

Norwegian SDI The Marine component

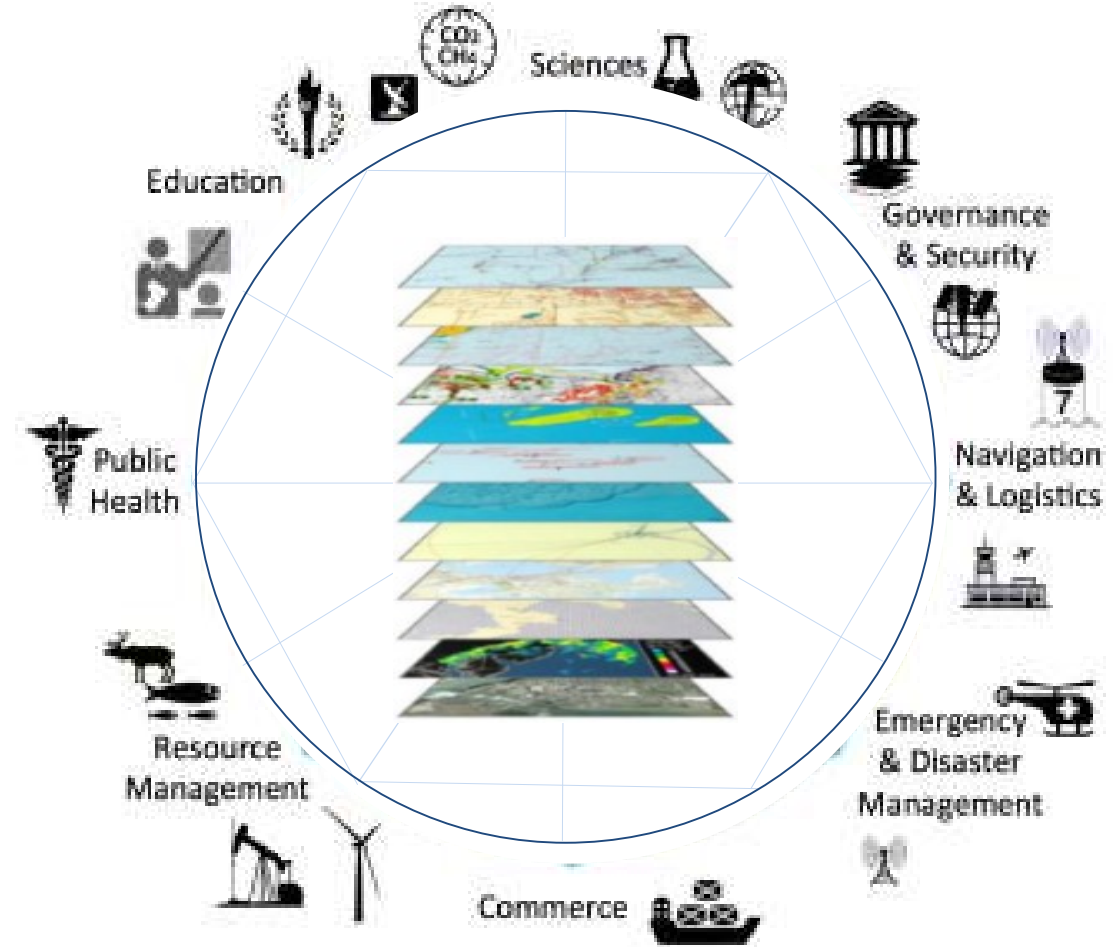
MSDIWG 17. – 18. March 2021

Gerhard Heggebø, Marine geodata coordinator, Hydrographic Service, Norwegian Mapping Authority

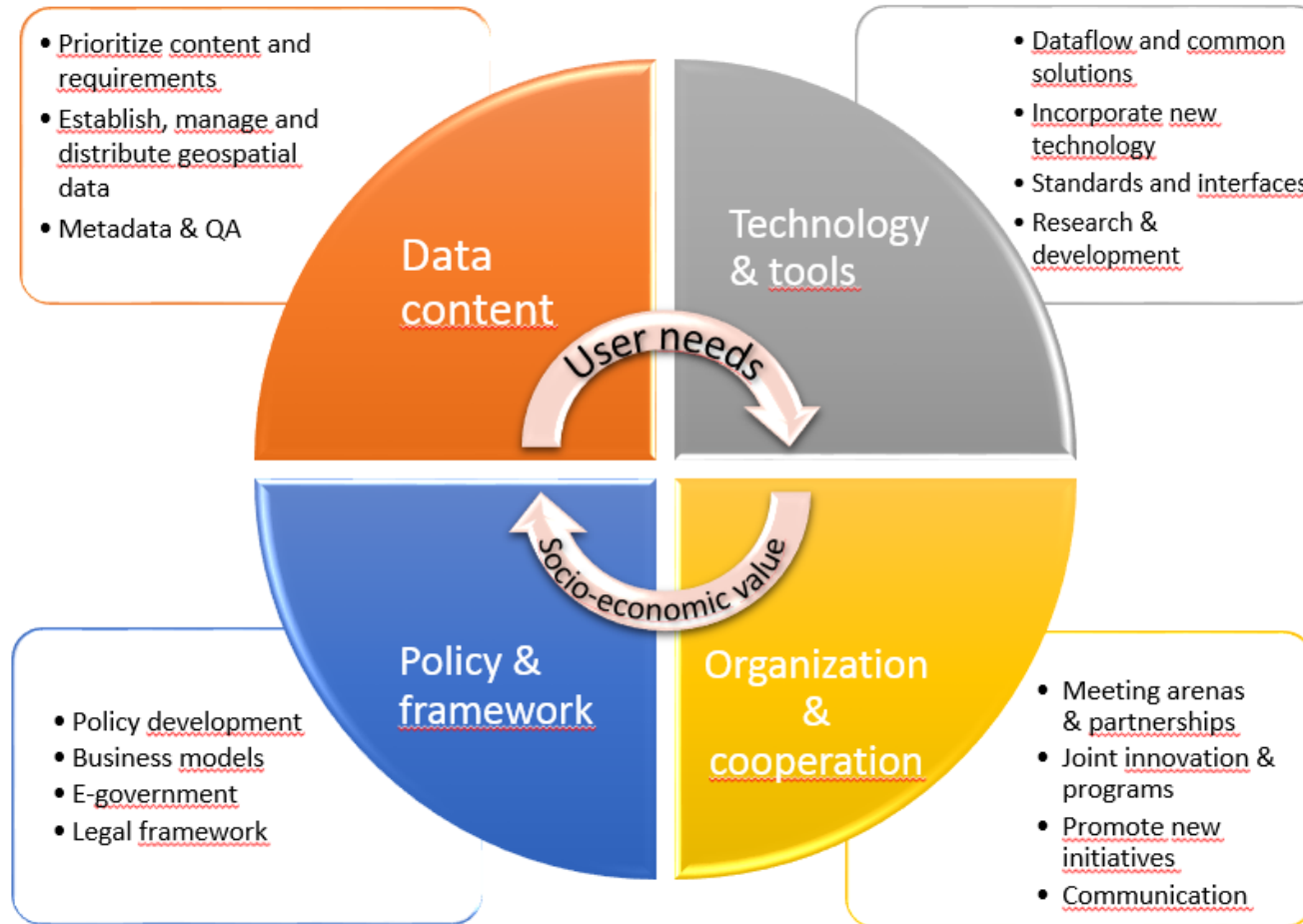


Norway digital

- Cross-sectoral cooperation (since 2005)
- More than 600 organisations representing the public sector
- Enhances the availability and use of quality geographic information
- Sharing and re-using data through digital services across sectors and levels
- Underpinning the digital transformation in public sector



National Spatial Data Infrastructure



Governance

National geospatial strategy towards 2025

- A national knowledge base of geospatial information that comply with important societal needs
- Shared solutions and technology that support effective problem solving and enable new application opportunities in society
- Well-functioning interaction with respect to management, sharing, development and innovation between both public and private actors
- Framework conditions that are predictable and well suited to the challenges of digital society



























































Policy

Laws and Regulations

- Freedom of Information Act - Facilitate an open, transparent administration and the reuse of public information
- Geodata Act - Obligations to share geospatial data according to some common demands
- Planning and Building Act - Geospatial data approved for use in PBA forms the Norwegian Public Base of Geospatial Data (DOK)

Status example

TITLE	OWNER	THEME	         
Aquaculture locations	Norwegian Directorate of Fisheries	Marine activities	          
Depth data	Norwegian Mapping Authority	Base maps	          
Marine regulation zones- kelp harvesting	Norwegian Directorate of Fisheries	Marine activities	           
Maritime transport - anchoring areas	The Norwegian Coastal Administration	Marine activities	           

Main data topics



Technical Standards

ISO 19100 Geographic Information Standards

OGC standards

SOSI - national geospatial standardization

INSPIRE - European geospatial harmonization

IHO S-57 - ENCs,

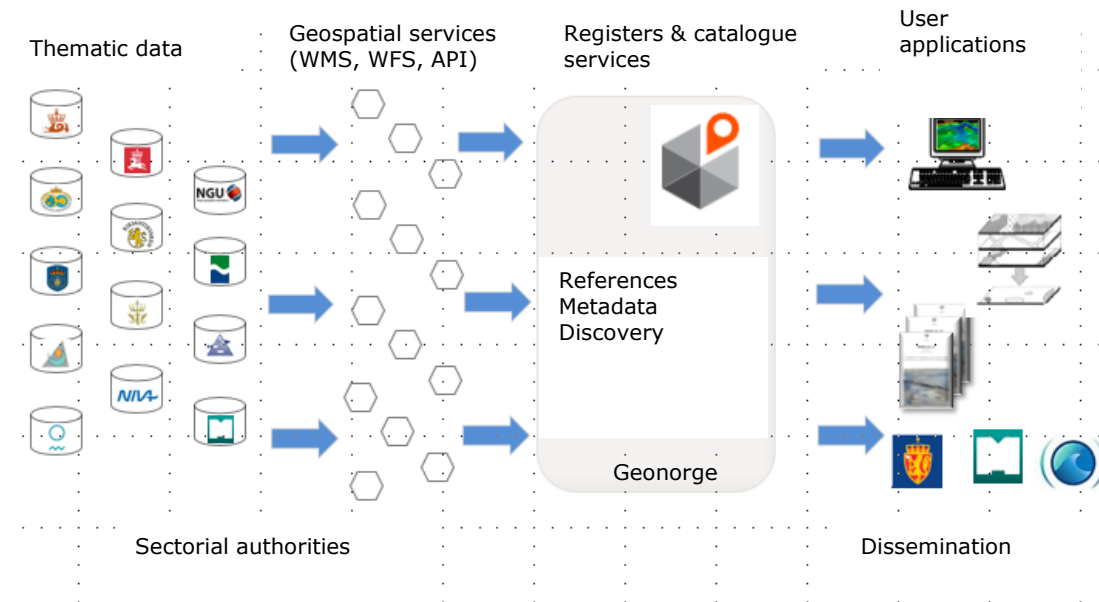
IHO S-100 Framework for marine / maritime data and services

Making geospatial data available

Service based approach

Key elements:

- Sectoral authorities offer thematic geospatial services from data they are responsible for
- A national metadata registration common available through Geonorge
- Standardized and harmonized data according to data model / product specifications
- National registers for objects, presentation rules, documentation, etc.



Improve availability and usability

Making data and services more

- **F**indable
- **A**ccessible
- **I**nteroperable
- **R**eusable

The screenshot shows the GEONORGE web application interface. At the top, there's a header with the GEONORGE logo, a search bar, and navigation icons. Below the header, the breadcrumb trail reads: Geonorge > Norwegian NSDI registers > Mareano Status Register. A search bar is present with a dropdown menu set to 'Mareano Status Register' and a 'Search' button. The main title 'Mareano Status Register' is displayed in a large font. Below the title, a paragraph explains that the register provides an overview of data collected through projects like Mareano and 'Marine base map', showing the status of various datasets' fulfillment of the FAIR principles. A date 'Updated: 17/03/2021' is noted on the right. Below this, there are tabs for 'Dataset' and 'Reports'. A status bar indicates 'Showing 51 - 63 of 63 hits' and a 'Save As:' dropdown menu set to 'CSV' with a 'Save' button. The main content area is a table with columns for 'Title', 'Owner', and a series of colored icons representing different FAIR principles. The table lists various datasets such as 'Seabed sediments (genesis), overview', 'Seabed sediments (grain size), detailed', 'Seismiske linjer, 2D', 'Sjøppel pr. Mareano-stasjon', 'Terrain models of the seabed 50m grid', 'Terrain models of the seabed DTM 25m', 'Terrain models of the seabed DTM 5', 'Trålspar', 'Tungmetaller og andre uorganiske miljøelementer i marine sedimenter', and 'Vannkolonnedata'. Each row has a set of icons indicating the status of different FAIR principles for that dataset. At the bottom, another status bar shows 'Showing 51 - 63 of 63 hits'.

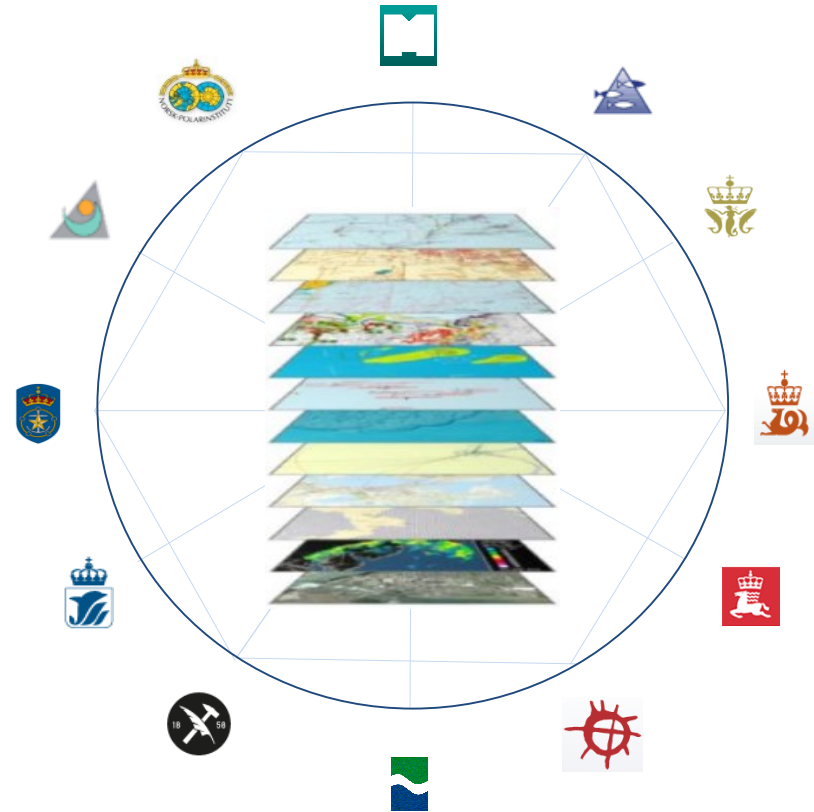
Title	Owner	FAIR Principles Status (Icons)
Seabed sediments (genesis), overview	Geological Survey of Norway	[Icons]
Seabed sediments (genesis), regional	Geological Survey of Norway	[Icons]
Seabed sediments (grain size), detailed	Geological Survey of Norway	[Icons]
Seabed sediments (grain size), overview	Geological Survey of Norway	[Icons]
Seabed sediments (grain size), regional	Geological Survey of Norway	[Icons]
Seismiske linjer, 2D	Geological Survey of Norway	[Icons]
Sjøppel pr. Mareano-stasjon	Institute of Marine Research	[Icons]
Terrain models of the seabed 50m grid	Norwegian Mapping Authority	[Icons]
Terrain models of the seabed DTM 25m	Norwegian Mapping Authority	[Icons]
Terrain models of the seabed DTM 5	Norwegian Mapping Authority	[Icons]
Trålspar	Institute of Marine Research	[Icons]
Tungmetaller og andre uorganiske miljøelementer i marine sedimenter	Geological Survey of Norway	[Icons]
Vannkolonnedata	Geological Survey of Norway	[Icons]

MSP - Cross-sectoral cooperation

The Management Forum coordinates the work on the scientific basis of the management plans.

Members of the Management Forum:

- Norwegian Environment Agency
- Norwegian Mapping Authority
- Directorate of Fisheries
- Institute of Marine Research
- Norwegian Coastal Administration
- Norwegian Maritime Authority
- Norwegian Petroleum Directorate
- Petroleum Safety Authority
- Norwegian Radiation Protection Authority
- National Institute of Nutrition and Seafood Research
- Norwegian Polar Institute
- Norwegian Mapping Authority



Marine Spatial Management Tool

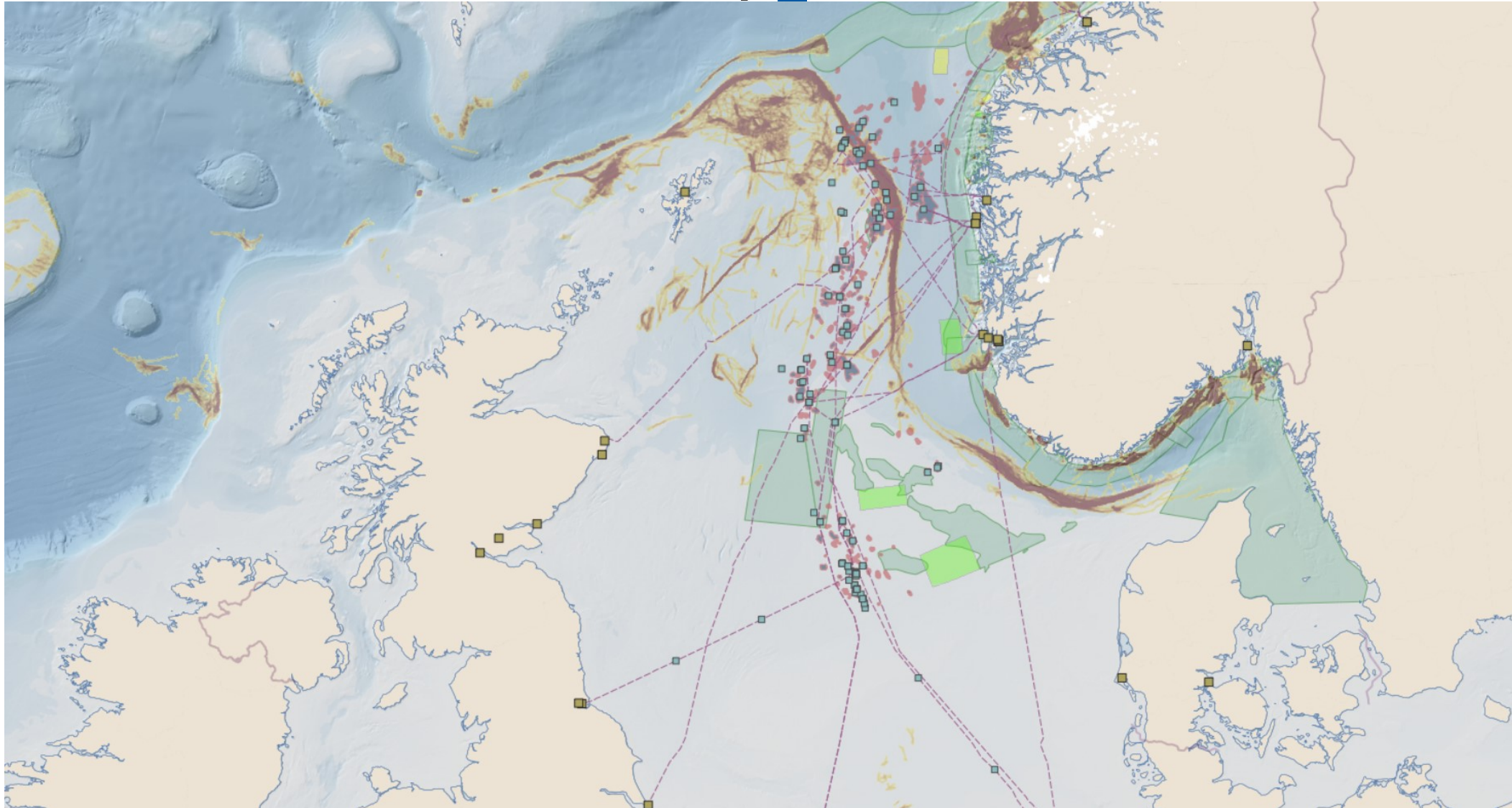
A cross-sectoral development project through an intergovernmental cooperation

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 transparency, openness and increased involvement from the stakeholders



Offshore wind farm assessments 🇳🇱 + Petroleum activities 🇳🇱 + Commercial fishing 🇳🇱 + Valuable marine areas 🇳🇱 + Base map 🇳🇱



Marine basemaps in coastal Norway

- Awarded 85 mill NOK over three year period (2020-2022)
- 3 pilot areas agreed upon – work is starting up
- Submitting a proposal for national programme 2021
- Methods development
- New technology
- Standardized set of products
- Themed according to task / user type
- Datasets, digital maps, services (WMS, WFS, WCS) and statistics WPS
- Self-service: Combine and create your own unique marine base maps
- INSPIRE compliant
- Easy access and FREE on national geodata portal
- Easy to use across competence levels and platforms
- 2 years timeline from data collection to products – rollout when available



Testing new technology at Runde, June 2017.
Photo: Arild Hareide/Runde Environment
Centre

An underwater photograph showing sunlight rays filtering through the water's surface, creating a shimmering effect. The water is a deep blue color, and the light rays are bright and distinct.

Thank you !