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Freight transport in the Eurasian space of the Organization for Co-Operation between Railways in the era of the pandemic

This article analyzes the state of container transport in the Eurasian space at the time of the pandemic based on selected statistics in comparison to the preceding period. It also references a study by the World Customs Organization and research into institutions involved in intermodal transport carried out by the author jointly with the IntermodalNews team. The findings indicate an increase in rail services in the Eurasian space and the need to further standardize transport and customs documentation. Moreover, recognition of the importance of cooperation and harmonization of border crossing procedures for further development revealed the need to increase rail transport digitalization and improve the digital transport management system. The analysis suggests that the pandemic period was treated as an opportunity to develop and implement new solutions in these areas.

Keywords: Organization for Co-Operation between Railways, Eurasian space, electronic consignment note, international transport corridors, New Silk Road

JEL classification: L91, L92, N75

Introduction

Established in 1956 in Sofia and headquartered in Warsaw, the Organization for Co-Operation between Railways (OSJD) is an international body that aims to expand and facilitate international rail transport, as able to face up to the challenges of mobility and sustainability, through the unification of transport laws and the development of railway corridors in the Eurasian space¹. The corridors play an essential role in the planning and organization of container train transport, and the OSJD undertakes initiatives to modernize them by improving their technical and operational parameters, thus increasing the competitiveness of railway in freight transport. Furthermore, it constantly strives to simplify cross-

¹ In this article, “Eurasian space” is taken to mean the area that comprises OSJD member countries.

border procedures and standardize transport documentation, recognizing the challenges posed by the different requirements applicable in Asia and Europe, resulting from the systems of regulations developed and adopted by OSJD member states on the one hand and the International Rail Transport Committee on the other.

1. OSJD activity – an overview

The OSJD currently has 29 member countries, 6 observers, and 40 affiliated enterprises. Figure 1 shows its scope of impact.

The transport policy of the OSJD is informed by its strategic goal of increasing and improving international railway traffic between Europe and Asia by making it more competitive and efficient, and thus strengthening the position of railway in international transport markets. In ensuring commercial interaction and integration of its associated railways with the global transport system, it strives for a common transport space and concentrates its efforts on resolving strategic matters and overcoming specific difficulties arising in relation to particular transport directions, corridors, or border crossings.

The OSJD's principal activities include [OSJD, 2021a, p. 1; Antonowicz, 2021, pp. 3–4]:

- development of international rail transport between European and Asian countries,
- cooperation in the fields related to transport policy (incl. law and environmental protection),
- administration of the agreements in force,
- formulation of the general principles of unified international rail transport law,
- development of measures to increase the competitiveness of railways against other modes of transport,
- development of cooperation for the improvement of operating procedures and technological modernization of international railway lines,
- assistance in removing obstacles to international communication encountered by OSJD railways.

A very special role in the OSJD's efforts to improve Eurasian rail transport is played by the 13 international corridors and border crossings, such as those between China and Kazakhstan or between Poland and Belarus (Małaszewicze). Their importance stems predominantly from their location along the main East–West railway axis, on the extension of the Trans-Siberian Railway, as illustrated in Figure 2.

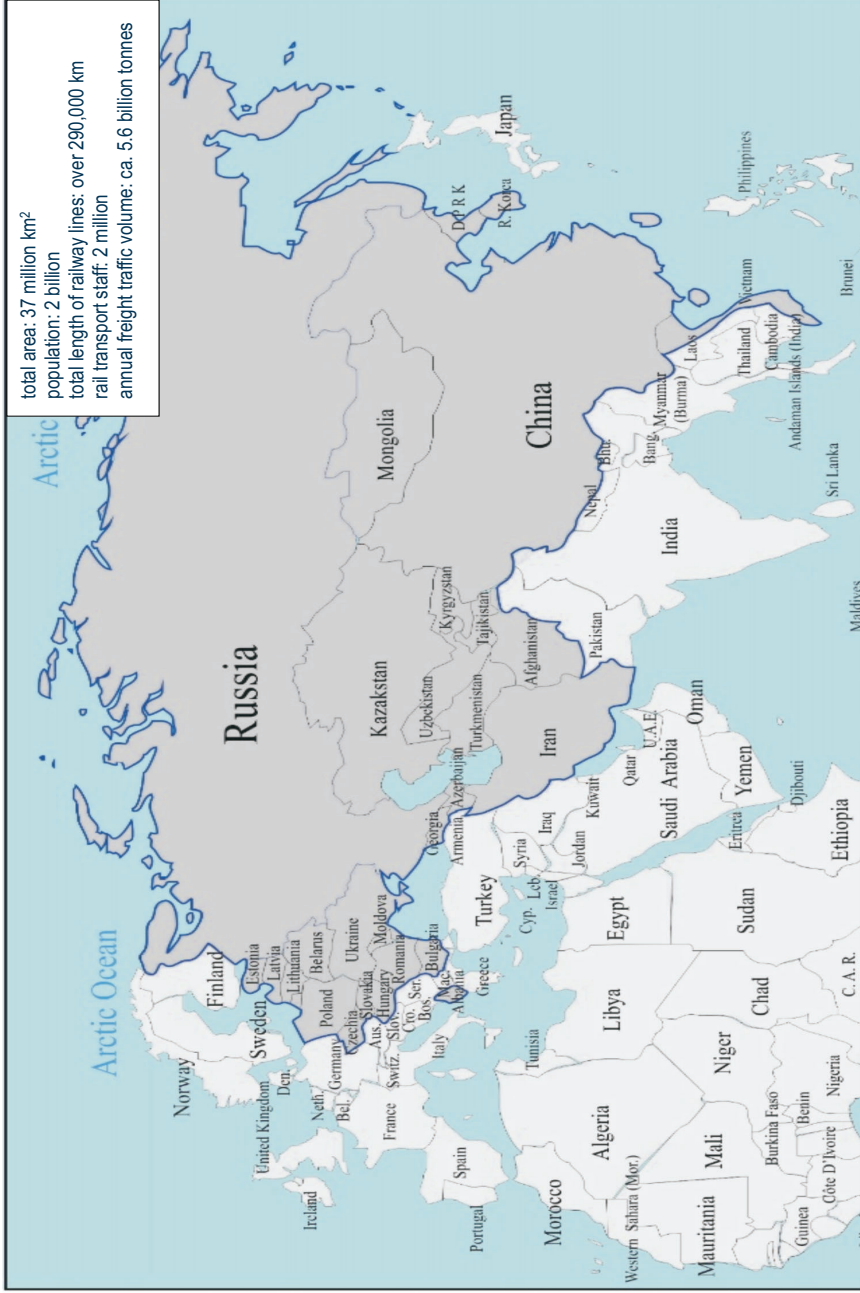
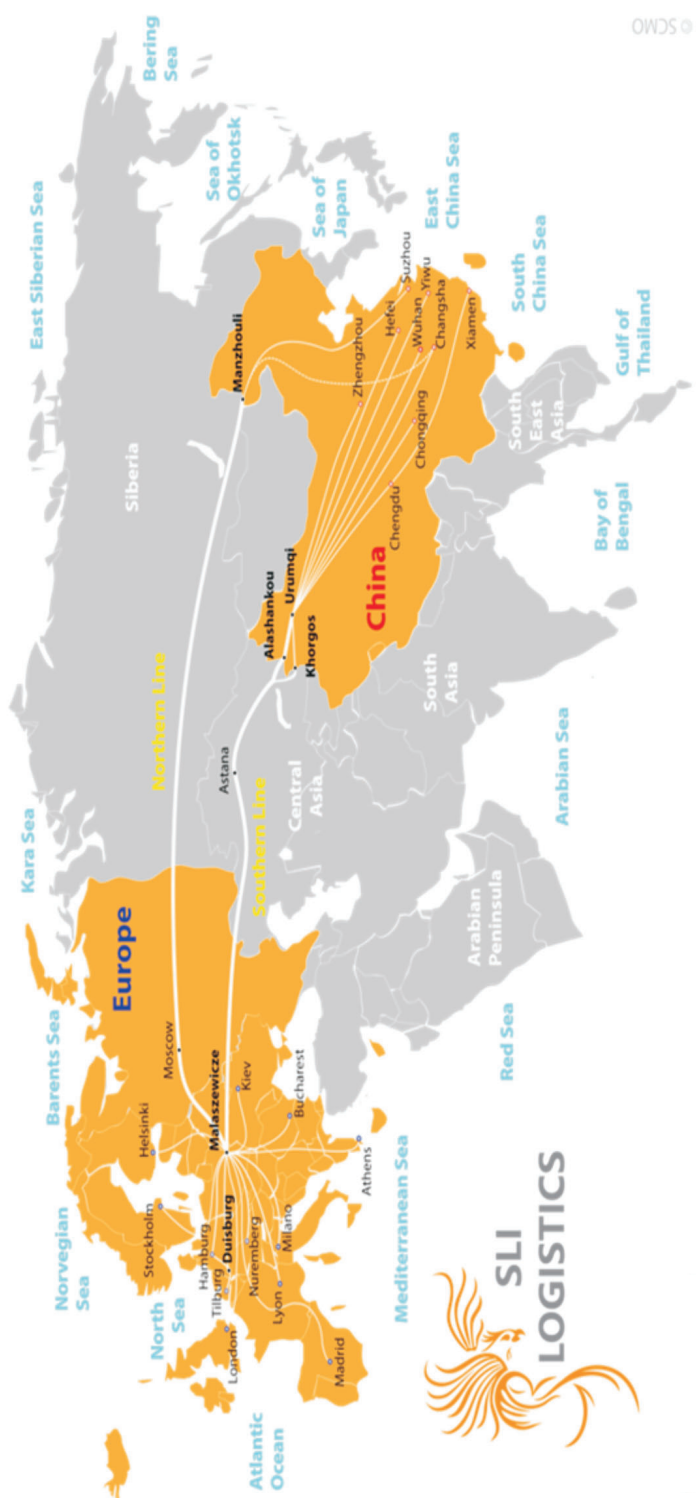


Figure 1. The OSJD in the Eurasian space

Source: [Aspaeva, 2021b].



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Figure 2. Transport corridors from China to the Malaszewice border crossing
 Source: [CARGOTOR, 2021].

In this context, the freight flow from the Far East alone is an important factor² [UPU, 2021a]. By necessitating a response on the part of the OSJD, it contributes to the development of rail transport corridors and significantly improves the technical, legal, and administrative aspects of the border crossing process, largely reducing stopover time and, as a result, the overall transport time.

2. The pandemic as an unprecedented challenge for the railway sector

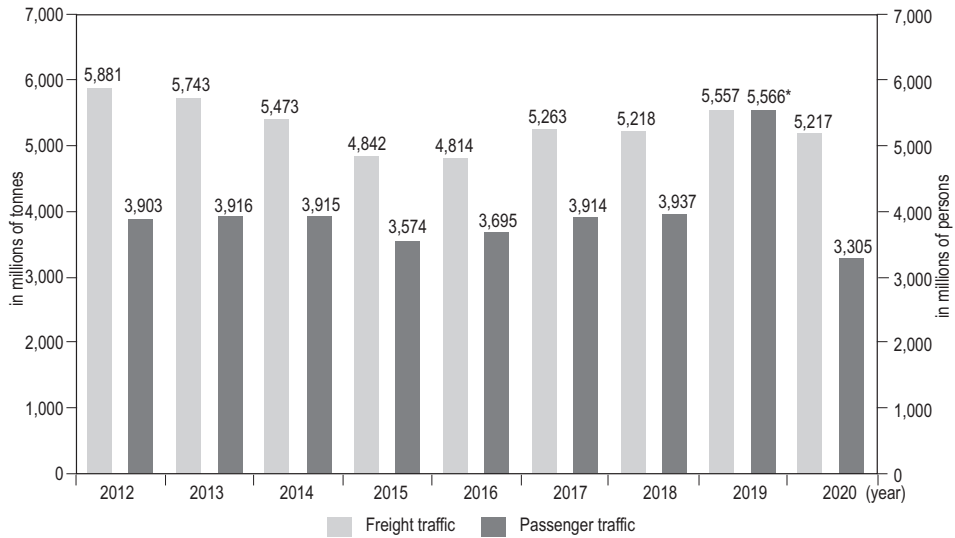
In 2020, the global economy was seriously affected by the pandemic and the introduction of restrictions, suffering a significant reduction in both supply of and demand for goods and services. Whole branches of the economy were forced to change operating models and revise production plans. These developments did not leave the railway sector untouched, having the strongest impact on passenger traffic. Due to the state of epidemic emergency, international connections were suspended and the number of passengers in domestic traffic significantly decreased. At the same time, however, the importance of rail freight transport started to increase due to its role in maintaining stable and uninterrupted deliveries of the most essential pandemic-related goods between Asia and Europe. The dynamics of changes in the volumes of traffic through the Eurasian space are illustrated in Figure 3.

Despite the difficulties the pandemic caused for global transport systems in 2020 and at the beginning of 2021, the OSJD and its associated railways continued to ensure uninterrupted domestic and international supplies. Activities aimed at increasing railway traffic volume as well as efficiency and competitiveness were maintained³. Especially important for the stability of freight traffic were the joint declarations of international organizations – demonstrations of cooperation and agreement in a time of crisis:

- OSJD/OTIF/WCO joint statement on global supply chain continuity during the COVID-19 pandemic,
- UNESCAP-OSJD joint declaration on strengthening international rail transport operations on the Trans-Asian railway network and beyond in response to the COVID-19 pandemic.

² In 2020, transit volume from Japan through the port of Vladivostok was expected to increase by 22% within just a year. To cope with increased freight flow, the OSJD recommends that border stations have an adequate reserve of throughput capacity.

³ In order to facilitate cross-border freight transport and reduce the risk of spreading the pandemic, the Resolution no. 307 of the Government of the Republic of Kazakhstan of 20 May 2020 suspended customs controls of container trains in transit connections through the territory of Kazakhstan and import controls at target stations until the end of 2020.



* taking into account the data of the Republic of Korea after joining OSJD

Figure 3. Recent dynamics of changes in traffic volumes

Source: [OSJD, 2021b].

International organizations also made attempts to develop standard unified transport and customs documents, which contributed to the fact that air freight transport, courier deliveries, and rail freight transport between China and the EU managed to “benefit” from the pandemic [Ojala, 2020]. An example of such an endeavor was the launching of the WCO “Rail guidance” project in 2019. In October 2020, during one of the workshops on rail transport, an online survey was conducted in order to better understand the current situation and problems and examine the key elements of customs procedures.

The survey included 33 closed questions. Out of 51 participating countries 29 (56.9%) provided their answers. Some of them are illustrated in Figures 4–7. The obtained results show, e.g., that a transit declaration is preferable to a consignment note, and indicate the need to further standardize commercial and customs documentation with that in mind, as well as for railways and the authorities to cooperate in conducting border controls.

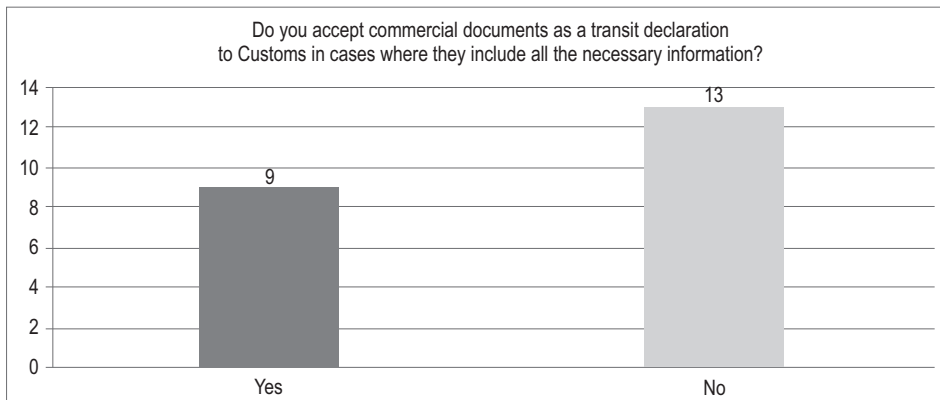


Figure 4. WCO survey results, question 1

Source: [Park, 2021].

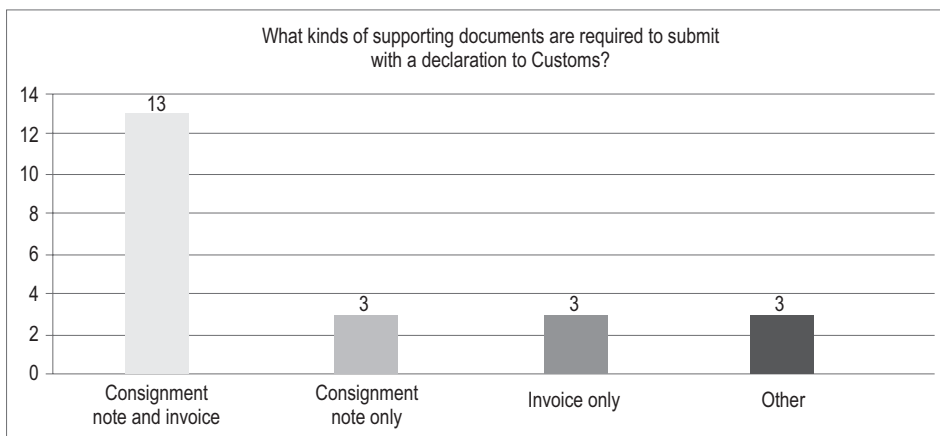


Figure 5. WCO survey results, question 2

Source: [Park, 2021].

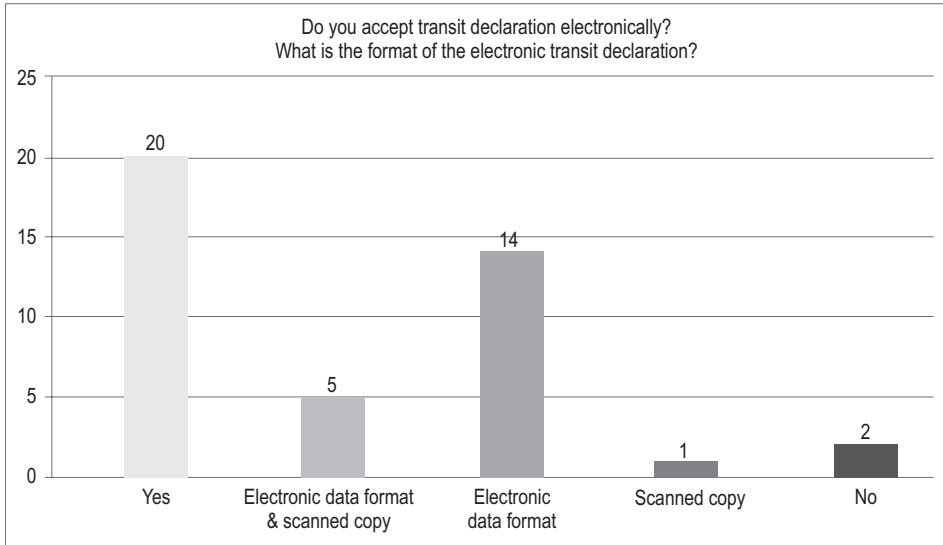


Figure 6. WCO survey results, question 3

Source: [Park, 2021].

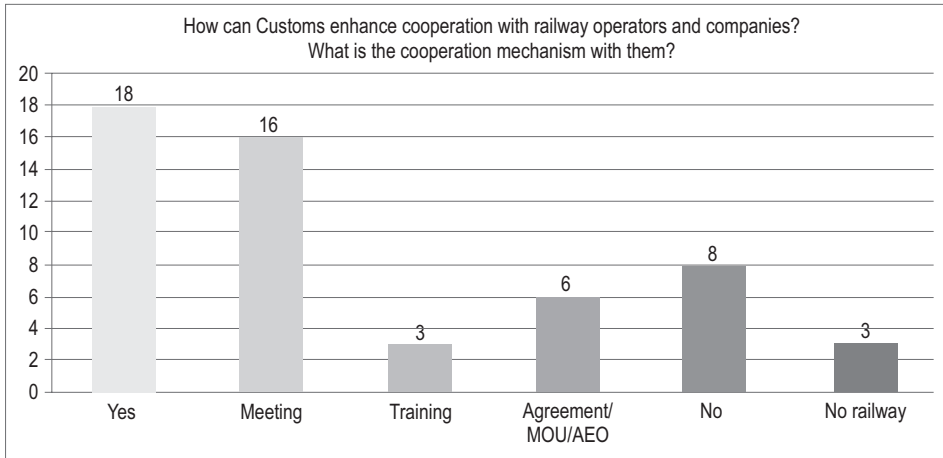


Figure 7. WCO survey results, question 4

Source: [Park, 2021].

3. Common consignment note as a way to develop railway traffic in the Eurasian space

The existence of two systems of transport regulations and requirements in Asia and Europe – the Agreement concerning International Goods Transport by Rail, or SMGS, and the Contract of International Carriage of Goods by Rail, or CIM – is a reflection of two different geopolitical, economic, and legal realities. Both systems concern the same subject matter, but differ significantly both in terms of form and adopted principles [Hudojorov, 2021]. To overcome this obstacle to the development of international railway traffic, a common CIM/SMGS consignment note was developed as a joint OSJD/CIT/OTIF project. It facilitated cooperation between Asian and European countries, playing a significant role in goods transport (also intermodal and multimodal) on the China – Baltic Sea – Europe and China – Caspian Sea – Black Sea – Europe routes. Regarded as a customs document, it is issued for the whole route, eliminating the need to re-register the transports as they enter an area where different transport law applies. The CIM/SMGS consignment note is currently used by railways in 17 OSJD member countries⁴. Its area of application is presented in Figure 8.

Although not obligatory, the use of the CIM/SMGS consignment note did, by eliminating the need to re-register transports at borders (and the numerous mistakes made when doing so), bring positive effects for rail transport, including significantly reduced stopover time at cross-border stations, and thus shorter transport time, improved service quality, reduced transport costs, and high level of compliance with legal norms.

With the launch of an electronic version of the consignment note on 1 July 2019, OSJD railways are actively working on its implementation as the basis of cross-border freight transport on the China – Europe route. Moreover, the Universal Postal Union “Railway mail transport between China and Europe” project indicates additional possibilities for its application and further popularization in international rail transport. It may also be introduced in other countries, e.g. Turkey [UPU, 2021b, pp. 2–3].

⁴ Azerbaijan, Belarus, Bulgaria, Hungary, Georgia, Kazakhstan, China, Latvia, Lithuania, Moldova, Mongolia, Poland, Russia, Slovakia, Ukraine, Estonia, and Iran.

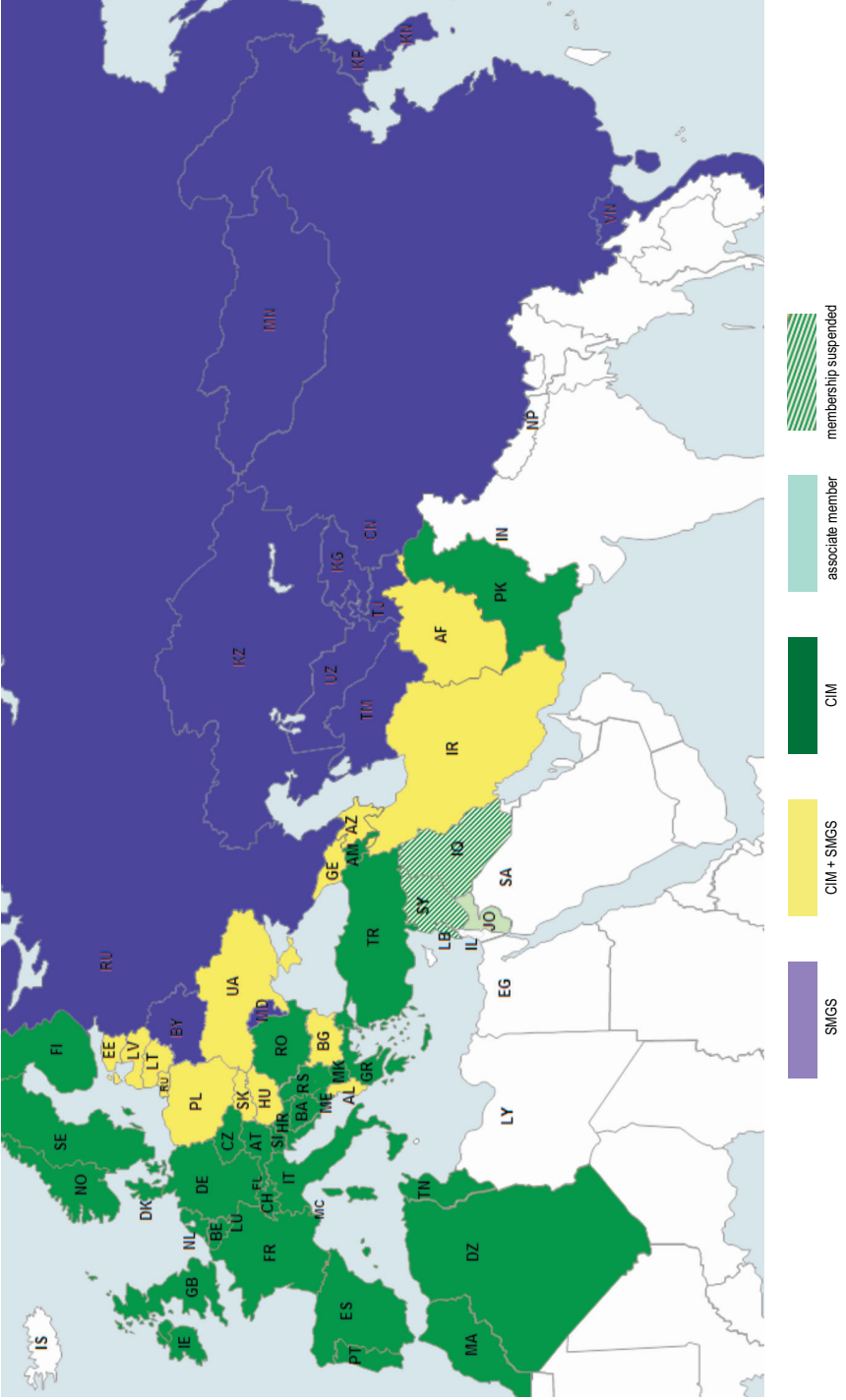


Figure 8. CIM and SMGS application areas – legal duality
 Source: [Evtimov, 2021].

4. Freight transport as the basis of railway operations in the Eurasian space during the pandemic

In recent years, the number of regular container trains running between China and Europe has been systematically increasing, reaching nearly 300. The geography of container traffic expands as it spreads to new countries. The increasingly common use of the CIM/SMGS consignment note expedites cross-border transport, and the dynamic development of e-commerce gave an impulse to provide high-speed transport of small deliveries and less-than-container loads not only in containers but also in postal wagons. The process of digital transformation brings changes in many areas of transport and logistics, starting from electronic customs transit registration and consignment notes and ending with promising Eurasian projects in such fields as electronic exchanges or digital trains.

Despite the restrictions and economic difficulties caused by the pandemic, in 2020–2021 OSJD railways not only did not cease to work, but in many ways achieved significant success, ensuring the development of international rail transport⁵. In 2019, they transported 5,577,837,300 tonnes of goods from 24 countries, and in 2020, according to preliminary statistical data, 5,217,227,000 tonnes from 22 countries⁶. These achievements were facilitated by, i.a., the OSJD's purposeful and precise efforts in the following areas:

- amendment of the Agreement on Organization and Operating Aspects of Combined Transport between Europe and Asia,
- development of the Agreement on the Uniform Transit Tariff and the Agreement on the International Railway Transit Tariff with updated tariffs for transit transport of goods,
- organization of uninterrupted container freight traffic on international railway routes and in the Eurasian space,
- organization and development of international railway mail deliveries,
- implementation of the CIM/SMGS consignment note in freight transport,
- coordination of timetables for international freight trains,
- cooperation with international organizations for the development of transport and logistics services and the improvement of rail transport efficiency and competitiveness,
- simplification of transport, customs, and cross-border procedures.

Rail freight transport indeed proved to be highly competitive in the restrictive conditions of the pandemic. Thanks to the joint work of OSJD member countries,

⁵ As was well-illustrated by the LHS company, which in the first half of 2021 demonstrated an increase by 185% compared to the same period of 2020.

⁶ Correcting for the results achieved by countries not included in the dataset shows that traffic volumes are being maintained (e.g. Polish rail transported 223.2 million tonnes of goods).

observers, and affiliated enterprises on the development of infrastructure, technology, and organization of freight transport, positive results were achieved in international container traffic. The main factors contributing to the competitiveness and further development of railway transit transport were travel time and train speed of ca. 900–1,000 km/day⁷. Examples of routes and parameters of container trains are shown in Table 1.

Table 1. Examples of container train routes and parameters

Route	Distance (km)	Average speed (km/day)	Travel time (days)	Number of trains (2019)	Number of trains (2020)
Chongqing – Duisburg	10,137	958	15–16	457	522
Duisburg – Chongqing				208	192
Chengdu – Łódź / Nuremberg	9,600 /	890	12 / 16	360 / 14	626 / 4
Łódź / Nuremberg – Chengdu	10,000			166 / 55	170 / 41
Zhengzhou – Hamburg	10,214	890	16–17	202	221
Hamburg – Zhengzhou				197	278

Source: [Aspaeva, 2021a].

An analysis of railway freight traffic during the pandemic in OSJD member countries selected for their role in the Eurasian space showed that freight trains on the China – Europe route transported not only cross-border e-commerce shipments and goods previously delivered by sea or air, but a significant amount of indispensable anti-epidemic and medical products. Their reliability in the face of the introduced restrictions significantly contributed to the joint international fight against the pandemic, help to restore production in Europe and Asia, and stabilized the supply chains between the countries of the Belt and Road Initiative⁸. Medical products were delivered from China to several European countries, including Germany, France, and Finland⁹.

In 2020, as a consequence of a global demand and supply imbalance caused by the pandemic, the share of railway container traffic on the China – Europe route

⁷ In 2020, as transport of Chinese goods into Lithuania increased, so did container transport (its volume amounted to 51,509 TEU, nearly four times the 2019 value). High-quality infrastructure of Lithuanian Railways allowed transports to be made by long trains that run from Asia to Europe, carrying mail, medical protective products, and other goods not only to Lithuania, where they arrive after 10–12 days, but also to other countries.

⁸ On 14 June 2020, a container train from Xi'an (China) delivered to Pardubice (Czech Republic) through the territories of Kazakhstan, Russia, Ukraine, and Poland as many as 46 containers with disposable hazmat suits, face masks, gloves, and other medical products. They were delivered predominantly to hospitals in Prague and Pardubice.

⁹ On 20 November 2020, a new freight train route Zhengzhou (China) – Helsinki (Finland) was launched. The train carrying 43 containers transported mainly disposable medical masks, anti-pandemic medical equipment, hazmat suits, lamps, etc.

increased to 6–8% of total traffic, and it is expected to reach ca. 10% in the nearest future due to growing transport volumes in some segments (medicines, hazardous freight, etc.), as well as due to the instability of sea freight rates. The number of trains running the China – Europe route nearly doubled from 2018 to 2020, as shown in Table 2.

Table 2. Number of container trains on the China – Europe route

Year	Number of trains
2020	12,406
2019	8,225
2018	6,300

Source: [Aspaeva, 2021a].

Although the pandemic affected nearly all global transport sectors, the railway routes between China and Europe, thanks to their increasing reliability, capacity, and competitive rates, became a guarantee of stability for consignors, consignees, and forwarders alike. This resulted in a record increase in the demand for railway services in 2020. As many as 927,000 containers were transported that year (an increase by 54% compared to 2019), with a total load factor of 98.3% on the route in both directions.

Poland also became a stage for pandemic-driven change. This prompted a research team, which included the author of this article, to assess its impact on Polish intermodal transport based on an analysis of companies operating in this sector [Kuś, Stefaniak, 2020, pp. 19–32]. One of the findings of this research was that, regardless of measurable results and traffic, many of the analyzed companies saw the pandemic period as an opportunity to undertake previously postponed activities, and to some it revealed previously unconsidered solutions (e.g. digitalization of various processes). The researchers concluded that these circumstances created new possibilities for development in, i.a., Eurasian relations¹⁰.

Conclusions

The impact of the pandemic put the global economy at severe risk. Factories were shutting down, production was delayed, air transport suspended, and sea transport destabilized. At that time the importance of rail transport became manifest and the New Silk Road started to attract significant domestic and foreign

¹⁰ This is suggested by the fact that 17.5% of the surveyed companies plan to enter new markets, 12.5% plan to launch new products or services, and 20% undertook other activities (e.g. cross-border transport, incl. launching new intermodal traffic routes).

interest. Broadly speaking, this shows that with growing distance, the competitiveness of railway also increases. Legal, economic, and technical interoperability combined with reliability and safety can further strengthen its position in the area of long-distance transport. Additional advantages can be gained by improving exploitation parameters related to travel time and cost-efficiency. Moreover, the pandemic showed that it is not only possible, but profitable to operate in the market using electronic documents, thus setting the path to further digitalization of rail transport processes and development of the digital transport management system.

Acknowledgements

Thanks are due to all employees of the OSJD Committee for their help in obtaining information used in this article.

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