

More chemicals on the rails to China?

Despite obstacles, rail freight between Europe and China has potential ¹



George Raymond,
Railweb
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Containers have been travelling by rail between Asia and Europe for decades. The argument is simple: rail should be faster than sea and cheaper than air. In recent years, China has subsidised rail freight to Europe. Operators and customers have had to deal with imperfect shipment visibility, political conflicts, border congestion, rigid city-to-city trains and now the Covid crisis. Despite this, the rail traffic of a leading operator between China and Europe has grown by 324% since 2017.

With their high value and balanced flows, chemicals seem well suited for the railway between China and Europe. The biggest brake on this is perhaps the easiest to release: the dangerous-goods ban on the Chinese railways.



Eastbound tank containers near Ludza, Latvia. The Russian border is 40 km ahead. Both here and in Russia the rails are 1520 mm apart; in China and most EU countries the standard is 1435 mm. Photo © Konstantin Davidoff.

Imperfect visibility and political conflicts

The first railway line between Asia and Europe was the Trans-Siberian. After the 2012 creation of a customs union between Kazakhstan, Russia and Belarus, more routes opened. Since then, China has expanded - and subsidised - container transport by rail between more and more Chinese and European cities. One goal has been to open up China's inland provinces. China apparently also wants to create a network of commercially self-sustaining and politically effective connections with Europe. However,

¹ This document is a translation of an [article](#) that appeared in the German newspaper [CHEManager 10/2021](#).

customers have complained that the subsidies do not encourage certain operators to progressively improve their services - especially real-time shipment tracking and arrival time predictions.

Political conflicts also influence Europe-China rail transport. From 2014 to 2019, Russia blocked the transit of some food from Europe to China. In 2021, Belarus threatened to block transit trains and China threatened to stop rail service to Lithuania.

Crossing points between gauges

Another obstacle is a technical one. The usual track gauge in both China and Europe is 1435 mm, but in Finland and the territory of the former Soviet Union it is 1520 mm. Where the gauges meet, cranes hoist the containers from one train to another. Such crossings have proved to be bottlenecks - despite efforts to increase throughput. Congestion between Belarus and Poland and the search for more direct routes are spawning development of 1435/1520 crossing points from Lithuania to Georgia.

Increasingly, ships are also bridging the gauges. Ships connect intercontinental 1520 mm trains arriving in Kaliningrad, Helsinki and St. Petersburg with seaports on the 1435 mm networks of the EU and the UK. Chinese and Russian ports also receive intercontinental trains with containers bound for Japan, South Korea, Taiwan and Vietnam.



Tank containers in Ratingen-Lintorf, Germany. © Guy Houston.

City-to-city trains

Chinese cities and provinces distributed the subsidies. They only funded city-to-city trains between China and Europe. The impact of such trains is commercial but also political. In 2020, for example, China publicised every train that brought masks and other protective gear from a Chinese city to a European city. But such city-to-city trains constrain rail operations. In a more market-oriented environment, rail operators and freight forwarders would probably focus less on city-to-city trains and more on the optimal rail transport of each container via hubs from origin to destination.

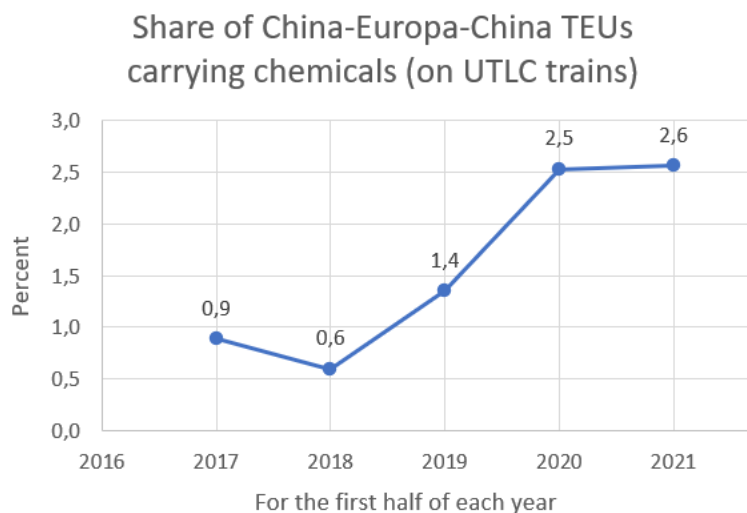
The Covid crisis has massively disrupted world trade. Transport prices between China and Europe have exploded - both by sea and by rail. Being able to transport a container between China and Europe at all is currently more important than service quality or price. Subsidies are irrelevant. However, with increasing vaccination rates and the arrival of a wave of new ships to increase capacity by 2023, prices will fall. Rail will again compete with maritime transport between China and Europe. Price and service quality will once again come to the fore - and perhaps subsidies too.

Rapid growth in a niche

The company UTLC ERA operates container trains between China and Europe. The railways of Belarus, Russia and Kazakhstan each own a third of it. *Index1520.com* details UTLC volumes in 20-foot equivalent units (TEU). UTLC says that it had a 91.3% market share in rail transport between China and Europe in 2020, with 490,235 TEUs. Other sources suggest that UTLC market share is lower, but publicly available, detailed data is sparse.

UTLC's rail volumes would only fill three container ships a month. As a niche product, however, UTLC offers something unique: a means of transport between China and Europe that is cheaper than air and faster than sea. Despite the obstacles, the company's transport volume has grown steadily since 2017.

The interest of owners of chemical products for Europe-China rail seems to be increasing. The share of TEUs carrying chemicals has been growing since 2018, reaching 7801 TEUs or 2.6% of all goods in the first half of 2021.



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Ban on dangerous goods

With only 7801 TEUs in six months, chemical transport by rail between China and Europe is admittedly a niche within a niche. But: Chinese railways currently prohibit the transport of dangerous goods. Many chemicals that must be transported by rail in Europe must be transported by truck in China. One reason for the less favourable risk analysis for the transport of dangerous goods by rail in China is possibly the greater uncertainty about the consequences of an accident for the railway managers themselves. Dangerous goods already move by truck and ship from China to Vladivostok and from there to Europe on the Trans-Siberian Railway. Among the lobbyists pushing to lift the Chinese rail ban are the increasingly powerful makers of cars powered by lithium batteries. And BASF continues to invest in its Chinese production network, including in Chongqing, far from the seaports. Dangerous goods could soon be coming on Chinese rails.

East-west balance

Even in the Covid crisis, trains towards China are very difficult to fill with containers, as trade flows towards Europe dominate. Customers with goods flows to the east can therefore probably negotiate lower prices. This could be true for chemicals. Since 2017, the share of all TEUs travelling eastbound has been stable at around 38% (excluding 2020), while the share of TEUs loaded with chemicals travelling eastbound has increased from 21% to 45% since 2019.

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[See also the [51-page report](#) on rail freight between Europe and China that George Raymond published in October 2021.]