Eurasian Connectivity:
New Routes to Improve Efficiency

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Eurasian Connectivity: New Routes to Improve Efficiency

- **Belt and Road Initiative** has become **a powerful catalyst for development processes to increase connectivity in Eurasia:**
  - *for some countries,* **stimulating and developing engagement through investments and joint projects***;*
  - *for others* – as a response necessary to maintain their own agenda for the development of connectivity on the continent.

- *Despite:*
  - the difference of views and approaches;
  - healthy competition between countries for creation of the most optimal transport corridors;
  - general geopolitical tension;

the **Eurasian connectivity** development **is mutually beneficial for all countries of the continent**:

- should be maximally depoliticized;
- develop within the framework of the *Realpolitik* logic.

Eurasian Connectivity: New Routes to Improve Efficiency

- **Rail, road, sea, river, air, multimodal transportation and pipeline transport are actively developing in Eurasia.**
- **Factors influencing the development of transport are:**
  - general geostrategic tension in the world;
  - temporary / permanent vulnerability of any of the modes of transport;
  - Force Majeure;
  - the need to have several alternative channels for delivery of goods *(in the context of the above factors);*
  - developing competition between different modes of transport;
  - growing demand for the most cost-efficient delivery routes from shippers;
  - introduction of new technologies in:
    - transport engineering *(high-speed trains, an increase in the volume of cargo delivery by air, etc.);*
    - digitalization of supporting operations *(finance, customs clearance, insurance, etc.);*
    - cargo handling;
  - transition to spot trading in commodities, which necessitates their quick delivery;
  - development of cross-border e-commerce *(primarily trade)* with a large number of participants of various sizes and a subsequent significant increase in freight turnover *(development of parcel delivery services within 24 hours);*
  - interest of governments in development of *non-connected / locked regions*;
  - creation of new and development of existing cross-border clusters, as well as clusters within states;
  - search for any opportunities to be included in continental value chains;
  - increasing the price competitiveness of manufactured goods by reducing the share of delivery in the price for the end consumer.

Benefits of Transport Connectivity

- **The benefits of transport connectivity between Asia and Europe have been long established.**

- **Historical trade routes**, such as:
  - the Silk Road (established in 130 B.C.);
  - trade route from the Varangians to the Greeks;
  - the trans-Siberian routes *(established in the early 1900s)*;

  had:
    - **increased international and regional connectivity** through the flow of goods across borders;
    - **allowed** countries to **relocate their resources more efficiently**;
    - **continue** to guide the opening of new routes between Asia and Europe.

Eurasian Connectivity: New Routes to Improve Efficiency

- **EU-China trade** is **booming** – **trade in goods** has **increased by 87 % over the past 10 years**.

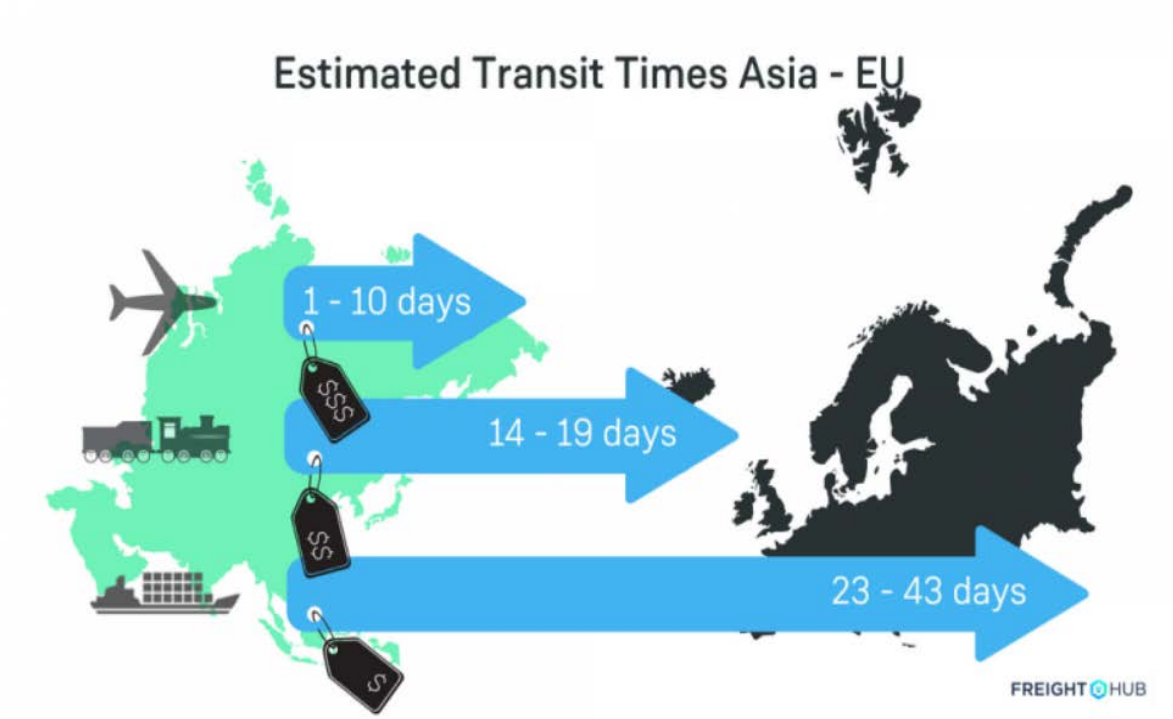
- ***In 2020,*** **China** overtook the US to **become the EU's largest trading partner** in terms of goods with total **imports from China rising 6% to €384bn** ($454bn).

Eurasian Connectivity: New Routes to Improve Efficiency

❑ Railway shipping :

- ❑ still remains a **small fraction** of total volumes;
- ❑ **in Eurasia has historically** been underutilized and has had to compete with:
  - ➢ air freight, which is quicker;
  - ➢ maritime shipping, which is cheaper.

- ❑ *Together,* **air** and **maritime shipping** account for:
  - ➢ 94% of the market by weight;
  - ➢ 64% by value.



Eurasian Connectivity: New Routes to Improve Efficiency

- **Shipping** is **the cheapest** → and therefore the **dominant transport mode,**

  but there is a **growing** category of **medium-value goods** *(e.g.: electronic devices, machinery, car parts etc.)* for which:

  - shipping is too slow
  - air freight is too expensive.

- The only **way to enlarge the market share for rail fright** is to **remove the obstacles that make railway shipping relatively slow and expensive** and the **solution** is: **connectivity.**

- **Rail** has become **critical** for the transportation of goods **during the pandemic outbreak:**

  - preferred due to the unavailability of other modes;
  - proved that it could be a **reliable long-term solution**.

What Does Connectivity Mean?

- The **operationalization** of **Euroasian inland transport routes** → will **enable involved countries** to **participate** more **effectively in**:
  - global production networks;
  - global distribution;
  - global value chains.

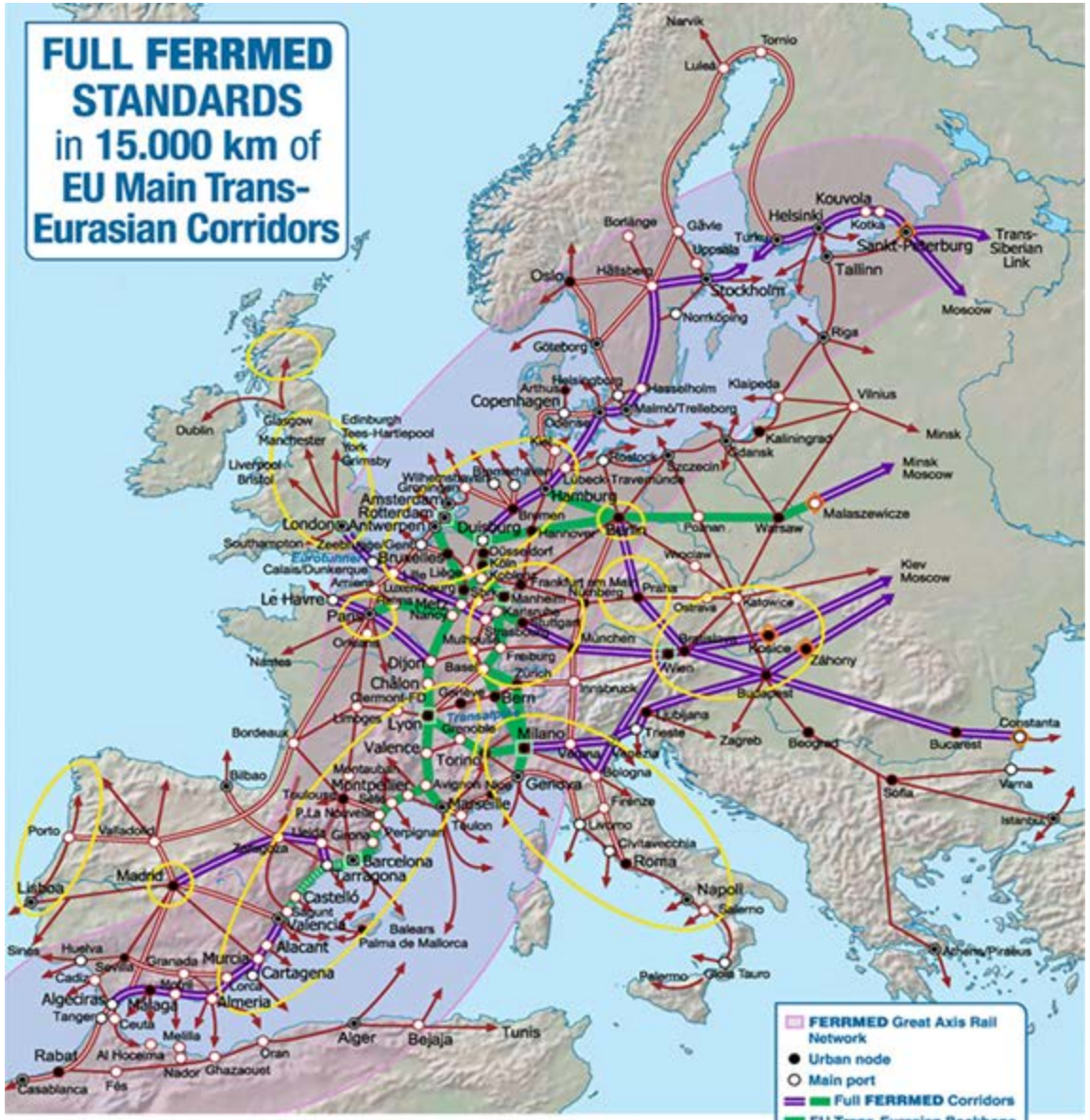
- **Economic growth in countries on Euroasian inland routes** is **accompanied by an increase** in:
  - exports;
  - imports;
  - transport services demand.

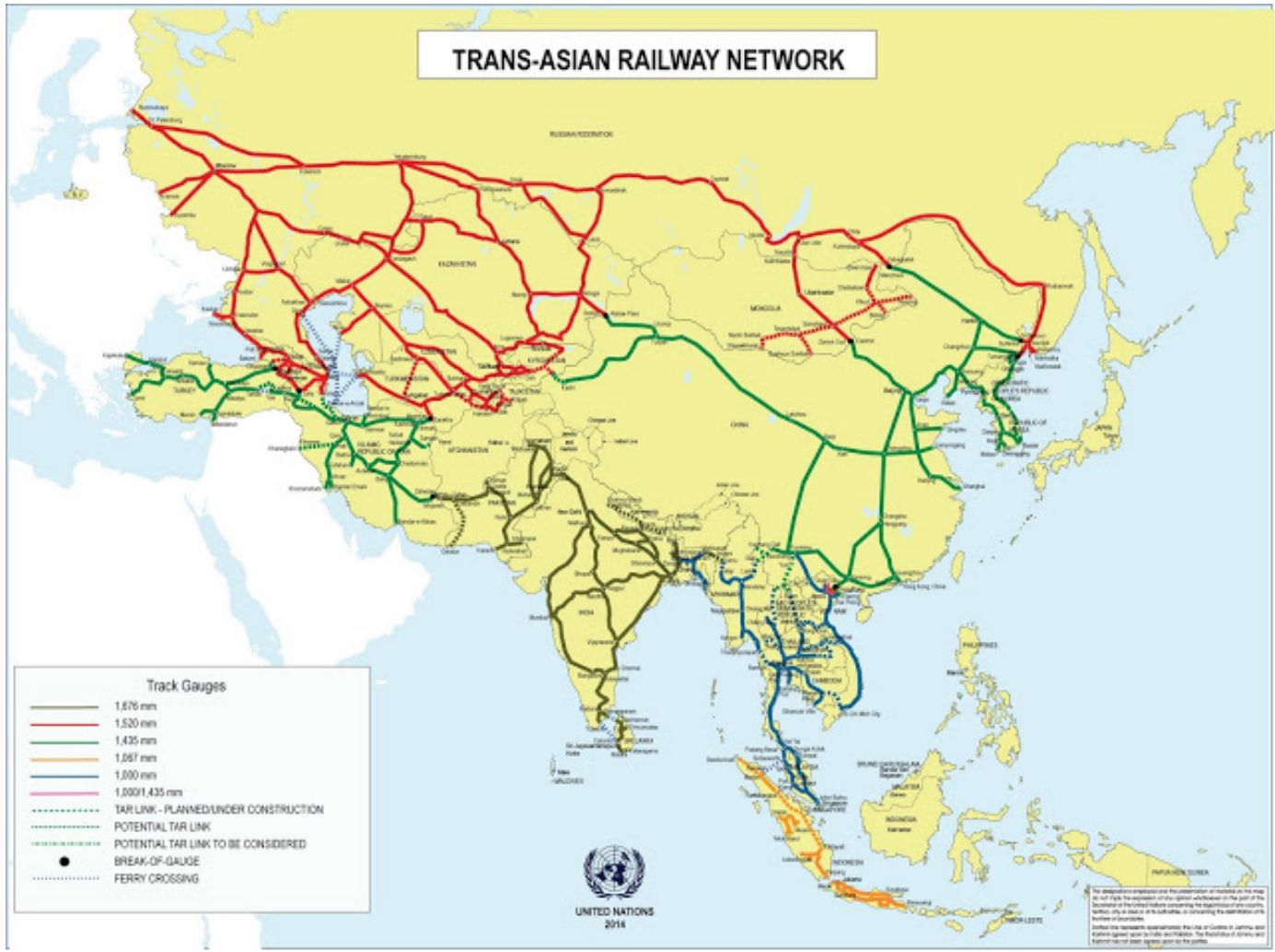
New Silk Road

- The **freight train service** between **China** and **Europe** will:
  - continue to show its competitive edge over maritime and air transportation;
  - further enrich the cooperative content of the BRI.

- Freight train trips between China and Europe soared 70% on a yearly basis – to 3,345 rides in the first quarter of 2021.
- They carried 317,000 containers, up 79% year-on-year *(according to China State Railway Group, the national railway operator).*

Trans-European / Trans-Eurasian Rail Network





Sources: Amorós, J. (2018). Trans-Eurasian One Belt One Road: A business-oriented approach to rail development. Retrieved from: https://www.globalrailwayreview.com/article/75791/trans-eurasian-one-belt-one-road/
Wang, B. (2017, October 15). *Russia and China are making true high speed cargo trains for 2 day transport instead of 2 weeks between Asia and Europe around 2030*. NextBigFuture.com. https://www.nextbigfuture.com/2017/01/russia-and-china-are-making-true-high.html.

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TRANS-EURASIAN MAIN ROUTES

Source: Amorós, J. (2018). Trans-Eurasian One Belt One Road: A business-oriented approach to rail development. Retrieved from: https://www.globalrailwayreview.com/article/75791/trans-eurasian-one-belt-one-road/

Major Hubs: China

Rail Freight Routes Between China and Europe

- **2 main routes for freight trains**, with a number of sub-routes:

1. The **southern route** through **Kazakhstan** and **southern Russia** is most **suited for freight to and from Central China**, *e.g.* the regions surrounding:
   - Chengdu;
   - Chongqing;
   - Zhengzhou.

2. The **northern route** through **Siberia** is perfect for container transport for **China's northern regions** around:
   - Beijing;
   - Dalian;
   - Suzhou;
   - Shenyang.

Germany

❑ Germany:

- ➢ is a destination for ~50% of all goods trains that travel between China and Europe;
- ➢ is a hub between Europe and China.

Rail Freight Routes Between China and Europe

- **Other European destination countries are:**
  - Belgium;
  - the Netherlands;
  - France;
  - Denmark;
  - Switzerland;
  - the UK;
  - Spain;
  - Norway.

Rail Freight Routes Between China and Europe

Currently the most important terminals **in Europe** are:

- **Duisburg** and **Hamburg** in **Germany**;
- **Warsaw** in **Poland**.

- The **European exports to China by rail** mainly consist of:
  - metals and metal products;
  - chemicals;
  - minerals *(consist of machinery and equipment, minerals and chemical raw materials).*

- The bulk of rail **shipments *from* China *to* Europe** are for industries such as:
  - automotive;
  - consumer;
  - retail and fashion;
  - industrial manufacturing;
  - technology.

China-Russia Rail Freight Cooperation

- **The first major logistics infrastructure cooperation project between China** and **Russia** is jointly built by *(begining 2017)*:
  - Liaoning Port Group;
  - Russian Railways;

  the logistics centre 'Berelast' – with the capacity of 750,000 twenty-foot equivalent units – comprises 1/3 of Moscow's container transit transportation.

- The **trains today** are:
  - all equipped with locomotives that can reach speeds of 120 kilometers per hour;
  - typically formed from 50 containers on the journey.

Transit Countries

- **Transit countries** along the New Silk Road are significant for ensuring:
  - high quality;
  - speed;
  - efficiency;

  in rail freight services.

- Majority of the **international railway freight transport** happens across the **Chinese land ports** and the **borders** of:
  - Russia;
  - Kazakhstan;
  - Mongolia;

  where it links with:
    - Trans-Siberia;
    - Trans-Asia;
    - Trans-Europe corridors.

- **Kazakhstan, Azerbaijan and Georgia** are composing **the Middle Corridor –** an **alternative** route for Eurasian transport that could increase connectivity between:
  - Caucasus Region;
  - Central Asia;
  - Western Asia.

Transit Countries

- **2020-21 connectivity developments are:**
  - **Uzbekistan** – with the construction of new infrastructure;
  - **Iran** and **Afghanistan** – now connected by rail;
  - **Turkey** – the fist train from Istanbul to China – freight transportation via Marmaray Tunnel subsea Bosphorus.

- **The more regional countries grow ⇒ the better this is for rail freight,** since it can:
  - optimize its services;
  - acquire more efficient links between Europe and Asia.

European Additions

- During 2020 numerous European cities acquired connection with Chinese hubs.

  e.g.:

  - **Liege;**
  - **Amsterdam.**

- **The UK** saw the establishment of direct connections with China through European ports via Kaliningrad *(Russia)* – Immingham *(UK).*

Kaliningrad

- The high intensity and congestion on the Belarusian-Polish border has accelerated the development of alternative delivery routes:
  - through the territory of Ukraine;
  - via Kaliningrad.

- **Multimodal alternative route** via the Russian enclave of **Kaliningrad:**
  - was launched in 2017;
  - contributed the most in the decongestion of borders in 2020.

Kaliningrad

- **Further transportation options from Kaliningrad:**

  from the Baltic sea port, freight is loaded on feeder ships to destinations in:

  - Scandinavia;
  - Benelux;
  - The UK;
  - via Kaliningrad to Duisburg;

  new routes that sprung up:

  - Chengdu-Rotterdam;
  - Kaliningrad-Rostock-Verona;
  - the Xi'an-Neuss Express *(the fastest rail link between China and Germany)*.

- Infrastructural connectivity of Kaliningrad multimodal transport and logistics complex along the route:

Port of Germany (Rostock/Hamburg/ Mukran/Sasnitz) → **Port of Kaliningrad region** (Kaliningrad/Baltiysk) → **Kaliningrad railway** (Kaliningrad region → in the direction of the Russian Federation → further to China)

GBA Connectivity

❑ The first **freight train** **Guangzhou** (China)-**Hanoi** (Vietnam) *from* the **Guangdong-Hong Kong-Macao Greater Bay Area** *to* an **ASEAN country** started on *May, 2021* with **41 standard containers in 4 days**.

❑ ***In 2020,*** more than **10 new railways** were opened **between Europe** and the **Greater Bay Area**.

❑ ***In 2021****, the* **China-to-Europe freight trains** number has **increased since January:**

- **3 times per week *from***:
  - ✓Guangzhou;
  - ✓Dongguan;
- **2 trains a week *from* Shenzhen.**

Decrease in transportation costs is **~20 %** compared with traditional transportation methods.

Container Transportation in Trans-Siberian Land Bridge

- Most of the railway volume comes through **the Trans-Siberian Railway route**:
  - Russian sea ports in the Far East;
  - the Manchurian hinterland connection;
  - the Mongolian hinterland connection;

  or
  - the Kazakh hinterland connection.

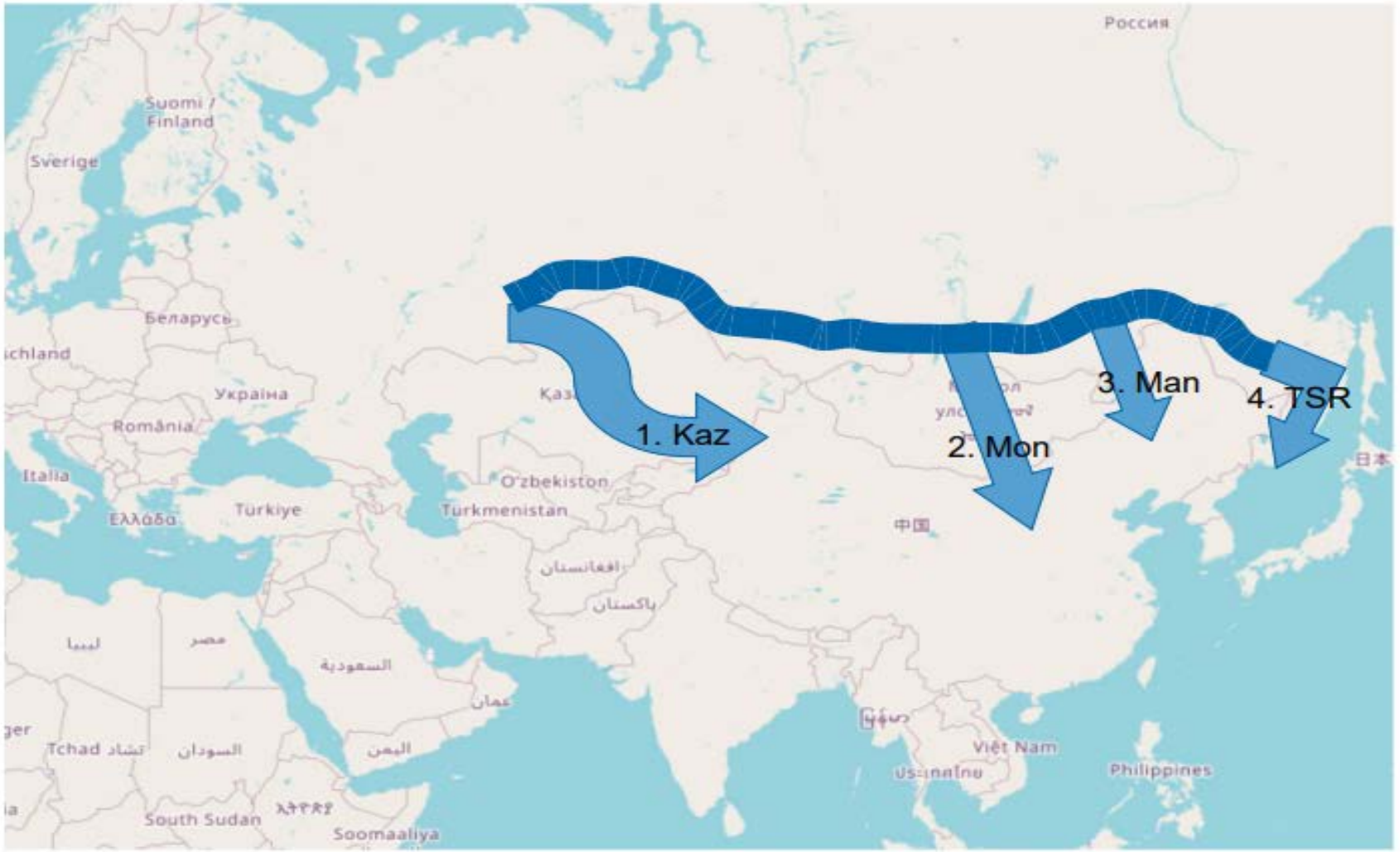


Figure 1. Four different options of Eurasian container landbridge. Denotation: "1. Kaz", Kazakh hinterland connection; "2. Mon", Mongolian hinterland connection; "3. Man", Manchurian hinterland connection; "4. TSR", Trans-Siberian connection through Russian Far Eastern sea ports. Source (background map): © OpenStreetMap contributors [17].

Source: Hilmola, O.-P.; Li, W.; Panova, Y. (2021). Development Status and Future Trends for Eurasian Container Land Bridge Transport. Logistics 2021, 5, 18. Retrieved from: https://www.mdpi.com/2305-6290/5/1/18/pdf

Container Transportation in Trans-Siberian Land Bridge

Russia Briefing. (2019, June 20). Trans-Siberian Land Bridge Opens - Reducing Japan-EU Transportation Time By 50%. Russia Briefing News. https://www.russia-briefing.com/news/trans-siberian-land-bridge-opens-reducing-japan-eu-transportation-time-50.html/.

The Vostochny Sea Port

- Even though currently **Vostochny** is specialized on operations with coal the number of operations with containers is growing.

- The port is under development as a part of logistics cluster Nakhodka-Vostochny.

Source: Морские порты №4 (2019). (2019, September 5). Транспортный узел «Восточный – Находка»: прошлое и будущее. Maritime news of Russia. Режим доступа: http://www.morvesti.ru/analitika/1692/80407/.

Trans-Siberian Land Bridge: China, Japan and South Korea

- Trans-Siberian Land Bridge **reduces Japan-EU transportation time by 50%.**

- A new commercial route is being operated by joint venture of:
  - Russia's Far Eastern Shipping Company (FESCO);
  - RZD Logistics.

- Trans-Siberian Land Bridge started with:
  - successful first test run of cargo from Yokohama to Europe in 2019;
  - the route covers a dual maritime-rail link:

Ports of:
China;
Japanese west coast;
South Korea

→ Port of Vladivostok (RF)

→ Trans-Siberian Express to Moscow (RF)

→ Brest (Belarus)

→ Poland and further to EU

Trans-Siberian Land Bridge: Maersk Case

- *After the March 2021 incident in Egypt with the container ship Ever Given*, **Maersk –** the largest international company in:
  - container transportation;
  - logistics;
  - servicing port terminals;

decided to open a route bypassing the Suez Canal – through Russia.

- Now Maersk cargo routes will be transported according to the following scheme:

Trans-Siberian Land Bridge: MSC Case

- **Mediterranean Shipping Company** *(MSC, 2nd largest after Maersk)* has launched a new intermodal service between Europe and Asia combining rail and sea freight on April, 12 2021.
- It departs from:
  - China;
  - Korea;
  - Japan;

to Europe via the Russian ports of Vladivostok and Vostochniy.

- The **train journey** covers the largest distance along the Trans-Siberian corridor in **13 days:**

Asia (by ship) → Primorsky Krai (ports : Vostochniy, Vladivostok) (by ship) → Trans-Siberian Landbrige → Port of St. Petersburg (by rail) → Europe (by ship)

Leijen, M. (2021, April 13). *MSC combines train and ship in new Eurasian link*. RailFreight.com | News about rail freight. https://www.railfreight.com/intermodal/2021/04/13/msc-combines-train-and-ship-in-new-eurasian-link/.

Trans-Siberian Land Bridge: MSC Case

- From St. Petersburg, cargoes can be shipped directly to some of the major European hubs:
  - Antwerp;
  - Bremerhaven;
  - Rotterdam;
  - Le Havre;

through the European feeder network of MSC.

	SAINT PETERSBURG	ANTWERP	BREMERHAVEN	ROTTERDAM	LE HAVRE
SHANGHAI	24	35	33	36	37
NINGBO	22	33	31	34	35
QINGDAO	32	43	41	44	45
BUSAN	19	30	28	31	32
YOKOHAMA	25	36	34	37	38

Leijen, M. (2021, April 13). *MSC combines train and ship in new Eurasian link*. RailFreight.com | News about rail freight. https://www.railfreight.com/intermodal/2021/04/13/msc-combines-train-and-ship-in-new-eurasian-link/.

Rail Freight Service: Port of Hamburg-Xuzhou

❑ **The rail freight service between the:**

- ➢ Port of Hamburg in Germany;
- ➢ Xuzhou in China;

becomes regular with 2 trains per month.

❑ During its trip towards Europe, the train uses the Erenhot border crossing (China-Mongolia) and passes through:

- ➢ Mongolia;
- ➢ Russia;
- ➢ Belarus;
- ➢ Poland;

to Hamburg in Germany → from there, the cargo gets dispatched towards various other European destinations.

Rail Freight Service: Port of Hamburg-Xuzhou

- A typical block train freight, time and distance characteristics are:
  - 94 containers;
  - weight ~477 tonnes;
  - 18 days to cover the 6,000 kilometres distance;
  - cargoes consist of machinery, including:
    - trucks;
    - cranes;
    - earth-moving equipment;
    - road-building equipment.

Rail Freight Routes Between China and Europe

The **Xi'an-Prague route:**

- length 11,483 km;
- 18 days;
- takes cargo through:
  - Kazakhstan;
  - Azerbaijan;
  - Georgia;
  - Turkey;
  - Bulgaria;
  - Serbia;
  - Hungary;
  - Slovakia;
- it takes time comparable to the trains that pass through Russia.

Xi'an-Germany

- The new **high-speed railway service Xi'an-Germany** (Hamburg, Neuss) with the length of 9,400 km passes through the territories of Kazakhstan, Russia, Belarus and Lithuania to the Kaliningrad region.

- The transshipment is carried out at the border crossings of:
  - Khorgos/Altynkol (China/Kazakhstan);
  - Mamonovo/Braniewo (RF/Poland).

Connectivity in Central Asia: Lapis Lazuli Corridor

- China-funded **Lapis Lazuli Corridor**:
  - connects the Caucasus to Central Asia *(part of China's Belt and Road routes)*;
  - is a large component of the concept of the Greater Eurasian Partnership ⇒ which is intended to see the ultimate uniting of:
    - Belt & Road Initiative;
    - the Eurasian Economic Union;
    - Shanghai Co-Operation Organisation;
    - *possibly* ASEAN.

https://caspiannews.com/news-detail/afghan-economy-expected-to-pick-up-with-launch-of-new-trade-corridor-joined-by-turkmenistan-azerbaijan-2017-11-18-14/

Turkey-Razi Border to CIS Countries

Lenght of Routh (İstanbul-Almaty)

Turkey	: 1950 km
Iran	: 2016 km
Turkmenistan	: 449 km
Uzbekistan	: 732 km
Kyrgyzstan	: 6 km
Kazakhstan	: 956 km
Total	**: 6109 km**

KAZAKHSTAN

Almaty

UZBEKISTAN

Bishkek

Tashkent

KYRGYZISTAN

İstanbul

TURKMENISTAN

Ashkhabat

Ankara

TAJIKISTAN

TURKEY

Dushanbe

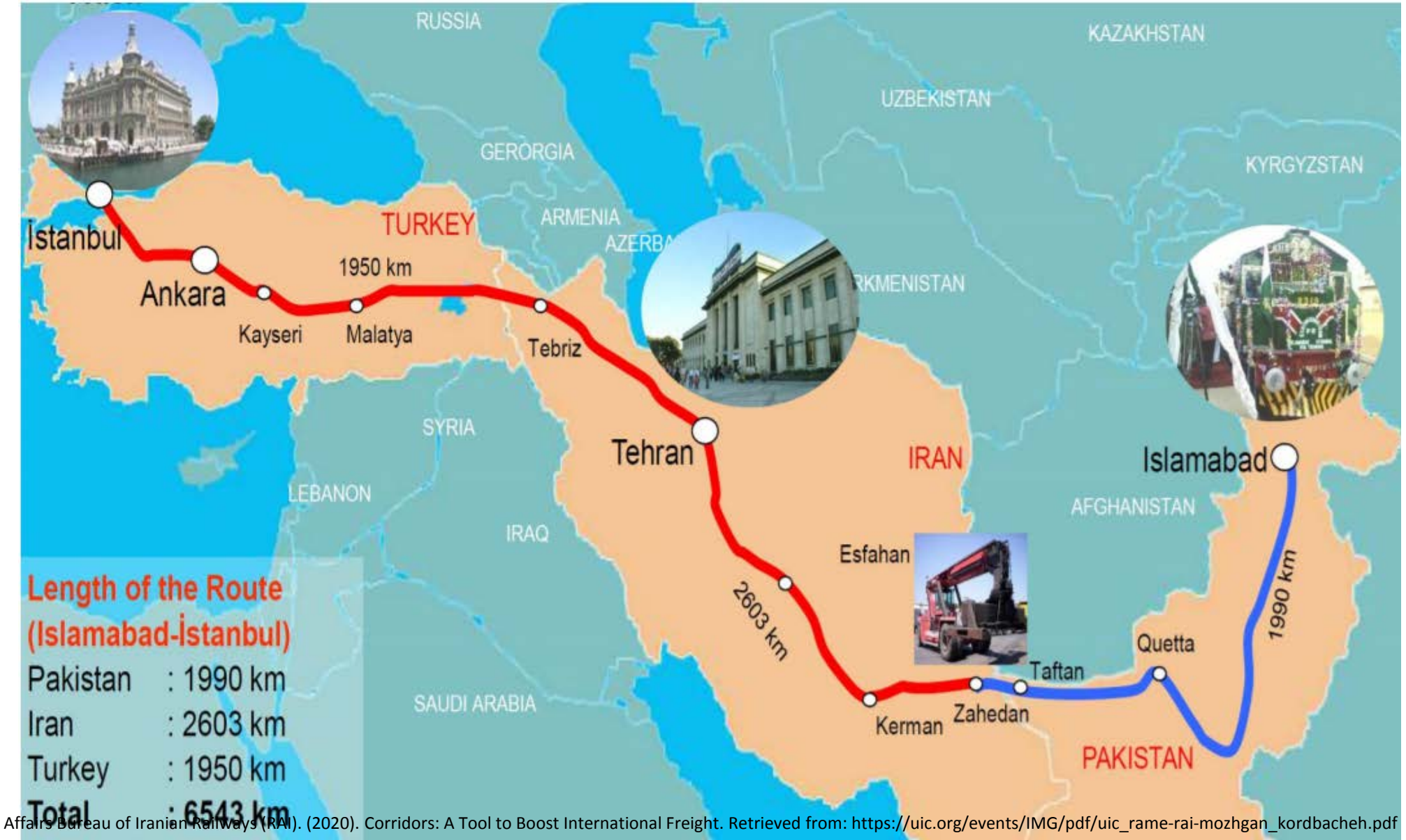
Tehran

Sarakhs

IRAN

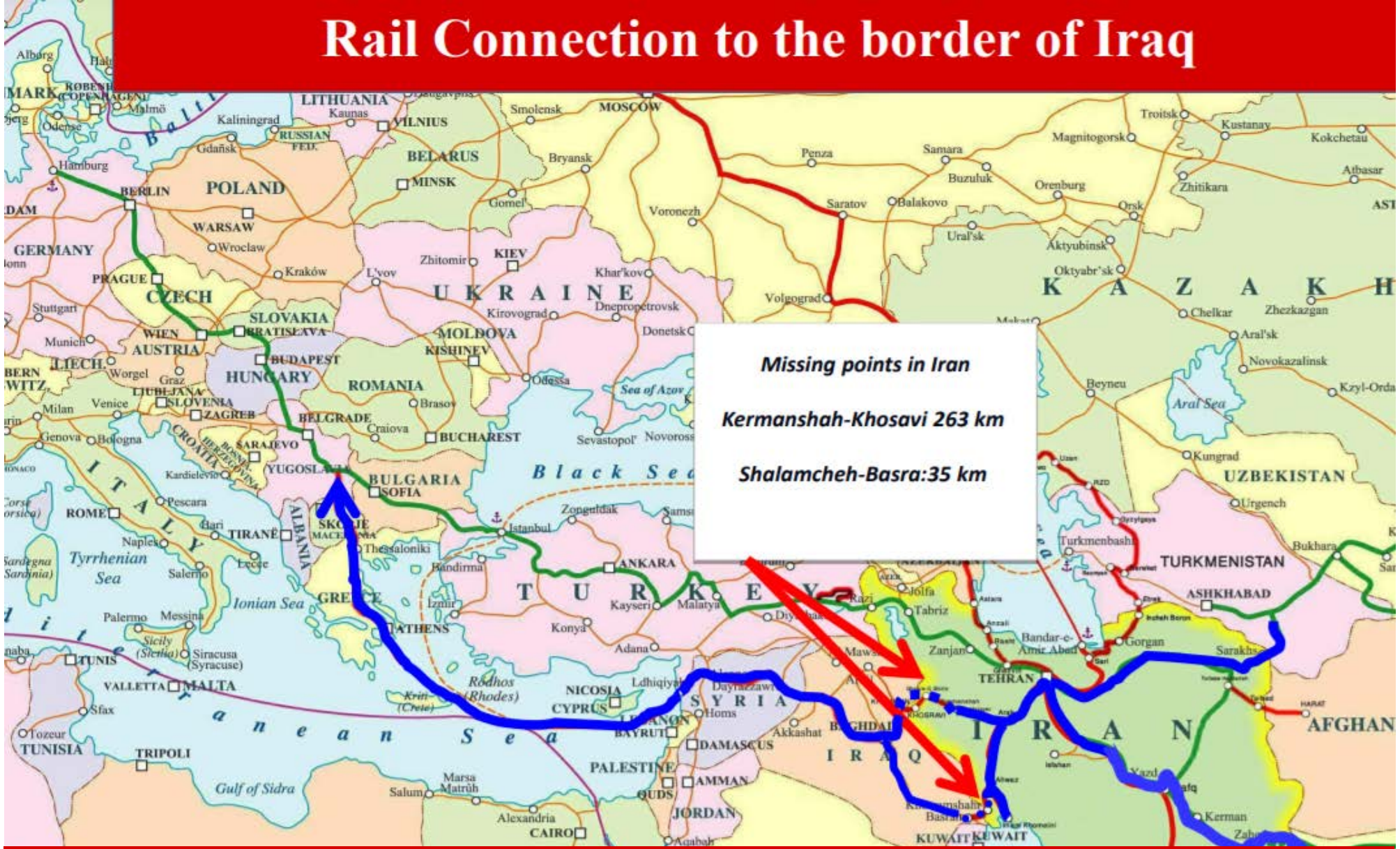
Source: International Affairs Bureau of Iranian Railways (RAI). (2020). Corridors: A Tool to Boost International Freight. Retrieved from: https://uic.org/events/IMG/pdf/uic_rame-rai-mozhgan_kordbacheh.pdf

Pakistan-Iran-Turkey-Europe Corridor
(Istanbul, Tehran, Islam Abad(ITI))



Source: International Affairs Bureau of Iranian Railways (RAI). (2020). Corridors: A Tool to Boost International Freight. Retrieved from: https://uic.org/events/IMG/pdf/uic_rame-rai-mozhgan_kordbacheh.pdf

Rail Connection to the border of Iraq



Qazvin-Rasht section in Iran a missing link of International North-South Corridor was completed and inaugurated in March 2019. ➢ Combined transportation is carried out on this route from Russia, Azerbaijan to Iran and India.

Source: International Affairs Bureau of Iranian Railways (RAI). (2020). Corridors: A Tool to Boost International Freight. Retrieved from: https://uic.org/events/IMG/pdf/uic_rame-rai-mozhgan_kordbacheh.pdf

China-Iran Rail Route

- The new **China-Kazakhstan-Uzbekistan-Turkmenistan-Iran railway corridor** offers for the shippers a logistics possibilities mostly for goods from East China.

Other Connectivity Initiatives in Central Asia

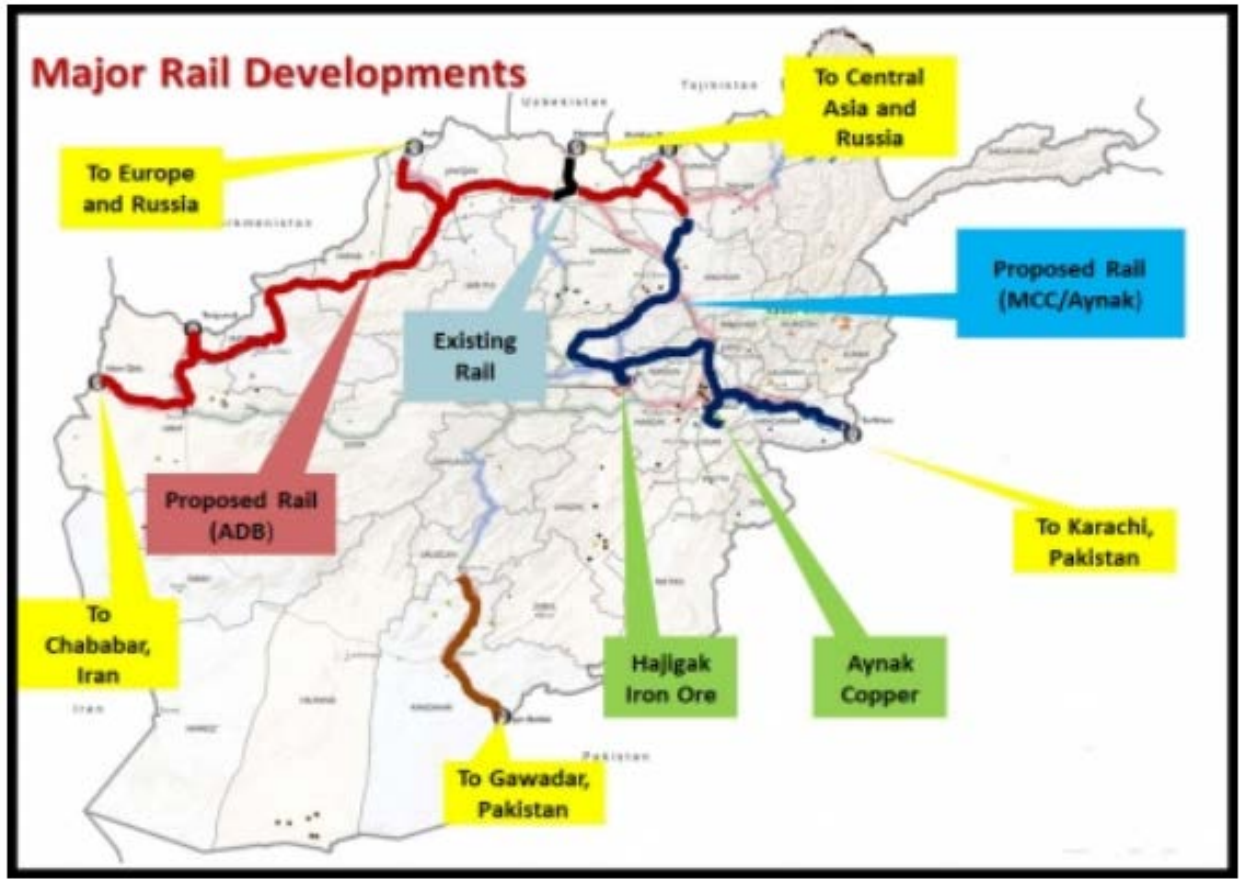
Connecting Uzbekistan to the Arabian Gulf

- Land-locked Uzbekistan signed off an agreement with:
  - Afghanistan;
  - Pakistan;

– to develop the **Trans-Afghan Railway** which would connect the capital, Tashkent, with Pakistani Ports at:

- Gwadar;
- Karachi.

- Uzbekistan is already connected by rail to Kazakhstan and Tajikistan, also providing these economies with seaport access.



Other Connectivity Initiatives in Central Asia

QTTA – Quadrilateral Traffic in Transit Agreement – Pakistan, China, Kyrgyzstan and Kazakhstan.
CPEC – China Pakistan Economic Corridor.

Devonshire-Ellis, C. (2020, May 12). *Uzbekistan Looks To China's Belt & Road And Pakistan's CPEC To Connect Through To Gwadar & Karachi Ports*. Silk Road Briefing. https://www.silkroadbriefing.com/news/2020/05/12/uzbekistan-looks-chinas-belt-road-pakistans-cpec-connect-gwadar-karachi-ports/.

Other Connectivity Initiatives in Central Asia

Connecting China Directly to the Middle East is: Kyrgyzstan's Railway

- Rail connecting West China through Kyrgyzstan and onto Uzbekistan and beyond.
- The Kyrgyz route would save 5 days from the transshipment time.
- Proposed extensions trough:
  - ❖Afghanistan, Iran, and Turkey to Europe;
  - ❖Turkmenistan and, by ferry, across the Caspian Sea to Istanbul and to Europe.

QTTA – Quadrilateral Traffic in Transit Agreement – Pakistan, China, Kyrgyzstan and Kazakhstan.
CPEC – China Pakistan Economic Corridor.

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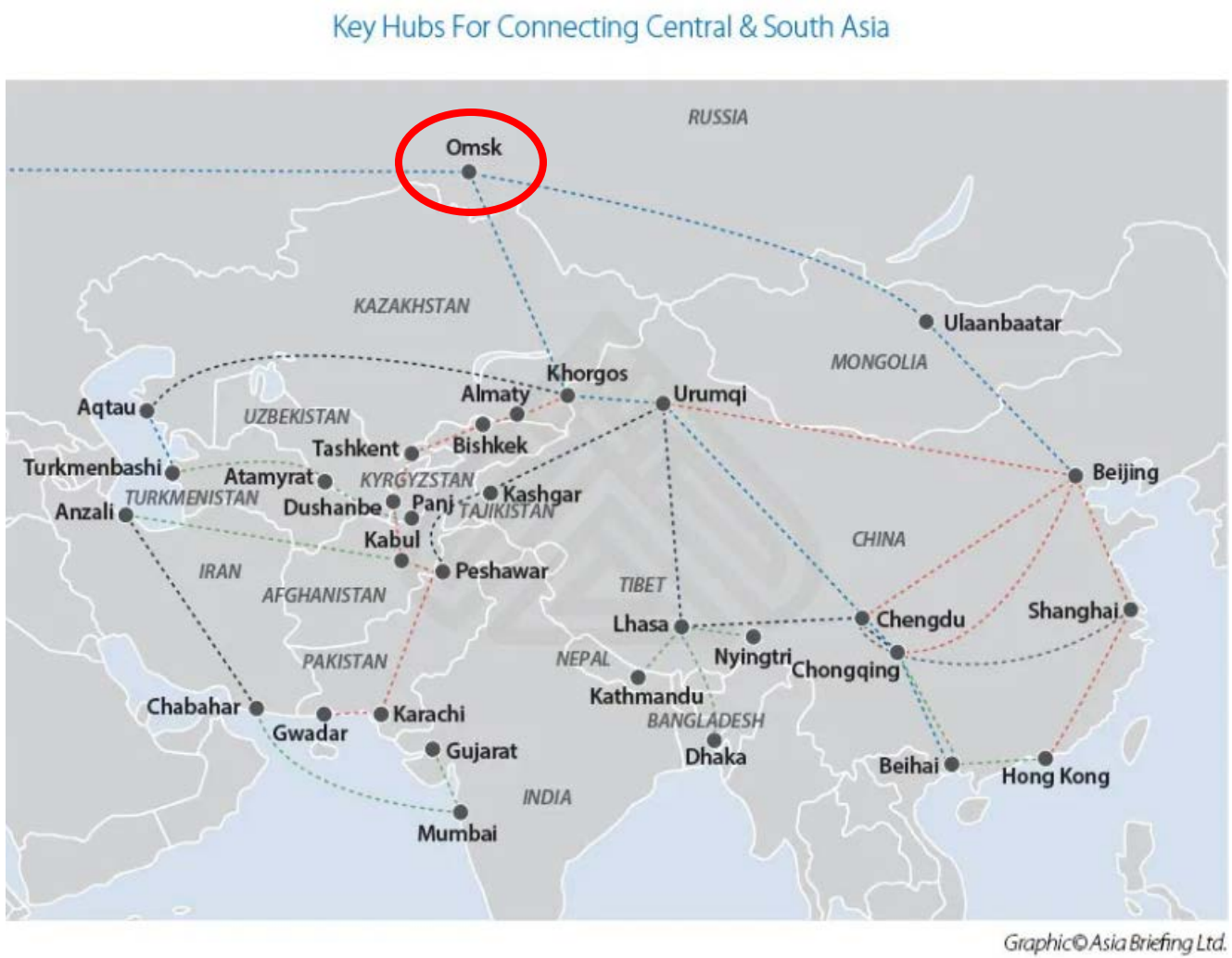
China Pakistan Economic Corridor Connectivity

Silk Road Briefing. (2020, July 27). *Gwadar Port Processes First Transit Goods For Afghanistan Markets*. Silk Road Briefing. https://www.silkroadbriefing.com/news/2020/07/27/gwadar-port-processes-first-transit-goods-afghanistan-markets/.

Connecting Siberia to Asia

Omsk:

- is an important rail hub;
- connects north and south Siberia with the Trans-Siberian routes heading to:
  - Europe;
  - Mongolia;
  - Kazakhstan;
  - China.



Connecting Russia to Vietnam *via* Gansu, Qinghai, and Yunnan

Dongshan Tunnel complex in Northwest China's Qilian Mountains:

- is expected to significantly increase traffic flow between Gansu and Qinghai;
- cuts more than 400 kilometers and about 5 hours in time.

**Vietnam has a Free Trade Agreement with the Eurasian Economic Union*

China National Highway G213

Connecting Xinjiang to the South China Sea:
Western Land-Maritime Corridor

Xinjiang → Beijing → Shanghai → Chongqing → Chengdu → Beihai → Vietnam → Indonesia → .....

Reconnecting Lhasa's Sea Port Access

Lhasa → Nyingtri → *Possible connection to India's railway network*

Lhasa → Dhaka Port (Bagladesh) → Ports in Myanmar

Key Hubs For Connecting Central & South Asia

Graphic© Asia Briefing Ltd.

The International North-South Transportation Corridor

- The **International North-South Transportation Corridor (INSTC):**
  - completes the Western section of the overall Central Asian connectivity;
  - is designed to allow India access to regional markets and Russia.

- **Russia, Iran,** and **India:**
  - have been working on the creation of this 7,200 km, multimodal trade corridor for nearly 20 years;
  - have accelerated the project recently amid growing trade between:
    - countries in the region;
    - India and Europe.

- The **INSTC** *as an alternative to the Suez:*
  - reduces travel times to 20 days;
  - saves up to 30%.
  - completes a circular route *(with a spur planned to cross the Iran-Afghan border and head east to Kabul)* that if completed, would extend around Central Asia offering interfaces with:
    - Russia;
    - China;
    - the Middle East;
    - East Africa;
    - South and East Asia.

Other Connectivity Initiatives in Central Asia

- The **International North-South Transport Corridor (INSTC)** is a 7,200 km long multi-modal network of:
  - ship;
  - rail;
  - road routes;

  for the transport of freight between:
    - India;
    - Iran;
    - Afghanistan;
    - Armenia;
    - Azerbaijan;
    - Russia;
    - Central Asia;
    - Europe.

Other Connectivity Initiatives in Central Asia

- The **objective of the corridor** is to increase trade connectivity between major cities such as:
  - Mumbai;
  - Moscow;
  - Baku;
  - Astrakhan;
  - Tehran;
  - Bandar Abbas;
  - Bandar Anzali.

- The **aim of the corridor** is:
  - to increase trade between member countries;
  - to standardize tariffs and customs duties.

The International North-South Transportation Corridor

Potential cargoes from India to EAEU and further are:

- generic medicines;
- tea;
- canned vegetables;
- grapes and raisins;
- rice;
- coffee and coffee extracts;
- spices, herbs and essences.

Potential cargoes from EAEU to India and further are:

- vegetable oil;
- radar equipment;
- compasses and other navigational products;
- rough diamonds;
- silver;
- mineral and chemical fertilizers;
- crude oil and petrochemicals;
- synthetic rubber;
- polymers;
- plastic products;
- paper etc.

Source: https://www.russia-briefing.com/news/indiya-i-rossiya-planiruyut-utroit-obyom-dvustoronnej-torgovli-do-30-milliardov-dollarov-ssha-k-2025-godu.html/.

Future of High Speed Freight Transportation

❑ **High Speed Freight Transportation:**

- ➢freight train with speeds of up to 400 km per hour;
- ➢Sinara Group (Russia), Siemens (Germany) and CRRC (China) are already working on the freight train project;
- ➢the production of trains at the Ural Locomotives enterprise.

❑ **Testing route:**

- ➢Moscow-Kazan High Speed Railway is planned to be launched in 2020 *(launch postponed)*;
- ➢total length will stand at around 770 kilometers;
- ➢speeds of 350-400 kilometers per hour;
- ➢the time en route between the two cities could be 3-3.5 hours against the current 14 hours;
- ➢potential to expand the route to Beijing through Kazakhstan feeding into China's existing HSR system → total end to end commute time dropping under 33 hours.

International transport corridor Arctic – Siberia – Asia: "Siberian Meridian"

International transport corridor Arctic – Siberia – Asia "Siberian Meridian" :

- can connect the ports of the Pacific and Indian Oceans with the Northern Sea Route, which implies creation of a freight rail link between China and Arctic seaports on the Northern Sea Route by 2035;
- bypasses the Trans-Siberian railroad → and will cover large areas of Siberia and the Arctic;
- involves the construction of a double-track electrified railway ring Salekhard – Nadym – Urengoy – Surgut – Tyumen-Yekaterinburg – Perm – Yaroslavl – Obskaya – Salekhard.

Thank you for your attention!

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