Barcelona Midterm Conference 4-5 November 2014

MONA LISA 2.0 SECURING THE CHAIN BY INTELLIGENCE AT SEA

Jose Manuel Díaz - SASEMAR
Activity 4 – Operational Safety

EU STRATEGY FOR THE BALTIC SEA REGION FLAGSHIP

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How Operational Safety changes the world

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Innovation technology + Qualified staff = Improved: Accident/Incident response & Crisis Management

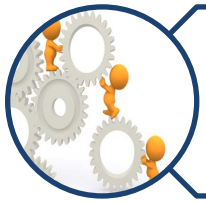
Safety:

Interoperability among SAR services, port emergency control centres, passenger ships, ports, VTMIS and Mission Control Centres

Focused on Large Passenger vessels

Environment:

deployment of **training programmes-LNG**



Efficiency:

use **pre-identifying risks** and **analysing of the behaviour**

Recovery of damaged vessels

on-board life rafts re-covery systems (**OLRS**)

dynamic predictor

by the European Union

Transport Network (TEN-T)

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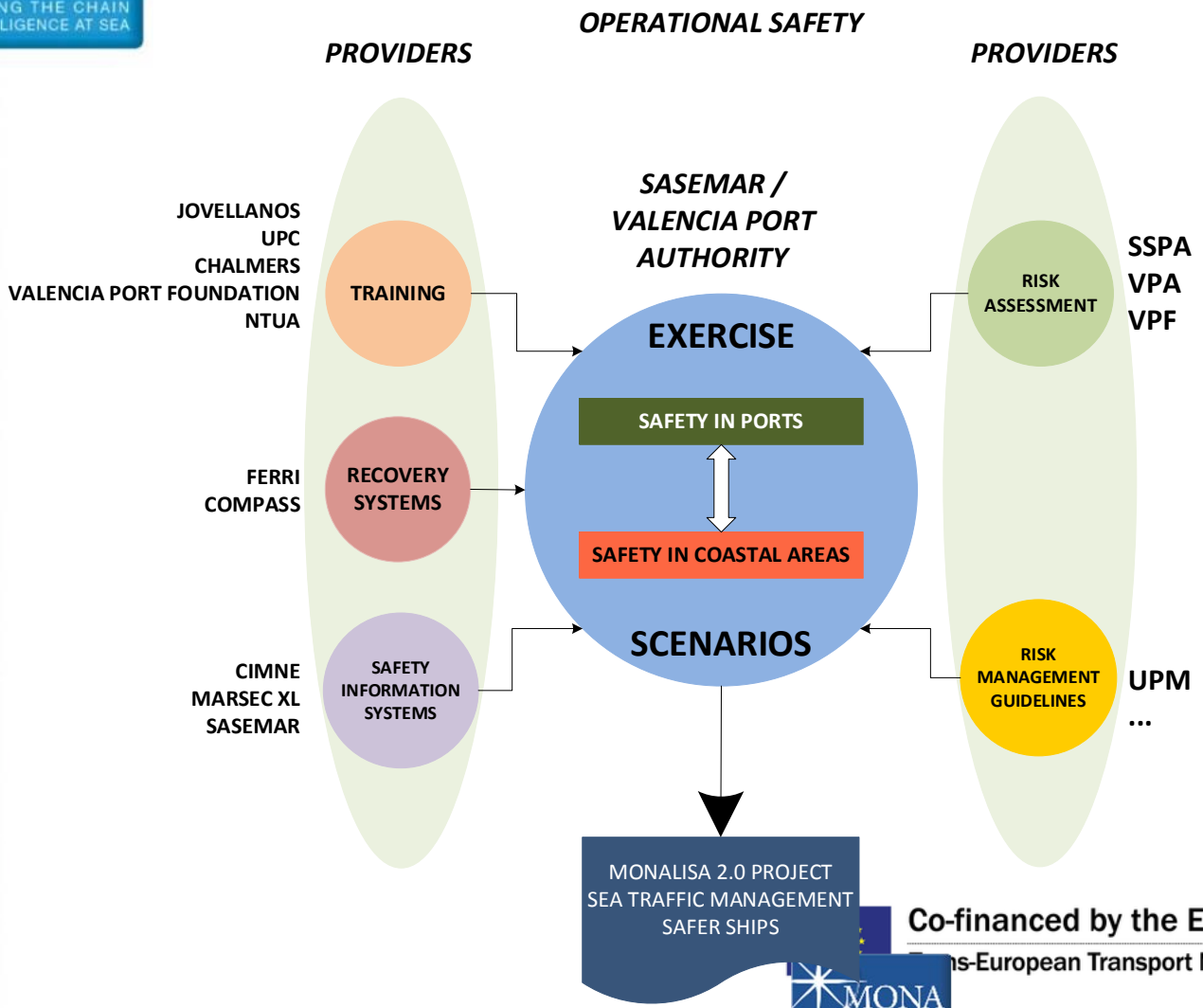

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Midterm Findings & results

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SA 4.2 MRO Table Top

SA 4.2 Recovery of Damaged Ships

SA 4.3 Risk Assessment in Ports

SA 4.5 Safety Information Systems Integration

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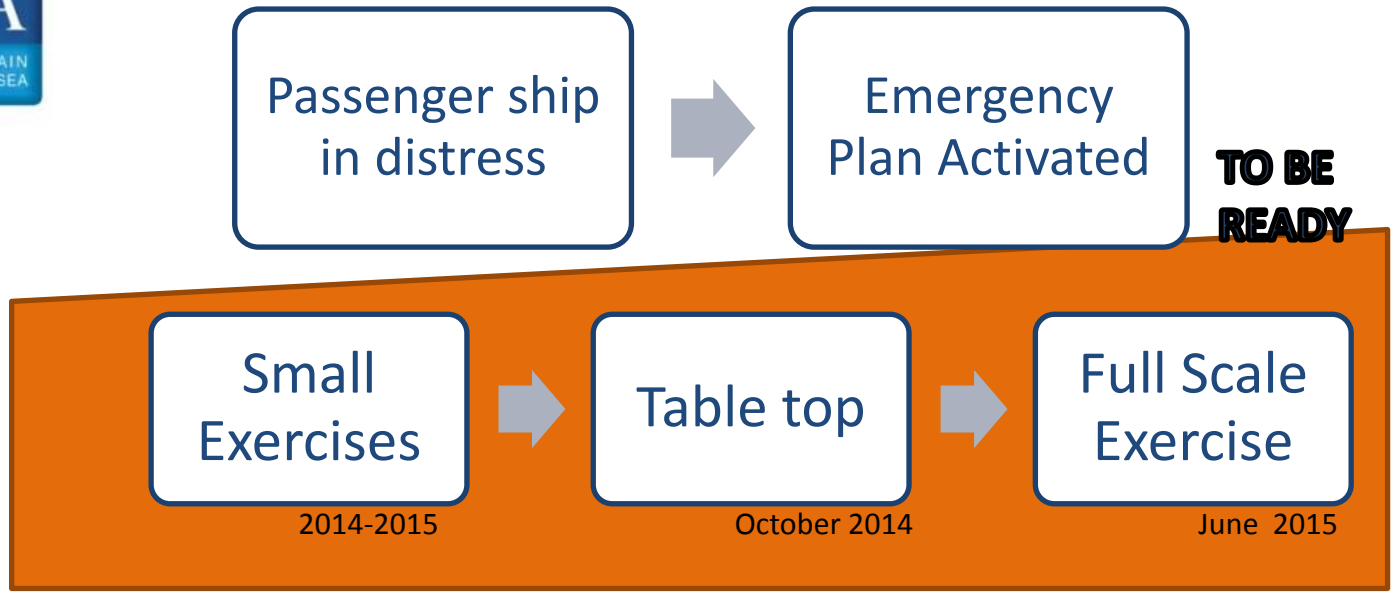
1. MRO tabletop exercise (SA 4.2)



Benefits of the MRO Exercise:

- **Testing and evaluating plans, policies and procedures**
- **Revealing planning weaknesses and resources gaps.**
- **Improve individual performance and organizational coordination**
- **Train personnel**
- **Test MONALISA support tools**

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1. MRO tabletop exercise (SA 4.2)

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Click for video
http://youtu.be/0saH5L-6kqQ

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2. Simulation Maneouvering/ recovering of Damaged ships

(SA 4.2)

Computer simulation models for **assessing towing operations** feasibility.

For?

- Predict risk
- In rescue operations

How?

- Sea states
- Wind
- Damage ship
- Batrimetry
- Tow lines

Beneficts?

- To assess the **actual rescue operation**.
- Prepare **new training simulation models**, with different towing line configurations.

Union

N-T)

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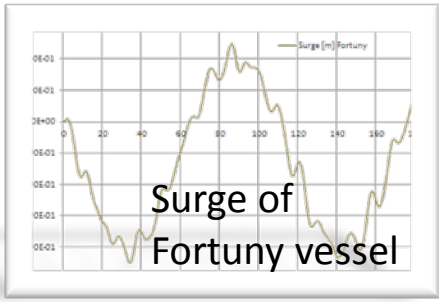
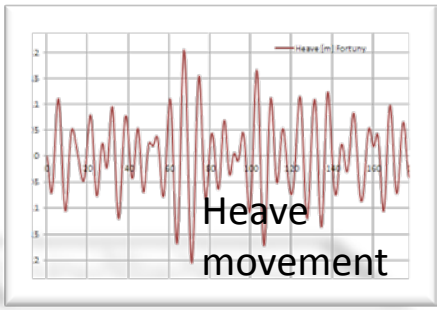
2. Simulation Maneouvering/ recovering of Damaged ships

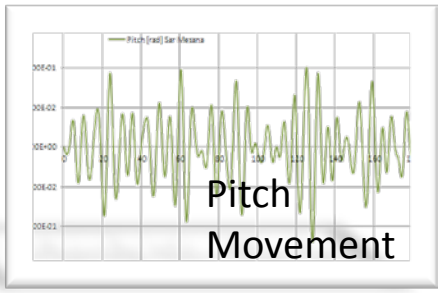
(SA 4.2)



Surge of Fortuny vessel



Heave movement



Pitch Movement

Dynamic response of

Tug boats

Damaged ship

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2. Simulation Maneouvering/ recovering of Damaged ships

(SA 4.2)

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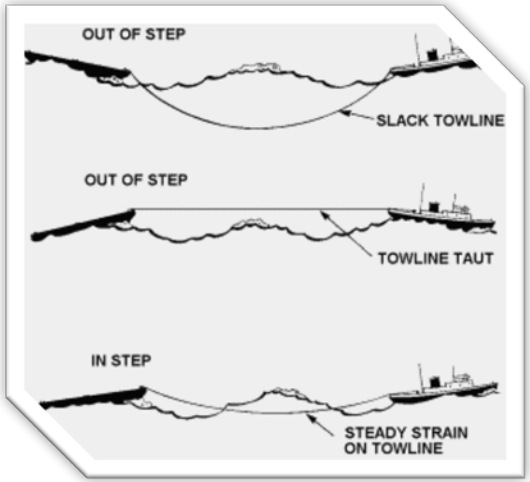
This is what happend in reality!



This is how we recreated!

Tensions and displacements evolution of the towing line can be obtained

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3. Extensive Risk Assessment in Ports (SA 4.3)

An **Integral** approach to **risk management** of **port** activities

All kind of activities in ports

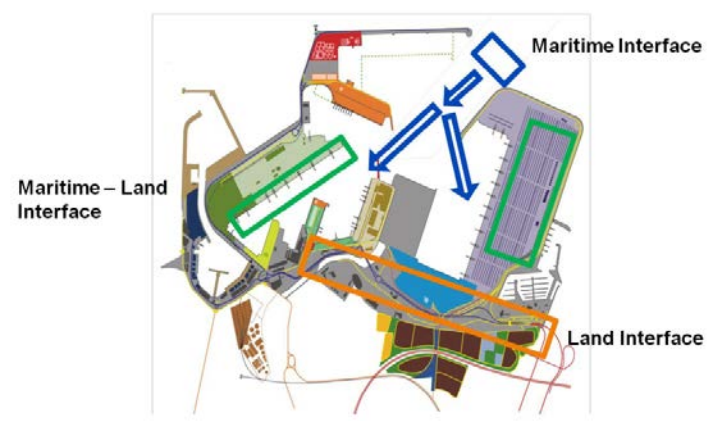
All kind of risk in ports

Common Methodology

-identified

-quantified

Exportable tool to other Port Authorities



Vision:

Greener and Safer European Ports

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3. Extensive Risk Assessment in Ports (SA 4.3)

- Risk Assessment Methodology for Ports:

$$SI_{xy} = F_{xy} \times C_{xy} \times P_{xy}$$

Frequency — Consequences — Probability

Scaling the degree of impact + Control Measure = Risk Evaluation

Several interviews with terminals and shipping companies in Valencia Port

NEXT → Livorno Port

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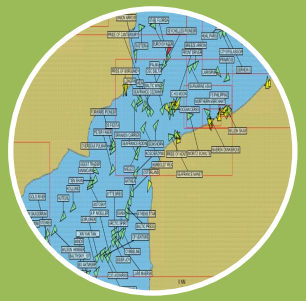
4. Safety Information System

(SA 4.5)

Integrated Safety Information in ONE SYSTEM:

SASEMAR

Valencia Port Authority



Sailing directions
Hydrographical Information
Navigation Restricted areas

AIS

2.0

4. Safety Information System

(SA 4.5)

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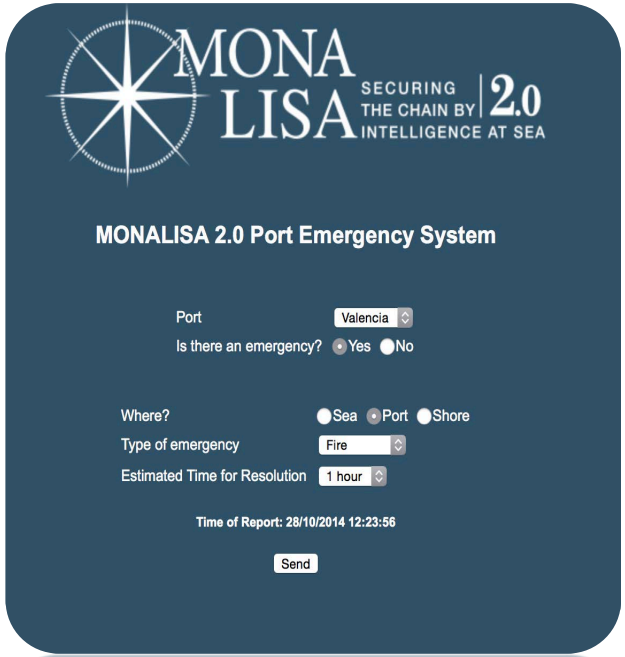
Limited Access



Port can connect without changed their Port Emergency System

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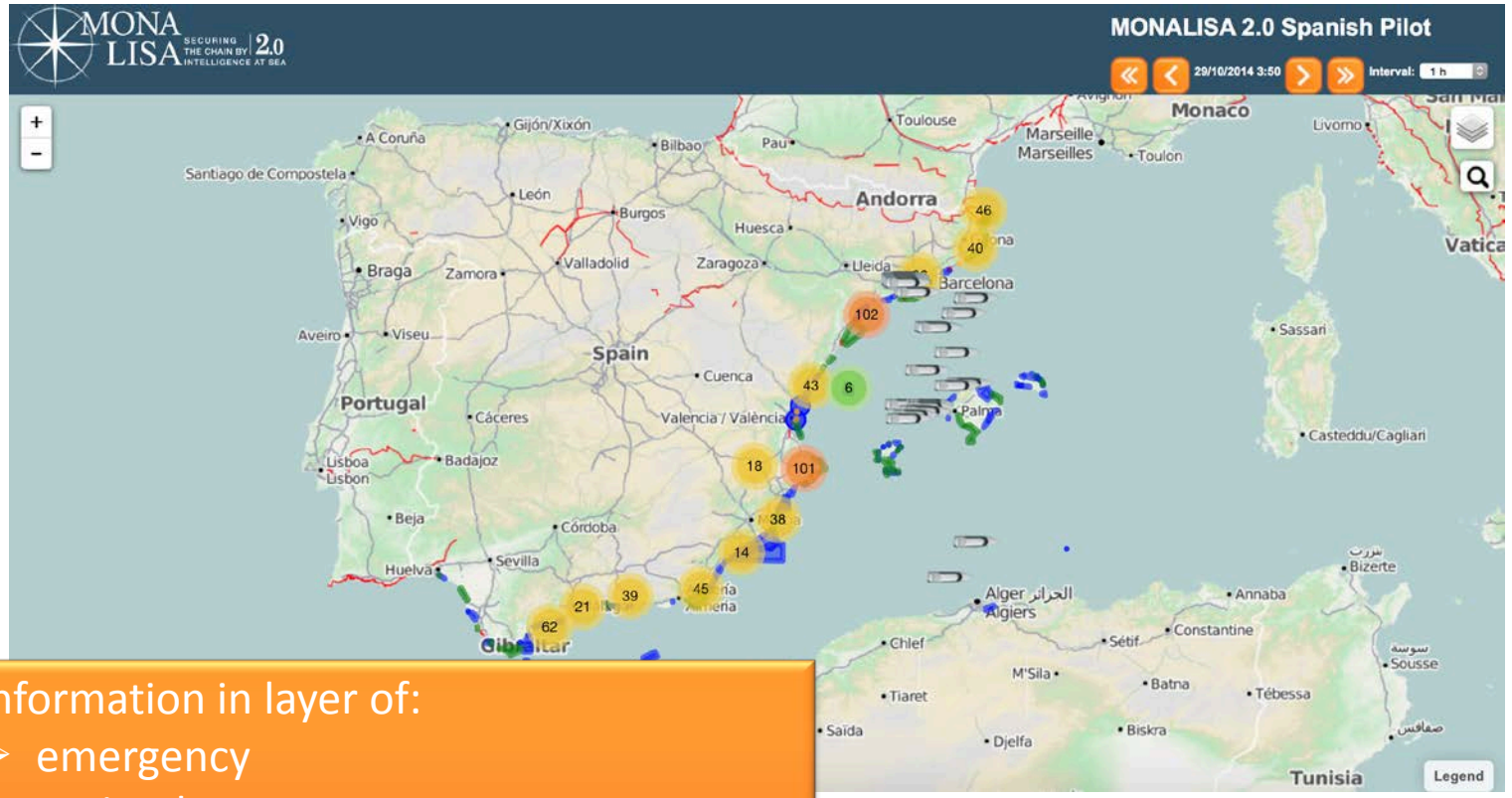
4. Safety Information System

(SA 4.5)



Information in layer of:

- emergency
- optimul routes
- vessels
- navigation restricted áreas
- equipment

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4. Safety Information System

(SA 4.5)

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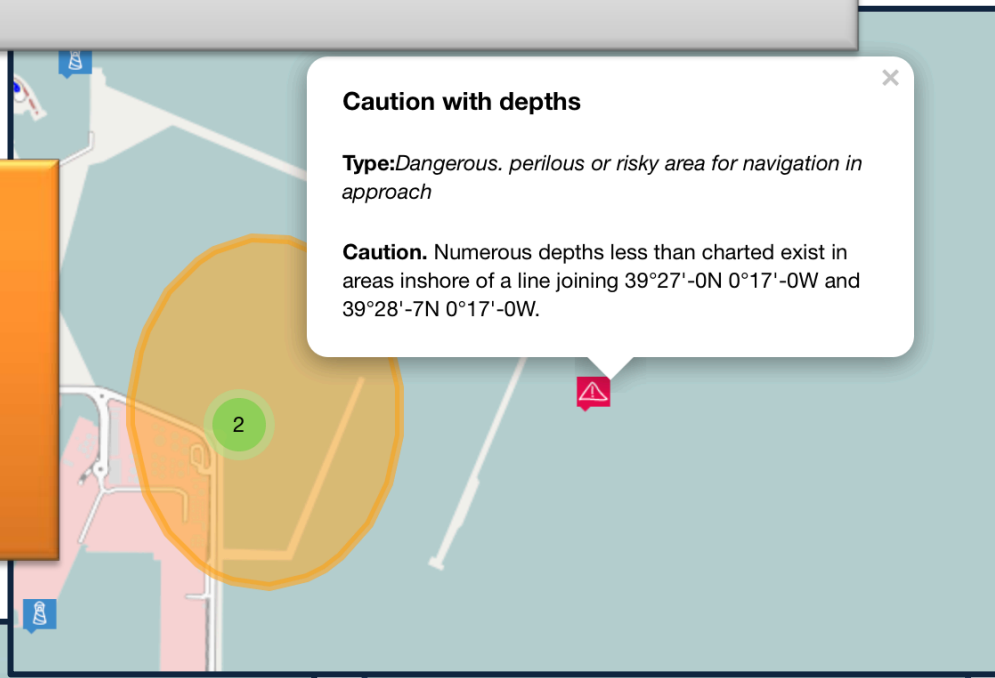
Decision making tool for:

- Vessels
- Ports
- MRCC



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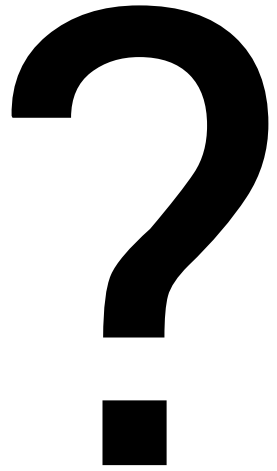
Any Questions



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Operational Safety

Safety First, Police after...
Avoiding the unthinkable, and then managing it

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