

MOTORWAYS OF THE SEA

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ABSTRACT

In its communication aim, the European Commission presents the following definition: short distance shipping means the movement of cargo and passengers by sea between ports situated in Europe geographical area or between those ports and ports situated in non-European countries located at closed seas on the border of Europe.

Keywords: *shipping, cargo.*

1. INTRODUCTION

In its communication aim, the European Commission presents the following definition: short distance shipping means the movement of cargo and passengers by sea between ports situated in Europe geographical area or between those ports and ports situated in non-European countries located at closed seas on the border of Europe.

Transport over short distances is according with EC definition, the maritime transport which doesn't involve ocean crossing.

The notion includes shipping along the coastlines between EU continental ports and its insular possessions.

This includes goods transport both within an individual Member State and between Member States.

European ports agree on the importance of transport over short distances.

For many, this is the main part of their traffic.

It is therefore not surprising that the Commission was asked this question and that on July 5, 1997 it was adopted a "Communication on short-navigation for future challenges", which analyses which is the best way to promote this mean as a viable alternative to land transport.

Short distance navigation has a number of generally recognized strong points. European Union geography is very favorable to it.

With over 67,000 km of coastline, very few industrial centers are located over 400 km from a seaport.

In addition, the EU has 25,000 km of rivers and waterways.

Infrastructure costs are relatively small and are fully borne by users, unlike the costs of rail and road infrastructure which are borne by taxpayers.

Energy consumption is insignificant, as evidenced by data from the British Transport Department, which shows that shipping consumption is of 0.12 to 0.25 mega-Joules per ton / km, compared with 0.70 to 1.20 for road transport Road and about 0.60 for rail traffic.

Short distance navigation is environmental friendly, as its CO₂ emanations are less than 30 grams per ton / km, compared to 41 g for rail and 207 g for road transport.

Safety levels are high: British statistics showing that the number of deaths on a billion passenger-km is 0.5 at sea, compared to 2 by rail and 13 by road.

Short distance transport promotes economic development in the islands and peripheral regions of the European Union and is often the only mean of access available to them.

This encourages the activities in shipbuilding because approximately 50% of the ships built in Europe are manufactured for short distance navigation.

Contrary to these advantages, certain obstacles must be overcome before transport over short distances can help mitigate congestion of land routes.

The biggest of the problems identified are deficiencies in terms of port facilities.

Inadequate or outdated port facilities are largely responsible for slow shipping.

Ships are forced to spend too much time in port due to equipment badly adapted to current conditions.

Ship owners estimate that their vessels spend on average 60% of the total transport time in ports and only 40% at sea.

Similarly, highly variable port fees, many and large, suddenly increase shipping costs.

They represent up to 70-80% of the cost of transport over short distances, especially in ports where the vessels are charged for services that they do not want and they do not need.

Also, problematic are inadequate links between ports and inland centers; burdensome administrative processes; an image overtaken by senders who are often unknowingly regarding the services it can offer this mean of transport; slow ships, growing aging which increase transport duration.

The Commission main proposals for overcoming these obstacles Commission include establishing research and development activities to design modern ships and effective loading and unloading techniques and a better integration of maritime transport in the intermodal chain.

On June 1st, 1997, Information Office for short sea transportation, opened for business, is responsible to promote the multiple benefits offered by short sea shipping based on a "door to door" transport to many European destinations.

Goals of the Information Office regarding short sea shipping are:

- To provide shippers (Seafarers) information on the many and varied possibilities of short distance operations in Europe, especially on intermodal "door to door" transportation.
- To raise awareness among seafarers and shipping agents about short sea shipping .
- To analyze the problems that may affect navigation on short distances, to ensure competition on an equal footing with other modes of transport.
- To create and maintain a database regarding short sea shipping services.
- To be a source of objective information about freight and industry, commerce transport, etc..
- To act as spokesman for short sea shipping sector.

The analyses of the way short sea shipping can be put on an equal footing with other modes of transport, is focusing on three main areas of action:

- Short sea shipping quality and effectiveness improvement. Specific transportation program to be prepared for this purpose would consider finding rapid systems and techniques of water transport as well as river-sea ships, bulk carriers, automatic self-unloading and port containers.
- Infrastructure and port efficiency improvement. Ports are connecting points of maritime, road and river transport.

Proper functioning of these ports and their full integration into transport chain is the only way to fully exploit short sea shipping.

Ports are an integral part of trans-European transport plan. It is therefore useful to undertake port projects of common interest to answer a set of general principles applying to all transport modes as to various specific port conditions.

- Preparation of short sea shipping for the opening to Europe.

Implementation of EU agreements with several countries in Central and Eastern Europe will boost trade and increase the demand for freight transport.

Most of these countries are maritime countries with major ports in the Black Sea and Baltic Sea.

Trans-European motorways of the sea focuses freight flow concentration on maritime logistics routes so as to improve existing maritime links or to establish new viable maritime links, regular and frequent for transport of goods between and/or to improve access to peripheral and island regions and states.

Motorways of the sea should not exclude combined transport of people and goods, providing that goods transport to be predominant.

Trans-European motorway of the sea network consists of facilities and infrastructure that involves at least two ports in two different Member States.

Equipment and facilities include at least one Member State, items such as port facilities, electronic and logistics management systems, safety and security procedures and administrative and customs procedures as well as road and maritime direct access infrastructures, including means of ensuring navigability throughout the year, particularly by providing dredging equipment and icebreakers for admission in winter time.

Waterways or canals linking two motorways of the sea or two sections of a sea motorway and substantially contribute to shorten shipping routes, increasing efficiency and leading to reduction of the navigation time, are part of the trans-European motorway of the sea network.

Projects of common interest in the trans-European motorways of the sea network shall be proposed by at least two Member States and are oriented to actual needs. Proposed projects generally involve both the public and private sector in accordance with procedures which, before adding, as appropriate, Community financial assistance to national budget financial assistance, foresee to be organized a tender process under one of the following forms:

- a) public tenders organized jointly by the concerned Member States, aimed to establish new connections;
- b) if ports location is comparable, public tenders organized jointly by the Member States concerned, targeting consortia bringing together at least shipping companies and ports located in one of the maritime areas;

Projects of common interest in the trans-European motorways of the sea:

- a) aims first of all equipment and infrastructures that form the motorways of the sea network;
- b) may include initially financial help if, as a result of the tender shall be considered that for financial viability of the project public support is needed; financial aid is limited initially to two years and is granted only to cover capital costs justified accordingly; financial aid may not exceed the minimum deemed necessary to start the relevant connections; financial aid must not lead to distortions of competition, contrary to the common interest, in the relevant markets;
- c) can also includes activities that have a wider range of benefits that are not linked to specific ports, such as the provision of facilities for icebreaking operations and dredging, as well as information systems, including traffic management systems and electronic reporting systems.

Projects of common interest in the trans-European motorways of the sea network are presented for approval to the European Commission.

Within three years from 2009, the Commission shall draw up an initial list of specific projects of common interest. Thus is reflected the concept of sea motorways.

This list is also communicated to the European Parliament. For the purposes of the above arguments the European Commission attaches great importance to Motorways of the Sea priority project.

The project is defined in the TEN-T guidelines based on the conceptual approach which sets the objectives and procedures for identifying common interest projects.

This allowed the Community to implement a co-modal transport solution designed to improve accessibility and reduce emissions from road freight transport.

There are available different Community and national instruments, including TEN-T budget, which aims mainly its internal waterways and ports infrastructure.

The complexity of procedures for obtaining financial support from public budget and lack of clarity of objectives and criteria has not allowed, so far, implementation of the concept.

For the development of Motorways of the Sea as an alternative to land transport, there are designated four corridors of major interest:

- Motorway of the Baltic Sea (linking the Baltic Sea Member States with Member States in Central and Western Europe);
- Motorway of the sea of western Europe (from Portugal and Spain to the North Sea and Irish Sea);
- Motorway of the sea of south-east Europe (connecting the Adriatic Sea to Ionian Sea and eastern Mediterranean, including Cyprus);
- Motorway of the sea of South-West Europe (western Mediterranean, connecting Spain, France, Italy, Malta, connects with South-East Maritime Highway and Black Sea).

In the context of supporting Romanian interests in the development of motorways of the sea it is necessary to emphasize the importance of new transport lines in the Black Sea.

Constanta – Poti maritime line

Constanta Poti maritime line must meet the following functions:

- Logistics component of the Black Sea Economic Cooperation Organization;
- User of available capabilities;
- Extension line of the European Agreement network on Main International Combined Transport Lines and related equipment;
- Connecting line on IVth Corridor - Black Sea;
- Completing line of the transport network of the Black Sea;
- Eurasian multimodal transport connection.

It must have the following basic characteristics:

- Reliability, seamless transport throughout the year;
- Lower costs;
- Competitive journey time.

Black Sea Economic Cooperation Organization (BSEC) was established in 1991. It consists of 11 countries: Albania, Azerbaijan, Armenia, Bulgaria, Georgia, Greece, Moldova, Romania, Russia, Turkey and Ukraine.

BSEC includes all aspects: economic, financial, information technology, manufacturing, telecommunications, energy, environment, transport, chemistry and biochemistry, metallurgy, fishing, agriculture, geology, seismology, physics, urban planning, biotechnology.

In 2007 the governments of member countries signed in Belgrade BSEC MoU on development of motorways of the sea which states that:

"The Parties shall cooperate in matters of common interest to support their position on the identification and expansion of motorways of the sea in the BSEC region.

The Parties shall cooperate in improving infrastructure and transport facilities, and maritime services in the Black Sea and Caspian Sea."

In transports, the BSEC is taken into account especially the infrastructure and logistics required to:

- Ensure the interchange of passengers and goods;
- Creation of the Black Sea market;
- Attracting transit relationship Europe - Asia;
- Exploitation of resources in the Black Sea;
- Use the Black Sea as an alternative to land routes;
- Improve and diversify the transport offer.
- Black Sea, natural way of communication, can best meet the stated purpose, offering the possibility of establishing direct links between ports.

Such maritime links already exist between Greece, Turkey, Bulgaria, Ukraine, on the one hand and Georgia on the other hand; the only missing connection from the logistics network of the Black Sea was that between Romania and Georgia, which makes the exchange of import - export and transit between Romania and Caucasian countries to be made on alternative routes, with high costs and long journeys.

Currently, direct link Romania - Georgia is a necessary BSEC and East-West direction international transport corridor.

Transport network across the Black Sea and around the Black Sea includes a road ring of about 4,000 km, coastal or ports of Constanta - Mangalia, Odessa - Kerch (ferryboat over Kerch - Caucasian Strait), Tuapse - Poti - Batumi service railway lines as well as shipping lines operating between ports on the Black Sea.

This network provides the development of coastal areas and links between them.

Constanta - Poti line - provides necessary connections for Dobrogea and Colhida regions development.

This line uses the existing maritime infrastructure and transport means of the two ports.

The establishment of this line reduced transport distance from land routes, as follows:

- Constanta – Poti maritime distance is of 1,074 km and the land distance via Turkey, on road is about 2,000 km;
- By rail, via Galati - Odessa - Kerch distance is of approx. 1,800 km and approx. 2,200 km via Galati - Donetsk - Rostov on Don with the Azov Sea bypassing.

Constanta - Poti line is a connecting line between the European and Asian transport networks which must be taken into account within the combined transport network expansion in the Caucasus – Asia region.

Also this line achievement will provide transport continuity on the East - West direction and the existence of a Romanian Black Sea maritime line on the East – West direction.

Constanta - Poti line is a link of the transport chain, in the variant Caspian Sea - Black Sea.

This road passes through an area considered to be among the most economically dynamic, especially in the Asian part due to immense wealth in oil, gas, coal, ores, cotton, agricultural products, timber, wood, industrial products and precious metals.

To achieve the transport chain connecting the Eurasian multimodal transport can be considered the following infrastructures:

- Poti terminal;
- Constanta terminal;
- Danube - Black Sea canal;
- Caucasus railway network;
- Railway networks in the countries of Central Asian countries and their links with railway networks of Kazakhstan, Russia, Iran and China;
- Romanian road and railway network;
- Constanta - Samsun and Constanta - Poti ferry – boat lines;
- Volga – Don canal;
- Baku - Turkmenbashi and Baku - Aktau ferry - boat lines of Caspian Sea.

Constanta – Odessa - Istanbul line

Commissioning of the regular passengers, on a relation including the ports of Constanta, Odessa and Istanbul was an event of great importance in the Romanian maritime gate history.

Voyage duration between two stationary points is about 14 hours. On board of passengers ships can be loaded cars and jeeps.

Constanta - Samsun line

Commissioning of the ferry line between Constanta and Samsun provides a faster and shorter connection by 30-50% between Romania and Iraq, Iran, Syria given to railway transport on the same route.

The situation is shown in the following table:

Romania's railway connection			Route	Duration (days)	Distance (km)
IRAN	by CIS	Romania (Socola), Moldova (Ungheni) – Ukraine – Russia -Iran (Djufala)		12	IRAN
	by Bulgaria	Romania (Giurgiu), Bulgaria (Ruse - Svilengrad), Turkey (Kapicule - Kapokoy)-Iran (Razi)		16	
	ferry vessels	Romania (Constanta), Turkey (Samsun-Kapikoy)- Iran (Razi)		8	
IRAK	by Bulgaria	Romania (Giurgiu), Bulgaria (Ruse - Svilengrad), Turkey (Kapicule - Nusaybin) - Syria (Elquamichliye - Yaroubiech) – Irak (Uglat)		15	IRAK
	ferry vessels	Romania (Constanta), Turkey (Samsun - Nusaybin), Syria (Elquamichliye - Yaroubiech), Iraq (Uglat)		8	
SYRIA	by Bulgaria	Romania (Giurgiu), Bulgaria (Ruse - Svilengrad), Turkey (Kapicule - Maydan) - Syria (Ekbez)		12	SYRIA
	ferry vessels	Romania (Constanta), Turkey (Samsun - Maydan) - Syria (Ekbez)		6	

Ferry line Constanta-Samsun serves many Central and Western European countries.

The average duration of transport to and from (2 x 390 Nm) is 4 - 5 days, 8 hours loading time and 72 trips per year.

Transport capacity for a vessel is 200,000 t/year.

From Constanta ferryboat goods can be transported in wagons, containers and trucks on the ferry lines:

Constanta Ferry -Izmir, Mersin (Turkey)

Constanta Ferry -Samsun (Turkey)

Constanta Ferry -Poti-Batumi (Georgia)

Due to relatively short distances between ports in the Black Sea basin, the appropriate crossing time is also short, no more than 1-2 days.

For optimal movement of vessels, residence time in ports is required to be as short as possible.

Therefore routes between the Black Sea ports are aimed for the further development of containerized transport, Ro-Ro and ferry traffic, to ensure fast goods loading and unloading by forwarding to specialized terminals inside the ports, equipped with high efficiency operating equipment.

2. STRATEGIC GOALS AND RECOMMENDATIONS FOR THE EU MARITIME TRANSPORT POLICY UNTIL 2018

In January 2009, the Commission launched a Communication to the European Parliament, the Council, the Economic and Social Committee and the Committee of Regions.

In this communication there are Strategic objectives and recommendations for the EU maritime transport policy until 2018.

From these objectives are given below some guidance on the development of short sea shipping and maritime transport services to provide measures to ensure that ports can efficiently meet the "access gates" function. In this respect, it would be necessary to undertake new infrastructures and to improve use of existing capacities by increasing the existing capacities by increasing ports productivity. It is necessary to adapt the existing system, including hinterland connections and freight corridors, to meet expected growth.

To this end, the main priorities should be:

- Establishing a genuine "European maritime transport space without barriers" by removing all unnecessary administrative barriers, duplicated border controls, lack of harmonization of documents and all other factors that constitute barriers for potential development of short sea shipping ;
- Implementation of measures announced for a European port policy; must be followed the safety, security and sustainable development requirements, and port services should be ensured in all cases in accordance with the principles of fair competition, financial transparency, non-discrimination and cost effectiveness;
- Ensuring appropriate conditions for attracting investment flows to the port sector, giving priority to projects of modernization and expansion of port infrastructure and hinterland connections infrastructure in areas most likely to be affected by problems of traffic congestion;
- In terms of environmental assessments for port expansion should be generalized accelerated procedures that significantly reduce the overall execution time; in this respect the Commission will issue guidelines regarding permanent application of environmental legislation to port development;
- Strengthening the EU 's strategy to ensure full development of motorways of the sea projects, further facilitating the initiation of innovative integrated intermodal transport solutions, by simplifying administrative requirements and by supporting Commission proposed initiatives in respect of green transport;
- EU funding programs such as trans-European transport network projects, should contribute to these developments and focuses on modal shift factors.

A major challenge is the design of modern ships and the development of new equipment to improve safety and environmental performance. Specific initiatives of research and technological development should lead to new forms of design, advanced structures, materials, clean propulsion means and efficient solutions for energy. Also, for achieving sustainable mobility is necessary technological and logistical development and formulas identification that enhances efficiency of the entire transport chain through short distance maritime transports and inland waterways transports.

3. SHORT SEA SHIPPING

Despite its importance, short sea shipping has attracted relatively little attention of researchers in the field of transport and shipbuilding.

Increasing the number of road vehicles and a corresponding increase in traffic congestion with long-haul heavy trailers forced the European shipping industry to introduce and implement new strategies for the development of combined and intermodal transport

using road, railway, inland and respectively maritime network engineering.

To get a better division and integration of the flow of goods across different transport modes and at the same time minimizing the negative social effects (pollution, energy waste, road congestion), it emphasizes the need of a structural support for vehicles less harmful to the environment, such as - inland and coastal shipping networks, especially because speed restrictions are expected in Europe for cars, trucks, trailers, larger and larger transit fees of different countries and even complete circulation interdictions on Saturday and Sunday.

Compared with other modes of transport, water transport has several advantages. Cabotage has a minimal impact on the environment and requires a relatively low level of infrastructure facilities.

It is particularly significant to create and provide modern and efficient technological means for short sea shipping.

At European level, short sea shipping in the Atlantic Arc, the Scandinavian countries, the coasts of England and France is particularly active, seeking to be more and more extended.

In order to promote short-distance transport in the Black Sea is proposed as follows:

- Creating a network of transport data over short distances in Europe;
- Creation of port "pairs" representing a traffic model in short distance transport development;
- Creating a uniform "Electronic Data Interchange" (EDI) system, including ports, operators, for quick access to information;
- Stimulate the design of vessels for short sea shipping;
- Design of new types of ships, to make sea short shipping competitive in terms of quality, frequency, safety, etc.;
- Stimulate expansion of multimodal terminals in inland waterway ports;
- Internationalization of external costs created by the different modes of transport;
- Creation of a "short sea transport promoting service" in the Black Sea.
- Stimulate the development of port infrastructure.

4. CONCLUSIONS

Black Sea cooperation programs and during development of TEN-T transport network is necessary that Romania to lead a policy of harmonization of transport infrastructure.

Thus it is necessary to harmonize maritime, river, railway, road and combined transport infrastructures.

The main purpose of this paper is to propose an idea of traffic reorientation towards water transport.

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