

**First Expert meeting of the UN-GGIM & IHO Joint Working Group on Marine Geospatial Information**  
**with the theme “Advancing Integrated Marine Geospatial Information Management”**

**Chiang Mai, Thailand**  
**4 – 8 May 2026**



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# Norway

## Norwegian Mapping Authority Hydrographic Service



# Kartverket



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# Where is your country today in enhancing the management and use of marine geospatial information ?

- Norwegian Hydrographic Service is part of the Norwegian Mapping Authority, covering hydrography, geodesy, cadastre, and national geospatial coordination
- Core datasets: bathymetry, topography, sea level, tides, flooding, and nautical charts.
- Coordination mechanisms: Norge Digitalt
- Legal framework aligned with EU directives (INSPIRE, Open Data Directive)
- Significant public investment in shared data infrastructure (~€43.7M over 5 years)



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# Where does your country aim to be in the next five years?

- Seamless and efficient sharing of marine geospatial data meeting diverse user needs (not only nautical)
- Marine geospatial data widely used by government and industry
- High-quality and FAIR data (**including S-100 implementation**)
- Authoritative and widely used national geospatial data catalogue (Geonorge)
- Integrated national base data (bathymetry and topography)



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# What do you see as the main challenges in reaching this “ideal” situation within the next five years?

- Governance: Fragmented data landscape with multiple actors and overlapping data collection
- Data: Gaps, inconsistencies, and need for stronger standardisation and harmonization
- Ownership: Unclear data ownership and responsibilities across sectors
- Funding: Need for sustained investment in modernisation and upgrading legacy systems
- Private sector: Limited incentives and frameworks for data sharing



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# What potential opportunities could help address some or all of these challenges?

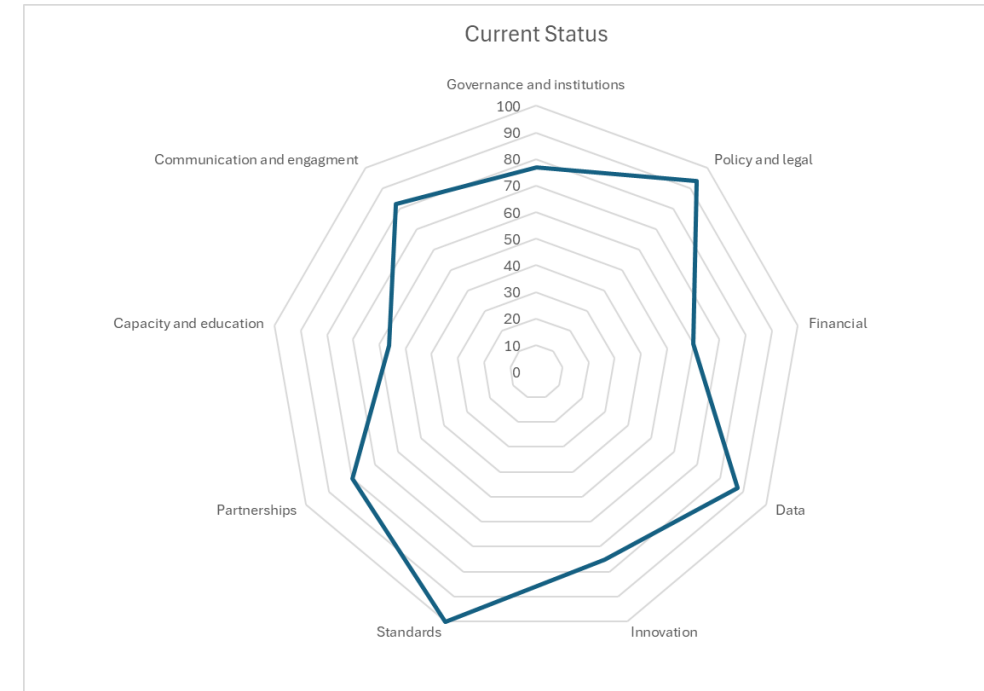
- Alignment between geospatial and national digitalization strategies
- Expansion of joint solutions and shared infrastructure
- Product-based operating model to strengthen governance and value delivery
- Growing demand from marine governance
- Blue economy driving new data needs
- Geopolitical shifts increasing importance of marine data



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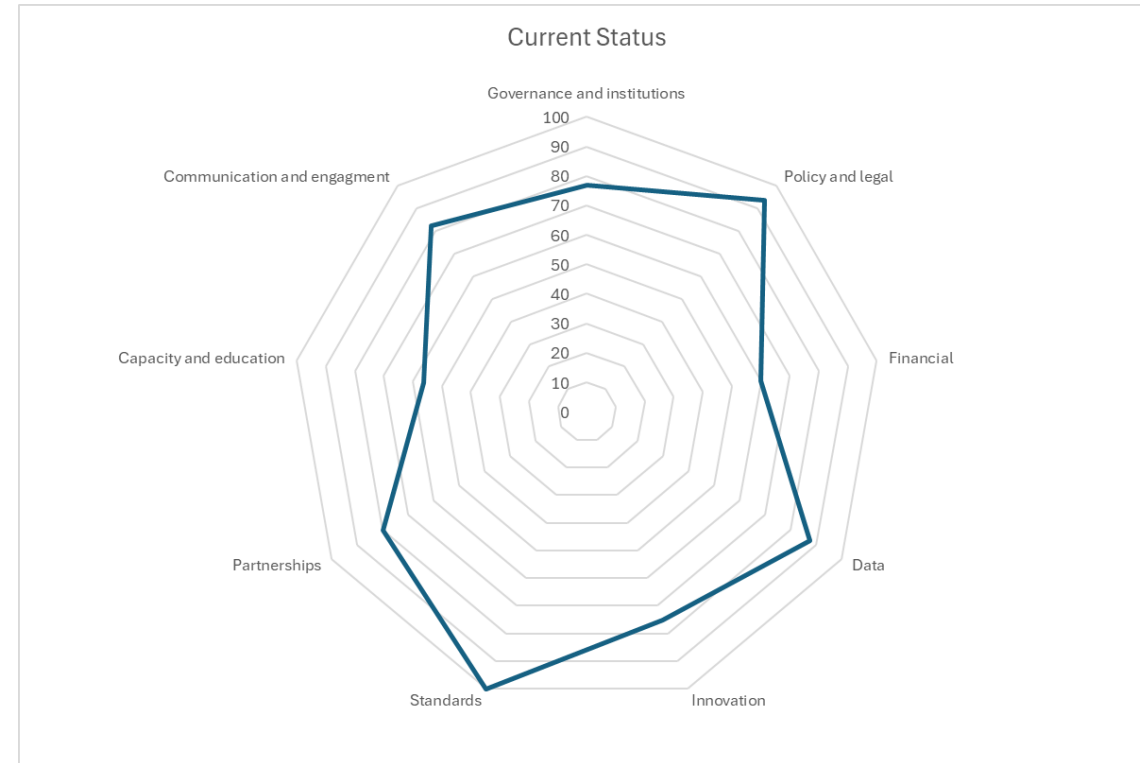
# How familiar are you with the UN-IGIF, and IHO C-17?

- Application of UN-IGIF at organisational level, complemented by an IGIF Hydro approach tailored to marine geospatial information
- Frameworks referenced in national strategy development
- Potential for further alignment in marine geospatial governance

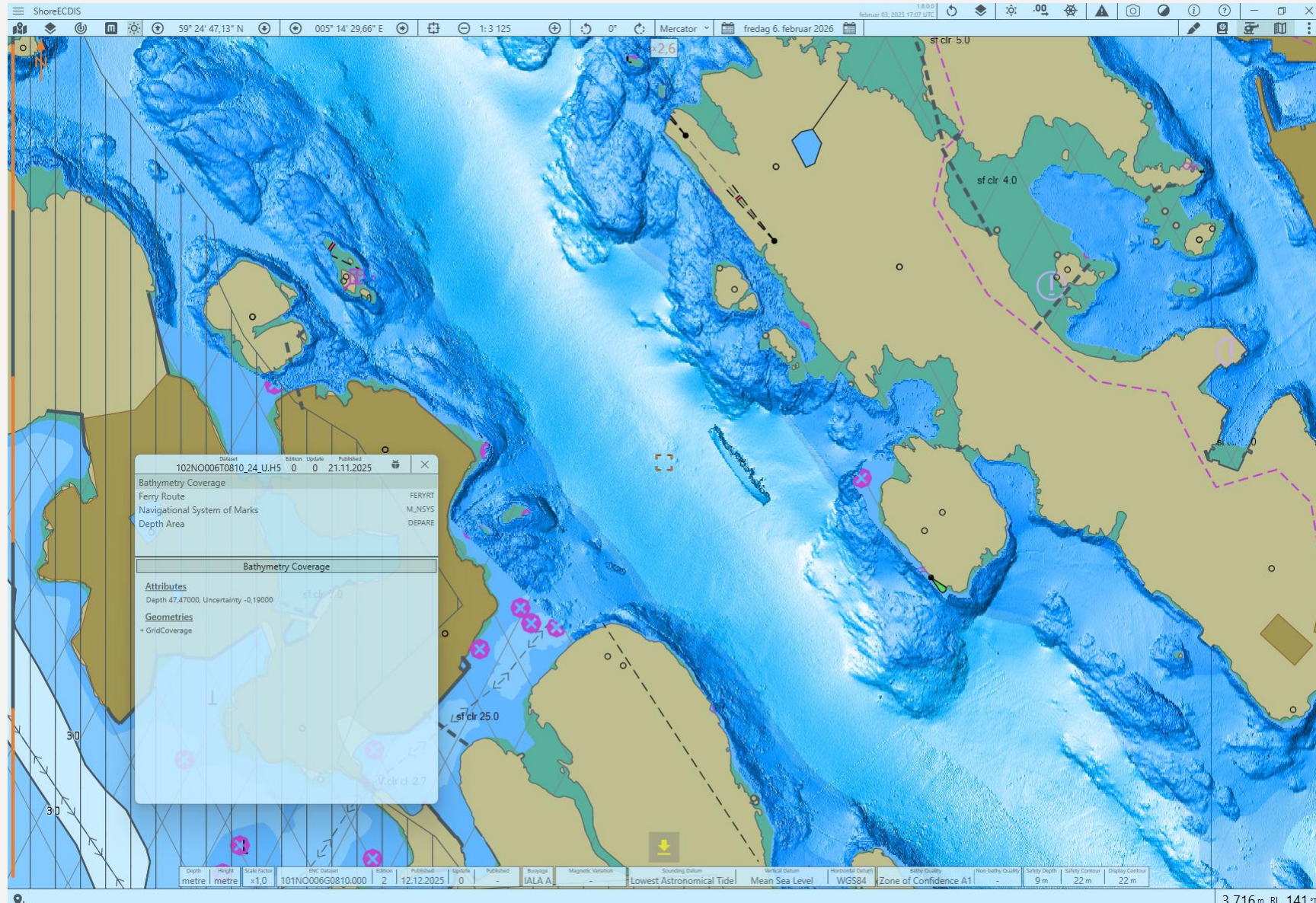


# What kind of support would you like to receive from UN-GGIM-IHO Joint Working Group?

- Harmonised interpretation and practical application of IGIF
- Translating IGIF principles into governance and workflows
- Cross-sector and public-private data sharing models
- Case studies on IGIF and S-100 implementation



# National Report: Norway - the fun stuff





Søre Vaulen. Foto: Eiliv Leren / terrengmodell: Kartverket

## *Marine basemaps in the coastal zone*

Turn on the lights for  
knowledge based  
decisions  
under water



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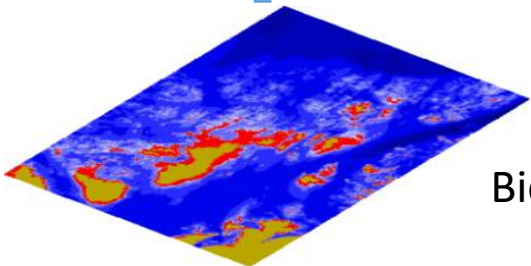


NORGES  
GEOLOGISKE  
UNDERSØKELSE  
- NGU -

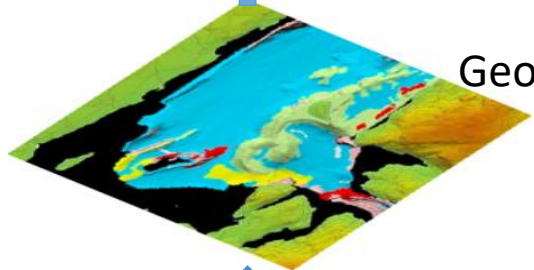




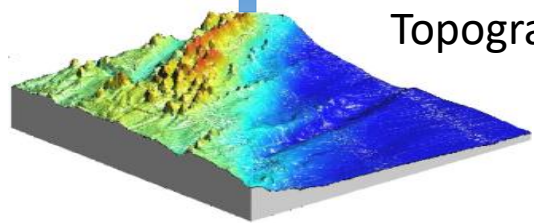
Marine base  
maps



Biology



Geology

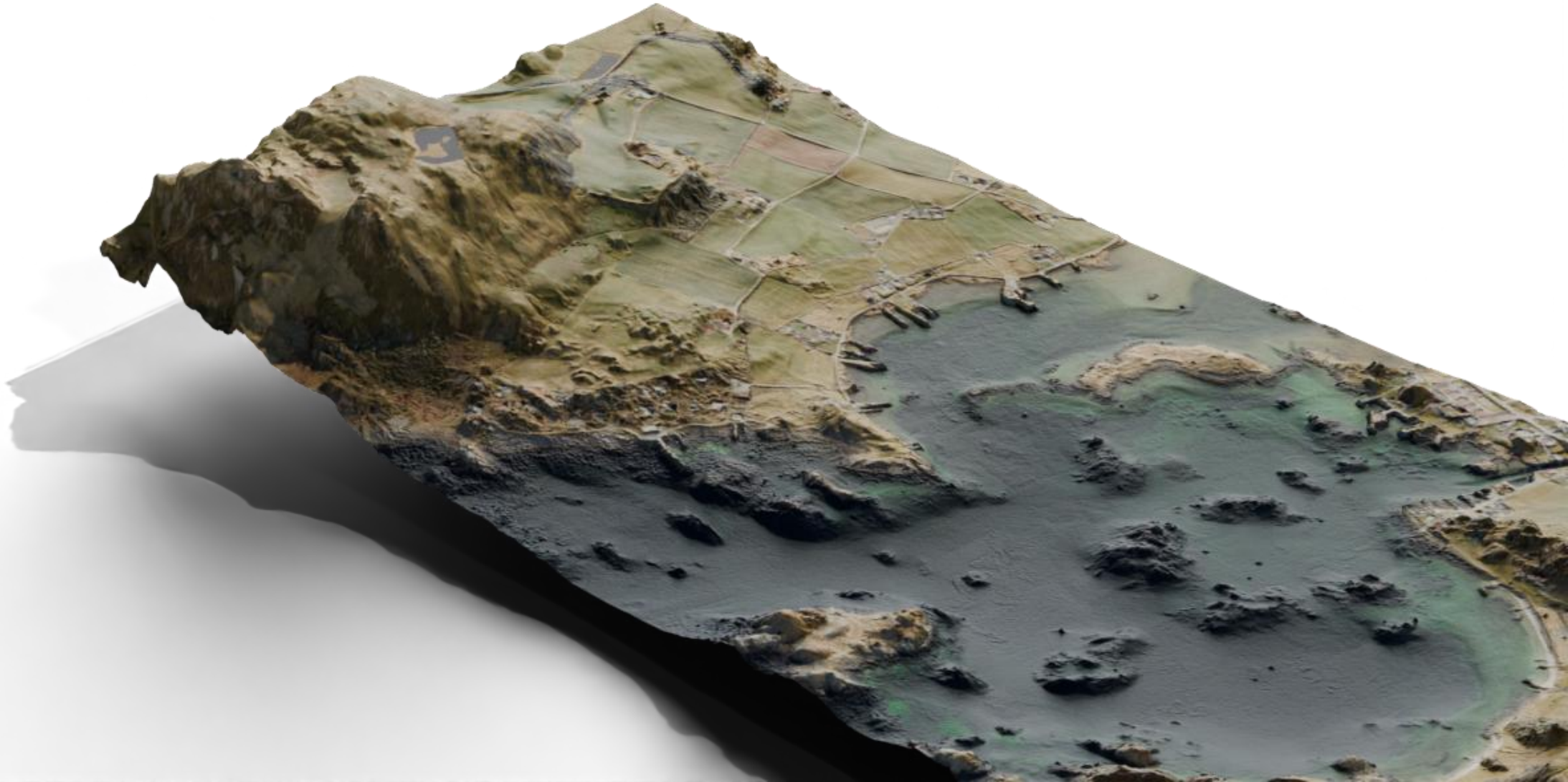


Topography

## The Varangerfjord



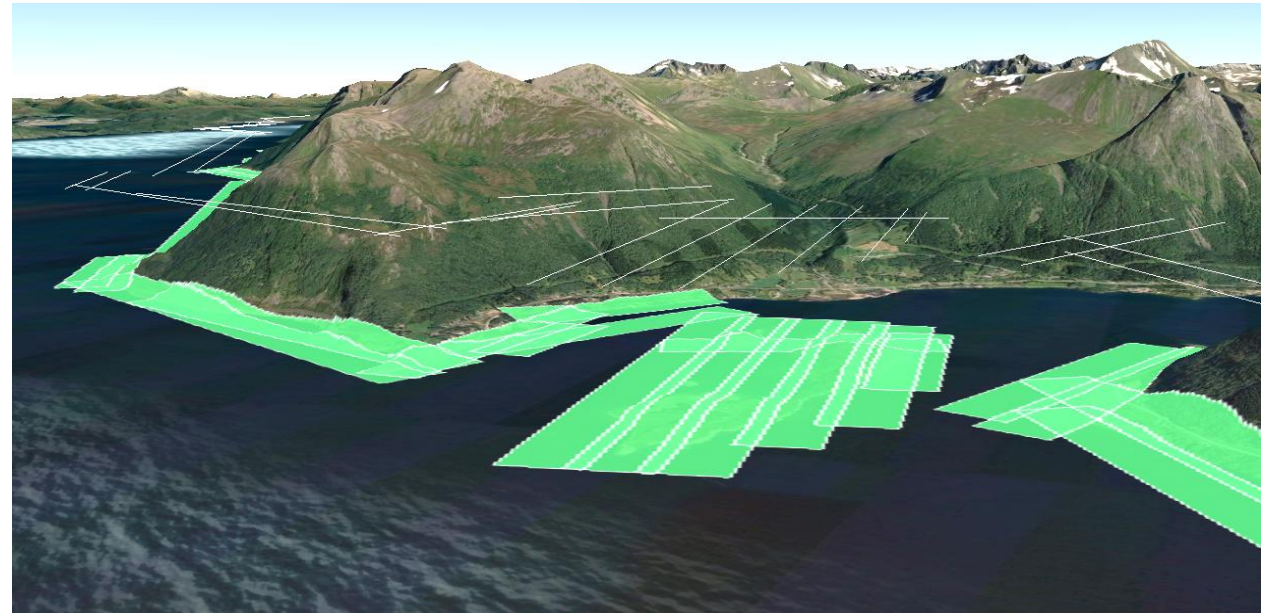
# Seamless terrain model from land to sea



# Future Data Acquisition Concepts

Report delivered November 2025, describing three main elements:

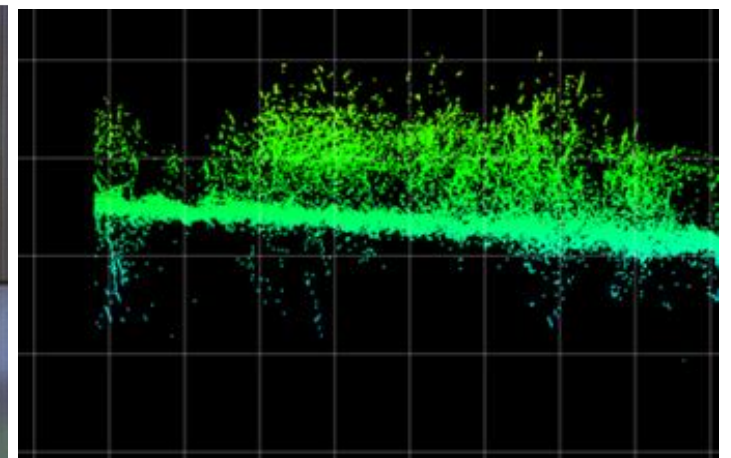
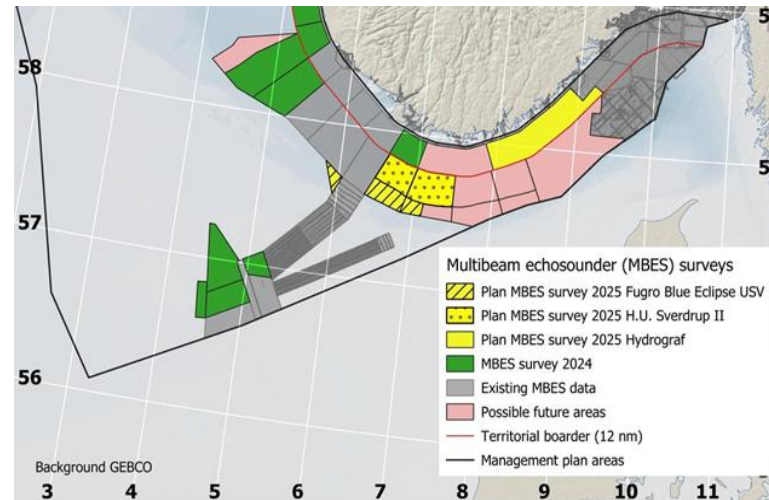
- Renewed mothership capacity
- Gradual implementation of USV
- Airborne laser scanning in the coastal zone (0–10 m)



# Future Data Acquisition Concepts






Other important elements:

- Increased flexibility, reduce fixed costs.
- Explore cooperation with other organizations.
- Reduce climate and environmental footprint.
- Interdisciplinary data acquisition \*



# New solution for national SDI components and Services

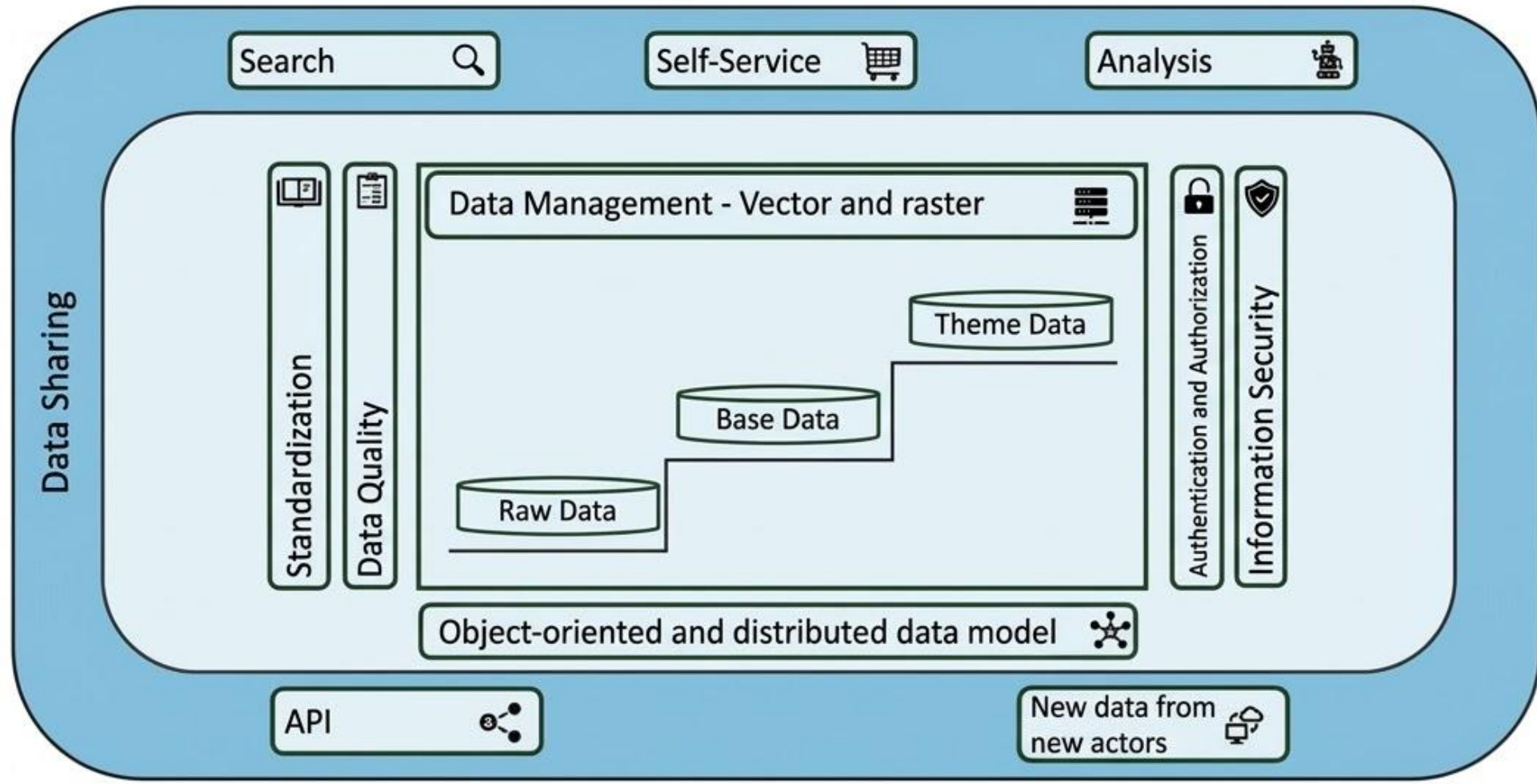
## Today's Joint Solutions for Maps and Map Data

Positioning Services	Terrain and Imagery	Decision-Based Data	Physical Map Objects	Sharing Platform
				
Positioning Services	<ul style="list-style-type: none"> <li>Elevation and Depth Data</li> <li>Image Data (Norway in Images)</li> <li>Water Level</li> </ul>	<ul style="list-style-type: none"> <li>Property Register</li> <li>Land Register</li> <li>Place Names</li> <li>Borders and Administrative Subdivisions</li> </ul>	<ul style="list-style-type: none"> <li>National Sea and Land Maps</li> <li>Detailed Maps (SFKB)</li> <li>Cables - Aviation Obstructions</li> </ul>	<ul style="list-style-type: none"> <li>GEONORGE</li> <li>Access Solutions</li> </ul>
Geodetic Reference Frame				
IT Infrastructure and Security				



# Main Concept - The Collaboration Platform

 Data Users



 Data Acquisition and Data Owners



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