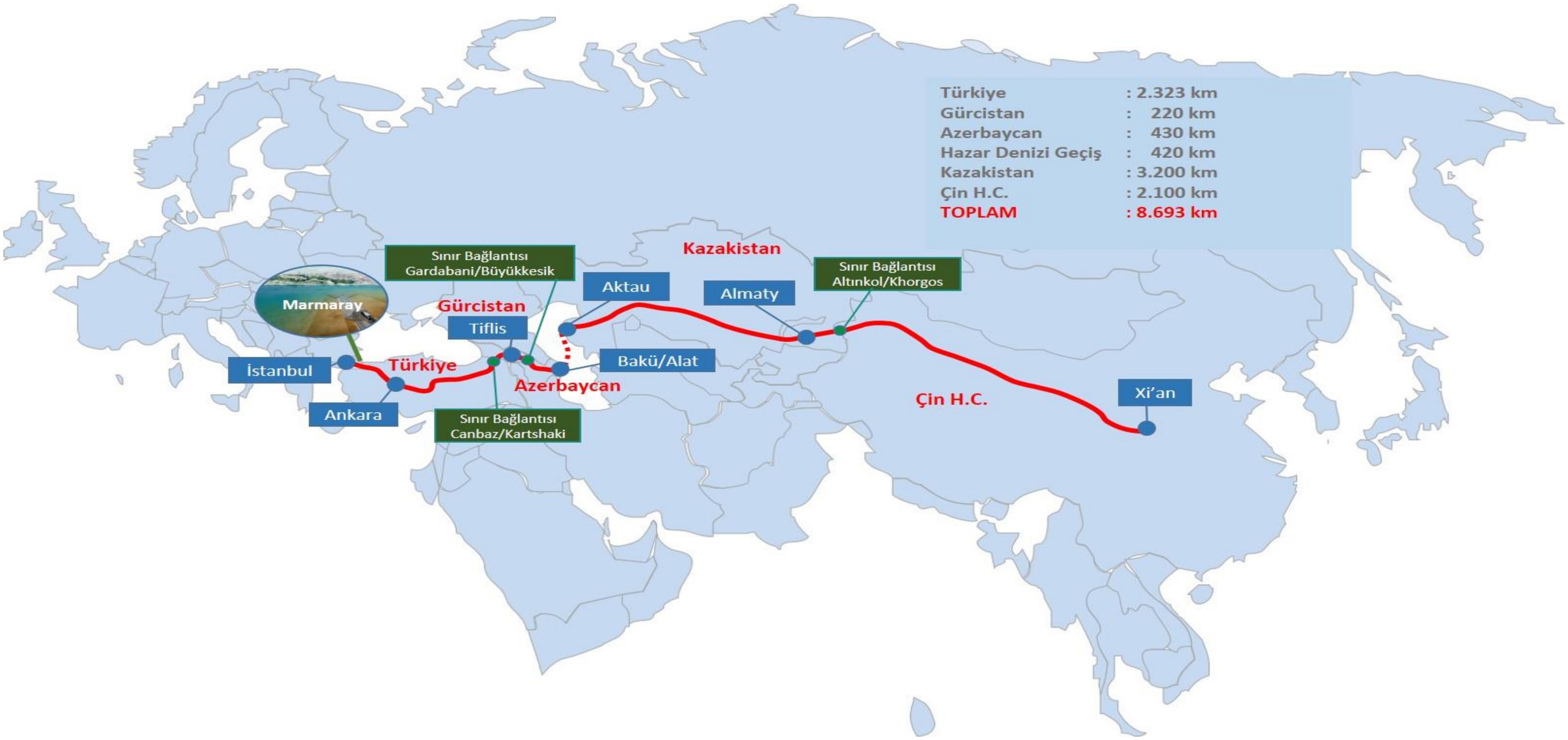
European Direction		
Turkey-Germany	Turkey-France	Turkey-Greece
Turkey-Austria	Turkey-Hungary	Turkey-Slovenia
Turkey-Romania	Turkey-Czechia	Turkey-Poland
Turkey-Slovakia	Turkey-Bulgaria	Turkey-Bosnia and Herzegovina
Turkey-Switzerland	Turkey-Croatia	

Asian Direction		
Turkey-Iran	Turkey-Azerbaijan	Turkey-Georgia
Turkey-Kazakhstan	Turkey-Turkmenistan	Turkey-Uzbekistan
Turkey-Russia	Turkey-Tajikistan	Turkey-Kyrgyzstan
Turkey-China	Turkey-Pakistan	

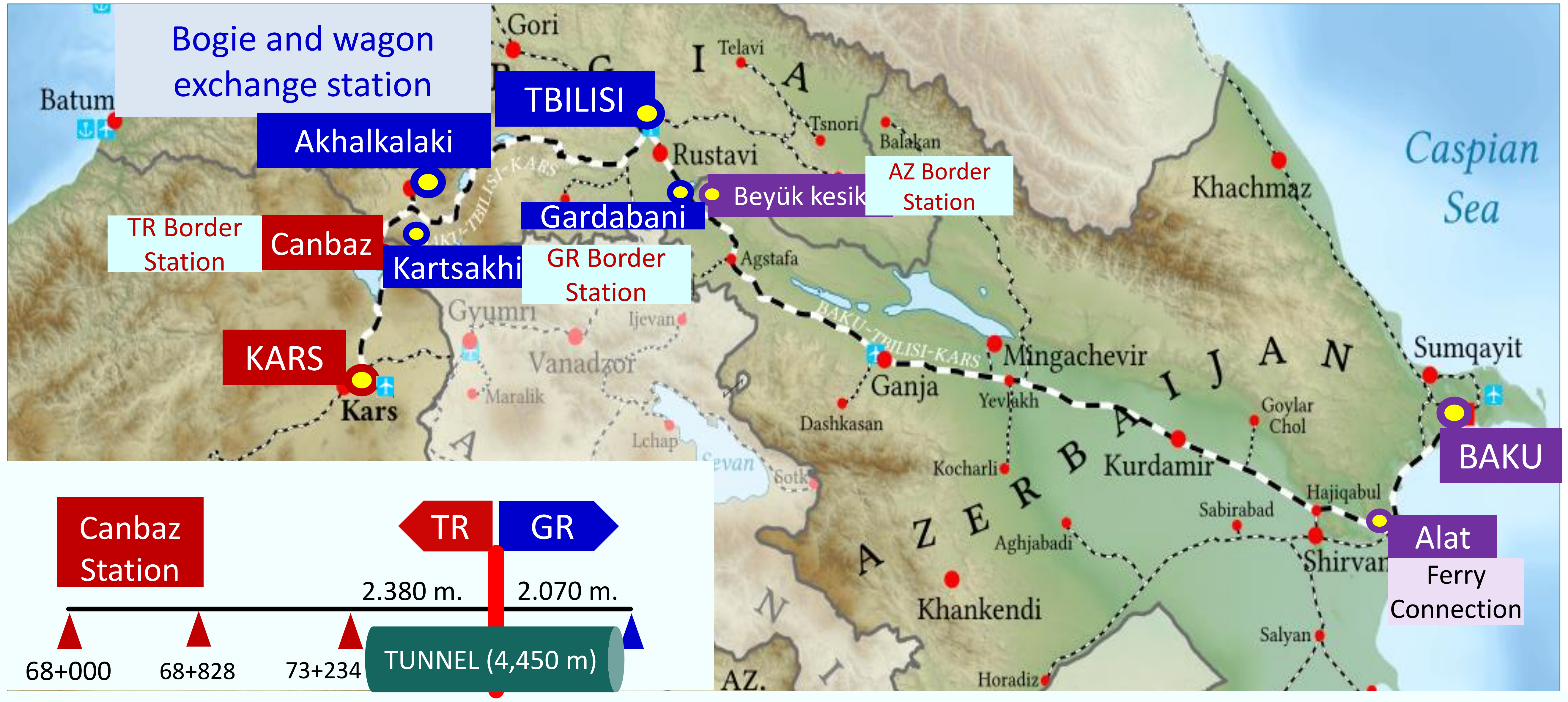
Uninterrupted Railway Corridor between Asia and Europe



International Railway Corridors and MARMARAY



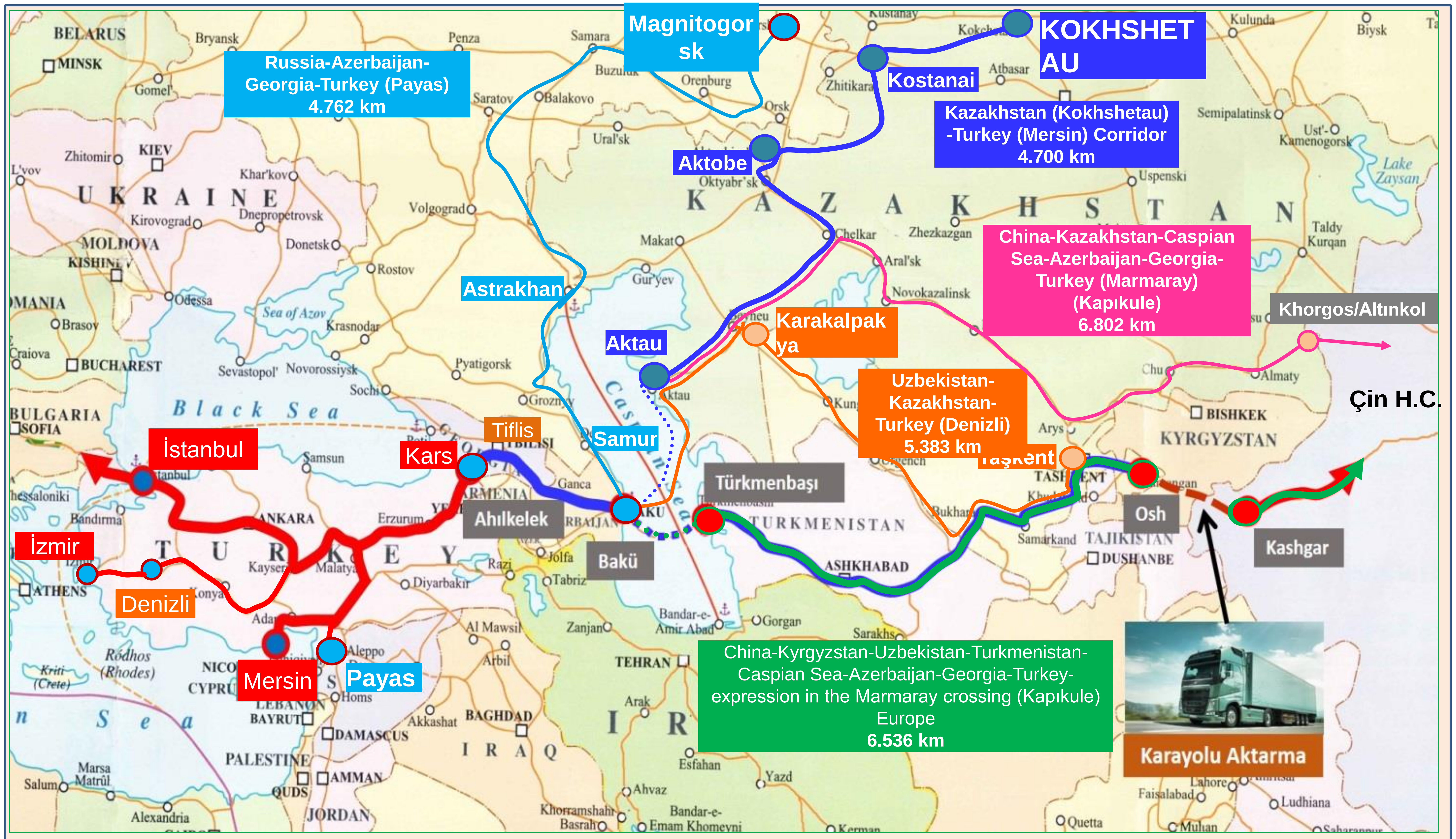
International Railway Corridors and Baku-Tbilisi Kars Line



Project route:

Turkey:	Kars-Canbaz	: 79 km (newly-built line)
Georgia:	Kartsakhi - Akhalkalaki	: 29 km (newly-built line)
	Akhalkalaki - Tbilisi (Marabda)	: 160 km (rehabilitation of the existing railway line)
	Tbilisi - Gardabani	: 70 km (existing railway line)
Azerbaijan:	Beyük Kesik - Baku	: 504 km (existing railway line)
Total		: 841 km (Alat-Baku: 82 km)

International Railway Corridors and Baku-Tbilisi Kars Line



It is aimed to carry 1 million ton freight in the short term, 3 million in the medium term, and 6.5 million tons of freight in the long term.

BAKU-TBILISI-KARS LINE (30.10.2017)

BAKU-TBLISI-KARS LINE	Distance
Turkey (Kars)-Canbaz	79 km
Georgia (Kartsakhi-Ahılkelek-Tblisi-Gardabani	258 km
Azerbaijan (Büyük Kesik-Baku)	504 km
Total	841 km

CORRIDORS

1. Kazakhstan (Kokhshetau)-Turkey(Mersin) (4.700 km)
2. Russia-Turkey (Turkey-Georgia-Azerbaijan-Russia) (4.762 km)
3. Uzbekistan (Tashkent-Karakalpakya-Aktau-Tbilisi-Turkey (Denizli) (5.383 km)
4. China-Kazakhstan-Caspian Sea - Azerbaijan-Georgia-Turkey (Marmaray-Kapıkule) (6.802 km)
5. China-Kyrgyzstan-Uzbekistan-Turkmenistan-Caspian Sea Azerbaijan - Georgia-Turkey (Marmaray-Kapıkule) (6.536 km)

TRANSPORTATION FROM BTK LINE

(Ton)	2019	2020	Diff.	Diff. (%)
Export	110.036	146.471	36.435	33,1
Import	84.424	250.307	165.883	196,5
Transit	-	-	-	-
Total	194.460	396.778	202.318	104,0

Block Trains from/to China

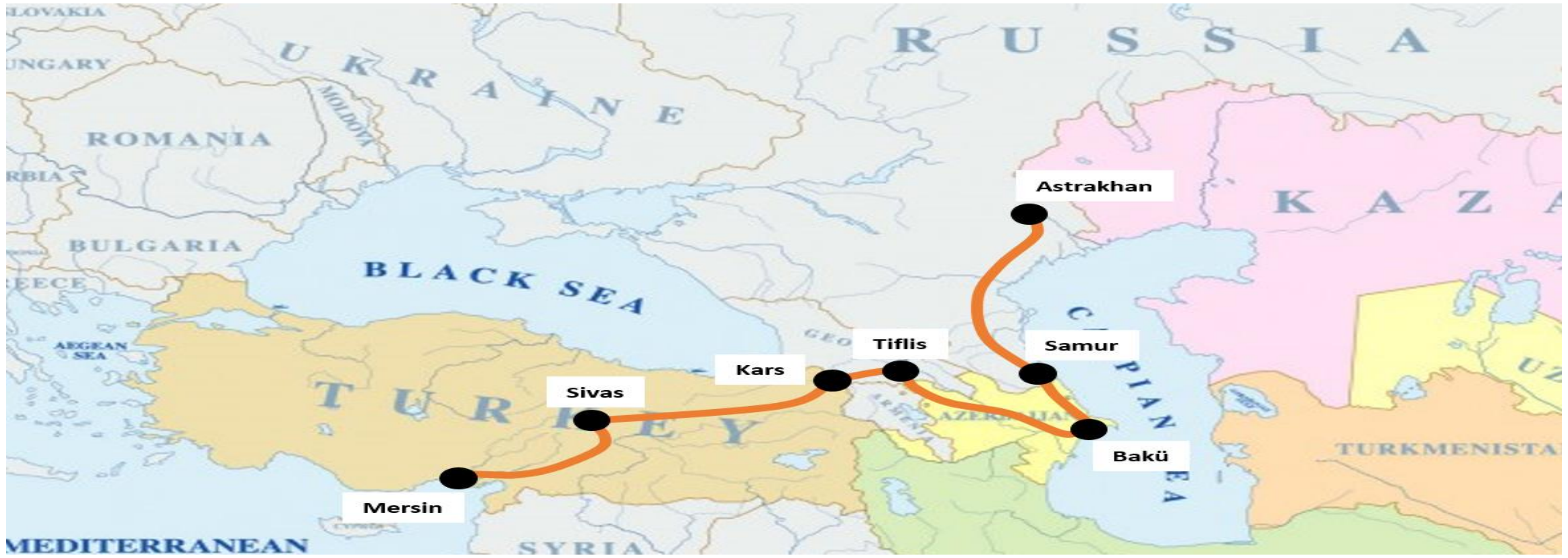
P.R. China (Xi'an)-Kazakhstan-Azerbaijan-Georgia-TURKEY-Bulgaria-Serbia-Hungary-Slovakia-Czech Republic (Prague): 11.500 km

Block Trains from/to China

A New Corridor through the BTK Line

North-South Corridor

The aim is to increase the share of the railway transportation between Turkey and Russia up to 10%.



Southern Corridor and Van Lake Ferry Crossing

Port Handling and Ferry Operation Management

PORT OPERATION

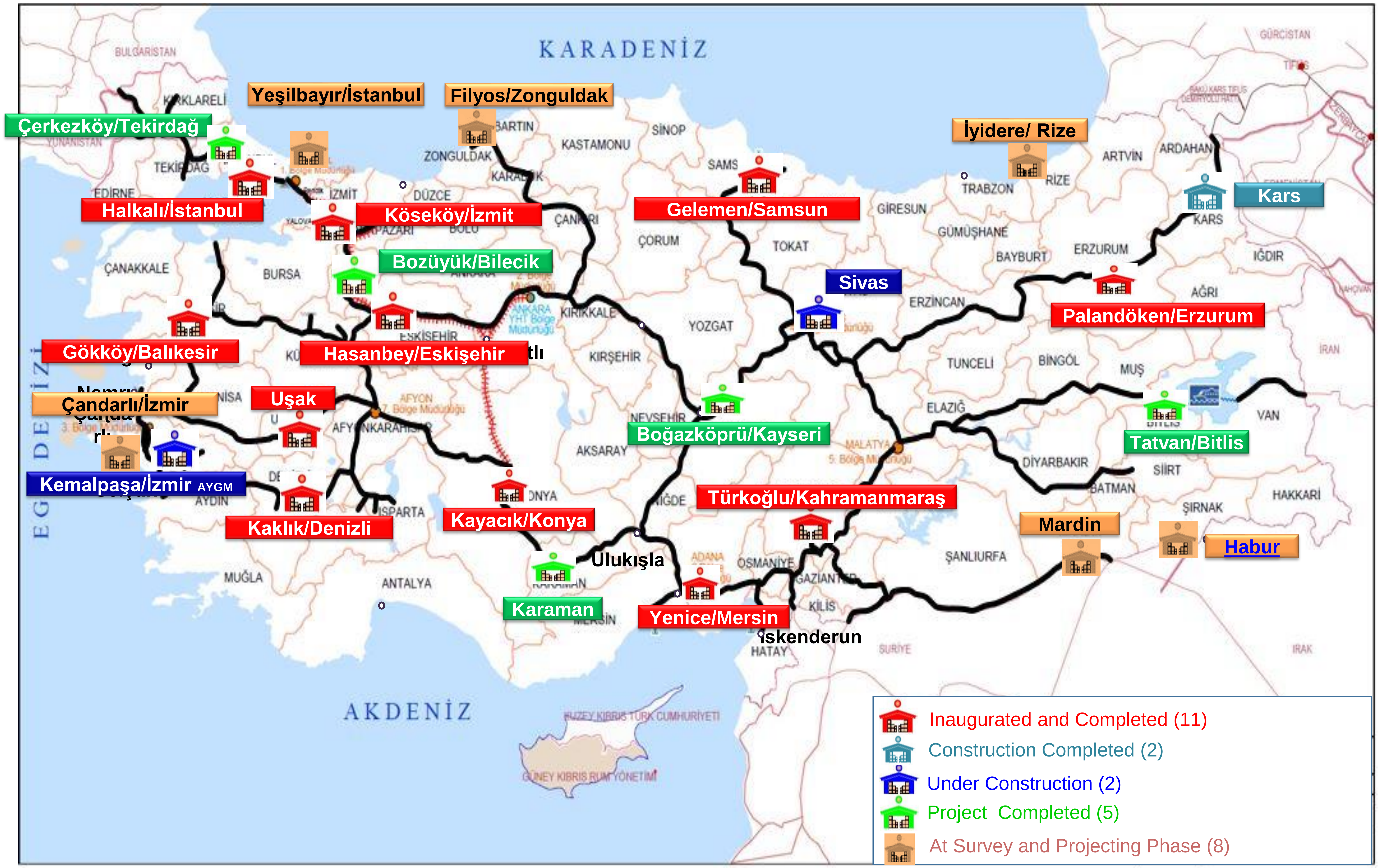
Ports	YEARS			2019/2020 Diff. %	PERIOD		2020/2021 (February) Diff. %
	2018	2019	2020		2020 Feb.	2021 Feb.	
Haydarpaşa	1.293	829	798	-4%	124	167	34%
İzmir	10.861	10.614	10.435	-2%	1.617	1.500	-7%
TOTAL	12.154	11.443	11.233	-2%	1.741	1.667	-4%

VAN LAKE FERRY OPERATION MANAGEMENT

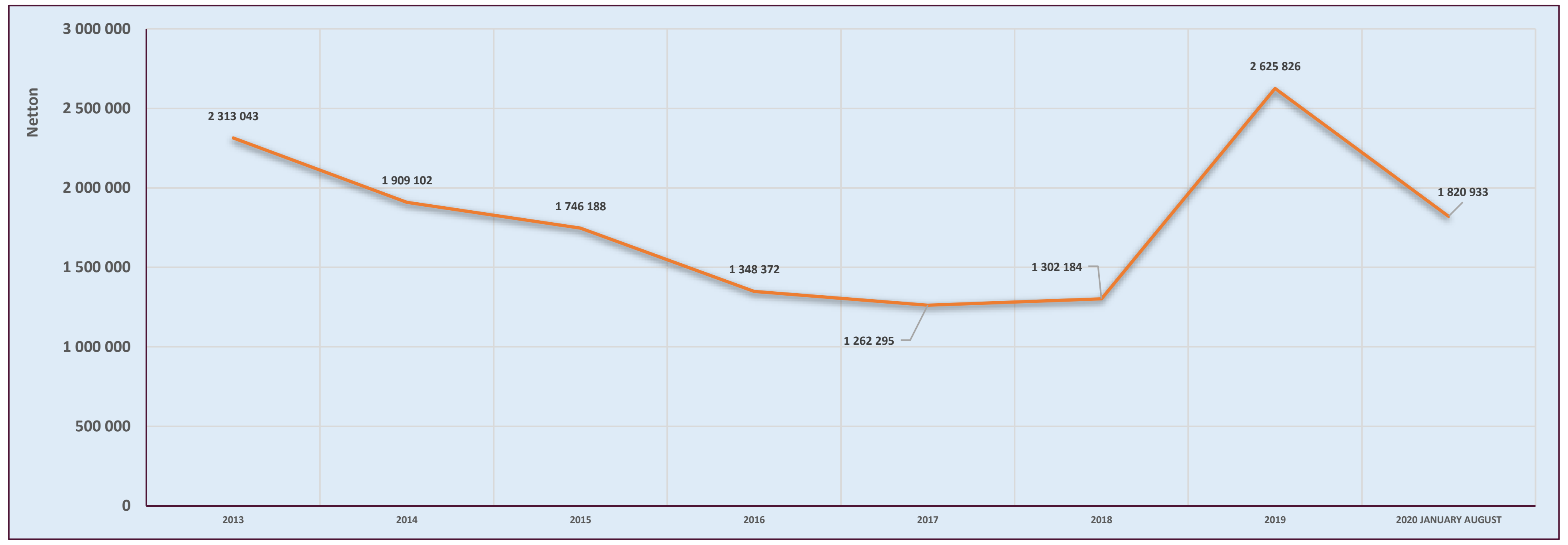
TRANSPORTATIONS	YEARS		2019-2020 Diff. %	PERIOD		2020/2021 (February) Diff. %
	2019	2020		2020 Feb.	2021 Feb.	
Number of trips	192	383	99%	40	37	-8%
Number of Passengers	2.308	758	-67%	230	25	-89%
Freight (Ton)	222.554	486.788	119%	47.609	59.250	24%
Number of Wagons	9.817	19.535	99%	2.070	1.559	-25%



Logistics Centers



Project Cost (Investment Program)	1.785.038.000 TL
Total Capacity (21)	35,6 Million Ton
Total Area (21)	12,8 Million m2
Logistics Center Put into Opertaion	11
Construction Completed Logistics Center	2
Logistics Centers Under Construction	2
Project Completed	5
At Survey and Projecting Phase	8



QUESTIONS ???

For any questions please contact:

did@tcdd.gov.tr

Thank you for your attention…

Representation from the Iranian Railway authority

Linking Eurasian Corridors to the TEN-T network

Asset Assavbayev (TRACECA)

EURASIAN RAIL TRAFFIC DEVELOPMENT
SOUTHERN AND MIDDLE CORRIDOR

CONCLUSIONS

INTERNATIONAL UNION
OF RAILWAYS

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All Webinar material will be made available in the days to come on www.uic.org

Thank you for your attention.