

UDC 656.61+339.1

**CONFORMING TO MOBILE COMPOSITION TRANSPORT
ENTERPRISES OF UKRAINE INTERNATIONAL STANDARDS**

**СООТВЕТСТВИЕ ПОДВИЖНОГО СОСТАВА
ТРАНСПОРТНЫХ ПРЕДПРИЯТИЙ УКРАИНЫ
МЕЖДУНАРОДНЫМ ТРЕБОВАНИЯМ**

Inna Poznanskaya, Ievgeniia Redina

Познанская И.В., Редина Е.В.

В статті розглядаються питання відповідності рухомого складу транспортних підприємств (за видами транспорту) міжнародним стандартам з метою створення злагодженої і сучасної транспортної системи.

Formulation of the problem. The efficiency of the transport sector is displayed on many areas of economic activity and affect the quality of life, which is becoming more mobile and needs special attention to the problems of the transport sector. Modern requirements for the development of transport put tasks that involve a variety of fields of activity of transport enterprises: development of transport infrastructure, the effective development of each mode of transport, with particular attention to the development of inland waterway transport, the measures on security of life and reduce the harmful effects of vehicles.

The **aim** of the study is to develop proposals for accounting for changes of global trends, the identification and implementation of new international standards for transport, which will provide access to the international level and the creation of tools Sustainable Transport of the country.

In the total volume of exports of services for 2011. Ukraine accounted for 35.6% of freight transport services. As compared to 2010. freight transport services exports grew by 13.4% to \$ 4.9 billion. Pipeline services provided by \$ 3.8 billion (11.8% more than in 2010.), sea - on 49.8 million dollars. (Up 3.4%), rail - to 489.7 million dollars. (21.6% more), air - to 308.6 million dollars. (By 11.9%), other types of transport - by 266.9 million dollars. (27.3% increase). (Table 1)

Major countries engaged in transit through the territory of Ukraine are the CIS countries: Russia, Kazakhstan, Belarus and Moldova, which sent 93.8% of all transit goods through the territory of Ukraine. The most active is the Russian Federation, whose share in the total volume of transit for 2011. 82.5%. In the administration of pipeline transit share of the Russian Federation amounted to 99.0%, by rail - 64.1%, road - 18.5%, sea - 7.3%. Kazakhstan Ukraine sent 10.8 million tons of goods in transit (7, 1% transit). Such potential for Ukraine as Belarus and Moldova for 2011. shipped 3.7 million tons, respectively, and 2.7 million tons of Russian cargoes. Largest recipients is Slovakia (47.2%), Turkey (14.2%), Hungary (10.9%), China (5, 0%), Italy (4.0%), Poland (3.9%), Czech Republic (3.8%), Switzerland (2.4%),

Moldova (2.2%), Romania (1.9%) and Cyprus (1.3%). Kazakhstan through Ukraine to ship goods mostly Italy (7.3 million tons), Bermuda (1.4 million tons), Turkey (0.6 million tons), China (0.4 million tonnes), Greece (0.2 million tonnes), Poland (0.2 million tons), Egypt (0.1 million tons), Slovakia (0.1 million tonnes) and Hungary (0.1 million tons). [1]

Table 1
Export, import and transit of goods by mode of transport 2011
tonnes

	Total	Including by type of cargo		
		export	import	transit
Total	402547,14	155597,71	95706,45	151242,98
Car	22100,31	7447,11	9642,00	5011,20
River	15,86	14,58	1,28	-
Railway	163555,15	85235,97	29649,64	48669,54
Marine	5447,58	1266,84	268,67	3912,07
Air	6,95	4,07	0,07	2,81
Pipeline	135537,70	11,73	42406,45	93119,52
Other	75883,59	61617,41	13738,34	527,84
Of these uncertain mode of transport	75606,39	61594,66	13516,53	495,20

Identifying and accounting for changes in trends and proportions of the EU transport sector associated with the adoption in March 2011, a new version, called the "White Book" (raised transfer targets of the sea and air transport, greening the transport sector, in order to create efficient transport system) and new directions and encourage the development of small tonnage of shipping the EU "shortseashipping" (standards established in 2003, Ukraine has not yet implemented), introduced certification of all ships calling at EU ports irrespective of their flag. [2]

Transport Policy aims to develop a clean, safe and efficient movement throughout Europe, as on the internal market for goods, and the rights of citizens to travel freely throughout the EU. The following main directions of the transport policy of the EU: strategy development, sustainable transport, air transport, road transport, road safety, rail, maritime, inland waterways, intelligent transport systems, clean urban transport, TEN-T transport infrastructure, security and security, the rights of passengers.

Such attention EU on these sectors resulted from continued role of the EU as a world center of aviation and maritime transport. Arrangements will be made to expand the airport to ensure that the growing demand for transport between the EU and third countries. The program stipulates that rail transport should take over the transport medium-range commercial aircraft to switch to low-carbon fuels. Incremental progress towards the European Union to develop a safe, efficient, competitive transportation infrastructure are from 2001, when the Commission proposed 60 measures for the development of the European transport system that can change the balance between modes of transport, increase rail transport, to encourage transport by sea and inland waterways and to control the development of air transport. In 2006, the Commission presented the results and changes in the context of the "White Paper", which deals with issues of EU enlargement, the acceleration of

globalization, international commitments to combat global warming and rising energy costs, which need to be taken into account in the development of transport policy. In 2007 she was offered a series of measures to promote freight transport logistics, improve the competitiveness of rail transport, the creation of a framework that will allow the European ports to attract investment to upgrade them, place the marine transportation of goods on a par with other forms of transport, and the development of Motorways («Motorways of the Sea»). Then followed a strategy to raise the issue of price policy: the price for transportation must consider the actual costs, as well as the damage caused by the use of vehicles to the environment. Accenting these problems contribute to more efficient use of environmental tolls, as well as the development of proposals to reduce noise from rail freight transport (2008). The next step was sea transport policy (the "Blue Book"), whose motto was "maritime transport without borders", it includes the promotion of the image of the growth of maritime transport in the EU as a whole and promoting the development of maritime transport between EU ports, which will allow the EU facilitate the establishment of sea lanes (maritime "highways") and ensure the development of coastal shipping as well as create conditions for maritime transport performed by analogy with the road. [3] All of the proposed activities are designed to ensure maximum transparency of transport and financial flows to reduce barriers to free move goods and people.

Urgent and priority is the development of small tonnage of shipping, the main advantage of which is the reduction of traffic congestion, air pollution and ensure savings, both shippers and governments. Send a vessel (one 4000dwt vessel equivalent to using the 100-200 trucks) are much more efficient and cost effective than road transport (except transport within the country where there are no waterways) and sells far fewer risks regarding the loss or damage.

One of the main issues, as is the problem of emissions and in this regard, increased safety at sea as a result of increased fines for pollution resulting from negligence, and the question of phasing out of single hull tankers. European Parliament adopted a third package of maritime safety, in which the EU made it clear that the poor quality of delivery will not be tolerated. The main objective of the Third Maritime Safety Package restore competitiveness in the sector, in particular through the adoption of measures for the conclusion of the operation of substandard ships. [4]. Improved technology cargo handling as well as the development of navigation is to cut CO2 emissions by 40% by 2050 compared with 2010.

Marco Polo program for the period 2003-2009. funded 125 projects aimed at unloading from road freight transport through the use of sea, rail transport and the development of inland waterways. As can be seen from Fig. 1, can be considered as a priority in 2010, the development of rail transport.

Construction of safe, modern integrated railway network, has also become actual direction of EU transport policy. Railways have become more competitive and offer high quality services to all paths are not limited by national boundaries. Last year the EU acute questions of interoperability roads, achieve synergies to review the compatibility of technical specifications (TSS) rail. In 2011, acquired the force specification of the infrastructure, energy systems, and passenger locomotives, railway rolling stock, and have been implemented telematics program for high-speed passenger rail and conventional drives. Market for rolling stock, control, and signal means and the interaction between the infrastructure will continue to expand. An

increase in the number of trains, cars and infrastructure that have been put into operation. Despite significant advances in the equivalence of national rules of EU member states, European society continues to work to verify compliance with existing national rules for each parameter in order to eliminate technical barriers to ensure safe and smooth movement, and increase efficiency and improve service.

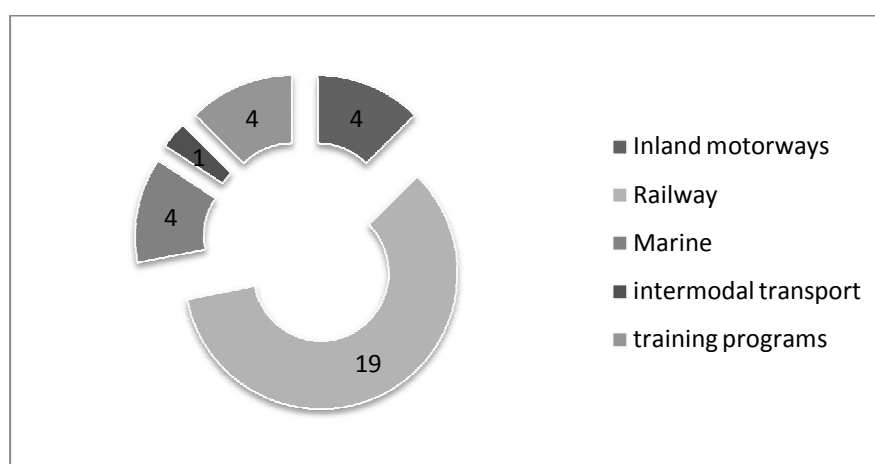


Figure 1 offers for the unloading of road the EU, 2010

To support the strengthening of cross-border cooperation and means of signaling equipment by creating a single European standard for train control and command systems, established the European Rail Traffic Management System (ERTMS). Activities of the system are made with two main components: a European traffic control system (ETCS), the standards in the cab of the train, as well as the standards of GSM-R, GSM-R mobile communications for rail.

Transport infrastructure is the basis for the proper functioning of the internal market, mobility of people and goods, as well as economic, social and territorial cohesion of the European Union. In the EU-27, 5 million km of paved roads, of which 65,100 km are roads, 21,280 km of rail lines, of which 110,458 km electrified and 42,709 km of navigable inland waterways. Reform of the transport sector, as any long-term project requires a large investment, and new ways to attract them. The total investment in transport infrastructure in the period 2000-2006 amounted to € 859 billion. A problematic situation regarding the new Member States, whose infrastructure is not ready for the planned reforms (only 4,800 km of roads and specially built high-speed lines, conventional railway lines are often in poor condition). Infrastructure cost EU, in accordance with the demand for transport services has been estimated at more than € 1,5 trillion. 2010-2030 years. Additional investment in vehicles, equipment and infrastructure elements, about a trillion euros needed to achieve emission reduction targets. Completion of TEN-T network requires about € 550 billion by 2020, of which about € 215 billion are designed to eliminate major bottlenecks. Based on the fact that the average life of the airplane was about 30 years old, about 28 years old ships, and trains are replaced about every 35 years, and from the design to the construction of the highway can take up to 20 years and the average cost per km varies depending on location and the complexity of the route as €

7,1 million and more than € 26,8 million, can be very long and the cost of the upcoming changes. It has been estimated that the present value of the investment required for the development of electricity infrastructure of road transport in the EU will be in the range € 80-140 billion.

The work of the European Commission to reduce the risk of maritime accidents and to minimize the environmental impact of maritime transport, are also active on the prevention and fight against piracy and terrorism threats. Other priorities for the social aspect: care for working conditions, health and safety and professional qualifications of seafarers. To take action and develop legislation to protect citizens as consumers of maritime transport services to ensure safe working conditions, passenger rights and to verify the adequacy of public service maritime transport.

Due to the fact that transport development strategy envisages a gradual movement rolled energy security transportation, the first step in the maritime industry may be switching to lighter, but more expensive diesel fuel.

On maritime transport as bunker fuel used fuel oil, diesel fuel and fuel LSMGO low sulfur composition which is used for parking vehicles on roads and areas with special conditions of navigation.

Consumption of primary energy transport is 2.8 billion ton (2007) or about 30% of total primary energy consumption. 95% of transport energy provided by petroleum. Emissions from the combustion of fuel oil up 29.3%, and diesel fuel - 11.8%, the use of diesel fuel over the path of the ship emissions will be reduced by 17.5%. Given the large amount of harmful emissions by switching to diesel. use 80 tons of fuel oil per day at an average cost of \$ 600 a ton, or 60 tons of diesel fuel at an average cost of \$ 900 per ton cost of transportation will be \$ 8 thousand per day, the level of freight rates will be affected about 1.5 \$ per ton deadweight.

One of the promising directions of transport to discharge from oil products is the use of combined-cycle power plants for sea transport. Since 50 years of the last century began competition between steam turbine and diesel units for use on large vessels to transport bulk cargo and tankers. Initially, the courts 30-40 deadweight tons and more dominated by a steam turbine, but the rapid development of the internal combustion engine led to what is now a series of vessels with deadweight of more than 100 tons equipped with diesel units. Only on very large ships over 200 deadweight tons set steam turbine engines. Engine installation also preserved on large warships of the Navy, as well as high-speed and large container ships, when the main engine power of 29,440 kW or more. Steam turbines are hydraulic heat engines, which unlike the reciprocating steam engines and reciprocating internal combustion engines do not need to convert the reciprocating motion of the piston into rotary motion of the propeller. Due to this design is simplified and solved many technical problems. In addition, steam turbines, even at very high power with relatively small size as rotor speed is high enough, and depending on the type and purpose of the turbine is from 3000 to 8000 rev / min. One of the major drawbacks of such engines is the lower level of efficiency compared to diesel (efficiency steam turbine 45%, the efficiency of the diesel engine 55-60%), and construction features require more expensive materials, respectively, increases the cost of installation.

To fulfill the requirements of the EU to reduce emissions to 40% to replace marine propulsion. Const value per deadweight ton is about \$ 500 of which the main part is the costly price of power plant, which is 40% of the cost, 20% - the cost of

steel and 40% other costs. When replacing the power plants will need to spend at least \$ 200 for ton of deadweight, if approximately 1500 million tons deadweight tonnage of the world fleet, this amount will be about \$ 300,000 million. With an average lifetime of vessels 12 years, the average cost per year will be \$ 25 billion, given that each ton deadweight carrying an average of 12 tons of cargo per year, one can conclude that these costs will increase the level of freight rates on \$ 0.5. We must also consider the fact that the cost of the steam engine more than the cost of diesel by 20%. In general, this percentage increase is not strongly affect the transport of goods more expensive, but for transportation, such as grain or coal, carriers will have to raise freight rates by 2.5%.

Large expenditures on energy security vehicle fleet may be compensated by the reduction of transport services possible by increasing the carrying capacity of vehicles that are known to have their limits.

Prospects for the development of the European transport network to make appropriate changes to the system of world economic relations, the transport sector, which, in the aggregate, on the one hand lead to a completely new quality of transport services, and on the other - it significantly more expensive. All this poses a threat to Ukrainian transport sector and the prospects for not only joining it to the European transport network, and all of existence as an independent sector of the national economy, as the nature of the environmental impact of sea and air transport is not limited to the country, and the impact of land-based (road and Rail) is a significant cross-border nature. Meanwhile, according to the general principles and rules of the WTO and GATS, any WTO member country can have transportation to the territory of another WTO member countries without any restrictions by the latter. Thus, the Ukrainian national carriers will be driven even with the national transport market if their vehicles, facilities and transportation technology will not meet the standard in Europe and worldwide. At the same time, under the existing system of economic relations in the transport sector and its entrepreneurs are not able to provide even simple reproduction of fixed assets, not to mention some qualitative changes.

Conclusions. Modern standards of transportation systems to increase the requirements for sustainability, efficiency of operation, comfort vehicles, which leads to the need for modern rolling stock transport companies. Analysis of future requirements for rolling stock and fixed devices transport system of the European continent, issues and approaches to the construction of a new concept of operations of the European and global transport system as a prerequisite for transformation processes and factors of economic relations in the international transport sector, will be used to adjust the development strategy of the national transport system and the development of organizational and economic support of its competitive performance.

References

1. Экспорт, импорт і транзит вантажів за 2011 рік/ Державна служба статистики України// Статистичний бюлетень – Київ, 2012 – С.7
2. Сообщение Комиссии: стратегические задачи и рекомендации для морской транспортной политики ЕС до 2018 года [Электронный ресурс]/ Brussels, 8 final – 2011.– 13 с. Режим доступа к журналу:

[http://eur-](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0008:FIN:EN:PDF)

[lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0008:FIN:EN:PDF](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0008:FIN:EN:PDF)

3. Озеленение транспорта: устойчивое развитие рынка [Электронный ресурс]/ Брюссель– 2008.– 2 с. Режим доступа к журналу:http://ec.europa.eu/transport/greening/index_en.htm

4. Транспорт 2050: комиссией изложены амбициозные планы увеличить мобильность и сокращение выбросов [Электронный ресурс]/ Brussels, 8 final – 2011.– 2с. Режим доступа к журналу:

<http://europa.eu/rapid/pressReleasesAction.do?reference=IP/11/372&format=HTML&aged=0&language=en>

5. Белая книга 2011 «Путеводитель по единому европейскому транспортному пространству – на пути к конкурентоспособной и эффективной транспортной системе» [Электронный ресурс]/ Brussels, 144 final – 2011.– 30 с. Режим доступа к журналу:

http://ec.europa.eu/transport/strategies/doc/2001_white_paper/lb_com_2001_0370_en.pdf

Аннотация

Создание безопасной, эффективной конкурентоспособной транспортной инфраструктуры предполагает ряд мер, направленных на развитие транспортной системы, способной изменить баланс между различными видами транспорта, активизировать железнодорожные перевозки, стимулировать перевозки по морю и внутренним водным путям, осуществлять контроль за развитием воздушного транспорта, которые соответствуют общим мировым тенденциям развития транспорта. Продвижение Украины на пути интеграции в европейскую транспортную систему должно сопровождаться пересмотром направлений развития каждого вида транспорта, с учетом современных требований и ориентиров.

Строительство безопасной, современной интегрированной железнодорожной сети, ориентированной на перевозки средней дальности, с целью повышения конкурентоспособности и предложения высококачественных услуг на всем пути прохождения, не должно ограничиваться национальными границами. Последние года в ЕС остро стоят вопросы по эксплуатационной совместимости дорог. В 2011 году приобрели силу новые спецификации относительно инфраструктуры, энергосистем и локомотивов, пассажирского подвижного состава железнодорожного транспорта, а также были реализованные телематические программы для пассажиров высокоскоростных и обычных железнодорожных путей. Рынок подвижного состава, контроля и управления, а также сигнальных средств и взаимодействия составных инфраструктуры продолжает расширяться. Наблюдается рост числа составов, вагонов и объектов инфраструктуры, которые были введены в эксплуатацию. Не смотря на значительные достижения в эквивалентности национальных правил стран-членов ЕС, европейское общество продолжает работу по проверке соответствия существующих национальных правил по каждому параметру с целью устранения технических барьеров для обеспечения безопасного и бесперебойного движения, а также повышение эффективности и улучшение сервиса.

С целью поддержки укрепления трансграничного взаимодействия и оснащение сигнальными средствами путем создания единого общеевропейского стандарта для управления движением поездов и командных систем, создана Европейская система управления железнодорожным движением (ERTMS). Направления деятельности системы состояются с двух основных компонентов: европейская система управления движением (ETCS), стандарты в кабине управления движением поездов, а также стандарты GSM-R, GSM-R мобильной связи для железнодорожных перевозок.

Развитие судоходства малого тоннажа направлено на уменьшение транспортных заторов, загрязнения воздуха и обеспечения прибыли, как грузовладельцам, так и правительствам. Отправлять судном (одно 4000dwt судно эквивалентно использованию 100-200 грузовиков) значительно более эффективно и рентабельно чем автотранспортом (кроме перевозок внутри страны, где нет водных путей) и реализует гораздо меньше угроз относительно потерь или повреждений грузов.

Актуальная проблема вредных выбросов принесла усложнение правил безопасности на море, как результат увеличение штрафов за загрязнение в результате небрежности, а также вопрос поэтапного вывода из эксплуатации однокорпусных танкеров. Европейским парламентом был принят Третий пакет морской безопасности, в котором ЕС четко дает понять, что некачественные доставки больше не будет допускаться. Основная цель Третьего пакета безопасности на море восстановление конкурентоспособности сектора, в частности, за счет принятия мер по выводу из эксплуатации субстандартных судов. [4] Международная морская организация (ИМО) уже с 1996 г. требует наличия на танкерах двойного корпуса, а согласно Международной конвенции по предотвращению загрязнения с судов (MARPOL) в 2026 году однокорпусные танкеры будут запрещены по всему миру. Концепция безопасного и надежного танкера начале XXI века MARPOL - это танкер с двойным корпусом, двумя машинными отделениями, двумя двигателями, двумя винтами и рулями. По сравнению с однокорпусные танкеры конструкции с двойным дном, безусловно, безопаснее, особенно в инцидентах с посадкой на мель. К преимуществам двухкорпусных танкеров также следует отнести простоту балластировки в чрезвычайных ситуациях, уменьшение случаев попадания морской воды в грузовые танки, уменьшения коррозии, более быструю разгрузку танкера, лучшую защиту при небольших столкновениях и, как следствие, менее пагубное воздействие на окружающую среду. К минусам двустенных танкеров можно отнести удорожание строительства, большие операционные расходы (например, выше тарифы для каналов и портов), трудности в вентилиации балластных танков, риск взрывов в межбортовых пространствах, если система обнаружения паров не установлена. Более того, балластные танки необходимо постоянно инспектировать и технически обслуживать, а их очистки намного сложнее, и количество поверхностей в обслуживании больше. Совершенствование технологии перегрузки грузов также как и развитие судоходства должно сократить выбросы CO₂ на 40% к 2050 году по сравнению с 2010.

Продолжается работа по предотвращению и борьбе с пиратством и террористическими угрозами. Другое важное направление деятельности

касается социального аспекта: уход за условия труда, здоровья и безопасности и профессиональной квалификации моряков. Принимаются меры и разрабатываются законодательные акты по защите граждан, как потребителей услуг морского транспорта, обеспечивающие безопасные условия, права пассажиров и осуществляется проверки адекватности государственной службы морского транспортного сообщения.

Тенденции развития европейской транспортной сети вносят соответствующие изменения в систему экономических отношений мирового транспортного комплекса, которые, в совокупности, приведут с одной стороны к совершенно новому качеству транспортной услуги, а с другой - к значительному ее удорожанию. Все это представляет угрозу украинскому транспортному комплексу и перспективам не только вхождения его в европейскую транспортную сеть, а вообще существования, как самостоятельного сектора национальной экономики, поскольку характер воздействия на окружающую среду морского и воздушного транспорта не ограничивается территорией страны, а влияние наземных видов (автомобильный и железнодорожный) носит существенный трансграничный характер. Между тем, по общим принципам и правилам ВТО и ГАТС, любая страна член ВТО может оказывать транспортные услуги на территории другой страны члена ВТО без каких-либо ограничений со стороны последней. Таким образом, национальные украинские перевозчики будут вытеснены даже с национального рынка транспортных услуг, если их транспортные средства, условия и технологии перевозок не будут удовлетворять общепринятым в Европе и мире. В то же время, при существующей в стране системе экономических отношений в транспортном комплексе, его предприниматели не в состоянии обеспечить даже простое воспроизводство основных средств, не говоря уже о каких-то качественных изменениях.

Анализ перспективных требований к подвижному составу и постоянных устройств транспортного комплекса европейского континента, вопросы и подходы к построению новой концепции функционирования европейского и мирового транспортного комплекса, как предпосылки и факторы трансформационных процессов системы экономических отношений в мировом транспортном комплексе, позволит использовать для корректировки стратегии развития национальной транспортной системы и разработки организационно-экономического обеспечения ее конкурентоспособного функционирования.