



MSP output data

and its relation to INSPIRE Directive

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Baltic Sea Region MSP Data Expert Sub-Group 3rd meeting
Gothenburg, 13.04.2016

Terms of Reference

For a BSR MSP Data Expert Sub-group

Tasks

e. Compile minimum requirements for trans-boundary MSP „Output Data” (Maritime Spatial Plans)

Outputs

d. Compilation of minimum requirements for Maritime Spatial Plan Data: „Output Data” and sharing of this data



Terms of Reference

For a BSR MSP Data Expert Sub-group

Tasks

e. Compile minimum requirements for trans-boundary MSP „Output Data” (Maritime Spatial Plans)

What is „Output Data”?



MSP is a process



MSP Process



MSP is a process

- What is the driving force for the process?
- What is the result of this process?
- Who needs results of this process?



MSP Process



MSP is a process



MSP Process



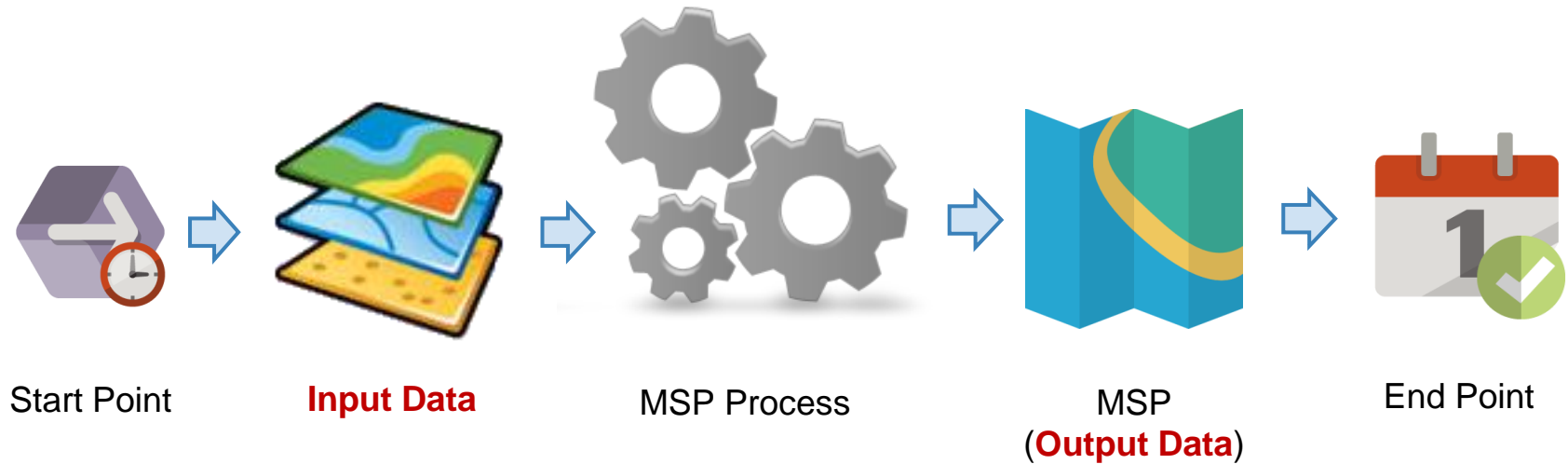
MSP GIS data flow

23 July 2014

[Directive 2014/89/EU]

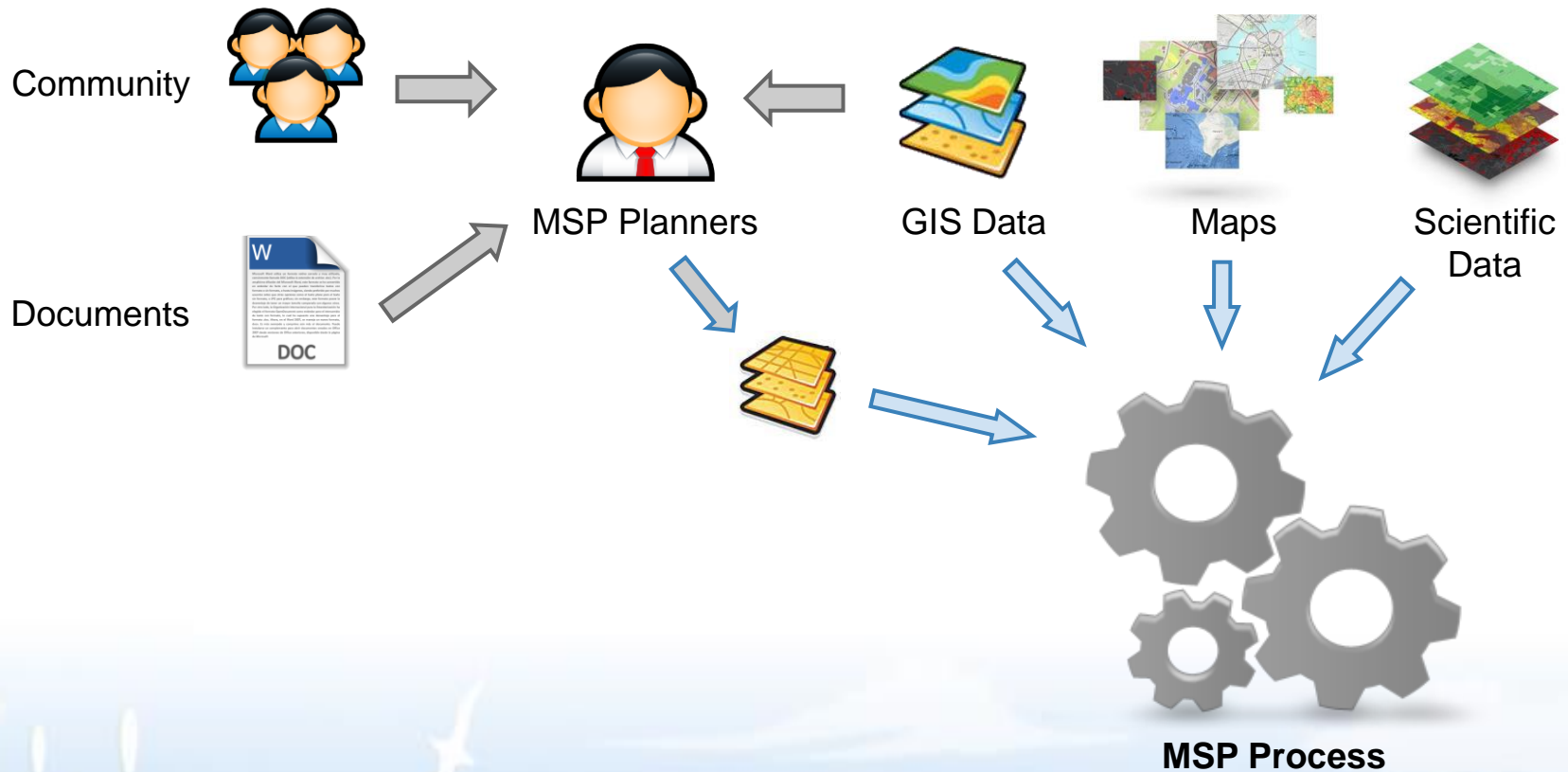
31 March 2021

[Directive 2014/89/EU]



...input data

Input data for MSP process



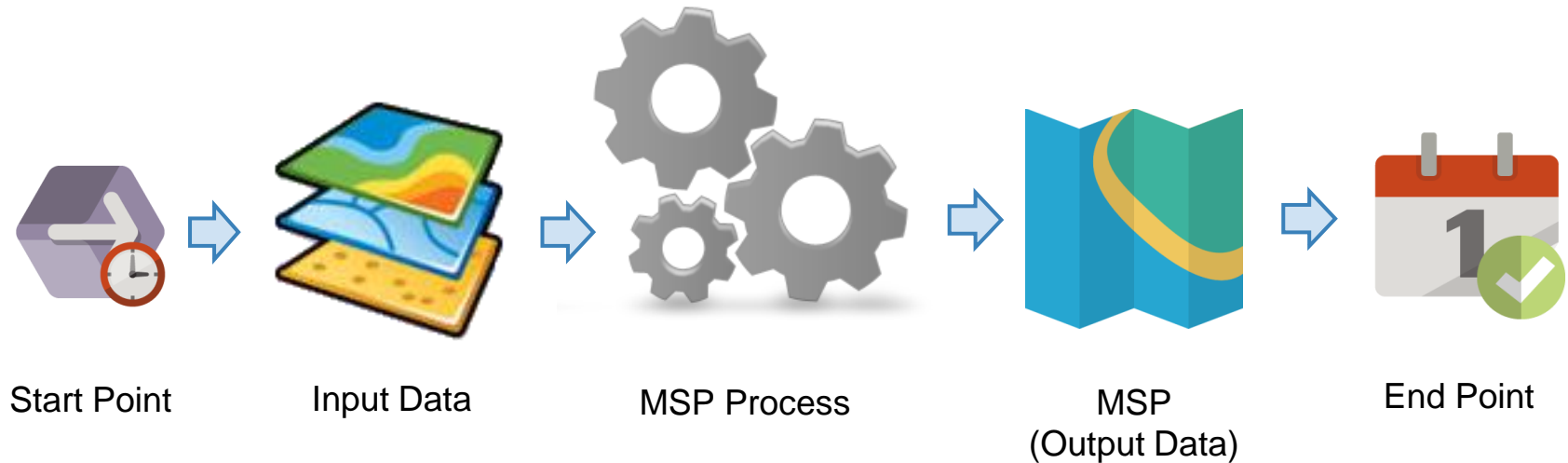
MSP GIS data flow

23 July 2014

[Directive 2014/89/EU]

31 March 2021

[Directive 2014/89/EU]



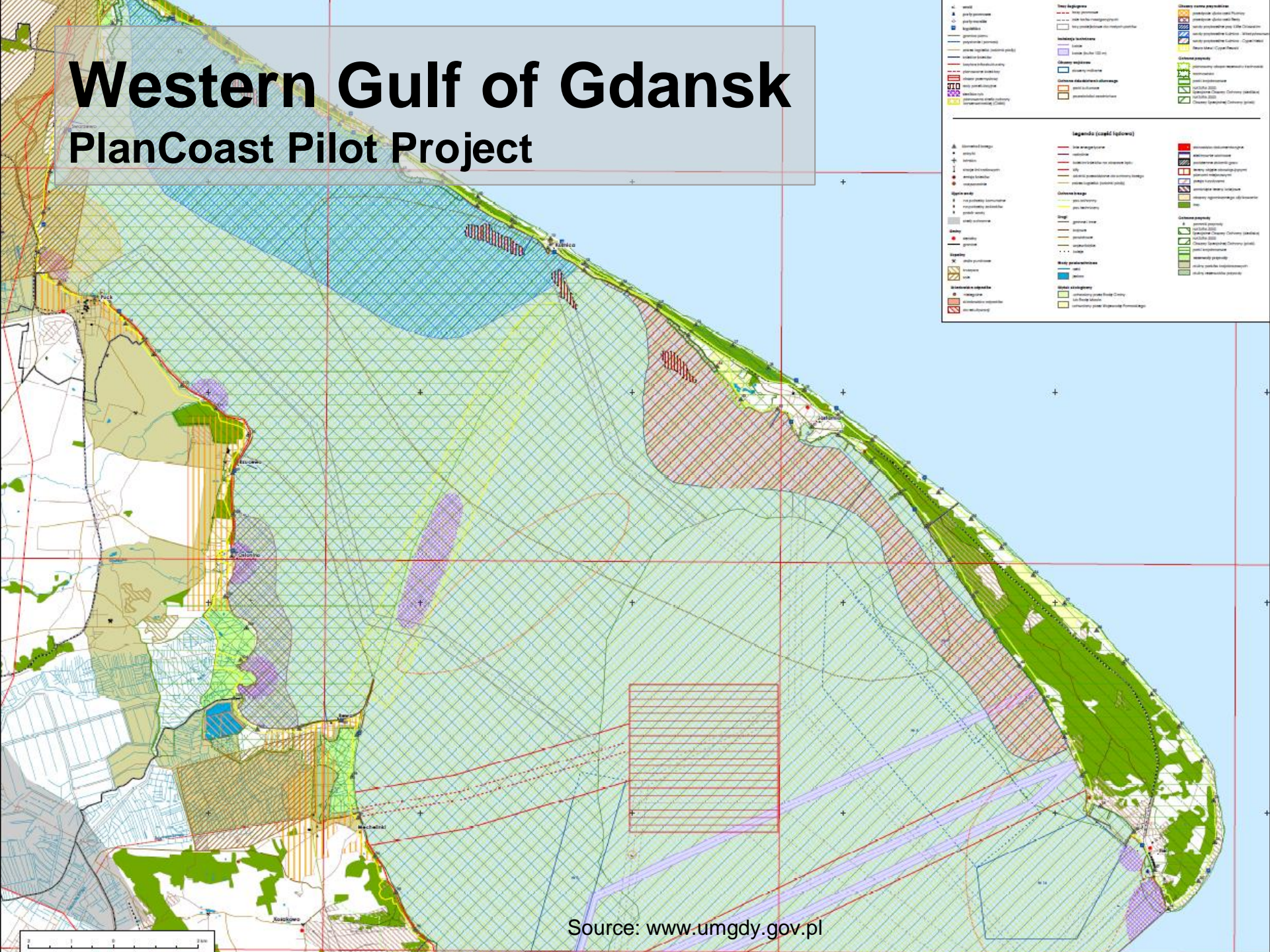
What is the result of MSP process?

[ToR]



Western Gulf of Gdansk

PlanCoast Pilot Project

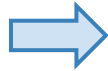


Source: www.umgdy.gov.pl

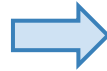
MSP Process output: Spatial plan



GIS Input
Data



MSP Process



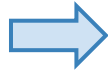
MSP



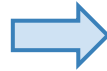
MSP output data



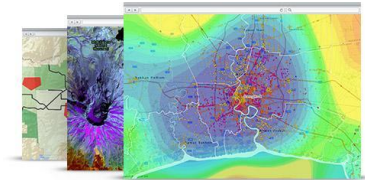
**GIS Input
Data**



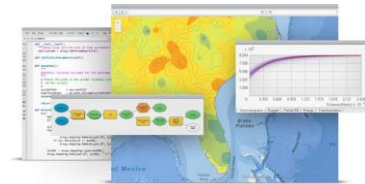
MSP Process



MSP



GIS Output Data



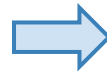
Spatial analysis



Web Services

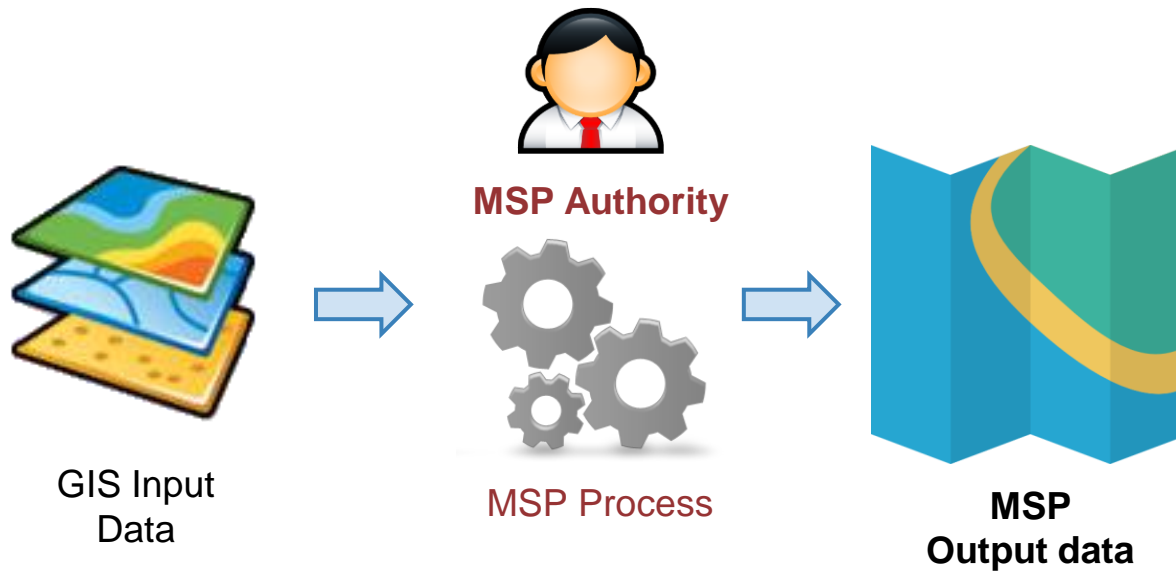
...principles

Principles

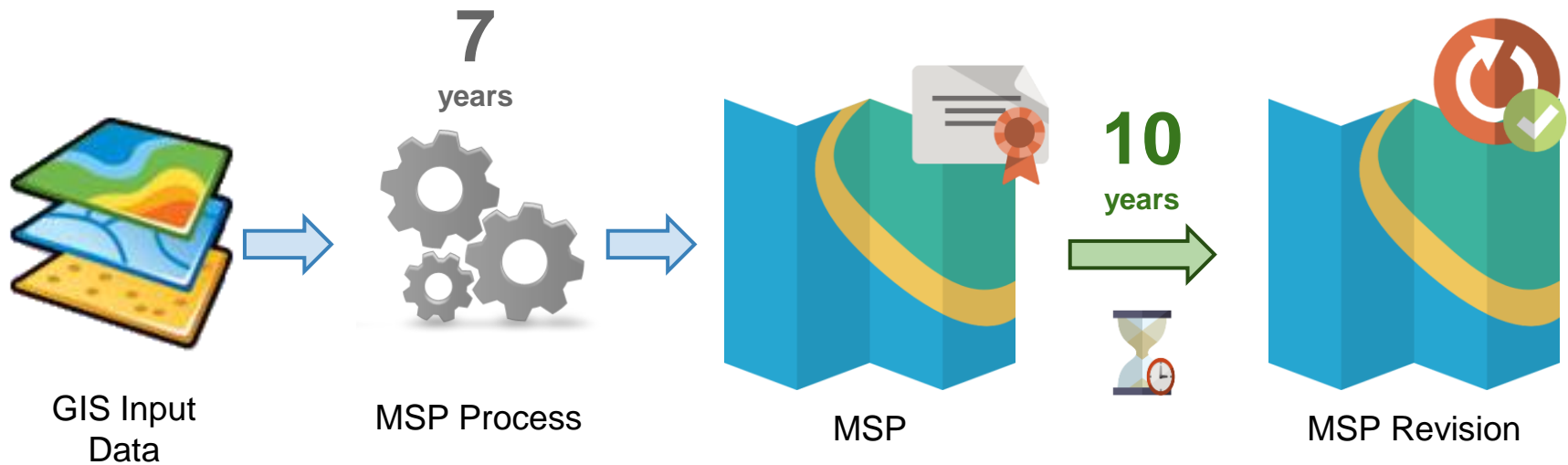


...what is driving force?
...what are the results?
...who needs this results?

Responsible authority



Fixed state of MSP

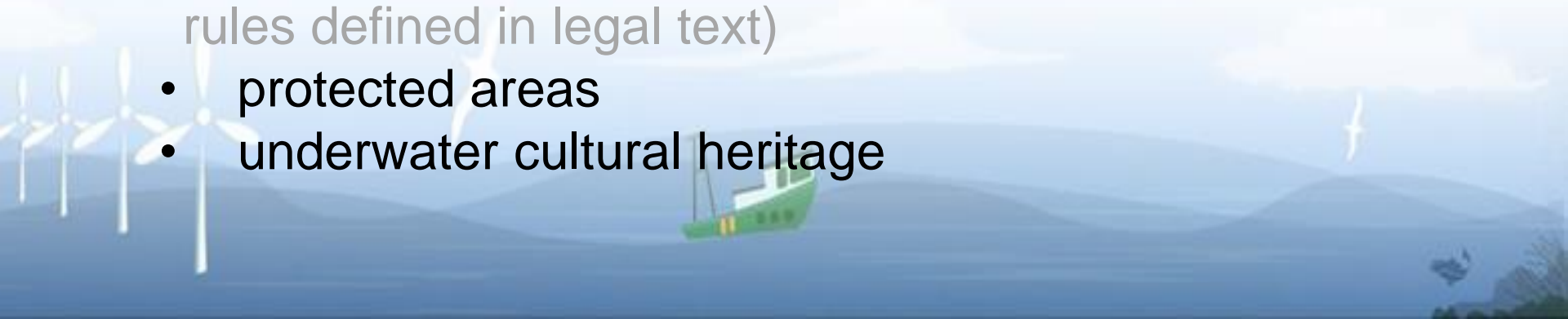


*Maritime spatial plans shall be reviewed by
Member States at least every ten years.*
[Directive 2014/89/EU]

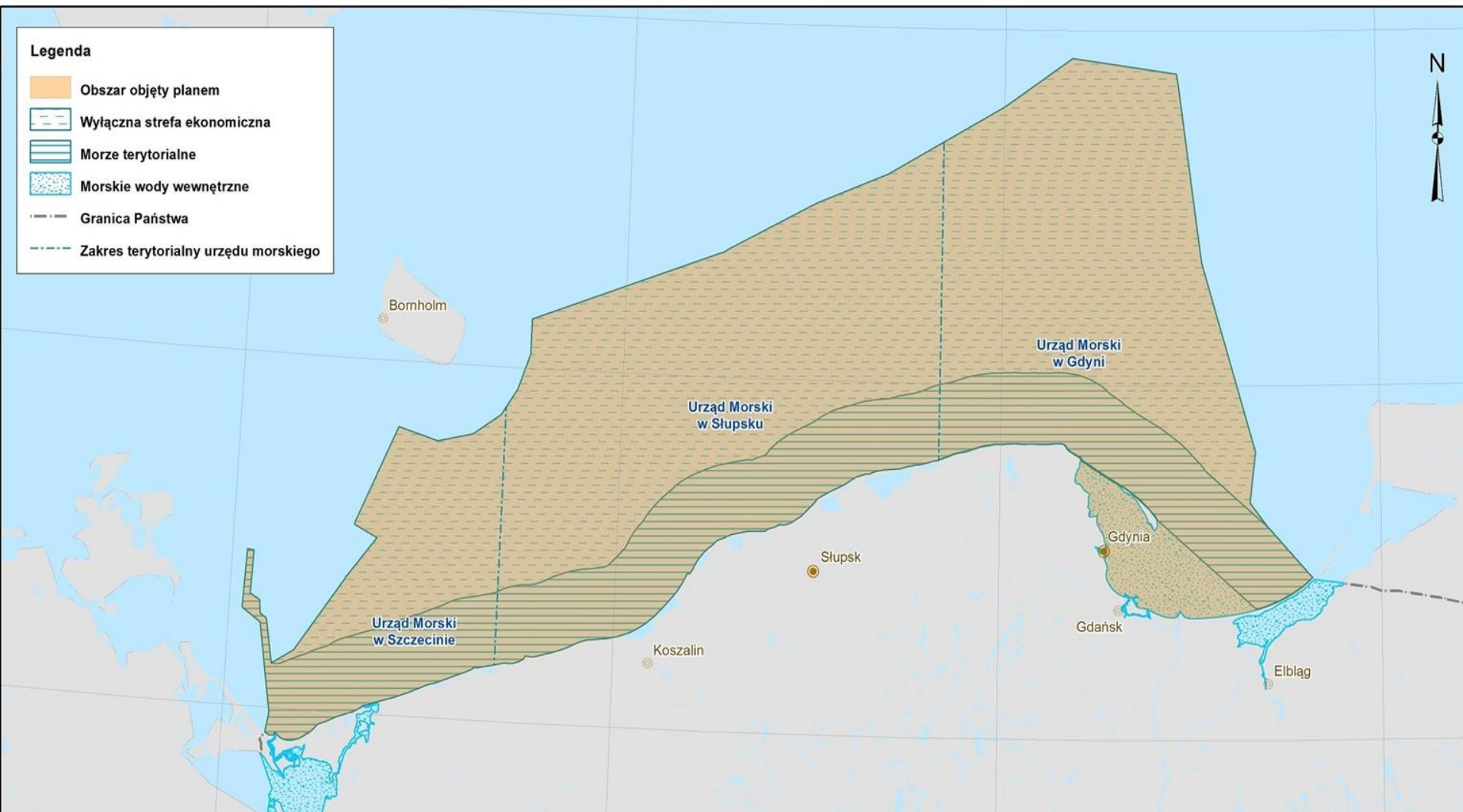


MSP output datasets

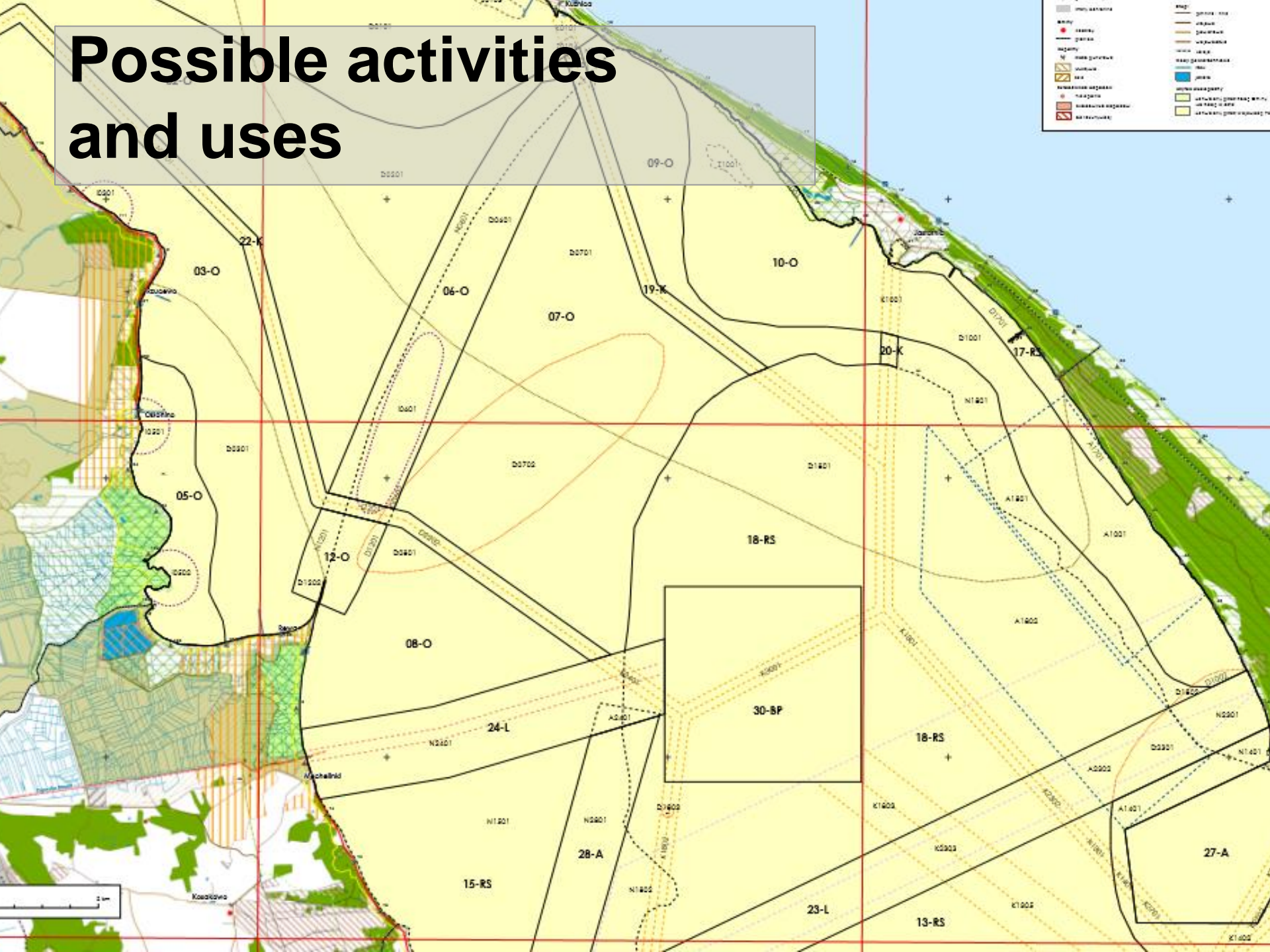
1. Spatial Plan Area
2. Possible activities and uses (marine area with specified future use)
 - fishing areas
 - installations and infrastructures
 - raw material extraction areas
 - submarine cable and pipeline routes
3. Restrictions / External regulations [?] (external rules defined in legal text)
 - protected areas
 - underwater cultural heritage



SpatialPlan Area in Poland



Possible activities and uses



MSP Directive, Article 8

Possible activities and uses and interests may include:

1. aquaculture areas,
2. fishing areas,
3. installations and infrastructures,
4. maritime transport routes and traffic flows,
5. military training areas,
6. nature and species conservation sites and protected areas,
7. raw material extraction areas,
8. scientific research,
9. submarine cable and pipeline routes,
10. tourism,
11. underwater cultural heritage.



MSP Output data summary

- One or few responsible authorities (in each Member State)
- Few datasets
- Up-to-date for years
- No restrictions from data owners



[ToR]
...data format

Output data format



INSPIRE
Infrastructure for Spatial Information in Europe

D2.8.III.4 Data Specification on *Land Use* – Technical
Guidelines

INSPIRE Technical Guidelines

Data Specification on Land Use

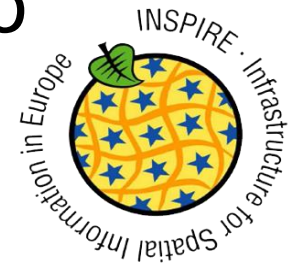
Land Use Specification is split up into two different types:

Existing Land Use (current land use)

objectively depicts the use and functions of a territory as it has been and effectively still is in real life

Planned Land (Sea) Use (future planned land (sea) use)

corresponds to **spatial plans**, defined by spatial planning authorities, depicting the possible utilization of the land in the future. Planned land use is regulated by spatial planning documents elaborated at various levels of administration



INSPIRE Data Specification

Planned Land Use

| «featureType» ZoningElement |
|---|
| + geometry: GM_MultiSurface + hilucsLandUse: HILUCSValue [1..*] + inspireId: Identifier + regulationNature: RegulationNatureValue |
| «voidable» |
| + backgroundMap: BackgroundMapValue + dimensioningIndication: DimensioningIndicationValue [0..1] + hilucsPresence: HILUCSPresence + processStepGeneral: ProcessStepGeneralValue + specificLandUse: LandUseClassificationValue + specificPresence: SpecificPresence + validFrom: Date [0..1] + validTo: Date [0..1] |
| «lifeCycleInfo, voidable» |
| + beginLifespanVersion: DateTime + endLifespanVersion: DateTime [0..1] |

| «featureType» SpatialPlan |
|---|
| + extent: GM_MultiSurface + inspireId: Identifier + levelOfSpatialPlan: LevelOfSpatialPlanValue + officialTitle: CharacterString + planTypeName: PlanTypeName |
| «voidable» |
| + alternativeTitle: CharacterString + backgroundMap: BackgroundMapValue + ordinance: OrdinanceValue [1..*] + processStepGeneral: ProcessStepGeneralValue + validFrom: Date [0..1] + validTo: Date [0..1] |
| «lifeCycleInfo, voidable» |
| + beginLifespanVersion: DateTime + endLifespanVersion: DateTime [0..1] |

| «featureType» SupplementaryRegulation |
|---|
| + geometry: GM_Object + inspireId: Identifier + regulationNature: RegulationNatureValue + supplementaryRegulation: SupplementaryRegulationValue [1..*] |
| «voidable» |
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| «lifeCycleInfo, voidable» |
| + beginLifespanVersion: DateTime + endLifespanVersion: DateTime [0..1] |

| «featureType» OfficialDocumentation |
|--|
| + inspireId: Identifier |
| «voidable» |
| + legislationCitation: LegislationCitation [0..1] + planDocument: DocumentCitation [0..1] + regulationText: CharacterString [0..1] |

INSPIRE Data Specification

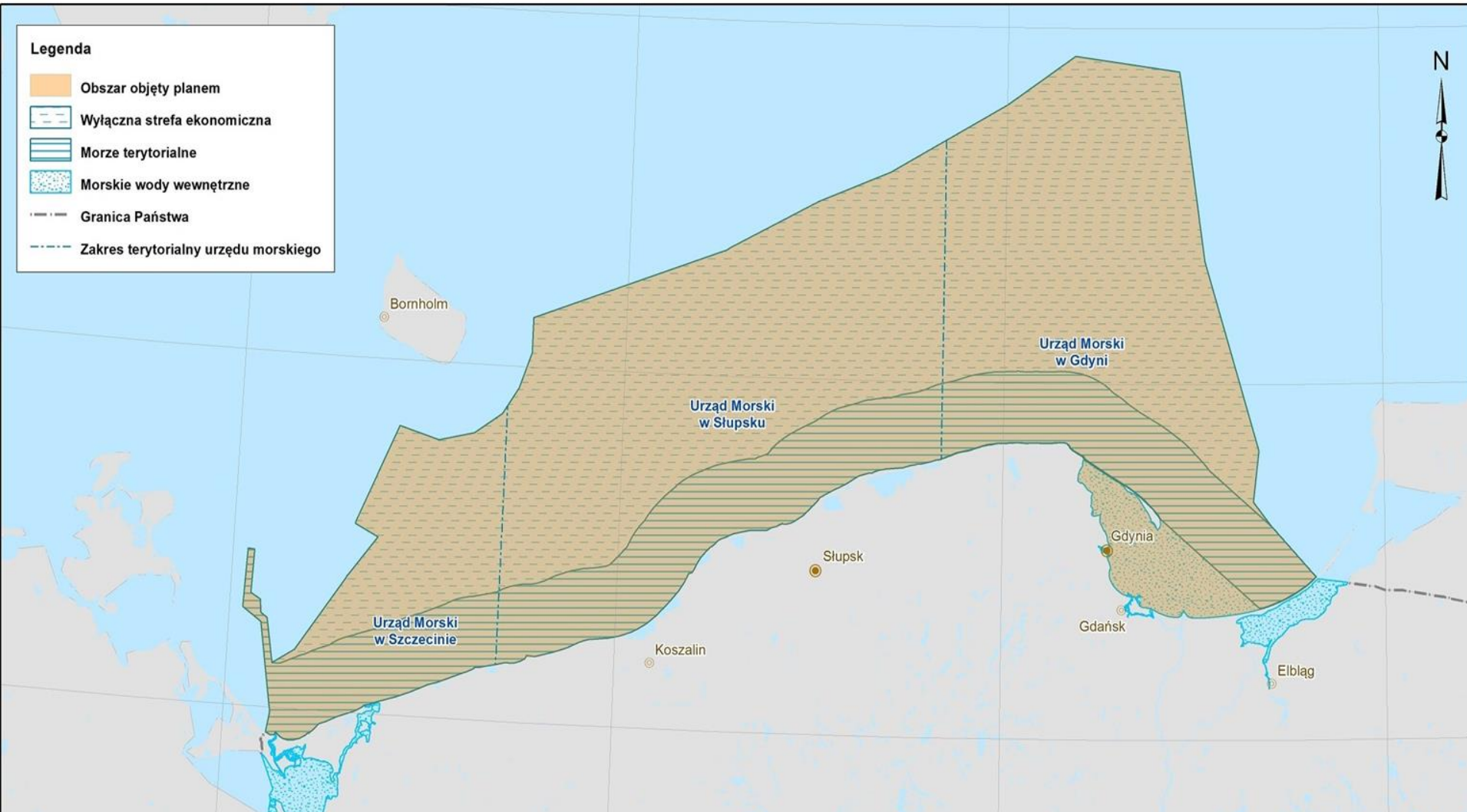
Spatial Plan

- Level of spatial plan (territorial hierarchy of plan)
- Official Title
- Plan Type Name
- Background Map (URI referring to service)
- Ordinance
- Process Step
- Reference to the ZoningElements
- Links to Restrictions

| «featureType» SpatialPlan |
|---|
| + extent: GM_MultiSurface + inspireId: Identifier + levelOfSpatialPlan: LevelOfSpatialPlanValue + officialTitle: CharacterString + planTypeName: PlanTypeName |
| «voidable» |
| + alternativeTitle: CharacterString + backgroundMap: BackgroundMapValue + ordinance: OrdinanceValue [1..*] + processStepGeneral: ProcessStepGeneralValue + validFrom: Date [0..1] + validTo: Date [0..1] |
| «lifeCycleInfo, voidable» |
| + beginLifespanVersion: DateTime + endLifespanVersion: DateTime [0..1] |

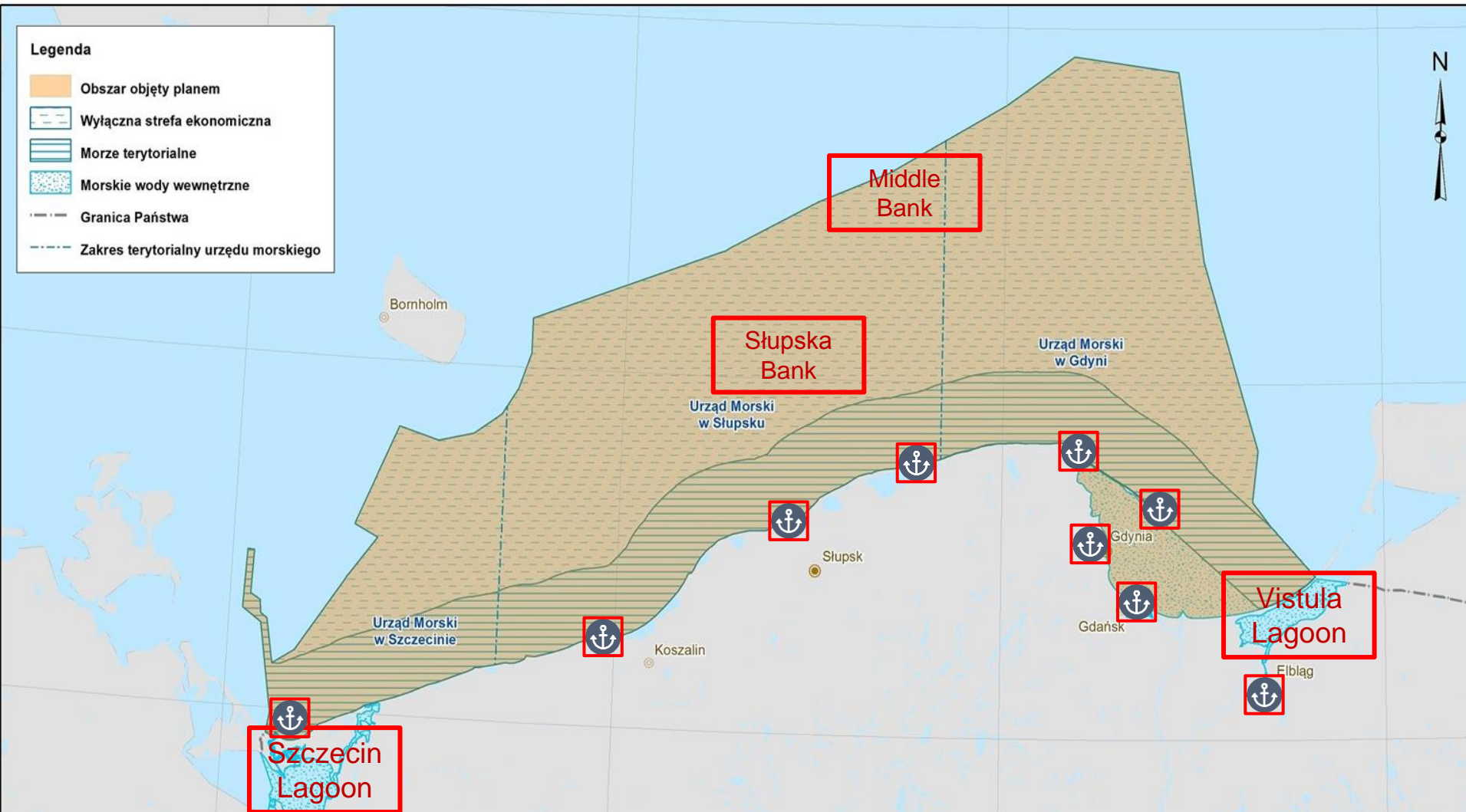
SpatialPlan Area in Poland

- Level of spatial plan: national
- Official Title: Maritime Spatial Plan of Polish Marine Areas at scale of 1 : 200 000
- Process Step: in the process of adoption



SpatialPlan Areas in Poland

- Level of spatial plan: regional
- Process Step: in the process of adoption



INSPIRE Data Specification

Spatial Plan

- Level of spatial plan (territorial hierarchy of plan)
- Official Title
- Plan Type Name
- Background Map
- Ordinance
- Process Step
- Reference to the ZoningElements
- Links to Restrictions

Level of the administrative units covered by the plan:

- infra-local
- infra-regional
- local
- national
- other
- regional
- supra-local
- supra-regional



INSPIRE Data Specification

Spatial Plan

- Level of spatial plan
- **Official Title** Official title of the spatial plan
- Plan Type Name
- Background Map
- Ordinance
- Process Step
- Reference to the ZoningElements
- Links to Restrictions



INSPIRE Data Specification

Spatial Plan

- Level of spatial plan
- Official Title
- Plan Type Name
- Background Map
- Ordinance
- Process Step
- Reference to the ZoningElements
- Links to Restrictions

Types of plans as defined in the Member States. The allowed values for this code list comprise any values defined by data providers.

DE example:

- Bebauungsplan
- Flächennutzungsplan
- Regionalplan
- Landesentwicklungsplan



INSPIRE Data Specification

Spatial Plan

- Level of spatial plan
- Official Title
- Plan Type Name
- **Background Map**
- Ordinance
- Process Step
- Reference to the ZoningElements
- Links to Restrictions

Identification of the background map that has been used for constructing this Plan



INSPIRE Data Specification

Spatial Plan

- Level of spatial plan
- Official Title
- Plan Type Name
- Background Map
- Ordinance
- Process Step
- Reference to the ZoningElements
- Links to Restrictions

Reference to relevant administrative ordinance e.g.

- ordinance for the preparation of a new plan
- ordinance of adoption
- ordinance of approval
- ...



INSPIRE Data Specification

Spatial Plan

- Level of spatial plan
- Official Title
- Plan Type Name
- Background Map
- Ordinance
- Process Step
- Reference to the ZoningElements
- Links to Restrictions

General indication of the step of the planning process that the plan is undergoing:

- in the process of adoption
- legally binding or active
- obsolete
- under elaboration



INSPIRE Data Specification

Spatial Plan

- Level of spatial plan
- Official Title
- Plan Type Name
- Background Map
- Ordinance
- Process Step
- Reference to the ZoningElements
- Links to Restrictions



INSPIRE Data Specification

Zoning Element

A spatial object which is homogeneous regarding the permitted uses of land (**sea**) based on zoning which separate one set of land (**sea**) uses from another.

One kind of possible activities and uses.

Zoning elements refer to the regulation of the kinds of activities which will be acceptable on particular lots. The intensity of use at which those activities can be performed, the type of construction, the amount of space that structures may occupy, the proportions of the types of space on a lot, impervious surface, traffic separation schemes may be provided.

| «featureType» ZoningElement |
|--|
| + geometry: GM_MultiSurface + hilucsLandUse: HILUCSValue [1..*] + inspireId: Identifier + regulationNature: RegulationNatureValue |
| «voidable» |
| + backgroundMap: BackgroundMapValue + dimensioningIndication: DimensioningIndicationValue [0..*] + hilucsPresence: HILUCSPresence + processStepGeneral: ProcessStepGeneralValue + specificLandUse: LandUseClassificationValue [1..*] + specificPresence: SpecificPresence + validFrom: Date [0..1] + validTo: Date [0..1] |
| «lifeCycleInfo, voidable» |
| + beginLifespanVersion: DateTime + endLifespanVersion: DateTime [0..1] |

Western Gulf of Gdansk

Zoning Areas

The map displays the Western Gulf of Gdansk, showing various zoning areas. The legend in the top right corner defines the symbols used on the map, including land use types (e.g., residential, commercial, industrial), infrastructure (e.g., roads, railways, water bodies), and specific zoning codes. The map is divided into numerous zones, each labeled with a code such as 03-O, 06-O, 07-O, 10-O, 12-O, 18-RS, 20-K, 24-L, 27-A, 28-A, 30-BP, and 23-L. The map also shows the coastline, major roads, and surrounding land areas. A scale bar in the bottom left corner indicates a distance of 2 km.

INSPIRE Data Specification

Zoning Element

- Hilucs Land Use
- Hilucs Presence
- Specific Land Use
- Specific Presence
- Regulation Nature

| «featureType» ZoningElement |
|--|
| + geometry: GM_MultiSurface + hilucsLandUse: HILUCSValue [1..*] + inspireId: Identifier + regulationNature: RegulationNatureValue |
| «voidable» |
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| «lifeCycleInfo, voidable» |
| + beginLifespanVersion: DateTime + endLifespanVersion: DateTime [0..1] |

INSPIRE Data Specification

Zoning Element - HILUCS Land Use

- Hilucs Land Use
- Hilucs Presence
- Specific Land Use
- Specific Presence
- Regulation Nature

Dominant sea use category used in INSPIRE Land Use and agreed at the **European level**. Categories list is populated with the land use categories of the **Hierarchical INSPIRE Land Use Classification System (HILUCS)**

Sample code list values

- energy production
- mining and quarrying
- professional fishing
- renewable energy production
- transport networks
- water areas not in other economic use
(natural areas not in other economic use)
- water transport



INSPIRE Data Specification

Zoning Element - Specific Land Use

- Hilucs Land Use
- Hilucs Presence
- **Specific Land Use**
- Specific Presence
- Regulation Nature

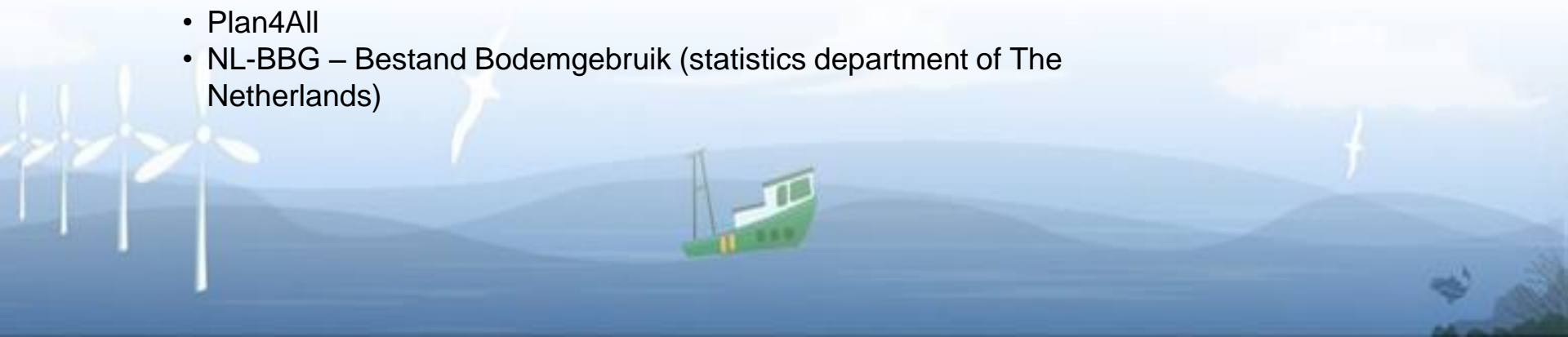


Dominant sea use category *agreed at a **national or local level*** - must be extended by each data provider in their national CodeList register

- It could be a list from Article 8 of MSP Directive
- It could be a list specific for every Member State

Mapping HILUCS with other classification systems

- ISIC (International Standard Classification of All Economic Activities)
- LUCAS (Land Use / Cover Area Frame Survey)
- Urban Atlas
- Plan4All
- NL-BBG – Bestand Bodemgebruik (statistics department of The Netherlands)



INSPIRE Data Specification

Zoning Element - Presence

- Hilucs Land Use
- Hilucs Presence
- Specific Land Use
- Specific Presence
- Regulation Nature

Presence of one or several land use classification values in an area according to the code list provided by the data provider, indicated either as the percentage covered for each value or as the values listed in their order of importance

- LandUseClassificationValue
- SpecificPercentage



INSPIRE Data Specification

Zoning Element

- Hilucs Land Use
- Hilucs Presence
- Specific Land Use
- Specific Presence
- Regulation Nature
 - **bindingForDevelopers** – The sea use indication is binding only for the entity in charge of developing an area
 - **bindingOnlyForAuthorities** - The sea use indication is binding only for certain authorities
 - **generallyBinding** - The sea use indication is binding for everybody
 - **nonBinding** - The sea use indication is not binding
 - **definedInLegislation** - The sea use indication is defined by the legislation



INSPIRE Data Specification

Supplementary Regulation

A spatial object (point, line or polygon) of a spatial plan that provides supplementary information and/or limitation of the use of land (**sea**) necessary for spatial planning reasons or to formalise external rules defined in legal text.

[Restrictions / External Regulations]

| «featureType» SupplementaryRegulation |
|---|
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| «lifeCycleInfo, voidable» |
| + beginLifespanVersion: DateTime + endLifespanVersion: DateTime [0..1] |

INSPIRE Data Specification

Supplementary Regulation

- Supplementary Regulation
 - Renewable Energy Area
 - Nature Protection
 - Ecological Corridor
 - Archeological Protection
 - Tourism
 - Infrastructure
- Specific Supplementary Regulation
 - agreed at a national or local level
- Regulation Nature
 - bindingForDevelopers
 - bindingOnlyForAuthorities
 - generallyBinding

| «featureType» SupplementaryRegulation |
|---|
| + geometry: GM_Object + inspireId: Identifier + regulationNature: RegulationNatureValue + supplementaryRegulation: SupplementaryRegulationValue [1..*] |
| «voidable» |
| + backgroundMap: BackgroundMapValue + dimensioningIndication: DimensioningIndicationValue [0..*] + inheritedFromOtherPlans: Boolean + name: CharacterString [0..*] + processStepGeneral: ProcessStepGeneralValue + specificRegulationNature: CharacterString + specificSupplementaryRegulation: SpecificSupplementaryRegulationValue [1..*] + validFrom: Date [0..1] + validTo: Date [0..1] |
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MSP and INSPIRE

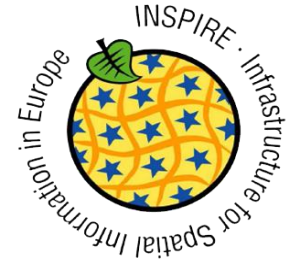
INSPIRE Technical Guidelines

Planned Land [**Sea**] Use (future planned land [**sea**] use)

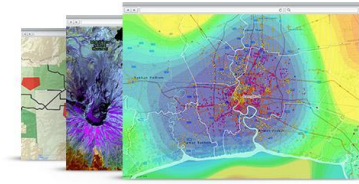
-
- **Is MSP data part of INSPIRE data specification?**
 - Should we adopt INSPIRE Data Specification to MSP data needs?



MSP Output Data



MSP



GIS Output Data



Spatial analysis



Web Services

- Standardised data format
- Data scope
- Trans-border comparability
- Preferred scale (eg. 1:200 000)
- Data accuracy
- MSP Data Portal



MSP is a process

- What is the driving force for the process?
- What is the result of this process?
- Who needs results of this process?



MSP Process



MSP Directive, Article 11

Member States bordering marine waters **shall cooperate** with the aim of ensuring that **maritime spatial plans** are **coherent** and **coordinated**. Such cooperation shall take into account, in particular, issues of a transnational nature.

[MS -> End Users]



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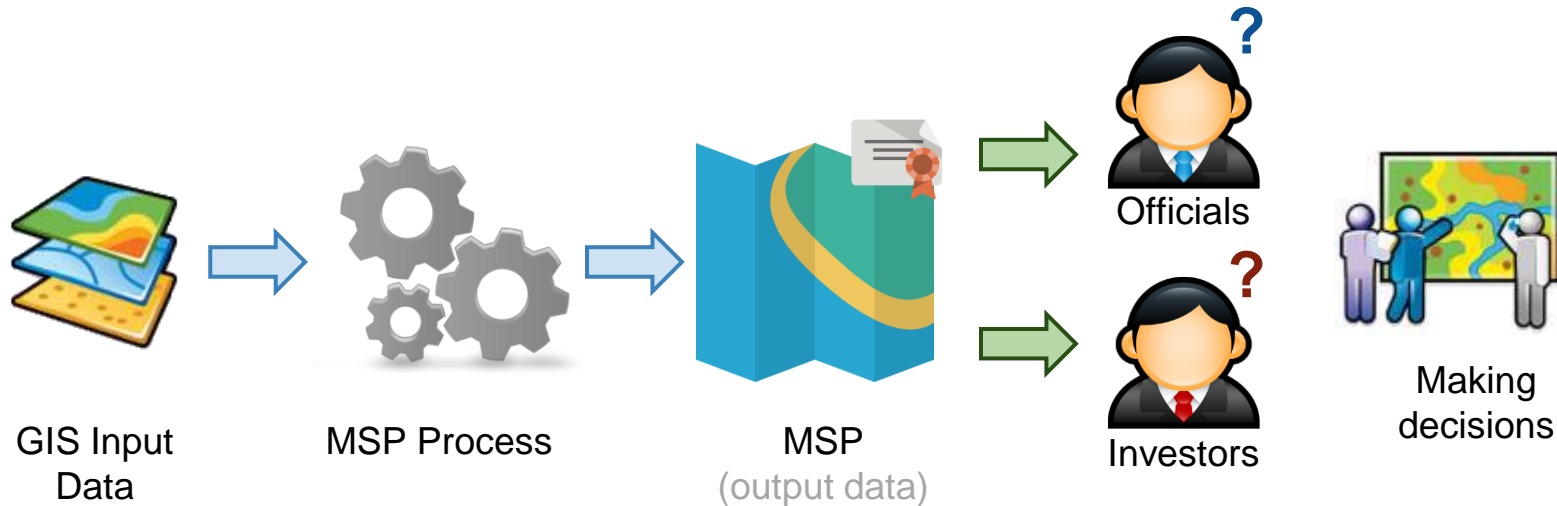
Outputs

d. Compilation of minimum requirements for Maritime Spatial Plan Data: „Output Data” and sharing of this data

[MS -> End Users]



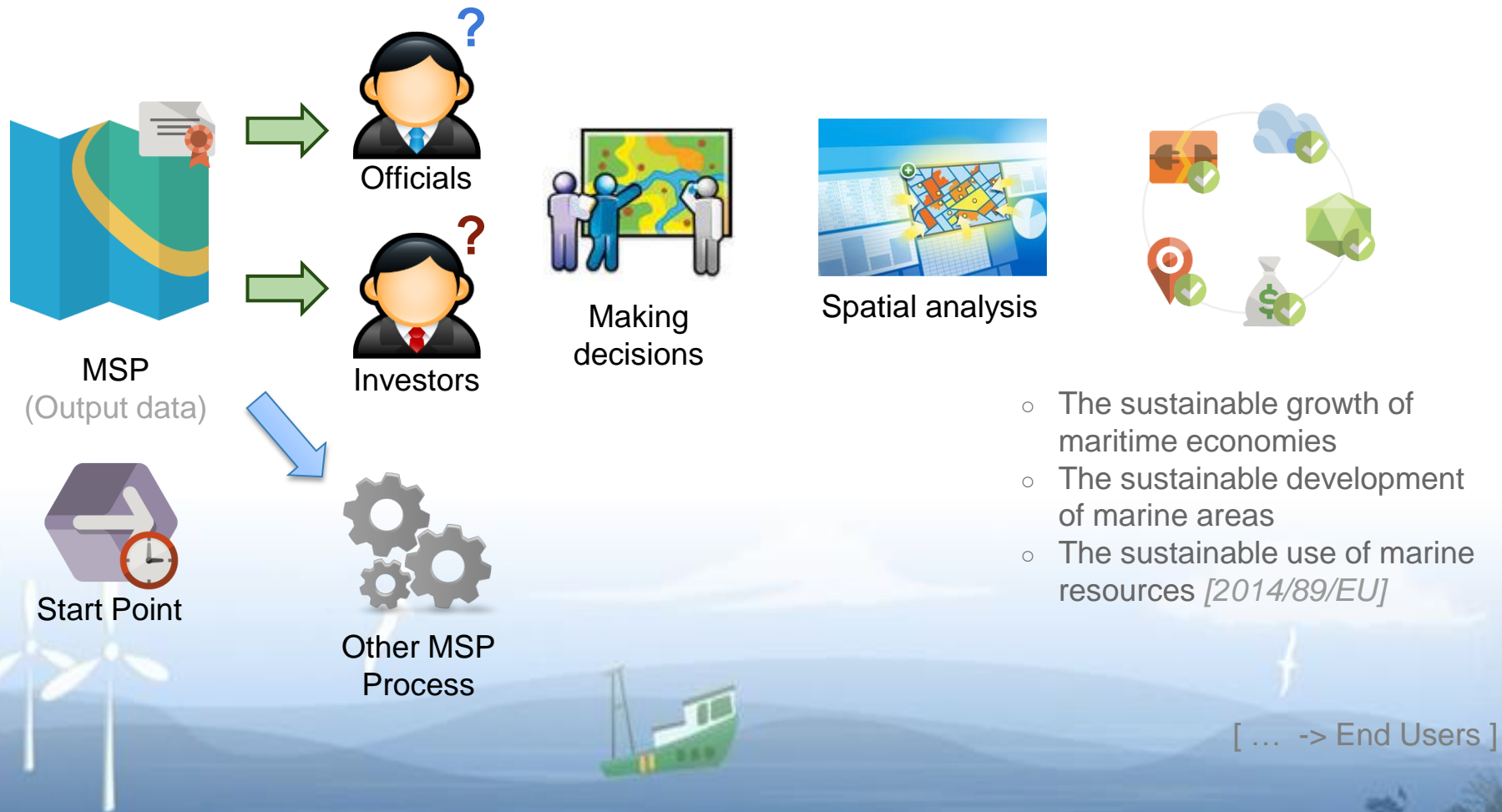
Driving force for MSP process



- Decision makers need access to reliable informations
- Transboundary consultations need coherent data
- Comparability of maritime spatial plans

- Existing instalations and infrastructures
- Existing cables and pipelines
- Protected sites
- Underwater heritage

End users perspective





Thank You

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Maritime Office Gdynia

