EMSA supporting Marine Pollution Risk Assessment

OpenRisk II Project
Kick-Off Conference

"New Maritime Risk Management Tools & End User Needs "

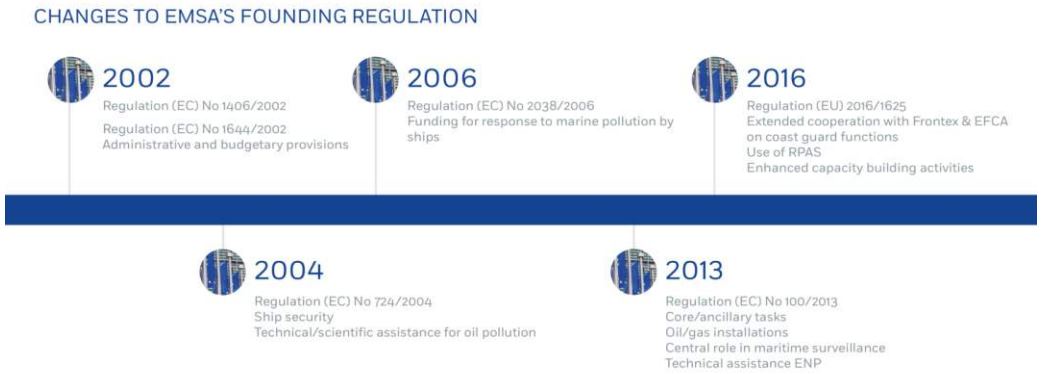
Victor Diaz / Senior Project Officer

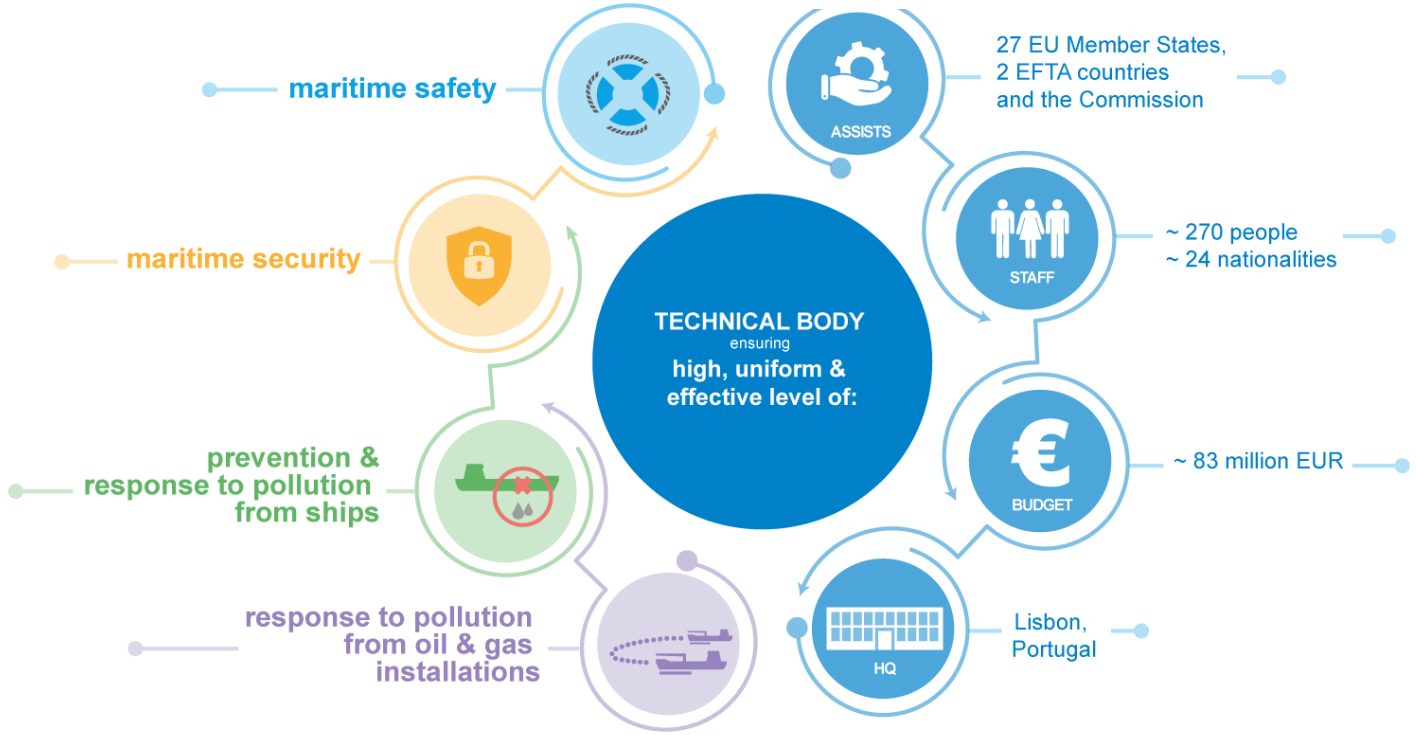
Unit 1.1. Sustainability / Dep.1 Sustainability and Technical Assistance

Helsinki / 6-7 March 2024

European Maritime Safety Agency

EMSA in a nutshell



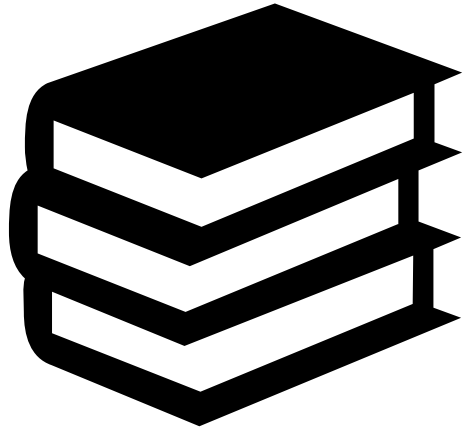


Recent developments - EMSA supporting Risk Assessment

Danish proposal, 65th EMSA Administrative Board meeting, 17-18 November 2022: *EMSA role in risk assessment*

67th Meeting of the Administrative Board, 14-15 June 2023:

- Several EU and EFTA states expressed support
- Other EU MS expressed reservations in terms of possible impact on the current distribution of EMSA's assets, as well as in relation to national competences



Caution with regards to EMSA mandate as well as to the impact on resources…

EMSA was invited to organise a dedicated **technical meeting** with the Regional Agreements, Member States and the European Commission to discuss further the issue of risk assessment.

‘Questionnaire on Risk Analysis Approaches’:

- Consultative Technical Group for Marine Pollution Preparedness and Response (CTG MPPR) members and the Regional Agreement Secretariats

- To collect information on the national and regional approaches, methodologies and data used for risk analysis for marine pollution

Key points:

- Many countries (not all) conduct some type of dedicated, structured risk analysis / risk assessment for marine pollution

- However, big variations in scope and format, terminology and data used, methodological approach, regularity, validity period, and internal follow-up actions from the risk analysis.

Discussions and Follow up:

Agree on work towards a common methodology / approach / terminology for risk assessment/risk analysis for marine pollution

EMSA’s role as data provider or facilitator, customisation of data – data sets

CTG MPPR Correspondence Group

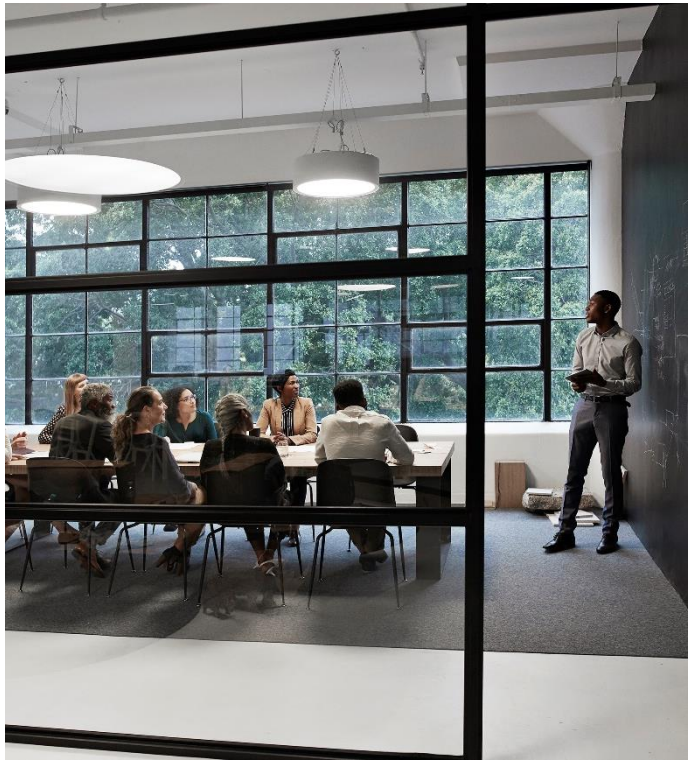
Correspondence Group on Data and Risk Assessment - CG DRA

- ✓ **Set up at the 17th meeting of the CTG MPPR**
- ✓ **Platform of experts from MS and RA, led by EMSA**
- ✓ **Timeline: 2024-2025**

CG-DRA tasks:

Part 1. Map the data **needs** and **gaps** of the marine pollution preparedness and response' user community in support of risk assessment

Part 2. Define a possible **common ground** (including a common terminology) that could be used by the Member States and Regional Agreements when performing risk assessment for marine pollution

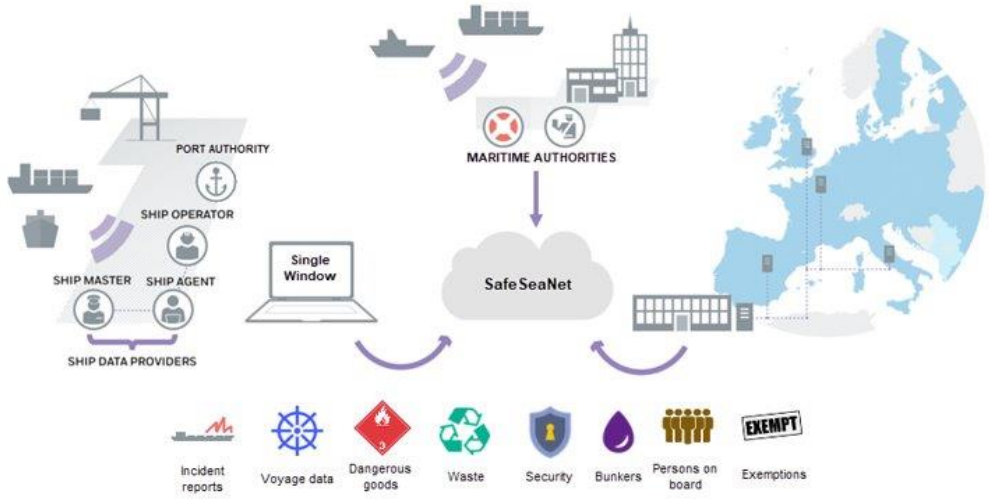


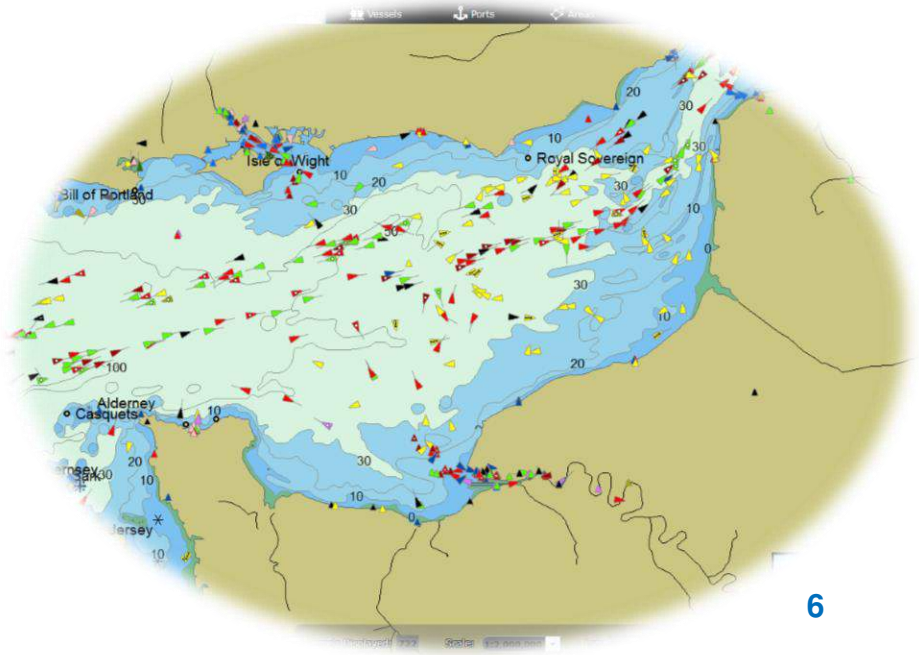
SafeSeaNet support to Marine Pollution Risk Assessment

SafeSeaNet (SSN):

- **An European Platform for Maritime Data Exchange (Directive 2002/59/EC): Central SSN**
- **A network of National SSN systems and a central node (hosted by EMSA).**
- **Exchange of vessel positions, voyages, Incidents, Hazmat, Waste, Security reported by national SSN systems.**

  - Over 20,000 ships tracked in MSs area of responsibility every day
  - > 100 million AIS positions recorded per month
  - 160,000 messages received per month



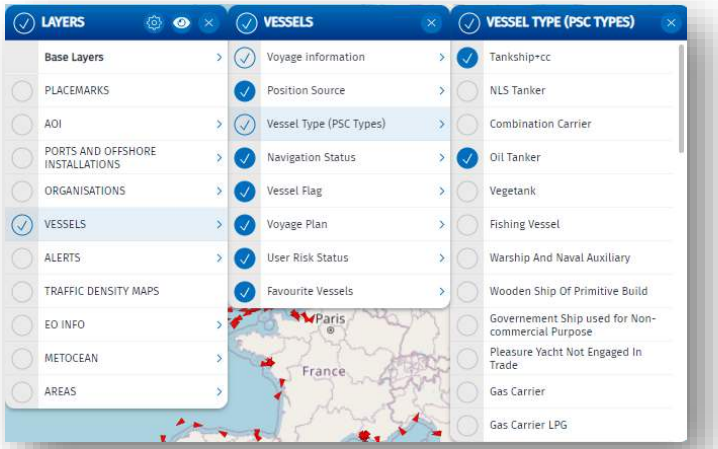


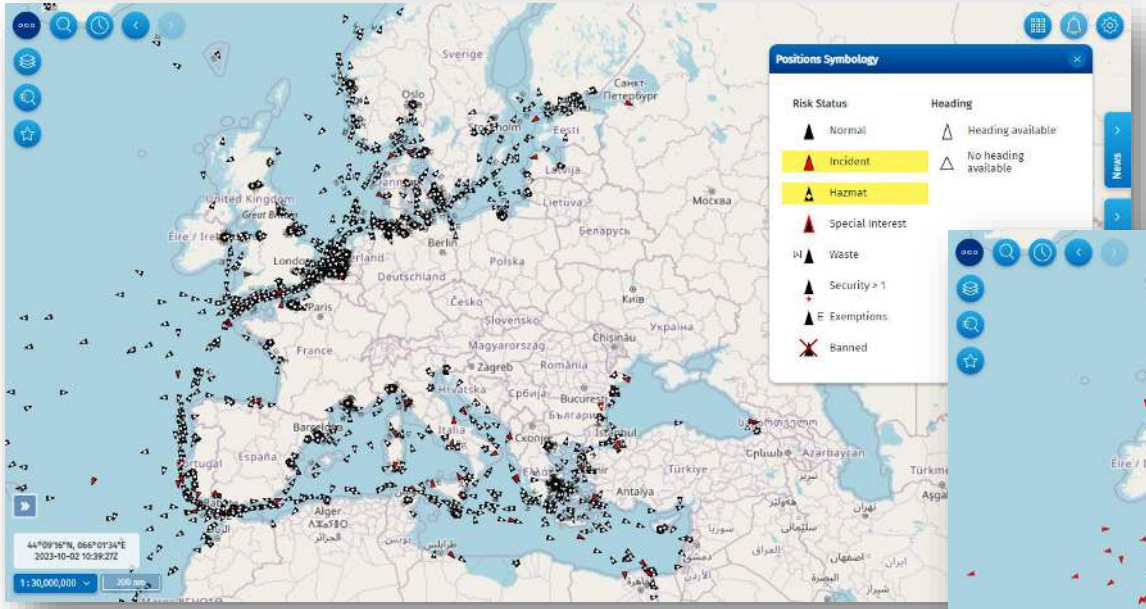
IMS support to Marine Pollution Risk Assessment

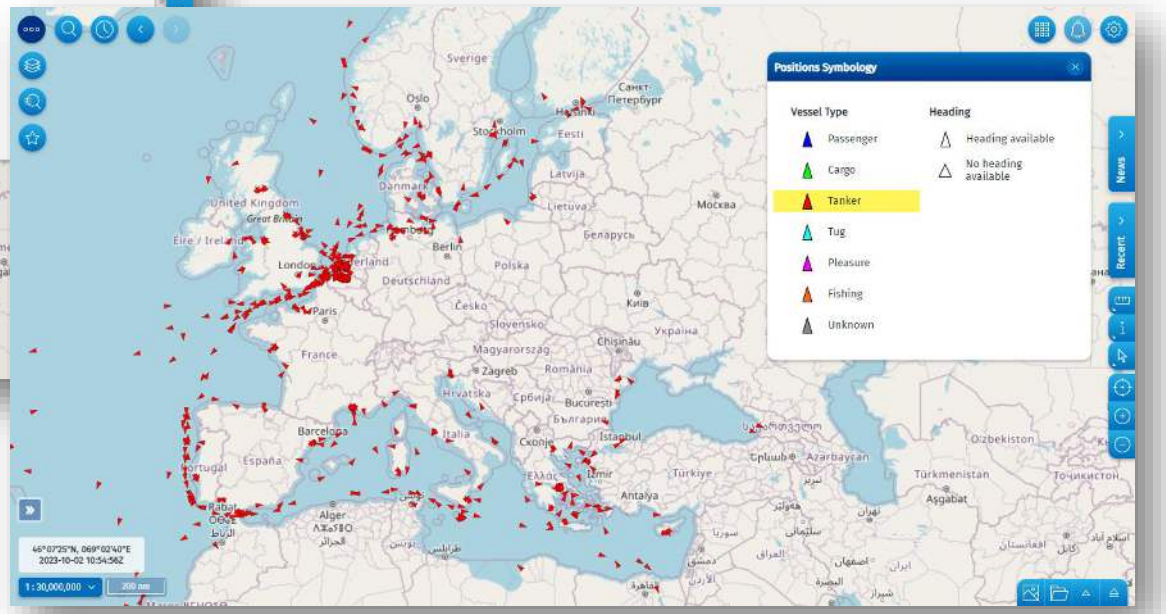
Operational Awareness – **Maritime Picture Overview via SEG**

‘Maritime Picture’ via SEG based on vessel symbology and filtering**:**

- **Risk Status:** SSN voyage information (e.g. Incident Report; Hazmat declared cargo; Waste reported)
- **Ship type:** AIS Ship Type (e.g. Cargo, Tanker, Fishing)



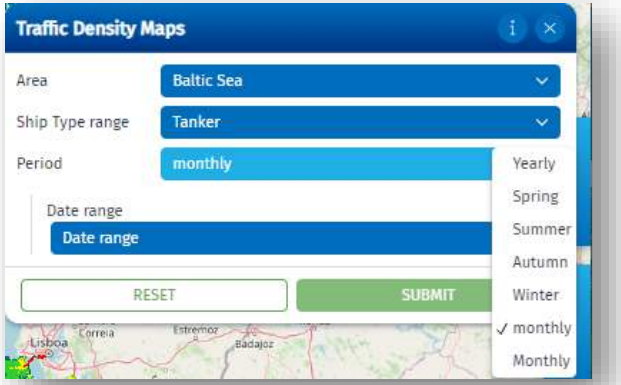


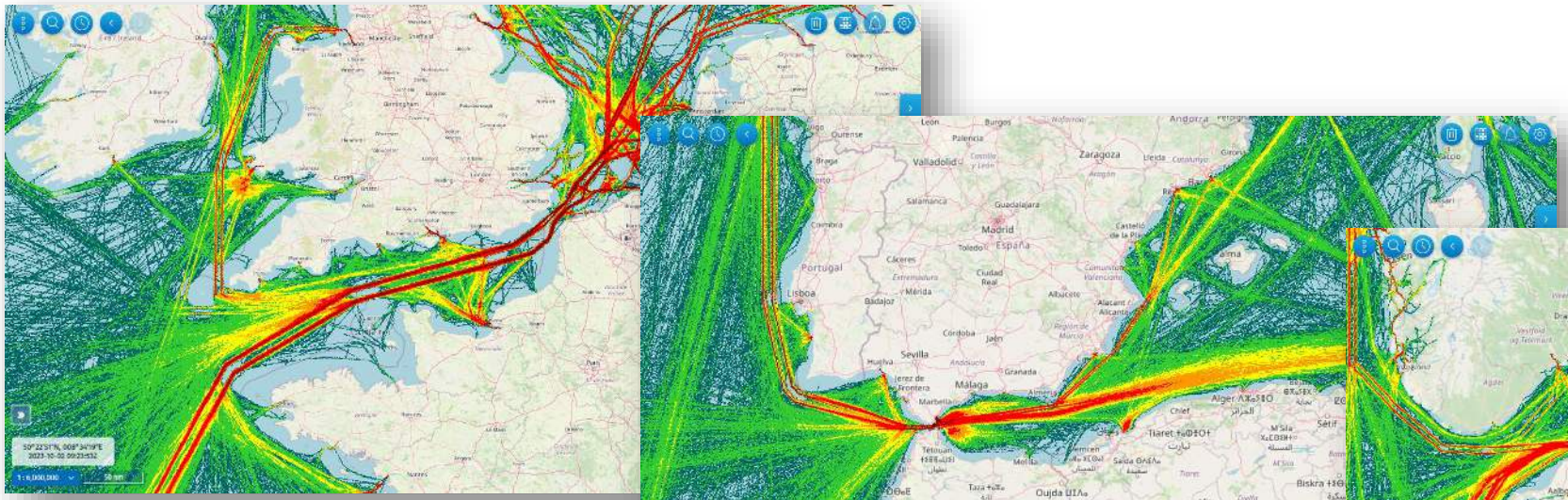


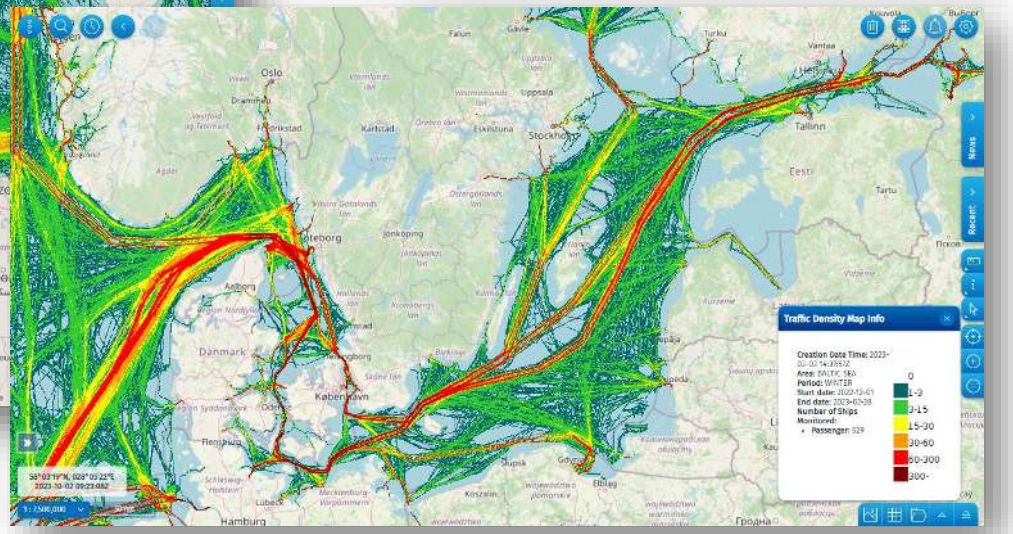
IMS Support to Marine Pollution Risk Assessment Traffic Density Maps

Display of traffic density maps based on:

- **Area** (North Sea/North Atlantic; Atlantic; Baltic Sea; Black Sea; Mediterranean Sea; All Europe)
- **Ship Type** (All Traffic; Cargo; Tanker; Fishing; Passenger; All Other)
- **Period** (Yearly; Monthly; Spring; Summer; Autumn; Winter)







TDMs are made available to EU maritime authorities through the SafeSeaNet Ecosystem Graphical Interface (SEG) (https://portal.emsa.europa.eu), and to the public through the EMODnet Human Activities portal (https://www.emodnet-humanactivities.eu/view-data.php)

EMCIP support to Risk Assessment

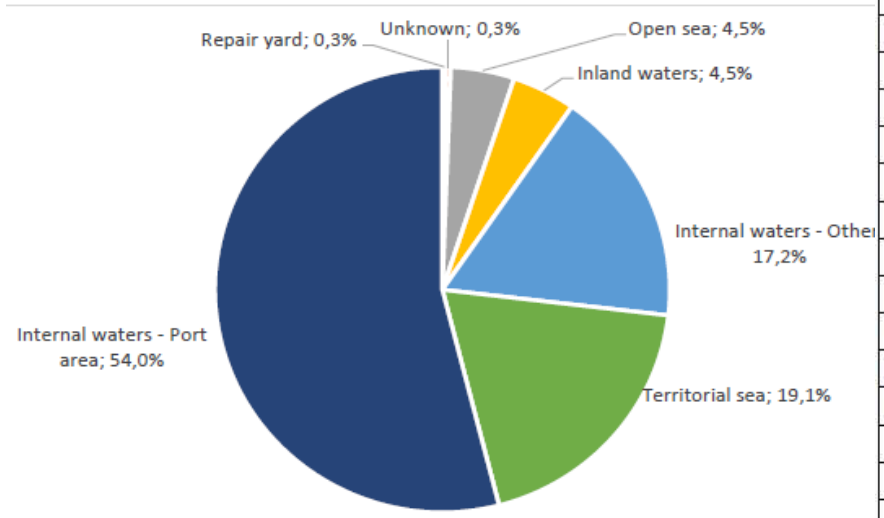
Use case No.1 – Safety issues and consequences' magnitude (Ro-Ro vessels)

Safety Issues	Safety Areas (investigated cases)									Consequences (investigated cases)			
	Collision	Contact	Damage to Ship	Fire / Explosion	Flooding	Grounding	Listing / Capsizing	Loss of Control	TOTAL	Lives lost[1]	People injured	Unfit to proceed	Cargo damage
Work / operation methods	21	5	14	14	1	4	5	12	**76**	25	39	22	11
Safety assessment – review	14	0	7	11	0	8	3	8	**51**	16	4	14	6
Tools and hardware (design or operation)	4	3	7	15	1	6	0	13	**49**	3	40	14	6
Planning and procedures	10	6	9	8	0	4	2	6	**45**	16	57	18	9
Training and skills	7	5	4	4	0	6	2	3	**31**	13	49	13	3
Maintenance	1	1	6	12	2	0	0	6	**28**	3	29	13	6
Emergencies on board	1	6	3	10	1	1	0	5	**27**	26	47	10	6
Legislation and standards	1	1	2	12	1	0	0	2	**19**	14	47	9	6
Management factors	1	1	6	3	0	0	0	1	**12**	2	4	4	3
Environment	5	2	3	1	0	0	0	0	**11**	11	31	4	1
Physical / psychological conditions	4	1	1	0	0	1	1	0	**8**	8	2	3	1
TOTAL	69	31	62	90	6	30	13	56	**357**				

https://www.emsa.europa.eu/publications/reports/item/3388-safety-analysis-of-data-reported-in-emcip-analysis-on-marine-casualties-and-incidents-involving-ro-ro-vessels.html

EMCIP support to Risk Assessment

Use case No. 2– Distribution of navigation accidents by sea area and ship's operations



Ship operation	Collision	Contact	Grounding	Grand Total
Alongside/Moored	711	171	78	960
Anchoring/At anchor	238	53	70	361
Ballasting	3		4	7
Berthing	2	4	3	9
Berthing/Unberthing	249	826	102	1,177
Bunkering	64	7	7	78
Cleaning/washing		1	1	2
Embarking/disembarking people	26	6	4	36
Emergency		2	2	4
Fishing	3	1	6	10
In passage	993	764	1,216	2,973
Loading/Unloading	55	21	17	93
Maintenance/Repairing	13	15	4	32
Manoeuvring/Turning	812	1,575	721	3,108
Normal service - Other	23	16	36	75
Open/close door; hatches; etc.		1		1
Other	68	25	42	135
Sailing	17	2	37	56
Special service - Dredging	38	27	12	77
Special service - Drilling	1			1
Special service - Other	73	31	30	134
Special service - Towing/Pushing	163	70	43	276
Special service - Windfarm operation	1	4		5
Starting/stopping engine	1	9	1	11
Under pilotage	276	491	299	1,066
Unknown	281	154	73	508
Total	**4,111**	**4,276**	**2,808**	**11,195**

https://www.emsa.europa.eu/newsroom/latest-news/item/4830-safety-analysis-of-emcip-data-analysis-of-navigation-accidents.html

Oil spill simulator support to Risk Assessment

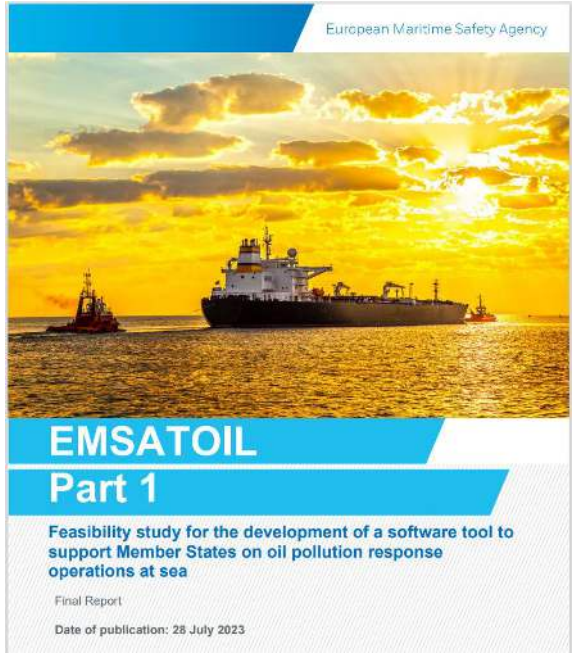
To explore the feasibility to develop an IT tool to support MS in their preparedness & operational decision-making process of mobilising and deploying oil pollution response resources at sea:

Final report published in 2023 at EMSA's website

https://emsa.europa.eu/publications/reports/download/7566/4997/23.html

The **tool will:**

- Include an oil spill model
- Support the user to select the adequate oil spill response equipment
- Calculate the efficiency of the operations at sea



Project planning:

Phase 1 – prototype development: 2024/2025

Phase 2 – operational tool, will only start if the prototype is validated by the users

Thank you! Any questions?

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