

RAIL CONTAINER TRANSPORTATION IN EURASIA IN THE FIRST HALF OF 2020

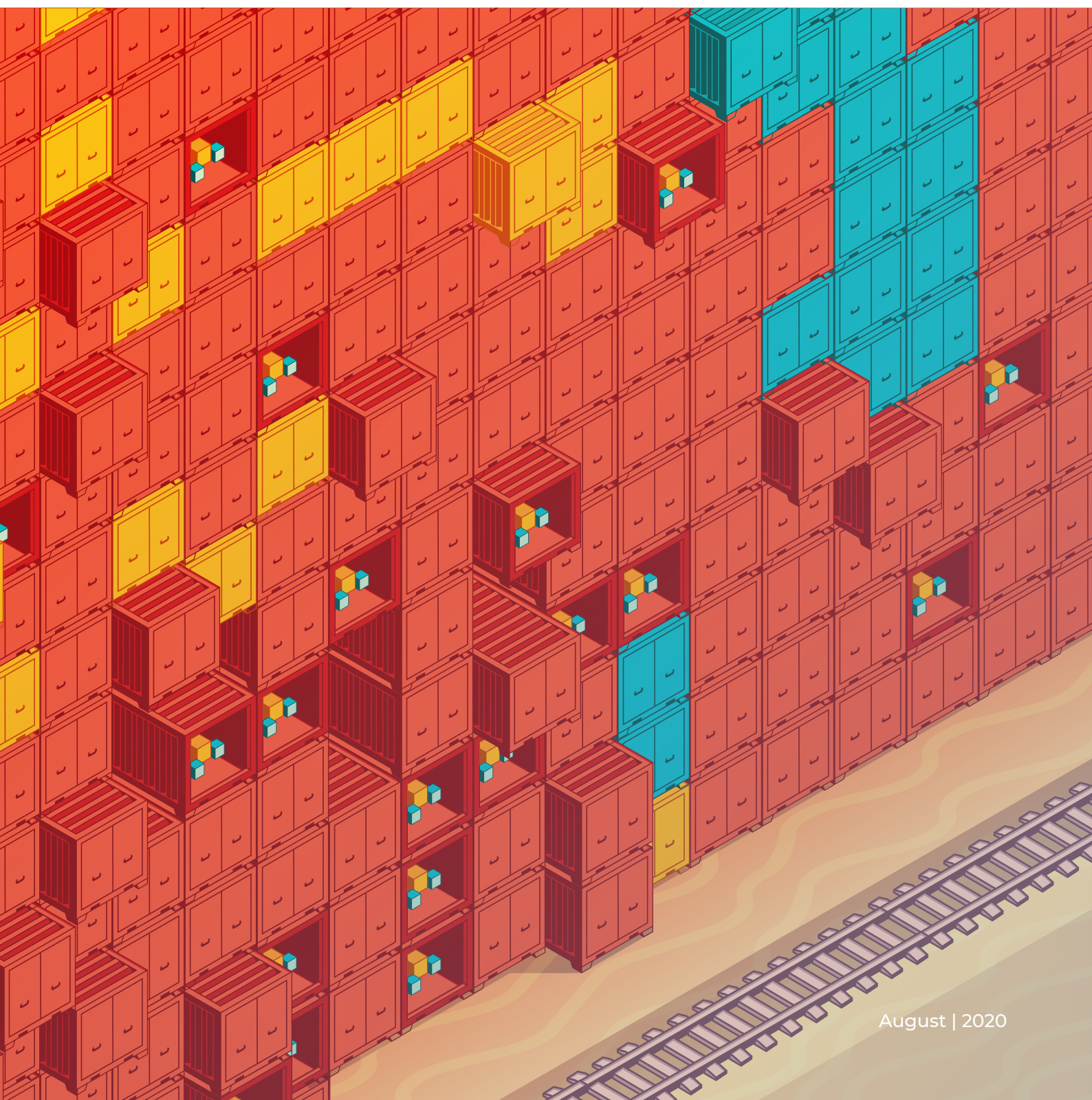


Table of contents

The Current state of Trade and Transport Links between Europe and China	2
Records of 2020: Trains and volumes	4
Faster Trains	5
Trend towards Full Use of Available Capacities	5
Rail container transit routes between China and the EU, cargo structure	7
The route through Belarus, Russia and Kazakhstan is the most promising and fast developing transport link between Europe and China	8
Expanding Geography: 150 Routes between Europe and Asia	9
Expansion of the List of Transported Cargoes Due to Raw Materials and Agricultural Products	10
Railway Rates for Services between Europe and China during the Pandemic	11
Changing Dynamics of Railway Rates: More Reasons to Switch to Rail Transport	12
ERAI Web-Portal (https://index1520.com/): Indicator of Eco-Friendliness of Railway Transport	13

THE CURRENT STATE OF TRADE AND TRANSPORT LINKS BETWEEN EUROPE AND CHINA

— The Current state of Trade and Transport Links between Europe and China

The outbreak of the new coronavirus infection, first in China, and later in other countries, led to introduction of quarantine measures imposed by national governments, primarily in the form of closing national borders. This series of events had a direct impact on the volume of trade flows between the European Union (EU) and China, the two largest manufacturing and trade centers on the Eurasian continent: for example, in January-May 2020, the volume of mutual trade between the EU and China in terms of overall value decreased by 1.34% as compared to the same period a year prior. In March, the decline reached its maximum; in May 2020 the trade volume returned to the level of January 2020, mainly due to a sharp increase in the volume of EU imports of medical products from China. The pandemic has had a negative effect on the functioning of supply chains due to disruptions in transport infrastructure, with maritime and air transport being affected the worst. Therefore, the rail transport served as a green light route for EU-China freight traffic, which was essential in the fight against the pandemic. For example, in the first five months of 2020, the total value of mutual trade between the EU and China carried out by railway transport, increased by 21.22% year-on-year (47.42% more in May than in January 2020)¹. This development allowed rail transport to increase its share in the total trade volume from 2.83% in January-May 2019 to 3.47% in January-May 2020.

¹ Source: EXTRA EU trade since 2000 by mode of transport (HS2-HS4) [DS-043327]

Records of 2020: Trains and volumes

The volume of container traffic along the route China-Europe-China in 2020 increased by a record 57.6% as compared to the 1st half of 2019. The absolute record was achieved in the 1st half of 2020 when the total volume of transportation since 2015 amounted to 1 million TEU. In addition, in June 2020, the volume of transported goods reached 50,000 TEU per month for the first time ever. The average number of trains per day also continued to increase, but at a slower pace: in the first half of 2020, the figure increased by 37.66% as compared to the same period in 2019 to 10.6 (which is more than two times the number for the first half of 2017). A record number of 500 trains were sent from China in May 2020. This dynamic is especially indicative, given the negative forecast ² for international cargo transportation due to planned turnover decrease by 32% in the fourth quarter of 2020. Despite a significant decline, this figure still reflects a positive scenario, since it does not take into account the likely second wave of the pandemic. In this case, the decline may reach 57%. The key role in such an impressive increase in trade volume was played by the restrictive measures, which led to railways taking over some trade flows. Partly it was also due to several inherent advantages of this mode of transport, such as speed (much faster than transportation sea) and with lower shipping costs (as compared to air). The strategic commitment of governments of Eurasian states and companies operating within the field to the development of Eurasian transport corridors has also played a significant role.

Figure 1.

A SHARP INCREASE IN THE VOLUME OF CONTAINER RAILWAY TRANSPORTATION IN 2020

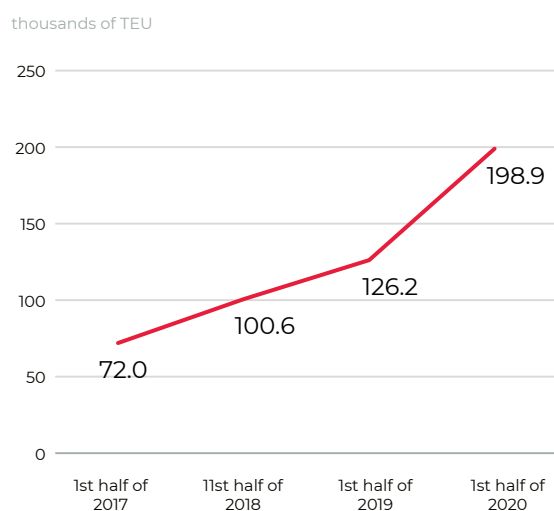
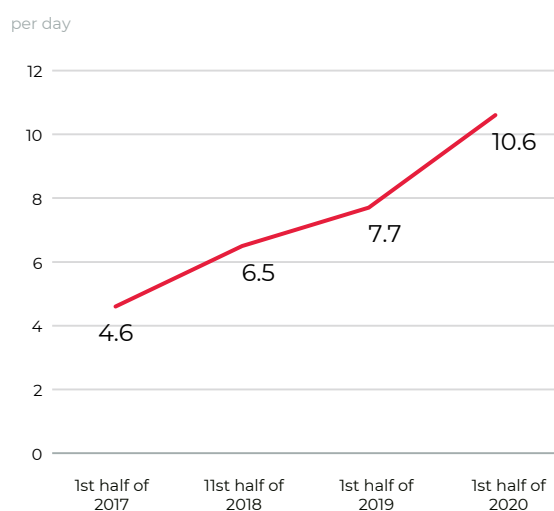


Figure 2.

STABLE GROWTH OF THE AVERAGE NUMBER OF TRAINS PER DAY



² Source: <https://www.coface.ca/News-and-Publications/Publications/Global-Transport-What-does-the-future-hold-beyond-COVID-19>

Faster Trains

A considerable increase in the average speed of trains via the corridor through Kazakhstan, Russia and Belarus was achieved in the first half of 2020. For example, in the first half of the year, the speed averaged 1,099 km/day, which is 6.80% greater year on year, and some 15.81% greater than over the same period of 2017. In general, in the first half of 2020, the delivery time of goods decreased to 4.96 days from 5.3 days a year ago.

Figure 3.

TRAINS ACCELERATING STEADILY

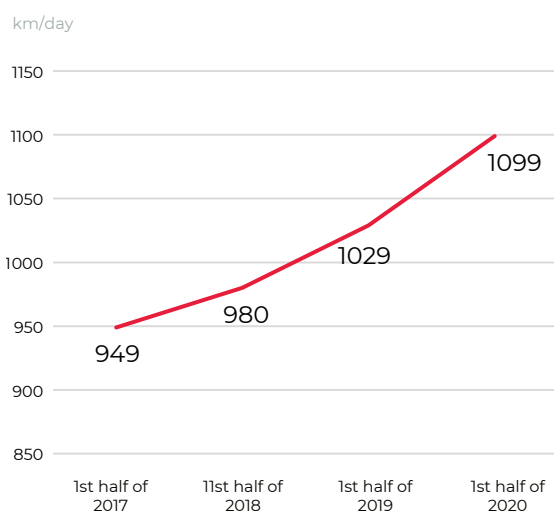


Figure 4.

CONTINUING TREND TOWARDS EVEN SHORTER TRANSIT TIME



Trend towards Full Use of Available Capacities

In the first half of this year, there were practically no empty containers shipped along the China – Europe route. A similar trend was observed in the opposite direction: the share of empty containers also reduced this year, after two years without changes: in 2020, the volume of loaded containers from Europe to China more than doubled since the 1st half of 2019 and amounted to 64.51 thousand TEU. In other words, the problem of empty containers being shipped from Europe to China has been gradually disappearing. It is fair to say that the outbreak of the pandemic contributed to this tendency to some extent, as transportation of certain commodity items moved from the air and sea transport to the railroad.

Figure 5.

THE RATIO OF EMPTY AND LOADED CONTAINERS SENT FROM CHINA TO EUROPE

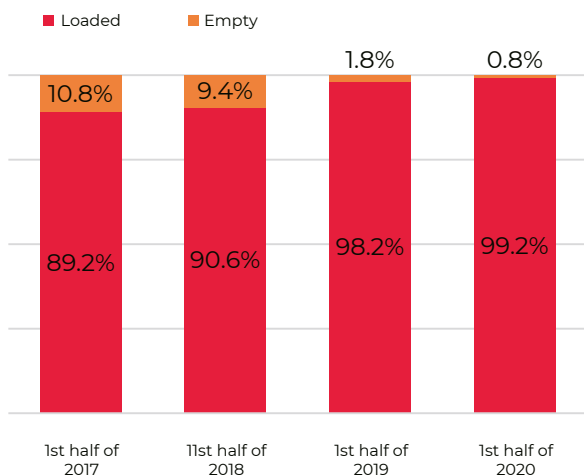
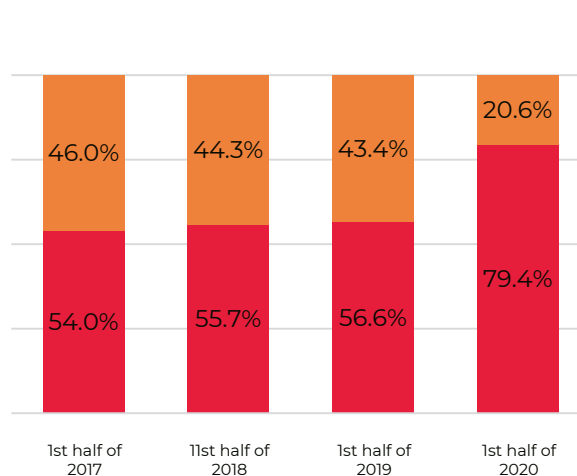


Figure 6.

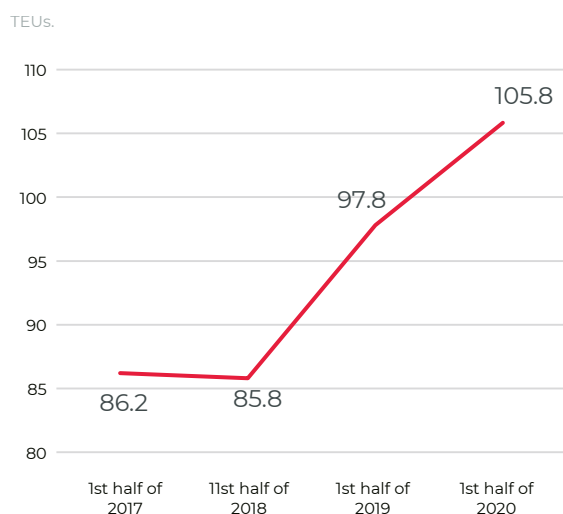
THE RATIO OF EMPTY AND LOADED CONTAINERS SENT FROM EUROPE TO CHINA



Against the background of the changing ratio of loaded and empty containers as described above in the 1st half of 2020, there was an increase in the average level of train loading capacity in the direction China – Europe – China to 105.8 TEU, which is 8.21% higher year on year.

Figure 7.

AVERAGE TRAIN LOADING CAPACITY ON THE ROUTE EUROPE – CHINA – EUROPE



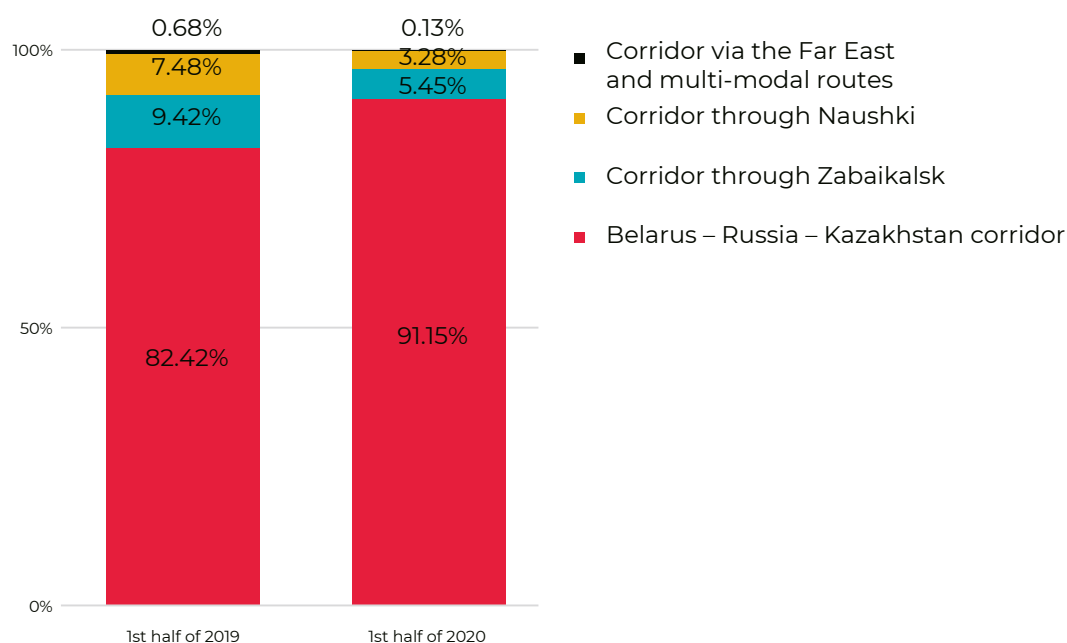
RAIL CONTAINER TRANSIT ROUTES BETWEEN CHINA AND THE EU, CARGO STRUCTURE

The route through Belarus, Russia and Kazakhstan is the most promising and fast developing transport link between Europe and China

Among the four main transit corridors between Europe and Asia, the corridor through Belarus, Russia and Kazakhstan demonstrates leading figures with the share of 91.15% in the 1st half of 2020 (+8.73% year on year). This corridor is the only one demonstrating an increase in the volume of freight traffic along the China – Europe – China route (57.15% in the first half of 2020). A significant contribution to the increase in the volume of container traffic through the corridor Belarus – Russia – Kazakhstan was brought by a sharp increase in the volume of freight traffic from China to Europe (by 82.67%) compared with a comparatively marginal increase in the opposite direction (by 17.49%).

Figure 8.

GROWTH OF THE BELARUS – RUSSIA – KAZAKHSTAN CORRIDOR IN THE OVERALL SHARE OF CHINA – EUROPE – CHINA CORRIDORS (BY THE VOLUME OF TRAFFIC IN TEU)



Expanding Geography: 150 Routes between Europe and Asia

In 2020, as in 2019, the number of routes between China and Europe doubled: there had been some 75 routes in the first half of the year, and in 2020 this number reached 150. Such cities as Burghausen, Paris, Gavle, Gliwice, Ludwigshafen, Sassnitz, Vilnius, Nanchan, Shilun, Belgrade, etc. were new welcome additions to railway service destinations. The key routes in the direction between China and Europe were: Xi'an – Małaszewicze, Chongqing – Małaszewicze, Chengdu – Lodz, Chongqing – Duisburg, Zhengzhou – Hamburg, and others. These routes in January-June 2020 together accounted for more than 50% of the total volume of cargo transported. In the other direction, the busiest routes were: Hamburg – Xi'an, Duisburg – Chongqing, Małaszewicze – Xi'an, Hamburg – Zhengzhou, Lodz – Chengdu; more than 50% of the total cargo volume was transported along these routes.

Europe – China Route	Share in Total Volume	Change over the Year ³
Hamburg – Xi'an	20.43%	6 times greater
Duisburg – Chongqing	10.47%	-30.63%
Małaszewicze – Xi'an	9.33%	29 times greater
Hamburg – Zhengzhou	9.10%	-23.08%
Lodz – Chengdu	8.13%	-25.48%
Tilburg – Chengdu	7.99%	-26.69%
Duisburg – Xi'an	6.40%	-
Neuss – Hefei	3.77%	-
Nuremburg – Chengdu	2.89%	-
Hamburg – Hefei	2.42%	-
Wroclaw – Chengdu	1.74%	-
Duisburg – Wuhan	1.69%	6 times greater
Sassnitz – Xi'an	1.48%	-
Others	14.15%	

Europe – China Route	Share in Total Volume	Change over the Year
Xi'an – Małaszewicze	24.11%	5 times greater
Chongqing – Małaszewicze	11.64%	5 times greater
Chengdu – Lodz	8.45%	-
Chongqing – Duisburg	6.05%	-
Zhengzhou – Hamburg	5.85%	-
Xi'an – Ghent	4.67%	10 times greater
Chengdu – Tilburg	4.41%	-
Chengdu – Małaszewicze	3.36%	-
Xiamen – Małaszewicze	2.88%	24 times greater
Xi'an – Budapest	2.75%	-
Chengdu – Wroclaw	2.42%	-
Zhengzhou – Liège	1.68%	-
Ywoo – Madrid	1.56%	-
Chengdu – Nuremberg	1.54%	2 times greater
Hefei – Hamburg	1.52%	-
Wuhan – Małaszewicze	1.46%	23 times greater
Wuhan – Duisburg	1.36%	-
Others	14.30%	

Parallel to the diversification of routes in 2020 we notice the expanded list of locations of origin and discharge of cargoes: in the first half of 2020 their number reached 80.

³ Missing data on changing transportation volumes along those or other routes means that there had been no transportation along this route in the first half of 2019.

Expansion of the List of Transported Cargoes Due to Raw Materials and Agricultural Products

As the overall international market of cargo transportation shrunk, transportation in Eurasia became an exception, demonstrating qualitative and quantitative growth in terms of volumes and the variety of products transported on rail. The number of product categories, according to the Harmonized System (HS) classifier, increased from 79 last year to 93 in the first half of 2020, which indicates increased interest in Eurasian rail transport on the part of shippers from various sectors of the economy. At the end of the 1st half of 2020, 14 new groups, that mainly classify as raw materials and agricultural & food goods were added to the range of cargoes transported along the Eurasian railway route. Among them are such commodities as cocoa, silk, oilseeds, plant extracts, zinc, vegetables, lead, animal and plant products, as well as works of art. However, the overall share of new commodities is quite modest (0.12% out of the total volume transported or 238 TEUs).

Despite the now wider range of products transported, there were no real changes in terms of cargoes that predominate within the Eurasian rail services: core eight groups of goods accounted for around 72,76% of overall traffic. Amongst the two main product groups were mechanical equipment and machinery, computers (18.59%) and electrical devices, communication equipment (18.44%). The third place was taken by motor vehicles (11.83%), showing an increase of more than 2 times year on year. The fifth place was taken by plastics and plastic products (6.54%), the transported volume of which between Europe and China by rail has tripled year on year. The last group of products on the list includes furniture, lighting equipment, tailored clothes (their total share decreased slightly from 2.37 to 2.23% due to other product groups outpacing it growth-wise), and articles made of ferrous metals (2.18%). As for the rest of the commodity groups, their total share amounted to 27.24% as compared to 23.75% last year, which indicates a decrease in concentration and continuing diversification of the assortment of goods transported by rail.

RAILWAY RATES FOR SERVICES BETWEEN EUROPE AND CHINA DURING THE PANDEMIC

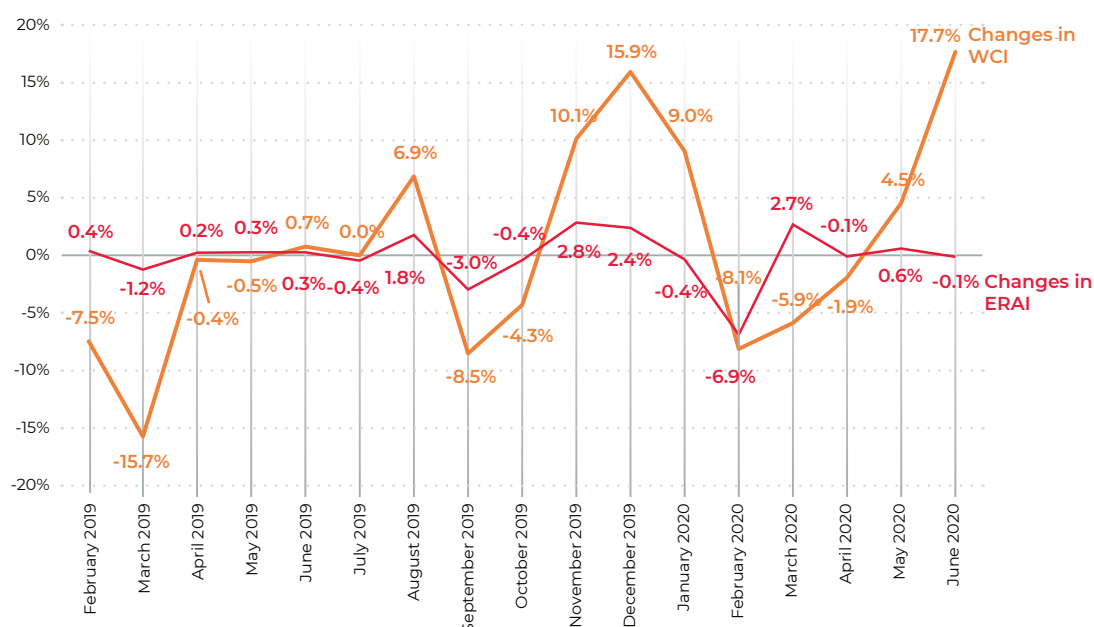
Changing Dynamics of Railway Rates: More Reasons to Switch to Rail Transport

Over the past year and a half, the dynamics of the ERAI (Eurasian Rail Alliance Index), which reflects the cost of transit for container shipments in the Eurasian rail corridor across the territory of the Eurasian Economic Union between China and the EU, demonstrated relative stability. In June 2020 the ERAI Index reached the value of USD 2,687/FEU. The sub-indices measuring the cost of transportation bound for Europe (U-West) and China (U-East), despite fluctuations in the second half of 2019 and early 2020, overall decreased slightly in June 2020 and amounted to USD 2,778/FEU (U-West) and USD 2,462/FEU (U-East).

The dynamics of the deep-sea index, the WCI (World Container Index), showed traditionally large fluctuations over the under consideration. This year, a negative trend persisted for a long time due to the impact of restrictive measures installed to combat the pandemic, which led to a decrease in demand, primarily in China. Due to this, both indices declined in March 2020, and in subsequent months, after the lifting of restrictions in China, showed a reverse trend towards recovery. In addition, the same factor can explain the decrease of the ERAI U-East index in April 2020, while the ERAI U-West index remained at about the same level with an upward trend.

Figure 9.

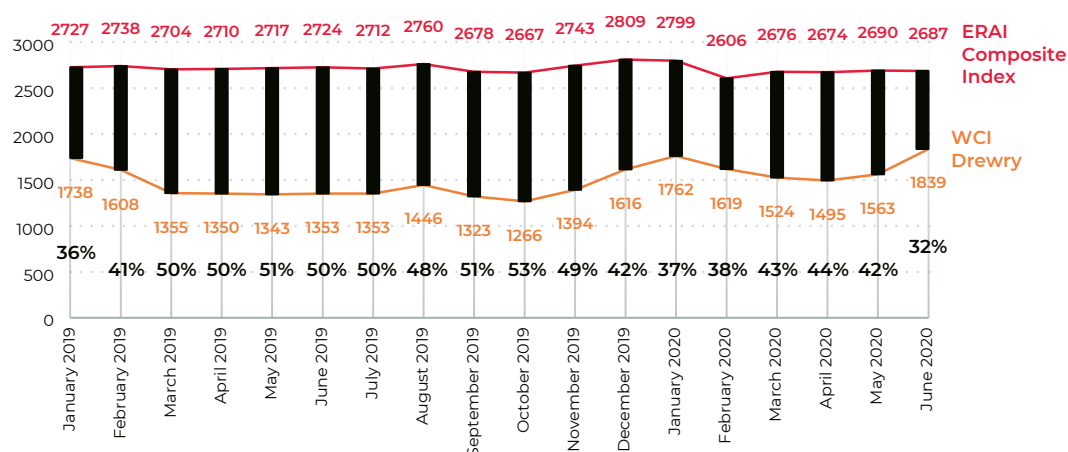
CHANGING COST DYNAMICS OF CARGO TRANSPORTATION ACCORDING TO ERAI AND WCI



The difference between the costs of cargo delivery between rail and sea transport continued to decline: from 36% in January 2019 to 32% in June 2020, with an average difference of 45% throughout the entire period. If such dynamics should persist in the future, obviously, this may become an additional factor motivating transportation companies to switch to transportation of goods by rail.

Figure 10.

RATIO OF ERAI AND WCI INDICES



ERAI Web-Portal (<https://index1520.com/>): Indicator of Eco-Friendliness of Railway Transport

The ERAI⁴ (<https://index1520.com/>) web-portal has recently been updated, with the latest addition being a unique: an indicator of environmental friendliness of rail freight traffic. The strives to make it clear – in a world where decarbonization of the global economy is a central issue – rail is the future. In addition to related forecast figures and actual data, the also shows the volume of emissions produced by main modes of transport – road, air, rail and sea – over a selected time period given same specific conditions. The functionality also allows the user to compare different types of transport in terms of direct and indirect emissions produced, as well as receive archived statistical data. For example, in the 1st half of 2020, freight transportation by rail produced 14.9 thousand tons of direct (Tank-to-wheel, TTW), which is almost 5 times less than by sea; 89 times less than by road and 528 times less than by air.

The updates on figures are available to subscribers: the subscription feature has been also recently introduced. Bulletins containing news and relevant analytical materials in three languages allow users to stay well informed and receive the most relevant data regarding the state of affairs in the Eurasian railway container industry.

⁴ Source: <https://index1520.com/>

ERAI

Eurasian Rail Alliance Index



www.index1520.com