

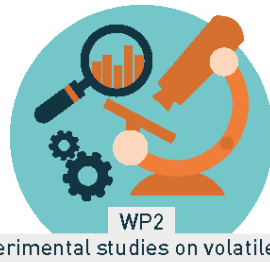


MANaging risks and Impacts From Evaporating and gaseous Substances To population Safety

MANIFESTS is a project co-funded by the European Union Civil Protection – DG-ECHO, developed in cooperation with RBINS, CETMAR, ARMINES, INTECMAR, MET.NO, IST, PHE and DG-ENV and coordinated by Cedre.



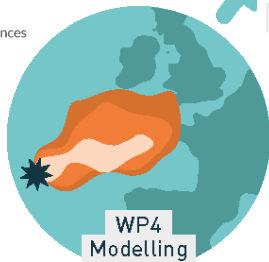
Objectives



WP2
Experimental studies on volatile HNS



To develop an operational decision-support system for accidental releases of HNS at sea



WP4
Modelling



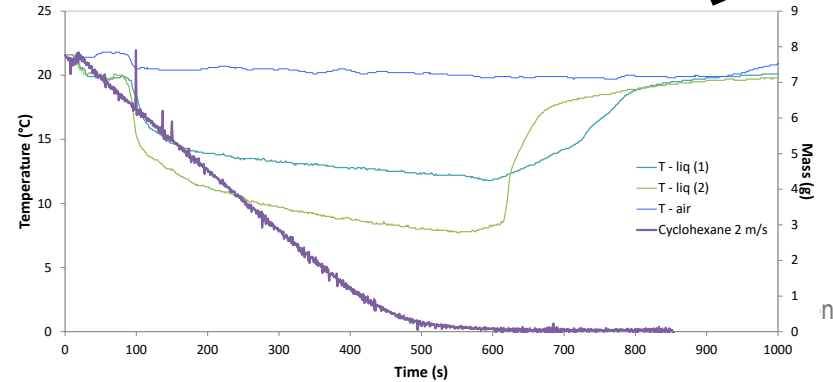
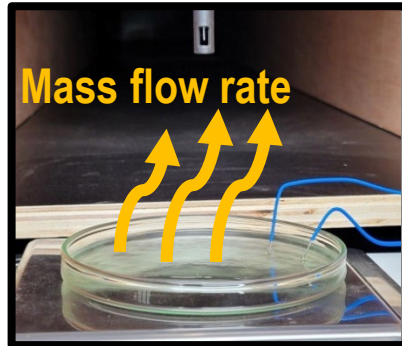
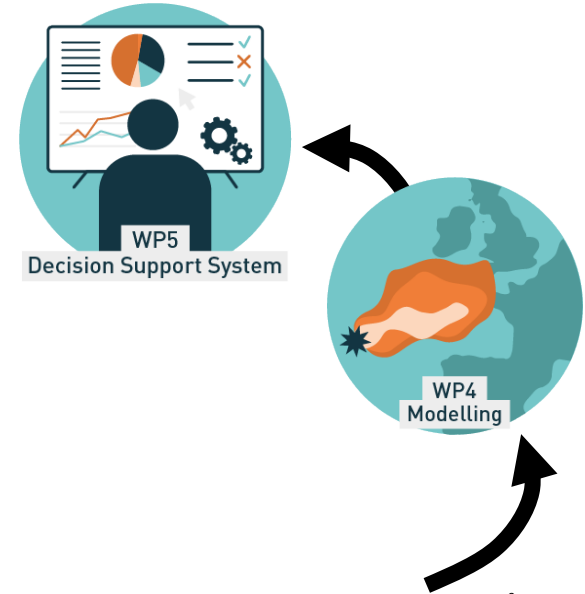
WP5
Decision Support System



WP3
Desktop studies and field trials



What's been developed



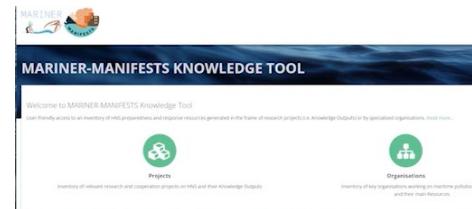
What's been developed

Ecotoxicity				
DESCRIPTION	PHYSICO-CHEMICAL	BEHAVIOUR	ECOTOXICITY	HAZARDS
Description				
CAS number	67-56-1			
UN number	1230			
Chemical formula	CH ₂ O			
Predicted No Effect Concentration (PNEC) 2080 [µg/l] on the short term				
Hazards				
IDLH 25000 (ppm)				

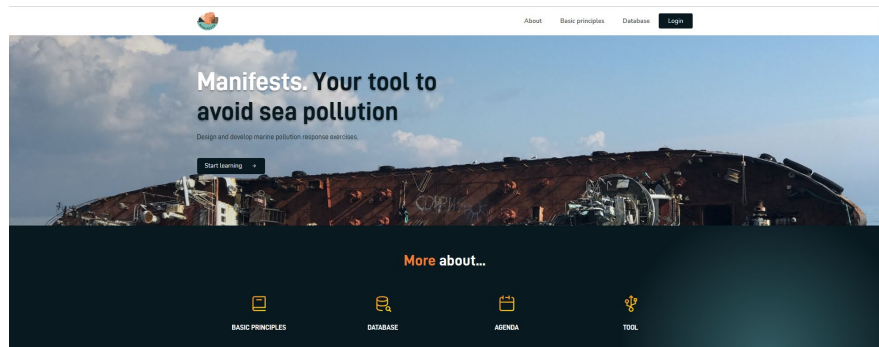
Chemical database –
HNS-MS



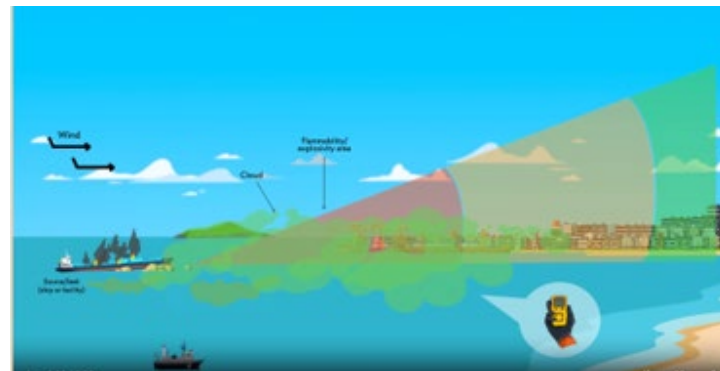
Guidance for HNS
responders



MANIFESTS-MARINER
Knowledge Tool



Exercise package tool

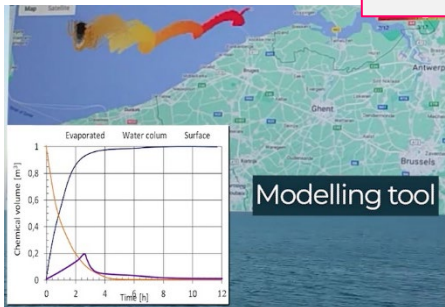


What's been developed



COP tool

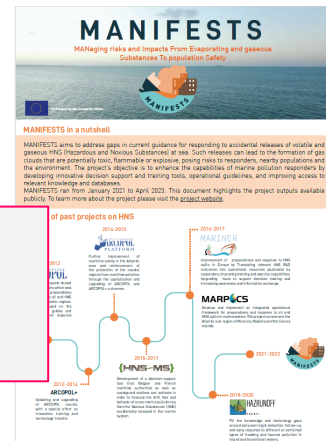
How to ensure these tools are used by responders?



Modelling modules

- Fire
- Explosion
- Drifting
- Evaporation

D6.5. Layperson's report



[https://manifests-project.eu/documents/32/Laymansreport EN web ok.pdf](https://manifests-project.eu/documents/32/Laymansreport_EN_web_ok.pdf)

<https://manifests-project.eu/>

MANIFESTS Genius

Ultimate goal

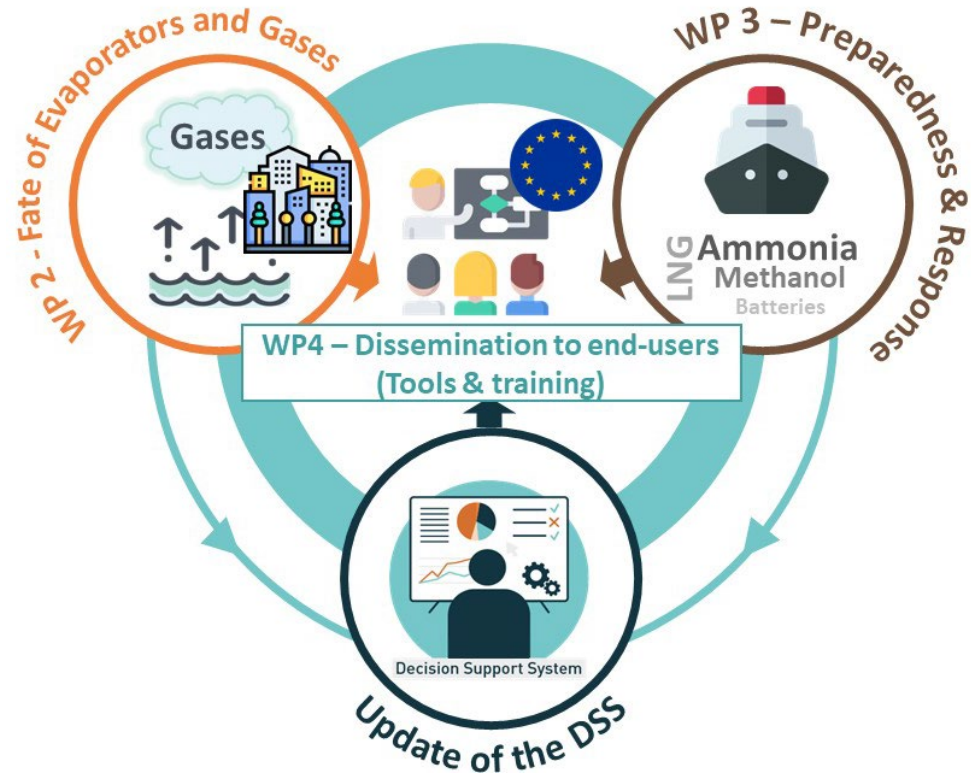
Improve management of coastal & marine pollution by gases and evaporators

Main focus on

Volatile HNS + alternative fuels
(ammonia, methanol, LNG, Li-ion batteries)

2 incident scenarios

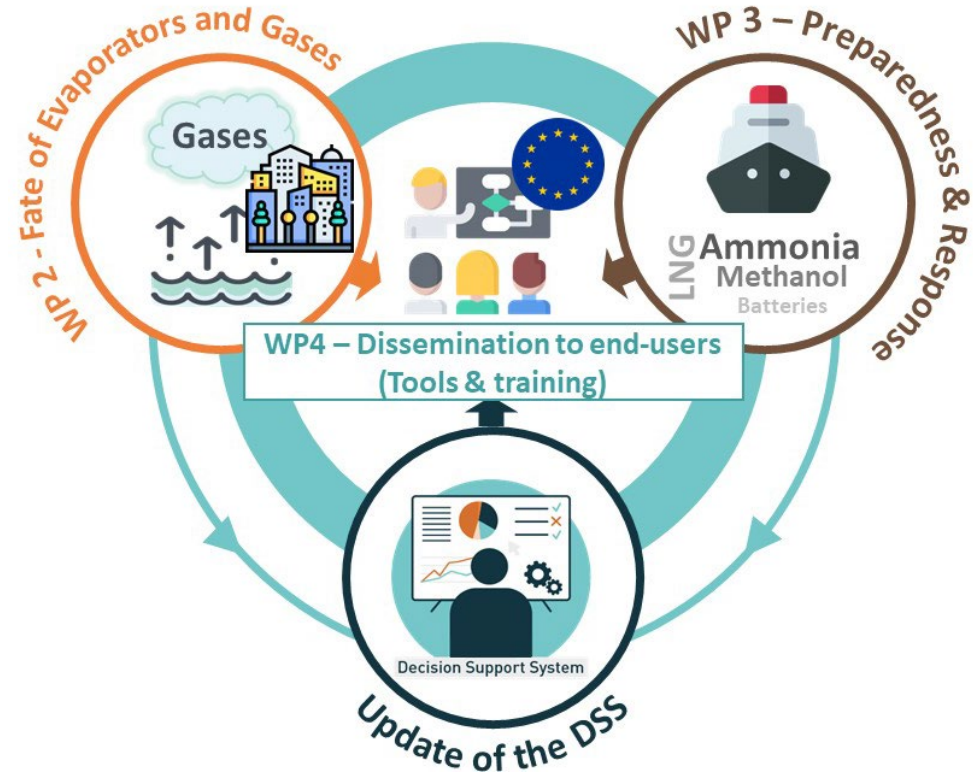
Surface leakage near the shoreline
Underwater release from a pipeline



MANIFESTS Genius



Show to stakeholders the tools developed and their accessibility



MANIFESTS Genius

Funding

EU Civil protection (DG-ECHO)

Total budget : **929 583 €**

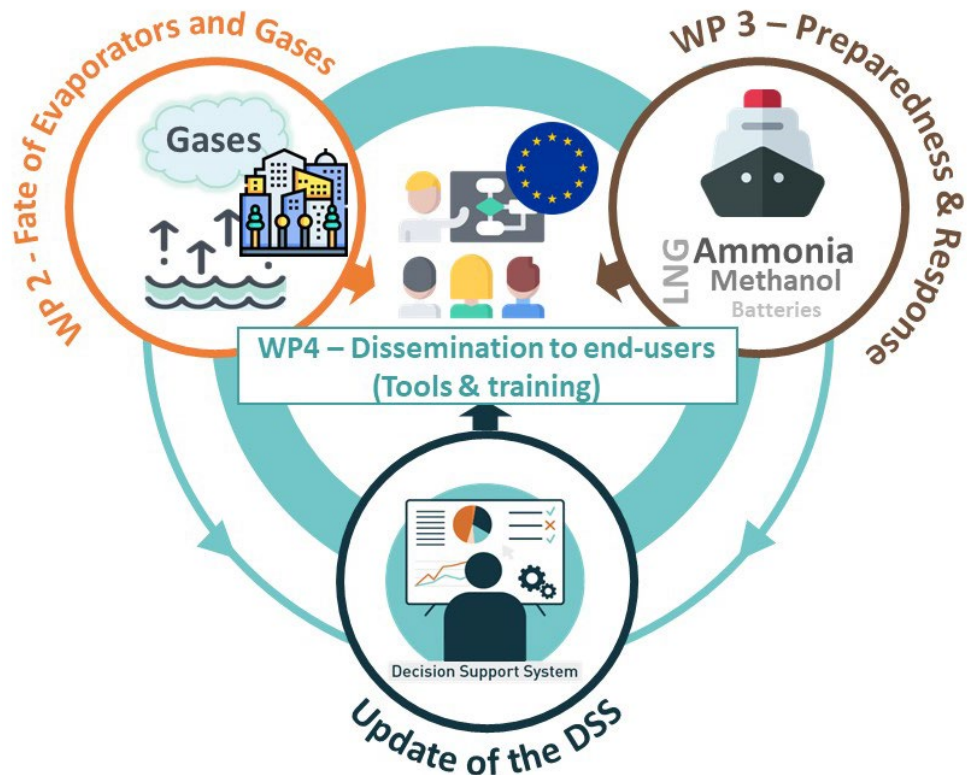
Total EU contribution: **790 145€** (85%)

Total budget for Cedre: **274 927 €**

Max EU contribution: **233 688 €** (85%)

Duration

- **2 years** (01/12/2023 to 30/11/2024)



MANIFESTS Genius: Partnership

France

- Cedre (project leader)
- IMT Mines Alès

Belgium

- RBINS

Portugal

- IST-ID

Spain

- CETMAR
- INTECMAR

United Kingdom (AP)

- UKHSA





Intervention sur pollution par produits chimiques

Compatibilité des équipements de lutte

(Action permanente)
36324



Évaluer et vérifier la résistance d'équipements de lutte antipollution

- **2020 et 2021 // Stock MN et DAM**
 - Tissus de barrages
 - Pompes (disques d'étanchéité)
 - Récupérateur à seuil (soufflet)
- **2023 // Groupement des Plongeurs Démineurs**
 - Équipements de plongée en eaux polluées
- **2024 // Groupement des Plongeurs Démineurs**
 - Résistance du narguilé à la pression après exposition à des PC

Rappel de l'étude de 2023



Narguilé
(câble bleu = air ; câble rouge =
communication ; câble jaune =
hauteur d'eau)



Joint encolure

Yoke

Fermeture éclair (au dos)

Tenue sans renforcement

Tissu gilet



Jonc de lestage

Manchon

Anneau de manchette

Gant

Œillet

Ceinture sous-cutale

Tenue avec renforcement

Jointure botte

Corps botte

Echantillons de la combinaison		Produit chimique testé																													
		Acide sulfurique 10%			Acide sulfurique 25%			Acide sulfurique 50%			Adiponitrile			Gasoil 80			2-méthoxy-2-méthylbutane			Méthylcyclohexane			Méthylloxirane			1,2,4-triméthylbenzène			VLSFO		
		50min	8h	24h	50min	8h	24h	50min	8h	24h	50min	8h	24h	50min	8h	24h	50min	8h	24h	50min	8h	24h	50min	8h	24h	50min	8h	24h			
Combinaison	Temps																														
	Anneau de manchette	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Grey	Grey	Grey
	Botte	Green	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Red	Red	Red	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Grey	Grey	Grey
	Fermeture éclair	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Grey	Grey	Grey
	Gant	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Red	Red	Red	Red	Red	Red	Red	Red	Red	Yellow	Yellow	Yellow	Grey	Grey	Grey
	Jonction botte	Green	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Red	Red	Red	Yellow	Yellow	Yellow	Red	Red	Red	Yellow	Yellow	Yellow	Grey	Grey	Grey
	Manchon	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Red	Red	Red	Red	Red	Red	Red	Red	Yellow	Yellow	Yellow	Grey	Grey	Grey
	Tenue avec renforcement (rouge)	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Green	Green	Green
	Tenue sans renforcement (noire)	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Green	Red	Red	Green	Green	Green	Green	Red	Red	Green	Green	Green
Yoke	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Red	Red	Red	Yellow	Red	Red	Yellow	Red	Red	Yellow	Red	Red	Grey	Grey	Grey	
Harnais	Ceinture sous-cutané	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Grey	Grey	Grey
	Jonc de lestage	Green	Green	Green	Yellow	Red	Red	Yellow	Red	Red	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Grey	Grey	Grey
	Éillet	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Grey	Grey	Grey
	Tissu gilet	Green	Green	Green	Green	Yellow	Red	Green	Yellow	Red	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Grey	Grey	Grey
Casque / narguilé	Joint encolure	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Green	Yellow	Yellow	Yellow	Red	Red	Yellow	Yellow	Red	Grey	Grey	Grey
	Câble bleu narguilé	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Green	Green	Green	Yellow	Red	Red	Green	Yellow	Yellow	Grey	Grey	Grey

Couleur	Green	Yellow	Red	Grey
Compatibilité	Excellente compatibilité	Compatibilité passable	Incompatibilité	Non testé
Description	Sans effet	Effet mineur à grave	Matériau attaqué, déformé	-
Effet observé	Aucun effet ; simple coloration du HNS	Prise de taille < 200% ou gonflement ou Déterioration de couches intérieures ou Décollement d'un morceau ou Courbure de l'échantillon	Déchirement du tissu ou Prise de taille > 200% ou Décollement de plusieurs couches ou Forte courbure de l'échantillon	-



Mediterranean Marine Oil & HNS Pollution Cooperation

Strengthen collaboration and cooperation in the Western Mediterranean in the field of
preparedness for and response to oil and HNS pollution





**Mediterranean
Marine Oil & HNS
Pollution
Cooperation**

Project Consortium

Budget: EUR 868,416.39

**Funding : DG ECHO –
Union Civil Protection
Mechanism (UCPM 2018)**

Duration: 2019-2021





Mediterranean
Marine Oil & HNS
Pollution
Cooperation

Specific objectives

Enhancing emergency **decision-making capabilities**

Assessing **national oil spill response** programmes

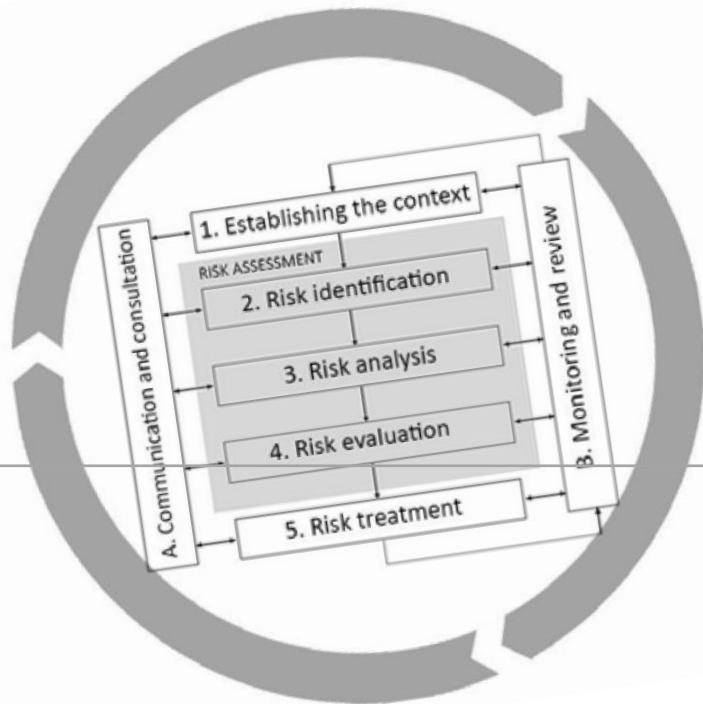
Strengthening cooperation between sub-regional plans and arrangements and national **emergency procedures**





Update of decision support tools

Inter-regional HNS Response Manual between REMPEC, HELCOM and Bonn Agreement



Update and upgrade to MIDSIS-TROCS 4.0





Assessment of national oil spill response programmes

Global Performance Analysis Results

Category	Value
Legislation, Regulations, Agreements	67%
Oil Spill Contingency Planning	62%
Response Coordination	66%
Health, Safety & Security	83%
Operational Response	69%
Tracking, Assessment & Information Management	85%
Logistics	50%
Financial & Administrative Considerations	67%
Training & Exercises	94%
Sustainability & Improvements	58%
Total	68%
Institution Specific Criteria	N/A



Training on the use of the **Manual and Readiness Evaluation Tool for Oil Spills**



Gap and performance analysis using the tool and development of **improvement programmes**



Strengthening synergies between emergency procedures

Manuals on **national mechanisms** for the mobilisation of response equipment and experts in case of emergency

Feasibility study on synergies between existing Sub-regional agreements and plans (**RAMOGEPOL, LION PLAN & AMT**)

Training on **CECIS Marine Pollution (DG ECHO)** & Roadmap for a **Common Emergency Com System** in the Med





Mediterranean Marine Oil & HNS Pollution Cooperation



PREMIER MINISTRE

*Liberté
Égalité
Fraternité*

Secrétariat général de la mer

More information on the project at:

www.westmopoco.rempec.org



French



Korean



English



Mandarin



Secrétariat général de la mer



**PREMIER
MINISTRE**

*Liberté
Égalité
Fraternité*



IRA-MAR

IMPROVING THE INTEGRATED RESPONSE
TO POLLUTION ACCIDENT AT SEA
AND CHEMICAL RISK IN PORT



Cofinancé par
l'Union européenne

Project Purpose

1/ New risk profiles



2/ Importance of better coordinating the actions of the various response services, strengthening the land-sea interface in maritime emergency response and identifying new port risks.

3/ New technologies such as drones have enormous potential to improve the response to maritime emergencies involving the spillage of oil or other chemicals.



Improving the Integrated response to pollution accident at sea & chemical risk in port

Beneficiary countries: France, Italy, Malta, Morocco, Portugal, Spain & Tunisia.

Partners: CEDRE, ISPRA, SeaAlarm.

Duration of the project : 24 months.

Budget: EUR 622 950, including a grant of EUR 500 000 from EU (DG ECHO).

Objectif: improving preparedness & response to maritime pollution accidents through an integrated approach (land-sea interface).

Types de pollution: Oil & Hazardous & Noxious Substances (HNS).

Continuity with WESTMoPoCo project.

Contribution: to WestMED Strategy.



Expected outcomes

1/ Improved knowledge of risks related to traffic of chemical products in ports.



2/ Detection systems or methods of various pollutants reinforced (Guide to use drones/Unmanned Aircraft Systems).

3/ Strengthened capabilities in terms of training and preparedness of relevant authorities (integrated approach, land-sea interface)



IRA-MAR Workpackages



IRA-MAR

IMPROVING THE INTEGRATED RESPONSE
TO POLLUTION ACCIDENT AT SEA
AND CHEMICAL RISK IN PORT

COORDINATION & COMMUNICATION



**Emergency
systems
in ports**

Online survey + interviews in ports + study of recent accidents and implemented emergency systems.



**Chemical
clouds
response
capabilities**

Collection of information on response capacities in ports (trained people, com tools, equipment) and modelling of possible scenarios.



**Emergency
reponse:
use of
drones**

Identification of the best available technologies and best practices by the Civil Protection teams + field testing.



**Integrated
approach:
marine
emergencies**

Literature review of maritime emergency management systems and development of a collaborative exercise/game + workshop (Med, Atlantic and Baltic Sea).



Where can you find the project deliverables?

An official website of the European Union How do you know? ▾

European Union Log in

Union
Civil Protection
Knowledge Network UCP Knowledge Network: Applied knowledge for action

ABOUT ▾ PREVENTION ▾ PREPAREDNESS ▾ PROJECTS & EXERCISES ▾ COMMUNITY ▾ NEWS & EVENTS ▾

Home / UCPM Projects and Exercises / Cross-border Prevention and Preparedness (Track 2)

Cross-border prevention and preparedness (Track 2)

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Cedre

Recherche

Urgence 24h/24
+33 (0)2 98 33 10 10

Qui sommes-nous ? Intervention Plans d'urgence Formation Analyses et Recherche Projets Ressources

Vous êtes dans : Projets / 2022 / IRA-MAR, 2022

IRA-MAR, 2022

Renforcement de la coopération pour la lutte contre les pollutions en mer et les risques chimiques dans les ports

-> Contribuez aux enquêtes en ligne <-

Bassins maritimes bénéficiant du projet IRA-MAR

- Qui sommes-nous ?
- Intervention
- Plans d'urgence
- Formation
- Analyses et Recherche
- Projets
 - 2023
 - 2022
 - IRA-MAR, 2022
 - 2021
 - 2020

HNS POLLUTION AT SEA (and in PORTS): KEY MESSAGES

- ***New risk profiles:*** HNS should be high on the agenda of decision-makers: all recipient countries are well prepared for incidents involving oil spills, but there are new risk profiles;
- ***Knowledge of chemicals:*** We need statistics on the quantities and types of HNS and new fuels circulating in national waters and entering ports;
- ***Updating emergency plans:*** HNS and new fuels must be taken into account in a new risk assessment not only at sea but also in ports ;
- ***Coordination, training and exercises:*** Evaluate and test HNS response procedures at sea, on board ships and in ports.



IRA-MAR

IMPROVING THE INTEGRATED RESPONSE
TO POLLUTION ACCIDENT AT SEA
AND CHEMICAL RISK IN PORT

Thank
you!

Please do not hesitate to :

to reach out to the IRA-MAR project coordinator for further info: julie.rigaud-marechal@pm.gouv.fr

Visit the project webpage: <http://wwz.cedre.fr/Projets/2022/IRA-MAR-2022>

AQUAE - Water quality monitoring and remediation: innovative multifunctional microsensor

French National Research Agency

Duration : 2022-2025

Numbers of partners : 7 partners

Budget : 1.8 M€

Objective

To develop of compact sensors combining infrared and electrochemical detections to detect organic pollutants and nitrates.

Cedre's role

To perform on-site validation campaign of the IR & EC hybrid prototype.



Commitment of Cedre to improve analyses



IBAIA - Innovative environmental multisensing for waterbody quality monitoring and remediation assessment

EU HORIZON program - RIA Research and Innovation Actions

Duration : 2023-2026

Numbers of partners : 17 partners, 8 countries

Budget : 4.7 M€

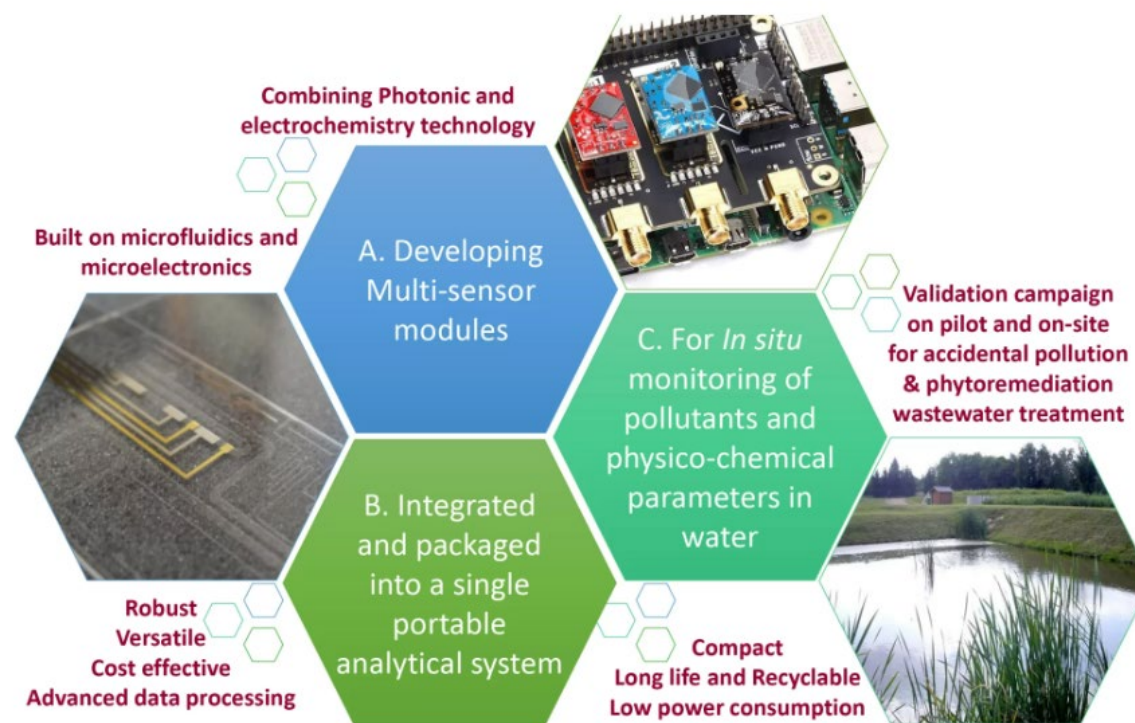
Objective

To design optimally functionalized sensor modules for detecting microplastics, organic chemicals, nutrient salts, and heavy metals, as well as measuring salinity and physicochemical parameters.

IBAIA sensing device will be integrated and packaged into a single advanced multisensing system and validated by end users in real in situ conditions.

Cedre's role

To conduct analytical experiments, test sensors performances in fresh and sea water and use at pilot facilities to assess ability to monitor pollutants in complex matrix.



<https://ibaia.eu/>

Commitment of Cedre to improve analyses

RAVEN - Revolutionary Accuracy in waVeguide- and photoacoustic-ENabled atmospheric sensors

EU HORIZON program - RIA Research and Innovation Actions

Duration : 2024- 2027

Numbers of partners : 16 partners, 6 countries

Budget : 4.8 M€

Objective

To develop two miniaturized gas sensing systems capable of monitoring multiple pollutants. Deployable in situ and on-demand in remote locations.

Cedre's role

To monitor vapors/gas at the water surface level for assessing accidental spills

