IMPORTANCE OF SHORT SEA SHIPPING AND SEA MOTORWAYS IN THE EUROPEAN AND SLOVENIAN TRANSPORT POLICY

The scope of this article is to provide a sound description of short sea shipping and motorways of the sea as an innovative method aimed at shifting the increased road traffic to sea transport as an alternative method of transport. The shifting of cargo to other traffic routes is the result of the improvements made in port services, in the collaboration and cooperation between ports and with the further development of inland waterways should help to reduce the road transport on the congested European transport network. Short sea shipping represents a very good alternative to road transport and it is an environmentally accepted service as it gives a contribution to the decongestion of the European motorways and to the reduction of air pollution and energy consumption.

The creation of a sea motorway network is an excellent support to the short sea shipping. The implementation of sea motorways in the European Union might provide new opportunities for the regional development and for the development of the East Mediterranean countries. Slovenia and Croatia included, should take advantage of this concept. The European sea motorway network is still on a planning level, but the target of the European Commission is to have a complete network of sea motorways spread around Europe by the end of the year 2010.

The infrastructure and equipment that support an efficient, rapid and low cost cargo shifting procedures in the East Mediterranean is a poor one. Therefore, major investments have to be made for the introduction of sea motorways. Leading an active transport policy all countries in the region, including Slovenia and Croatia, should benefit from the introduction of this well-developed concept of sea motorways and short sea shipping.

Key words: short sea shipping, sea motorways, ports, inland waterways transport.
1. INTRODUCTION

Traffic growth of the past decade led to an unacceptable congestion and pollution in the European Union. Europe suffers from severe congestion problems for which solutions are to be defined and implemented. It is thus necessary to find a new balance between transport volume and sustainable development of the society towards the background of an enlarged European Union. Promoting underestimated modes of transport is the means to realise a new balance between growth and environmental protection. Shifting freight from European roads to the sea could be a cure against congestion and the growing environmental impact of trans-European transports.

The concept of “Motorways of the Sea” is an integrated part of the Commission’s 2001 White Paper on European transport policy for 2010. Waterborne freight transport is suggested in the White Paper as a means of coping with road congestion and constraints on railway infrastructure. One way to revive short-sea shipping is to build sea motorways within the framework of the master plan for the Trans-European Transport Network (TEN-T). Sea Motorways are in a list of 29 priority projects for investment, published by the European Commission. Subsidies should help to complement shipping links that are solely based on commercial conditions.

2. SHORT SEA SHIPPING

Since 1992, the European Commission has made short sea shipping one of the major priorities or European transport. The maritime industries have made short sea shipping one of their key areas for development; more so since the European Union has emphasized the role of maritime transport in the desired evolution of freight traffic in Europe. In 1997 and 1999, the Commission submitted to the various European bodies draft documents concerning the development of short sea shipping, which was supposed to respond to two European demands: to reduce the saturation of the networks and to encourage more environmentally-friendly modes of transport. In 2001, the European Commission issued White Paper. The White Paper, stated that sea transport was a real competitive alternative to land transport, and proposed to develop support to encourage start-ups through European funding (Marco Polo, Structural Funds). In 2001, the Marco Polo programme was set up in order to continue startup support for intermodal initiatives and solutions allowing a reduction in road traffic until they became commercially available.

Short sea transport makes use of various mode of transport. The most used combination is a short sea vessel with a truck. Other possibilities are short sea
shipping with rail and inland shipping. Short sea shipping has an important share in transport of cargo within Europe, almost 43 percent. The cargo in Northern Europe consists mainly of large bulk flows (dry and wet bulk, such as fertilizers and oil products, coal, cereals, metal products and building materials), but also general cargo, such as forest products and paper. Semi-manufactured articles and consumer products are mainly transported by road in 20 to 25 ton volumes, whereas these goods could well be transported via short sea transport.

Short sea shipping falls mainly within the context of a door-to-door intermodal link in which transshipment at the road/sea interface is the key element. In this process, the port becomes a strategic site which must avoid congestion and which must reduce its costs in order to offset the competitiveness handicap of a more complex routing (good access, fluidity). Many European ports have the capacity to develop their short sea shipping services, provided that they are fully integrated in the land transport network, which implies multimodal regional, national and European transport plans.

2.1. Rotterdam port as a model of short sea shipping port

Rotterdam has a huge number of regular short sea and feeder services to and from more than 200 European ports, and the number is still increasing. Many destinations, including the United Kingdom, the Baltic, Scandinavia, the Iberian Peninsula and countries around the Mediterranean are served on a daily basis. Short sea services focus on transport over sea between European ports and are taking advantage of developed inland shipping (some 50 percent of all cargo is transported by inland vessels). Inland shipping is a reliable and inexpensive mode of transport; thanks to an extensive network of rivers and inland waterways that link Rotterdam to destinations in Germany, Belgium, France, Switzerland, and Austria and beyond. Transit times vary from less than 1 day for destinations in Germany and Belgium to 4 days for destinations in Switzerland. The Rhine-Main-Danube Canal even makes Central and Eastern Europe accessible for inland shipping from Rotterdam.

2.2. Efforts to improve short sea shipping in Europe

Since 1970 short sea trade in Europe has been growing of 3.2 percent yearly, higher than the average growth rate of the whole sector of transport of goods. In view of contributing to satisfy these increasing needs for intra-European sea transportation some shipping lines (for example: the Grimaldi Group) has made huge investments over recent years in new buildings, equipment, port terminals and human resources. Port terminals present an extremely important ring in the chain of short sea transportation. However, in order to be successful, they should be jointly managed by all the operators involved in the transportation chain: logistic operators, ship owners, forwarding companies and agents. Grimaldi
Group has followed this philosophy in its effort to create a network of dedicated port terminals in the Mediterranean area. They already run Ro/Ro-multipurpose terminals in Salerno, Palermo, Alexandria and Valencia, and they have all proven successfully.

The “Grimaldi Euro-Med Service” is one of the most extended short sea services in Europe and the closest to the guidelines for short sea shipping issued by the European Commission. By being a valid alternative to road transportation it is an environmentally friendly service as it gives a contribution to the decongestion of European motorways from trucks and trailers and to the reduction of air pollution and the saving of energy consumption. The Euro-Med Service directly links the peripheral areas of Europe, from Greece, Southern Italy, and Portugal to Ireland, Southern England, Denmark and Sweden. Industries situated in these countries are put in the best possible competitive environment by giving them the opportunity to be in direct connection with the most important European and Mediterranean markets.

2.3. Obstacles in developing short sea network

The concept of cabotage in Europe and more generally short sea shipping will be successful only with a change in the way some ports in North Europe and Mediterranean are run. In short sea shipping, the weight of port and handling charges has a very high incidence on the overall intermodal costs. Therefore, the prerequisite for the successful promotion of innovative maritime services is to have cheaper and more efficient port and stevedoring services.

In many countries, ports still operate in a monopolistic environment, with high charges and poor services in terms of quality, labor rigidities and outdated regulations. This situation generates inefficiencies that threaten the development of short sea trade.

Stevedoring companies in several ports operate in an oligopoly, which restricts the competitiveness of the service whilst in more efficient ports the same service is much less expensive and of the same quality. In some ports specific services, such as the lashing of cars, can only be offered by the stevedoring companies who charge the shipping lines very high fees. Although it is proven that short sea shipping is the most environmentally friendly mode of transport it is penalized with indirect costs charged to the ships in countries, which consider themselves environmentalist. For instance, light dues usually do not apply to the trucks or trains for the use of motorways or railways.

In order to solve the obstacles there are some vital issues for intermodality, short sea shipping and inland navigation:

• Standardized loading unit suitable for all modes is the key to intermodality,
• Network of ports and terminals should be further developed, together with the relevant infrastructure,
• Cheaper and more efficient port and stevedoring services,
• Electronic data interchange (EDI) systems save time and reduce costs,
• Ships engaged in intermodality should be flexible, meet highest safety standards, based on a proven design, inexpensive in operation, high quality and cheap in production.

3. IMPORTANCE OF TRANS EUROPEAN WATERWAY NETWORK

Inland waterway transport has proved to pay an important contribution to the demands within the European policy. This mode of transport suffered from an underestimation during the past decades. Inland waterway transport in specific areas plays an important role and reaches shares up to 40 percent (in some Member states), but the overall share of inland waterway transport only makes up to some 4 percent. This offers tremendous possibilities for future growth and unexploited opportunities to short sea shipping. Inland waterway transport is being used increasingly by the major North Sea ports, which use the inland waterways for a large part of their inward and outward traffic. Some of the countries which are not connected up to the north-west European network have their own systems, such as the Rhone, the Po or the Douro, which are becoming increasingly important at regional level, but also in the development of river–sea transport thanks to technical progress in designing vessels suitable for both river and sea. Inland waterway transport is energy-efficient and quiet, and takes up little space. In terms of energy efficiency and the weight of goods, which can be moved one kilometre by one litre of fuel, the figure for road haulage is 50 tonnes, for rail haulage 97 tonnes and for inland waterways 127 tonnes.

3.1. Inland waterway transport must support short sea shipping

By introducing the concepts of short sea shipping and motorways of the sea the EU aims to link the outlaying regions of Europe more effectively and to connect the networks of the Central- and Eastern Europe countries in an enlarged Union to the networks of the EU countries. Some researches have proved that inland waterway transport in general can grow by 100 per cent and even by more than 170 per cent as regards the Danube waterway, due to the considerable reserve capacity both in infrastructure and fleet capacity. Volume of cargo can grow tremendously if the necessary measures are taken and substantial improvements in the waterways are achieved. To revitalise the main transport corridors it is necessary to remove the main bottlenecks in inland waterway
transport by concerted actions between the national governments and the European Union. Further development of inland waterway services and short-sea shipping also depends on an efficient port service based on the principles of regulated competition. Experience has shown that short-sea shipping requires efficient, integrated port services. Thought should be given to bringing together all the links in the logistics chain (consignors, ship-owners and any others involved in the shipping industry, plus road, rail and inland waterway operators) in a one-stop shop to make intermodal transport by sea and inland waterway as reliable, flexible and easy to use as road transport.

European Barge Union (EBU) made some proposals regarding the revision of the TEN-Guidelines. The proposed projects intend to support concept of sea motorways and balance between the different modes of transport. Due to the scarcity of government founding the proposals are limited to the top five projects, which need to be supported within the TEN transport measures. Short-term projects (2004 – 2010) are South-East Corridor (Main – Main Danube – Danube) and North–South Corridor (Seine – North). Medium term projects (2008 – 2020) are the North–South Corridor (Moselle – Saone) and East-West Corridor (Elbe and Mittelland canal). Long-term project is North-South Corridor (missing link between Seine – Moselle), which should be realized until 2030. All these projects should contribute to realize a sustainable future development of inland waterway traffic and further develop the concept of sea motorways.

4. MOTORWAYS OF THE SEA

At its early stages the “Sea Motorways” concept was mentioned as a measure to revitalizes short sea shipping, which immense capacity is only partly exploited and all positive aspects of maritime transport such as, low energy consumption, safety, environmental-friendly transport mode and low infrastructure cost are not fully taken advantage. However, the issue for the European Union (EC) is not just to promote maritime transport individually, but also to efficiently integrate seaborne connections with land modes, especially railways, and enhance intermodality. Therefore, the sea motorways have become the tool for the sea-based intermodal corridors of Europe, which will use short sea shipping and ports as the infrastructure required.

The interested parties in Sea Motorways are practically all entities getting involved with freight transport by sea, road, rail and rivers. The major players that follow and influence the evolution of the Sea Motorways concept are: logistics companies, shipping companies, seaports and inland ports, forwarders, shippers, road and rail haulers, state and regional authorities, along with other institutions such as the short sea shipping promotion Centres and the European
Commission. Each of these entities has its own role and has different expectations from sea motorways concept. For example industry, shippers and logistic organizers are looking for new opportunities and aim to the promotion of short sea shipping and motorways of the sea. Ship owners are eager to support and participate in valuable projects and cooperate more dynamically with the trading industry. The authorities (ports, state governance) provide infrastructure and framework. Finally, European Commission supports financially the valuable projects, which are not disturbing competition and contribute to the European Transport policy.

The Sea Motorways in Europe are still in a planning level and the implementation provisions and restrictions are still under the consideration of the European Commission. The target of the EC is to have a complete Network of Sea Motorways spread around Europe by the year of 2010. The four regions to be considered as potential geographical areas are:

- **Motorway of the Baltic Sea** (linking the Baltic Sea with Central and Western Europe, including the route through the North Sea/Baltic Sea canal);
- **Motorway of the Sea of Western Europe** (leading from Portugal and Spain via the Atlantic Arc to the North Sea and the Irish Sea);
- **Motorway of the Sea of south-east Europe** (connecting the Adriatic Sea to the Ionian Sea and the Eastern Mediterranean, including Cyprus);
- **Motorway of the Sea of south-west Europe** (western Mediterranean, connecting Spain, France, Italy, Malta and linking south-east Europe and also the Black Sea).

### 4.1. Proposal by at least two Member states

Motorways of the sea projects must be proposed by at least two Member States. A joint proposal is requested, signed by two authorized representatives of the Member States and should demonstrate that the project contributes to modal shift or cohesion. A project, which is not jointly proposed, cannot be a motorway of the sea project, even if it contributes to modal shift and cohesion and relates to maritime infrastructures. The projects proposed shall in general involve both the public and private sectors.

Countries not being Member States may not submit a proposal. However, they may participate in a project, provided that they do not receive EU funding. The application will have to state that the objective of the project is modal shift or cohesion by concentration of flows of freight on sea-based routes by improving existing maritime links or establishing new viable, regular and frequent maritime links for the transport of goods between Member States. The aim is to reduce road congestion and to improve access to peripheral and island regions
and States. Freight should be predominant, but not exclude the combined transport of persons and goods.

Project proposals will also have to give elements allowing an evaluation of the credibility of a project. The commitment and quality of the partnership in the project is essential. Project proposals should contain a presentation of the preparatory work, the knowledge and financial standing of the actors involved, and a business and financial plan. Importantly, the commitment of potential users all along the chain (freight forwarders, logistics service providers, road haulers, shippers etc.) to use these motorways of the sea project should be clearly demonstrated.

4.2. Future development of sea motorways

Intra-European maritime transport has a long experience on long-haul routes at best with daily departures. For links between maritime basins (North Sea, Baltic Sea, Atlantic, Mediterranean), transit times are certainly long, but this can often be set against road journeys that are themselves very long (more than 1,500 km). Thus, a number of shipping companies have, more or less officially, developed the first forms of sea motorways. The term sea motorway originated however in Italy with a very commercial meaning for various services run by the Grimaldi group from Italy part on the transport of new cars, initially for Fiat.

The use of a sea motorway is part of a multimodal perspective in which the transshipment and partial subcontracting of the transport must represent an economic benefit. An offer must be competitive in terms of price and of transit time with the all-road solution. However, the sea motorway must also be seen as a new transport concept in the wider context of the marketing of a multimodal logistics offer in which the most important parameter is efficiency (punctuality).

The motorway of the sea also calls for an adaptation in the framework of unaccompanied Ro-Ro services in the development of the European networks, which is not in contradiction with road transport trends (lack of drivers, logistic services). To summarize, the concept of sea motorways must remove the barriers in following spheres, in order to be further developed and take an active part of European transport and economic policy:

• Customs:
  • Compliance with EU regulations for regular shipping lines;
  • Facilitate the combination with non-EU goods on a Motorway of the sea vessel;
  • Electronic exchange of cargo and dangerous goods manifests;

• Inspections and maritime services:
  • Port state control (targeted inspection of the vessels based on quality criteria);
  • Sea port police: prior notification of crew members;
- Co-operation of veterinary and plant health inspections;
- Reduced tariff for vessel traffic management services based on frequency;
- Security:
  - Enhance security procedures through bilateral agreements;
  - Improve transparency and security in the transport chain;
- Infrastructure:
  - Sufficient draft in access channels and port basins (inland waterway network included);
  - Adequate and dedicated terminal capacity, handling equipment and storage facilities;
  - Efficient and reliable intermodal connections (barge, rail and road).

5. OPPORTUNITY FOR EAST MEDITERRAN

One of the most dynamic regions that eager to take full advantage of this new European concept is the Baltic Sea. The case of the Baltic Sea is unique since in an enlarged Europe the Baltic Sea in practice becomes an inland sea of the Union. This poses increased challenges to the European transport policy. Maritime transport plays a strategic role for cohesion and accessibility in this area. But this very fact also integrates the maritime sector into overall perspectives of economic growth, cohesion, regional and spatial development. Furthermore, Russia and other ex Russian states provide another potential perspective for the economic growth of the region.

The region of East Mediterranean is located in the periphery of the EU and therefore requires measures to increase economic cohesion and overpass administrative bottlenecks caused by the numerous non-EU countries in the region. The EU enlargement (Cyprus, Slovenia) just as the case of the Baltic Sea provides an additional perspective for the successful implementation of Sea Motorways. Moreover the ending points of Pan-European Corridors in East Mediterranean and the Black Sea expand the transport infrastructure. The forthcoming insertion of new Member States from the Balkans by 2007 (Romania, Bulgaria) and the perspective of EU borders in the Black Sea, enact the alternative of Sea Motorways links, not only in the area of the Black Sea but also to region of Southern Balkans.

5.1. Considering features which are hindering intermodality

The current fleet operating in the Seas of East Mediterranean is aging without been renovated to modernized vessels that can perform quality intermodal applications e.g. rapid and efficient loading/unloading and transshipment pro-
cedures. Additionally, old vessel fleet results more environmental consequences and higher accidents risks, which are issues that Sea Motorways proposals must take seriously under consideration as these are features evaluated from EC for the final approval. A contradictory point is that even if every scheme requires new technology vessels, however European Commission does not refer to any funding for new ships investments, just operational costs that include intermodal procedures under Marco Polo funds and this is an issue to take under account.

The situation in South-East Europe and East Mediterranean is not as developed as in other regions. The area has a developed Short Sea Shipping Network, but land connections and the port conditions are below standards in most of the countries. Only Italy has developed port infrastructure and hinterland connections. In other countries, the Infrastructure for freight management and equipment that supports efficiently, rapidly and in low cost modal shifting procedures is underdeveloped and under this frame, major investments have to be made for the Sea Motorways of the East Mediterranean. In addition to this aspect, the hinterland connections with other transport modes infrastructures are considered inadequate to serve efficiently the requirements of a true competitive intermodal alternative like the Sea Motorways. According to this fact emphasis must be placed also on the connection between port infrastructures and land infrastructure, with main priority the link railway and ports, considered the missing link of the intermodal supply chain not only of the South Europe but also on Community level.

5.2. Unexploited possibilities by Slovenia and its port

Intermodal transport in Slovenia is in the phase of development. This means that the share of intermodal freight and passenger transport within the overall transport is growing. The objective of transport policy is to increase intermodal transport to the most possible extent. Slovenia wants to achieve the functioning of market mechanisms, constant and balanced development of all transport modes, in order to shift freight and passengers to intermodal transport systems.

On the main corridors (V. and X.) congestions occur temporarily in areas where the motorway network construction and railway infrastructure projects have not been completed yet. All these bottlenecks are hindering development of intermodality, short sea shipping and motorways of the sea. The motorway network construction should be terminated until 2013, when Jesenice – Ljubljana motorway should be completed. But Slovenia must take quick actions to build and develop railway infrastructure, with priority on following project:

- Modernization and reconstruction of the Pragersko – Hodos railway line;
- Modernization of the Divaca – Koper railway line and construction of a second railway track Divaca – Koper;
- Construction of a second railway track Ljubljana – Jesenice and,
- Construction of a second railway track Maribor - Sentilj.
Most important project for development of intermodal transport is railway connection between Koper and Divaca, which should have priority in respect of other projects. New (second) track will enable Port of Koper to expand freight throughput and take actions to further develop port services. Because with the investments the underdeveloped port infrastructure at RO-RO and container terminal, and inefficient intermodal facilities may be improved and become as equal as these of the developed European countries. Therefore port of Koper must build the third pier in coming years (until 2010-2012), in order to develop new and sophisticated intermodal terminal, and in the same time to stimulate developing of short sea shipping and motorways of the sea.

The other negative point is that Slovenia did not open the short sea shipping promotion centre until now. Mentioned centre was opened by several EU Member States (Germany, Italy, Malta, Norway, Spain, Belgium, etc.) with an aim to:

- Increase awareness of short sea shipping among shippers, forwarding agents and shipping agents;
- Provide shippers with information on the many and varied possibilities of short sea operations within Europe, especially with regard to intermodal door to door transport;
- Analyse the problems, which might affect short sea shipping, in order to ensure it competes on an equal footing with other modes of transport information for trade, industry and the government;
- Encourage greater co-operation at a national level between state bodies and private enterprise to achieve better goals in development of sustainable short sea shipping concepts;
- Analyse and develop measures to overpass the major bottlenecks that affect short sea shipping;
- Create awareness of European programs that may assist private companies to develop short sea shipping;
- Strengthen links and partnerships with other member states to facilitate development of potential new or better short sea shipping connections.

Slovenia should follow other EU member states in order to promote short sea shipping and sea motorways as the easy way to overcome the dependence to access Europe and to increase the awareness of short sea shipping as an economically viable and environmentally friendly mode of transport.

6. CONCLUSION

The Sea Motorways is an attempt from the European Community to improve transport environment, reduce external costs from the extent use of road transport and enhance intermodal transport to achieve economic growth by reba-
lancing the share of each transport mode. There is no doubt that short sea shipping and the concepts of sea motorways are a valid alternative to road and also rail transport. However, in order to efficiently promote it all players in the sector such as ports, stevedoring and forwarding companies, governments and the European Institutions must give their contribution to its viability.

Further development of short sea shipping and motorways of the sea depends on development of inland waterway network and on an efficient port service based on the principles of regulated competition. The Sea Motorways implementation in the region of South East Europe and Adriatic provides new opportunities for regional development. Slovenia must follow described trends. It is of a national importance to improve railway network and build new intermodal terminal at Port of Koper. Only with development of said projects Slovenia and other countries in the region can take an active part in developing the concept of short sea shipping and sea motorways under the European transport policy.

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Cilj ovoga članka je opisati priobalnu plovidbu i pomorske „autoputove“ unutar Europske unije, kao inovativne metode kojima je svrha rasteretiti opterećene cestovne pravce i kao alternativu ponuditi pomorski promet. Prebacivanje tereta na druge prometne grane omogućeno je zbog poboljšanja lučkih usluga, suradnjom i povezivanjem između luka te razvojem unutrašnjih vodenih putova. Na taj način smanjio bi se cestovni promet na opterećenoj europskoj cestovnoj mreži. "Short sea shipping" predstavlja vrlo dobru alternativu cestovnom transportu, a ujedno je ekološki prihvatljiviji. Uz već spomenuto rasterenje europskih cestovnih pravaca i ekološku komponentu, implementacija ovakvog alternativnog prometnog pravca dovela bi i do smanjenja potrošnje energije.


Infrastruktura i oprema koja podržava djelotvorni, brz i ekonomičan pretvar je u istočnom Mediteranu vrlo slabo razvijena. Stoga su potrebne velike investicije kako bi se omogućilo uvođenje pomorskih „autoputova“. Vođenjem aktivne prometne politike sve države unutar regije, uključujući Sloveniju i Hrvatsku, mogle bi profitirati od uvođenja ovoga koncepta.

**Ključne riječi:** Priobalna plovidba, pomorski „autoputovi“, luke, transport unutrašnjim vodnim putovima

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