

## WAYS TO IMPROVE THE EFFICIENCY OF IMPLEMENTING INTERNATIONAL CARGO TRANSPORTATION BY MULTIMODAL TRANSPORT

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*Annotation: The article describes multimodal transportation as a promising direction for increasing the efficiency of transport services, draws attention to their advantages and disadvantages, focuses on the selection criteria for multimodal transportation during cargo transportation, describes in more detail a practical example that reflects the efficiency of using international freight transportation by multimodal transport.*

**Keywords:** multimodal transportation, cargo, mode of transport, route, permit, expansion of the geography of transportation, minimization of costs, increase in profit.

Cargo transportation has been, is and always will be an urgent task in the system of managing international supply chains. It requires compliance with the basic principles of logistics, which consist mainly in delivering the right cargo of the right quality in the right quantity to the right place with the lowest logistics costs in a short time with high quality service and continuous information support. To improve the transport process during the transportation of goods, all types of transport are used, the combination of which allows them to be combined with the maximum extraction of their advantages.

By multimodal transport it is understood the transportation of any goods by two or more modes of transport organized by one carrier. In this case, the carrier may use for its purposes other transport organizations (sub-carriers) for certain types of transport. But, regardless of the number of involved modes of transport and sub-carriers, the sole responsibility for the delivery of goods to the customer lies with the carrier, since the entire route of the cargo consists of only one contract between the customer and the carrier. The carrier responsible for the entire transportation is called a multimodal transport operator. When transporting goods by multimodal transport, a single transportation document is drawn up taking into account a single end-to-end tariff rate. In addition, the carrier calculates the cost of transportation, taking into account many factors, such as the type of cargo, time and final destination, season, availability of convenient flights, etc. It should be remembered that an important requirement of the consumer of transport services is the timely and high-quality delivery of goods.

Multimodal transportation has its advantages and disadvantages, which must be taken into account to reduce the cost and speed up the delivery of goods along a given route. When using multimodal transportation, a longer delivery time is observed due to the need for loading and unloading when changing vehicles. Nevertheless, difficulties in using several types of transport at once can be avoided if the carrier has extensive experience in organizing such types of work [1].

The choice of multimodal transportation, as a rule, begins with determining the parameters of the cargo, its volume and type. Then follows the development of an optimal transport route with a favorable tariff for the client. The next step is to prepare the necessary documentation, which will be required at each stage of cargo transportation. Next, an analysis of possible unforeseen situations and ways to resolve them is carried out and the forwarders are trained to accompany the cargo throughout the journey. In order to ensure safety on the way of cargo transportation, it is necessary to carry out work on cargo shipment, selection of necessary fasteners and other means and monitoring of the passage of each stage during cargo transportation [2].

The use of multimodal transportation has its own characteristics and combines the necessary criteria that a carrier can use, for example, accelerating the delivery of perishable goods or reducing storage costs by choosing a long delivery. Thus, the "multimodal transportation" allows you to select the type of transport depending on the characteristics of the cargo. It is also worth paying attention to the fact that the use of multimodal transportation can reduce the malfunction of various types of transport and, thereby, optimize the entire transport system in order to meet the needs of customers, ensure economic growth and sustainable development of the national economy as a whole. Therefore, today, the development of the transport industry is aimed at expanding the use of multimodal transportation.

Thus, multimodal transportation is today a universally recognized means of reducing environmental pollution and reducing congestion in the automobile network. An ideal transport market will use all kinds of means of transport taking into account their specific advantages and, in many cases, come to combined transport, as a possible solution to many transport problems.

Considering the transportation process in more detail, it can be noted that, in principle, not only one type of transport is involved in the transportation of almost every cargo, but, therefore, each transportation will be multimodal, but with different complexity of the combination of modes of transport.

Consider this type of multimodal transport, which is used in inland navigation and shipping - ferry services, which are called "Ro-Ro". "Ro-Ro" is a type of shipping for rolling cargo (cars, tractors, trailers, etc.) that do not require cranes when loading onto a ship. Today, Ro-Ro transportation is one of the most profitable transportation methods [3, p. 35].

It should be noted that this is one of the types of multimodal transportation, since in this case there is a combination of two modes of transport, road and sea. The undoubted advantage of Ro-Ro transportation is that when loading goods, the use of loading and unloading equipment is not required, which reduces the loading / unloading time and, as a result, simplifies and reduces the cost of the cargo transportation process.

When planning and organizing transportation, each carrier is looking for ways to increase the efficiency of their implementation. Today, to increase competitiveness in the transport services market, carriers are looking for new job opportunities, expanding the geography of transportation, and building new routes.

Ro-Ro transportations do not stand aside either; the leading countries in terms of volumes in this type of maritime transport are Estonia, Denmark, Germany and Sweden. They also have extensive experience in transporting Ro-Ro cargo from Finland, Lithuania and Latvia.

Belarusian carriers are also interested in this type of transportation and began to introduce them into their activities. The year 2020 has brought into the work of Belarusian carriers the ambiguity of how to work on already established routes that transit through the territory of Poland if the required number of permits is not available.

However, in order to survive in the market of transport carriers, which is filled with a huge number of cargo transportation companies, everyone is looking for their own ways. One particular example is the development of a new route "Vitebsk (Republic of Belarus) - Tallinn (Estonia) - Helsinki (Finland) - Lviv (Ukraine) - Minsk (Republic of Belarus) - Vitebsk (Republic of Belarus)". This route was developed by a transport company to increase the efficiency of international cargo transportation using multimodal transportation, which allows it to expand the geography of transportation, reduce travel time, minimize costs and, accordingly, increase the company's profit.

The novelty of this route is the development of the very "Ro-Ro" transportation, which allows you to reach new geographical points and open the possibility of cargo transportation between countries such as the Republic of Belarus and Finland. Subsequently, transport companies continue their work without the need for Polish permissions.

It should also be noted that if in other sectors of shipping, the cost of transportation of goods is calculated depending on the number of metric tons, then the cost of "Ro-Ro" transportation is measured in units of "bands in meters", that is, the price of transportation depends on the length of the cargo itself. So, when transporting by ferry, transportation of the cargo itself, a driver's ticket and, if necessary, a cabin and driver's meals are paid [4].

In general, "Ro-Ro" transportation is very simple, convenient, fast and environmentally friendly, as well as advantages such as:

- the minimum number of customs procedures and, accordingly, the minimum time spent on them;
- the ability to deliver cargo to almost anywhere in the world;
- relatively low costs compared to other modes of transportation.

Thus, favorable tariffs, a professional approach at all stages of work, strict control over the condition of goods, optimization of travel time and environmental friendliness of transportation - all this will improve the efficiency of international cargo transportation using multimodal transport, which will consist of a combination of "vehicle + steam".

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