



# Maritime Spatial Planning Framework Directive Supported by INSPIRE

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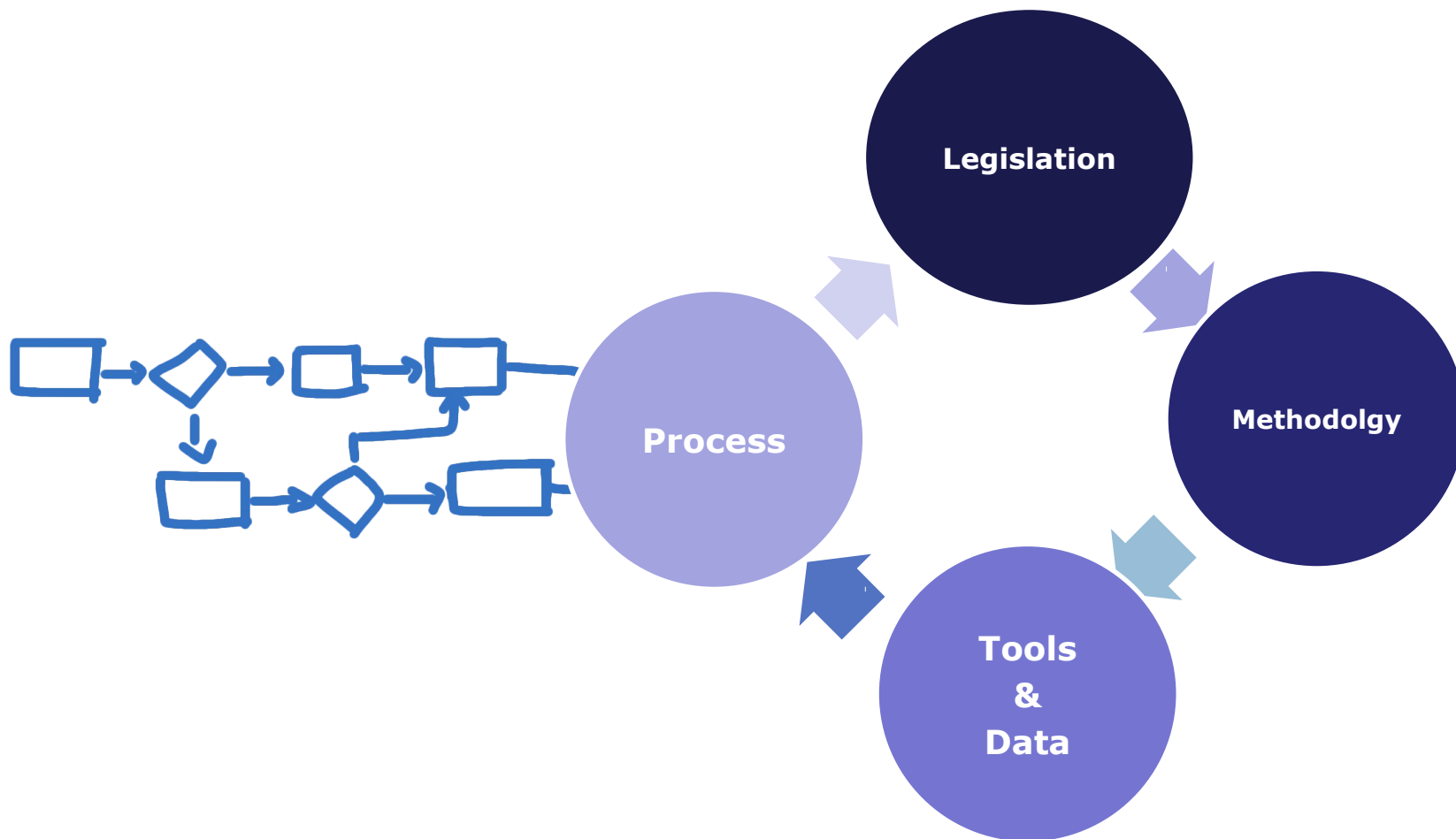
# Why we need Marine Spatial Planning?



Conflicts between multiple users are more frequent

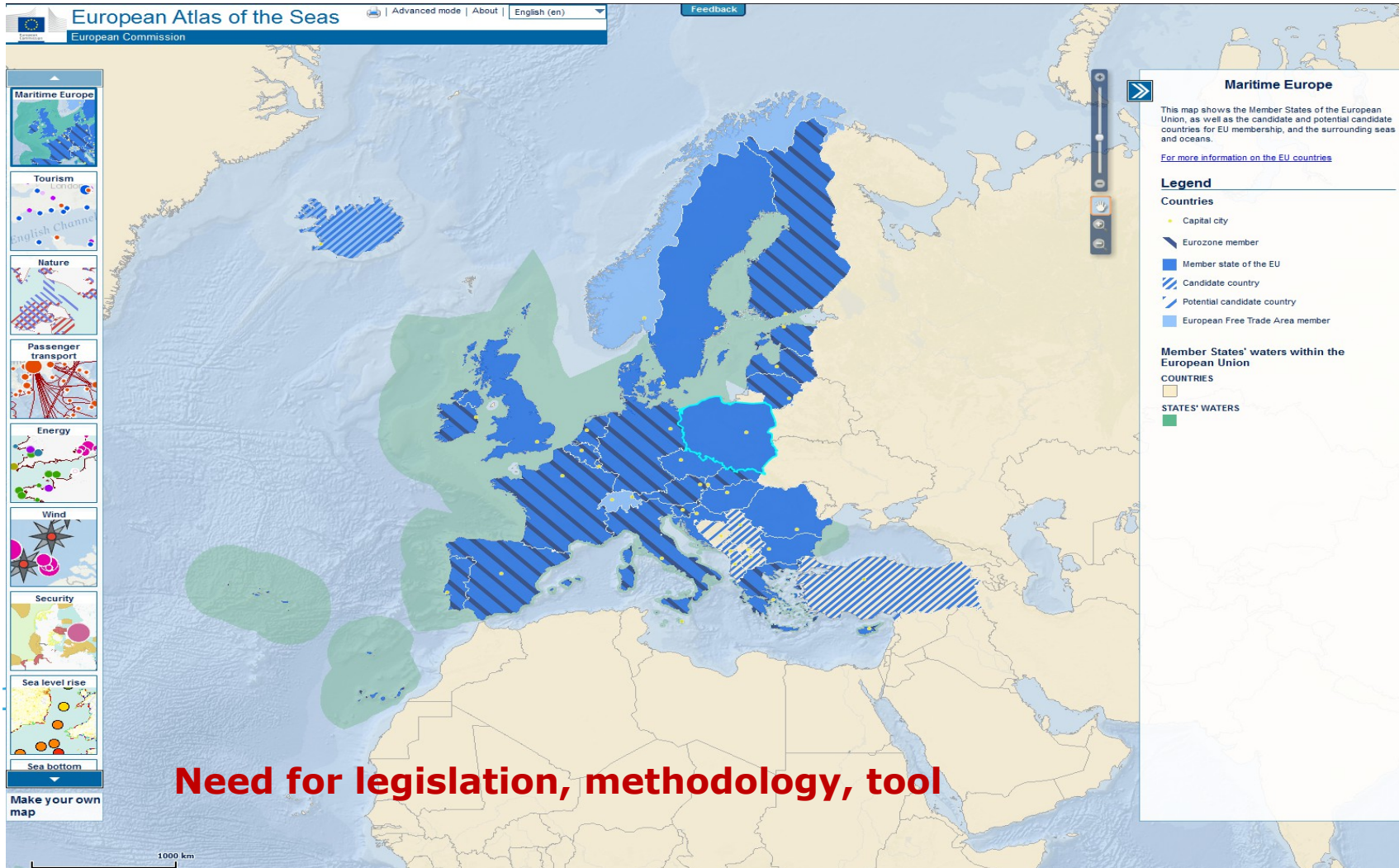
***To coordinate and minimize conflicts of multiple users (energy, industry, government, conservation, recreation....) that utilize same area ...***

# What is Marine Spatial Planning?





# Where is necessary to implement MSP



# 1. Legislation

USA - **2013 National Ocean Policy Implementation Plan** – related to the ocean, coasts, and the Great Lakes.

- Marine planning **is a science** and information based tool that can help advance local and **regional interests**
- *to improve collaboration and coordination among all coastal and ocean interests*
- *Marine planning is a voluntary regional process....*
- *Marine planning is a common sense*
- *Introduce Marine Planning Handbook 2013*



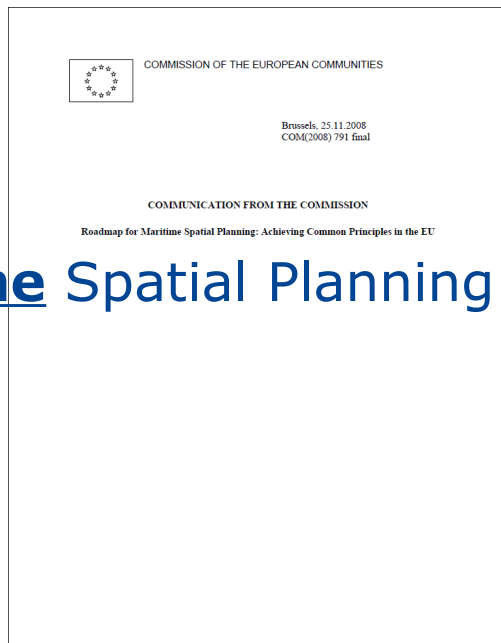
Marine Planning Handbook

National Ocean Council  
JULY 2013

# EU legislation

- **Roadmap for Maritime Spatial Planning: Achieving Common Principles in the EU - COM(2008) 791**
- **Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 establishing a framework for maritime spatial planning**

## Marine Spatial Planning VS Maritime Spatial Planning



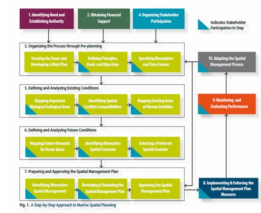
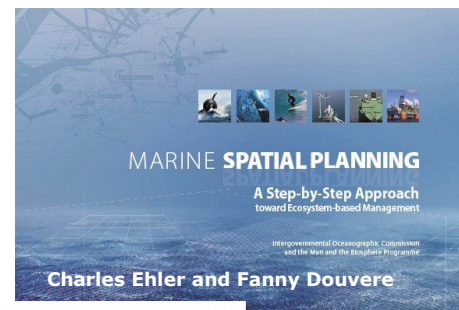
The term maritime spatial planning is favored over marine spatial planning to underline the holistic cross-sectorial approach of the process.

## 2. Methodology

# UNESCO IOC Marine Spatial Planning Initiative

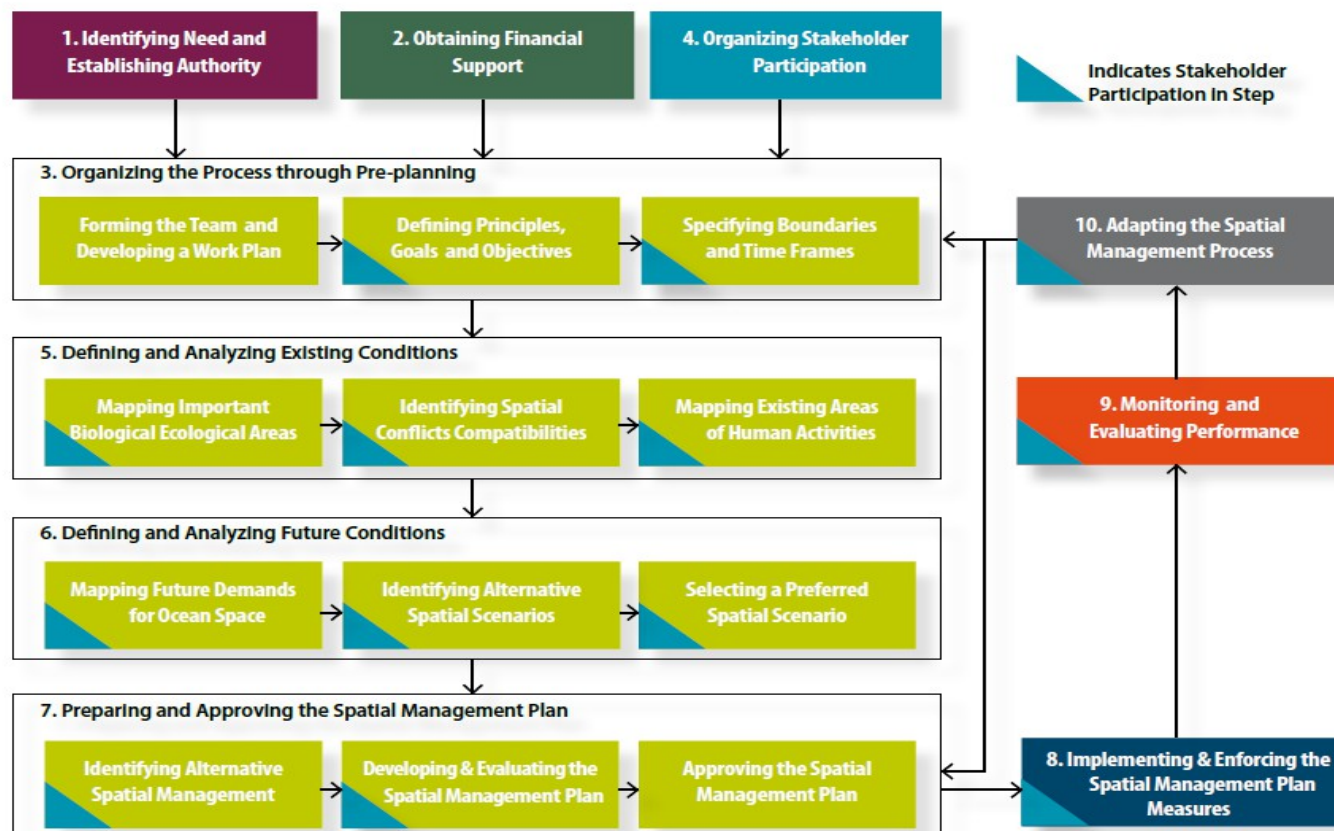
Operationalize ecosystem-based management by finding space for biodiversity conservation and sustainable economic development in marine environments.

- Developing a **step-by-step approach** for implementing marine spatial planning;
- **Documenting marine spatial planning initiatives** around the world;
- Analyzing good practices of marine spatial planning;
- **Collecting references and literature** on marine spatial planning;
- Enhancing understanding about marine spatial planning through publications;
- Developing capacity and training for marine spatial planning.





# Step by step - Ecosystem-based management approach





### 3. Can INSPIRE be used as a tool for MSP & implementation of the framework Directive on MSP

**We analyzed the framework Directive on MSP articles in relation to INSPIRE**

**Do MSPFD and INSPIRE share the scope & objectivities**

**Article 1:** Subject matter; should be consider **economic, social and environmental aspect**

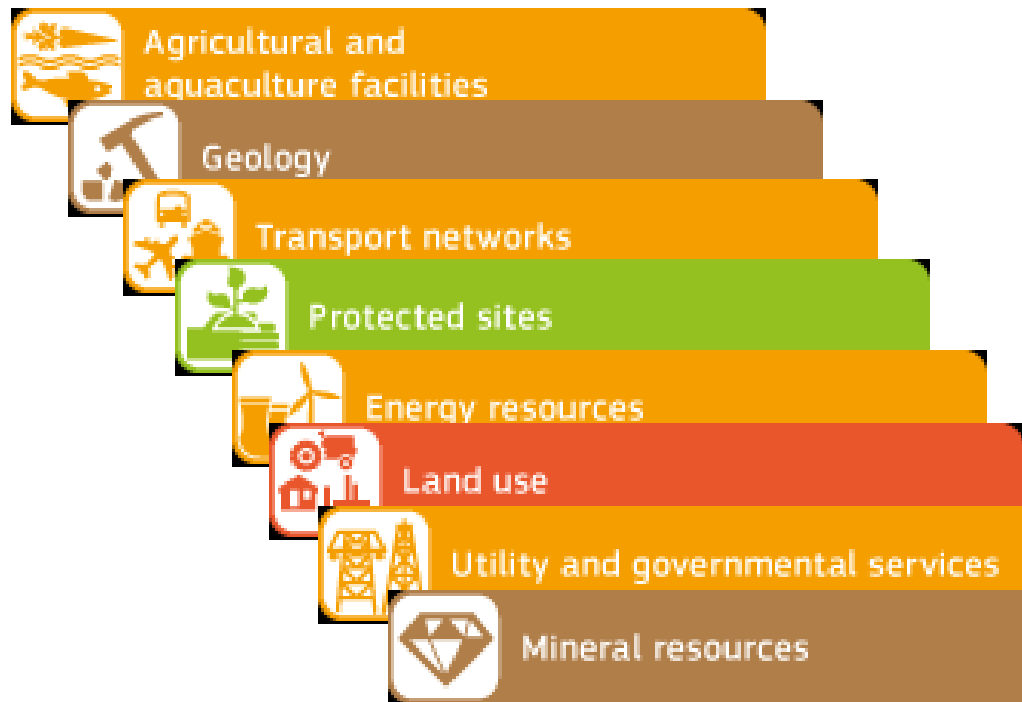
**Article 2:** Scope; Paragraph 1: Directive applies only on Marine waters - **excluding the coastal waters**

**Article 3:** Definitions; **MSP** defined as a process for the **sustainable human activities within ecological , economic and social objectives**  
**'marine waters'** means the **waters, the seabed and subsoil**

**Article 5:** Objectives of maritime spatial planning; **Sustainable development** of energy sector, maritime transport, fisheries, aquaculture, preservation & protection of environment

## Article 8: Setting up MSP, the elements that should be considered

- a) aquaculture areas
- b) fishing areas
- c) exploration, exploitation and extraction of oil, of gas and other energy resources
- d) maritime transport routes
- e) conservation sites and protected areas
- f) raw material extraction areas
- g) military training areas
- h) scientific research
- i) submarine cable and pipeline routes
- j) tourism
- k) underwater cultural heritage



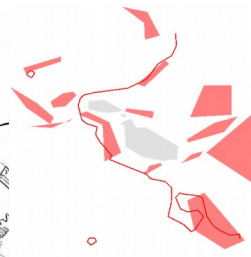
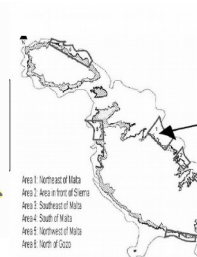
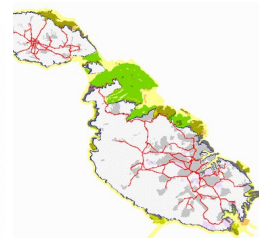
# Establishing spatial data inventory within INSPIRE

## Article 10: Data use and sharing

*Paragraph 1:* MS shall organize the use of the best available data, and decide how to organize the sharing of information, necessary for MSP

*Paragraph 3:* MS shall use instruments and tools, including those already available under the Intergrated Maritime Policy and INSPIRE

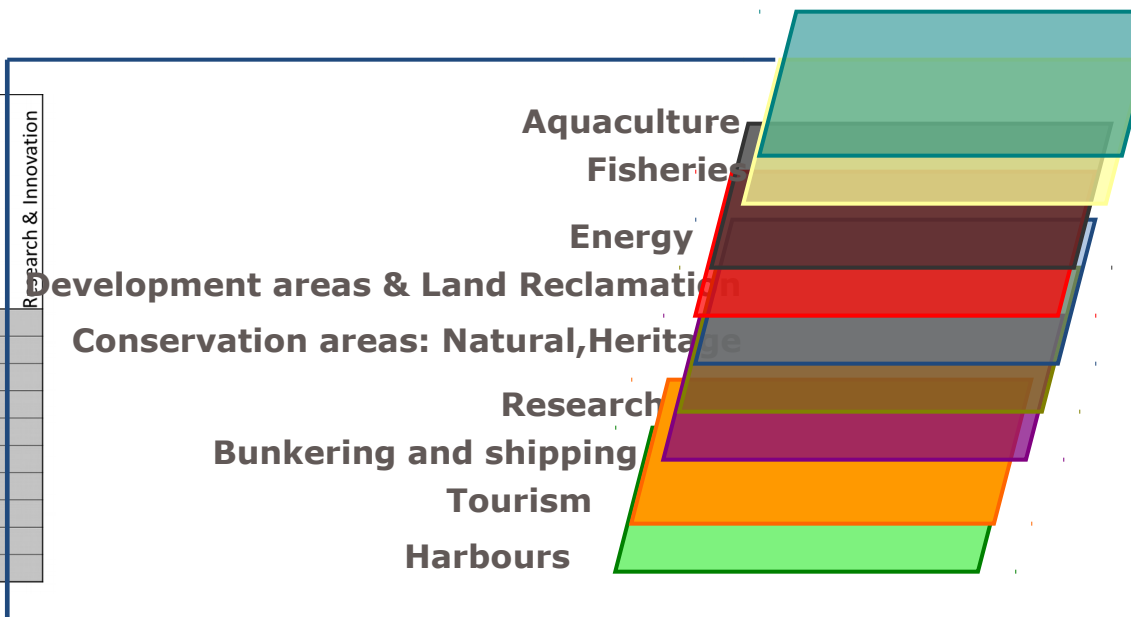
Required data for the process of MSP should be **easily discoverable, viewable and accessible** to download into a **harmonized and interoperable** format. **Establishing data inventory should be exceptionally more efficient**, without spending large amount of time and resources.



# Sustainability evaluation analysis and conflicts management

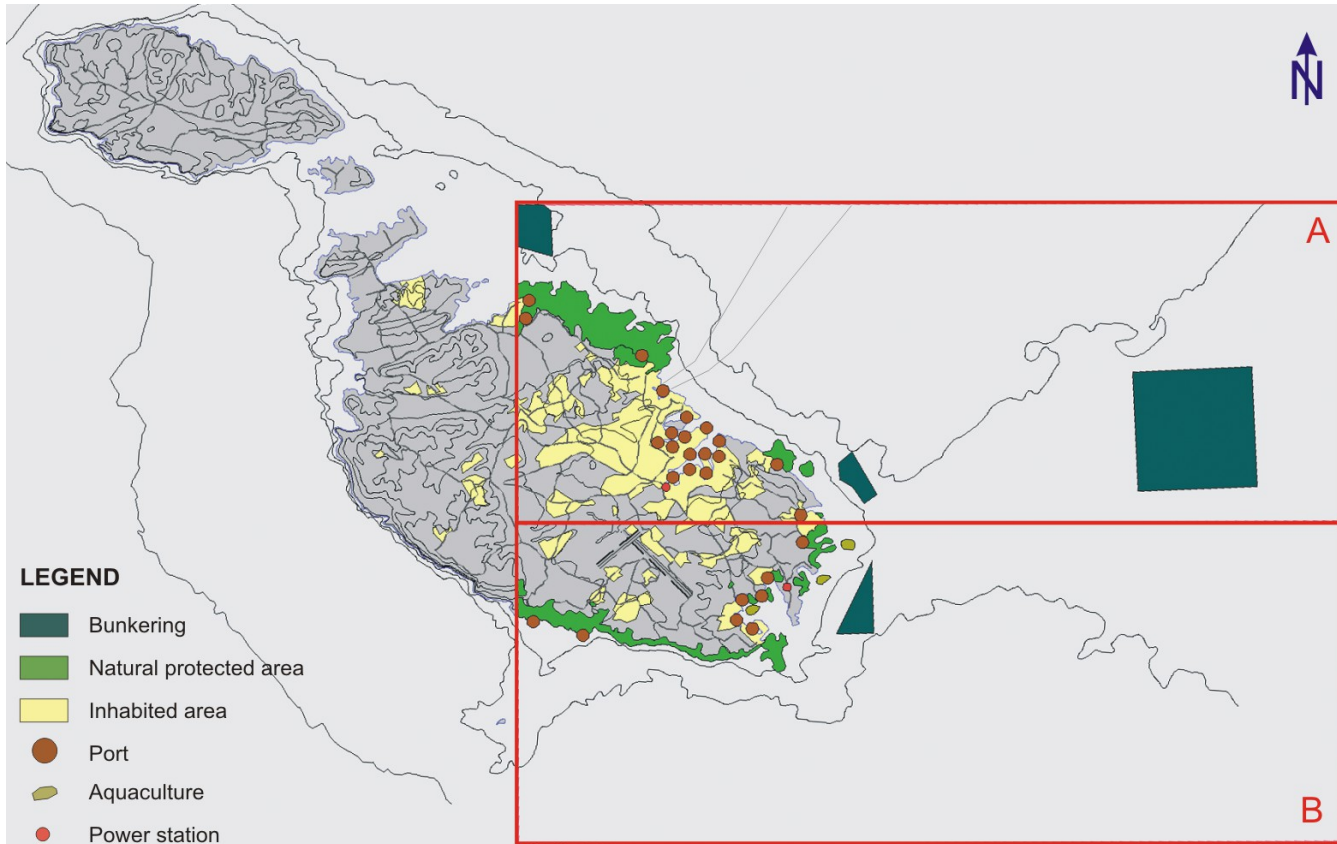
	Technology	Economic	Social	Environmental	Policy & Strategy	
					National	International
Fisheries	↑	↔	↔	↔	↔	↑
Aquaculture	↑	↑	↔	↓	↑	↑
Energy	↑	↓	↓	↓	↑	↑

	Fisheries	Aquaculture	Energy	Natura	Archeological Sites	Harbours	Bunkering & Shipping	Tourism	Land reclamation	Research & Innovation
Fisheries										
Aquaculture										
Energy										
Conservation areas										
Archeological Sites										
Harbours										
Bunkering & Shipping										
Tourism										
Land reclamation										
Research & Innovation										





# MSP – Malta



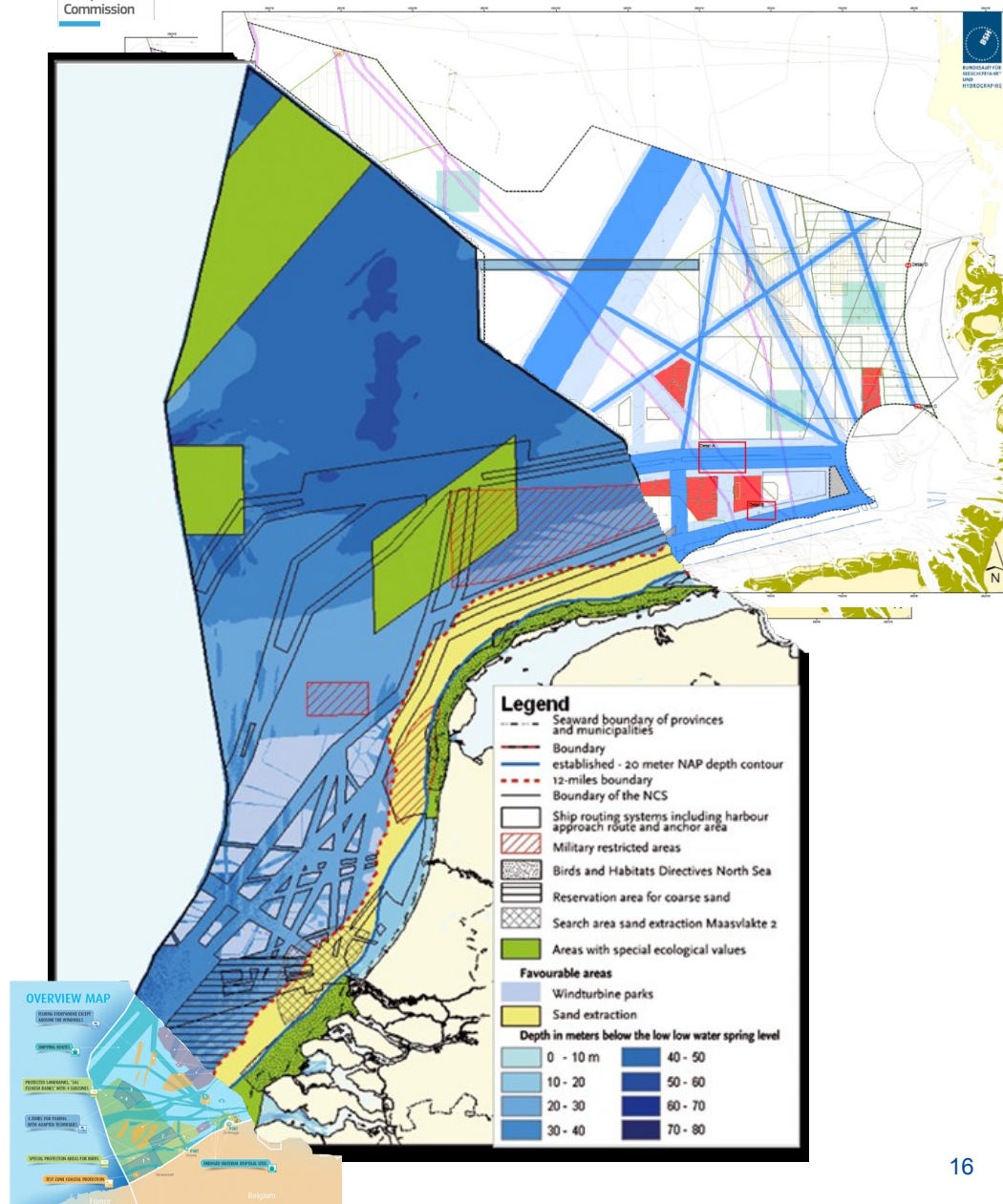
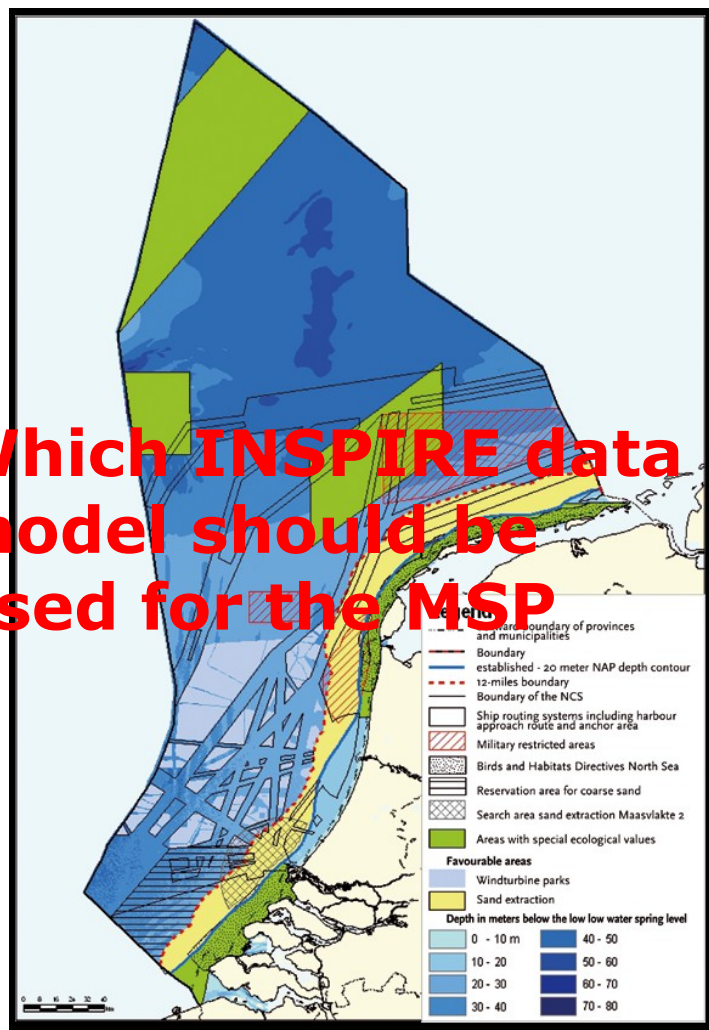
# INSPIRE data model for providing MSP in the interoperable “format”

**Article 4:** Establishment and implementation of maritime spatial planning

Paragraph 3: **Framework legislation** - gives *free hands* to MS regarding the ***design, format and content***

## Advanced examples in EU

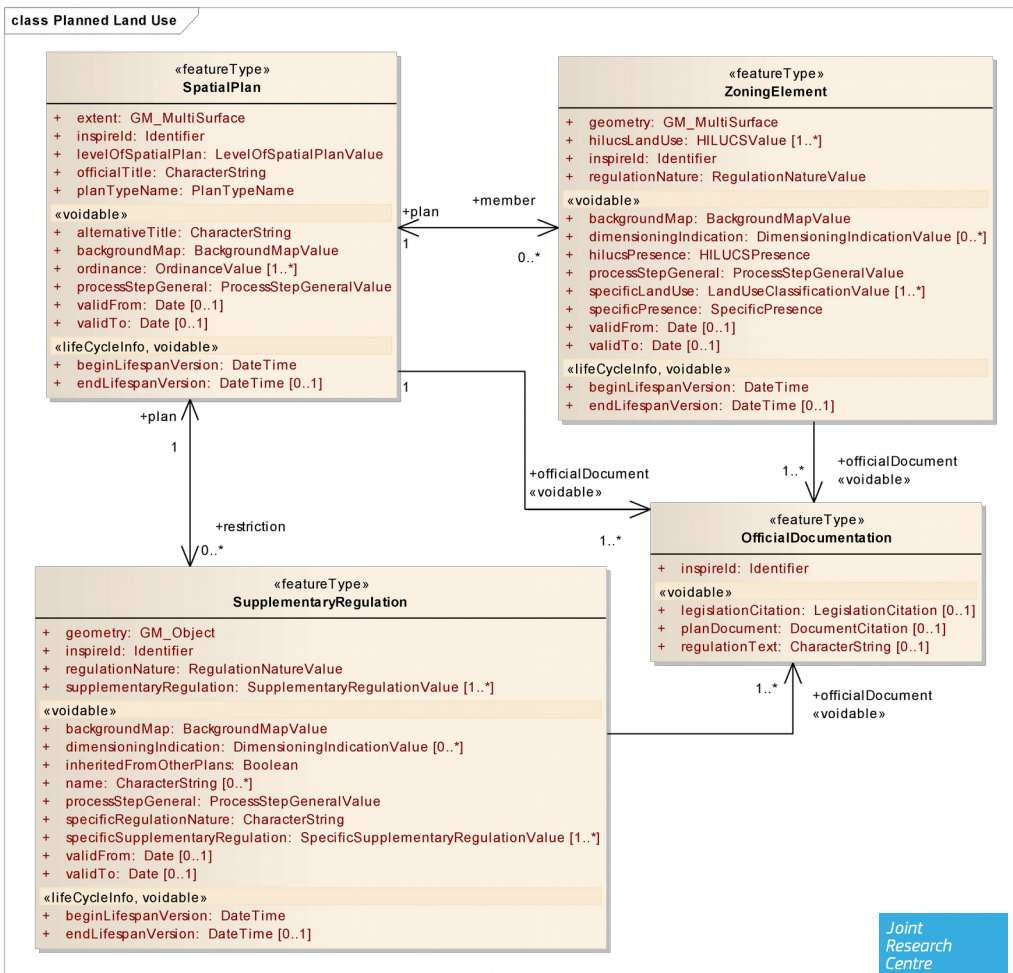
**Which INSPIRE data model should be used for the MSP**



# INSPIRE *Planned Land use* data model

INSPIRE data model for spatial planning have 4 feature types:

1. **SpatialPlan**: indicates a strategic direction for the development of a given geographic area, within distribution of people and activities.
2. **ZoningElement**: Homogeneous spatial object based on zoning concept which separate one set of uses from another.
3. **OfficialDocumentation**: includes official documentation that composes the spatial plan
4. **SupplementaryRegulation**: A spatial object (point, line or polygon) of a spatial plan that provides supplementary information and/or limitation of the use of land/water /sea necessary for spatial planning reasons or to formalise external rules defined in legal text.



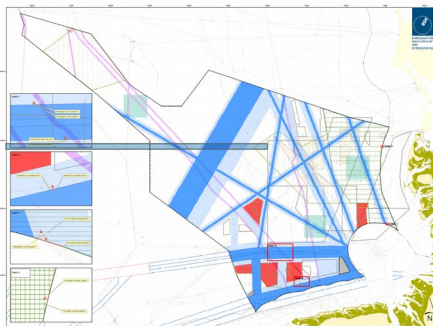


# HILUCS

## Hierarchical INSPIRE Land Use Classification System

Develop as a classification system that can classify existing and planned activities (land use)

Mapping HILUCS VS MSP objects :



Spatial object	HILUCS
Reservation Area Shipping	4_1_4_WaterTransport
Priority Area Shipping	4_1_4_WaterTransport
Traffic Separation Scheme	4_1_4_WaterTransport
Offshore wind energy	2_4_4_RenewableEnergyProduction
Offshore wave energy	2_4_4_RenewableEnergyProduction
Offshore tidal energy	2_4_4_RenewableEnergyProduction
High Voltage Cable (in use)	4_3_1_ElectricityGasAndThermalPowerDistributionServices
Reservation Area for Pipelines	4_3_1_ElectricityGasAndThermalPowerDistributionServices
Priority Area for Pipelines	4_3_1_ElectricityGasAndThermalPowerDistributionServices
Natural Gas pipeline	4_3_1_ElectricityGasAndThermalPowerDistributionServices

**All activities that are included in Spatial Plan for the German EEZ, are covered by the HILUCS**

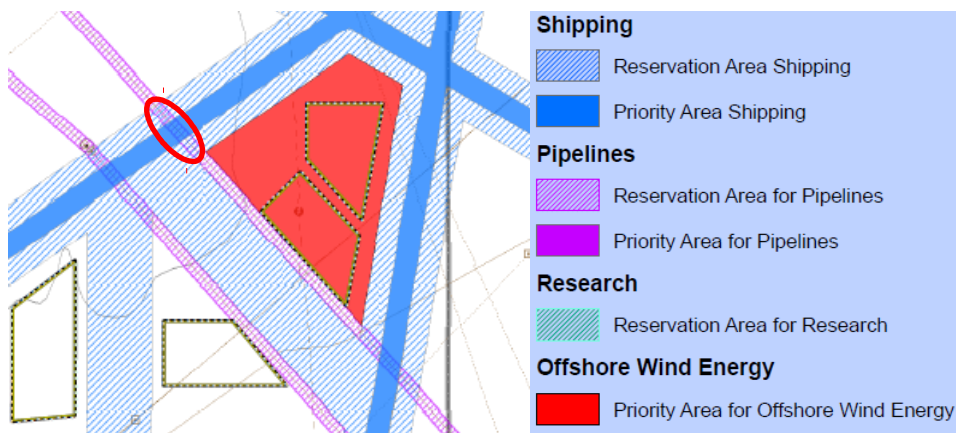
**HILUCS – for the marine/maritime activities - generic classification system**

**Second classification system (given by data provider) can give us more specific information on – as SpecificLandUse attribute**

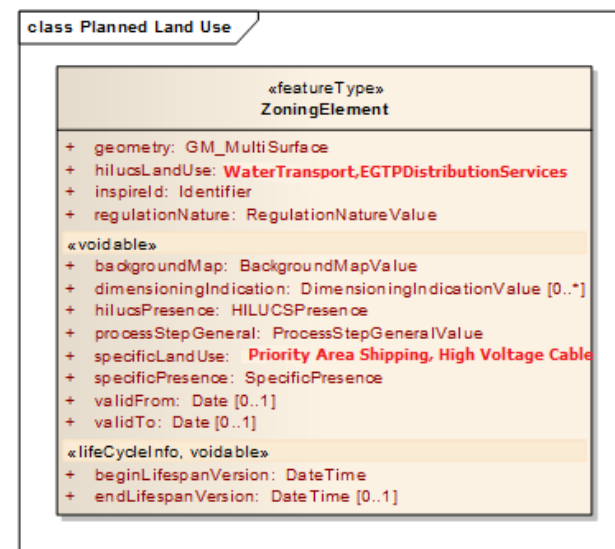
# Ocean/marine zoning concept approach

- **More dynamical from land zoning** - zones could be changed in terms of years or even in terms of seasons
- **Support mixed-use** and exclusive-use zones
- **More effective marine conservation** (large scale zones on marine areas comparable with land areas – impacts on marine environment addressed on entire region)
- **4S Zoning**: Simple, Systematic, Strategic and State-forward
- The concept of zoning comprises **polygons that are mutually exclusive**;
- MSP for a difference of land planning is dealing with a **three spatial dimensions** and address activities on the **seabed, subsoil and the water**.
- Zoning concept do not allow that **three dimensions are used by different purposes**.
- The **spatial elements cannot be overlapped** and within zoning concept there is a difficulty to refer on the seabed, subsoil or surface

# One layer for surface, seabed, subsoil



Detail from Spatial Plan for the German EEZ



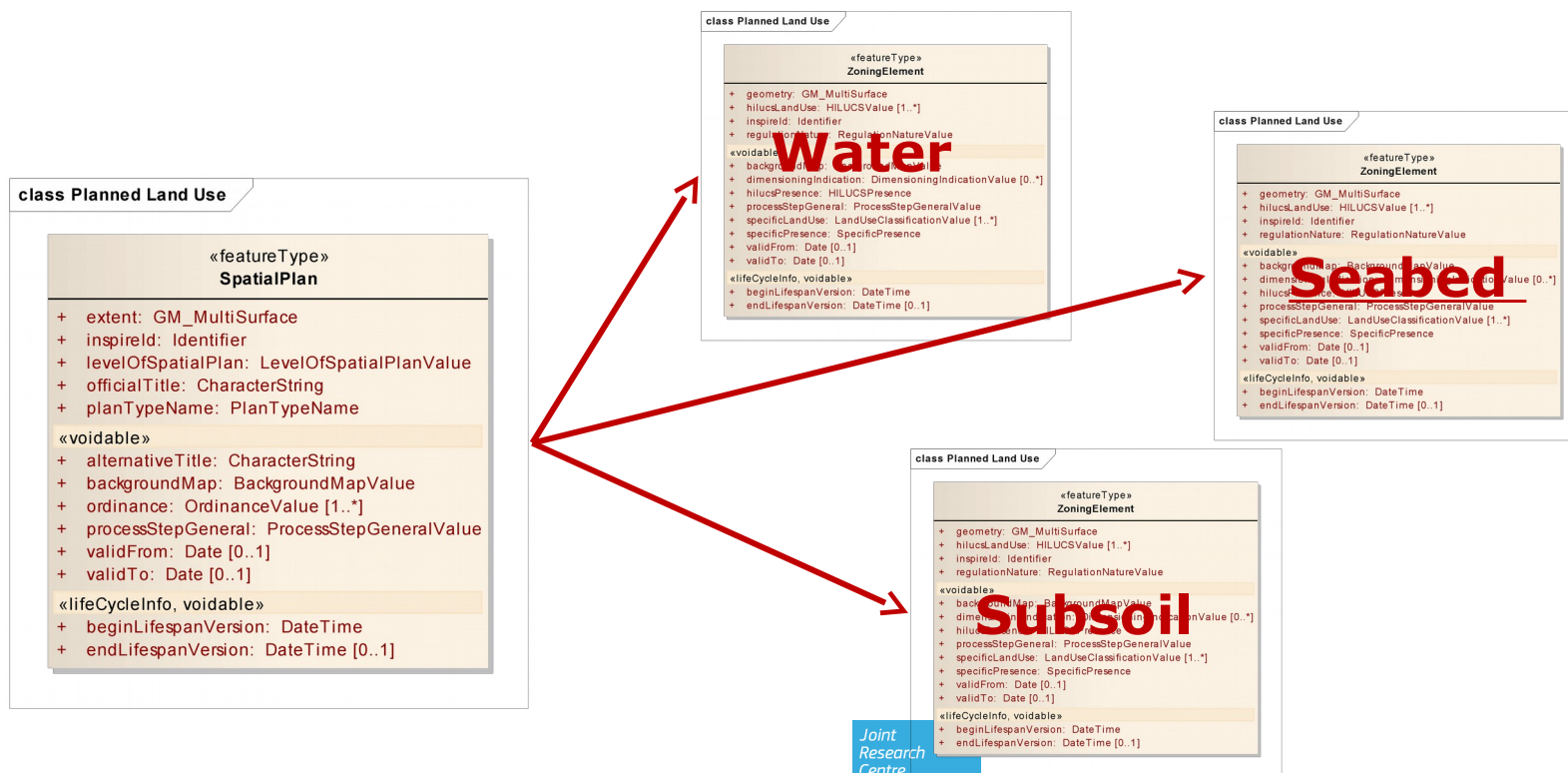
- ZoningElement feature type has related attributes hilucsLandUse and specificLandUse, have a multiplicity of 1 to many
- list of HILUCSValue as a list of LandUseClassificationValue related to the one spatial object – overlapped zone
- Most of the real objects that are located in “different dimensions” in the map presentation are overlapped in the cross sections of two or three spatial objects geometry.
- Each overlapped cross section should be treated as a single spatial object, with list of HILUCSValue and voidable list of LandUseClassificationValue

# 3 layers approach

Spatial plan should consists **three separated zoning layers**:

1. Zoning elements that reefer on water - **water layer**
2. Zoning elements that reefer on seabed - **seabed layer**
3. Zoning elements that reefer on subsoil - **subsoil layer**

Within this approach spatial *objects (features)* represent *entire real objects*.





# Using the INSPIRE Data model and network services

## ***Article 11: Cooperation among Member States***

Member States bordering marine waters shall cooperate with the aim of ensuring that maritime spatial plans are coherent and coordinated

## ***Article 12: Cooperation with third countries***

## ***Article 13: Competent authorities***

Each MS should designate competent authorities

## ***Article 14: Monitoring and reporting***

The maritime spatial plans referred to in Article 4 shall be established as soon as possible, and at the latest by 31 March 2021.

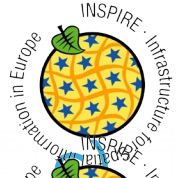
## Article 6: Minimum requirements for MSP



MSP should consider and take in account land-sea interactions



Take into account environmental, economic and social aspects



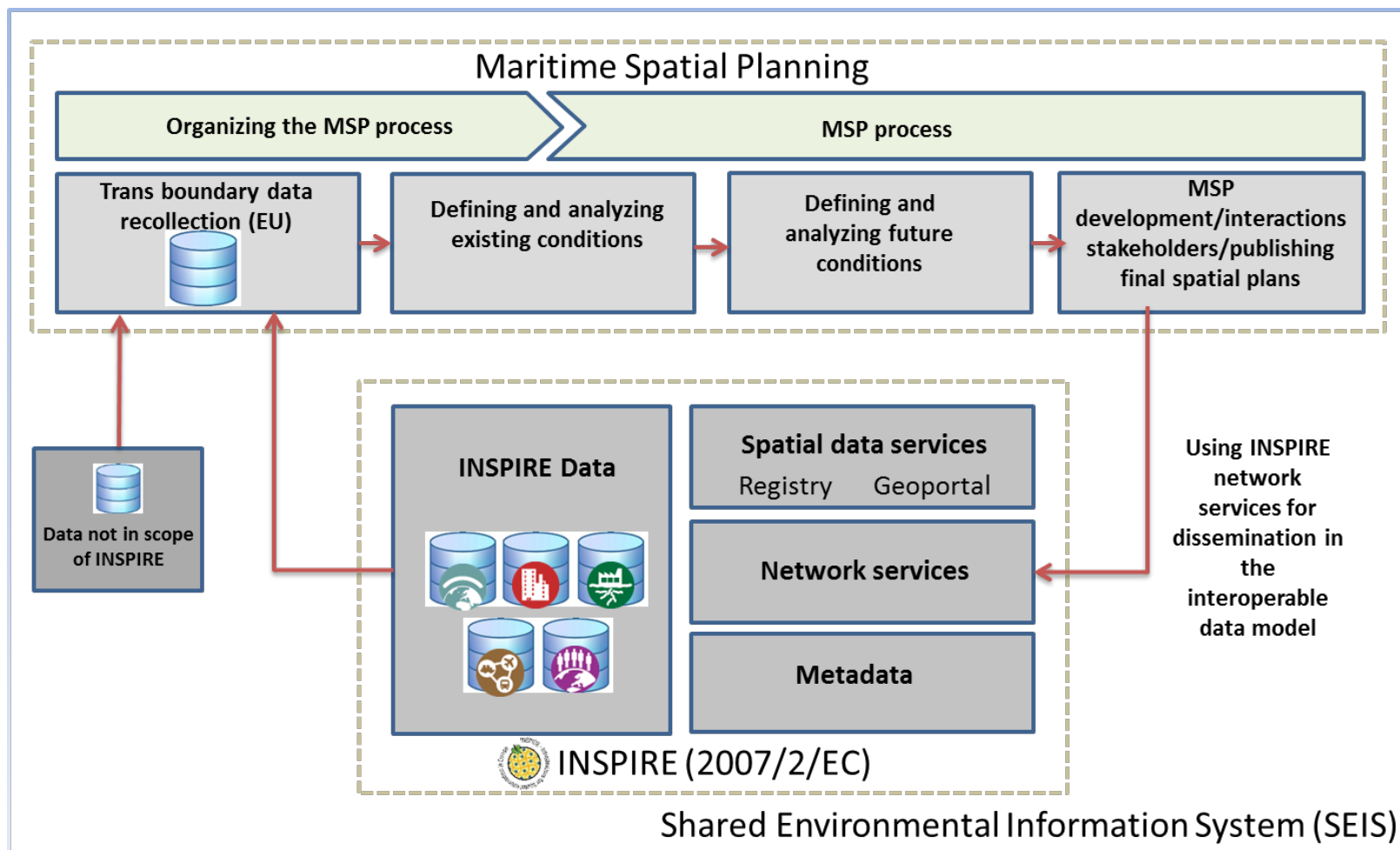
Ensure involvement of stakeholders



Organize the use of best available data



e) Ensure trans-boundary cooperation



# Thank you ...questions ?

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