

Baltic Sea Information Motorways

BaSIM



Final Report

Work Package 3



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Work Package 3

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Preface

General overview of the BaSIM project

“The BaSIM Project has been initiated in order to promote the concept of the Baltic Motorways of the Sea, which is one of the key elements in the Northern Dimension transport market. Baltic Motorways of the Sea aim at promoting maritime transport and multimodality covering also hinterland and logistics in general. Baltic Motorways of the Sea is a future vision manifested in the strategy of TEDIM, an organization carried by most of the Baltic Sea countries, including the Russian Federation, to enhance cooperation and to optimize transport system of the Baltic Sea Region. The vision is implemented by BaSIM, under the TEDIM umbrella and will be one of the first Baltic Motorways of the Sea projects. BaSIM will create a sustainable basis for investments in the future aiming at solving existing and coming up bottlenecks in the BSR and transnational communication and cooperation.

Therefore BaSIM emphasizes simultaneous actions, which are needed to develop both physical and information infrastructure within the BSR, for an overall improvement of logistics productivity and competitiveness.”

This “Summary report” is a part of Work Package (WP) 3.

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If you have some inputs for the BASIM project, you are also welcome to send them.

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1. Introduction

Transport corridors and/or Motorways of the Sea intend to link the different areas of production and population concentration both domestically and internationally. In this regard it is really important to improve maritime transport corridors for a more fluent traffic inside the Baltic Sea Region. Indeed industrial countries around Baltic Sea such as Denmark, Sweden, Germany and Finland have great potential possibilities for the trade with new EU members Baltic countries: Lithuania, Latvia, Estonia, Poland as well as with other countries like Russia, Ukraine, Belarus that are developing intensively. Therefore, in the process of EU's extension, a priority attention has to be given to the development and modernization of transport system and one of such Motorways of the Sea, which link maritime and shore transport systems. Maritime transport corridors and/or Motorways of the Sea are a new adding system to the Trans-European Transport Network. (see report on policy process and perspectives)

The purpose of WP3 is to improve maritime transport corridors in the Baltic Sea Region by creating innovative and effective Baltic Motorways of the Sea. It shall develop and increase feasibility of new maritime freight transport corridor concepts and strategies, analyse the scenarios of selected maritime corridors and examine the political opportunities in making the framework for maritime transport corridors.

Motorways of the Sea main elements can be pointed out as follow:

- Motorways of the Sea as a part of the European transport corridors network;
- Motorways of the Sea as part of logistics network;
- Motorways of the Sea are a new part of the transport and logistics network;
- New Ro-Ro lines situation in Baltic Sea.

The creation of New Maritime corridors in Baltic Sea must be studied in order to find the possible advantages and disadvantages, check existing and possible bottlenecks and find the appropriate solutions.

This summary WP3 report summarizes the findings and conclusions which have been drawn from the five reports which have been produced under WP3.

2. Methodology

This summary WP3 report is based on data from all the partners, and will sum up the findings of the contributions in order to give clear information about maritime transport corridors in the Baltic Sea Region.

The objective of WP3 is to create new maritime transport corridor planning concepts and strategies, do scenario analysis of selected maritime corridors and solution framework for maritime transport corridors.

A best practice approach has been adopted for defining and analyzing the most important influence factors in the creation of Motorways of the Sea. For this several different interviews and workshops with relevant interest groups as well as literature research have been carried out.

For the interviews the qualitative methods offer the opportunity to investigate different issues and gain in-depth information about them, particularly in situations where the range of possible answers is not known beforehand. Unlike the quantitative data collection methods, qualitative approaches do not require a large number of responses for their results to be useful, provided you could be sure that the respondents are sufficiently insightful in the investigated topic.

By using interview as a method of getting information there is used an inductive method where the opinion of the interviewed person to a certain degree is generalised to the institution he or she represents.

2.1 Quantitative Data

Data sources are mentioned for finding relevant time series and up-to-date for some influence factors. Generally it is recommended to use data from national statistical bureau (like STATISTIK regional in Germany), EUROSTAT and the UN in order to create a complete and quantified picture of the total cargo and passenger flows in the Baltic Sea region. When inconsistencies between the sources occur, national statistic sources get the highest priority. Since transport data is lacking in many of the abovementioned sources, estimates are made on the basis of trade data and data collected from ports.

2.2 Chronology of WP3 reports

These five reports have been made in a chronologic order, due to the fact that they are connected and that inputs from each activity is depending on the previous output as it is shown on the following figure:

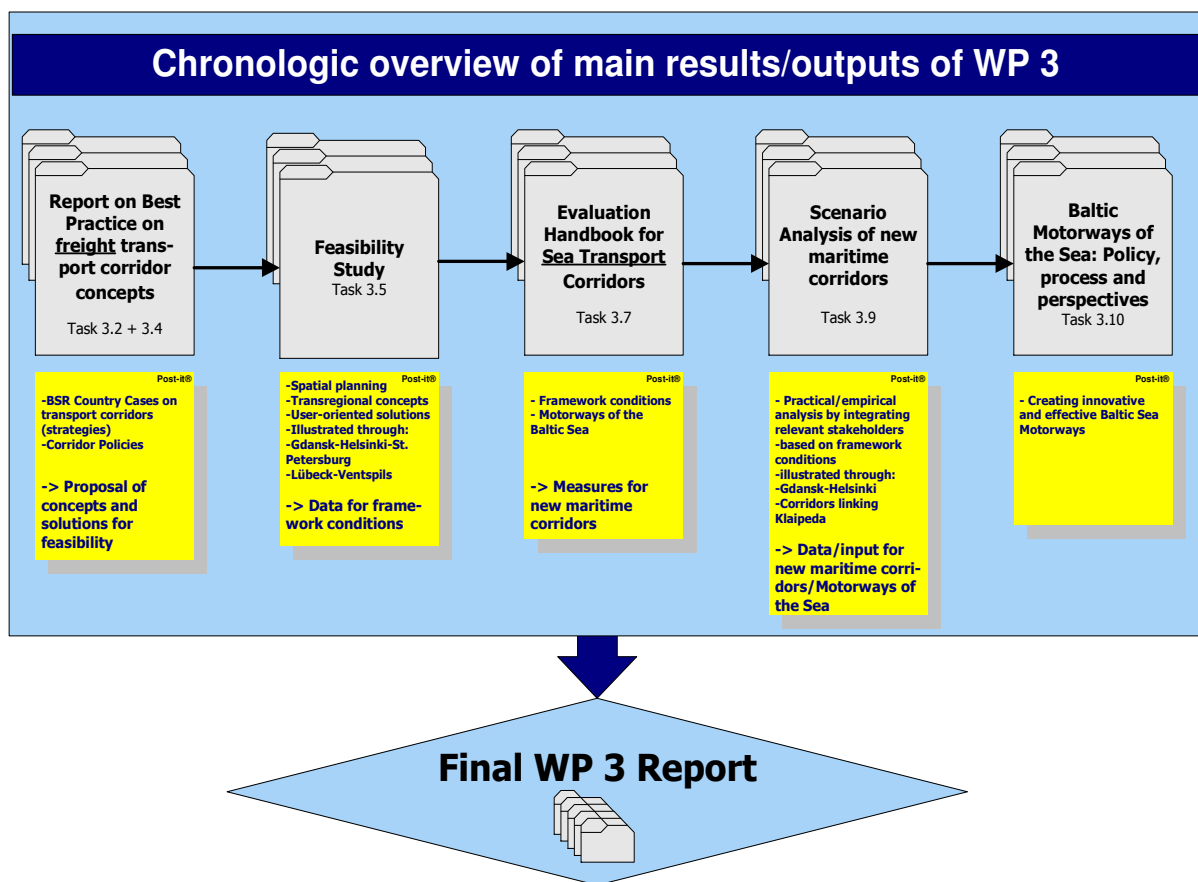


Fig 1 chronology of WP3 reports

2.3 Key concepts

In order to ease the understanding of the summary report a few key concepts are described and defined.

Motorways of the Sea:

Motorways of the Sea are existing or new sea-based transport services that are integrated in door-to-door logistic chains and concentrate flows of freight on viable, regular, frequent, high-quality and reliable Short Sea Shipping links. The deployment of the Motorways of the Sea network should absorb a significant part of the expected increase in road freight traffic, improve the accessibility of peripheral and island regions and states and reduce road congestion.

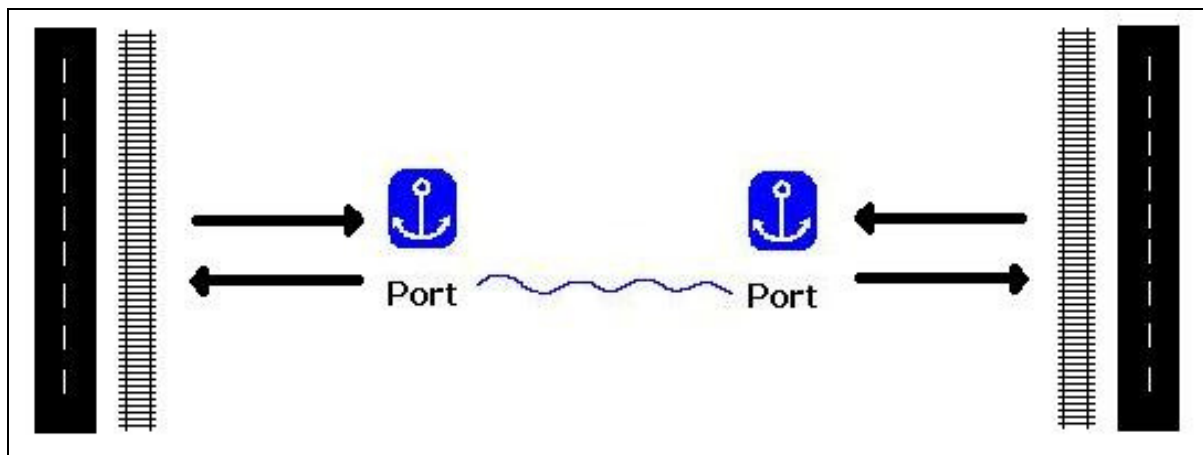


Fig 2 Motorways of the Sea

Hinterland:

The hinterland is the land or district behind the borders of a coast or river. Specifically, by the doctrine of the hinterland, the word is applied to the inland region lying behind a port. The area from which products are delivered to a port for shipping elsewhere is that port's hinterland.

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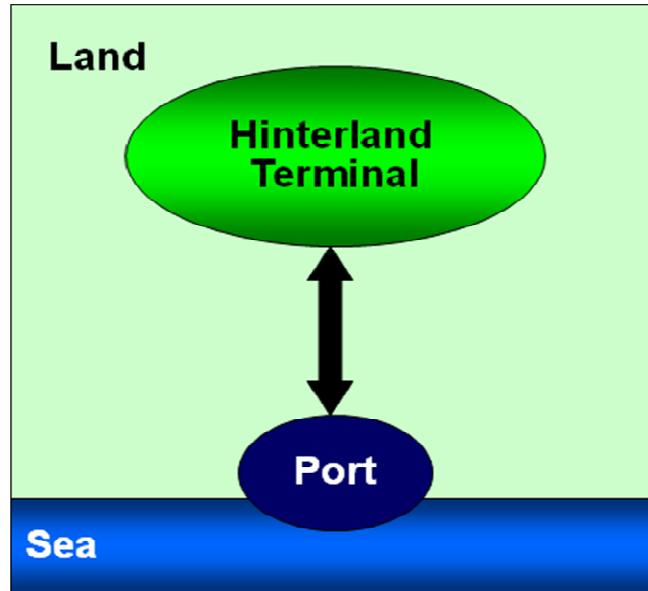


Fig 3 Hinterland

Transport corridor:

An efficient functioning transport corridor is characterized by its sufficient cargo volumes and a full range of available services for its users. Economic development will not only be fostered at both ends of the corridor but also alongside it, in the way that companies tend to locate near high class infrastructure.

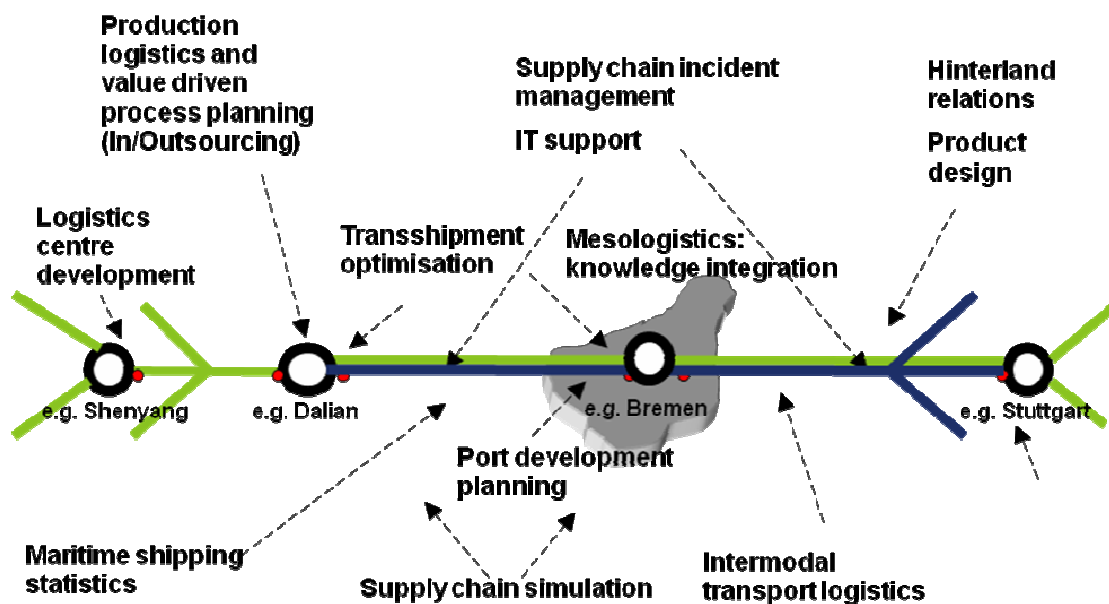


Fig 4 Transport corridor

In relation to this, cooperation between countries along the corridor is of vital importance and can, if managed in the right way, where the focus is on joint efforts instead of competition, become a great benefit for all regions involved. Corridor thinking is enhanced when the corridor not only functions as a link between two places, but also functions as a part of a larger supply chain in the global transport network.

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3. Summaries of the five reports

This summary report will focus on the findings, conclusions and recommendations, drawn from the five reports described below, with relation to promotion of the concept of the Baltic Motorways of the Sea . The five reports concern the following:

- *Report on Best Practices on freight transport corridors and concepts*
- *WP3 Feasibility study*
- *Evaluation Handbook for Sea Transport Corridors (motorways of the Sea)*
- *Scenario analysis of new maritime corridors*
- *Baltic Motorways of the Sea: Policy, process and perspectives*

In the following sub-sections a short introduction to each of the five topics will be given:

3.1 Report on Best Practices on freight transport corridors and concepts

The aim of this report is to identify and cluster relevant land-based freight transport corridors, which in the long run can contribute to the development of new innovative maritime transport corridors in the Baltic Sea Region. It is intended that the existing (hinterland) freight transport corridors – both in terms of strategies and concepts – can give valuable input for transferring successful land-based transport corridors into the Baltic Sea.

A general overview of the most relevant policy actions (TEN-T, the White Paper, Marco Polo) which influenced the motorways of the Sea is first presented. The White Paper is a process about opening the transport market which succeeded with the arrangements within the Trans-European Networks (TEN-T) program that intended to harmonize the European Transport network. Marco Polo is an aid program to projects which intends to promote business like oriented traffic communication within all sectors of the freight transport market.

It has been also prioritized to present as much information as possible on some national corridor case studies. Each partner has been responsible for analyzing the freight transport corridors in one specific country.

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The findings of this report highlight the necessary adaptation or improvement of the supply chain because of the high level of quantitative and qualitative requirements. Furthermore the market requires a “one stop shop” which provides all services expected. This has to be done through concentration and cooperation (horizontal and vertical) between logistics providers. Their logistics facilities also need to have efficient traffic connections to fulfill the increasing performance requirements of clients. Therefore Motorways of the Sea have to reflect on the trends in the logistics industry by creating attractive commercial conditions.

By presenting the current situation of the transport corridors for the countries around the Baltic Sea, the Best practice report sets the framework for further studies. It has allowed pointing out the main logistics problems. The feasibility study will go further by forecasting trade flows to measure the activity in this region.

3.2 WP3 Feasibility Study

International trade generates transport. Based on the correlation $GDP > Trade > Transport$, the future trade flows by merchandise groups between the relevant European countries can be modeled and forecasted. That's why this report aims at analyzing feasibility of the proposed concepts and solutions for innovative transport corridor development including spatial planning impacts. The solutions are demonstrated on the Gdansk-Helsinki corridor with connection to St Petersburg and on the Lübeck-Ventspils connection.

This goal is reached through first the collection of data on population and industry concentration around the Baltic Sea Region. Indeed population and industry concentration in the Baltic Sea region with the integration of new EU countries is the main basis for the forecasting cargo flows that have influence on maritime transport corridors and/or Motorways of the Sea.

Then, for the investigation of the cargo flows to likely influence the maritime transport corridors and/or Motorways of the Sea Eastern Baltic ports and quantities of Ro-Ro units and container carrier in fixed points are taken as examples.

New Motorways of the Sea systems can decrease transportation costs and time and increase cargo and transport means. Therefore the main tasks for the Motorways of the Sea are the following:

- Continuation of the European transport corridors

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- Link different European transport corridors
- Link logistics centre network
- Optimisation of transport links

The feasibility study has showed that creating new link systems is not short and easy, but this process must be implemented and a joint network system in sea and shore parts can make real transport systems optimization.

At the moment are implemented block trains in East Baltic ports. These new block trains systems together with shipping lines and ports can solve many disadvantages or bottlenecks such as traffic jumps on roads, long waiting time on border crossing places, avoid roads with very high accident probability and so on.

The Baltic Sea region develops very rapidly and the transport links are very important for the Baltic Sea countries and neighboring States. It has been demonstrated that Motorways of the Sea must constitute one joint network on sea and shore. This report gave data for framework conditions and gave ground for further investigation on cargo and passengers flows.

3.3 Evaluation Handbook for Sea Transport Corridors

The aim is to give an overview about the current situation and general influence factors of the existing cargo and passengers flows. It builds the basis for forecasting the future development of cargo and passenger flows having an influence on transport corridors and/or motorways of the sea systems.

The general influence factors of the existing cargo and passengers flows as well as their future development are described. Transport volume is the result of a demand function depending on such factors as social development and economic development.

This report analyses first the social development (data on population, employment, car ownership) that can influence the traffic demand. Indeed a population increase has a direct influence on a GDP increase and furthermore the transport system creates dynamics on the labour market, by enabling commuting over longer or shorter distances.

Then the economic development (Cohesion and Transnational Cooperation and Gross Domestic Product) is studied to measure the influence on the Trade Volume. All improvements of transport services and infrastructure will likely give benefit to improve

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cohesion and transnational cooperation, causing an increase in bilateral trade volumes and passenger flows.

The tendency to use a specific Transport Mode and/or a Transport Corridor is also important to emphasize. Whatever tendency is greater should be preferred above the others when contemplating the following influencing factors: Competitive advantage, Infrastructure, regulations, capacity, intermodality, accessibility.

To reach the aim of the report which is to collect relevant measures for framework for maritime freight corridors, it is relevant on the one hand to look at the traffic within the Baltic Sea Region. Tables and maps are presented in this report as regions neighbouring the Baltic Sea and average distances to the ports, containers handling in East Baltic ports, main Ro-Ro links in the Baltic Sea. On the other hand it is important to predict future cargo and passengers flows. The report gives an overview about the existing methods for forecasting cargo and passengers' flows, compare transport corridors and evaluate different motorways of the sea concepts by using a best-practice approach.

This report gave the main measures that will help for the implementation of new maritime transport corridors.

3.4 Scenario analysis of new maritime corridors

This report aims at analyzing the possibility of new transport corridors through a presentation of the current situation in the Baltic Sea Region.

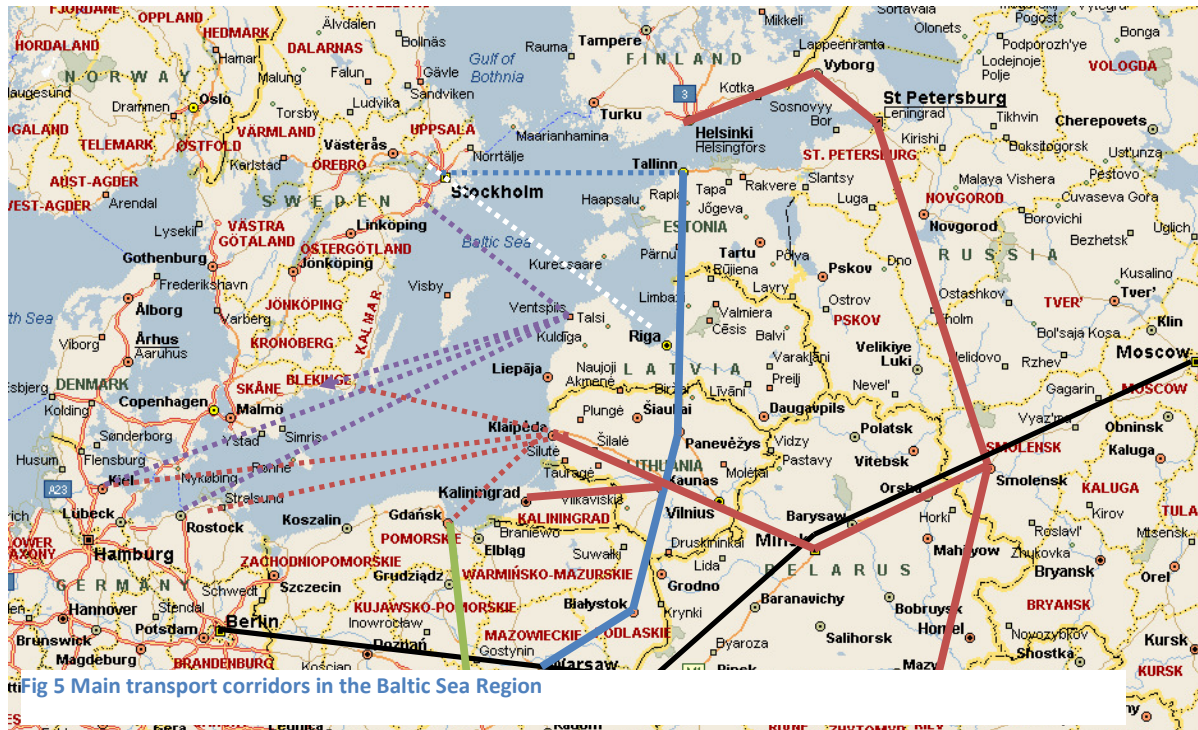
Cargo flows are increasing and the new port terminals and axes to the public roads and railway networks are the main reasons for the new transport corridors and Motorways of the Sea creation.

For the future development of the Motorway of the Sea, it is very important to take into account the existing situation and especially Ro-Ro maritime transport links in Baltic Sea region (DFDS, TT line, Scandlines, Finnlines). New maritime transport corridors or Motorways of the Sea must compete with existing transport corridors.

New possible transport corridors mainly link traditional maritime links and markets and new reality request create new maritime transport corridors (Motorways of the Sea) which are important for new markets.

Main transport corridors, especially on the East Coast of the Baltic Sea play a very important role for the co-operation between the East and West markets, especially between the new EU countries and the old EU members (and also towards the East market which include CIS, Middle Asia and Far East countries). Main transport corridors around Baltic Sea are presented below.

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Motorways of the Sea make first steps and start to play an important role in Europe. New markets around Baltic Sea and in regions, which are important for the Baltic Sea, create new possibilities and potentials for Motorways of the Sea solutions. Motorways of the Sea can furthermore influence on changes existing supply systems and transport directions between existing and new markets, but it must be followed by exact examples and calculations. The methodology that is presented in the described report can be used for the transport corridors evaluation and taken final decisions of creating new transport corridors (Motorways of the Sea).

3.5 Baltic Motorways of the Sea: Policy, process and perspectives

This report aims at describing the genesis and process of the Motorways of the Sea development. It first presents the background of BASIM and Motorways of the Sea projects, which is illustrated in the picture below (figure 6).

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<p>Marco Polo I (with out MoS) 2003</p>	<p>Joint action for improvement of maritime corridors etc.</p>	<p>TEN-T with MoS call 07.04.2008</p> <p>Marco Polo II with MoS call 2008</p>	<p>2008</p>
<p>2002</p>	<p>FDT/ Stakeholders first discussion</p>	<p>EU's new policy on Logistics and MoS Oct 2007</p>	<p>Final BASIM conference 05.12.2007</p>
<p>EU Transport "White Paper" September 2001 Proposal to include MoS into TEN-T 2001</p>	<p>Approach on ferry policy to EU</p>	<p>TEN-T Call 2006 Masterplan Studies for Development of the Baltic Sea Information Motorways 2006</p> <p>North Sea MoS Task Force Oct. 2006</p> <p>Marco Polo II Dec 2006</p>	<p>Originally scheduled end of BASIM 01.06.2006</p>
<p>2000</p>	<p>2000</p>	<p>Ten-T Call 2005: Masterplan Studies for Development of the Motorways of the Baltic Sea 2005</p>	<p>BASIM midterm conference Oct 2005</p>
<p>Guidelines for TEN-T development 1996 90's</p>	<p>Danish experiences show need for Integration of Maritime Corridors with Land Corridors</p>	<p>Baltic Sea Motorways Task Force Jan. 2004 2004</p> <p>Adoption of Article 12a of TEN-T guidelines - legal framework for MoS</p>	<p>Official start of BASIM 01.09.2004</p> <p>Interreg application</p>

Political Organisational Political Organisational

Fig 6 MoS timeline in regard to BASIM

As presented in the figure 6, TEN-T guidelines was created in 1996 with an aim to gradually establish the EU transport network by integrating land, sea and air transport infrastructures. The Motorways of the Sea concept was a crucial part of the TEN-T network which was introduced through the EU Transport White Paper in 2001. Afterwards, the legal framework for Motorways of the Sea development was created in 2004 with the adoption of article 12a of the TEN-T guideline in 2004.

Promotion and successful development of the Baltic Motorways of the Sea were BASIM project's main intentions. The members of BaSIM project participated in various political actions and practical implementations of the Motorways of the Sea, facilitating and stimulating the advancements of maritime transport corridors. One of the political tools that BaSIM participated in, was Baltic Motorways of the Sea Task Force. It had noticeable influence on the progress of the Motorways of the Sea in the

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Baltic Sea Region. One of the main contributions of this Task Force was the Master Plan Studies for development of Baltic Motorways of the Sea.

On the subject of future perspective, the necessity to expand Motorways of the Sea implementation actions is expressed in the EU's Freight Transport Agenda (SEC(2007)1367). It is suggested to expand the development activities beyond TEN-T transport network. The Commission services are integrating the concept of Motorways of the Sea into the broader policy of promoting efficient and sustainable multimodal transport chains with Short Sea Shipping in the central role.

The main further logistics advancement trends in EU in regard to Motorways of the Sea can be summed up to:

- E-freight and Intelligent Transport Systems (ITS)
- Sustainable quality and efficiency
- Including solutions for transport bottlenecks
- Development of "single-window" port services.
- Development of a framework for tracking ship's journey and goods.
- Promotion of "green" transport corridors.

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4. Conclusion

Container traffic and Ro-Ro transportation are increasing considerably in the Baltic Sea Region. The container traffic via East Baltic ports started to increase up to 20-25% per year after 2000. In 2006-2007 Ro-Ro transportation via East Baltic ports increased up to 20-25% in comparison with the same period in years 2004-2005. And these trends are expected to continue for the forthcoming years.

Indeed the traffic is intensifying in the Baltic Sea region. The economies are entering in an intensive globalization process reinforced by the recent entrance of new countries that represent new opportunities and new markets. Motorways of the Sea can assist in activating the economics of the Baltic Sea Region and create new market opportunities.

The WP3 reports have shown that many countries of the Baltic Sea region are currently experiencing some traffic problems as bottlenecks.

The aims of WP3 was to improve the transport corridors in the Baltic Sea Region by creating innovative and effective Baltic Motorways of the Sea in order to solve existing and upcoming bottlenecks in Baltic Sea Region, to intensify the transnational communication and cooperation, and develop both physical and information infrastructure within the BSR: for an overall improvement of logistics productivity and competitiveness.



Fig 7 MoS proposals

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WP3 has focused on concepts and solutions developing innovative transport corridors. One of the main focuses has been to promote intermodal transports combining sea-based and land-based transport solutions. WP3 has furthermore given inputs to the political understanding of the MoS concept in the BSR, among other by concrete involvement in new horizontal support actions (including information systems) for development of the Motorways of the Sea.

WP3 has concluded on the main transport corridors. This WP3 stimulated awareness of Motorways of the Sea solutions and possibilities and gives ground to move further. Received proposals from the joint Baltic Call for Motorways of the Sea proposals are presented on the map below (figure 6).

This is a summary report of five important reports, to have access to the latter, please visit the BASiM website: <http://www.basim.org/>