



European  
Commission

# Motorways of the Sea

Work Plan of the  
European Coordinator

**Brian Simpson**

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This report represents the opinion of the European Coordinator and does not prejudice the official position of the European Commission.

## **1 – Executive summary**

Motorways of the sea (MoS) represent the maritime dimension of the TEN-T network. As such, MoS are a TEN-T horizontal priority which supports and integrates the development of maritime transport, ports and their hinterland connections (origin/destination) whilst promoting the deployment of infrastructure, transport technology and information systems.

Its ultimate objective is to achieve a full integration of maritime transport operations in the global logistic chain as this will allow for a seamless integration of transport operations supporting European external trade (75% of Europe's external trade is performed by maritime transport) and internal trade (40% of Europe's internal trade).

MoS builds on the core and comprehensive networks of European ports and logistics centres as well as on the TEN-T core network corridors, knitting a dense transport grid which will facilitate trade operations and cohesion thereby boosting growth. Every TEN-T corridor starts and ends in a port.

So far, under the 2007-2014 TEN-T programme 52 MoS projects were retained for implementation, representing approximately 450 M€ of grants and 2b € total investment.

The new TEN-T guidelines foresee that "within two years after being designated [...], the European Coordinator for motorways of the sea shall present a detailed implementation plan for the motorways of the sea based on experiences and developments relating to Union maritime transport as well as the forecast traffic on motorways of the sea". This implies that such a plan shall be presented early in 2016 to the European Parliament and Member States. This Work Plan is a first outline that shall help guide the work towards the establishment of this Plan.

## **2 - Motorways of the sea work plan: overall objectives**

Motorways of the Sea strives to establish a trans-European network which concentrates flows of freight on viable, regular, and reliable sea-based transport services that are integrated in logistic chains and cover all types of maritime freight operations, to:

- Reduce land transport congestion
- Increase use of more sustainable modes of transport
- Increase transport efficiency and effectiveness
- Improve accessibility to peripheral regions

To meet these general objectives, the European Coordinator identified three key priorities for action:

1. Environment
2. Integration of Maritime Transport in the Logistics Chain
3. Maritime Safety, Traffic Management, Human Element/Training

## **Environment**

On the environment, the main areas for work are the reduction of emissions, mainly Sulphur (SO<sub>x</sub>), in order to comply with the new Annex VI of MARPOL (International Maritime Organisation Convention on Maritime pollution) which comes into force on the 1st of January 2015 on the Baltic and North Seas. MoS are supporting ship and shore based installations and propulsion systems, logistics and reception facilities in ports, such as Liquefied Natural Gas (LNG), methanol, de-sulphurised fuels and scrubbers.

Measures aiming at counteracting climate change are also important drivers. Meeting general sustainability requirements and fostering the deployment of new technologies and systems to contribute to those sustainable solutions such as the use of shore based electricity and electric propulsion as well as hydrogenics.

A specific MoS Conference on this issue, to disseminate the work produced so far and to consult the stakeholders, was carried out in Gothenburg in November 2014 with more than 200 participants in each day.

## **Integration of Maritime Transport in the Logistics Chain**

On the integration of maritime transport in the logistics chain, the general objective is to achieve competitiveness and growth resulting from more and better support to trade. The detailed objectives can be identified as follows:

- Serve Internal Trade (40%)
- Serve External Trade (75%)
- Connect ports to their European hinterland
- Connect core ports with the Corridors
- Connect core ports to other core and comprehensive ports
- Connect core ports with third country ports

Connections between the Core Network Corridors and third countries overseas are important to be enhanced and in particular in the Mediterranean Sea, the Black Sea and the Atlantic areas, hence connecting the European hinterland to the hinterland of these third countries.

MoS shall strengthen cohesion, improve existing or establish new maritime links, improve maritime transport integration in the global logistic chain and improve transshipment and hinterland connections in ports, support multimodal connections with a priority for the integration of inland navigation and rail and finally, fostering the deployment of new technologies and IT systems (customs, surveillance, reporting, administration).

A specific MoS Conference on this issue, to disseminate the work produced so far and to consult the stakeholders, will be carried out in Liverpool on 19-21 May 2015.

## **Maritime Safety, Traffic Management, Human Element/Training**

Taking into account and improving the essential technical areas will lead to better efficiency of the maritime operations. The essential technical areas are: maritime safety, traffic management and the human element/training .

The main areas of work are: general sustainability and safety to strengthen cohesion, developing more efficient traffic and Transport Management Systems (e.g. Sea Transport Traffic Management), fostering the deployment of new technologies and systems and the optimisation of processes, procedures and the human element [e.g. simulation networks, long distance training, knowledge networks].

A specific MoS Conference on this issue, to disseminate the work produced so far and to consult the stakeholders, will be carried out in Venice on 26, 27 March 2015.

These three Conferences will not only help to disseminate the results achieved so far to the institutional and industrial stakeholders and to the civil society organisations but they will constitute the basis for the "detailed implementation plan for the motorways of the sea" that the European Coordinator will present early in 2016 to the European Parliament and Member states. Other, smaller and more specialised meetings may still need to be organised, such as for peripheral maritime regions and for Ice and Arctic navigation.

### **3 - Corridors**

For the synergies to be developed with the Core Network Corridors, the following issues were identified as first priority:

#### *1 - Reduction of Emissions*

As indicated above, from 1<sup>st</sup> January 2015, all ports (and ships operating) in the Baltic and North Seas will have to respect the foreseen reduction of emissions, mainly Sulphur (SO<sub>x</sub>), in order to comply with the new Annex VI of MARPOL. This requires strategic planning and deployment of physical systems to meet the reduction of emissions requirements: type of fuel (LNG, Methanol, low-sulphur diesel oil, etc) and technical solutions (e.g. scrubbers) both on board ships and in the ports (reception facilities). In the short term all ports in the Atlantic, Mediterranean and Black seas need to adapt to this new situation. This concerns in particular the ports in the North Atlantic, as this area lies between North America and the North Sea/Baltic Sea which are both "Emission Control Areas (ECA)". The supply of clean fuels to the port and urban fleets or to the road transport on the TEN-T network must be considered as those will be fed by the port infrastructure.

#### *2 - Increase of Competitiveness*

Due to a better integration of Maritime Transport in the Logistics chain, competitiveness needs to be enhanced. This applies to the whole community of ports, our first priority being the core network. There are two different dimensions of interoperability that need

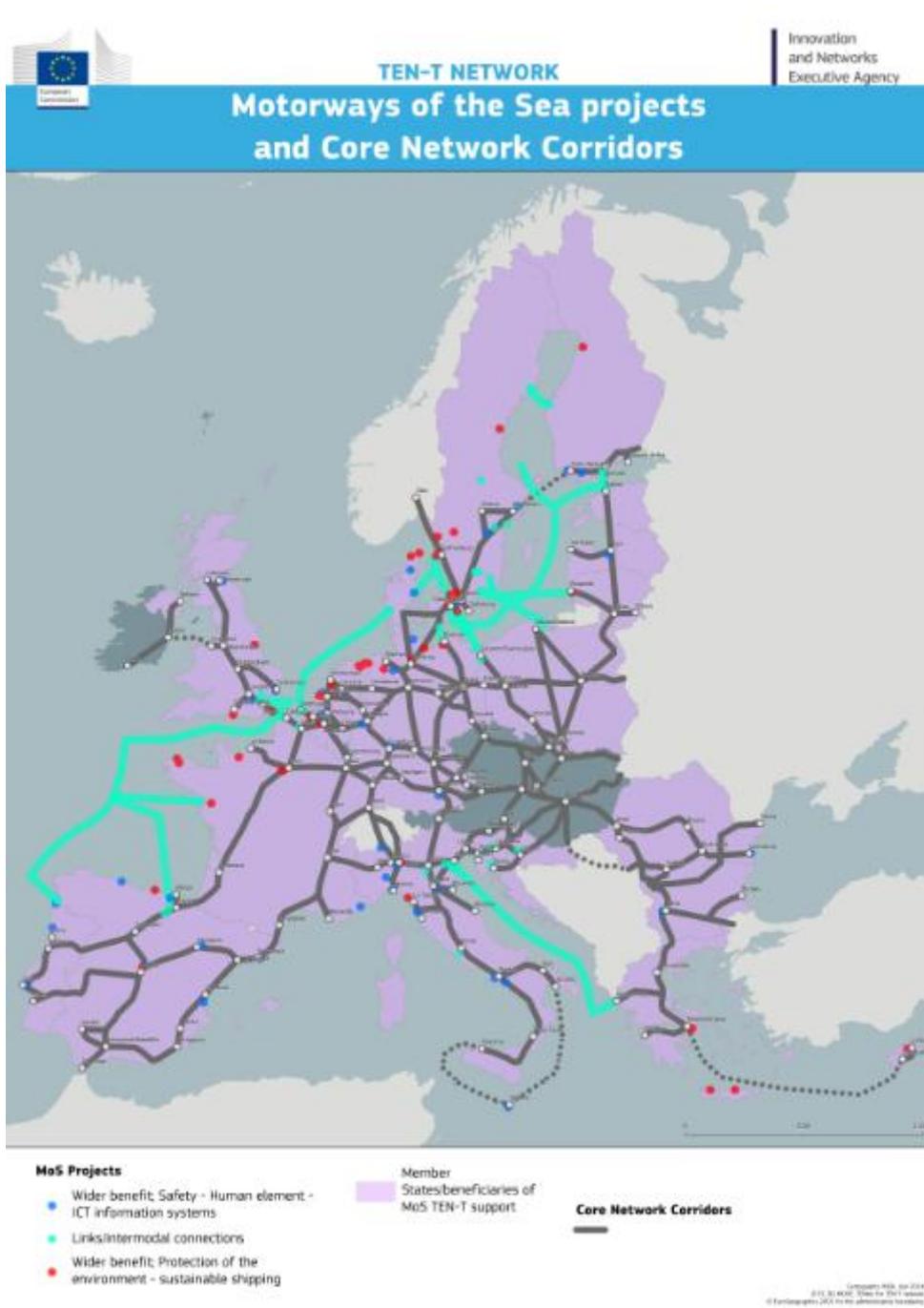
to be supported: the physical and ICT. On the physical dimension, priority goes to the hinterland connections using the rail or inland waterways networks. On the ICT side, priority goes to the development of seamless information systems which connect the ship, the maritime authorities, the clearance authorities (Customs, Veterinary, etc) and the transport and logistics operators. These systems are usually called "Single Windows". These systems are kernel to guarantee the multimodal nature of the corridors as they provide the interoperability of information systems, therefore the physical carriage of the container will be synchronous with the information display of the container along the corridor.

### *3 – Use of motorways of the sea projects*

The use of MoS projects consists in connecting different corridors and to provide shortcuts within the same corridor, by connecting core ports, core ports with comprehensive ports, with the regional network of (sea) terminals that may be connected to these ports and with the various hinterland connections available and to be developed. These actions will expand the reach of the TEN-T core network corridors, closing the gap between efficiency and cohesion.

MoS has inspired and developed so far, more than 50 projects which have an impact on the aforementioned priorities. Geographic and progress information of those projects and their spatial relation to the corridors are provided in annex to this report.

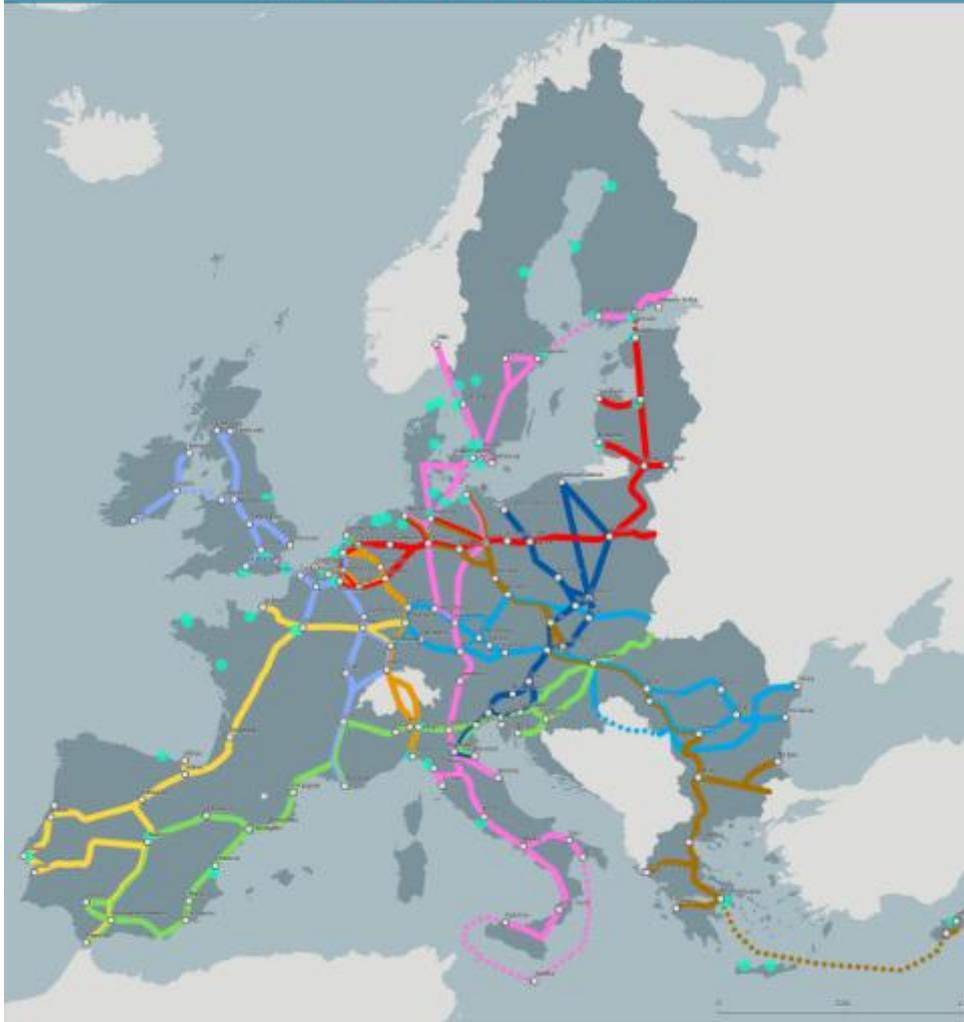
## 4 – MAPS







# Motorways of the Sea projects and Core Network Corridors



**MeS projects**

- Wider benefit: Protection of the environment - sustainable shipping

**Core Network Corridors**

- A (Baltic - Adriatic)
- B (North Sea - Baltic)
- C (Mediterranean)
- D (Orient/East-Med)
- E (Scandinavian - Mediterranean)
- F (Rhine - Alpine)
- G (Atlantic)
- H (North Sea - Mediterranean)
- I (Rhine - Danube)

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### TEN-T NETWORK

Innovation  
and Networks  
Executive Agency

## Motorways of the Sea projects and Core Network Corridors



#### MeS projects

- Wider benefit: Safety - Human element - ICT information systems

#### Core Network Corridors

- A (Baltic - Adriatic)
- B (North Sea - Baltic)
- C (Mediterranean)
- D (Orient, East-Med)
- E (Scandinavian - Mediterranean)
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## 5 - OVERVIEW OF THE ONGOING PROJECTS

Under MoS, from the 52 projects selected 45 projects have been implemented, aiming at a budget of €450 million in EU grants and a total investment of almost €2.0 billion. Another 20 maritime, ports and innovation projects have been inspired by MoS.

The individual descriptions and progress of the projects can be found below and more detailed project descriptions may be seen in annex.

<p><b>Motorway of the Sea - High Quality Rail and Intermodal Nordic Corridor Konigslinie</b></p>	<p>The project was completed with a partial outcome in December 2011 at the request of the beneficiaries. The main achievements are the following:</p> <ul style="list-style-type: none"> <li>- Integration of the IT systems of the Port of Trelleborg, CargoNet and Scandlines AB;</li> <li>- Adaptation of berths in the port of Trelleborg (additional roadside ramps, wider breakwater);</li> <li>- Extension and improvement of the Port of Trelleborg (reconstruction of 4 rail tracks, double rail shunting made possible, new areas to handle and temporarily store intermodal units).</li> </ul>
<p><b>Motorways of the Sea projects in the Baltic Sea Area Klaipėda-Karlshamn link</b></p>	<p>The project is completed. The Action has achieved its objectives and all activities have been 100% completed as specified in the modified decision. Activities completed:</p> <ul style="list-style-type: none"> <li>- Market studies and implementation of a strategy for achieving the modal shift from road;</li> <li>- New crane with container capacity and a reach stacker with equipment for lifting trailers and containers;</li> <li>- Ferry terminal arrangement;</li> <li>- Construction of a new shunting yard;</li> <li>- Construction of a new combined port terminal;</li> <li>- Renovation and electrification of rail tracks to and within the port;</li> <li>- Design and Environmental Impact;</li> <li>- Assessment of a new railway connection: the "missing link" Karlshamn-Olofström.</li> </ul>
<p><b>Motorways of the Sea Esbjerg - Zeebrugge</b></p>	<p>The project was completed according to the funding decision. It contributed to strengthening and the development of a Benelux-Scandinavia short sea connection — including the improved efficiency of the maritime link, additional investment in infrastructure and facilities and the adoption of accompanying measures to foster integration of various parts of the intermodal chain. As part of the project, the Ro-Ro connection between Esbjerg and Zeebrugge was improved by constructing a floating Ro-Ro ramp and a Ro-Ro jetty, as well as by extending the port access way in Esbjerg.</p>

<p><b>Baltic Link Gdynia-Karlskrona</b></p>	<p>The project has been completed on 31.12.2013. The Action has achieved its objectives and has delivered high-quality Motorways of the Sea infrastructure and services by combining the rail and sea modes of transport. Under the Action:</p> <ul style="list-style-type: none"> <li>• 57 km rail connection between Karlskrona and Emmaboda of the Baltic Link was renovated.</li> <li>• A new combined terminal was constructed in the strategic dry port hub of Alvesta.</li> <li>• With the investments made in the Port of Karlskrona, the port is connected with the national railway system. This entails harmonising the capacity of shaft weight, secure level crossings, noise reduction installation and building a triangle track.</li> <li>• Power connection for ferries in the port was installed.</li> <li>• In the Port of Gdynia, a new terminal has been developed (co-financed by Cohesion Fund) with full intermodal potential for the link Karskrona – Gdynia.</li> </ul>
<p><b>MoS 24 - ICT based Co-modality Promotion Center for integrating PP24 into Mediterranean MoS</b></p>	<p>The Action was a study in a form of a Pilot Action. It was completed by 31.12.2013. Its main objective is to enhance the strategic role of the Corridor 24 (Railway axis Lyon/Genova-Basel-Duisburg-Rotterdam/Antwerpen) of TEN-T network, as main gate to Europe for the traffic of goods transported via the Mediterranean Motorways of the Sea (MedMos).The Pilot Action developed the demonstrator of an interoperability platform (MoS24) for interconnecting existing ICT modules and making them interoperable.</p>
<p><b>Monitoring and Operation Services for Motorways of the Sea (MOS4MOS)</b></p>	<p>The Action has been completed and it has achieved its objective to design and demonstrate a set of initiatives that improve the operational coordination of transport flows and facilitate collaboration between the various administrative services and operators at port level to ensure that they can cope efficiently with their gateway function (e.g. port authority, port terminal operators, customs office, services in charge of controls and inspections, ships agents and ships masters) in line with the requirements of Directive 2010/65 EU on reporting formalities for ships arriving in and/or departing from ports of the Member States. Pilot actions have been applied to existing and consolidated door-to-door routes in the Mediterranean region, namely the following corridors: Spain-Italy, Spain-Slovenia, Spain-Greece, Italy-Greece and Italy-Malta with the aim of achieving a smoother integration and interoperability with other modes (road and rail) and to providing more effective and sustainable intermodal logistic solutions.</p> <p>During the project 15 initiatives previously prototyped have been tested, piloted and demonstrated (38 prototypes were developed) A cost-benefit analysis of the future implementation of the 15 initiatives has been carried out, based on the time and cost measurements taken during the testing and piloting period of the initiatives. The cost-benefit analysis showed that, the net present value of putting into practice the MOS4MOS solutions instead of continuing using the current combination of procedures and practices is over 20.5 million Euros. It is worth mentioning that it is estimated that for every Euro of TEN-T co-</p>

	financing received in MOS4MOS, 7.28 Euros of net benefits (current value) would be produced.
<b>MIELE</b>	The project has been completed but the final report has not yet been submitted. The MIELE Global Project aimed at deploying, a pilot system, called MIELE Middleware, to be able to interface all the existing ICT systems in the e-maritime and e-freight domains, and deliver B2A and B2B services. The MIELE Project achieved to design the architecture and to develop a pre-deployment pilot interoperable ICT platform (the "MIELE Middleware") able to interface ICT systems (i.e. single windows, port community systems) in Italy, Portugal, Spain, Cyprus and Germany (the "National Vertical Pilots"). Due to financial crisis the MIELE action was not completed as far as CYPRUS is concerned.
<b>ITS Adriatic multi-port gateway</b>	The project has been completed but the final report has not yet been submitted. The aim of the Action was the creation of a prototype of a common e-platform based on the development of a NAPA web portal for data sharing, integrated with enhanced NAPA port community systems and with an EDI application, in order to allow the interconnection among the ports' systems, according to common standards and technical requirements defined on the basis of a ports' process analysis. The NAPA web portal provides an interface through which the visitors get the required information and NAPA members interact with the system. The EDI solutions of each NAPA port were improved, in order to increase the shared and exchanged documents and data among the port operators and their IT systems, and to realize an EDI application for the connection among the Port Community Systems of the NAPA ports. The NAPA portal is now be able to provide a lot of information, facilitating and speeding up the completion of formalities and it will serve as an example for other EU port clusters.
<b>Motorway of the Sea Rostock - Gedser</b>	This project has been completed. The Action has achieved its objectives, a part from the secondary berths (activities 8+9) and the related study (activity 11) in the ports which are carried out after the end of the eligibility period (31.12.13) and not co-financed anymore by TEN T funds. The delay is due to the fact that the vessels could not be purchased and made operational as planned during the period of the action and the completion of the new RoPax ships' inauguration will only occur in 2015. However, the remaining port works were finalized by the end of 2013 as planned.
<b>The Baltic Sea Hub and Spokes Project</b>	This project has been completed on 31.12.2013 according to the Commission Decision with investments finalised in Aarhus, Gothenburg and Tallin ports. Final technical and financial report is expected by 31.12.2014.
<b>MonaLisa</b>	The project was finalised. All activities were implemented according to funding decision including a methodology for route planning, a new system of automated verification of crew certificates and re-surveys of fairways in the Baltic Sea.

<b>LNG infrastructure of filling stations and deployment in ships</b>	The project has been completed according to the Commission decision with an LNG study in place and LNG piloting actions aboard Fjordlines ferries implemented.
<b>Adriatic Motorways of the Sea (ADRIAMOS)</b>	This Action will be completed at the end of December 2014. The specific Action aimed at enhancing a viable, regular and reliable sea-based transport services integrated in the logistic chain along the Adriatic-Ionian transport corridor between the port of Venice and the Ionian Sea/West Greece ports cluster (Igoumenitsa and Patras) and so contributing to reduce economic, social and environmental costs related to port and logistics activities. The interventions in the Port of Venice included the realization of a new Ro-Ro terminal in Fusina area. The new terminal is consisting of 4 berths and 2 basins. At the end of the Action, the second basin will not be completed due to delays from the environmental authorities to issue the dredging permits. Therefore the 2 berths are not ready either. Regarding the Port of Igoumenitsa the Action foresaw the preliminary studies for the establishment of a Freight Village in Thesprotia region, serving the freight from the Adriatic. Due to delays in the tendering process only part of the studies will be completed in time.
<b>TrainMoS</b>	The project has been completed but the final report has not yet been submitted. "TrainMoS" aimed at contributing, through the human factor, to the development and extension of the EU multimodal transport system, allowing the smart, sustainable and inclusive connection of the regions of Europe, as well as with neighbouring countries. TrainMoS tried to develop a MoS knowledge base at EU university level by testing a MoS knowledge platform (within an ICT infrastructure) through the preparation of eight EU wide pilot actions in seven EU countries (Spain, Portugal, Sweden, Germany, United Kingdom, Italy, and Greece). Thought all modules have been developed and the Learning Management System (LMS) between the involved universities has functioned well, the project did not reach its full potential as the modules were followed mainly by students of each University locally and not simultaneously by all students participating in the Pilot exercise.
<b>LNG in Baltic Sea Ports</b>	The project is about to be finalised at the end of 2014. The project undertaken to develop pre-investment documentation for LNG infrastructure in seven Baltic sea ports. With the exception of the port of Tallinn where only 10 per cent of the activities were implemented, all other ports have achieved their objectives. Port of Tallinn declared that they had decided to finalise the activities on their own costs.
<b>COSTA</b>	This project has been completed on 30.04.2014 according to the Commission Decision with an elaborated LNG bunkering master plan for the Mediterranean. Final technical and financial report is expected by 30.04.2015

<p><b>IBUK – Intermodal Corridor</b></p>	<p>The project will be completed at the end of 2014. The capacity of the ports of Tilbury and Bilbao will have been upgraded to allow a more frequent, and efficient trade between the ports, and to improve the multimodal transport chain between the UK and the Iberian Peninsula. The MoS link will be strengthened by the Intermodal Corridor Community IT System, accessing schedules of maritime services, rail loading, and discharges. In Spain the railway connections to the hinterland and the rail-road connection was carried out, by building 3105m of rail line, 1523m of rail line electrification took place, and 24.240m<sup>2</sup> pavement was constructed to allow the (un)loading of goods at the new Port-Railway logistics terminal in El Prado. In Tilbury after the decommissioning of the old cranes, 2 Quayside cranes were purchased, and 6 Straddle carriers were purchased in order to ensure the full potential at the port. 934m rail has been built, and the quayside was resurfaced on 7700m<sup>2</sup>. An intermodal Corridor Community System (IT) was developed in line with the Safe Sea Net, and in compliance with the national and e-maritime policies. The ICCS in place allows access to the schedule of the maritime services and rail loading. The Terminal Operating System allows information transfer on planning, and i.e hazardous materials.</p>
<p><b>Green Bridge on Nordic Corridor</b></p>	<p>This project completes on 31.12.2014. Ongoing modification of the Decision in order to adjust the Decision to the actual implementation plan and the changed scope of the Action. Under the Action:</p> <ul style="list-style-type: none"> <li>• One TT line ship was equipped with an innovative, tailor-made wet scrubber.</li> <li>• A shore-side electricity facilities were installed at the new berth no.10 in the Port of Trelleborg.</li> <li>• A comprehensive berth planning for the TT-Line ships has been done.</li> <li>• The terminal in Rostock has been extended by installing rail tracks, portal cranes and supply facilities.</li> </ul>
<p><b>PILOT SCRUBBER – New Generation Lightweight Pilot Scrubber Solution installed on a Ro-Ro Ship operating on the Motorway of the Baltic Sea</b></p>	<p>This Pilot Action specifically addresses the use of scrubber technology for abatement of sulphur oxides from ships' exhaust emissions. It covers installation, evaluation and demonstration of a new generation, innovative lightweight scrubber technology in full scale on existing Ro-Ro vessels TransAtlantic Transpaper type and Wagenborg Schieborg, operating in the Baltic Sea and in the North Sea. The scrubber is installed on the ship TransAtlantic Transpaper type and the works are in progress for installation on the other ship.</p>
<p><b>WiderMoS</b></p>	<p>The project is ongoing. A study on possible developments of the MoS under CEF as well as implementation of the pilots is to be finalised by the end of 2014.</p>

<p><b>Sustainable Traffic Machines - On the way to greener shipping</b></p>	<p>The progress of the Action is in line with the planned schedule and budget. The Action covers the realization of necessary measurements to prepare the high frequent RoPax service for the upcoming environmental requirements, in particular meeting the sulphur (S)/ SOX limitation of marine operations in the Baltic Sea and supporting the European green-house gas reduction ambitions of transportation. Under the Action a hybrid propulsion, Energy Storage System and scrubber installed on one of the ships subject to the action. First installations are done on ship 2 and retrofitting is expected to be completed by 31.12.2014. Exhaust gas cleaning system was installed on one of the ships, and installations for the other ship are expected to be done by the end of 2014. The project ends on 31.12.2015.</p>
<p><b>TWIN-PORT</b></p>	<p>The project is ongoing and the long term sustainable multi-modal transport link is being strengthened by the development of the the ports of Tallin and Helsinki. The development of Helsinki West Harbour, the road connection and traffic system development at the West Harbour and the development of the automatisaton and new technology at the port of Helsinki started in 2013. The traffic solutions in the A/B and D terminal in Tallin old city, and the study for Tallinn-Helsinki Ro-Ro Traffic scenarios started in 2014.</p>
<p><b>Business to Motorways of the Sea</b></p>	<p>The Action has been completed. It achieved its objective to design and demonstrate a set of initiatives that improve the operational coordination of transport flows and facilitate collaboration between the various administrative services and operators at port level to ensure that they can cope efficiently with their gateway function. Pilot actions have been applied to existing and consolidated door-to-door routes in the Mediterranean region: Spain-Italy, Spain-Slovenia, Spain-Greece, Italy-Greece and Italy. During the project 15 initiatives previously prototyped have been tested, piloted and demonstrated (38 prototypes were developed) A cost-benefit analysis of the future implementation of the 15 initiatives demonstrated the net present value of putting into practice the MOS4MOS solutions is over 20.5 million Euros.</p>
<p><b>Kvarken Multimodal Link - Midway Alignment of the Bothnian Corridor</b></p>	<p>The project is on-going and according to the schedule. A temporary ferry covering the Kvarken link between Finland and Sweden is in place and the design for the new environmentally friendly ferry is ongoing. The project is a good example of PPP.</p>
<p><b>Winter Navigation Motorways of the Sea, WINMOS</b></p>	<p>The project is ongoing and performing within the schedule for the time being. A new icebreaker is expected to be delivered by the end of 2015. There are some risks of delays due to the supplier shipyard being affected by the restrictions imposed on Russia.</p>
<p><b>MONALISA 2.0</b></p>	<p>Monalisa 2.0 is ongoing and progressing very well. The last meeting took place in October 2014 when the draft concept of the Sea Traffic Management was presented. A simulation was made at the Maritime Simulation Centre in Barcelona. The</p>

	project has already achieved important results which are being largely disseminated.
<b>Methanol: The marine fuel of the future</b>	The project is ongoing. No delays are foreseen. The new methanol engine has completed laboratory tests and will be installed aboard the ferry.
<b>ANNA - Advanced National Networks for Administrations</b>	The project is ongoing. The overall objective is the adoption of the national Maritime Single Window and electronic data transmission for the fulfilment of reporting requirements for vessels entering and departing European ports in accordance with EU Directive 2010/65/EU. The project focuses on: Common implementation framework for EU Directive 2010/65/EU to ensure appropriate (European) interconnectivity; The development of national scenarios and a mechanism for gauging degree of national implementation; Interaction and involvement of administrations and business where necessary in accordance with this Directive; Development of a 2015+ strategy; Trade facilitation.
<b>SEAGAS</b>	In the framework of the ongoing project the cost/capacity analysis of Marine Fuel Oil vs LNG study was completed, the rest of the activities are slightly delayed.
<b>LNG Rotterdam Gothenburg</b>	The ongoing project has started with a significant delay. The dedicated website planned in the project was launched and is planned to be upgraded regularly. The harmonised operational guidelines have been developed and contracts are ready for LNG installations PoG. Information on LNG knowledge for bunker suppliers, operators, terminals, and other bunker stakeholders have been developed. The Risk Assessment has been carried out. Process flow diagrams, heat and material balances, environmental and building permit, permission for truck loading in Gate premises, permit to connect LBBR and Gate have been received. The surge analysis to determine mooring forces have been finalised. The boil off gas compression has been installed to handle the vapour formed by LNG.
<b>LNG Bunkering Infrastructure Solution and Pilot actions for Ships operating on the Motorway of the Baltic Sea</b>	The project is ongoing. The design for LNG terminal including the LNG tank, foundations, piping for import, control system, electricity and bunker terminal arrangement is finalized. The Permits for operations are in place for Building a Connection from the LNG Terminal to Jetty in the Port of Brofjorden. The approval in principle from Classification Society for the Feeder Vessel with innovative cargo tank design is completed.
<b>BRIDGE - Building the Resilience of International &amp; Dependent Gateways in Europe</b>	2013 project: Funding decisions for all the selected 2013 actions have been adopted and the projects are ongoing.
<b>Into the future - Baltic So2lution</b>	2013 project: Funding decisions for all the selected 2013 actions have been adopted and the projects are ongoing.

<b>Sustainable Trelleborg-Swinousjcie MoS services based on upgrading port infrastructure, developing intermodal transport and integrating hinterland corridors</b>	2013 project: Funding decisions for all the selected 2013 actions have been adopted and the projects are ongoing.
<b>Channel LNG</b>	2013 project: Funding decisions for all the selected 2013 actions have been adopted and the projects are ongoing.
<b>Deployment of next generation scrubber technology for clean and sustainable short sea shipping in the North Sea ECA</b>	2013 project: Funding decisions for all the selected 2013 actions have been adopted and the projects are ongoing.
<b>LNG in Baltic Sea Ports II</b>	2013 project: Funding decisions for all the selected 2013 actions have been adopted and the projects are ongoing.
<b>ATLANTICA OPTIMOS</b>	2013 project: Funding decisions for all the selected 2013 actions have been adopted and the projects are ongoing.
<b>Sustainable Traffic Machines II – The green link between Scandinavia and Continental Europe</b>	2013 project: Funding decisions for all the selected 2013 actions have been adopted and the projects are ongoing.
<b>TRAINMOS II</b>	2013 project: Funding decisions for all the selected 2013 actions have been adopted and the projects are ongoing.
<b>Sustainable Motorway of the Sea Ghent-Gothenburg through environmental upgrade and compliance while maintaining competitiveness of short sea shipping</b>	2013 project: Funding decisions for all the selected 2013 actions have been adopted and the projects are ongoing.
<b>Sustainable Motorway of the Sea Immingham-Gothenburg through environmental upgrade and compliance while</b>	2013 project: Funding decisions for all the selected 2013 actions have been adopted and the projects are ongoing.

<b>maintaining competitiveness of short sea shipping</b>	
<b>Development of North Adriatic ports multimodal connections and their efficient integration into the Core Network (NAPA STUDIES)</b>	2013 project: Funding decisions for all the selected 2013 actions have been adopted and the projects are ongoing.
<b>Pilot Implementation of a LNG-Propulsion System on a MoS Test Track in the Environmental Model Region 'Wadden Sea'</b>	2013 project: Funding decisions for all the selected 2013 actions have been adopted and the projects are ongoing.
<b>Costa II East - Poseidon Med</b>	2013 project: Funding decisions for all the selected 2013 actions have been adopted and the projects are ongoing.

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