

D.3.3.1 Action plan

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INTRODUCTION

Motorways of the Sea are maritime services integrated into the door-to-door logistics chain using sustainable, regular, frequent, high quality and reliable short sea shipping links. Motorways of the sea are a practical example of the definition of combined transport. It is an intermodal mode of transport where the maritime part is most of the way, using the rail and road systems in as little travel as possible.

Due to the fact that the Motorway of the Sea system involves the use of multiple modes of transport with the obligatory use of maritime transport (short sea shipping), the ports as a point of connections are recognized as the most important and sensitive elements.

That is the reason partners decide to resolve some of the bottlenecks in the ports.

ABSTRACT

The Action plan defines problems in Italy and Croatia which can be resolved withing the CHARGE project's timeframe. This document proposes an efficient and effective transportation system – Motorways of the Sea - as a basic prerequisite for the development of a particular area and for resovling these problems.

EXECUTIVE SUMMARY

The Action plan defines one problem in Italy and One problem in Croatia which can be resolved withing the CHARGE project's timeframe. The lack of communication between all actors in the logistic chain in Croatia can be resolved by installation of a National Single Window (NSW) system. The document proposes an efficient and effective transportation system – Motorways of the Sea - as a basic prerequisite for the development of a particular area and for resovling these problems. Motorways of the Sea are a mode of transport that offers door-to-door service, with the emphasis on environmentally friendly transportation. The ports are the most important nodes for the development of these services. By resolving bottlenecks in the ports, the development of these types of services is made significantly easier.

ACTION PLAN

This action plan is twofold – 2 problems have been detected, one in Italy, one in Croatia, that partners decide can be resolved in the timeframe and scope of the CHARGE project. These detected problems are:

1. Lack of communication between all actors in the logistic chain in Croatia
2. Low visibility due to weather conditions in port of Venice

The lack of communication between all actors in the logistic chain in Croatia can be resolved by installation of a National Single Window (NSW) system. The idea is for Croatian NSW to be made available to all logistic actors with relevant, real time and accurate data. Croatian NSW will be upgraded in order to ensure:

- The exchange of information from NSW applications and announcements of maritime facilities
- The establishment of port area occupancy records and exchange of AIS data

The exchange involves upgrading the NSW web service in terms of messages, structures and rules for needs ensuring the exchange of information between the NSW system and the information system of the Port Authority of Split through which Port Authority of Split makes financial calculations based on the arrival and departure of ships, in the sections:

- exchange of technical data on domestic and foreign maritime facilities
- position of maritime facilities (statuses, arrival and departure times, ports, berth ...)
- information on cargo, both ordinary and dangerous

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- information on the number and type of passengers and vehicles
- crew details
- fuel data (bunker)
- ship waste notification data
- contact details of the shipping company and the agent

In order to ensure this exchange, the forms of the NSW application need to be refined in part harmonization of data on the type of cargo or goods in the way that uniform tariff terminology is applied. Furthermore, the existing NSW Port Area Approval module will be upgraded in such a way that it will enable a representative of the competent port authority in the NSW system may approve more than one single berth at a time for mooring ships (side mooring ships).

The system will be connected for beginning with Port Authority of Split. It will provide the ability to receive data from a web service from the Port Authority Split information system of assigned berths for maritime facilities whose arrival announcement has already been created at NSW as well as the allotted ATA for ships in domestic navigation mode.

Establishment of port occupancy records and exchange of AIS data implies establishment of automated ship logins based on automatic ship identification (AIS) technology through Inter-VTS Exchange Format (IVEF) service for ships whose AIS signal crosses borders a predefined port area of Croatian ports. At the time of this intersection, the NSW system should automatically record the ATA data on the actual arrival of the ship in the port area and ATD on the time of the actual departure of the ship independently of the port on the mode of navigation of the ship and irrespective of existing announcements of arrival and departure of a ship received by ship representative in the NSW system.

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For each recorded arrival or departure to or from the port area, the system should attempt to pair the AIS information with existing announcements in the NSW system. For selected ships, the system must be able to paired data to update ATA and ATD on a visit according to AIS data,

and for other selected ships, if no suitable announcement is found, try to create a new announcement/visit based on AIS data. A separate “Port Occupation Module (AIS)” will be created within which all maritime records will be recorded within the port area(s) of each port by recording the AIS data received by the IVEF service.

Each international and domestic application and announcement will allow the “button to fetch and display” "AIS ATA "and" AIS ATD" by which the user, upon request, will retrieve, view and, with an additional click if they wish, transcribe the values indicated in that application and announcement.

Selecting an individual port area within the module AIS, displays information about the current number of ships (with the name of the ship, flag, IMO and NIB number) in that port area (according to the IVEF AIS signal) stored in the NSW database by pre-processing IVEF data related to the NSW Port module of the "Port Area and Coordinates" region – in an individual port area.

In addition, the upgrade of the NSW web service will be covered in such a way that the received IVEF data on "AIS ATA" and "AIS ATD" of the ship at the moment of crossing the boundaries of the port area of the LU Split basin, which have been received and recorded in the NSW system as described above, solely on request (retrieval) through PCS system, using web service method is delivered to PCS system to Port Authority of Split.

The exchange of NSW – Port Authority of Split will allow for the simplification and acceleration of the work of Port Authority of Split, primarily in invoicing procedures for port services, while

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in the national NSW system, accuracy of data on ATA and ATD in domestic navigation will be increased as well as data on allocated bindings, given this data will come to NSW from the Port Authority of Split system. This system will be tested in Port Authority of Split during this project and after, and, if everything is functional, it is probable that the system will connect to all port authorities in Croatia.

Low visibility due to weather conditions in port of Venice partners will try to resolve with the production of a free mobile application. North Adriatic Sea Port Authority, the responsible partner, in the recent years have been investing in the Intelligent Transport System to increase nautical accessibility of the port. One of port of Venice main bottlenecks is low visibility due to weather conditions, that hamper if not prevents the navigation, in occasion for a days in a row.

For this reason, the Port Authority started several projects with the scope of equipping the lagoon with series of sensors and cameras, gathering their information and elaborating them through its Port Community System in order to give real time information to the commercial ships and cruises on the weather condition in the lagoon (wind, temperature, visibility, special notices).

In the scope of the CHARGE project, partner developed an application that shows the nautical cartography with dynamic reference based on the device position. This application can give its users the possibility to have easy access to real time data related to:

- georeferencing
- weather condition
- port accessibility (port entry/exit conditions)
- maritime traffic data (presence of other vessels)
- special notice to navigators

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It visualized the instant speed of the device/boat (nodes and km/h). Moreover, the position of other ships and the meteo sensors are visible. By clicking on the ship icon, the ship name and type, its destination and other data can be viewed. By clicking on the sensor icon, the user can visualize the weather condition in that point of the lagoon on real time basis.

It is possible to select the position of the user, the current status of the port (open/close) for any of three port in-lets (Chioggia, Malamocco, Lido).

It is also possible to select the page showing in a table the updated weather condition data, tide data (current and forecast) and notice to skippers (in pdf).

The software allows sharing the user's position on the same map with AIS data coming from Coast Guard information system and in future maybe it will be extended to other users such as public transport companies or tour operators.

The cartography covers the entire Veneto coast with different level of detail obtained by zooming on it.

CONCLUSION

An efficient and effective transportation system is a basic prerequisite for a development of a particular area. The development of the transport system and its exploitation are valuable elements in the development of the economy of the area. However, it needs to bear in mind that development of such system should always be effective, efficient, sustainable, safe and secure. It should not degrade and destroy environment, but work on its protection.

Motorways of the Sea are mode of transport that offers door-to-door service, but the emphasis of this kind of service is on environmentally friendly transportation. The land part of the transport may take place by road, rail, inland waterway or a combination thereof, however the emphasis is on the rail transport system and inland waterways as more environmentally friendly transport systems than road transport.

In the systems of the Motorways of the Sea, ports are a point of connections between two different types of transportation – Sea and Land. As such, ports are the most important nodes for the development of these services. By resolving bottlenecks in the ports, we are opening doors for the development of event more services using this kind of system.