IHO standards for MSP: Shom's work

Case of MSP ReMAP project

IHO standards for MSP: Shom's work

Case of MSP ReMAP project

Plan:

1/ An Hydrographic Office in MSP context: why?

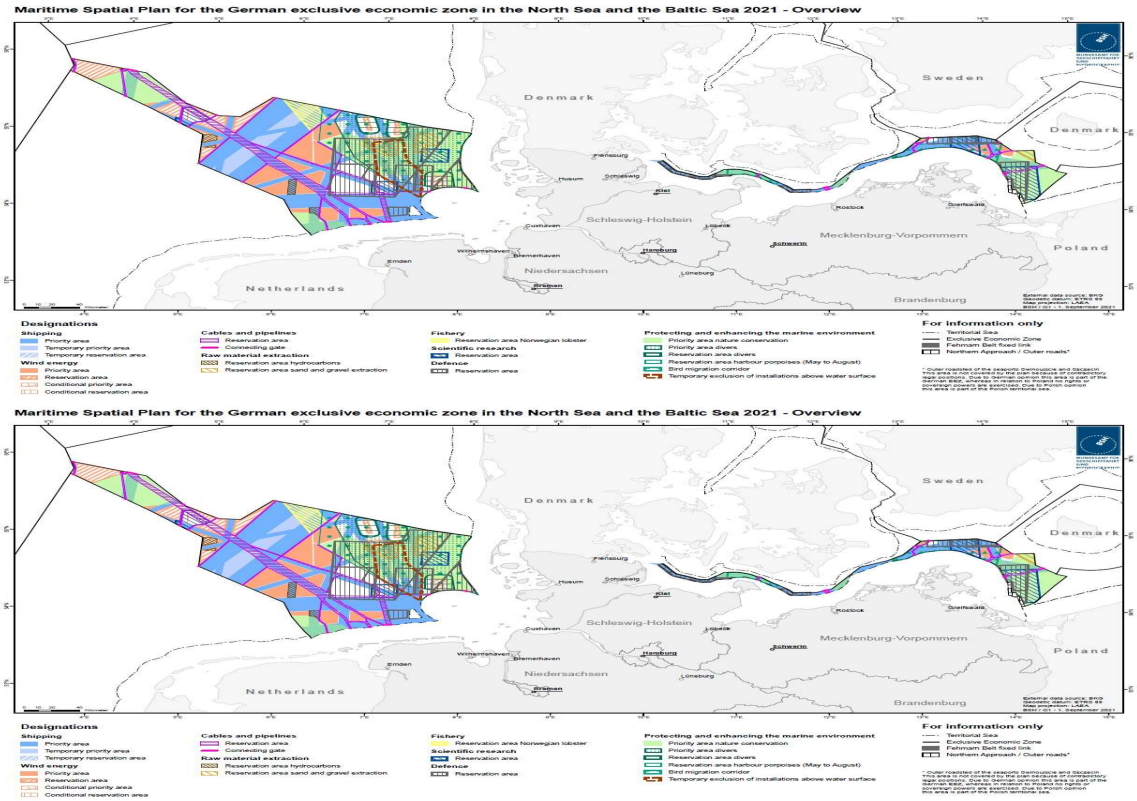
2/ ReMAP project

3/ S-100 standard: « maritimized » MSP

4/ Sea the future coming

1/ An Hydrographic Office in MSP context: why?

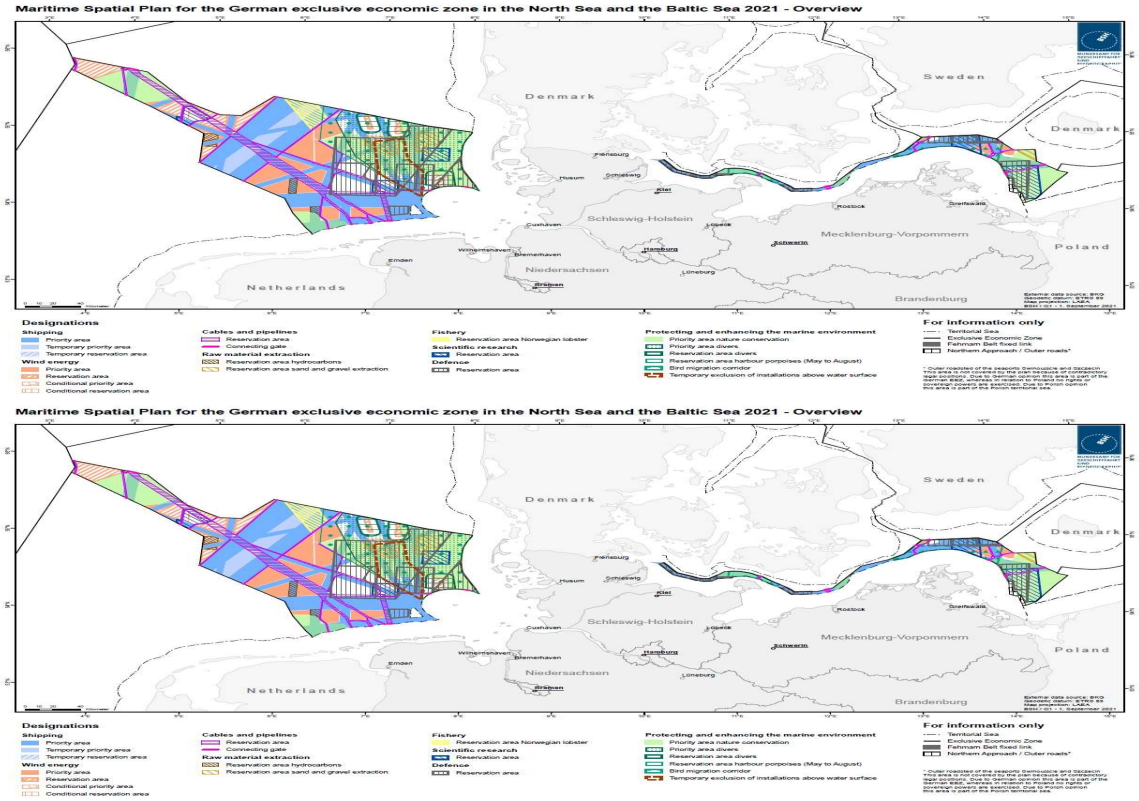
❑ *MSP context*



Source : https://www.bsh.de/EN/TOPICS/Offshore/Maritime_spatial_planning/Maritime_Spatial_Plan_2021/maritime-spatial-plan-2021_node.html

1/ An Hydrographic Office in MSP context: why?

❑ *MSP context*



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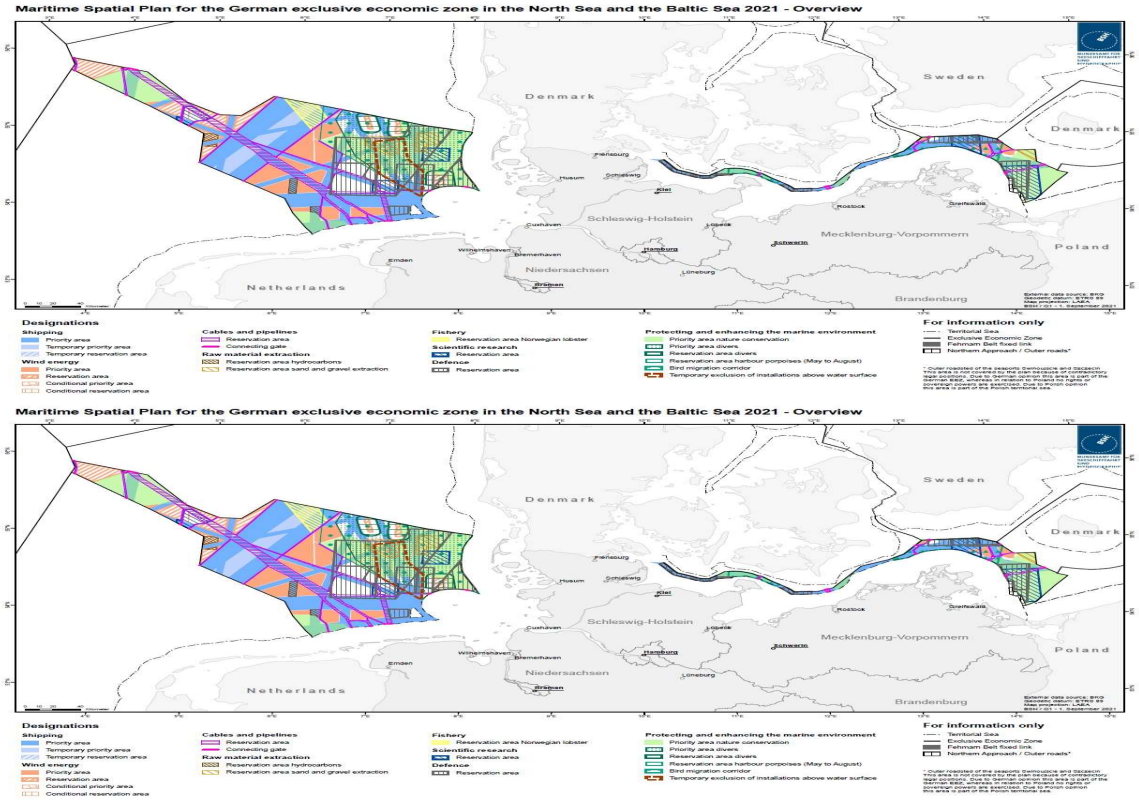
= Marine/Maritime Spatial Planning

- **Technical** and **political** device/mechanism

1/ An Hydrographic Office in MSP context: why?

❑ *MSP context*



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= Marine/Maritime Spatial Planning

- **Technical** and **political** device/mechanism

- **Guides and « imprints »** public policies at sea
- **By spatial and temporal distribution** of activities/uses
- **On the MSP plan** as a regulatory document
- **To control** national sovereignty

1/ An Hydrographic Office in MSP context: why?

- ***MSP EU framework***

28.8.2014 EN Official Journal of the European Union L 257/135

DIRECTIVES

DIRECTIVE 2014/89/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 23 July 2014

establishing a framework for maritime spatial planning

1/ An Hydrographic Office in MSP context: why?

❑ *MSP EU framework*

Article 6

Minimum requirements for maritime spatial planning

1. Member States shall establish procedural steps to contribute to the objectives listed in Article 5, taking into account relevant activities and uses in marine waters.

2. In doing so, Member States shall:

(a) take into account land-sea interactions;

(b) take into account environmental, economic and social aspects, as well as safety aspects;

(c) aim to promote coherence between maritime spatial planning and the resulting plan or plans and other processes, such as integrated coastal management or equivalent formal or informal practices;

(d) ensure the involvement of stakeholders in accordance with Article 9;

(e) organise the use of the best available data in accordance with Article 10;

(f) ensure trans-boundary cooperation between Member States in accordance with Article 11;

(g) promote cooperation with third countries in accordance with Article 12.

1/ An Hydrographic Office in MSP context: why?

❑ *MSP EU framework*

Article 10

Data use and sharing

1. Member States shall organise the use of the best available data, and decide how to organise the sharing of information, necessary for maritime spatial plans.

2. The data referred to in paragraph 1 may include, inter alia:

(a) environmental, social and economic data collected in accordance with Union legislation pertaining to the activities referred to in Article 8;

(b) marine physical data about marine waters.

3. When implementing paragraph 1, Member States shall make use of relevant instruments and tools, including those already available under the IMP, and under other relevant Union policies, such as those mentioned in Directive 2007/2/EC.

1/ An Hydrographic Office in MSP context: why?

- ***Link to IOC-Unesco guide***

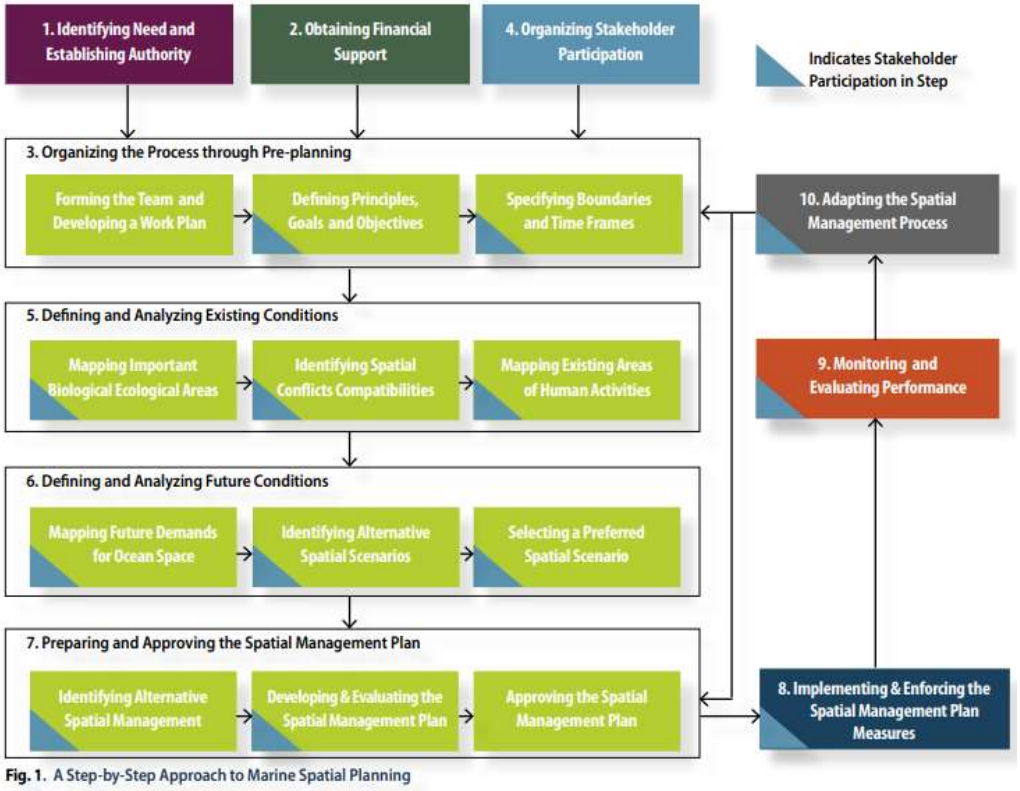

Fig. 1. A Step-by-Step Approach to Marine Spatial Planning

Source : Ehler et Douvere, 2099. Marine Spatial Planning: a step-by-step approach toward ecosystem-based management. Intergovernmental Oceanographic Commission and Man and the Biosphere Programme. IOC Manual and Guides No. 53, ICAM Dossier No. 6. Paris: UNESCO

1/ An Hydrographic Office in MSP context: why?

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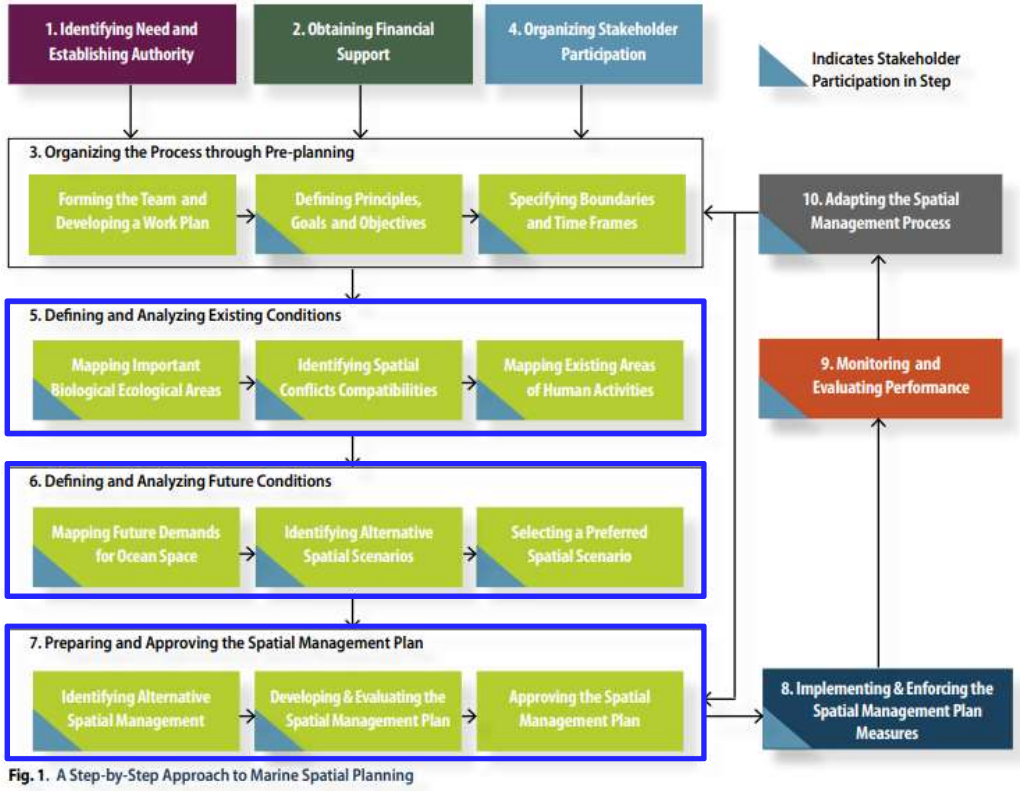

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1/ An Hydrographic Office in MSP context: why?

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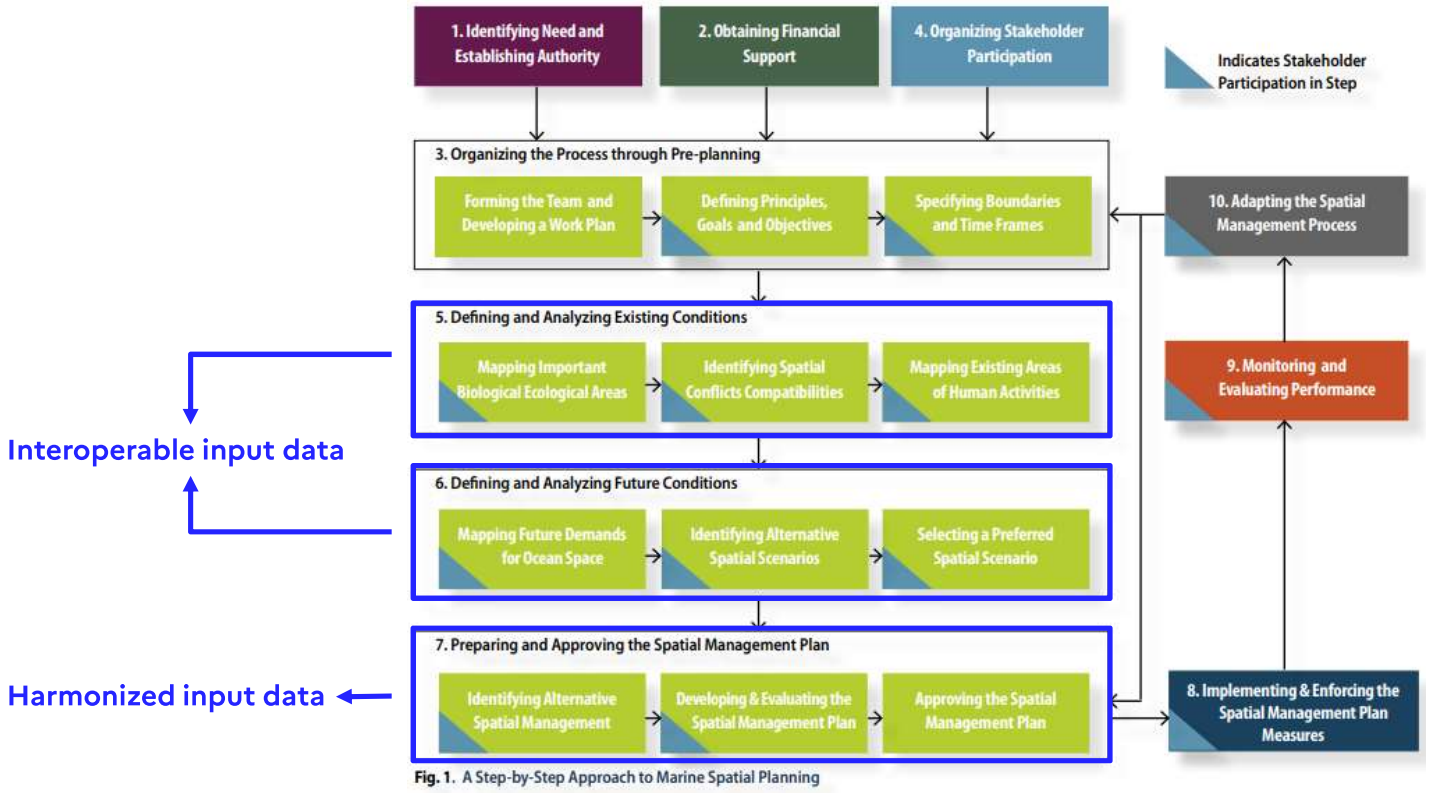

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1 - 2/ ReMAP project

- *EU MSP projects as drivers*

REVIEWING AND EVALUATING THE MONITORING AND ASSESSMENT OF MARITIME SPATIAL PLANNING

Funding Programme:

European Commission

Implementation Period:

November 2022 - January 2025

Specific Funding Programme:

EMFAF-2021-PIA-MSP

Budget:

1,917,105.06 EUR

1 - 2/ ReMAP project

- *EU MSP projects as drivers*

REVIEWING AND EVALUATING THE MONITORING AND ASSESSMENT OF MARITIME SPATIAL PLANNING

Funding Programme:

European Commission

Sea Basin(s):

Baltic Sea

Atlantic Ocean

West Mediterranean

Countries:

Finland
France
Italy
Spain

Status:

Ongoing

Completion Year:

2025

Website/Source:

http://www.geoportal.ulpgc.es/remap/

Implementation Period:

November 2022 - January 2025

Specific Funding Programme:

EMFAF-2021-PIA-MSP

Budget:

1,917,105.06 EUR

1 - 2/ ReMAP project

❑ *EU MSP projects as drivers*

REVIEWING AND EVALUATING THE MONITORING AND ASSESSMENT OF MARITIME SPATIAL PLANNING

Funding Programme:

European Commission

Sea Basin(s):

- Baltic Sea
- Atlantic Ocean
- West Mediterranean

Countries:

Finland
France
Italy
Spain

Status:

Ongoing

Completion Year:

2025

Website/Source:

http://www.geoportal.ulpgc.es/remap/

Implementation Period:

November 2022 - January 2025

Specific Funding Programme:

EMFAF-2021-PIA-MSP

Budget:

1,917,105.06 EUR

About the Project:

- Strenghten the capability to monitor and asses MSP national plans

- **Develop modules and web tools related based on an innovative technical framework using:**
  - ✓ Efficient and « everyday maritime life » interoperability/sharing data standards
  - ✓ Existing operative data infrastructures and MSDI
  - ✓ Reference data collections and EU initiatives policy

1 - 2/ ReMAP project

❑ *EU MSP projects as drivers*

REVIEWING AND EVALUATING THE MONITORING AND ASSESSMENT OF MARITIME SPATIAL PLANNING — ReMAP

Funding Programme:

European Commission

Sea Basin(s):

- Baltic Sea
- Atlantic Ocean
- West Mediterranean

Countries:

Finland
France
Italy
Spain

Status:

Ongoing

Completion Year:

2025

Website/Source:

http://www.geoportal.ulpgc.es/remap/

Implementation Period:

November 2022 - January 2025

Specific Funding Programme:

EMFAF-2021-PIA-MSP

Budget:

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- **Develop modules and web tools related based on an innovative technical framework using:**
  - ✓ Efficient and « everyday maritime life » interoperability/sharing data standards
  - ✓ Existing operative data infrastructures and MSDI
  - ✓ Reference data collections and EU initiatives policy

➢ Deliver 10+1 independant / reusable / combinable / operational / publicly available data tools

➢ **For Shom: a Spatial Decision Support Tool (SDST) on maritime safety…** NaviSafe

1 - 2/ ReMAP project

❑ *Navigation Safety Analytical Module*

1/ Revolving **the advancement and optimization of safety in maritime navigation environments for MSP initiatives**

2/ Conducting an **exhaustive assessment of safety factors and risks associated with maritime navigation**, with a strong emphasis on implementing new activities at sea and reducing accidents, ensuring the protection of vessels, crew, and marine ecosystem

1 - 2/ ReMAP project

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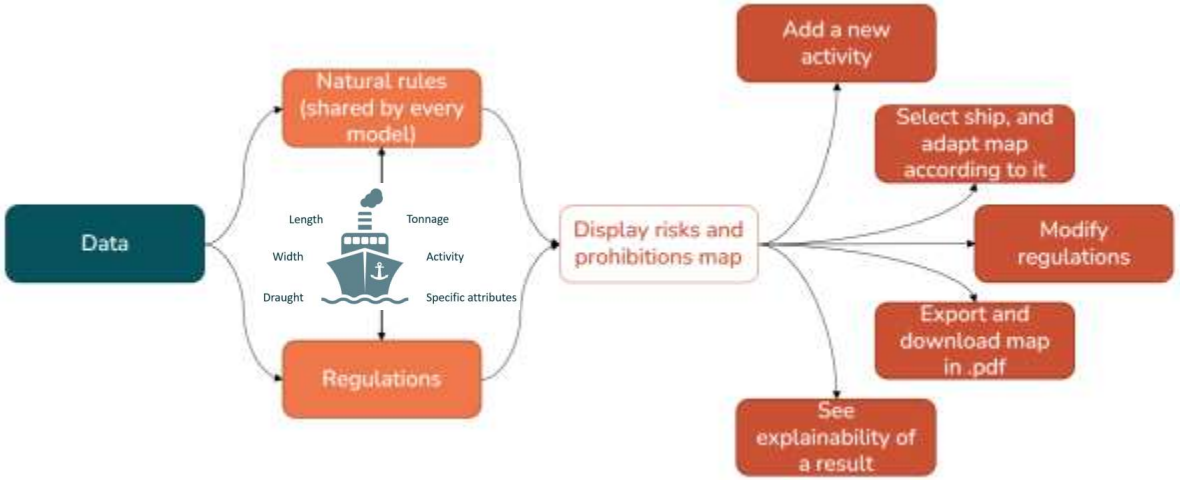

1 - 2/ ReMAP project

❑ *Navigation Safety Analytical Module*

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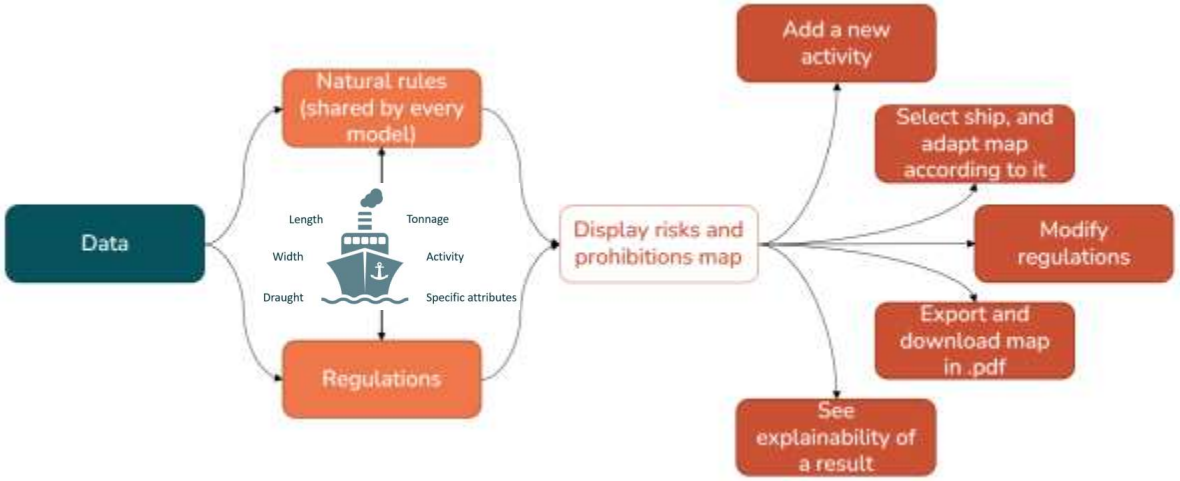
2/ Conducting an **exhaustive assessment of safety factors and risks associated with maritime navigation**, with a strong emphasis on implementing new activities at sea and reducing accidents, ensuring the protection of vessels, crew, and marine ecosystem

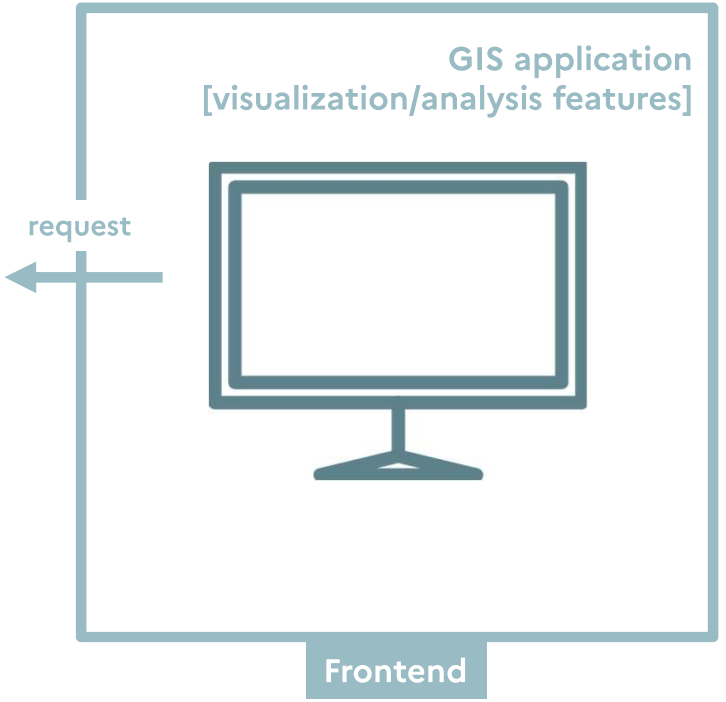
- **4+1 case studies:**
  - ✓ Baltic sea
  - ✓ Galician "regional sea"
  - ✓ Western Med
  - ✓ French mainland waters

  + French Guyana waters



1 - 2/ ReMAP project

- *NaviSafe prototype (work in progress)*



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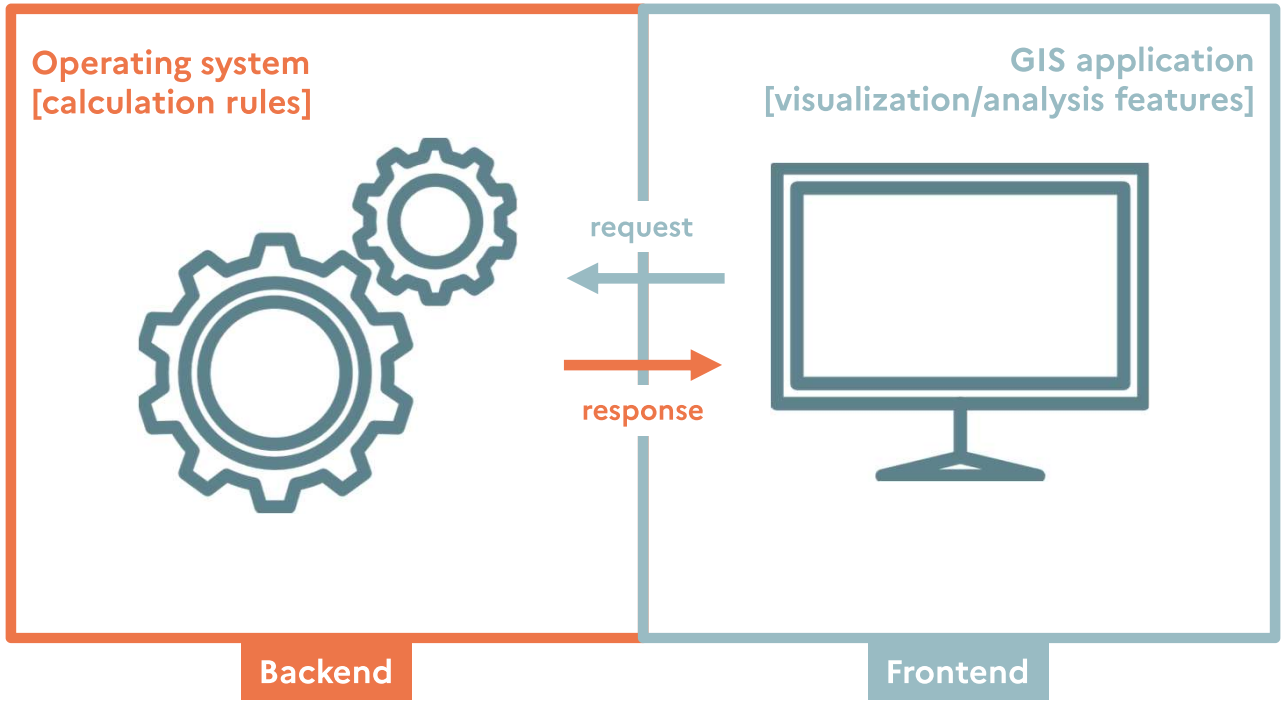

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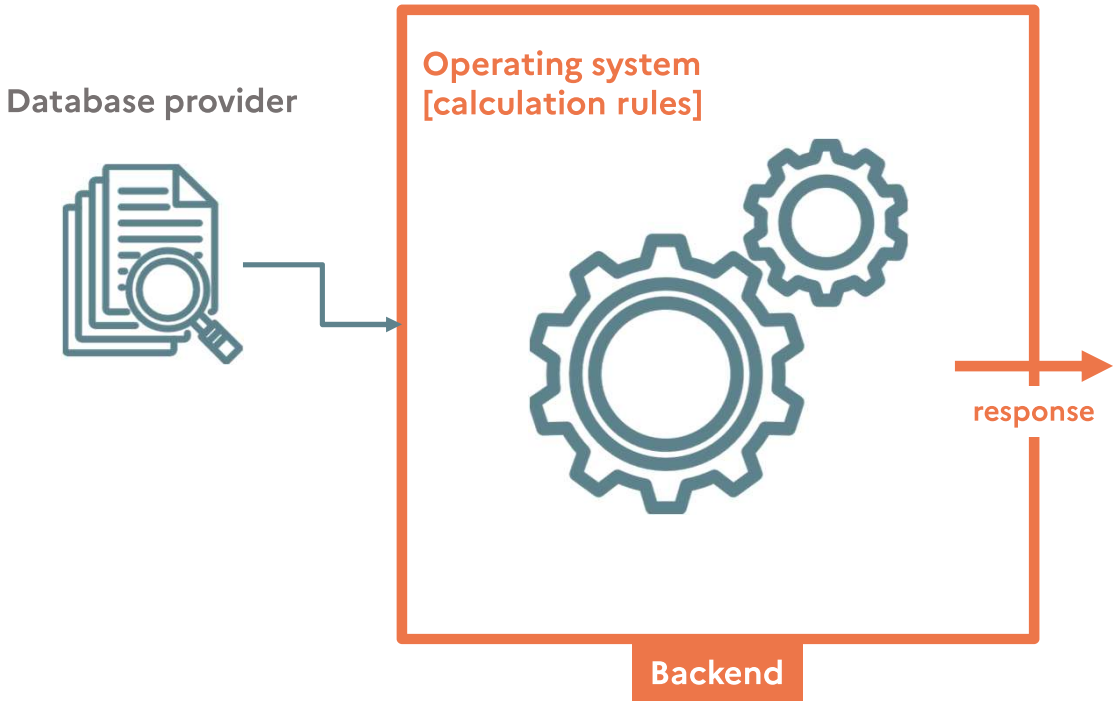

1 - 2/ ReMAP project

❑ *NaviSafe prototype (work in progress)*

Database provider

Input data

DATA			RISK			REGULATION		LAYER (WFS)	
Type	OHI standards	Link with other data	Type	Code in S-101	Criteria	Type	Text	Order	Data flux
Cable	S-101	Fishery (type and depth); marine protected area; bathymetry; anchorage	Catch on; risk of environmental deterioration	Cable	Function of the depth of the fishery and the type of fishery, fishery should not be allowed at the vicinity of the cable; type of fishery that are the most susceptible to catch on submarine cable: trawling, dredge box, bottom-set longline, anchor and fishing gripper; anchorage is not possible on cable zone	International convention for submarine cable protection; decree n° 2013-611 of the 10 of July 2013: relating to the regulations applicable to artificial islands, installations, structures, and their related facilities on the continental shelf and in the exclusive economic zone and ecological protection zone, as well as to the laying of submarine cables and pipelines (*Relatif à la réglementation applicable aux îles artificielles, aux installations, aux ouvrages et à leurs installations connexes sur le plateau continental et dans la zone économique exclusive et la zone de protection écologique ainsi qu'au tracé des câbles et pipelines sous-marins*)	Fishers have to exercise their work with caution to avoid submarine cables damage. This mean: no fishery at the vicinity of known cable area; need to analyse the main impacts susceptible to have consequences on marine environment due to cable installation	1	
Pipeline	S-101	Bathymetry; fishery; marine protected area; anchorage	Catch on; risk of environmental deterioration	PipelineSubmarineOnland	Anchorage and fishery restricted: risk of pipeline break	Decree of the 21/04/89: establishing safety regulations for pipelines carrying liquid or liquefied hydrocarbons (*fixant la réglementation de sécurité pour les pipelines à hydrocarbures liquides ou liquéfiés*); decree n° 2013-611 of the 10 of July 2013: relating to the regulations applicable to artificial islands, installations, structures, and their related facilities on the continental shelf and in the exclusive economic zone and ecological protection zone, as well as to the laying of submarine cables and pipelines (*relatif à la réglementation applicable aux îles artificielles, aux installations, aux ouvrages*	The beaconing maritime system flank the artificial structures signalisation at sea like pipelines	1	
Windfarm	S-101	TSS; road; fishery	Collision of different type: ship (ferry, fret, fishery ship) drifting due to damage or erroneous road, safety mean collision during an operation in the windfarm	OffshorePlatform	Regulated area: navigation, anchorage, sub-aquatic activity forbidden at a specific distance from the windfarm and the electrical substation (the geographical coordinates are given in the decree in latitude and longitude); trawling and piling forbidden; windfarms are forbidden in military exercise area and shooting zone. Windfarm prohibited at >5NM of a TSS and <2NM from navigational road	Bylaw n°2023/069 example of the decree: regulating maritime activities within and in the immediate vicinity of the offshore wind farm in the Banc de Guérande *(réglementant les activités maritimes au sein et aux approches immédiates du parc éolien en mer du banc de Guérande*); Regional maritime conference: letter n°0-26313-2022/PREMAR_ATLANT/AEM/NP; Bylaw from the 30/11/2017: defining the maritime buoyage system and its nautical and technical reference framework. (*Portant définition du système de balisage maritime et de son référentiel nautique et technique*)	In the regulated are specified in bylaw: • all ship >25m are not allowed to sail (except if it has a special authorization from the maritime prefecture); • prohibition to penetrate in the 50m area around the wind turbine except urgent situation; • prohibition of anchorage except in case of emergency with special authorization from the maritime prefecture. Around the regulated area, sailing forbidden: • at less than 2miles for the ship with a gauge >500UMS; • at less than 500m for passenger ship non-authorized (defined in article 7 of bylaw); • at less than 200m for the ship with an overall length upper than 25m and less than 500UMS. Authorization for fishery with ballast bulb (straight thread, potting, line with hook). Prohibition of dredging, trawling, lining or seines in the regulated area and at less than 100m of this zone; passenger ship are prohibited except with special authroization from the maritime prefecture. Maritime security measures applicable to windfarm planification: no implementation of a windfarm <5MN from a TSS or <2NM from a navigation road. Beaconing: obligation undertaken from the technical and nautical baseline attached to the bylaw from the 30/11/2017	1	
Road	S-101	TSS; bathymetry; military area	Collision; stranding	RecommendedTrack	Recommended road; two way traffic circulation: these types of road specification will appear in the			1	
Bathymetry	S-101	Bathymetry is related to nearly all the category of data presented here	Stranding risk	DepthArea				1	data.shom.fr
Wreck	S-101	Anchorage; fishery; tourism; diving; bathymetry	Catch on; deterioration	Wreck	Specific for each wreck	Example of Valras beach MIMOSA wreck: prefectoral decree n°213/2019	Example of MIMOSA wreck: all ship and devices' navigation and anchorage are forbidden as well as submarine diving, dredging and bathing in a delimited circle of 100m radius from MIMOSA wreck location.	1	data.shom.fr
Restricted area	S-101			RestrictedAreaNavigational	Area restricted to all category except with	Article R5332-37 - Transport Code *(Code des transports)*	Access to restricted area to only people, vehicle and merchandise	?	
Harbour infrastructure	S-101	Anchorage; tourism; fishery; diving; windfarm; offshore platform	Collision	HarbourAreaAdministrative	Anchorage, search and pick up of shell and other animals, fishery, bathing, diving and submarine hunting: prohibited	Decree N° DRIT SDP/2021/0120	Anchorage is forbidden inside the harbour; Prohibition: • to search and pick up plants, shell and other marine animals; • of fishery; • to bath; • to dive and to practice submarine hunt	1	
Maritime area world delimit	S-101			TerritorialSeaArea	Visibility of these limits in the software and possibility to define a study area by selecting these	Decree 2017-821 of the 05.05.2017		1	portail national des limites maritimes
Fishery regulation area	S-101	Tourism; cable; pipeline; military area; TSS; harbour infrastructure; windfarm; marine protected area; recreational nautical activity; military area	Collision, catch on cable; pipeline break; perturbation of marine protected area, recreational nautical activities and touristic area	FishingGround				1	

1 - 2/ ReMAP project

- ***NaviSafe prototype (work in progress)***

Database provider

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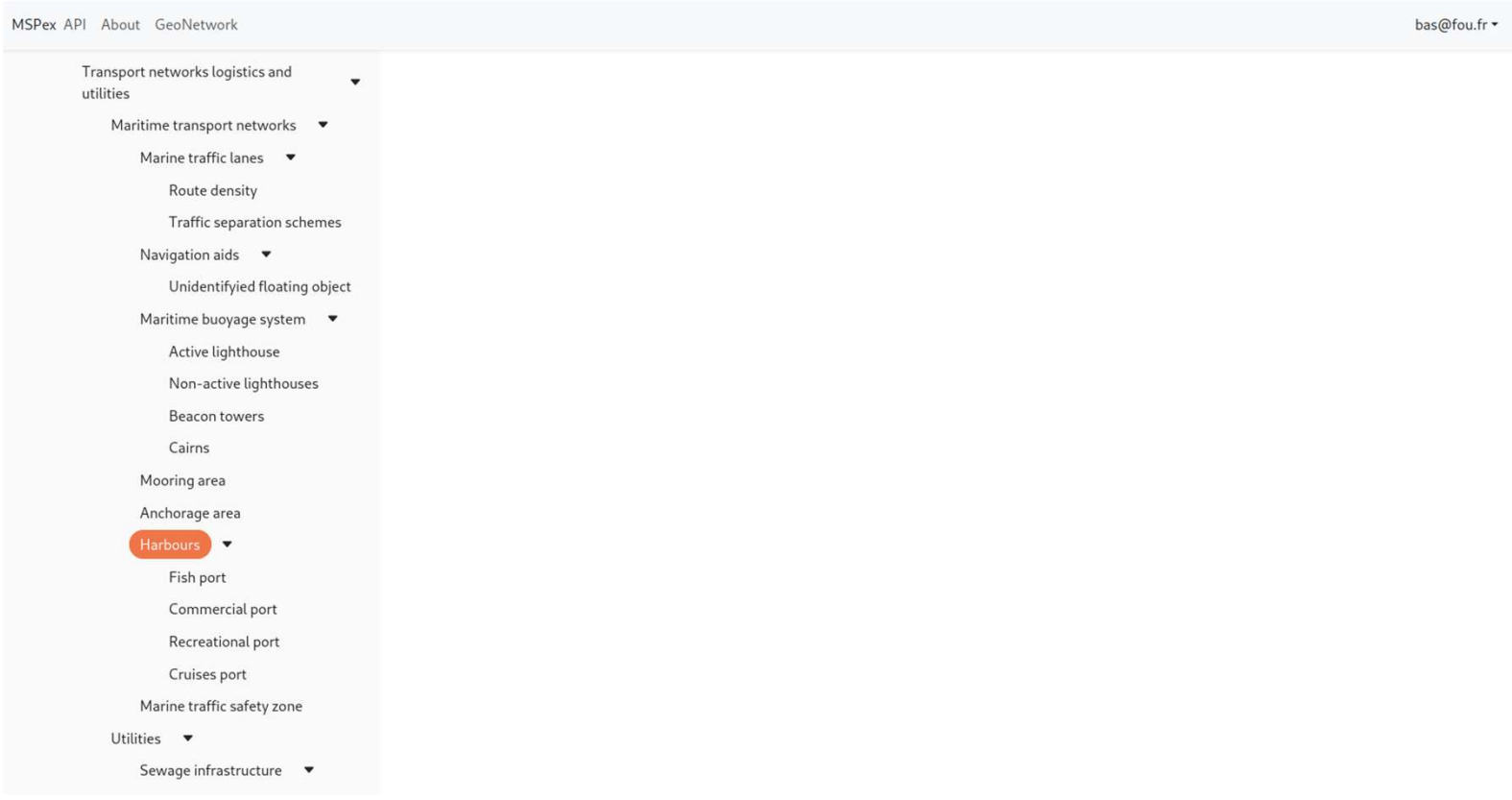
1 -

2/ ReMAP project

- ***NaviSafe prototype (work in progress)***

Database provider

Input data



1 - 2/ ReMAP project

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Database provider

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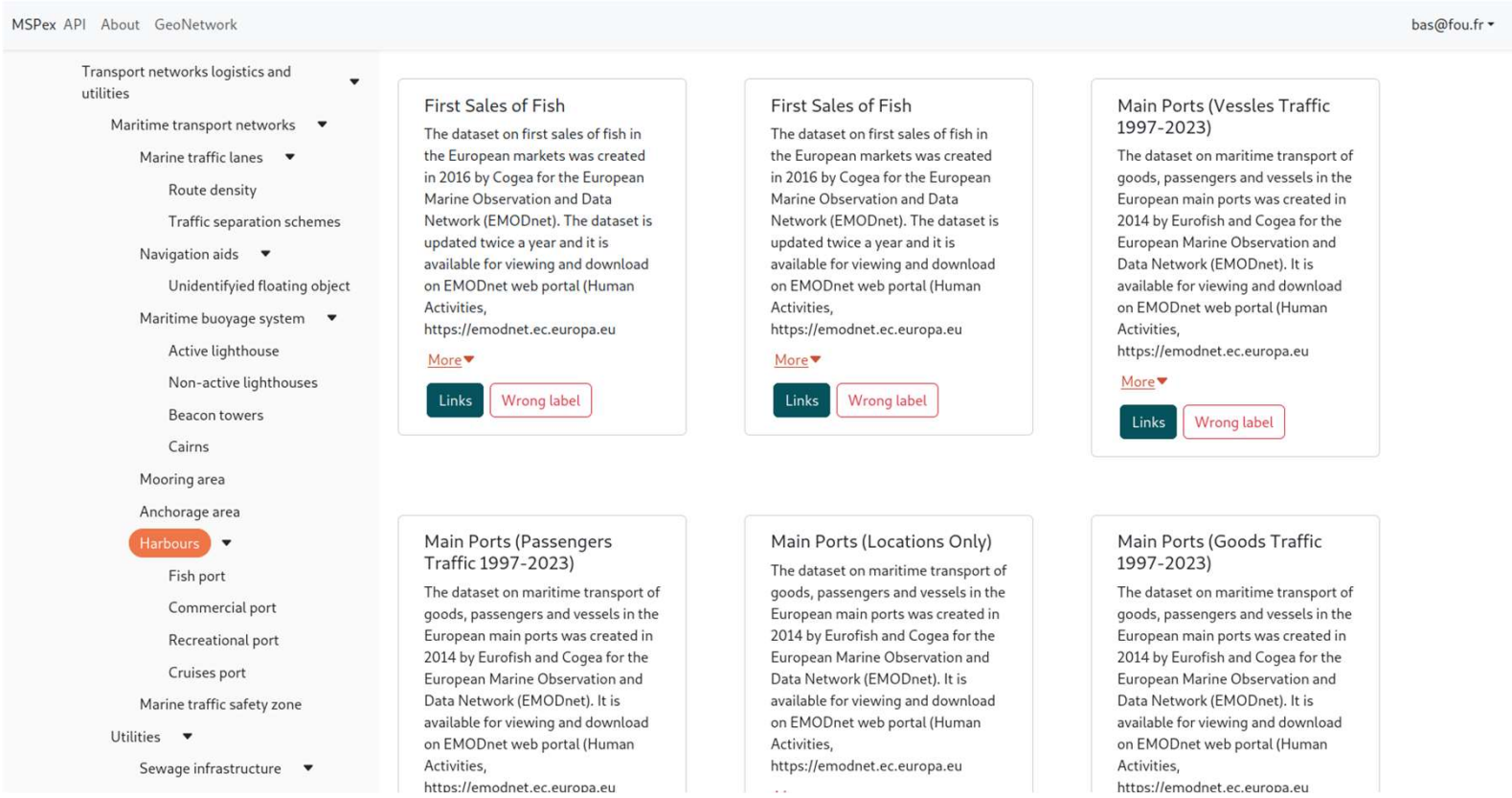

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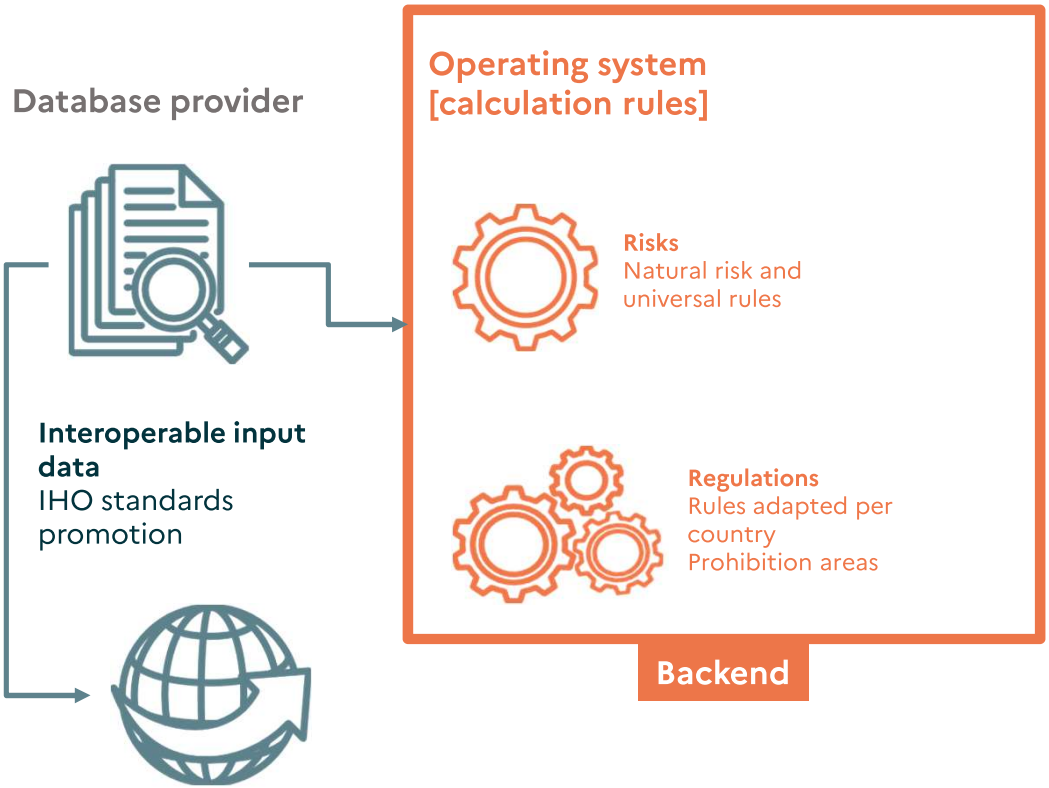

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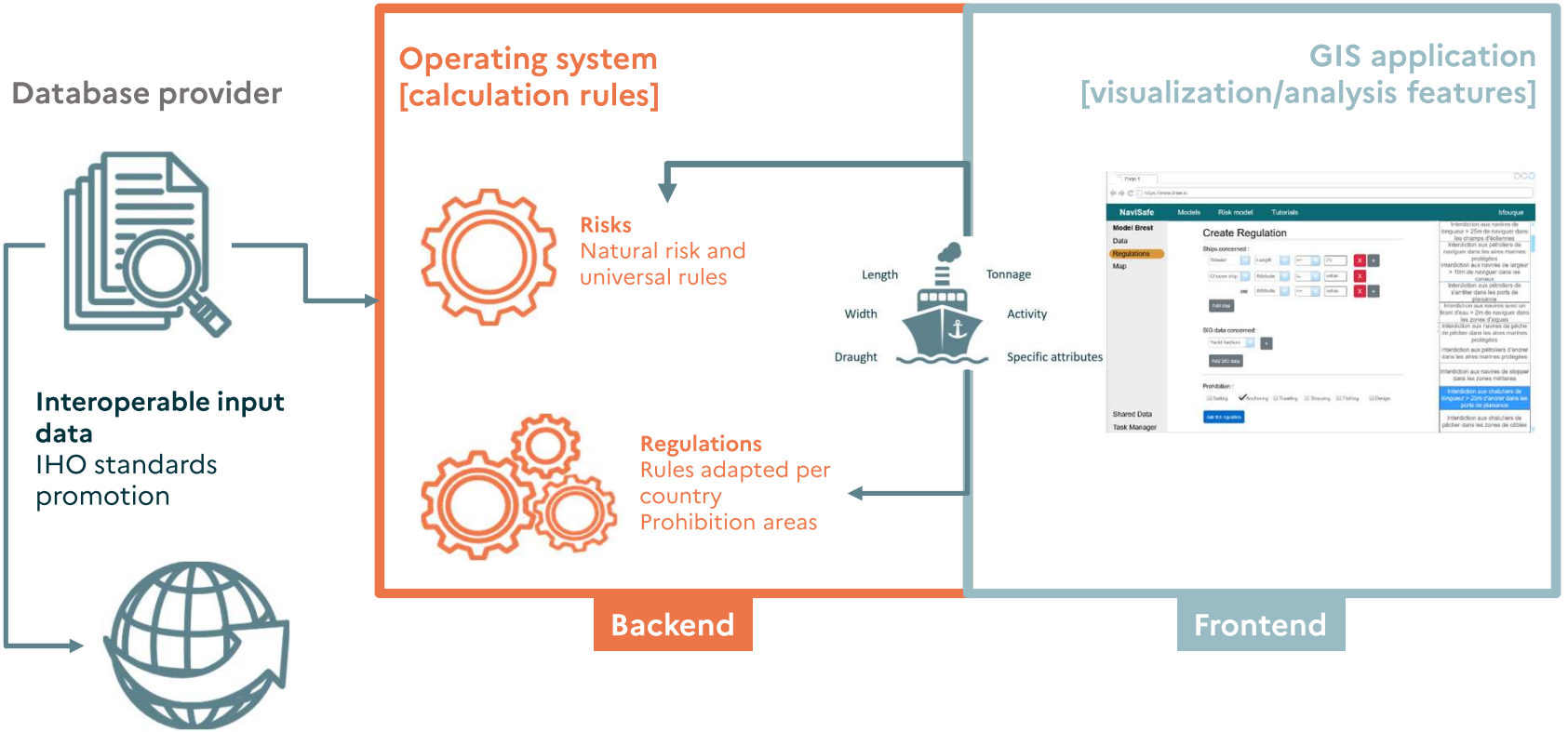

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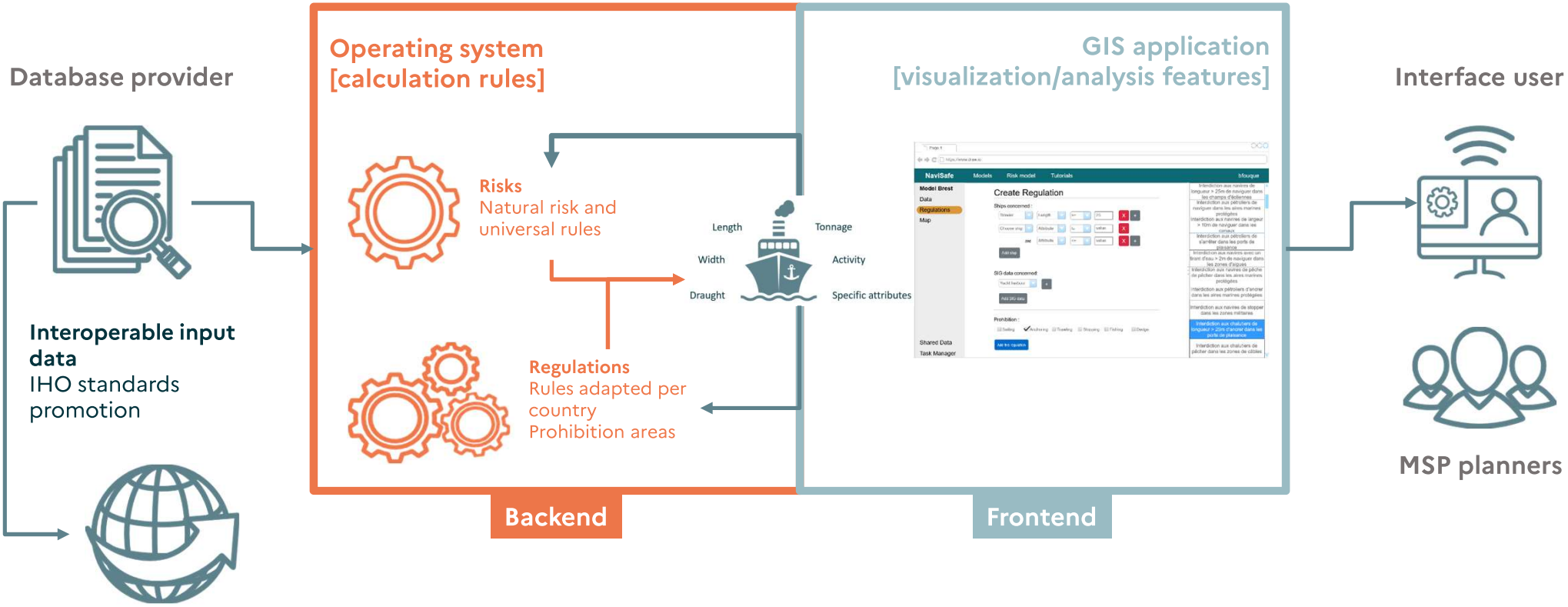
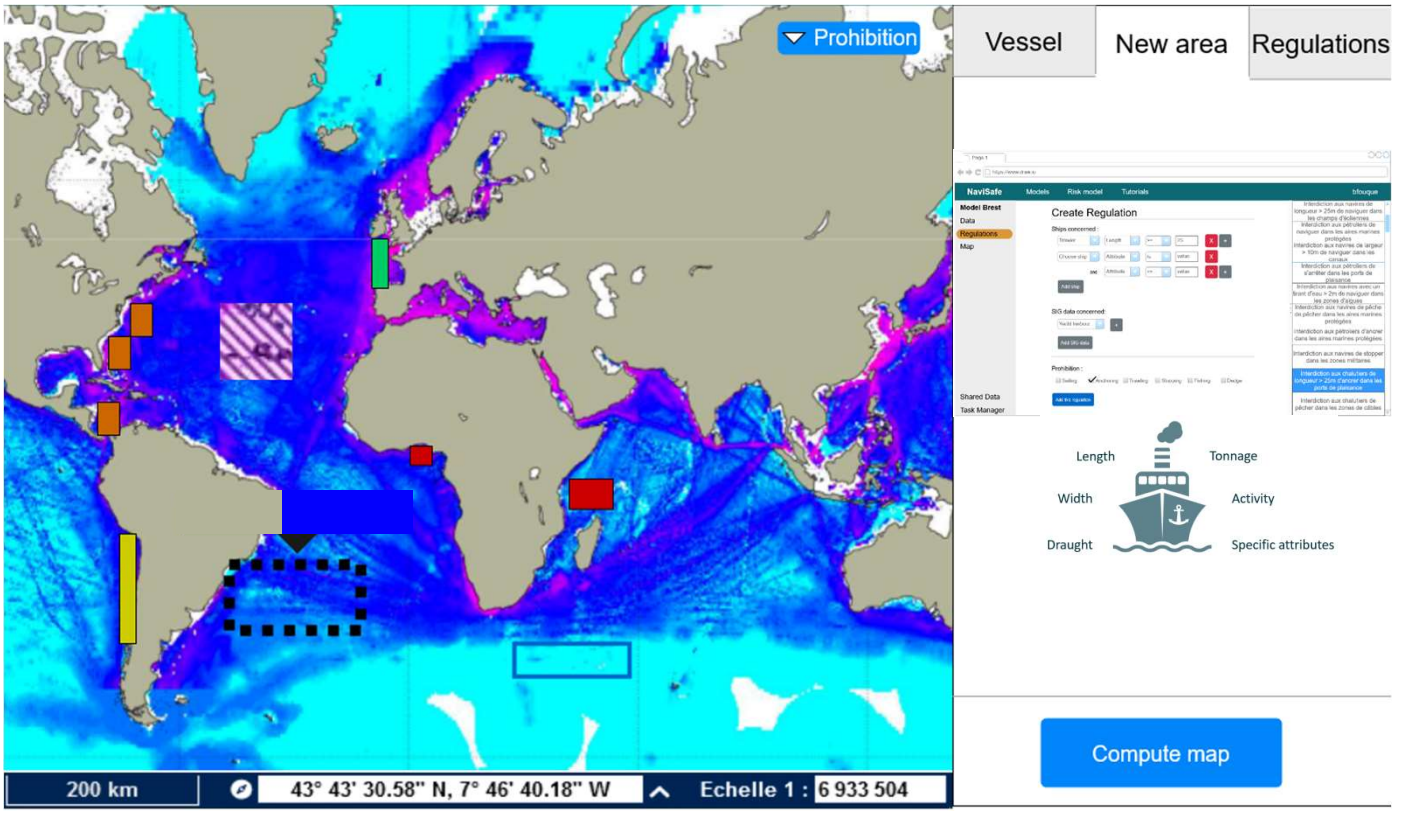


1 - 2/ ReMAP project

- *NaviSafe prototype (work in progress)*



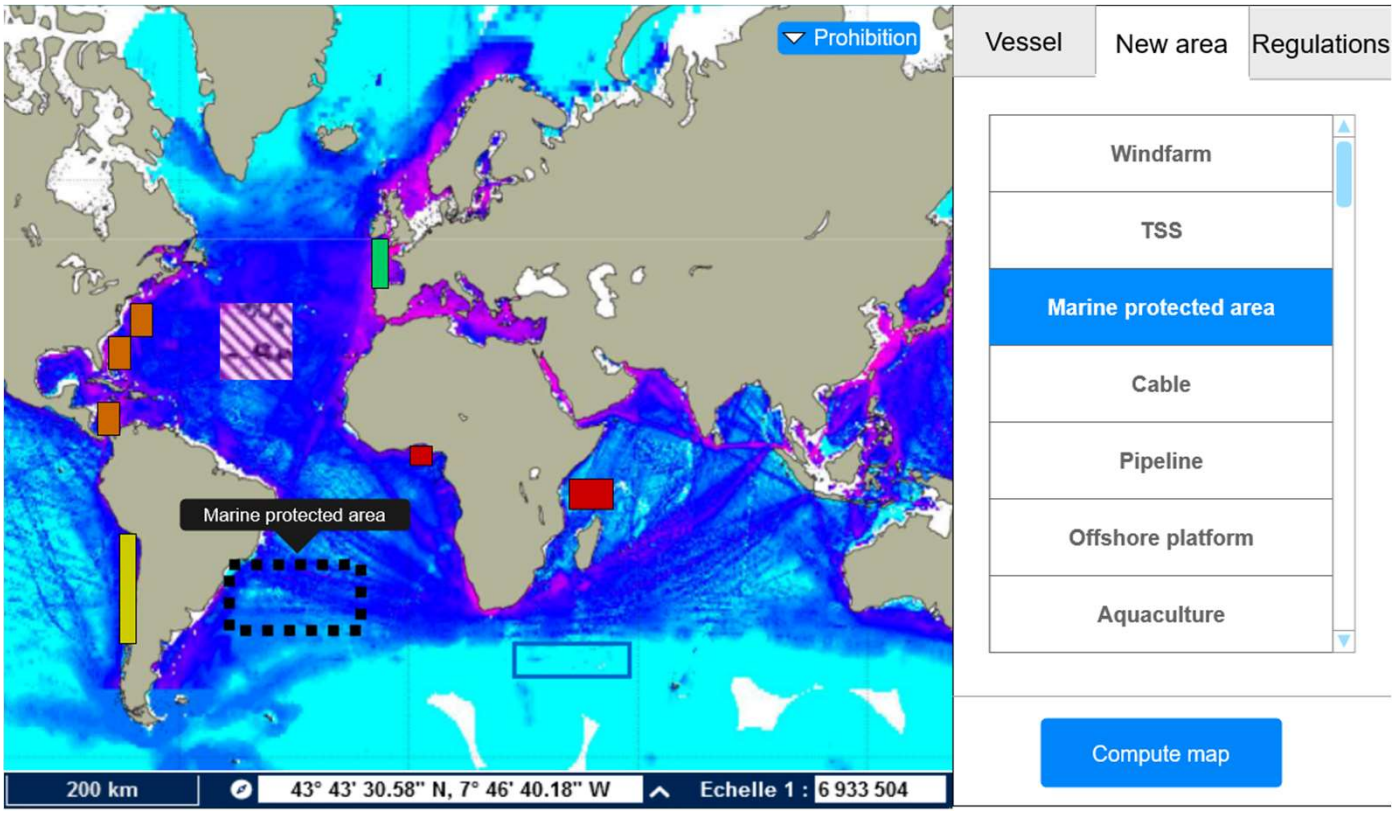
Interface user

MSP planners

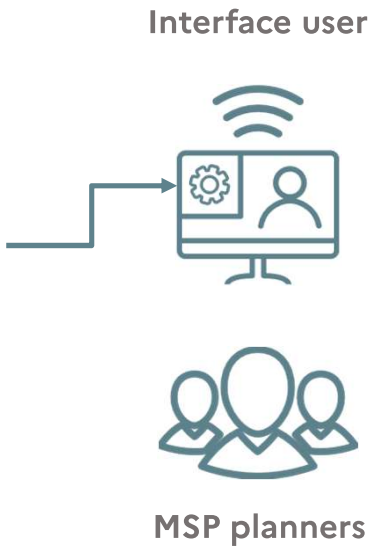
Source : Shom (2024)

1 - 2/ ReMAP project

- ***NaviSafe prototype (work in progress)***

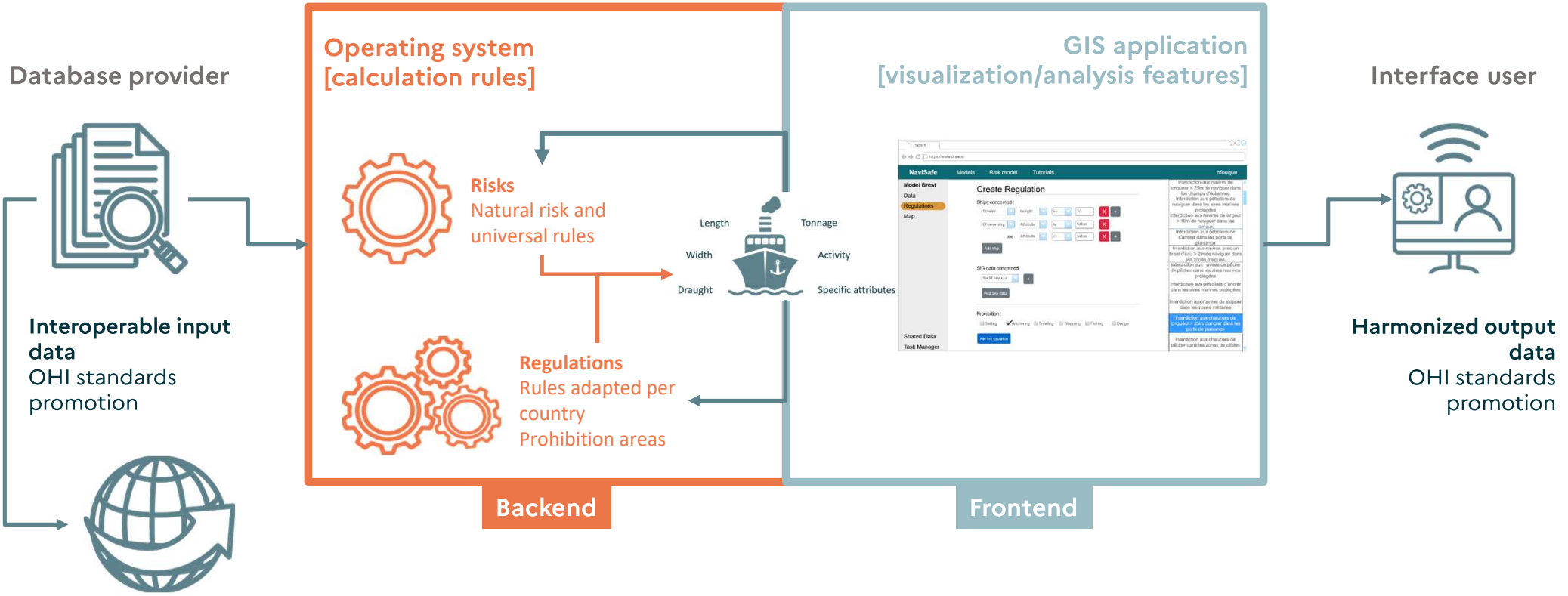


Source : Shom (2024)



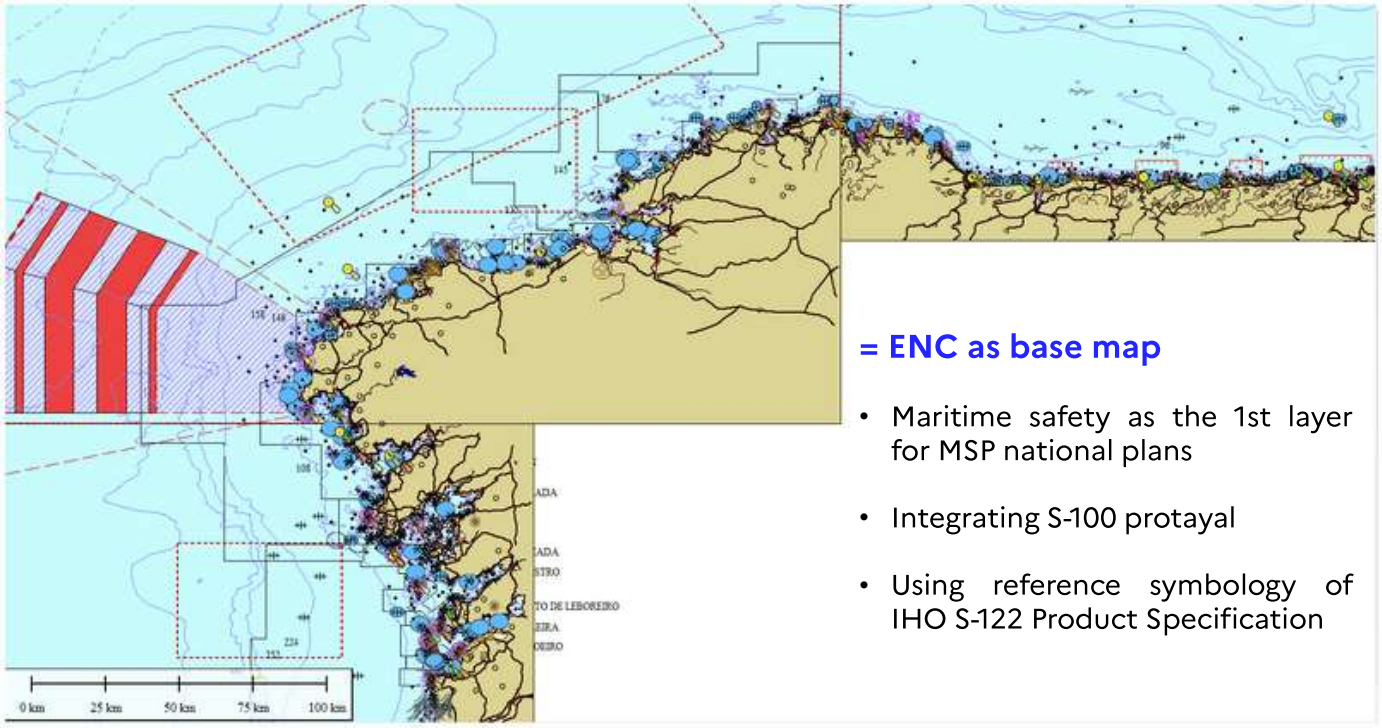
1 - 2/ ReMAP project

- *NaviSafe prototype (work in progress)*



1 - 2- 3/ **S-100 standard: « maritimized » MSP**

❑ *Maritime daily life into MSP context*



= ENC as base map

- Maritime safety as the 1st layer for MSP national plans
- Integrating S-100 protayal
- Using reference symbology of IHO S-122 Product Specification

Interface user

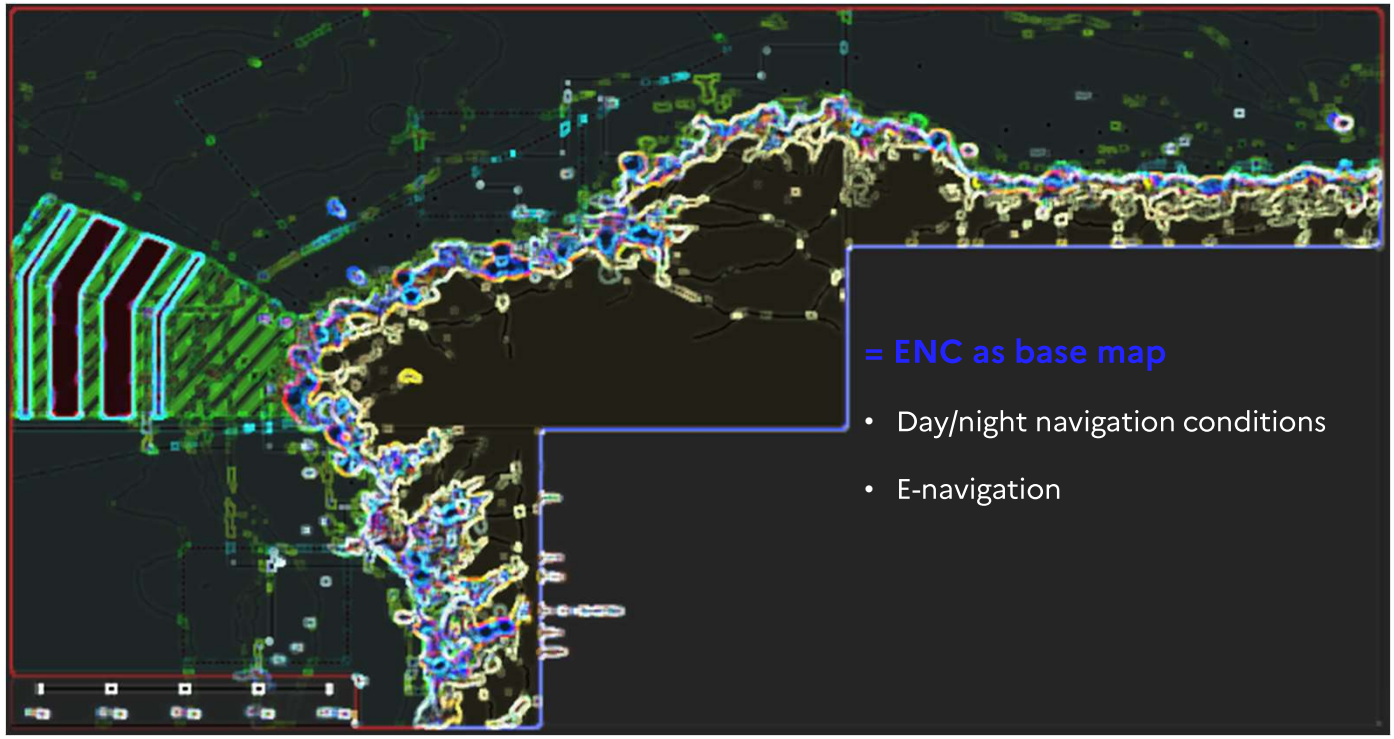
Output data

Harmonized output data
OHI standards promotion

Source : Galician « regional sea »_PRIMAR ENC (2024)

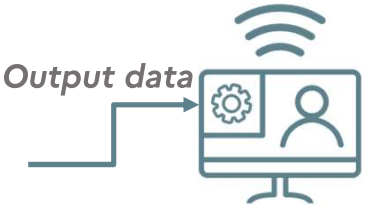
1 - 2- 3/ **S-100 standard: « maritimized » MSP**

❑ *Maritime daily life into MSP context*



Interface user

Output data



Source : Galician « regional sea »_PRIMAR ENC (2024)

1 - 2- 3/ S-100 standard: « maritimized » MSP

- *A key reference to light MSP national plans*

Source : https://iho.int/fr/s100-project

1 - 2- 3 - 4/ Sea the future coming

❑ *Using this language to meet new EU MSP targets*

Ō Objectives (minimum meet one)

✓ Analyze and align MSP plans with ambition of the *Green deal*

✓ Consider cumulative impacts on ocean parameters

✓ Strengthening the sea basin dimension

✓ Making MSP digital & pan-European

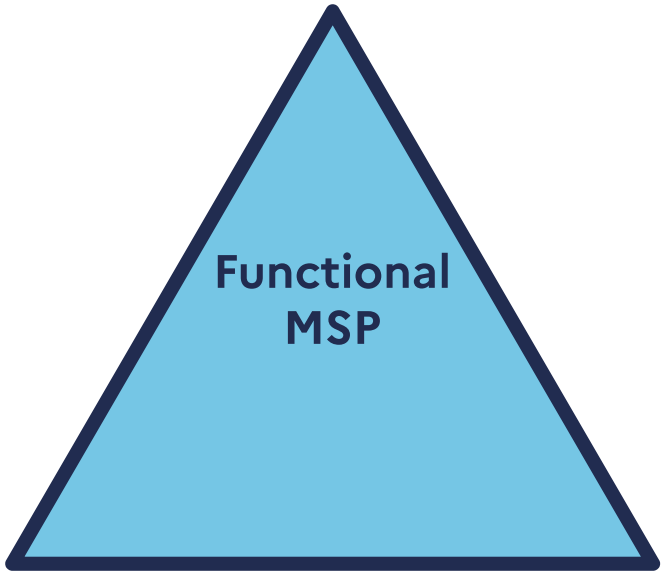
Priorities (meet one or a combinaison)

1. MSP: catalyst for european *Green Deal*
2. Facilitating/enabling the development of MPAs and economic sectors
3. Ecosystem-based approach to MSP
4. Analyze how plans have identified and addressed existing and potential tensions between different maritime sectors

Source : https://iho.int/fr/s100-project

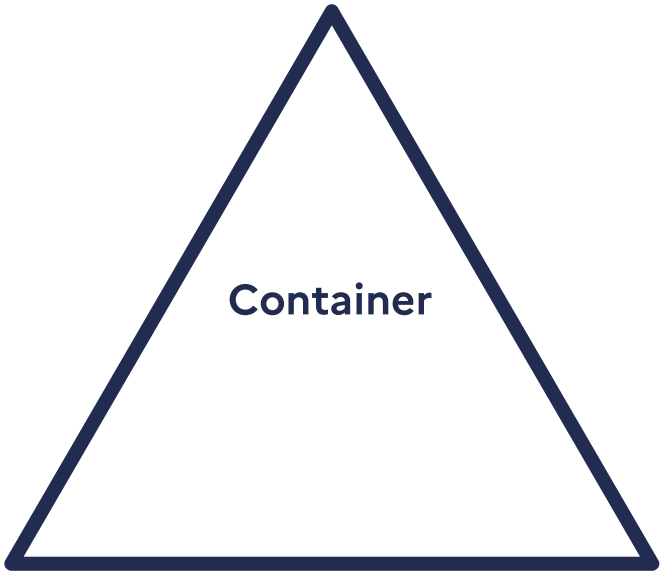
1 - 2- 3 - 4/ Sea the future coming

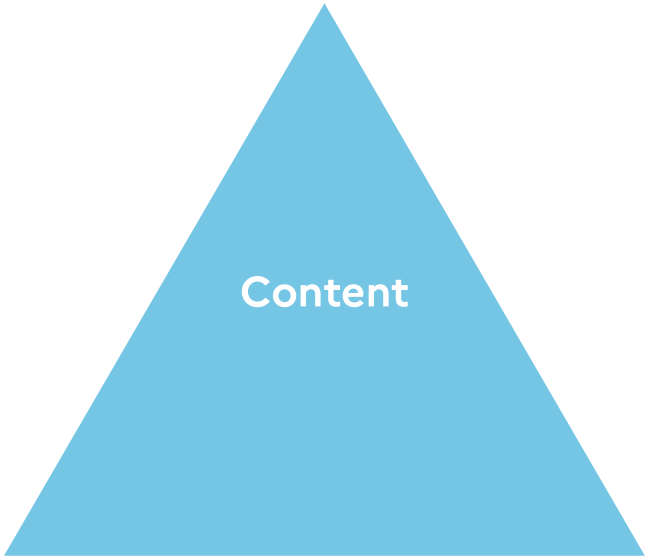
- *HO as « safe keeper » for MSP?*



1 - 2- 3 - 4/ Sea the future coming

- *HO as « safe keeper » for MSP?*

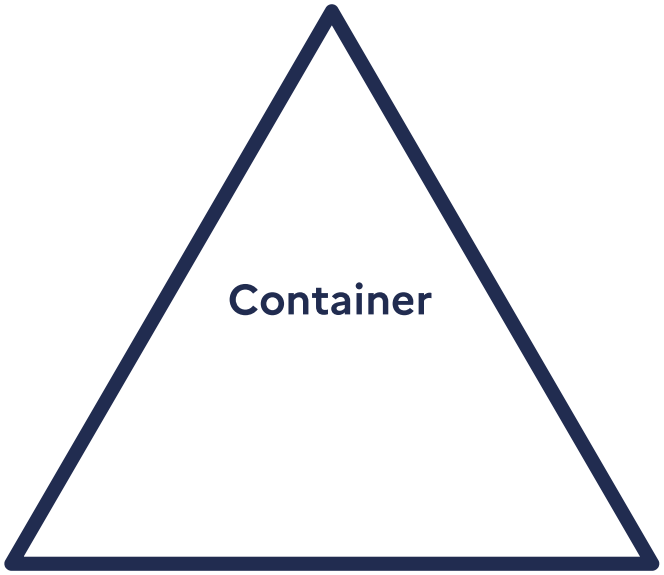


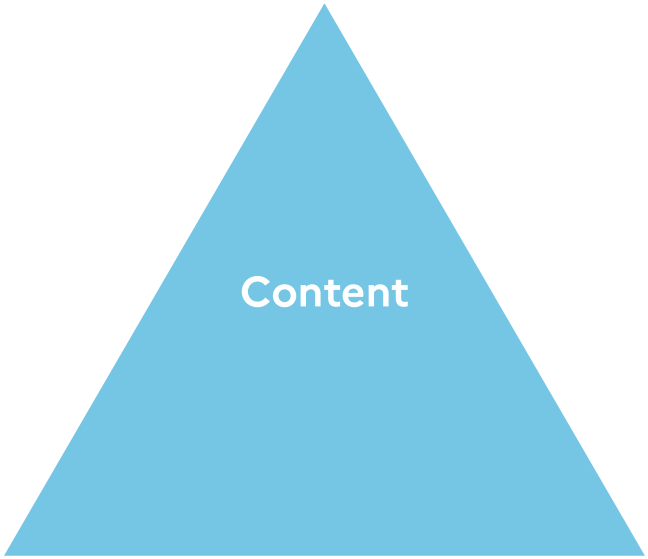


1 - 2- 3 - 4/ Sea the future coming

- *HO as « safe keeper » for MSP?*

~~ Marine physical environment ~~





/!\ Maritime safety /!\

// Maritime limites //

1 - 2- 3 - 4/ Sea the future coming

- *HO as « safe keeper » for MSP?*

~~ Marine physical environment ~~

/!\ Maritime safety /!\

// Maritime limites //

IHO standards for MSP: Shom's work

Case of MSP ReMAP project

Thank you for your attention

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yannick.leroy@shom.fr