The future starts now

MONALISA 2.0
Securing the maritime chain through intelligence at sea

Read all about it
The final results of more than two years of work were shared at the MONALISA 2.0 final conference held in Gothenburg, Sweden in November.

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Five years to change the world

European Commission policy advisor impressed

José Anselmo is the man who succeeded in moving maritime issues up the European Commission’s agenda. Now he says he wants to change the world. “Shipping is part of developing the industrial society,” he said during the final MONALISA 2.0 conference. He took the stage early and challenged the conference delegates to impress him. He wanted to be impressed by the way that the results of the project would provide a platform for the future, and impressed that the rest of the world would have to follow the European example, rather than the other way around.

“So, was he?” said José smiling at the conference conclusion. “It’s difficult to steer so many people in the same direction. It’s hard to make sense of it all. I’m counting on this project continuing to grow, but the parts might have to grow separately to pursue each as needed,” he added.

As a European Commission policy advisor, José Anselmo is a proponent of “Motorways of the sea” – an initiative to better connect European countries. He talks of the obvious links between the issues discussed within MONALISA 2.0 and the upgraded routes he promotes. In particular, he sees better sea traffic management as a key factor for all stakeholders in the maritime world. But Anselmo also warned that the clock is ticking. “We need to have a working system by 2020. If we don’t have it ready by then somebody else will.”

From the stage during the MONALISA 2.0 conference in Gothenburg he told the delegates that the next critical step is to communicate the many ideas and theories to the EU and to the industry. “I think people understand now that we have to be more outspoken. Maritime people tend to be very shy. But this way people will understand that shipping is part of developing the industrial society.”
Can you save 6,000 people off a ship?

The conclusion; there’s still a lot of work to be done in the coming years

The world’s largest cruise ship carries over 6,000 passengers. That’s great business for the ship’s owner, but it raises an obvious question: What challenges do these massive vessels pose for the industry’s future?

Much has been theorised and tested during the three years of MONALISA 2.0, but no-one has all the answers for a completely safe maritime industry. However, the people on the panel discussing safety at the final conference in Gothenburg has a good picture of the challenges that lie ahead.

“With such large cruise ships, in high seas … [a major accident] is a mission impossible that we can only hope never occurs,” said Markko Mylly, Executive Director at the European Maritime Safety Agency, when comparing past incidents with modern challenges.

The panel also included Julio Berzosa Navazo, harbour master at Algeciras, Jörgen Lorén, Vice President for the International Federation of Shipmasters’ Association, Adam Horwood, cruise company Carnival’s Director of Maritime Risk Management and Mario Dogliani of RINA Services.

Mylly stated that rather than more regulation, greater efforts could be made in terms of crew culture on board large vessels. “With crew numbers in the thousands, made up of 40–50 nationalities, it’s difficult to impose a single safety culture,” he explained.

Adam Horwood acknowledged that although competition between the cruise lines is fierce, safety is not something they want to compete on. “We often talk “regulation”, which often means engineering and new technical solutions. We would much rather talk about the culture on-board. That’s where we’ll see the next big push,” he stated, agreeing with Mylly.

Jörgen Lorén, previously a captain for Sweden’s Stena Line for many years, said during the discussion that much has happened since Estonia. “We are very good at evacuating passengers. It’s what happens next that we need to work on. Picking up those that have left the ship.”
The future starts now

The STM Validation Project will involve 39 partners and 300 vessels

It’s called the STM Validation Project and it takes up the torch passed on by MONALISA 2.0. It is hoped that the next phase will lead to ideas becoming new standards.

Björn Andreassen of the Swedish Maritime Administration encapsulated it best: “The STM Validation Project is as much an early implementation as a new test.” What he meant was that the important blueprint for a much-needed sea traffic management (STM) drawn up during MONALISA 2.0 will now become reality.

The STM Validation Project will involve 300 vessels, 39 partners and two test-beds (one in the Nordic region and one in the Mediterranean). Among the things that will be tested in real life are Port collaborative decision-making, or Port CDM (activity 1), Voyage management (activity 2), the Maritime simulator network (activity 3) and Maritime service infrastructure (activity 4). Finally, but importantly, the project will collect all the new data obtained and use it to make concrete proposals for action (activity 5).

Vincent del Rio from the Valencia Port Foundation, and activity 5 leader, explains: “Our responsibility and our role is to understand the outcomes of each activity – as a project – so that we can explain to the industry and the different stakeholders the rationale behind our proposals for deploying and applying the concepts we develop.”

Vicente talks about “establishing structures” to collect as much data as possible from the ships and the test-beds. Data that his team will then analyse to be able to illustrate and present the facts about how much time and money are being saved, as well as the reduction in environmental impact. When the STM Validation Project ends, the foundation for a new sea traffic management standard will be ready for adoption.

The 300 vessels and the test-beds will be running the new systems from March 2017. That’s the early implementation Björn Andreassen referred to. “What this means, more concretely, is that we will have prototypes on-board the ships and we want them to start using them in their daily work. Start optimising routes, sharing route information and so on,” he explained.

Many discussions about the future of the maritime industry centre around more connected ships, communication over the Internet and information sharing. In such a future, cyber-security will most certainly be an issue to take seriously. During the last day of the final conference, Michael Siegel from the German Offis institute for information technology, received a question related to just this subject. “We’re obviously not starting from scratch in this area,” he said of the measures taken as MONALISA 2.0 now becomes the STM Validation Project, where he is one of the leaders. He himself has used several cyber-security measures in different areas before, he added. “Basically, we’ll start exploring what’s available, there’s a vast amount of information and existing technology out there. We need to select the right solutions to ensure data privacy.”
Keeping a Princess safe
Crew-members’ location live in safety system

Though MONALISA 2.0 was mainly focused on theorizing solutions for the maritime industry, a number of real-life applications have also come into effect. As reported in a previous edition of this newsletter, the cruise ship Ruby Princess has already been equipped with an internal tracking system. It has now been up and running for nine months.

During the final conference, Piero Susino, Technical Operations Director at Princess Cruises, presented the successful implementation to the delegates. “This is a live feed from the ship,” he said pointing at the large screen where participants could see the ship live, cruising from Los Angeles to Cabo. Green dots marked the crew as they moved around on the decks. “It’s been a challenge but once up and running it’s been very stable,” Susino explained.

The system is based on RFID chips worn by some 150 crew-members working in areas where fire can lead to higher levels of carbon dioxide when extinguishing the fire. The system entailed the installation of 320 sensors and approximately six kilometres of cable. The location information of these crew-members (the accuracy is within two meters) has also been integrated into the ship’s current safety management system. “We are now considering how to expand the system and we are happy to share this information with anyone,” Susino said.

Lieutenant Commander Marco Fracassi of the Italian Navy.

Military grade ideas
WHEN EVEN THE MILITARY PICKS UP ON MONALISA 2.0 DISCOVERIES, YOU KNOW YOU’RE ON TO SOMETHING.

“I heard about MONALISA about a year ago, through the Italian Ministry of Transportation,” says Lieutenant Commander Marco Fracassi of the Italian Navy, who was one of the keynote speakers during the final conference. His responsibilities within the navy include crew safety, and he explains that a lot of what’s been talked about during the course of the MONALISA project would very much benefit the military as well.

“People tracking is of course interesting for us, but we’re interested more broadly and will continue to support this project,” Fracassi says, adding that the navy is considering adding crew tracking on ten new battleships like the system on the Ruby Princess.

He is looking forward to future developments in the area of sea traffic management, also an area where the military would benefit.

The European Maritime Simulator Network, EMSN, has had its challenges. However, the programmers at Rheinmetall, Transas, Chalmers University of Technology in Gothenburg and other partners, worked long and hard to get all the different simulators around Europe to “talk the same language.” And now they do.

The result is a simulator environment never seen before in the civil maritime world. “It’s very dynamic and users are able to perform exercises they couldn’t previously perform. Right now we can run 14 vessels at the same time – all manned and all able to communicate with each other,” Reto Weber of Chalmers told the audience at the final conference.

Unlike traditional simulators, where instructors control the target vessels and provoke scenarios, the scenarios in the EMSN are real. At least in the sense that the other participants are actual people making actual decisions. “Someone said that it’s different when you know the other ships are manned. You yourself become more polite since you know they are professionals as well,” Weber said on stage.

The EMSN is up and running and available – one of several enduring results of the MONALISA 2.0 project. The brains behind the network are now looking at hosting as many as 30 vessels simultaneously in the near future.
Finding the route to future shipping

The STM Master Plan will evolve over time

In Sea Traffic Management (STM), the MONALISA2.0 project has delivered an exciting vision and a well-defined concept of how shipping can be turned into a more efficient, safe and environmentally friendly transport mode. Today we also have a well-defined route-map of how to get there – The STM Master Plan.

The STM Master Plan was officially launched in November through the publication of the web-based STM e-Master Plan (stmmasterplan.com). This web-based interactive platform includes all the steps identified to achieve the different improvements that STM sets out to create.

“The master plan provides an overview of the essential improvements that the industry will experience, gives detailed information on what is needed to achieve these, and shows which stakeholder groups are expected to participate in the development of those enablers.

Whether the website visitor is interested in a certain operational area, estimated timelines for improvements, or the transition activities in which stakeholders are expected to participate, they will be able to find what they’re looking for as the e-Master Plan contains several views of how STM will evolve over time.

“It’s important not to see the STM Master Plan as a static document from a newly finished project, but rather as an evolving, dynamic window.” Björn Andreasson

The Master Plan is the key instrument to accelerate the STM deployment to incohere the maritime domain. It outlines the essential operational and technological changes between to achieve the STM Target Concept.

MONALISA 2.0 deserves international recognition

The achievements of MONALISA 2.0 have certainly caught the attention of the EU. But it was only a matter of time before the bar would be raised higher. And that new level is the IMO, International Maritime Organisation, the UN’s body for setting of standards for regulations at sea.

“The project (MONALISA 2.0) should bring their findings to the IMO so it gets the recognition it deserves,” says former IMO officer, Gurpreet Singhota. Gurpreet was part of the UN body for 27 years before retiring, and has been an advisor to the MONALISA 2.0 project for the last six months. He says he would be able to have a more meaningful impact if he can remain with the project longer. His knowledge would certainly increase the chances of the project getting international acclaim.

“IMO is an organisation that follows protocols and procedures very carefully. It’s an intergovernmental organisation so it’s important for the project to understand that results need to be submitted to IMO through the right focal point for [the participating countries].”

He adds that much of what’s being done in Europe and MONALISA 2.0 has also been considered as part of IMO’s own “e-navigation” project, which has been mandated by the Maritime Safety Committee. “We need to coordinate to the fullest possible extent with that group so we don’t duplicate assets,” Singhota noted.

The UN has a reputation for having slow and bureaucratic processes, something that the former IMO officer agrees with. “But in the field of shipping regulation, we are making decisions that affect so many people. Sometimes it’s better to be slow and make the right decision based on consensus, rather than rushing.”

MONALISA 2.0 / CONTACT

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