

emergency situation. Small drones can be extremely useful in warehouse fires. They are able to make accurate maps of even smoke-filled, narrow and dimly lit rooms, marking fires and the location of victims on them. Having collected the necessary information and after returning to the operator, the drone will deliver the data, vital to rescuers and firefighters.

Function number 4. (Delivery of small loads)

American companies such as FedEx and UPS are based mainly at major ports or airports. Technology unmanned devices would allow them to expand their fleet of vehicles, get new opportunities for the delivery of goods and documents. Such a technology can be implemented on a terminal-logistic complex to facilitate the sorting or movement of relatively small in size and weight of goods in situational cases. When working in workshops, drones can automate some of the operations that people do, for example, moving parts or documentation when a large area of a room is being operated. When you need to move quickly to different work sites or you have some important buildings being built at the same time, launching a drone will be indispensable. In rare cases, the use of drones is possible for the delivery of urgent information messages on the railway in emergency situations when there are problems with other means of communication between stations or dispatchers.

So, delivery drones more and more capture the attention of transport enterprises and mass media, but due to some security and technological problems will not be a major factor for recent years. The return on investment has been just partly proven, operational costs and a single customer delivery still hard to calculate because lots of indicators are changing every day and more and more technologies are appearing. Also Ukrainian government has no plans of implementing the law regulation of UAVs in nearest years. This question needs additional research.

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## **A GENERAL CHARACTERISTIC OF MULTIMODAL TRANSPORTATION IN UKRAINE AND EU COUNTRIES. COMPARATIVE CHARACTERISTIC**

Multimodal transportation is a means of transportation in which the carrier organizing the entire delivery process accepts the responsibility for all transportation with the issuance of a multimodal transport document.

In modern conditions effective ways of optimizing the transportation process and create a competitive market of transport and logistics services is the development of multimodal transportation that contribute to the unification of

commercial and legal status. Provides coordination and organizational and technological interaction of all links in the chain of delivery of goods; promotes the integrated development of infrastructure and resources of different modes of transport and so on [1].

Due to its geographic location and developed transport infrastructure, Ukraine has significant potential for development multimodal transportation, first of all, at international connections, in particular as a transit country in the logistics chain of goods exchange between Asia and Europe. According to the British Institute for Transport Rendel the transit rate of Ukraine is 3.75 (at maximum 5); it is the best indicator among the countries of Europe (for comparison, in Poland, which occupies the second stage, this indicator is 2.92). The territory of Ukraine is 5 international transport corridors; The expanded length of these routes is about 6.5 thousand km, of which 3,5 thousand are railways. IN 2016 Ukraine joined the Coordination Council for the development of the Trans-Caspian International Transport Route (TMTM) to China by passing the Russian Federation through Georgia, Azerbaijan and Kazakhstan.

According to the bill, multimodal transport is defined as a traffic where two or more modes of transport are used, but are organized under the responsibility of one operator based on a single multimodal transport contract. In addition, the law defines several important concepts: the stage of multimodal transportation - the segment of the route, where transport is carried out by one mode of transport; the route of multimodal transportation - the contract of multimodal transportation is the route of cargo transportation; the customer of multimodal services is the consignor (it can be both legal and private person), which according to the contract (personally or through the intermediary / representative) entrusts the operator of multimodal transportation with organizing and conducting multimodal transportation of cargoes; the operator of multimodal transport - an entity that has concluded a multimodal transport contract and continues to act as a freight forwarder and carrier for the entire duration of its execution [3].

The Act provides for state support for multimodal transport, which should stimulate the development of logistics and transport infrastructure for this type of transportation.

Top 5 companies, which provide Multimodal transportation in Ukraine: TK "CAT", "VLAD TRANS" Ltd., AGROEXPO, DEFY-LOGISTICS, PREMIER EXPO UKRAINE.

Intermodal transportation - It is a combined transport of your cargoes and is carried out by several modes of transport, in which the company is responsible for all transportation, even if delivery is carried out by different modes of transport (for example, by sea, by rail and by road).

The effectiveness of intermodal transportation is to take advantage of each mode of transport; at the same time, not only the cost of delivery, but the speed and accuracy of delivery, as well as environmental safety and many other

factors, can serve as criteria for efficiency.

Although often the concept of multimodal and intermodal transportation is used as a synonym, there is a fine difference between the formal nature, which should not be forgotten. Although in the first and in the second case that delivery made by several types of transport, multimodal transport at all responsible for the full cycle of delivery is one of, respectively, all the way movement issued a document.

Intermodal transportation is characterized by the fact. That the change of transport is changing and the forwarder. Thus, at the time of the transfer of the goods, the responsibility passes into the hands of another company and the documentation must be drawn up accordingly, that is, for example, your cargo should be drawn to not one but two or more power of attorney. Thus, from a formal point of view, intermodal traffic is more complex than multimodal [4].

The European multimodal network converges at major gateways allowing linkages with the international transportation system through a maritime / land interface. Port cities are the main agent of that function, but air transportation is also prevalent. Containerization has particularly developed the maritime / land interface. It insures flexibility of shipments and several ports have opted for this multimodal transportation technology to keep and consolidate their primacy within their respective regions. At the regional level, intermodal terminals, some forming satellite terminals (when directly linked to a major gateway or hub) or inland ports are connecting and servicing the hinterland.

*Examples of multimodal (inter) transportation:* Point A - road train - air - road train - Point B; Point A - railway - air - road train - Point B; Point A - road train - air - train - Point B; Point A - railway - airport - railway - Point B; Point A - road train - port - road train - Point B; Point A - railway - port - road train - Point B; Point A - road train - port - railway - Point B; Point A - railway - port - railway - Point B; Point A - road train - w / d - road train - Point B [5].

Consequently, mixed traffic in the legal aspect is sufficiently regulated, the national legislation of Ukraine contains very few rules governing the mixed transport of goods in international traffic. At the same time, there is a practical need for such standards. This is evidenced by the transport use of the international Danube River, in particular the Ukrainian Danube Shipping Company, the activity of the Ilyichevsk Ferry Crossing, created on the basis of an intergovernmental agreement during the period of existence of the former USSR [6].

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## **ОСОБЛИВОСТІ ІНТЕГРАЦІЇ УКРАЇНСЬКОЇ ТРАНСПОРТНОЇ ІНФРАСТРУКТУРИ В ТРАНС-ЄВРОПЕЙСЬКУ ТРАНСПОРТНУ МЕРЕЖУ**

В останні десятиліття відбуваються докорінні зміни європейського правового простору, що пов'язано з розширенням Європейського Союзу. Основними компонентами цих процесів є інформаційний і фінансовий чинник, а також безпрецедентне зростання транскордонного руху як чинника виробництва, що впливає на формування транспортних коридорів міжнародного значення. У цьому контексті основним системоутворювальним вектором економіки виступає транспортна галузь, яка зіштовхнулася з проблемою структурної інтеграції в транспортну інфраструктуру Європи. Роль транспортної системи України зростає. Вона стає частиною складної ефективної системи транспортних коридорів у європейській економіці, тобто тієї системи, яка повинна безперервно забезпечувати міжнародний рух товарів, послуг, виробничих, фінансових і трудових ресурсів. Події на сході держави ще більше актуалізували дослідження проблем розвитку транспортної інфраструктури, оскільки транспортний потенціал України є одним з основних чинників стійкості її зовнішньоекономічних зв'язків і чинником її впливу на євразійському економічному просторі.

Транспортна інфраструктура справляє комплексний вплив на розвиток економіки європейського регіону і на макrorівні, і стосовно окремих фірм, які використовують об'єкти пасажирської та вантажної інфраструктур. Транспорт, як один з провідних елементів виробничої інфраструктури Європейського Союзу (далі – ЄС), з одного боку,