Exercise to save lives at sea

Large-scale search and rescue exercise aims to improve maritime safety.

113 YEARS OF DATA
8 000 major accidents occurring at sea between 1900 and 2013 have provided data for analysis and valuable risk management insight.

The sinking of the South Korean vessel Sewol occurred in April 2014.
Search and rescue plans put to the test

Recent incidents such as Costa Concordia and the South Korean vessel Sewol are painful reminders that there is still plenty to be done to improve maritime safety.

32 people died off the coast of Tuscany and there were over 300 fatalities in South Korea. Sea transportation remains a safe way to travel and ship goods, but these events reinforce the fact that one can’t rehearse too much when it comes to search and rescue (SAR) operations.

The Spanish Maritime Safety Agency has taken the lead on this with its large-scale SAR exercise planned for 15th June 2015. This event was preceded by a table top exercise in the Jovellanos Centre, Gijón, in October last year.

The real exercise will take place in Valencia, and it will simulate a fire caused by a mechanical failure on a large passenger vessel with thousands of people on-board.

The goal of this mass rescue operation exercise is to reveal any shortcomings that may exist in the present SAR procedures. The results will be used as a base for improvements.

Safe ports is pivotal to maritime safety

Maritime safety means little unless the ports are equally as safe. So, in conjunction with its large-scale rescue training in Valencia this summer, the Spanish Maritime Safety Agency will also perform a land-based exercise for mass evacuation.

The critical scenario planned involves 500 passengers in desperate need of evacuation from a cruise liner while in port. The exercise will test the current applicable contingency plans of the different safety management agencies involved in such an event.
A technological platform has been developed under MONALISA 2.0 that allows information to be transferred between simulators of different brands. The platform, the European Maritime Simulator Network (EMSN), was inaugurated during MONALISA 2.0’s midterm conference in Barcelona in November 2014. The first large-scale sea traffic management tests in December proved the value of the platform. EMSN is truly ground breaking as it allows simulators of all brands to be connected across large distances in a virtual network.

Organisations can now choose to collaborate with those with similar interests, rather than being limited to those with the same system. The network makes it possible to simulate complex traffic situations and to evaluate the capacity to handle search and rescue operations and oil spills.

We hope to see the simulator network expand beyond MONALISA 2.0, and even go global. At the e-Navigation conference in January 2015, China and Korea expressed interest in joining already this year.

One focus area for the MONALISA 2.0 project is defining the concept of “Sea Traffic Management (STM).” The main goal of this effort is better use of information in maritime services – and the core concept has now been classified into five sections:

- **Strategic Voyage Management** concerns the optimisation of a journey before it has started. For example, implementing a “voyage ID” – similar to a flight number in air traffic – could lead to more efficient management.

- **Dynamic Voyage Management** focuses on optimising the maritime information exchange in order to improve the voyage. In this way, vessels can travel at an optimised speed and select the best route to the destination.

- **Port Collaborative Decision Making** (Port CDM) is inspired by air traffic control, but adapted to the very different maritime industry. It involves closer contact between port operators and ships to help traffic coordination. One example is something as simple as ports knowing more about a vessel’s estimated time of arrival in order to be prepared for it. Tests will be conducted in Gothenburg and Valencia. The Port CDM concept was conceived as part of this project and demonstration pilots have been established in Gothenburg and Valencia to gather user input. Basic services will be delivered to investigate how similar or different ports are in this regard, and a roadmap for common standards and their use will be recommended.

- **Flow Management** is the task of optimising the flow of traffic, particularly in restricted waters, channels and near ports. Monitoring traffic, and having information about the vessels’ routes, will allow warnings to be sent to prevent grounding and collisions.

- **Sea System Wide Information Management** is a concept for information exchange and will serve as a trusted infrastructure for organisations that participate in information exchanges.

MONALISA 2.0 has established key performance indicators to measure how STM evolves. Target concepts on what the future will look like have been defined for each part. In 2015 we will develop a roadmap on how to prepare for the digital future.
Training improves safety

When it comes to maritime safety, universal and more standardised guidelines are critical as they help reduce the risk of human error.

These might encompass training classes for liquid natural gas, mass evacuation management, land based fire-fighting, mass rescue and not least new technologies.

There’s a human element in almost every part of maritime safety, more so than one might want to admit. But the more standardised training there is available, the less risk for human error, experts agree.

MONALISA 2.0 plays a vital role in setting new guidelines. A report on training requirements has already been written and submitted to the European Maritime Safety Agency (EMSA) and the International Maritime Organization (IMO) for review.

The report, which is backed by numerous parties from across the maritime industry, serves as a first step in defining new global Maritime Safety Training (MST) protocols.

It is hoped that the report will serve as the backbone in future worldwide safety protocols so that no one will have to improvise again.

New lifting equipment raises hopes

Well-established methods for lifting on land could be the answer to some of the most pressing issues in maritime safety, if similar lifting capabilities can be installed in rescue vessels, both helicopters and boats. Hopes are that rescue personnel will be able to save more people faster, even in bad weather. A new system has been proposed under the MONALISA 2.0 project and new equipment is currently being tested in simulators to evaluate effectiveness. If tests are positive, more people will be able to be recovered, regardless of whether they are sitting in life rafts, lifeboats or just wearing life vests.

MONALISA 2.0 is a European-wide maritime project, including 39 partners from 10 countries. The partnership is a collaboration between the private, public and academic sectors and is co-financed by the European Union. The total project budget is EUR 24 million. The project was formally approved and signed on November 5, 2013 and will operate until the end of 2015.

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