Activity 4 – Sub-Activity 4.2

Report on the Massive SAR Operation in Coastal Area

Document No: MONALISA 2.0_ D.4.2.6
<table>
<thead>
<tr>
<th>RESPONSIBLE ORGANISATION:</th>
<th>SASEMAR</th>
</tr>
</thead>
</table>
| PRINCIPAL AUTHOR(S):    | ALEJANDRO BUSTO  
                          | JOSÉ MANUEL DÍAZ  
                          | EUGENIA SILLERO |
| ACTIVITY LEADER:        | SASEMAR |

**DISCLAIMER:** Use of any knowledge, information or data contained in this document shall be at the user's sole risk. The authors of this report accept no liability or responsibility, in negligence or otherwise, for any loss, damage or expense whatever sustained by any person because of the use, in any manner or form, of any knowledge, information or data contained in this document, or due to any inaccuracy, omission or error therein contained. This document reflects the authors view and the European Commission is not liable for any use that may be made of the information contained therein.
# Table of content

1. Table of Acronyms ........................................................................................................ 5
2. Executive summary ..................................................................................................... 6
3. Purpose and scope ...................................................................................................... 6
4. Exercise structure and summary of findings ............................................................ 8
   4.1 Exercise planning and support ............................................................................... 8
   4.2 Hosting the SAREX-MONALISA Exercise ........................................................... 9
   4.3 Attendees .............................................................................................................. 10
   4.4 SAREX-MONALISA timeline ............................................................................. 14
5. SAREX-MONALISA deployment .............................................................................. 30
   5.1 Deployed Units: .................................................................................................... 31
   5.2 Entities involved in the Exercise: ......................................................................... 32
6. The streaming experience: ....................................................................................... 33
7. Communication: ........................................................................................................ 36
   7.1 Before the exercise .............................................................................................. 36
   7.2 During the exercise ............................................................................................. 37
   7.3 After the exercise ............................................................................................... 41
   7.4 Media impact monitoring .................................................................................. 44
8. Lessons learned: debriefing and recommendations ............................................... 46
   8.1 General topics: .................................................................................................... 47
      8.1.1 Development of national legislation on families and victims in an passenger
development of national legislation on families and victims in an passenger vessel emergency ......................................................... 47
      8.1.2 The identification of victims during the exercise ........................................ 47
      8.1.3 Cooperation plans between SAR services and regular shipping services.... 47
      8.1.4 SAR plans for mass rescue operations ...................................................... 47
      8.1.5 Evacuation and intervention Team ............................................................. 48
      8.1.6 Healthcare at sea ........................................................................................ 48
      8.1.7 Streaming .................................................................................................. 49
   8.2 Technologies ......................................................................................................... 49
      8.2.1 Safescape technology .................................................................................. 49
      8.2.2 SAFETRX technology .............................................................................. 49
      8.2.3 SARMAP technology ............................................................................... 49
      8.2.4 NAVSAR .................................................................................................... 50
      8.2.5 WEB VIEWER technology ....................................................................... 50
8.2.6 Life raft recovery system ......................................................................................... 50
8.2.7 Recovery damaged vessel system ........................................................................... 50
8.2.8 Webpage facility ..................................................................................................... 50
8.2.9 MONALISA 2.0 MRO Training Courses ................................................................. 50

8.3 Operations ................................................................................................................ 51

8.3.1 Operations at Valencia MRCC and the National MRCC ......................................... 51
8.3.2 Operations Coordinated by the Director of Operations ........................................ 51
8.3.3 Operations on shore ............................................................................................. 52
8.3.4 Press ..................................................................................................................... 52
8.3.5 Logistic, administration and finance ....................................................................... 52

9 Conclusions .................................................................................................................. 52
# 1 Table of Acronyms

ACO: Air Co-coordinator  
AIS: Automatic Identification System  
AS: Abandon Station  
DSC: Digital Selective Call  
EPIRB: Emergency position-indicating radio beacon  
ERCC: Emergency Rescue Co-ordination Centre  
EMSA: European Maritime safety Agency  
EOC: Emergency Operations Centre  
ETO: Emergency Towing Operation  
FiFi: Fire fighting  
ICT: Information and Communications Technology  
LSA: Life Saving Appliance  
LNG: Liquefied Natural Gas  
LT: Local Time  
MCC: Mission Coo-ordination Centre  
ME: Major Event  
MOC: Maritime Operations Centre  
MRCC: Maritime Rescue Co-ordination Centre  
MRO: Mass Rescue Operation  
OSC: On Scene Commander  
OPS: Operations  
PLB: Personal Locator Beacon  
RCC: Rescue Coordination Centre  
SAR: Search and Rescue  
SASEMAR: Spanish Maritime Safety and Rescue Agency  
SIGO: Integrated Operations Management System  
SITREP: Situational Report  
SRU: Search and Rescue Unit  
VHF: Very High Frequency  
VTMIS: Vessel traffic Monitoring & Information Systems
2 Executive summary
The SAREX MONALISA 25-15 took place between the 14th and the 16th of June 2015. 50 organisations, and around 700 people, participated in the exercise and this deliverable aims at providing an analysis of the actions that were taken. It will also explain the objectives that were achieved, the logistics of the exercise and the lessons learned.
In summary, the report provides information regarding the timeline of the exercise, the operational areas and resources deployed, the showroom of innovation technologies tested, the exhibition, the event organisation and the final debriefing.
The exercise illustrates how training and preparedness can boost the efficiency with regards to MRO incidents. The exercise demonstrated the interoperability improvements among SAR services, passenger ship crew, VTMIS and Mission Control Centres staff and other relevant actors during a massive crisis scenario, supported by the use of several technologies integrated for the first time.

3 Purpose and scope
The purpose of the exercise was to stress test the ability of the different stakeholders to coordinate response actions, including: SAR services, the Navy, the Civil Guard, crew members and port staff.

Activity 4 of MONALISA 2.0 aims to increase the efficiency of operational safety with a particular focus on passenger ships. The activity proposed an integrated view on safety in a three pillars concept: in ports, the vessel and at sea. In this way the activity contributed to improve the management, coordination and interoperability of the safety management from land, on board ships and at sea.

This is necessary due to the fact that the number of calls of passenger ships in European waters has increased considerably in recent years. As a consequence it is more important than ever that the plans, procedures, equipment and staff at different organisations have to be ready in case of an MRO.

The Valencia Port, with an excess of 400,000 annual passenger visits, was the selected location for the MRO full-scale exercise. It also served as a large testbed to validate a number of operational safety innovations, by using technology and the training courses developed as a part of activity 4 during the life of the project. Technological innovations included the remote recovery of lifeboats, simulations on the recovery of damaged ships, the use of ICT information tools for the support on decision making processes based on risk analysis and accident history databases as well as six training courses.

As described in the deliverable D4.2.1 (Report on scenario definition for pilot maritime Search and Rescue Exercise) several small-scale exercises and a tabletop exercise
were carried out before the exercise to prepare for SAREX MONALISA. The tabletop exercise served as a first approach to organise the full-scale exercise. It set up the roles and responsibilities of the government agencies that participated in the large-scale exercise in a stress-free environment.

The full-scale SAREX-MONALISA exercise was divided into two consecutive parts:
- First part: Operations at Sea organised by SASEMAR
- Second part: Operation at ports organised by the Valencia Port Authority.

This report covers the conclusions and outcomes of the Maritime Operations carried out during the first part of the Exercise. The conclusions and outcomes from the operations in ports are covered in the deliverable D4.1.3 (Report on mass evacuation in ports).

The main functional mission areas in the first part of the exercise were Offshore Mass Rescue Operations MRO and Cruise Vessel Emergency Towing Operations ETO.

The functional areas of discussion were:
- Notification
- SAR units response: organisation and allocation
- Medical coordination
- Port coordination
- Technologies effectiveness
- Hosting to helicopter
- Damage control
- Fire fighting

The main objectives of the exercise achieved were:
- Demonstrate the capability to initiate public warning procedures at the EOC, including activation of the Emergency Alert System.
- Demonstrate the capability of the local EOC to coordinate the comprehensive response actions.
- Demonstrate the capability of management to conduct and coordinate an evacuation from a passenger ship.
- Demonstrate responsible organisation capability to identify shelters and mass care facilities for immediate use.
- Demonstrate the collection and dissemination of information to the public during emergency operations.
• Demonstrate the capability to conduct rapid situational assessment.
• Demonstrate the ability to identify immediate supplemental medical assistance to meet the health and medical needs of disaster victims.
• Demonstrate procedures for tracking assets and resources committed to response operations.
• Demonstrate the ability to prioritize and use jurisdictional resources and assets for maximum effectiveness during response operations.
• Determine the procedures for requesting assistance from higher levels of government.

4 Exercise structure and summary of findings

4.1 Exercise planning and support

The SAREX-MONALISA full-scale exercise was organised in three days, in order to understand each agency’s capabilities and concerns during a maritime mass rescue event from the point of view of the response at sea and on land competences.

<table>
<thead>
<tr>
<th>14th June: OPEN DAY AND EXERCISE INTRODUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00 - 17:00 Open Day Exhibition</td>
</tr>
<tr>
<td>19:00 - 21:00 SAREX-MONALISA Opening Ceremony</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>15th June: EXERCISE PERFORMANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 - 09:30 Offshore MRO SASEMAR</td>
</tr>
<tr>
<td>09:30 - 10:00 MRO from the ship — TRASMEDITERRÁNEA</td>
</tr>
<tr>
<td>10:00 - 10:30 MRO in ports — VALENCIA PORT AUTHORITY</td>
</tr>
<tr>
<td>10:30 - 10:50 MONALISA 2.0 — Activity 4. SASEMAR TRAING CENTRE</td>
</tr>
</tbody>
</table>

EXERCISE EXECUTION

11:00 – 14:00 First Part: Offshore Mass Operations Operations
14:00 – 17:00 Second Part: Operations in port

<table>
<thead>
<tr>
<th>16th June: CONCLUSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00 – 13:00 Final Debriefing and Conclusions</td>
</tr>
</tbody>
</table>

Figure 1- SAREX-MONALISA Event Program

According to the programme, in the first day, an open day activity was carried out where people from the city of Valencia were able to visit the maritime and air units of SASEMAR, as well as the port of Valencia. In the afternoon a welcome reception was organised to introduce the exercise to the institutions present in the exercise. The second day started at 9 am with several introduction presentations. First part of the exercise, covering the response at sea, took place from 11:00 to 14:00 and the second part of the exercise, covering the port operations, took place from 14:00 to 17:00.
The last day, a final debriefing among all the attendees was carried out to share experiences and lesson learned.

![Figure 2: exercise events map](image)

### 4.2 Hosting the SAREX-MONALISA Exercise

The exercise was held in Valenciaport Foundation on the 15th of June after some adjustments and problems faced in the Trasmediterranea Maritime Station. The first part of the exercise was guided and broadcasted in real time, in this way the attendants were able to watch a life broadcast of the offshore part of the exercise at Valencia Port Foundation Conference Room and through SASEMAR webpage. Two rooms were dedicated to simulate the coordination emergency centres and an exhibition room was set up to show as well the technologies and training courses to all attendants during the two days experience.
The exercise was developed as planned with the exceptions of the port activities as it was planned to be showed in situ from the terrace of the Trasmediterránea Maritime Station. As a consequence the streaming was not ready to show those actions, but the exercise was carried out anyway.

SASEMAR and Valencia Port authority were the main hosts of the exercise with the support of Valenciaport Foundation.

### 4.3 Attendees

The open day activity was organised for the Valencia community on the 14th of June at the Marina Real Juan Carlos from 10:00 to 17:00 pm. Citizens had the opportunity to go on board SASEMAR maritime and aerial units and receive information regarding SASEMAR and SAR activity in Spain.

<table>
<thead>
<tr>
<th>SAR Mesana</th>
<th>Rescue vessel ensuring the possibility of towing large ships and have operational capacity to assist in major disasters (fires, pollution, rescue ...). 39.7 meters in length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vessel Name</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SALVAMAR POLLUX</td>
<td>Speed boat, great manoeuvrability and shallow draft, suitable to act in circumstances where rapid response plays a vital role. 21 meters long, reaches speeds above 30 knots. Constructed from aluminium is suitable for rescue people, collecting survivors, tug vessels, collect dangerous objects for navigation, specialised personnel transport, etc. Such units involved in most emergencies handled by the maritime rescue service, thanks to its quick response and versatility, either directly resolving the emergency or to support other means of intervention.</td>
</tr>
<tr>
<td>Guardamar caolipe</td>
<td>Its design, with a hull and an aluminium structure, and performance make this unique boat in its class. It incorporates the most modern means in navigation, communications, media and search and rescue. Among its most important features is a length of 32 meters, a speed of 27 knots and a range of 1,000 miles.</td>
</tr>
<tr>
<td>CLARA CAMPOAMOR</td>
<td>Multipurpose vessel for search and rescue and marine pollution response operations. 80 meters long, 20,600 horsepower, 228 tons of towing and 1,750 m³ of oil recovery capacity. She can be used to assist and tug vessels, pollution combat operations and as a user support platform for maritime operations, she has dynamic positioning system, and</td>
</tr>
</tbody>
</table>

has a pulling power of 60 tons and autonomy at cruising speed, 6,000 miles.
<table>
<thead>
<tr>
<th><strong>Specifically authorized spaces and equipped for the work of divers auxiliary equipment, central communications, etc. Other elements such as seadark radar, night vision camera (FLIR), fire fighting equipment, and two different systems for collecting oil residues, plus the possibility of applying dispersants complete the endowment ensuring its viability and suitability to any type of emergency.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HELIMER</strong> Helicopter based in Valencia is one of 11 maritime rescue helicopters distributed throughout the Spanish coast. The Agusta Westland AW 139 is a twin-engine helicopter fundamental to act in the marine environment condition. With its five-blade rotor, it has a cruising speed of 306 km/hour, allowing you to quickly reach the area where the accident occurred. The aircraft crew consists of: a pilot, a co-pilot, rescuer and a crane operator. The helicopter is activated to respond quickly to emergencies that require immediate action such us survival or medical evacuations, where lives are in danger. Crews are based on 24 hours a day, which have been reduced response times.</td>
</tr>
<tr>
<td><strong>SASEMAR 101</strong> EADS-CASA 235-300, equipped with the latest technology. It is used to locate people, shipwrecks and ships at sea, detect spills in the marine environment and the tracking and identification of offending ships. The cn-235-300 maritime patrol missions carried out with a residence time up in the air of 9 hours, so it can intervene in operations with more than 3,706 km range and a range of 1,853 kilometres, with a speed of 437 kilometres per hour.</td>
</tr>
</tbody>
</table>
For The Maritime SAREX-MONALISA exercise, several scenarios were set up to the attendees depending on the roll they played in the exercise. More than 200 people visualized the exercise SAREX MONALISA 25-15 from the conference room and the crisis management room. Moreover the deployed in the different air and maritime units and operational centres went up to 100 and the people on board the passenger vessel actors who acted as the passengers in distress were around 400.

The attendees came from public and private entities. Countries as Greece, Sweden, France and UK were present. The Spanish organisations related with maritime and SAR operations attended and almost all participated actively. The press was also present in the exercise as in the communication chapter is explained. The participants represented all type of rolls as policy makers, coordinators, MONALISA 2.0 partners, public representatives, media, stakeholders and general public.
In total around 700 people participated in the exercise with different rolls. The roll of each person was showed through colours vest as follow:

The observers and visitors also included the many online viewers who followed the exercise via a live stream.

4.4 SAREX-MONALISA timeline

The following is a detailed description of how the large-scale rescue operations were developed during the offshore operational exercise part. The background information as well as the incidents where the integration of the technologies developed under MONALISA 2.0 were tested, appears in boxes, allowing to understand their aims and how they were met:

11:00 (Start)
Exercise starting: the vessel has a fire on the engine room and the ship was a drift. She is in transit from Palma de Mallorca to Valencia and the number of passengers and crew is unknown.

The captain of the JJ Sister contacts Valencia MRCC, through a digital selective calling, and reported the situation and requested fire fighting assistance.
11:05 (First notifications)
Valencia MRCC locates the cooperation plan between the shipping line and the Spanish Maritime Safety and Rescue Agency (SASEMAR) as international regulation required.

Valencia MRCC communicates with the ship-owner, and requests the passengers and crew list, cargo manifest and bunker manifest.

Valencia MRCC sends the relevant notifications in accordance with the established procedures, contacting with: the chief of Valencia MRCC, Valencia Harbour Master responsible of this area, the National MRCC and the CCE-GV (Centro de Coordinación de Emergencias de la Generalitat Valenciana) as the procedures required. The SAR SITREP situation reports sent to the recipients.

The J.J. Sister vessel from the Trasmediterranea Shipping Company is a passenger ship that operates regular routes. The ship was built in 1992 and has a length of 151.6 meters and a breadth of 26 meters. Her gross tonnage is of 22940 GT. The ship has a passenger capacity of 672 people and a capacity for 148 vehicles with 1,290 linear meters.
11.07 (Units mobilisation)

- Valencia MRCC mobilises the following maritime units: the rescue vessel SAR Mesana, the multipurpose vessel Clara Campoamor, Guardamar Calíope and the rapid intervention boat Salvamar Sabik.
- The Rescue Coordination Centre designates the vessel Clara Campoamor as OCS Coordinator on-scene.

The National Rescue Coordination Centre is located in Madrid; it supports the emergency management at national and international level. In that way, the notifications are sent to the agencies and national organisms, and to the MRCCs in neighbour countries close to the incident that can provide additional means and those countries with which cooperation agreements are signed, and EMSA (the European Maritime Safety Agency) through SafeSeaNet. The National MRCC also manages the maritime safety information during the emergency.

To facilitate the management of the operations during an emergency of this nature, which requires a great mobilization of maritime means, an OSC should be designated. Thus, the Clara Campoamor coordinates the maritime units mobilized in the place of the accident. Consequently, She relieves the MRCC from many communications that the unit manages directly

- Valencia MRCC mobilises the fire fighters from Generalitat de Valencia (Valencia local Government): 4 on board the Salvamar Sabik as intervention team and 2 on board the Helimer as evaluation team.

SIGO TECHNOLOGY
Valencia MRCC records all of the intervention data from the mobilised units and all of the occurrences of emergency in the SIGO system (Integrated Operations Management System) of SASEMAR.
11:10

- The Sabik Salvamar reaches J.J. Sister vessel and disembark the intervention team, who are fire fighters experienced in fire fighting and that have received the operational safety training courses developed under MONALISA 2.0 activity 4.

Figure 6. Intervention team disembarked

- SAR Mesana reaches the stricken vessel, the hull cooling process is started by using the FI-FI system
11:10 (Establishment of the Crisis Management Centre)

- The Harbour Master of Valencia reports to the General Director of the Merchant Marine on its decision to establish the Crisis Management Centre. He shall be the Director of the Emergency, responsible for both management and decision-making.

- The Director of the Emergency mobilises a Technical Advisory Committee, the Director of Operations, a press office, a safety officer, the linking officers, a chief planning officer, a chief management officer, a chief logistics officer and all of necessary cells for comprehensive crisis management. In the chart that I show you can see the organisation of the Directorate for the Emergency.
11:15 (First Briefing)

- The Director of the Emergency calls to all bodies mobilised at the first briefing. The Operations Coordinator reports about the evolution of the emergency to the Director of the Emergency, the Director of Operations, and the units and cells mobilised: vessel information (people on board, cargo, fuel), condition of the vessel, maritime units mobilised, fire fighters mobilised ...

- The primary objectives of the emergency are stated: Firefighting support, evaluation of the situation and the preparation if it is necessary to start the rescue operations:

- The communications plan is stated at the meeting: a list of all mobilised people and their phones, as well as the communication channels between the maritime units and their OCS and the air units and their ACO, and the OSC and ACO with the Valencia RCC.

- The Operations Coordinator reports to the Director of Operations the convenience of laying the unified command.
WEB VIEWER TECHNOLOGY
Geo-referenced data placed in a web viewer was available during the information briefing and planning meetings. The system displays the position of mobilised units along with the Automatic Identification System (AIS) to show the traffic scenario, featuring a global picture of the incident. This tool was considered essential for decision-making processes.

11:30 (UNIFIED COMMAND MEETING)

- The Operations Coordinator, in light of recent events, reports to the Director of Operations the convenience of laying the Unified Command. In this way the Director of the Emergency calls to the Unified Command as an extension of the Command and control system. It is comprised by representatives of those agencies, organisms, or departments with large interests at stake due to the impact of the emergency, or who have assigned operating units to be part of the operations. These organisations have sufficient authority and jurisdiction.

- At the Unified Command Meeting, the different organisms, including the Government Delegate, the Generalitat de Valencia, the Navy, the Civil Gendarmerie, the Customs Surveillance Service, the Air Force and the Red Cross, were involved in the decision-making, providing a comprehensive response using all of the resources available to the Director of the emergency.

11:30 (To abandon Ship)

- The J.J. Sister Captain ordered to abandon ship. The passengers and crew move to the boarding point. During the abandonment manoeuvre the lifeboats are
herded from their usual position outboard to the level of boarding. There, the passengers embark to then continue to put in water line these vessels.

**SAFESCAPE TECHNOLOGY**

In passenger abandonment operations in cruise vessels, the previous preparation and the attitude of people can be decisive. If passengers know the boarding points, the escape routes and to keep calm are decisive factors so that evacuation is carried out efficiently and safely. Hence the usefulness of an application as SafEscape, developed by the University of Oviedo, which allows in a playful way that passengers are familiar with the proceedings in such emergencies. Passengers can read, via mobile, QR codes distributed within the ship to know the evacuation routes.

**11:45**

- The Helimer disembarks the Valencia Council fire fighters in the J.J. Sister in order to evaluate the fire on the ship.
The captain reported the need for assistance of not ambulatory victims on the deck and calls for their evacuation.

The Valencia RCC continues mobilising air and sea units: two helicopters, one from SASEMAR, and other from the Air Force Search and Rescue Service; the SASEMAR aircraft is based in Valencia, the SASEMAR 101; rapid intervention boat Salvamar Pollux, the Alboran patrol from the Customs Surveillance Service, a ship from the Red Cross and a Civil Gendarmerie patrol boat are mobilised too.

The Valencia RCC also requests the mobilisation of a unit from the Spanish Navy through the National MRCC. The COVAM (the Navy Operations and Surveillance Centre of Maritime Action) reports that the patrol boat Cazadora is in the area, which is from now, under the command of the Director of Operations.
The Director of the Emergency calls to the bodies mobilised to the first planning meeting. At this meeting the operational plan is constructed, setting out the main lines of action in response operations, including:

- Sea and air resources mobilised and stand-by within the area that may be required during the emergency. The movement of planned means from other zones to be pre-positioned at the site of the accident, is also included. The functions assigned to the different units are also included.
- Search and rescue operations, including the allocated means, the OSC and ACO are activated, and the counting of people assisted.
- Fire fighting operations, including means for.
- It was decided that the SASEMAR 101 plan launches a datum marking buoy to simulate the drift of a person who may have suffered a fall into the sea.

NAV SAR TECHNOLOGY

During an emergency massive evacuation there are many media mobilised in a short period of time, to provide the maritime units with the NAVSAR technology is a substantial improvement in communications. This technology allows that, from the MRCC, the positions or search patterns are introduced in the navigation system of the maritime unit directly, avoiding communication errors and reducing response times. MRCC can also receive images and video in real time from the units.
It was decided to make a declaration of emergency, in order to expedite the process of recruitment of various facilities and services to ensure a rapid response to the emergency.

It was decided to activate the website available for its use in major emergencies to the involved organisations at national, regional and local levels, to have a single feed channel. The information that has been published through this source has been previously defined

WEBSITE
Web page design in order to have an official information site, ready to be activated in MRO with information from all the stakeholders.
The RCC reports the situation to the RCC Chief Officer, the Valencia Harbour Master, the MRCC, the CCE-GV (Emergency Coordination Centre of the Generalitat Valenciana) and the Port ECC (Emergency Control Centre). SAR SITREP situation report is sent to the relevant recipients.

12:00 (LIFE RAFT RESCUE OPERATIONS)

- Ten passengers were rescued by the Guardamar Calliope; ten by the Salvamar Pollux; five by the Red Cross boat; five by the Alborán patrol (from Customs Surveillance Service); five by the Civil Gendarmerie patrol boat and five by the Cazadora patrol boat from the Spanish Navy.
- Once the people have been rescued, Salvamar Pollux tows one of the life rafts.
- Helimer unit (Helicopter) performs the evacuation of the first non-ambulatory victims in J.J. Sister to move him/her to land.

SARMAP TECHNOLOGY
Optimisation of SARMAP simulation tool integrated into the SIGO for drifting objects, raft boats and persons in a MRO. At the Valencia MRCC the search patterns were calculated to locate three missing passengers, either by the input of wind and currents.
• According to the decision of the planning meeting, the SASEMAR 101 launches the datum marker buoy following the instructions of the Valencia RCC.

![Figure 10. SASEMAR 101 launching a datum making buoy](image)

• The Valencia RCC mobilises a vessel of opportunity monitored through the Safe Trx application.
12:10 (DISEMBARKING OF THE NON AMBULATORY VICTIMS)
The Helimer unit makes the disembarking of the rescued victim from the J.J. Sister in the area enabled on the port. There the victim is identified and attended by the health services and then, to be transferred to a hospital.

12:15
The Helicopter from the Air Force Search and Rescue Service performs the evacuation of non-ambulatory second victim, and is moved to the Clara Campoamor vessel. The SASEMAR 101 aircraft starts the work of searching for missing persons according to the instructions of ACO.

SAFETRX TECHNOLOGY
It is a tool that can be installed in smartphones to improve safety in recreational boating, especially oriented to vessels that do not have AIS installed. The user enters a navigation plan in the system, which is monitored by the MRCC. In case the user suffers a delay, the rescue services have a record of the path of the vessel and therefore can give a more rapid and effective response. This application also offers to the users, the possibility to report any incident to SASEMAR. During the SAREX-MONALISA, the MRCC could locate craft routes in course in the area of the incident, through the operator dashboard. Thus, the MRCC communicated with the close users and their boats to become vessels of opportunity in rescue operations.

Figure 11. Air Force Search and Rescue Helicopter
12:30 LNG INCIDENT

- While all rescue operations are being performed, Valencia RCC is notified about a leak of LNG in the port of Valencia from a tanker that has suffered a fire after colliding with another vehicle while waiting to give supply to another vessel. The Port of Valencia PAU (Self-Protection Plan) is activated and a team of fire fighters is mobilised.

- The J.J. Sister Captain reports to the Valencia RCC that the fire is controlled. The assessment and intervention team of Valencia Council fire fighters confirm and report that the vessel must be prepared for its abandonment.

- The Maritime Units with rescued people on board begin to reach port. Disembarking and the identification procedures start and are performed by the State Security Forces and Corps, and the attention from health services begins.

- 10 people rescued from the Guardamar Caliope, 10 from the Salvamar Pollux, 5 from the Red Cross vessel, 5 from the Alboran patrol of the Customs Surveillance Service, 5 from the Civil Gendarmerie patrol and 5 from the Cazadora patrol of the Spanish Navy are disembarked.

- State Security Forces and Corps verify those identified in the list provided by the shipping company, and inform about the situation to the Crisis Management Centre.

12:45 (TOWING OPERATIONS)

Following the orders of the Operations Coordinator and in accordance with the decisions taken by the 2nd Planning Meeting, the towing operations are started. SAR Mesana makes the train towing firm. The J.J. Sister is towed to the Port of Valencia.

13:00

The SASEMAR 101 aircraft locates the missing persons at sea and the Salvamar Sabik rescues them.

14:00

The ship is moored in Valencia. Operations managed by the CECOPI (Integrated Operational Coordination Centre from the External Emergency Plan of the Port of Valencia) start, they are referred to the counting of disembarked people, their identification, the health and psychological assistance, the transfer to a safe place, etc.
14:30
At 14:30 the vessel abandonment starts through the gateway and stern gate, enabled to facilitate disembarking operations. The staff is attended by the health services; and identified by the State Security Force and the port exercise continues.
## 5 SAREX-MONALISA deployment

Technologies:

<table>
<thead>
<tr>
<th>NAME TECHNOLOGY</th>
<th>TESTED IN</th>
</tr>
</thead>
<tbody>
<tr>
<td>ON BOARD LIFE-RAFTS RECOVERY SYSTEM OLRS</td>
<td>Jovellanos</td>
</tr>
<tr>
<td>ICT TOOLS TO SUPPORT BRIDGE OPERATIONS AND USE OF THE DYNAMIC PREDICTOR TESTED</td>
<td>Local hardware (remote)</td>
</tr>
<tr>
<td>SIMULATIONS ON MANOEUVRING/RECOVERING OF DAMAGED SHIPS</td>
<td>SAR unit Sar Mesana</td>
</tr>
<tr>
<td>INTEGRATED WEB VIEWER OF PORT AND RCC SYSTEMS.</td>
<td>Exhibition room</td>
</tr>
<tr>
<td>RISK ASSESSMENT GUIDELINES</td>
<td>Exhibition room</td>
</tr>
<tr>
<td>SAFETRX</td>
<td>Red Cross units</td>
</tr>
<tr>
<td>SIGO</td>
<td>All SASEMAR units</td>
</tr>
<tr>
<td>NAVSAR</td>
<td>All SASEMAR units</td>
</tr>
<tr>
<td>WEB-PAGE</td>
<td>SASEMAR webpage</td>
</tr>
<tr>
<td>WEB VIEWER ESRI</td>
<td>Crisis Room and MRCC</td>
</tr>
<tr>
<td>SARMAP</td>
<td>MRCC and SAR Units</td>
</tr>
<tr>
<td>SAFEESCAPE</td>
<td>Ro Pax vessel</td>
</tr>
<tr>
<td>TRAINING</td>
<td>Intervention teams</td>
</tr>
</tbody>
</table>

The testbed of the technologies were carried out by the activity 4 partners during the whole exercise. While some technologies could not be tested during the exercise, most of them were exhibited in the show room with the aim that the attendants may know about them. For that purpose videos, roll-ups, and life simulations from the different technologies were available.
5.1 Deployed Units:

<table>
<thead>
<tr>
<th>Participants UNITS</th>
<th>AIM</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRASMEDITERRANEAFERRY JJ SISTER</td>
<td>CASUALTY VESSEL</td>
</tr>
<tr>
<td>SASEMAR HELICOPTER HELIMER 200</td>
<td>RESCUE OPERATIONS AND TRANSFER OF THE FIRE FIGHTING MRO TEAM</td>
</tr>
<tr>
<td>SASEMAR 101 AIRCRAFT</td>
<td>SEARCH OPERATIONS</td>
</tr>
<tr>
<td>SASEMAR CLARA CAMPOAMOR</td>
<td>ON SCENE COMMANDER OSC</td>
</tr>
<tr>
<td>SASEMAR-SAR MESANA</td>
<td>LIFEBOATS RESCUE OPERATIONS, FIRE INTERVENTION TEAM TRANSFER, FIRE FIGHTING AND TUG</td>
</tr>
<tr>
<td>SASEMAR-PATROL BOAT CALIOPE</td>
<td>LIFEBOATS RESCUE OPERATIONS, FIRE INTERVENTION TEAM TRANSFER, FIRE FIGHTING AND TUG</td>
</tr>
<tr>
<td>SASEMAR AST RESCUE BOAT ES SALVAMAR POLLUX</td>
<td>LIFEBOATS RESCUE OPERATIONS, FIRE INTERVENTION TEAM TRANSFER, FIRE FIGHTING AND TUG</td>
</tr>
<tr>
<td>SPANISH AIR FORCE: HELICOPTER SAR</td>
<td>RESCUE OPERATIONS</td>
</tr>
<tr>
<td>SPANISH NAVY: PATROL BOAT</td>
<td>RESCUE OPERATIONS</td>
</tr>
<tr>
<td>Entities</td>
<td>Role</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Valencia Harbour Master</td>
<td>Director</td>
</tr>
<tr>
<td>Harbour Master Office</td>
<td>Technical Advisory Committee</td>
</tr>
<tr>
<td>Spanish Directorate Merchant Marine</td>
<td>Technical Advisory Committee</td>
</tr>
<tr>
<td>Sasemar</td>
<td>Technical Advisory Committee</td>
</tr>
<tr>
<td>Valencia Government Delegation</td>
<td>Unified Command</td>
</tr>
<tr>
<td>Spanish Navy</td>
<td>Unified Command</td>
</tr>
<tr>
<td>Spanish Customs</td>
<td>Unified Command</td>
</tr>
<tr>
<td>National Police</td>
<td>Unified Command</td>
</tr>
<tr>
<td>Civil Guard</td>
<td>Unified Command</td>
</tr>
<tr>
<td>Valencia Emergency 112</td>
<td>Unified Command</td>
</tr>
</tbody>
</table>

### 5.2 Entities involved in the Exercise:

The following table presents the entities that participated actively, with the SIMULATOR'S role, in the Exercise.
6 The streaming experience:
SASEMAR decided to use the streaming as a tool to show the activities at sea and at land together with the testbed of activity 4 technologies and the decision-making on the crisis management room.
In order to achieve this objective several scenarios were defined:

- Valencia Port Foundation facilities: in this building most of the attendance, partners and press were situated during the exercise. The visitors were able to go through all the rooms depending on their own interest.
  - Conference room: a video wall of 2 x 6m² was installed to display and follow all the activities and the storyline of the situation. José Manuel Diaz, Training Manager of SASEMAR’s Training Centre and leader of Activity 4 in MONALISA 2.0 Project, was conducting the events narration through the different actions of the exercise. He was also explaining the technologies and the activities involved and developed during the project. It was also installed a fix camera in the conference room to record the intervention of the speakers and the different program situations during the day.
  - Crisis Room: in this room the main organisation involved in the exercise were settled. A 46’ screen was installed connected to the one in the conference room but without sound. Moreover, a camera was recording the meetings and the principal interventions.
  - Exhibition room: the technologies were displayed in this room to show to all the attendants their functionalities, performance and innovation details. The same camera as the one in the crisis room was used to record the events happening.

- Trasmediterranea Maritime Station: the disembarkation of the passengers was carried out there. Next to the quay, the emergency units, fire fighters, civil protection, 112, national policemen as other agents in place were deployed to receive the passengers. The images were collected with a camera and used
them for post video production, as some technical problems didn’t allow the connection for life streaming as during the SAR experience.

- Maritime area (3 miles from shore): this was the main spot of the exercise. The cameras were installed in:
  - Juan J Sister passenger vessel: Juan J Sister passenger vessel: a camera was on board to broadcast life what was always happening. One of the two passengers that were evacuated by helicopter took a Go-Pro camera to record their evacuation. Additionally, a fire fighter, who was embarked to assess the situation, carried a Go-Pro camera.
  - Clara Campoamor: a camera was on board. This vessel had less active participation so it was possible to place it in strategic positions.
  - R/S Sar Mesana: the tugboat was provided with a camera to record the towing operations.
  - Caliope: also with a camera on board. One of the survivors had a go pro camera to record the life raft recovery operations.
  - HS Helimer 204: the rescuer was provided with a Go-pro camera to record the exercise from the air as well as their intervention evacuating passengers.
  - AS SASEMAR 101: the launch of the buoy to simulate the drift of a passenger was recorded with a camera on board the aircraft.

The communication among units was a difficult task. More than 7 kilometres of distance, containers, cranes, buildings and even a big wheel were in the vision line between the maritime area and the Valencia Port foundation. It was necessary to install an antenna half way. The testing was carried out on the 4th of June. The rest of the antennas were installed on board the units the day before the exercise.

During the exercise, the images were recorded according to plan, and the webpage of SASEMAR was reproducing the exercise for those who could not be able to attend it. The attendees gave a very positive valuation to this new format to receive notifications and news from an event like this.

The following link shows a summary of the activities carried out during the exercise:

http://www.salvamentomaritimo.es/sm/multimedia/MONALISA-SAREX-2515/?id=14780
Figure 15: Testing the antennas on the 4th of June in the Marina Rey Juan Carlos

Figure 16: Video wall and mobile production unit

Figure 17: Streaming team
7 Communication:

The communication actions developed in order to disseminate the MONALISA 2.0 SAREX Exercise that took place in Valencia from 14th to 16th June can be classified according to a timeline criteria.

Different communication actions were taken on the days before the exercise, during its development and after the activity.

7.1 Before the exercise

- As mentioned on the Purpose and scope section, a tabletop exercise was carried out before the SAREX MONALISA in order to set up its bases. At that time a press release explaining the activity was sent and a piece of news was published on SASEMAR website.

- MRO exercise press call
  A press call was sent to both local and maritime specialised media. Due to the fact that the full scale SAREX-MONALISA exercise was divided into two parts, Operations at Sea organised by SASEMAR and Operation at ports organised by Valencia Port Authority, this document along with the press release were elaborated in cooperation with Valencia Port Authority and sent as single documents, because we wanted to send a clear message to the media.

- Social networks
  Twitter
  The exercise was promoted on SASEMAR Twitter account.

- Dark webpage for emergencies (as mentioned on page 23)
  In case of a crisis response such as a MRO related to a large passenger ship the workload would be huge not only for the operational SAR staff, but also for the press and public relations department.
  As there would be no time to construct a new site from scratch it is very useful to have this kind of predesigned web that can be made public whenever we need.
  Before the exercise we prepared general contents for this website such as pictures and technical characteristics of the units that were going to take place on the exercise.
• Open day

An open day of Assumer’s units was held in Valencia on 13 October within the framework of the SAREX MONALISA 2.0 MRO exercise.

Both a specific press call and press release were sent, relating the activity with the exercise that would take place the day after.

7.2 During the exercise

Throughout the exercise two communication officers from SASEMAR press office where working at the Crisis Management Centre – integrated into the Technical Advisory Committee.

Tasks accomplished were the following:

- Getting up to date information about the emergency and actions from the director of the emergency.
- Writing a mock press release during the exercise based on the abovementioned facts gathered.
- Publishing the press release and some pictures on the emergency website that had been activated.
- Answering to mock telephone calls made by volunteers who impersonated journalists.

A third press officer from SASEMAR press department was dealing with real journalists outside the Crisis room.

As a result of the press call sent to the media more than a dozen journalists from TV, radios and newspapers got interested and came to Valenciaport Foundation premises to cover the event.

The designated spokesperson –the director of the emergency- was the one who made a statement to the press.

Interview requests in order to inform about the exercise, both face-to face and over the telephone, were met.

A real press release was sent to local and specialised media.
We got pictures from the operations at sea sent to the press department by different collaborators. Those pictures were published on Twitter as well as send to the media.

As soon as the operations were finished, a video with a summary of the exercise was distributed among the main TV channels.

![Figure 18: The director of the emergency and designated spokesperson, talking to the media](image)

- Social networks
  - Twitter

Providing information via Twitter was an important action, due to the fact that nowadays communication through social networks is a fast a direct way to inform about emergencies.

With more than 25,000 followers, SASEMAR Twitter account is a suitable tool to access not only media but also the general public.

A narration of the most important actions of the SAREX MONALISA MRO exercise was published through SASEMAR Twitter account in real time.

Tweet by tweet we described the main events and actions taken throughout the exercise as if we were involved in a real emergency situation.
The specific hashtag, #SIMULACRO_SAREX, was created in order to have all the information unified and to avoid misunderstandings and make clear this was not a real emergency but a drill.

Interaction with other Twitter accounts such as: @MONALISA2_0, @CruzRoja (Red Cross) and @fomentogob (Ministry of Transport and Public Works) was planned in advance and accomplished the day of the exercise.

Live broadcast of the exercise via streaming (hosted on SASEMAR website) was announced via Twitter.

The broadcasting was followed live from 22 different countries, Finland and Australia among them.
Facebook

An album containing pictures of the SAREX MONALISA exercise highlights and a summary was published on SASEMAR Facebook page.
7.3 After the exercise

- Exercise videos showing the streaming broadcasting are permanently available through SASEMAR website and were promoted through reminders on Social Networks. (Twitter, Facebook and YouTube).

- During the first weeks after the event the images were viewed from more than 40 different countries.
A new video of the exercise highlights was published on SASEMAR website and social networks. Its impact on Facebook was remarkable since this content reached more than 18,000 people.
Articles written and published in specialised magazine *Marina Civil, number 114*:
-SAREX-MONALISA exercise held in Valencia.
-First Massive Rescue Course held in Spain in Jovellanos Centre under the MONALISA 2.0 umbrella.
7.4 Media impact monitoring

We followed the impact achieved on media. There have been articles written on different Spanish local and specialised media as well as various reports on the national TV channel, TVE, and a local TV. See below a list of the news gathered.

**TV**

TELEVISIÓN ESPAÑOLA (SPANISH NATIONAL TV)
5 reports broadcasted in different programs.

TV MEDITERRANEO (Local TV). One report.

**PRESS**

LEVANTE

MARITIME CLUSTER WEB
http://www.clustermaritimo.es/blog/web/2015/06/15/salvamento-maritimo-y-autoridad-portuaria-de-valencia-realizan-un-ejercicio-de-evacuacion-masiva-de-un-buque-de-pasaje-con-incendio-a-bordo-15-junio-de-2015/

ASELF
http://aself.org/ejercicio-de-rescate-de-un-buque-de-pasaje/

LA VANGUARDIA – (BARCELONA NEWSPAPER)

ROTACIÓN
http://rotacionhoy.es/english/node/2495

DIARIO DEL PUERTO- (VALENCIA)

SAFETRX NEWS ABOUT INNOVATION AND SAREX- MONALISA
http://www.safetxapp.com/news

LAS PROVINCIAS
8 Lessons learned: debriefing and recommendations

The debriefing was chaired by:

- Felipe Cano- Harbour Master (Director of the Emergency)
- Víctor Jiménez- Deputy Director of Safety, Inspection and Marine Pollution. Deputy Director of the General Merchant. (Representing the Technical Advisory Committe)
- Joaquín Maceiras- SASEMAR Operations Director- (Directors Operations)
- Antonio Padial- Valencia MRCC Chief (Operations Coordinator)
- José Manuel Díaz- SASEMAR Training Manager (MONALISA 2.0 Activity 4 Leader and the host of the live stream exercise)
- Alejandro Busto- Chief of the National MRCC (Organiser of the SAREX-MONALISA Exercise and Facilitator of the Difrefing)

The debriefing was moderated by Alejandro Busto, Chief of the National MRCC and in charge of the organisation of the SAREX MONALISA EXERCISE. The debriefing had simultaneous translator and to was opened to all the attendees. It was divided in three parts:

- General topics
- MONALISA technologies
- Operations
8.1 General topics:

8.1.1 Development of national legislation on families and victims in an passenger vessel emergency.

The General Merchant Directorate and SASEMAR proposed the development of a similar legislation as in the aviation and railway sector regarding the attention to families and victims in an emergency.

Víctor Jiménez (Deputy Director of the General Merchant) explained that it is a complex projects and that the scope of it has to be defined.

8.1.2 The identification of victims during the exercise

Although the information flow between the shipping line and SASEMAR was fluent, Javier García, Chief of Castellon MRCC and Liaison Officer, who was on board the passenger vessel, claimed that the disembark in port confronted several difficulties in terms of counting and identifying the passengers. One alternative suggested by Joaquín Maceiras, SASEMAR Operations Director, is to use information systems as in aviation.

Víctor Jiménez (Deputy Director of the General Merchant) commented that according to the law (Real Decreto 665/1999, de 22 de abril), shipping lines are obliged to have a passengers list but not in an informatics system.

8.1.3 Cooperation plans between SAR services and regular shipping services

The role of the company in mass rescue operations on a large scale is of great importance and their relationship with the rescue services. This is addressed in the Cooperation Plans between SAR services and shipping companies; although they currently are insufficient and need to go further. They should be updated and detailing, among other things, to exchange information at the beginning of the emergency.

8.1.4 SAR plans for mass rescue operations

The unified command, that integrates all the organisations with means and interests in the emergency, is needed for the emergency management. It clarifies that this command does not have a head as it is under the Director of the Maritime Emergency

Felipe Cano, Valencia Harbour Master and Director of the Emergency suggested the need to formalise the commander structure on a SAR plan for the management of the operations. In Spain, that plan exists for the pollution incidents but not for this type of incidents. Therefore it would not have been necessary to clarify that the Unified Commander englobe all the stakeholders in an emergency and it is under the scope of the Director of the Emergency as it happened. This time, under Unified Commander, the Regional Government from Valencia was missing. Therefore it was stressed the need to formalised in detail the organisational structure for Large Scale Operations.
Moreover it was detected an incompatibility between the coastal and port emergency plan. The maritime emergency director should be present at the CECOPAL and at the maritime crisis room at the same time. Therefore the solution was to delegate in another person his responsibilities.

Víctor Jiménez (Deputy Director of the General Merchant) considered a good start up to take into account what is established in the pollution emergency plans and revert it to search and rescue operations with an especial attention to passengers ships.

Another inputs from the exercise was the clarification from Fernando Gimeno Valencia port Safety Manager, that the port emergency plan can be activated since the vessel is going towards the port with the intention of disembarking passengers. Moreover every port has a clear view and procedures concerning this type of emergencies.

Alejandro Busto, National MRCC Chief, remarked the need of improvement in the coordination of land and sea for mass and rescue operations.

8.1.5 Evacuation and intervention Team

José Manuel Díaz, SASEMAR Training Manager at Jovellanos Centre, revised the MONALISA 2.0 training courses such as the one in fire fighting, SAR actions from helicopters and maritime units that staff as the Valencia and Sagunto fire fighters went through before the exercise.

Tomás Asensio, fire fighters manager, praised the training courses and the exercise as a fantastic way to put in practice the courses, but also to visualize improvements in the operations as the communication between the maritime SAR centres and the regional government emergency centre. It was detected also that the time to respond was longer than usual as the helicopter had to wait for the fire fighters.

Alejandro Busto, National MRCC Chief, stressed that there is a lack of qualified fire fighters in SAR operations. Therefore José Manuel Díaz, introduced the possibility to continue this type of training following the model of Maritime Incident Response Group (MIRG).

Oliver Rodríguez, INAER helicopter manager, remembered that the external staff embarked in an air unit must have licenses according to the RD 750/2014. Something that José Manuel Díaz, Jovellanos training manager took into account during the development of the MONALISA 2.0 training courses.

8.1.6 Healthcare at sea

Javier Valencia, Barcelona Harbour Master, suggested a previous healthcare before the evacuation with a doctor and two extras staff on board.

Veronique Magnin, Maritime Prefecture of the Mediterranean, commented that through the CECIS is possible to request three doctors to attend the casualty as it is foreseen in international SAR plan.
Alejandro Busto, National MRCC Chief, explained that although the possibility to activate the plan was considered finally was not necessary. Nevertheless he considers crucial the healthcare on board.

8.1.7 Streaming

Ulf Siwe, MONALISA 2.0 communication officer, stressed the opportunity that the cameras on board air and sea units opened to the observer in order to follow the exercise. The possibility to follow the exercise, via live streaming, with the explanations of the evolution of the operations and the applications of various technologies has been very much appreciated for the visitors and online observers. Mr. Siwe highlighted this fact and said that all people who have witnessed the exercise have learned lessons.

8.2 Technologies

8.2.1 Safescape technology

José Manuel Díaz, SASEMAR training manager at Jovellanos Centre and MONALISA 2.0 Activity 4 Leader, explained the tool Safescape, an intelligent game for passenger to learn emergency actions. The passenger through a SQR code gets oriented in the vessel.

During the exercise it was organised to measure the difference in time of evacuation from those who used Safescape in advance from those than not. A last minute problem in the organisation diminished the scope of test. Susana Pascual from Oviedo University commented that unfortunately the number of volunteers is not enough to write a scientific article or make concise conclusions.

8.2.2 SAFETRX technology

Antonio Padial, Valencia MRCC Chief and SAREX-MONALISA Operations Coordinator, explained the success of this tool during the exercise. A unit from Red Cross registered its voyage as a leisure vessel in the SAFETRX application. At the time of the incident, Valencia MRCC was able to mobilise her immediately due to its close position to the incident.

John Murphy, manager of SAFETRX Company, explained that SASEMAR is assigning the inputs from users. This tool has been used in Netherlands for a real rescue operation.

8.2.3 SARMAP technology

According to Antonio Padial, two operators used the SARMAP technology in the crisis centre to calculate the adrift of life raft, objects and persons. Antonio Morlá, one of the SARMAP MRCC operators commented that the differences between the simulated adrift and the one from the buoy, which was previously thrown from the airplane was minimum. Clearly, the use of SARMAP, having introduced high quality wind and currents data, is key in rescue operations on a large scale.
8.2.4 NAVSAR
During the exercise, the navigation and communication system NAVSAR 12 was tested in the maritime units SAR Mesana, Clara Campoamor, Salvamar Pollux and Guardamar Calliope. The system allows the dynamic management of the mobilised units. In this way, maritime units received directly the search patterns from the Land Centre. The Valencia MRCC Chief, Antonio Padial remarked that it is an extremely helpful tool that has to be tested a bit more to adapt it to Coast Guard needs.

8.2.5 WEB VIEWER technology
It was very positive the valuation of the Web Viewer as a tool to integrate the information in a georeferenced way for the SAR units. This tool boosts the capability and efficiency in the planning of SAR operations. One of the advantages during the exercise was the possibility to include the search patterns in the tool.

8.2.6 Life raft recovery system
Francisco J. Ruppen, from Industrias FERRI, mentioned that although the lifeboat recovery system could not be tested during the exercise; it was tested in Jovellanos centre where the sea conditions were simulated, satisfactory.

8.2.7 Recovery damaged vessel system
Daniel Sá López, COMPASS Ingeniería y Sistemas S.A, explained the recovery damaged vessel system, which makes it possible to simulate the best options to tug the vessel safely. It is necessary to introduce the real meteorological and hydrographic conditions together with the data from both vessels. The system was tested the day after the exercise due to technical problems during the exercise. Alejandro Busto, National MRCC Chief, remarked that there is a huge interest in this tool as the tug operations are very complex and depends all on the know-how of the operator due to the lack of tools to calculate the operations.

8.2.8 Webpage facility
This webpage was created to allocate in a unified place all the information from the different organisms that participate in the emergency. The tool was able in only one hour to share all the necessary information of the emergency specially the one for telephone calls to the families, according to Mónica Mulero from SASEMAR. This tool was created by SASEMAR in order to make it public when an emergency happens.

8.2.9 MONALISA 2.0 MRO Training Courses
Jose Manuel Diaz, SASEMAR Training Manager at Jovellanos, noted that in the framework of activity 4.6 of the MONALISA 2.0 Project, six courses were developed, five of which have been given so far. Carlos Fernández Salinas Trainer at Jovellanos Centre, said that, regarding the course of MRO, the
content was a practical approach and included a website to meet the demand for information.

8.3 Operations

8.3.1 Operations at Valencia MRCC and the National MRCC

Valencia MRCC verified the distress information and sent the first notifications, the SAR tasks were done and the centre activated the specific procedures.

It was confirmed that the Valencia MRCC established a communication system with the shipping line and the unified commander.

Antonio Padial, Chief of Valencia MRCC and Operations Coordinator of the maritime operations during the exercise, reflected that the managers should have an emergency phone line in order to guarantee the transmission of instructions and commands. It is necessary as well to strength the centre with extra staff that can attend the calls, help in the search and rescue operations and take registration of all the information that can be use later in claims.

Julián Camus, Chief of Santander MRCC who participated in the Crisis Centre, requested if confirmation of the communication with the SafeSeanet system was done. Alejandro Busto, National MRCC Chief, confirmed that the notification was made from the National MRCC, as it was supporting the Valencia MRCC during the operations.

It was confirmed that the Valencia MRCC had the SAR agreement with the passenger vessel. Nevertheless the emergency contact of the JJ Sister was not updated and the information was not received in a first place.

In general, it was verified that all the operation objectives were accomplished.

8.3.2 Operations Coordinated by the Director of Operations

The communication among all the organisms involved in the exercise worked perfectly. Antonio Morlá, SARMAP operator, mentioned that some of the organisms were not aware of the conventional system that SASEMAR used as SITREP or search patterns. Alejandro Busto, National MRCC Chief, mentioned that at national level, there is coordination with Civil Guard, the Army, the Red Cross among others, to establish a common work flow.

It was verified that the communication with the private shipping line was successful.

It was verified the need to establish a safety officer to identify the operational risks of the responds units. His roll is essential especially during specific risk operations as the one when the fire fighters got on board.
Mónica Mulero, from SASEMAR Technical Secretariat, pointed out the importance of sharing documentation during the operations. She proposed to look for new common systems among the organisms involved.

It was observed that the response time of some units were not as usual. That was due to the fact of the “artificiality character” of the exercise, in the sense of bringing together different operations in a short period of time. Some units started the operation before being activated.

In general, it was verified that all the objectives of the coordination from the OSC and the Operations Centre were accomplished.

8.3.3 Operations on shore

It was verified that shipping company counted the passengers but there were not identified. This action should be done by the Ministry of Home Affairs. It a lesson learned from previous accidents that this information arrives late. The Port Safety commander of the national police explained that the first step is to attend the victims with psychologists to process afterwards to the identification. The national police gather the passengers to place them later in a reception centre.

The State Security Forces are the ones in charge of investigate of any criminal evidence on the vessel.

Rosa Mencía, manager of the Valencia regional emergency and healthcare service, remembered that the triage is the first thing to be done in land. The classification is essential before the identification.

8.3.4 Press

Eugenia Sillero, SASEMAR Technical Secretary and MONALISA 2.0 Activity 4 Leader, explained that the press resources should be according to the dimension of the incident. In future exercises, we should make sure tasks are completely separated. There should be enough staff in order to be participating in the exercise simulating the press officers who are dealing with the fake calls from media, while others would be only attending the real journalists who are covering the exercise itself.

8.3.5 Logistic, administration and finance

In general, it was verified that all the targets set in connection with logistics; administration and finance needed for the management of emergency and by the responsible bodies were met.

9 Conclusions

When a mass operation at sea is required, many organisations are involved with the aim to make the best decisions efficiently and in time in order to reduce or minimise the loss of lives and damage to the ship and the environment. The roles and responsibilities must be well identified for this kind of incident management. A mass rescue operation (MRO) at sea is complex and requires that a large number of agencies cooperate.
During this sub-activity, that was concluded with the successful SAREX 25-15 exercise, the huge efforts since the tabletop and small-scale exercises made it possible to demonstrate the capabilities to respond and attend to victims, vessels and the rest of stakeholders.

The SAREX 25-15 exercise demonstrated the usefulness and need of a modern and up to date information and communication systems. SASEMAR has tested some own technologies to improve the effectiveness and efficiency regarding the operations and procedures. The information exchange among the MRCCs (local and national), the units and the crisis management rooms was achieved in real time. In this case all the agencies and bodies involved in the simulated accident could access the same view and work based on the information of what the situation required. The inputs from the other technologies provided by the partners of the MONALISA 2.0 project also demonstrated that that many tools make it possible to understand, plan and respond emergencies properly.

The communication processes, with the external community and victims, were also demonstrated. A real time web based information service was successfully tested. This website reduced the workload of the crisis attention channels and emergency call centres. At an international level, official news and communications made possible to follow up the incident progress. In the future, this channel could be improved and maintained and be activated in case of a real accident.

The SAREX-MONALISA Exercise was a challenge from a communication and media relation’s point of view and an opportunity to simulate the role of the press department during a MRO situation. Through this exercise we could test different actions such us: use of different communication channels such us social media to provide real time information and audio-visual material, cooperation and coordination with the different organisations’ press departments involved in the response to the emergency, and the experience of live broadcasting of an event.

The cooperation and coordination with the Port Authority of Valencia, the shipping company and the rest of maritime safety organisations like SASEMAR and the General Directorate for the Merchant Marine were crucial in order to involve other agencies like the Spanish Navy, the Civil Guard and the regional Health and Emergency attention bodies. The human and material resources that were deployed demonstrated the reaction and response capacity when a mass crisis at sea happens. These kinds of projects and experiences provide valuable results to improve and enhance its internal and external procedures according to the new demands of the sector: bigger ships moving huge amounts of passengers or cargo, more traffic at sea, unexpected weather and sea conditions changes, etc.
39 partners from 10 countries
taking maritime transport into the digital age

By designing and demonstrating innovative use of ICT solutions
MONALISA 2.0 will provide the route to improved

SAFETY - ENVIRONMENT - EFFICIENCY

Swedish Maritime Administration • LFV - Air Navigation Services of Sweden • SSPA • Viktoria Swedish ICT • Transas • Carmenta • Chalmers University of Technology • World Maritime University • The Swedish Meteorological and Hydrological Institute • Danish Maritime Authority • Danish Meteorological Institute • GateHouse • Navicon • Novia University of Applied Sciences • DLR • Fraunhofer • Jeppesen • Rheinmetall • Carnival Corp. • Italian Ministry of Transport • RINA Services • D’Appolonia • Port of Livorno • IB SRL • Martec SPA • Ergoproject • University of Genua • VEMARS • SASEMAR • Ferri Industries • Valencia Port Authority • Valencia Port Foundation • CIMNE • Corporacion Maritima • Technical University of Madrid • University of Catalonia • Technical University of Athens • MARSEC-XL • Norwegian Coastal Administration

www.MONALISApject.eu

Co-financed by the European Union
Trans-European Transport Network (TEN-T)