



Mariner Goal

Improve planning, preparedness and response to HNS spills in Europe by:

1 Capitalizing and translating relevant HNS R&D outcomes into operational resources applicable by planners and responders

2 Improving training and exercise capabilities

3 Upgrading and/or improving tools to support decision making and response

4 Increasing awareness and encouraging information exchange

Mariner in Action

3 Workshops
Portugal, Wales, and France (2017)

2 Field exercises
Spain (Autumn 2017)

1 Final Conference
Spain (Autumn 2017)

Knowledge transfer actions



Photo: Pembrokeshire County Council

Photo: Cetmar

MARINER WORKING STREAMS

KNOWLEDGE COMPILATION AND FACILITATION

OBJECTIVE

- **Compile existing knowledge** relevant to HNS response and make it accessible and operational (i.e. usable by responders).

MAIN OUTPUTS

- **Online user-friendly knowledge tool** gathering relevant information on HNS preparedness and response.
- **Transfer actions** to assist end users on the implementation of selected knowledge/tools into their operational procedures.

MODELLING AND ENVIRONMENTAL IMPACT

OBJECTIVE

- **Improve the interoperability** and the operational use of tools for modelling HNS drift, behaviour and biological impact.
- **Draw up guidelines** for environmental impact assessment of HNS spills.

MAIN OUTPUTS

- **Upgraded HNS spill model** integrated into a Common Operating Picture.
- **Cross border guidelines** for HNS environmental impact assessment.

RESPONSE PROTOCOLS

OBJECTIVE

- **Improve response-at-sea protocols** making the most of the available knowledge for responding to chemical spills in general (e.g. expertise from chemical industry, civil protection, and fire crews working on-land, inland waters).

MAIN OUTPUTS

- **HNS response protocols.**
- **4 exercises** to test the protocols.
- **Video** on training.

TRAINING

OBJECTIVE

- **Develop and trial** an innovative training and exercise process and bespoke software tool aimed at shoreline maritime HNS incident preparedness for public health protection.
- **Apply and incorporate** EU and international cross-border preparedness protocols within exercise scenarios.
- **Develop training** materials packages and delivery of courses addressed to cover key issues of HNS preparedness and response.

MAIN OUTPUTS

- **Web based database exercise tool**, as well as E-learning materials on exercises and risk assessment to assist users on the functioning of the tool.
- **Training package** on HNS spill management.
- **Training package** on HNS modelling.

Did you know?

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Hazardous and Noxious Substances (HNS) are defined by the OPRC-HNS protocol as any substance other than oil which, if introduced into the marine environment is likely to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea.

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More than 2,000 types of HNS are regularly transported by sea.

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The transportation of chemicals has grown considerably in the recent years (IMO estimated over 200 Million tonnes traded annually by tankers).

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Around 100 incidents involving HNS happened in European waters between 1987 and 2006 (EMSA); around the world, ship-source HNS incidents over 10 m³ reached the number of 126 in the period from 1998 to 2013 (Cedre).

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Due to the great complexity and variety of chemicals transported by sea (their behaviour, toxicity, etc.), HNS preparedness and response is less well defined than that for oil spills.

Mariner at a Glance

+ **TOTAL BUDGET**
998.547 €
(75% from EU)

+ **DURATION**
2 years
(January 2016- December 2017)

+ **PARTNERSHIP**
7 Partners
(from 4 countries)

Partnership

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Spain



Universidade de Vigo

United Kingdom



Public Health
England

France



Portugal



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@MARINER_HNS



MARINER

Enhancing HNS preparedness
through training and exercising



MARINER is co-financed by the European Union
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Mechanism. DG-ECHO

