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GEOSPATIAL WORLD FORUM
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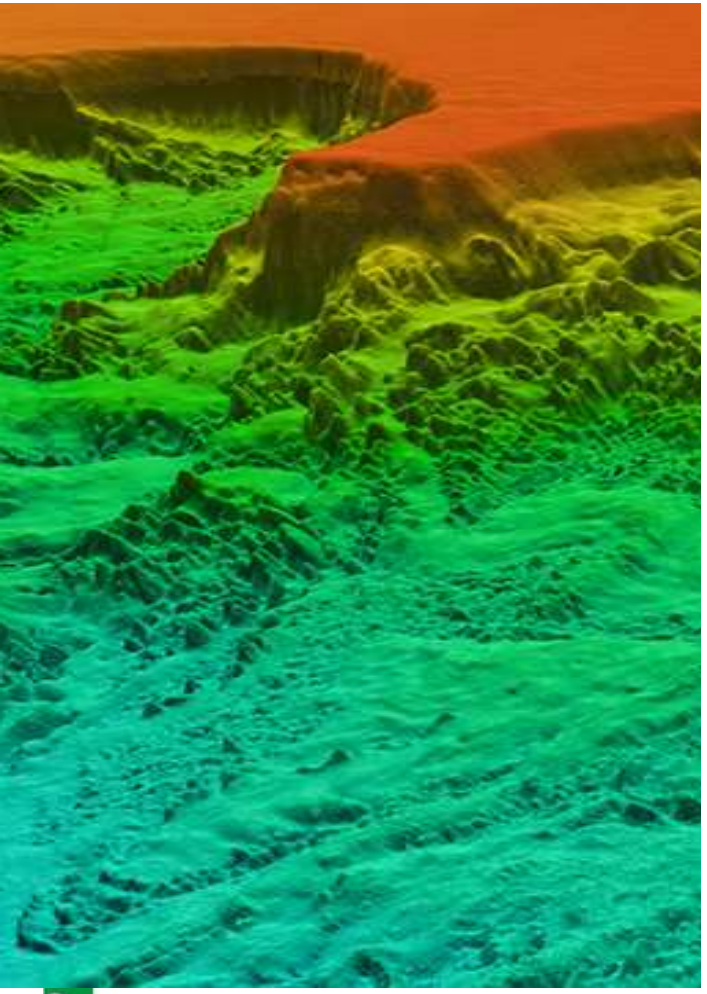
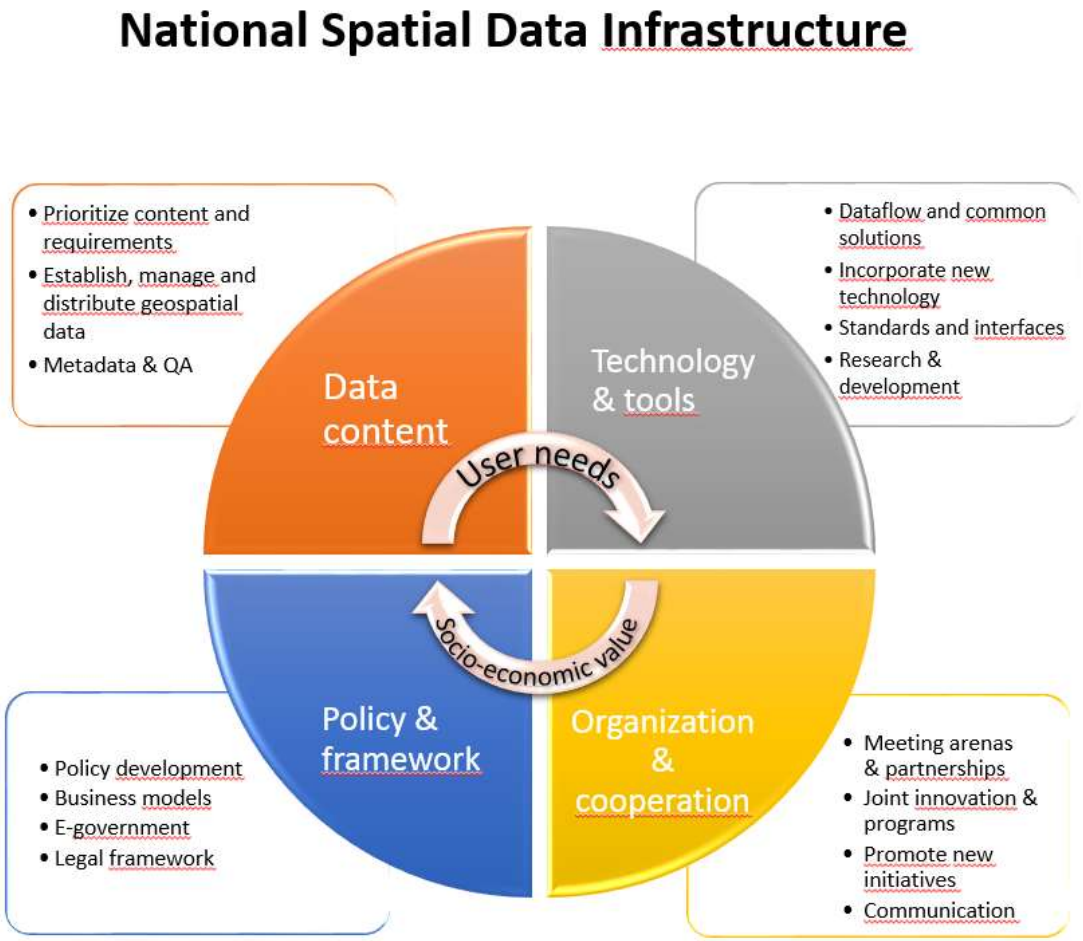
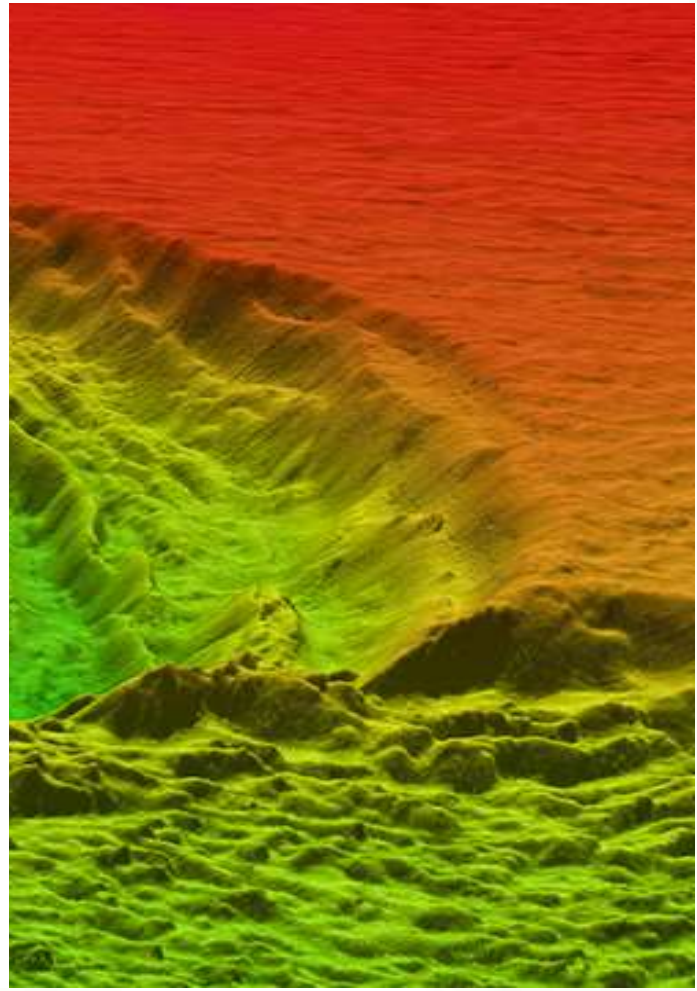
Hydrography in support of Norway's Marine Strategy

Three potential roles for national hydrographic offices







Vision for Norwegian Hydrographic Service:

"Norwegian waters shall have the world's most usable and dynamic geographic data"

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Rich on natural resources

The MAREANO Program –
The Norwegian Seabed Mapping Programme

Mapping for blue growth

MAREANO

Marine **AREA** database for **NO**rwegian waters

Multi-disciplinary data collection

Depth mapping / Bathymetry

- Multibeam echo sounding from surface ship (depth data, backscatter and water column data)

Geological and chemical sampling

- Sediment samples by using corers or grab
- Visual observation of the seabed (real-time video)
- Sediment-penetrating echo sounder (e.g. TOPAS)

Biological sampling

- Fauna is sampled by using grab, sledge and beam trawl
- Video

Ecosystem-based marine management in Norway

- The Norwegian Government has developed integrated marine management plans for all Norwegian sea areas.
- The management plans are large-scale spatial management tools and cover the areas in Norway's Exclusive Economic Zone, outside the coastal baseline.

Marine Spatial Management Tool

Support the marine spatial planning process with updated and reliable geospatial information

Marine management is important to Norway with extensive ocean areas which are very rich in resources

The purpose of the management plans is to facilitate value creation while also maintaining natural diversity

The foundation is an extensive cross sectoral collaboration, both between expert groups and between ministries

The Norwegian Government has developed integrated marine management plans for all Norwegian sea areas

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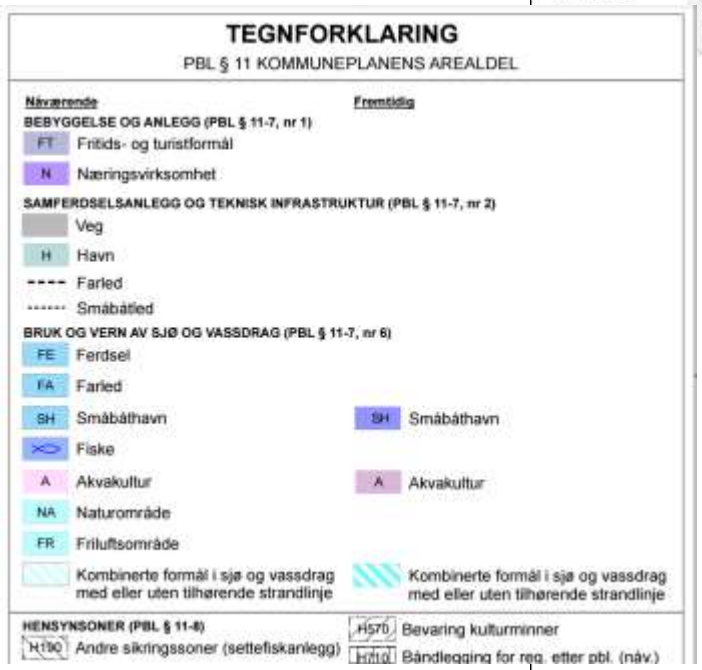
Marine Spatial Management Tool

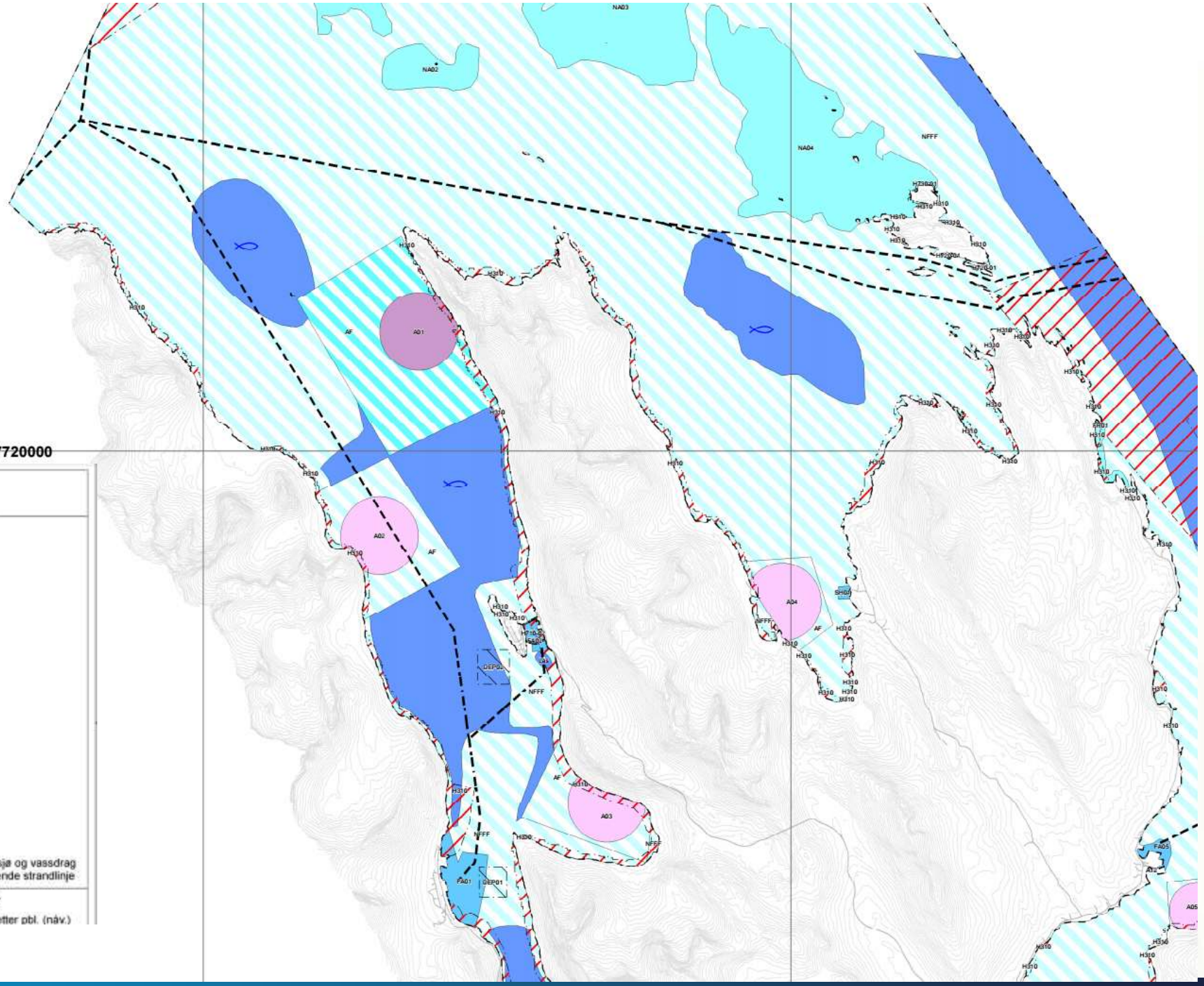
A cross-sectoral develoment project through an intergovernmental cooperation

A governmental initiative based on the need for a more coherent and uniform geospatial information content, suitable for underpinning tasks attached to marine spatial planning and marine management

- More effective updates of the management plans
- Better overview over political decisions and actions related to marine management
- Contribute to more transparancy, openness and increased involvment from the stakeholders

Regulation of the Sea basin with help of marine spatial management tool





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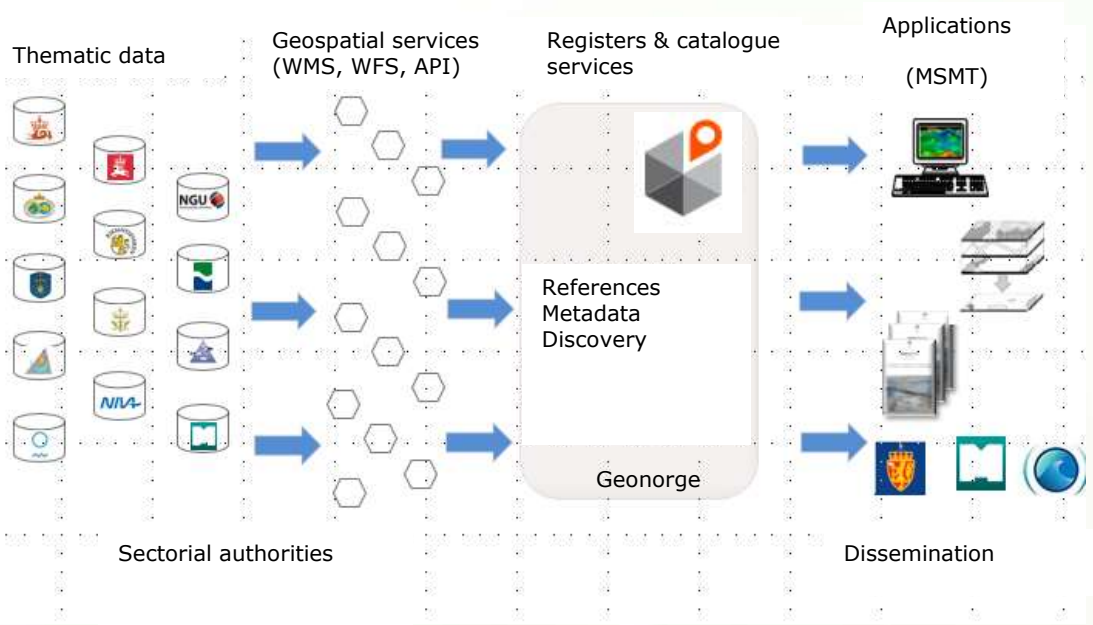
Marine Spatial Management Tool

Service based approach

Key elements:

- Thematic geospatial information services offered from relevant sectorial authorities
- Standardized network based services enabling real time use of geospatial data content in user client (e.g. MSMT)
- Standardized and harmonized data content and user adapted presentation rules, cartography and semantics
- Real time access to associated metadata through network based services consumable in user client



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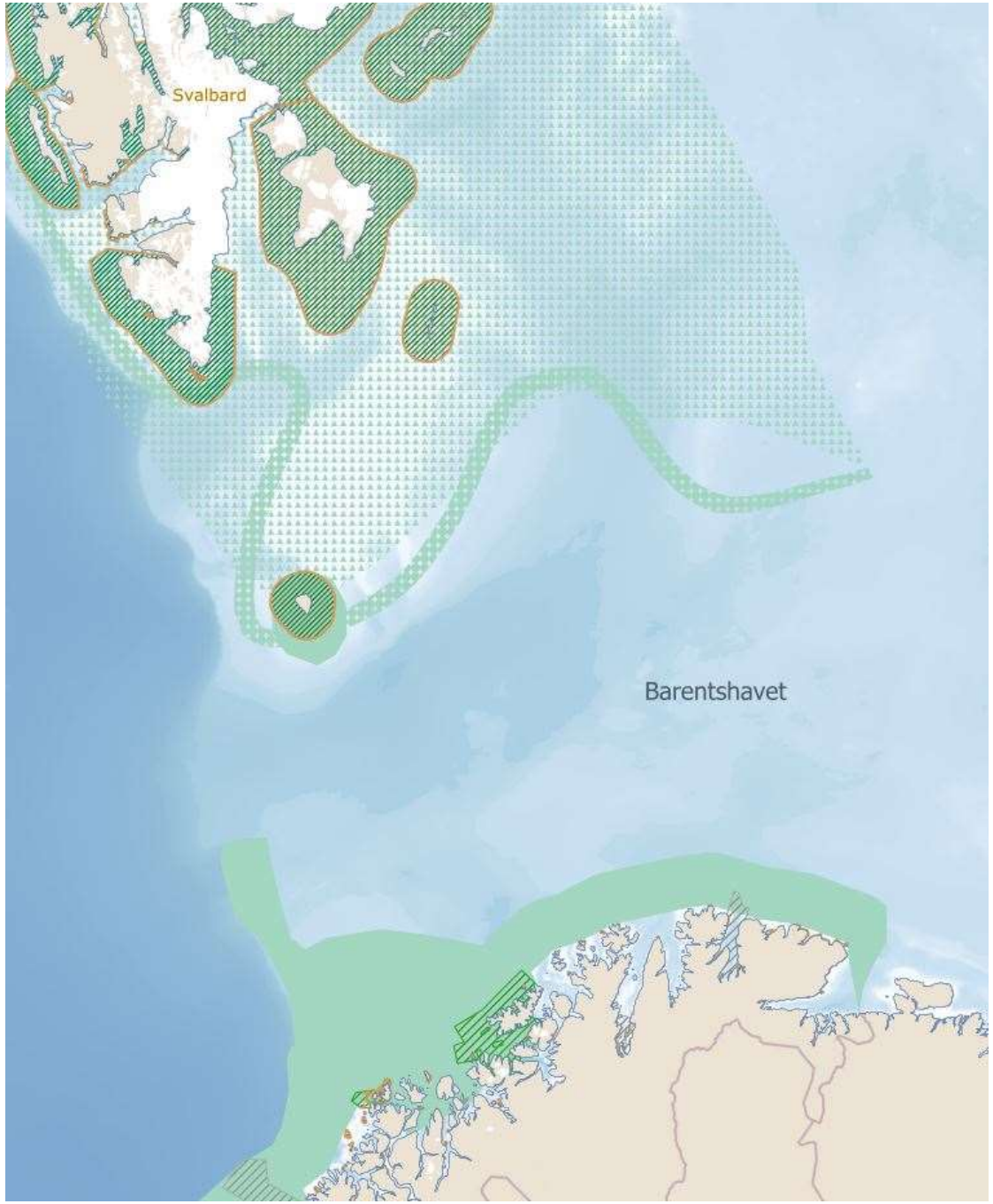
Marine Spatial Management Tool

Examples of building thematic map compositions

Status at the moment:

- 35 main categories of thematic data available through corresponding geospatial services
- 11 governmental agencies serving their respective thematic datasets and geospatial services

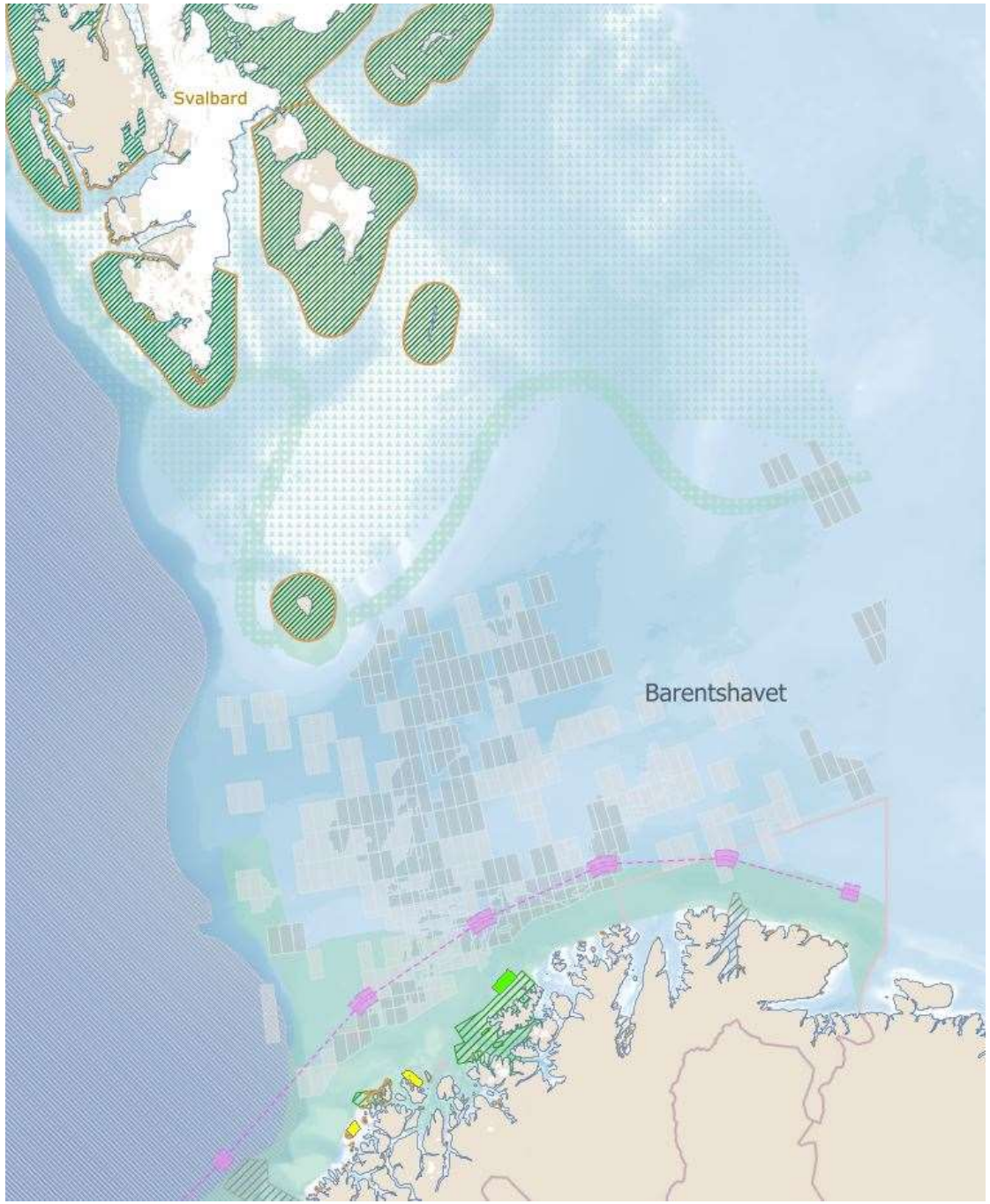
Base map (incl. depth areas)



Base map (incl. depth areas)

+ Regulations

- **Marine Protected Areas**
- **Particularly vulnerable and valuable marine areas**



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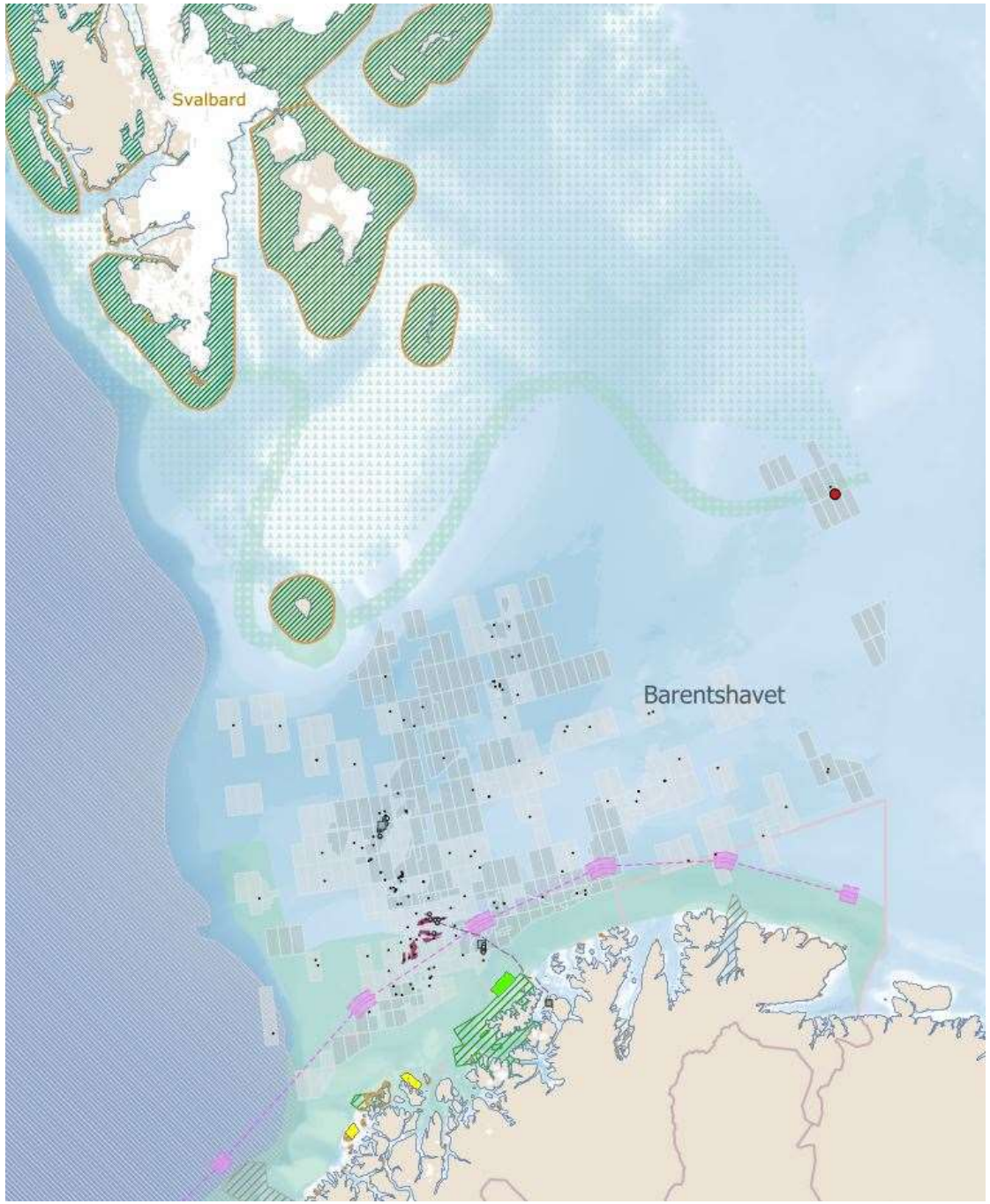
- **Marine Protected Areas**
- **Particularly vulnerable and valuable marine areas**
- **Fishery regulations**
- **Production licenses (petroleum)**
- **Offshore wind farm assessments**
- **Traffic Separation Scheme**



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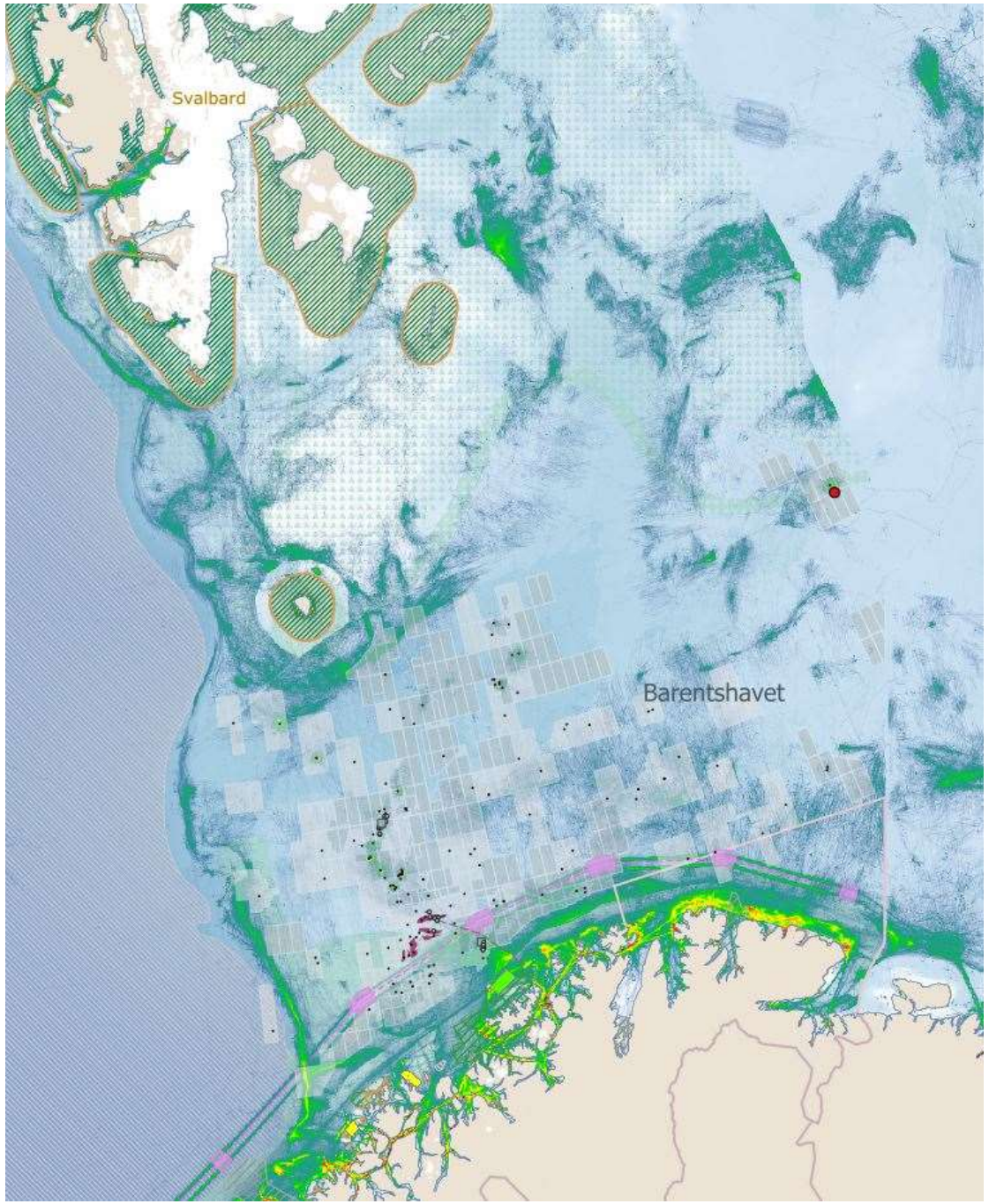
+ Commercial activities

- **Petroleum (facilities, cables, pipelines)**



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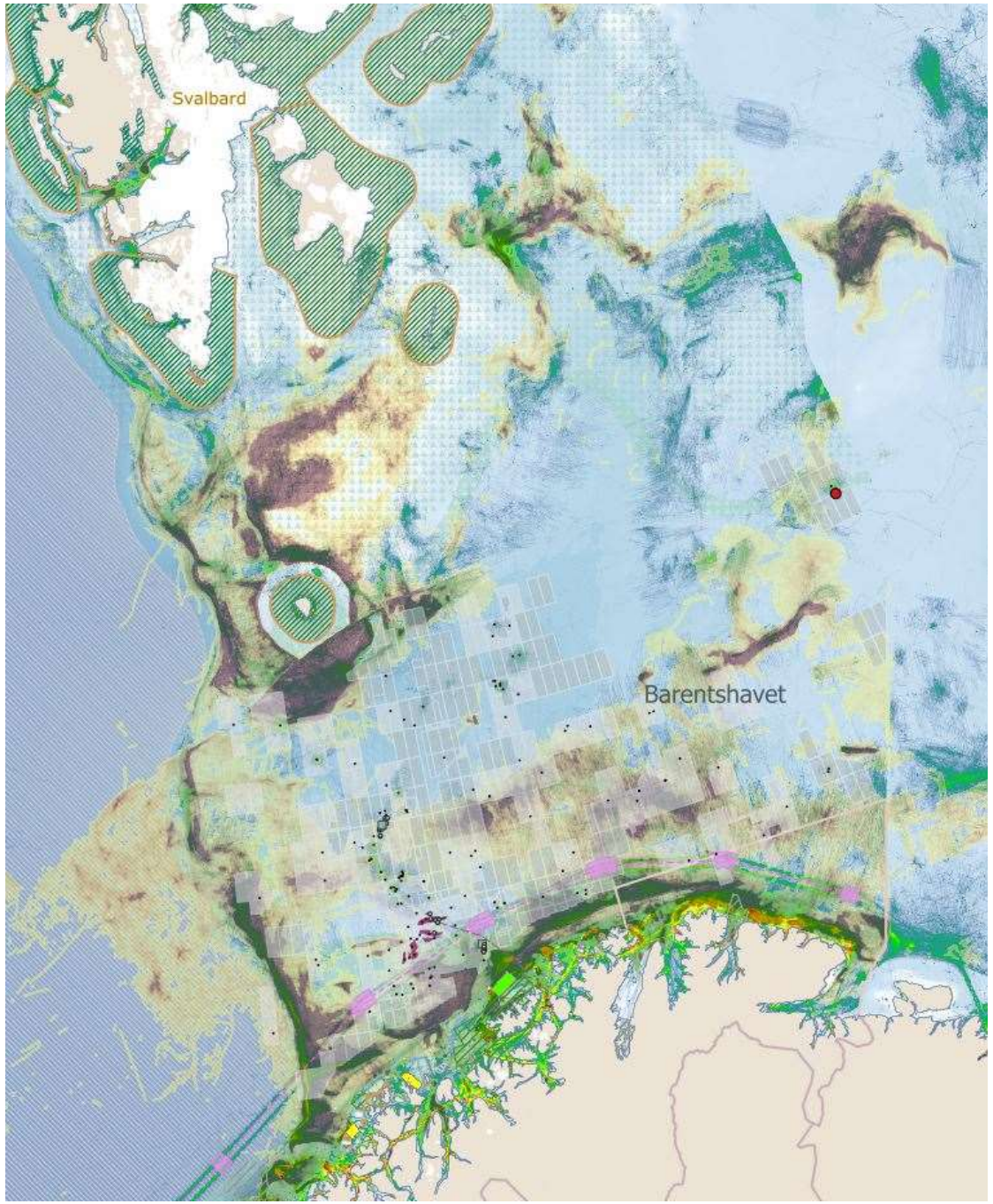
+ Commercial activities

- **Petroleum (facilities, cables, pipelines)**
- **Shipping (traffic density)**



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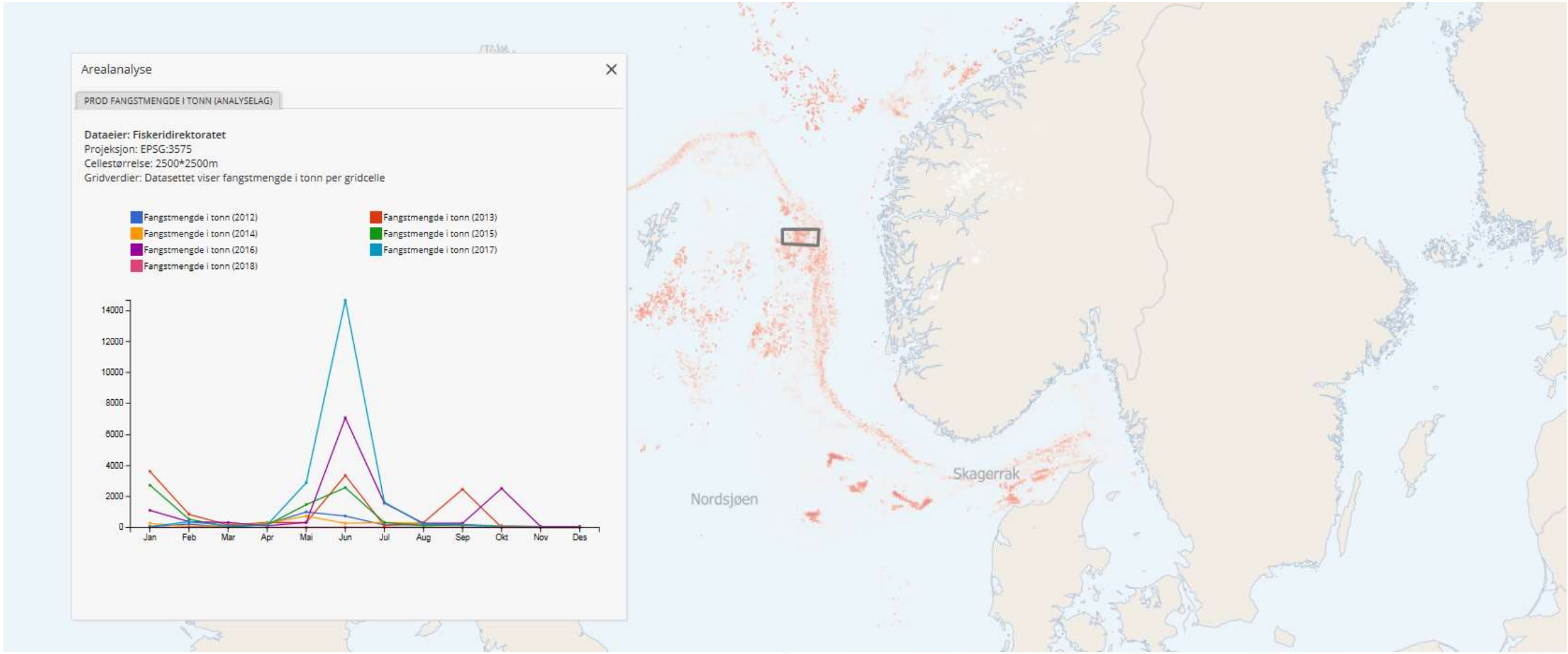
- **Traffic Separation Scheme**

+ Commercial activities

- **Petroleum (facilities, cables, pipelines)**
- **Shipping (traffic density)**
- **Fisheries (density on operations)**

Geospatial statistics



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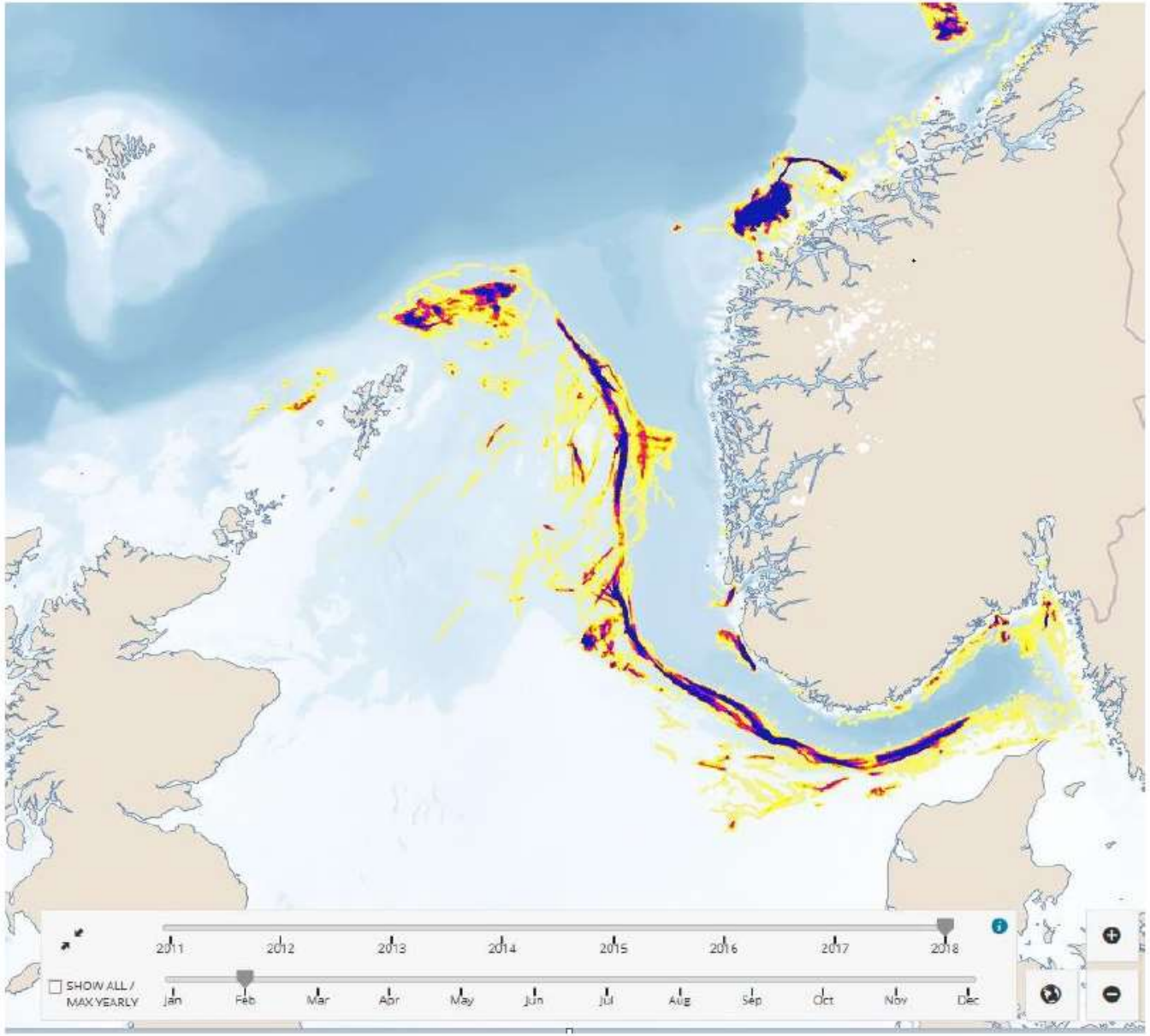
Support time dimension



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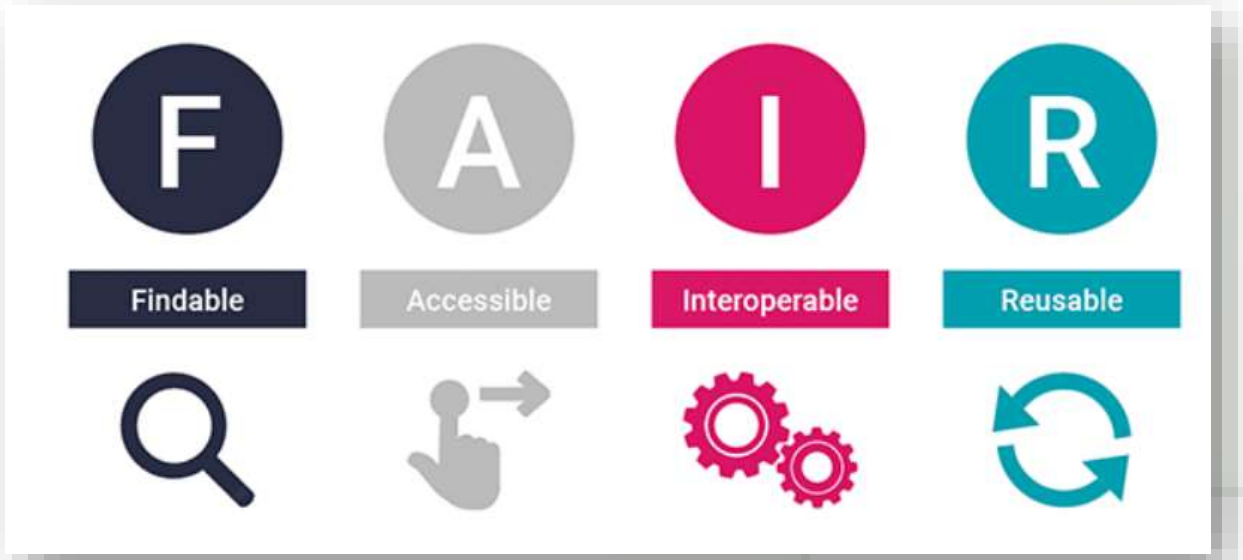
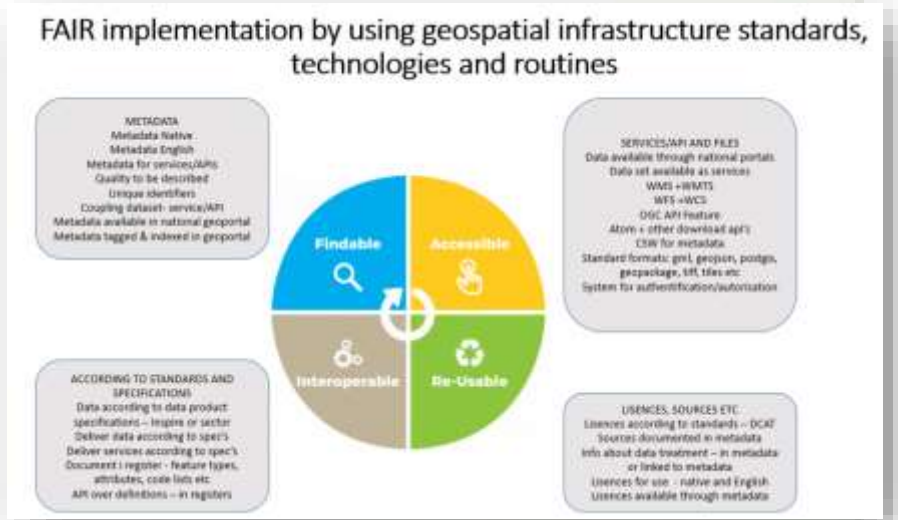
Findable
Accessible
Interoperable
Reusable

Measure 1: FAIR-calculator

- An automated engine/module in GeoNorge
- Simple and effective communication
- Relevant way beyond the research community
- Reuse of standards and guidelines where possible
- (Norwegian) Guidance document: FAIR implementation for enhanced use of geo information





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register.geonorge.no/mareano-statusregister

Gmail YouTube Maps Translate Register - Geonorg...

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Mareano Status Register

The register provides an overview of data collected through the projects; Mareano and "Marine base map". The overview shows the status of various datasets' fulfillment of the FAIR principles as well as other requirements from the national geographical infrastructure

Filter organization:

Alle

Updated: 23/06/2021

Dataset | Reports

Showing 1 - 50 of 66 hits

1 » »»

Save As: CSV Save

Title	Owner	F	A	I	R											
Accumulation basins	Geological Survey of Norway	😀	☹	😐	😀	😀	😀	😀	😀	😐	😐	😐	☹	☹	☹	5.5
Acoustic backscatter, confidential data	Geological Survey of Norway	😀	☹	😀	🙂	😀	☹	😀	☹	○	○	☹	☹	☹	☹	2
Artsmangfold – Svampobservasjoner per	Institute of Marine Research	😀	😀	😀	😀	😀	😀	😀	😀	😀	😀	😐	😀	😀	😀	9.5

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FAIR status: 77%

100%

Findable: Metadata and data should be easy to find for both humans and computers. Machine-readable metadata are essential for automatic discovery of datasets and services

Details

25%

Accessible: Datasets must be accessible through standardized and open interfaces.

Details

100%

Interoperabel: The data usually need to be integrated with other data. In addition, the data need to interoperate with applications or workflows for analysis, storage, and processing.

Details

85%

Reusable: The ultimate goal of FAIR is to optimise the reuse of data. To achieve this, metadata and data should be well-described so that they can be replicated and/or combined in different settings.

Details

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25%

Accessible: Datasets must be accessible through standardized and open interfaces.

Read less

A1: Datasets are available through standard web protocols and open standardised services

- ✖ It is checked whether the dataset has a "direct" download service (WFS or WCS) (weight 15)
- ✔ It is checked whether the dataset has a view service (WMS or WMTS) (weight 15)
- ✖ It is checked whether the dataset is available through the "Geonorge download api" (weight 15)
- ✖ Checking if dataset is available as a download service for predefined datasets (Atom Feed) (weight 5)
- ✖ It is checked whether the protocols that provide access to the datasets are openly accessible and readable with standard IT tools. Which we consider to be sufficient if one has provided a download URL with Https response (weight 40)
- ✔ The protocol allows for an authentication and authorisation procedure, where necessary

A2: Metadata are accessible, even when the data are no longer available

100%

Interoperabel: The data usually need to be integrated with other data. In addition, the data need to interoperate with applications or workflows for analysis, storage, and processing.

Details

When building a physical infrastructure

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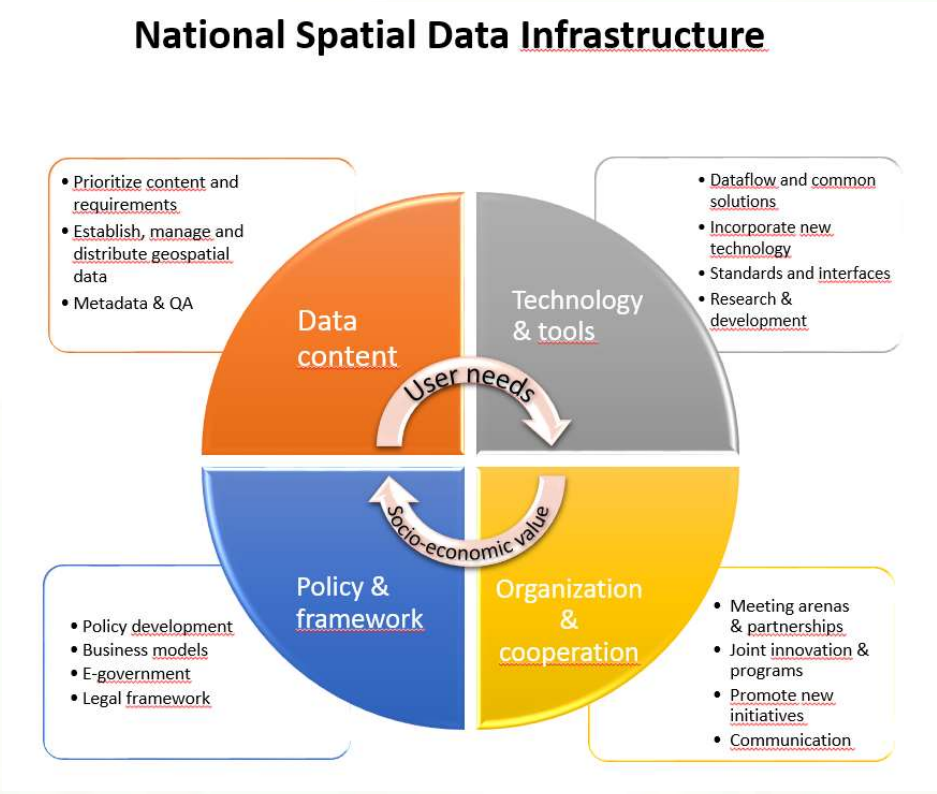
But when financing an SDI…

Challenge when building an SDI

- Value is created horizontally,
  - accross sectors, not necessarily where the costs are
- While budgetting for gov. activities is still done vertically,
  - In silo’s
  - No (financial) incentive



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Thank you

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