THE IMPORTANCE OF THE EUROPE-ASIA TRANSPORT CORRIDOR: ANALYSIS OF TRANSPORT ROUTES BETWEEN CHINA AND EUROPE

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ABSTRACT

This article explores the growing importance of the Europe-Asia transport corridor, with a particular focus on the logistics routes connecting China and Europe. It examines how rail, maritime, and road networks contribute to the efficiency, sustainability, and resilience of transcontinental trade flows. The paper highlights the strategic role of China's Belt and Road Initiative and the European Union's Global Gateway in shaping infrastructure development, regulatory cooperation, and geopolitical influence. Drawing on recent data and academic research, the study analyzes the strengths and limitations of different transport modes, including the China-Europe Railway Express and maritime shipping via the Suez Canal. In addition, the article addresses environmental concerns, emphasizing the carbon reduction potential of shifting freight from road and sea to rail. Technological innovations such as digital platforms, automated freight terminals, and smart customs systems are also considered key enablers of improved logistics performance. The analysis shows that a coordinated and multimodal approach is essential for optimizing the corridor's strategic value. Ultimately, the findings emphasize the need for continued investment in infrastructure, policy harmonization, and sustainability practices to ensure the long-term viability and competitiveness of the corridor in a rapidly evolving global trade environment.

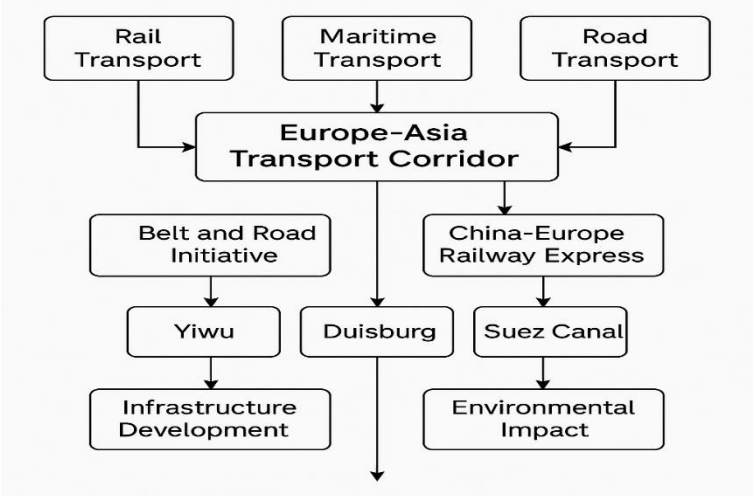
Keywords: Europe-Asia Corridor. China-Europe Railway. Belt and Road Initiative. Multimodal Transport. Eurasian Trade Logistics.

INTRODUCTION

The transport corridor between Europe and Asia, particularly the routes linking China to Europe, has become a cornerstone of global trade logistics, infrastructure development, and geopolitical strategy. As international trade continues to expand, the ability to efficiently connect the two continents through multimodal corridors is of increasing importance (OECD, 2018). China's Belt and Road Initiative (BRI), launched in 2013, has significantly accelerated investments in transport infrastructure across Eurasia, transforming historical routes into modern corridors of trade and cooperation (World Bank, 2019). The New Eurasian Land Bridge and the China-Europe Railway Express have emerged as vital components of this transcontinental system, enhancing connectivity through rail, road, and maritime networks (UNESCAP, 2021; Yu, 2017). These developments not only reduce transportation time and cost but also contribute to regional integration and economic development across the corridor.

Figure 1 illustrates the Europe-Asia Transport Corridor as a dynamic system composed of three primary modes of transport: rail, maritime, and road. These converge into a network that is strategically reinforced by initiatives such as China's Belt and Road Initiative (BRI) and the China-Europe Railway Express. Key logistic hubs like Yiwu (China) and Duisburg (Germany), along with critical maritime nodes like the Suez Canal, serve as anchors of this corridor. The diagram also highlights the broader implications of these connections, including infrastructure development and environmental impact. This visualization helps clarify how different elements interact to shape the efficiency and geopolitical relevance of the corridor in the context of global trade.

Figure 1. Structure of the Europe-Asia Transport Corridor and Key Components.



Source: Created by author.

One of the most prominent developments has been the growth of China-Europe rail freight, which offers a middle ground between the low cost but slow maritime shipping and the fast but expensive air transport. Rail freight volumes along the China-Europe route have surged dramatically over the past decade, particularly through key corridors such as the Yiwu-Madrid, Chongqing-Duisburg, and Zhengzhou-Hamburg lines. According to the International Union of Railways (UIC, 2022), the number of train trips between China and Europe exceeded 15,000 in 2021, up from just 17 in 2011, representing a dramatic shift in the transcontinental logistics landscape. The increased frequency and reliability of these services have made rail a viable and competitive option, especially for time-sensitive goods such as electronics, automotive components, and fashion products.

Efficiency in the Europe-Asia corridor hinges on multimodal integration and border coordination. Land-based routes, particularly rail, benefit from reduced transit times—averaging between 12 and 18 days compared to 30 to 45 days by sea—while offering better security and fewer disruptions. However, these advantages are contingent on harmonized customs procedures, infrastructure interoperability, and political stability along the transit countries. Countries such as Kazakhstan, Russia, Belarus, and Poland serve as critical nodes in the logistics chain, and their cooperation has been crucial in reducing delays and improving freight flows (Sidortsov, Overland, & Vakulchuk, 2020). Initiatives such as the Eurasian Economic Union (EAEU) and bilateral agreements under the BRI framework have supported regulatory alignment, although challenges remain, particularly at border crossings where transit inefficiencies persist.

Maritime transport continues to play a dominant role in Europe-Asia trade, particularly through the traditional sea route via the Suez Canal. While sea freight accounts for over 90% of the total trade volume between China and Europe due to its cost-effectiveness, it is increasingly vulnerable to disruptions such as geopolitical tensions, piracy, and port congestion. The 2021 blockage of the Suez Canal by the Ever Given vessel exposed the fragility of this key chokepoint and underscored the need for diversified transport routes (Heiland & Ulltveit-Moe, 2022). In this context, overland routes provide resilience and strategic redundancy, making the case for further investment in rail and road infrastructure across Eurasia.

Environmental considerations are also reshaping decisions about the preferred modes of transport. Rail freight is generally more environmentally sustainable than air and even sea transport in terms of CO_2 emissions per ton-kilometer. Research by Li, Liu, and Wang (2022) shows that a modal shift from road to rail in transcontinental logistics can

reduce greenhouse gas emissions by up to 60%, depending on cargo type and route configuration. The European Union's Green Deal and China’s carbon neutrality goals are likely to accelerate this shift, supported by technological innovations such as electric locomotives, automated freight terminals, and digital logistics platforms.

In terms of strategic influence, the Europe-Asia corridor reflects broader geopolitical dynamics. The transport routes serve not only as commercial arteries but also as instruments of soft power and regional integration. China’s investment in infrastructure across Central Asia, Eastern Europe, and the Caucasus has strengthened its diplomatic ties and enhanced its economic footprint. Conversely, the EU has launched initiatives such as the Global Gateway to offer an alternative vision of connectivity based on transparency, sustainability, and high standards (European Commission, 2021). The convergence or competition between these frameworks will shape the future of Eurasian logistics and determine which standards govern cross-border infrastructure and trade.

In conclusion, the Europe-Asia transport corridor represents a complex and dynamic system of trade, logistics, and diplomacy. The routes connecting China to Europe—whether by rail, road, or sea—are essential not only for reducing transit times and lowering costs, but also for ensuring the resilience and sustainability of global supply chains. Continued investment in infrastructure, digital technologies, and cross-border cooperation will be key to optimizing these corridors. As economic and environmental pressures mount, the strategic importance of efficient and diversified transport links between Europe and Asia will only grow.

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