



TEN-T project no: 2010-EU-21109-S

Strategic Action Plan



Co-financed by the European Union

Trans-European Transport Network (TEN-T)

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Introduction to the Strategic Action Plan

A Strategic Action Plan (SAP) is a document with two main purposes:

- Firstly it describes the project management system applied to the preparation, planning and implementation of the Action up to its final completion;
- Secondly, during implementation, it provides decision-makers with all relevant information and analysis in order to take informed decisions whenever deviations from the SAP are encountered, as well as for assessing the impact of such decisions over the remaining implementation period

This Strategic Action Plan (SAP) concerning the implementation of the TEN-T co-financed project MONALISA. The SAP is based on instructions provided by the TEN-T Agency and takes into regard the provisions in the Decision granting financial support to the project (mainly article II.2.4).

The Decision of the European Commission granting financial support to the MONALISA project is dated 25 May 2011, with the TEN-T financing identification number 2010-EU-210111-S.

Although all annexes that are attached to the SAP are relevant and interesting, it might be useful to indicate the main documents that cover most of the regulations, principles and procedures followed by the MONALISA beneficiaries in managing the project.

In case of questions about this SAP, please contact the official authorized representative of the MONALISA project, Project leader Mr Magnus Sundström, Telephone: +46 10 478 46 81, sms: +46 734 32 12 71, e-mail: magnus.sundstrom@sjofartsverket.se.

1 Background information

1.1 Description of the global project

The main objective of the global project is to contribute to the promotion of the Motorways of the Sea (MoS) concept in the Baltic Sea by implementing a series of measures of wider benefit, which are also included in, or fully in line with, the EU's Strategy for the Baltic Sea Region.

The global project as well as the Action will contribute to the development and implementation of EU's e-maritime initiative.

The global project is a continuation of the wider benefit MoS actions that was implemented by the Baltic Sea countries (Master Plan Project for development of the Motorways of the Sea in the Baltic – Decision no. 2005-SE-91406-S) in 2005 – 2007.

The MoS concept in the Baltic Sea will contribute to the further development of an integrated maritime and land based infrastructure and associated services across the Baltic. The aim is to facilitate the internal cohesion of the Baltic Sea region and to improve its maritime access to the central regions of the Community and to reduce the high transport cost for serving these areas.

The MoS concept is an important tool for further development of quality shipping and for making maritime transport more eco-efficient, with a minimum of administrative burden for the operators and fully integrated in the intermodal transport chain. In order to achieve this, focus can not only be on developing physical infrastructure and operations in certain transport corridors. Emphasis must also be made on horizontal projects of wider benefit, on projects that benefits all operators and projects that are concrete in their set-up and that can be deployed and contribute to reach the aim of the Motorways of the Sea concept.

Wider benefit actions within the global project address areas like for example simplification of administrative procedures for maritime transport, development and deployment of e-navigation applications, improvements of winter navigation, facilitation of environmental performance of maritime transport.

1.2 Description of the Action

This wider benefit MoS project MONALISA aims at contributing to the promotion of continuous improvement and development of efficient, safe and environmentally sound maritime transport in the Baltic Sea by implementation of a series of measures which are also in line with the EU's Baltic Sea Region Strategy.

The Action takes the form of pilot actions and studies and encompasses the following four activities:

- Activity 1, Dynamic & Proactive Route planning (DPR)

This Activity aims to develop a new methodology in marine route planning, similar to air navigation, due to availability of the mandatory AIS system. This will improve the quality of maritime transport and safety at sea.

- Activity 2, Verification System for Officers Certificates

The objective of the activity is to investigate possible ways to verify, in an automated manner, different certificates held by onboard personnel that are of importance for a specific voyage.

- Activity 3, Ensuring the Quality of Hydrographic Data on Shipping Routes and Areas

The objective of this activity is to improve safety of shipping by conducting re-surveys of HELCOM fairways and relevant port areas in the Baltic Sea and harmonizing distribution of survey data and water level information.

- Activity 4, Global Sharing of Maritime Information (GSMI)

The main goal of this activity is to enable sharing maritime data on a global scale based on the experiences gained from HELCOM AIS, SafetSeaNet and Stires systems.

Activity number	Activity name	Indicative start date	Indicative end date
	Dynamic & Proactive Route planning (DPR)	01/01/2011	31/12/2013
2	Verification System for Officers Certificates	01/01/2011	31/12/2013
3	Ensuring the Quality of Hydrographic Data on Shipping Routes and Areas	01/09/2010	31/12/2013
4	Global Sharing of Maritime Information (GSMI)	01/07/2011	31/12/2013

1.3 Other relevant projects or activities financed by the EC or other sources

Important related initiatives

As indicated in the application, there are several initiatives and projects that are relevant for the MONALISA project. Coordination and cooperation is therefore a prioritized and challenging task.

There are three priority areas in the EU's Strategy for the Baltic Sea region that are of relevance for the MONALISA project and of which MONALISA delivers as part of:

Priority area 4 – To become a model region for clean shipping

Priority area 11 – To improve internal and external transport links

Priority area 13 – To become a leading region in Maritime Safety and Security

Contacts are established with the priority area coordinators of the three priority areas and MONALISA will on a regular basis report on its progress.

To elaborate more efficient e-services for maritime transport is the aim of the European Commission's E-Maritime Initiative. Implementation of Activity 1 and 2 of MONALISA will contribute with concrete applications of e-maritime. Cooperation is established with the European Commission.

Activity 2 and to some extent also Activity 1 is relevant for the European Maritime Safety Agency, EMSA. Contact is established with EMSA and the aim is that EMSA becomes an observer in MONALISA.

As MONALISA in a longer term aims at implementation on a global scale, IMO NAV Committee and IALA are important fora.

Related projects

EfficienSea

EfficienSea is an INTERREG project, aiming at improving the Baltic Sea, with focus on the environmental performance and safety of navigation.

ACCSEAS

The project, which is applying for co-financing from the INTERREG programme, aims at implementing an e-Navigation Test Bed for the North Sea as a prototype, proof-of-concept system. A key outcome will be to establish a North Sea regional platform, supporting technological, institutional, policy, regulatory, standards and user aspects of a regional e-Navigation service for improved accessibility across the North Sea.

SafePort

SafePort is a research project which has received community co-financing from the framework program. The project offers an advanced vessel traffic management system designed for constrained ports, or waterways with high traffic densities, with integrated portable pilot unit. SafePort delivers accurate, secure and reliable navigation and positioning information which in turn enables for safer and more efficient navigation and berthing.

Tanker Safety Service

A project between FTA, Neste Oil and the John Nurminen Foundation. The aim of the co-operation is to reduce the risk of a major disaster in the Gulf of Finland. The basic idea is to develop the ENSI (Enhanced Navigation Support Information) -service.

STIRES

A system under development, interfacing with several existing and planned systems for supporting safety at sea, and for protecting the maritime environment as well as economic efficiency, facilitating relaying and exchanging information between the EU Member States, Norway and Iceland.

IALA Net

A near real time maritime data exchange service, provided through the Internet. The service is intended to assist participating authorities in fulfilling their duties in relation to maritime safety, security, protection of the marine environment, and the efficiency of navigation.

BLAST

A regional project for maritime safety in the North Sea region which aims to collaborate to harmonise and integrate land and sea data.

MARSUNO

A pilot project that supports the policy process of the European Commission to create a Common Information Sharing Environment for the EU maritime domain.

2 Implementation of the Action

2.1 Activities description

2.1.1 Activity 1 - Dynamic & Proactive Route planning (DPR)

The Activity aims to develop and test a new model in route planning based on existing Electronic Nautical Charts and Automatic Identification System. Each vessel's pre-planned route will be visible for other vessels and monitoring centres ashore. The estimated best route and speed plan will be agreed on between captains and pilot centres which have knowledge about the local sailing conditions such as currents, wind and waves, water depth and sea ice that affect sailing time and bunker consumption but also traffic congestion, availability of berth in the next port of call and cargo handling schedules. Radio communications between vessels will not be needed when pre-planned routes clearly describe all navigators intended routes on screens onboard. Monitoring centres and others will immediately see if a vessel is deviating from a pre-planned route and will be able to take action. All vessel routes will be available for other ships for anti-collision purpose.

One of the most important input to Activity 1 is newly produced ENC charts with quality assured depth data sets, to have guarantees that the dynamic green routes can be planned over the sea areas with all the dynamic data inputs effectuated, in order to allow the vessels to avoid squat effects, reduce speed in shallow water areas and to use deep water areas for full speed. It is likely, that more detailed data model, than just ENC, is needed to fully utilize DPR in shallow areas.

The Activity will be implemented within ten sub-activities:

1. Preparation and process planning

Analyses of relevant findings and experience from other projects and transport modes. A detailed description of the concept/methodology will be elaborated. This subactivity is to be completed in November 2011 and delivered as a report. The report will be reviewed by external experts.

2. Routes

Elaboration of optimal routes for the vessels is a demanding task of the Activity. Required transmission data will be assessed and suitable protocols and operative schedule including interfaces will be determined. User requirements and technical requirements for onboard and control centres will be prepared. Standards for different ship models and fairway details will be elaborated together with criteria for calculation of best route and speed pattern for each individual ship. Possible conflict processes will be assessed. Required capacity for hardware and software onboard and ashore will be prepared. The specification to be used in software development is to be delivered end of August 2011. Basic algorithms for construction of routes and voyage plans will be elaborated, based on different relevant indata. The first tests of communication voyage plans will be performed in simulators at Chalmers in November 2011. Iterative tests will continue during 2012.

3. Technical solutions

The best possible transmission systems will be tested and evaluated. Possibilities to obtain data from established meteorological institutions will be investigated. Hydrographical information will be gathered. Technical solution for presentation of other vessels routes onboard ships will be

worked out. Introduction of new display to be used onboard vessels is to be delivered in December 2011. A definition of transmission systems will be presented by the end of April 2012. A Ship to-ship solution for transmission of routes between vessels is to be delivered in the end of May 2012.

4. Surveillance and security

Technique and process for detection of anomalies within route legs will be elaborated together with assessment of security issues connected to system information. A first beta model will be delivered in July 2012. Complete system is to be delivered in January 2013. Security systems is to be delivered in July 2012.

5. Ports

Required information from different kind of ports for optimization of vessels voyages will be assessed. Models for input data will be established in December 2012. First port (Gothenburg) engaged December 2012, followed by a second port (Aarhus) in January 2012 and a third port (Stockholm) in April 2012.

6. Legal matters

Possible legal obstacles and liabilities in international legislation will be assessed together with proposals for adjustments. Complete report delivered in June 2012, covering liabilities and comparison with air traffic regulations and related legislation for the civil aviation.

7. Formal Safety Assessment

An analysis will be carried out to assess how the risk factor regarding safety is changed with implementation of the system. A report with a Formal Safety Assessment is to be delivered end of January 2013

8. Human factors

Man-technology-organisation studies will be performed. Officer's opinion on the system functions will be investigated. Workshops with end-users to be continuously performed. A report will be submitted by the end of June 2013

9. Test and evaluation

Simulations of the operating system will be performed in a simulator. Sound VTS center and some vessels will be utilized for a full scale test. First operational tests will be carried out in simulators at Chalmers before the end of May 2012. First full scale tests onboard vessels will be carried out during year 2013 and should be finalised before the end of October 2013.

10. Dissemination

A website for the activity will be created and an information movie about proactive route planning produced. A project website will be up and running end of February 2011. At least 20 relevant conferences, workshops or symposiums will be attended during the full project time, where the MONALISA project will be presented. Website calendar will continuously be updated. First presentation movie produced in June 2011. Complete movie presenting the dynamic and proactive route planning concept of the MONALISA project will be prepared by June 2013

2.1.2 Activity 2 - Verification System for Officers Certificates

A concept model for an automatic verification system monitoring officer's certificates and time on watch will be designed. A maritime ID-card with security codes will be designed and tested. The officer's certificates will automatically be checked against data bases ashore (via AIS transmission) to ensure validity of certificates. This activity will assure required competence and present means to prevent fatigue which is a common reason for accidents at sea.

The system will be based on AIS application protocol. A personal smart card containing officer's ID information, a card reader onboard, encryption and decryption software, receiving software at the competent authority whose task is to oversee certificate matters and new area ECDIS (Electronic Chart Display and Information System) features will be developed.

A significant part of the work will be focused on assessment of the current situation for use of invalid or outdated certificates within the Union. The activity will also identify similarities and dissimilarities in the certificate process in different EU countries and elaborate proposals for harmonisation. The legislations and methods for preventing fatigue on officers on watch in different selected member states will be collected and presented.

The activity will also look into legal and liability issues of such a system. The system's impact on shipboard crew will be studied as well as crew members' opinion on the system gathered.

The activity will be implemented within four sub-activities:

1. Study on previous achievements and current situation

The sub-activity will collect and evaluate previous work done in described area of interest. A supplement study on the current situation regarding false, invalid and non-existent certificates within the Baltic Sea Region will be performed.

2. Study human factors, legal and liability issues

The sub-activity will assess how more surveillance and control effects crew's working environment onboard.. This will be done via workshops, participatory action research and interviews. It will also focus on legal and liability issues in order to identify possible shortcomings and obstacles in present legislation which could obstruct implementation of such system.3. Development of concept hardware, software and its applications

The outcome of this sub-activity will be developed and tested hardware, software, new AIS features and investigation of existing databases for certificates in the test region. Electronic methods to compare personal identity cards with existing databases will also be elaborated.

4. Tests, Evaluation and Dissemination

Simulations of the developed system will be performed. Full-scale tests will be carried out using some commercial vessels and in appropriate land centrals. This phase will also form the basis for the dissemination of information and coordinate effort with activity 1.10.

2.1.3 Activity 3 - Ensuring the Quality of Hydrographic Data on Shipping Routes and Areas

Re-survey of HELCOM fairways and Baltic Sea port areas will be carried with modern quality methods to ensure correct depth presented in existing sea charts and improve safe navigation for large vessels. The depth data obtained from this study will be the base for data model (sub-activity 3.2), harmonized vertical reference for chart data (sub-activity 3.3), route planning (activity 1), actual navigation at sea and traffic guidance. Another aim with this Action is to increase cooperation between Baltic Sea States in order to streamline hydrographic surveys, distribution of survey data and water level information (sub-activities 3.2 and 3.3) and issuing nautical products as well as to enhance navigation infrastructure and support e-Navigation in implementation of Activity 1 (Dynamic & Proactive Route planning).

Activity 3 will be implemented within 3 sub-activities:

1. Speed up re-surveys

The re-survey will be conducted according to the HELCOM Copenhagen 2001 and Moscow 2010 Ministerial Declarations. The re-surveyed marine areas will cover about 32 000 km² of HELCOM CAT I and II areas around Finland and Sweden. Areas vary on depth, bottom structure, water turbidity and weather vulnerability, which will in turn have a direct effect on the difficulty and time used on the field work and data post processing. This will further vary the cost widely. This geospatial data is necessary to obtain for sub-activities 3.2 and 3.3.

HELCOM areas in the Bothnian Sea in the Economic zone of Sweden and Finland will be surveyed during 2011 and early 2012 based on tendering in 2010 and contracts in April 2011. Additional HELCOM areas in the territorial waters will be surveyed with state-owned resources, in Finland by the state owned company Meritaito Oy and in Sweden by the Swedish Maritime Administration. The Bay of Bothnia and areas around Southern Sweden are planned to be open for procurement in the Autumn 2011 and to be surveyed in 2012-2013. The areas surveyed by external contractors might be complemented by internal state surveys in territorial waters.

Analysis on the data has started in June 2011.

Report on the progress has been given at the BSHC meeting in Norrköping in September 2011.

2. Baltic Sea harmonised depth model (for Geospatial information)

Actions will be launched to establish a common database of bathymetric data for the Baltic Sea Area. They will include identification of existing regulations concerning depth data, development of proposals concerning storage, maintenance, exchange and distribution of the bathymetric data. A sample data model will be compiled from 2011 surveyed and processed data.

A workshop will be held in October 2011 at Swedish Maritime Administration. A common sample data from 2011 surveys is expected to be available in summer 2012.

3. Pilot project on harmonised vertical reference on Baltic Sea

A study will be conducted to identify the difference between Baltic Sea States vertical reference surface and establish a common standard. Further on, a small scale pilot project will analyse the implications and effects to the products and services on implementing a new harmonized vertical references. The most obvious application of a common vertical reference is printed and electronic nautical chart and water level (tide) information.

A workshop was held at Swedish Maritime Administration in Norrköping at the end of August 2011 and new workshop is planned for early 2012.

2.1.4 Activity 4 - Global Sharing of Maritime Information (GSMI)

The activity aims to develop a functional demonstrator system both technically and procedurally defined, with the final objective to extend the sharing of maritime information to a global scale as well as expanding the scope of maritime information shared between maritime authorities in accordance with their needs. The activity will be implemented through the following sub-activities:

1. Analysis and design

This sub-activity will include analysis of existing systems for sharing maritime information, user need assessment and development of functional specification for a global system for sharing maritime information.

2. System development

Selecting and developing the necessary technical standards and controlling the development process towards a working system demonstrator. This will be done through an agile (iterative) development process.

3. Promotion

The sub-activity will include promotion of the system, connection of as many national authorities as possible to the system and promoting the results across industry/governmental administrations to ensure broadest possible involvement from stakeholders.

Partners will develop the necessary infrastructure to enable sharing of AIS and other maritime information both within and beyond the European Union enhancing safety of navigation, efficient shipping and the protection of the environment. A functional system demonstrator based on open standards will be developed and promoted. A close cooperation with the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) will be sought after, as a gateway to the global community of maritime national administrations and related industry.

2.2 Progress from project start until October 2011

Activity 1 - Dynamic & Proactive Route planning

Within Activity 1, a number of workshops to elaborate the concept has been carried out with both project partners and associated partners. The work will result in a concept study that is planned to be finalized during Autumn 2011.

A lot of efforts have been put on communication the concept and establishing cooperation with related initiatives and actors. For example, cooperation is established with the Finnish project Tanker Safety Services and with WWF.

Activity 2 - Verification System for Officers Certificates

A Participatory Action Research Study regarding human factor elements will be carried out at 4-6 workshops in the second half of 2011 and in the beginning of 2012. The first of these workshops took place on 31 August 2011. The target group of the workshops are representatives of shipowners Associations, masters, authorities, labour organisations

Contacts have been established with the The Swedish Transport Agency (previous Maritime Safety Inspectorate) are not a project partner, but an important stakeholder and they have an interest in cooperating with the MONALISA project. They have not budgeted for any work this year, but will do so for next year.

Activity 3 - Ensuring the Quality of Hydrographic Data on Shipping Routes and Areas

The procurement for Bothnian Sea Survey 2011 was finalized in Spring 2011. Contract signed 13 April with Fugro OSAE GmbH for both Finnish Transport Agency (€1.550.000) and Swedish Maritime Administration (€1.550.000). The hydrographic surveys commenced in May 2011. The external contractor will not be able to finalise the surveys in 2011, as stated in the contract. Related HELCOM areas on Swedish and Finnish territorial waters are surveyed by state-owned resources.

A start-up meeting at the Finnish Transport Agency was held on 16th of May in Helsinki on the sub-project on a Baltic Sea depths database. A working meeting took place on 11-12 October in Norrköping, with participation from Finland, Estonia, Latvia, Poland, Germany and Sweden.

A workshop on harmonized vertical reference was held at Swedish Maritime Administration in Norrköping at the end of August 2011 and new workshop is planned for early 2012.

Activity 4 - Global Sharing of Maritime Information (GSMI)

The work within Activity 4 has been scheduled to commence after the summer 2011. Gatehouse has spend some time during summer working on the conceptual side of things. The concept was presented at an IALA conference in Paris in mid-September 2011.

Project Coordination and Communication

A lot of activities have been carried out when it comes to project Coordination and overall communication. Example of activities is shown below:

Partner agreement has been agreed and signed.

Project handbook for technical and financial report is prepared and agreed.

Formal kick-off was arranged on 14 June in Stockholm.

First version of the Strategic Action Plan was submitted to TEN-T EA 24 August 2011.

Website (www.monalisaproject.eu) was launched in April 2011.

Presentation movie has been prepared and launched at the kick-off.

Project presentation brochure was prepared and launched at the kick-off.

The project has been presented at different seminars and conferences in the Baltic Sea region and in EU.

Close cooperation with the Secretariat of HELCOM and with the relevant priority areas of the EU Strategy for the Baltic Sea region is established (prio-areas 4, 11 and 13).

2.3.2 Milestones according to COM Decision

Milestone number ^[as listed under paragraph 2]	Milestone name	Indicative expected date	Means of verification
1	Presentation of basic concept at the IALA workshop on Global Sharing of Maritime Information (Act. 4)	30/09/2011	Presentation document
2	Route planning analyses and assessments completed; system designed. (Act. 1)	30/11/2011	Concept developed and demonstrated
3	Common vertical reference proposed (Act. 3)	28/02/2012	Proposal for vertical reference accepted by Steering Group
4	Operational tests on test vessels completed (Act. 1)	30/06/2012	Report presented and accepted by Steering Group
5	Functional specification released and beginning of system development (Act. 4)	30/06/2012	Functional specification document accepted by Steering Group
6	Background studies related to Verification System completed (Act. 2)	30/07/2012	Concept developed and demonstrated. Acceptance by Steering Group.
7	Proposals for common technical standards and hydrographic data model for the Baltic Sea elaborated. (Act. 3)	30/11/2012	Proposal for common technical standards accepted by Steering Group
8	Hardware and software developed and tested (Act. 2)	31/01/2013	Technical functions described in report accepted by Steering Group
9	Presentation of a study analysing the implications and effects to the products and services on implementing a new harmonized vertical reference (Act. 3)	30/05/2013	Report accepted by Baltic Sea Hydrographic Commission
10	Release of first version of demonstrator (Act. 4)	30/06/2013	System available on project website
11	Full scale test performed (Act. 1)	31/10/2013	Report presented and accepted by Steering Group
12	Simulations and pilot testing performed (Act. 2)	31/10/2013	Reports delivered and accepted by Steering Group

13	Guidelines for effects on administrative decision on the common vertical reference level for the Baltic Sea Hydrographic Commission (Act. 3)	31/12/2013	Guidelines accepted by Baltic Sea Hydrographic Commission
14	Article in the IALA Bulletin describing the concept and presentations at IALA meetings (Act. 4)	31/12/2013	Article on project website

2.3.3 Additional internal Milestones

15	Baltic Sea Hydrographic Commission meeting in Sweden Baltic Sea Hydrographic Commission meeting in Finland Baltic Sea Hydrographic Commission meeting in Estonia (Act. 3)	20/9/2011 09/2012 09/2013	Interim report Interim report Final report
16	EU Baltic Sea Summit, annual forum, Gdansk, Poland Priority Area 13 steering committee (Act. 3)	24/10/2011 3/11/2011	Presented in Priority 13
17	HELCOM Maritime 10 HELCOM Maritime 11 HELCOM Maritime 12: Moscow declaration final report (Act. 3)	15/11/2011 11/2012 11/2013	Interim report Interim report Final report
18	First specification to be used in software development delivered (Act. 1.2)	08/2011	Specification delivered
19	First test of communicating voyage plans performed in simulators (Act. 1.2)	11/2011	Tests completed
20	New display delivered (Act. 1.3)	12/2011	Display delivered
21	Definition of transmission system presented (Act. 1.3)	04/2012	Report presented
22	Ship-to-ship solution for transmission of routes delivered (Act. 1.3)	05/2012	Solution presented
23	First beta model for detection of anomalies delivered (Act. 1.4)	07/2012	
24	Security system delivered (Act. 1.4)	08/2012	
25	Complete system for detection of anomalies delivered (Act. 1.4)	01/2013	
26	First port (Gothenburg) engaged (Act. 1.5)	12/2012	
27	Second port engaged (Act. 1.5)	01/2013	
28	Third port engaged (Act. 1.5)	04/2013	
29	Report on legal issues completed (Act. 1.6)	06/2012	Report submitted
30	Formal Safety Assessment presented (Act. 1.7)	02/2013	Report submitted
31	Man-technology study completed (Act. 1.8)	06/2013	Report submitted
32	Concept presentation movie prepared (Act. 1.10)	06/2013	Film released

2.4 Risk analysis

Risk management is one the main and central aspects in the overall management of the MONALISA project. It is seen as equally important as technical and financial management.

In the table below, some risks are identified and summary of relevant actions described.

Risk	Actions
Lack of assigned professional resources	Project importance recognized at Management level in the implementing organizations
Planned tasks not completed within project time frame	Continues follow-up and monitoring by the Project Coordination Group and the High Level Steering Group
Technical challenges overwhelming	Cooperation with other projects and initiatives in order to take onboard best available technology.
Procurement process delays due to complaints from non-winning tenderers	transparent and predefined selection in procurement process
service provider can't keep up with contract agreed timetable	sufficient time for work, weight in earlier performance, suitable vessels for the work, heavy delay fines
Equipment or vessel downtime (Act. 3.1)	back-up systems, service contracts, pre-survey inspections and test surveys
No replies to open procurement for hydrographic surveys	sufficient time for the work, area size for procurement, market distortions

Risk management in the MONALISA project is integrated in the overall management of the project. The risks identified above are handled by the project organization, with regular follow-up and monitoring of the implementation of project. The Project Coordination group meets approximately four times per year and is one instrument in keeping the pressure on the project organization. At the meetings of the Coordination group, possible problems can be identified in due time which facilitates appropriate decision-making and risk handling within the project.

3 Financial implementation

3.1 Indicative breakdown of estimated eligible costs per action per calendar year according to the COM Decision

Partner		Activity 1 Route optimisation	Activity 2 Certificate Verification	Activity 3.1 Hydrographic survey	Activity 3.2 and 3.3 Hydrographic data harmonising	Activity 4 Maritime data sharing	Total direct costs	Indirect costs	Total costs	EU grant
Swedish Maritime Administration	2010	0	0	20 000	0	0	20 000	1 362	21 362	10 681
	2011	124 000	60 000	1 500 000	820 000	8 000	2 512 000	171 086	2 683 086	1 341 543
Administration	2012	167 000	72 600	3 430 000	820 000	8 000	4 497 600	306 321	4 803 921	2 401 960
	2013	147 000	40 500	3 000 000	820 000	8 000	4 015 500	273 486	4 288 986	2 144 493
	Total	438 000	173 100	7 950 000	2 460 000	24 000	11 045 100	752 255	11 797 355	5 898 677
Finnish Transport Agency	2010	0	0	21 000	1 000	0	22 000	428	22 428	11 214
	2011	0	0	2 517 000	19 000	0	2 536 000	49 315	2 585 315	1 292 658
	2012	0	0	2 670 000	50 000	0	2 720 000	52 894	2 772 894	1 386 447
	2013	0	0	3 078 000	76 000	0	3 154 000	61 333	3 215 333	1 607 667
	Total	0	0	8 286 000	146 000	0	8 432 000	163 970	8 595 970	4 297 985
Danish Maritime Safety Administration	2010	0	0	0	0	0	0	0	0	0
	2011	13 800	0	0	0	41 000	54 800	4 384	59 184	29 592
	2012	13 800	0	0	0	165 100	178 900	14 312	193 212	96 606
	2013	27 600	0	0	0	27 900	55 500	4 440	59 940	29 970
	Total	55 200	0	0	0	234 000	289 200	23 136	312 336	156 168
SAAB Transponder Technique AB	2010	0	0	0	0	0	0	0	0	0
	2011	300 000	23 000	0	0	9 300	332 300	26 584	358 884	179 442
	2012	290 000	104 600	0	0	9 300	403 900	32 312	436 212	218 106
	2013	10 300	87 500	0	0	0	97 800	7 824	105 624	52 812
	Total	600 300	215 100	0	0	18 600	834 000	66 720	900 720	450 360
SSPA Sweden AB	2010	0	0	0	0	0	0	0	0	0
	2011	157 000	0	0	0	0	157 000	12 560	169 560	84 780
	2012	188 000	0	0	0	0	188 000	15 040	203 040	101 520
	2013	23 500	0	0	0	0	23 500	1 880	25 380	12 690
	Total	368 500	0	0	0	0	368 500	29 480	397 980	198 990
Chalmers University of Technology	2010	0	0	0	0	0	0	0	0	0
	2011	27 500	24 800	0	0	0	52 300	4 184	56 484	28 242
	2012	137 500	23 000	0	0	0	160 500	12 840	173 340	86 670
	2013	27 400	19 100	0	0	0	46 500	3 720	50 220	25 110
	Total	192 400	66 900	0	0	0	259 300	20 744	280 044	140 022
GateHouse A/S	2010	0	0	0	0	0	0	0	0	0
	2011	0	0	0	0	90 000	90 000	7 200	97 200	48 600
	2012	0	0	0	0	80 000	80 000	6 400	86 400	43 200
	2013	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	170 000	170 000	13 600	183 600	91 800
		1 654 400	455 100	16 236 000	2 606 000	446 600	21 398 100	1 069 905	22 468 005	11 234 002

3.1 Indirect costs

The eligible indirect costs for the Action are those costs which, with due regard for the conditions of eligibility, are not identifiable as specific costs directly linked to performance of the Action which can be booked to it direct, but which have nevertheless been incurred in connection with the eligible direct costs for the Action. They may not include any eligible direct costs.

The indirect costs incurred in carrying out the Action are eligible for flat-rate funding fixed at 5% of the total eligible direct costs, which means that the indirect costs are not needed to be supported by accounting documents. The rate of flat-rate varies between the project partners.

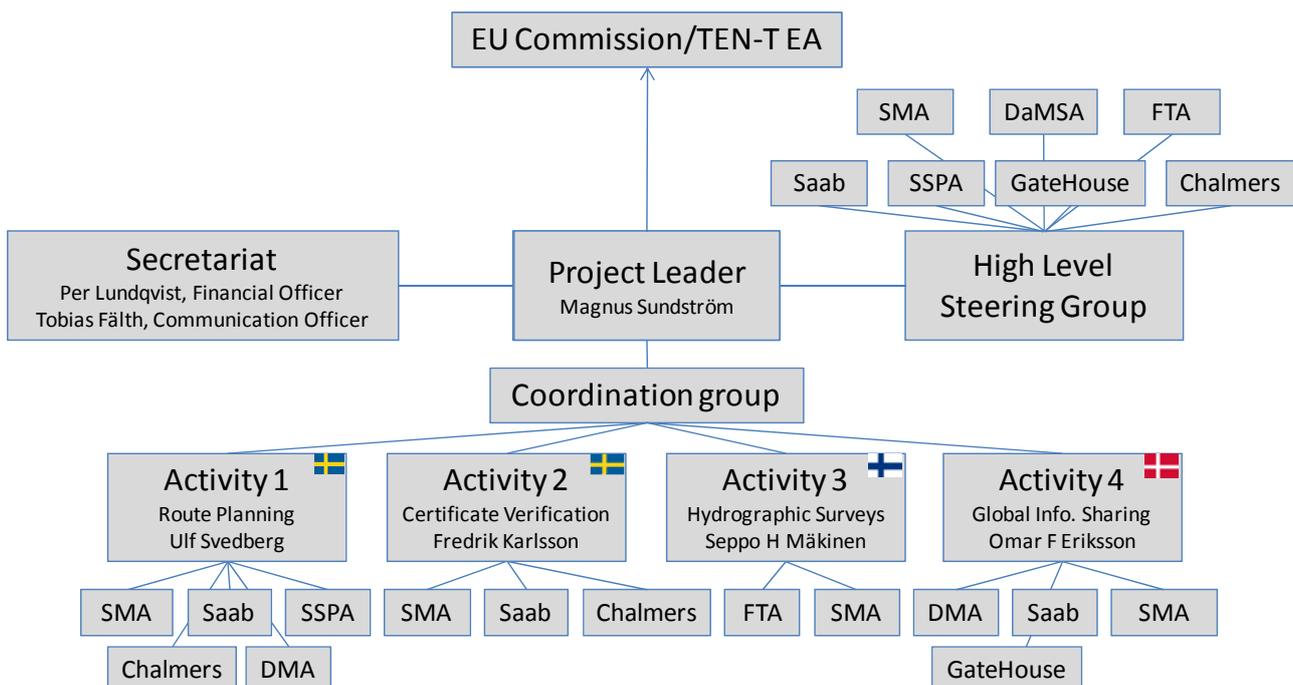
The following costs are included in the budget of indirect costs:

- Personnel costs as well as travel and accommodation costs for Project Leader (SMA), Financial Officer (SMA) and Communication officer (SMA).
- Communication material for the overall MONALISA project, incl. project website
- Administration and financial reporting of the project by the project partners
- Auditing costs by the project partners
- Costs for arranging joint MONALISA meetings/conferences
- Costs for office rental, stationery etc at the beneficiaries' organizations

4 Governance & Monitoring

4.1 Organisational structure and governance

Organogram MONALISA



Organisation of project management control and monitoring

The Swedish Maritime Administration, in cooperation with Action partners, will carry out the administrative coordination and the overall Action management. This function involves project reporting as well as being the contact point in relation with the European Commission and the TEN-T Executive Agency.

A Partnership's Agreement concerning the organisation of the partnership and the stipulation of provisions in order to implement the project has been agreed on.

Activity leaders

Each Activity has its Activity Leader, who will manage the Activity and report to the project leader as part of the project progress and final reporting. The reporting of the Activity leaders encompasses both financial follow-up and implementation progress of the Activity.

In its capacity as project Coordinator, Swedish Maritime Administration shall be the recipient of the TEN-T financial contribution and will distribute the funds to the project partners in accordance with the budget and actual spending. Swedish Maritime Administration shall be the contact point for all communication with the TEN-T Executive Agency.

In order to assure the quality of procedures of financial and progress reporting a project handbook has been elaborated by the Action Coordinator. The project handbook is a tool in the management of the project and will contain a brief description of the contractual arrangements, the management and the technical and financial reporting within the project. The handbook will mainly be based on the information prepared on valid EC legal instruments, the Commission Decision and this Strategic Action Plan.

In addition to the internal monitoring as described above, external auditors will carry out financial audits on an annual basis.

Validation of Action Status Reports will be carried out the Member State Sweden, through the Swedish Transport Administration. At the end of the project, the Evaluation by the Member State and Financial Certification will be carried out by appropriate Member State authorities in the beneficiary countries.

The Action Leader will also report on the progress of the project to the Baltic Sea Motorways Task force, which was established by the Baltic Sea countries in 2004 with a mission to develop the Motorways of the Sea concept in the Baltic and which has meetings twice a year.

MONALISA organisation and human resources

Below is an overview of the most important staff of the project partners that are involved in the MONALISA project

High level steering group

Jonas Vedsmand, Swedish Maritime Administration (chairman)

Magnus Sundström, Swedish Maritime Administration (project leader)

Peter Bergljung, SAAB TransponderTech

Rainer Mustaniemi, Finnish Transport Agency

Omar Frits Eriksson, Danish Maritime Safety Administration

Peter Grundevik, SSPA

Poul Bondo, GateHouse

Mikael Hägg, Chalmers

Project Leader and Secretariat

Magnus Sundström, Swedish Maritime Administration (Project Leader)

Per Lundqvist, Swedish Maritime Administration (Financial Officer)

Tobias Fälth, Swedish Maritime Administration (Communication Officer) from 15 August 2011

Coordination group

The coordination group consists of the Project Leader, the Activity Leaders, the Financial Officer and the Communication Officer. The coordination group consists of the following persons:

Magnus Sundström, Swedish Maritime Administration (Project Leader)

Ulf Svedberg, Swedish Maritime Administration (Activity 1 Leader)

Fredrik Karlsson, Swedish Maritime Administration (Activity 2 Leader)

Seppo H Mäkinen, Finnish Transport Agency (Activity 3 Leader)

Omar Frits Eriksson, Danish Maritime Safety Administration (Activity 4 Leader)

Per Lundqvist, Swedish Maritime Administration (Financial Officer)

Tobias Fälth, Swedish Maritime Administration (Communication Officer) from 15 August 2011

Activity organisation

Each Activity has its own Activity organisation which is lead by the Activity Leader. The Activity organisation consists of the participating partners and other relevant organisations and experts.

4.2 Project management model

In the MONALISA project the PPS management model will be applied.

PPS is a model for actively planning and managing projects. The model is based more on the experience gained from completed projects, than on theoretical models. The purpose of PPS, initially and during the project, is as an aid to continuously check the benefits and quality of a project.

One of the basic ideas of PPS is to work with clear and agreed objectives. Another is to be prepared when problems arise. The central concepts are personal commitment, openness and trust. Each member of the project staff acknowledges their role and ensures that all actions lead towards the common objective.

PPS is based on the vision of a satisfied customer and benefits for everyone involved. The basic values are a positive view of humankind, the commitment culture, the benefit in focus and a mutual understanding. PPS considers every person as a unique resource. This covers competence and creativity, as well as values and the ability to work together. Each person can develop and can, and will, take responsibility.

This positive approach characterises the organisation, management and division of work in the MONALISA project. Whenever we work in a project, we personally commit to creating a result. An active assignee takes responsibility for sustainable and clear agreements and keeps to what is promised. For every project and working situation, benefits must be secured. The result should be something that is needed and suitable for use. When everyone understands the value of their contribution, motivation will increase and quality will improve. A certain sensitivity regarding changes to customer needs is also required, in order to provide customer benefits and quality.

4.3 Contractual arrangements

The implementation of the MONALISA project is governed by a partner agreement between the seven project partners consisting of public authorities, private companies and academic institutions:

Swedish Maritime Administration

Finnish Transport Agency

Danish Maritime Safety Administration

SAAB TransponderTech AB

SSPA Sweden AB

Chalmers tekniska högskola AB

GateHouse A/S

The COM Decision is also addressed to the Kingdom of Sweden, the Republic of Finland and the Kingdom of Denmark.

In order to agree on the rules and procedures for implementation of the MONALISA project, a Partnership agreement has been agreed between the project partners.

A copy of the agreement is attached to this SAP as Annex 1.

4.4 Procurement and contracts

The main bulk of work in Activity 1, 2 and 4 will be carried out by the project partners. In Activity 3, large scale external contracting will be made for the hydrographic surveys, although some surveys will also be carried out by the Swedish Maritime Administration and by the Finnish state company Meritaito Oy.

Activity 3.1 has awarded first contracts (both Sweden and Finland each M€1.55) in April 2011 to Fugro OSAE GmbH, based on invitation to tender in TED in September 2010.

Finland has also ordered HELCOM hydrographic surveys in Finnish territorial waters from Meritaito Oy based on SGEI-legislation (K(2005) 2673 (2005/842/EY) and Finnish Act 1239/2010 on approximate value of €900 000.

Next invitation to tender in TED is planned for November 2011 to cover the hydrographic surveys of HELCOM Cat. I and II areas for the period 2012-2013.

4.5 Internal and external reporting

In the project application is stated that a project handbook will be prepared as a tool in the management of the MONALISA. The handbook is attached to this SAP as Annex 2.

The handbook contains a brief description of the technical and financial reporting within the project. The formal requirements on reporting are laid down in the Commission's Decision. The handbook is an integrated part of the partnership agreement and is also annexed to the Strategic Action Plan of the MONALISA project.

In order to monitor the progress of the MONALISA project, a system of brief quarterly reports, followed by a meeting of the Coordination group will assure that the project is progressing according to the plan, and, if not, actions can be taken.

The annual Action Status Report (ASR) is the main tool for communication with the European Commission/TEN-T Executive Agency (TEN-T EA) of annual progress on a project. The ASR serves as a key method for reporting on the progress of the Activities and consists of a technical implementation report and financial statements.

The Project Coordinator has the obligation to submit the ASR of the project to the TEN-T EA at the latest by 31 March of each calendar year. The reporting period is fixed and comprises January to December. As Activity 3 of the MONALISA project started 1 September 2010, the reporting period of the first ASR, which is due to submission latest 31 March 2012 will be extended to cover the period from 1 September 2010 to 31 December 2011. The 3rd ASR will be in the form of a Final report and should be submitted to the TEN-T EA within 12 months of the completion date of the Action.

The ASR will be validated by the Swedish Transport Administration, which is acting on behalf of the Swedish Ministry for Enterprise, Energy and Communication, as well as by the Finnish Ministry of Transport and Communication and the Danish Ministry of Transport.

After the end of the project, a Final Implementation Report, validated by the Member States Sweden, Finland and Denmark, will be submitted and be the basis for final payment.

4.6 The member state arrangements for follow-up of the MoS action

The Swedish Ministry of Enterprise, Energy and Communications has commissioned the Swedish Transport Administration to monitor each TEN-T actions including Motorways of the Sea in which Swedish partners are involved.

In order to carry out the monitoring follow-up meetings should be organized 1-2 times per year by each TEN-T-actions mentioned above. Each TEN-T-action must be represented by the adopted

project manager and representatives of each partner. The follow-up meetings shall follow a general agenda which includes description of the activities during the reporting period, follow-up of timeframe, milestones and costs for each activity.

Each TEN-T actions shall report to the Swedish Transport Administration without any delay cost overrun compared to budget, delays of work and milestones compared to time plan or any other deviations. Documents of important documents regarding the project should be sent to the Swedish Transport Administration. Each Action Status Report and the Final Implementation Report must be approved by Swedish Transport Administration.

In Finland and Denmark, the validation by the Member State is carried out by the respective Ministry.

5 Other Administrative Provisions

5.1 Financial control and audits

In order to assure the quality and verify the correctness of the financial reporting in the MONALISA project, a decision is taken to make usage of external independent auditors. An external audit will be carried out annually, before submitting the Annual Status Report and the final implementation report to the TEN-T Executive Agency.

5.2 Communication Plans & Publicity

One important management tool for the MONALISA project is the Communication Plan. The importance of the communication plan is the following:

- MONALISA is a multi-dimensional project with a large number of organisations, processes and institutions to Communicate and coordination
- There are different communication messages within the project and the representatives of the project must be able to communicate a clear message.
- To be a supportive tool for the people involved in the Action.

Communication plan MONALISA

The basis for all communication means of MONALISA project is found in the “Communication Plan MONALISA 2011-2013”. This document is based on a stakeholder’s analysis and describes the overall objectives, strategy, communication mix and measures, means and organisation of communication and PR action concerning the action.

Organisation of Communication

The Project Leader and the secretariat will manage the communication actions and its adherence to COM Decision on a quarterly basis. A Communication officer is engaged in the project and will be responsible for planning and monitoring of communication actions within the project. At the meetings of the coordination group will regularly monitor the publicity given so-far, and plan communication actions related to the TEN financed actions in the near future.

Proof of communication actions regarding the TEN financing is kept in the project files, and proof of communication measures will be described and sent along with the Action Status Reports and be included in the Final Implementation Report.

Main communication means and actions

Below please find, for your information, an overview of the main communication and publicity means as used by MONALISA:Project website, www.monalisaproject.eu. This website contains regular news items covering the main milestones of the MONALISA.

Annexes

Annex 1 Partnership agreement

Annex 2 Project Handbook