MONALISA 2.0 in brief

MONALISA 2.0 is a project involving 39 partners from 10 countries, with a 24M€ budget, co-financed by the EU. One goal is to define Sea Traffic Management, STM, a concept inspired by the Air Traffic Management concept from the aviation industry, developed in the SESAR programme. STM aims to enhance safety, increase efficiency and improve the environmental performance of shipping.

Other land-based safety concepts like Behaviour Based Safety (BBS) and Indoor Positioning are also tested to validate the potential use at sea. Improvements on how to avoid accidents and how to act optimally during and after accidents are studied and a major Search and Rescue (SAR) exercise will validate these.

Save the dates for the MONALISA 2.0 Mid-Term Conference

The MONALISA 2.0 Mid-term Conference will be held in Barcelona November 4-5 2014. Starting with a welcoming dinner on Nov 4th at 19.00 hours the conference on Nov 5th will bring you up to date on the achievements and plans of the project in more detail. Don’t miss this opportunity to get a glimpse into the future and share your ideas to help us change the future.

Overall achievements and plans

The project delivers according to plan. Advisory groups influence and confirm the ideas and solutions. The definition of STM is progressing, with KPI definitions and Target Concept well on their way.

The European Maritime Simulator Network, EMSN, has been established with interconnected simulators in more than six countries and many more knocking on the door, both within and outside Europe. A worldwide common standard for exchanging route information has been submitted to the regulatory bodies and will ensure interoperability among vendors of navigational systems.

Vessels for testing the various safety concepts, BBS, indoor positioning and the SAR exercises are all contracted, and initial instalments will soon be in place.
Sea Traffic Management – concrete deliverables

We develop and test systems and methods for sharing of information and coordination of sea traffic. One huge step in this direction has been taken by major suppliers of navigational systems in agreeing on a standard voyage plan exchange format. This standard format has been developed in the project and forwarded to the International Electrotechnical Commission (IEC) for acceptance. Voting in the IEC will take place in the autumn of 2014.

The effect of this achievement is that the next generation of navigational systems (ECDIS) will be able to exchange voyage information irrespective of brand, which is a cornerstone in the implementation of Sea Traffic Management services ship-to-ship and ship-to-shore.

Another milestone in the project is that the underlying technical structure for the European Maritime Simulator Network has been finalized and integration tests among different simulator centres are now underway. This permits some 30 simulator bridges from ten simulator sites across Europe to take part in the same exercises. These large-scale simulations, starting towards the end of 2014, will be used to test, validate and demonstrate aspects of STM. Evaluation in the IMO-stipulated Formal Safety Assessment (FSA) format will provide a solid basis for continued development and successive deployment of STM. EMSN can be used for other applications and tests, such as major SAR exercises, for example.

Pan-European large-scale simulations will enable testing of complex situations never tested before.

Definition phase of the STM concept

Sea Traffic Management is the concept of sharing and using all data from the maritime space in real time, in order to improve safety, environmental impact and efficiency of the maritime transport chain.

The current situation has been described as a baseline for the development of STM. The report will be updated continuously with more detailed information in areas relevant to the performance target. Key Performance Areas, Focus Areas and Key Performance Objectives for STM have been defined, and a proposal for KPI:s is in place. Five enabling concepts have been defined for the Target Concept and are being refined. These concepts are:

- Port Collaborative Decision Making, Port CDM.
- Strategic Voyage management
- Dynamic Voyage management
- Flow management
- System Wide Information Management, SWIM

The target concept will be analysed from a business, institutional, legal, technical and operational point of view.

Preliminary findings are published on the web in order to gather input from outside the project. Examples of preliminary findings are:

- Identifying the Scope of Sea Traffic Management: The Interface to Ports Operations
- Sea Traffic Management in MONALISA 2.0
- Towards a framework for optimizing sea transportation – an integrated approach to planning, execution, and evaluation

After the summer draft KPI:s and Target Concept will be ready and a rough initial layout of the Strategic Roadmap showing how to transfer from today’s situation to the Target Concept, and of the detailed Master Plan will be in place.

Safer Ships

The Behaviour Based Safety, BBS, method will be adapted to passenger ships. Initial analysis is finished. We are now working to define the user, task and environmental profiles and developer requirements. A vessel for on-board tests has been contracted.

The first prototype of a new ICT Tool for Search And Rescue, SAR, was installed in June 2014 in Sweden. Every 3 weeks a new version will be delivered until the complete system is in place. We will present the system at the Barcelona Mid-Term Conference. The go-live version is expected by the end of 2014.

The first version of the indoor positioning system is available and has already been tested in laboratory conditions. The system will be installed on the cruise vessel, Ruby Princess, in parallel with design and laboratory tests for new functionality.
The requirement specification of the Launch and Recovery System (Safe Evacuation System) has been completed and the design and simulation of the SES system is in progress. Live testing in port will be the next step.

Cost Benefit Analysis will be applied in line with the Guide for Investment Projects as defined by the European Commission. This methodology allows setting the correct approach and aims to define the correct estimation of monetization of non-market impacts (i.e. life expectancy/quality of life, prevention of fatalities/injuries).

Operational Safety

Many initiatives, for example STM, will reduce the number of future accidents. However, governments and administrations must be ready to face higher-impact accidents because of the increased dimensions of ships and passengers numbers. Within the MONALISA 2.0 project, incident response operations aimed at reducing the time to respond will be elaborated and made more efficient, which in turn will improve coordination among crews and coast guard services to efficiently evacuate ships and, ultimately, reducing the number of fatalities.

Operational safety is aimed at contributing to improving and optimising maritime Mass Rescue Operations and port contingency plans by means of superior coordination among the actors involved. We will use new technology and tools, and provide updated training programmes.

The safety management aspects in case of incidents at coastal and port levels have been analysed with the aim of deploying suitable exercise scenarios where the various innovations deployed will be tested. The main focus of the activity is to reduce the negative impact of the mass evacuation of passengers from large ships. The technical specifications for the on-board lifeboats recovery systems have been issued and the baseline is set for a standardized training programme.

During the next six months Risk Assessment tools and Risk Management guidelines will be developed, in order to support deck officers, ship owners and authorities.

Where to meet us next?

MONALISA 2.0 has been presented at almost 40 conferences since the kick-off in October 2013, and will continue to be presented at various relevant conferences during the lifetime of the project.

You can meet us at the following upcoming events in June-July:

<table>
<thead>
<tr>
<th>Conference</th>
<th>Location</th>
<th>Starting</th>
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<tbody>
<tr>
<td>Innovasjonkonferanse e-nav.no 2014</td>
<td>Oslo, Norway</td>
<td>June 12</td>
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<tr>
<td>The 10th ITS European Congress</td>
<td>Helsinki, Finland</td>
<td>June 18</td>
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<tr>
<td>Baltic Maritime Spatial Planning Forum</td>
<td>Riga, Latvia</td>
<td>June 17</td>
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<tr>
<td>Innovative Technologies for a Resilient Marine Transportation System</td>
<td>Washington DC, USA</td>
<td>June 24</td>
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<tr>
<td>Maritime Transport Conference</td>
<td>Barcelona, Spain</td>
<td>June 25</td>
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<tr>
<td>IMO: NCSR - Navigation, Communications and SAR</td>
<td>London, UK</td>
<td>June 30</td>
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Do not forget to meet us on the web:
www.monalisaproject.eu

Twitter (@MONALISA2_0)
LinkedIn: join related groups, for example SeaTrafficManagement.

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