

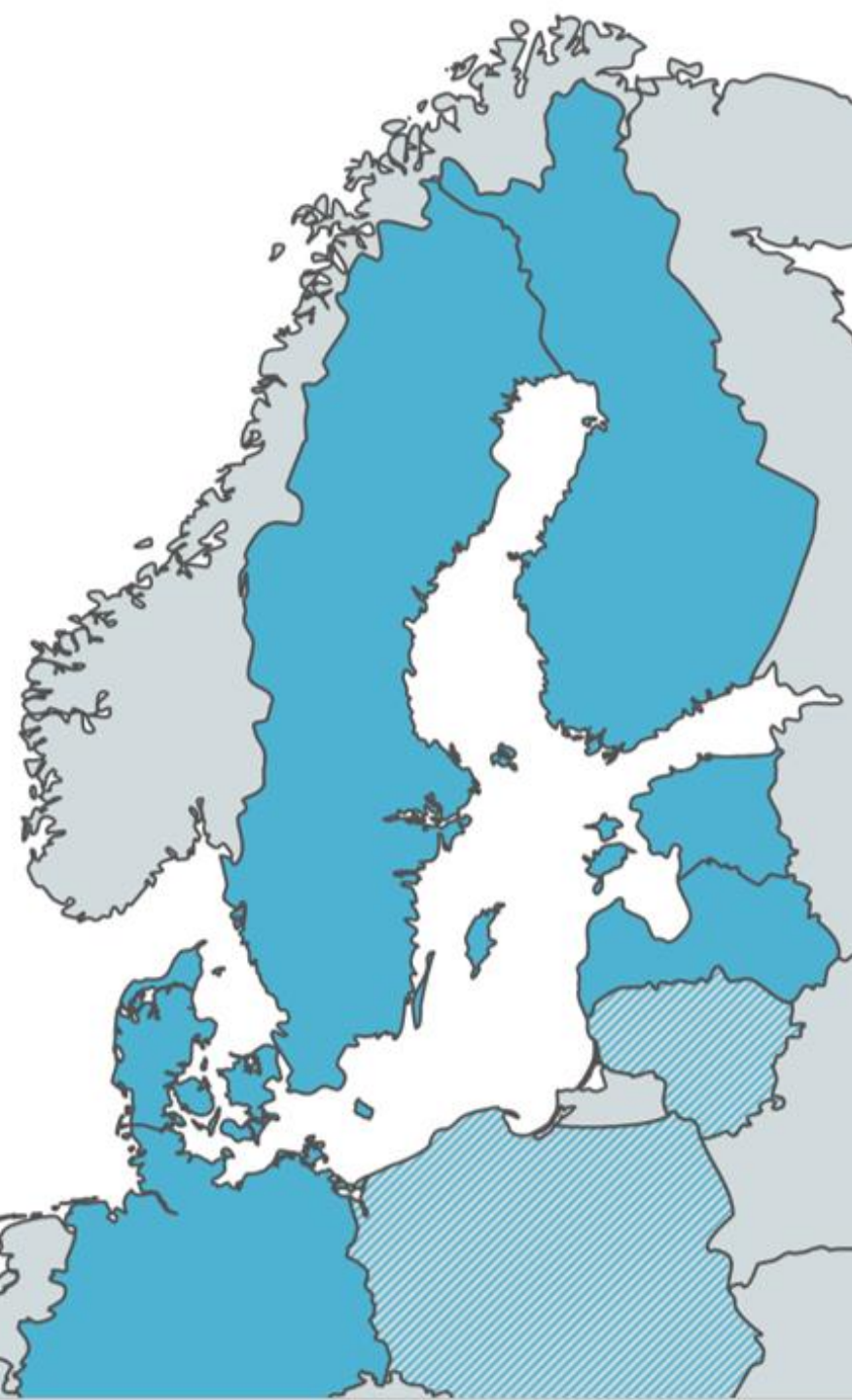
# Status Report Baltic Sea e-Nav

## Agenda item C.4



# Baltic Sea e-Nav – Partnership

- Hydrographic offices:
  - SE (coordinator), DE, FI, DK, EE, LV (Associated: LT, PL)
- Academia:
  - The Research Institute of Sweden RiSE (SE), Satakunta University of Applied Sciences SAMK (FI)
- Private sector:
  - ECDIS OEM – Furuno
- Meteorological agency:
  - Finnish Meteorological Institute (FMI)
- RENCs:
  - Associated: PRIMAR, IC-ENC





# Baltic Sea e-Nav - Scope

Project period November 2023 – October 2026

Goal	Period
<b>Develop production capabilities</b> for S-101 ENC, S-102 bathymetry and in Finland S-104 water level and S-111 surface currents	2023-2025
Establish <b>harmonization rules</b> for S-10x-products. Decisions must be taken for S-101 and S-102 by the 30 <sup>th</sup> Baltic Sea Hydrographic Commission, 2025. Will be presented to BSICCWG who subsequently will submit them to the Commission, if endorsed by the WG.	2024-2026
<b>Test, evaluate and refine</b> the S-10x products	2025
<b>Commercial rollout</b> for S-101 and S-102 in the Baltic Sea. S-104 and S-111 in parts of FI.	2026





# Baltic Sea e-Nav – Commercial Rollout 2026



- **S-101 ENCs**  
full coverage of the major shipping routes in the Baltic Sea
- **S-102 Bathymetry**  
will cover most relevant shipping routes, fairways and harbor approaches, where hydrographic survey data of sufficient quality is available
- **S-104 Water Level and S-111 Surface Currents**  
The Finnish Meteorological Institute (FMI) will establish overview services for mostly the Finnish areas of the Baltic Sea



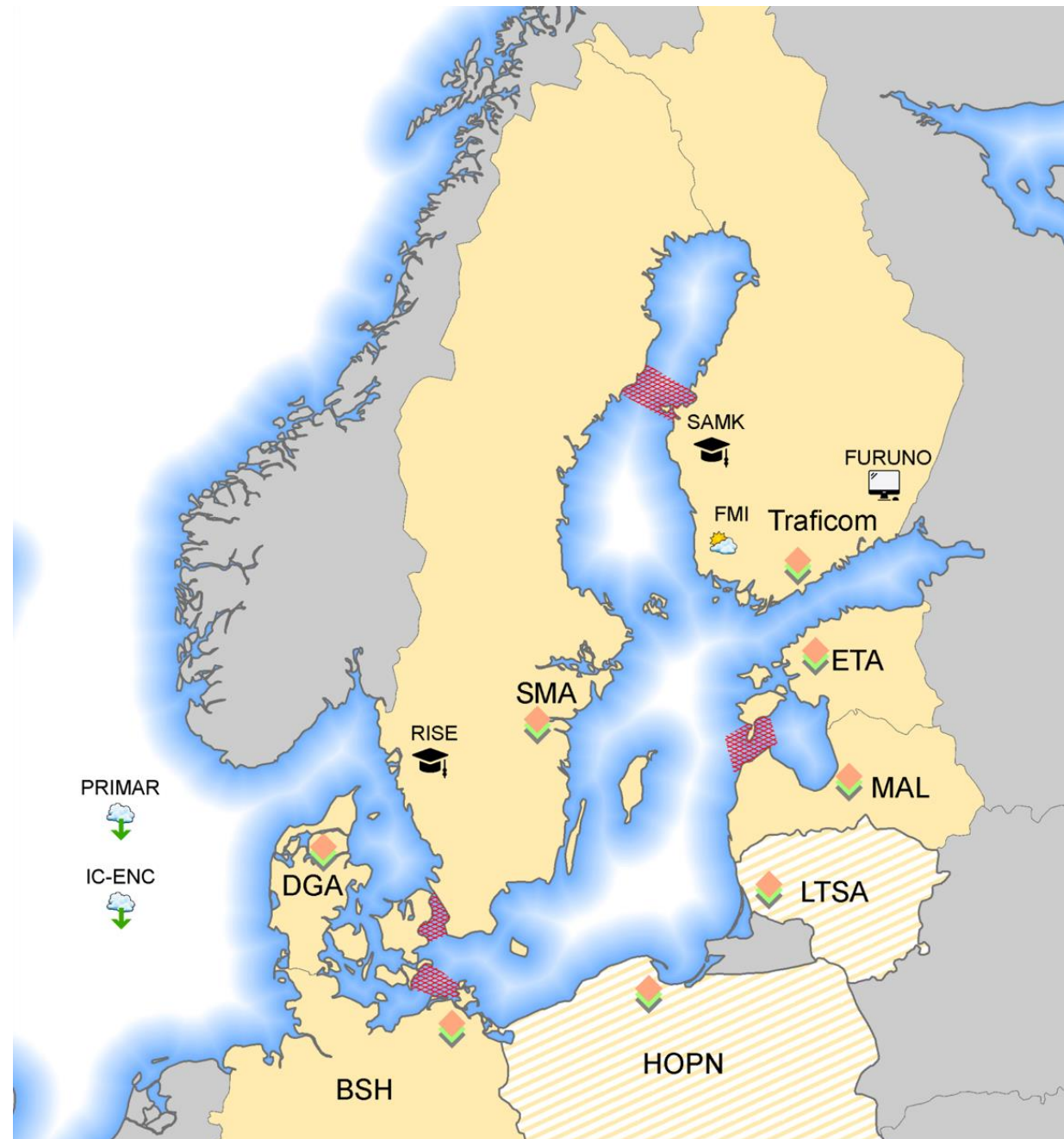
# Ongoing in the project

- Last meeting in Rauma Finland in April 2025. Results from the first pilot tests were presented and discussed. Next project meeting in Riga in November and mid-term Conference in Copenhagen 3 December.
- Harmonisation rules for S-101 finalized and presented to BSICCWG. S-102 harmonisation rules need refinement. See BSHC30 BSICCWG Report.
- Full production line tested: S-57 to S-101 conversion, validation, RENC upload
- Converted oceanographic data to S-104/S-111 formats
- All producers have sent data in operational versions for decided test areas, which were used in the first pilot session and now in the second round.
- RiSE designed the tests and first pilot tests were performed at SAMK (FI) Q1 – Q2 2025 in simulator environment using the Furuno prototype.
- Next pilot tests start in September 2025.
- The Furuno prototype has been upgraded and can now also support S-104 and S-111.



# Test Areas

- Congested traffic flow
- S-100 data from two different countries
- Commercially important passages
- Under keel clearance limitations



# Value Proposition canvas

## S-100 GAIN CREATORS

### SAFETY

Larger margins vs hazards, other traffic

Increased situation awareness when navigating close to shallow areas

### EFFICIENCY

Opening up for more efficient route choices – earlier / more precise ETA, decreased fuel consumption

### USABILITY

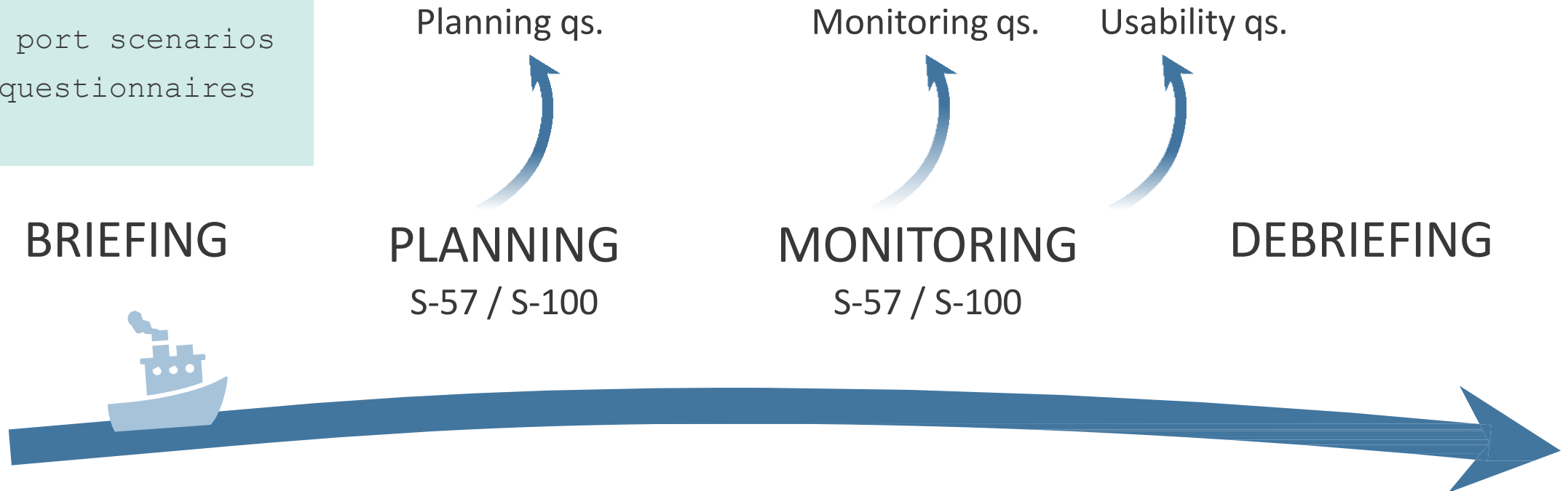
Fewer alerts generated due to improved depth information

Long term – better integration of information resources

# Experiment design & procedure

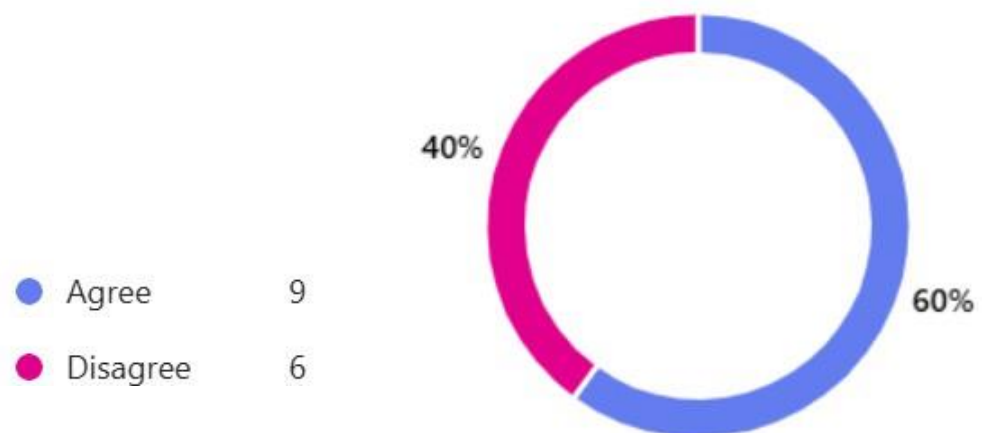
## Summary

- 14 participants
- 4 cross-border scenarios
- 12 port scenarios
- 3 questionnaires

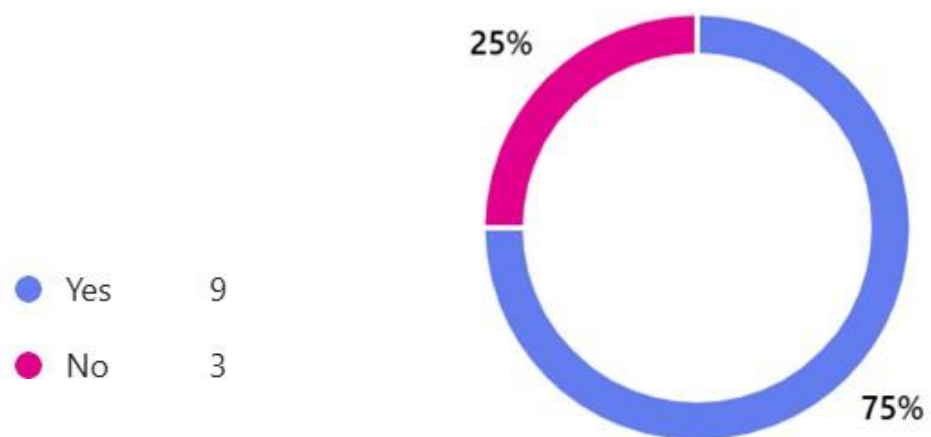




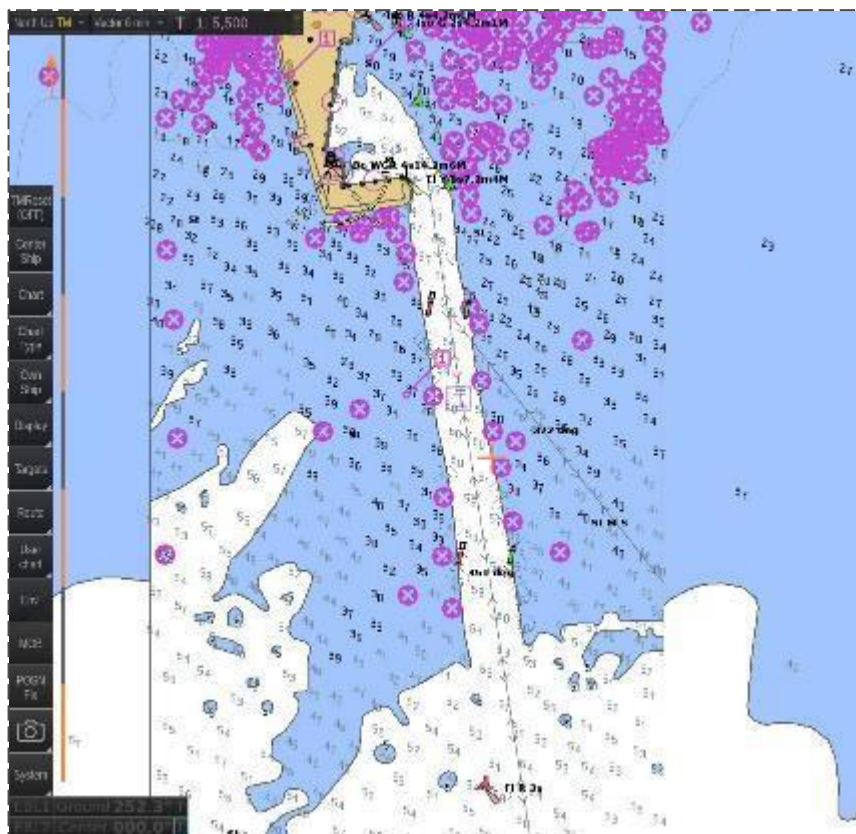
8. The S-100 products affected my choice of route



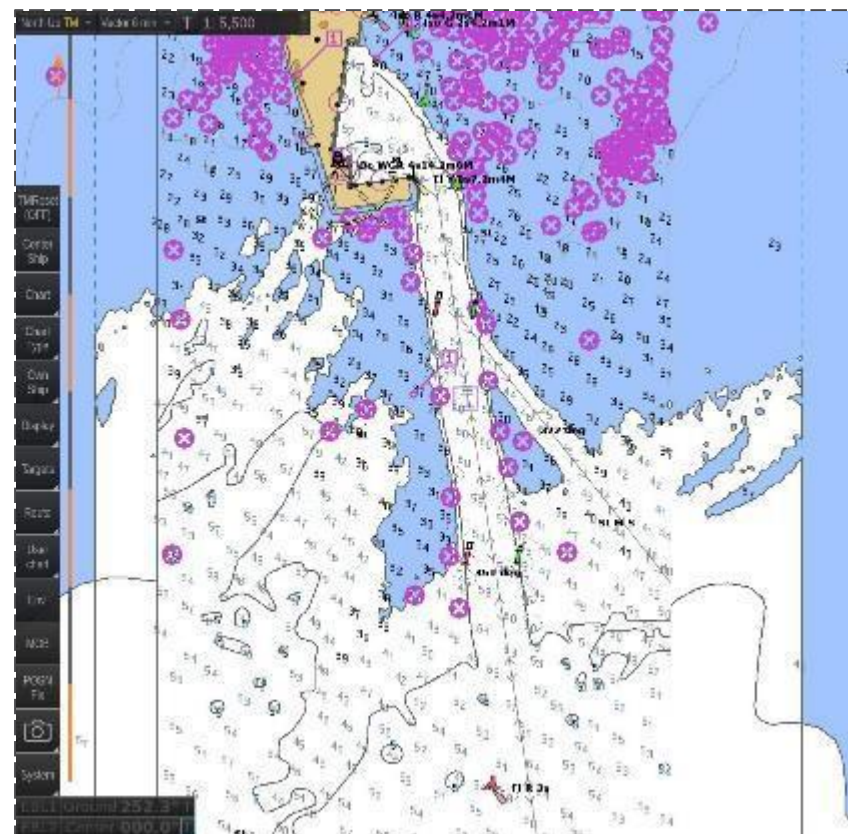
6. Did the S-100 products affect the way you monitored the route while sailing?



# Example: more routing alternatives



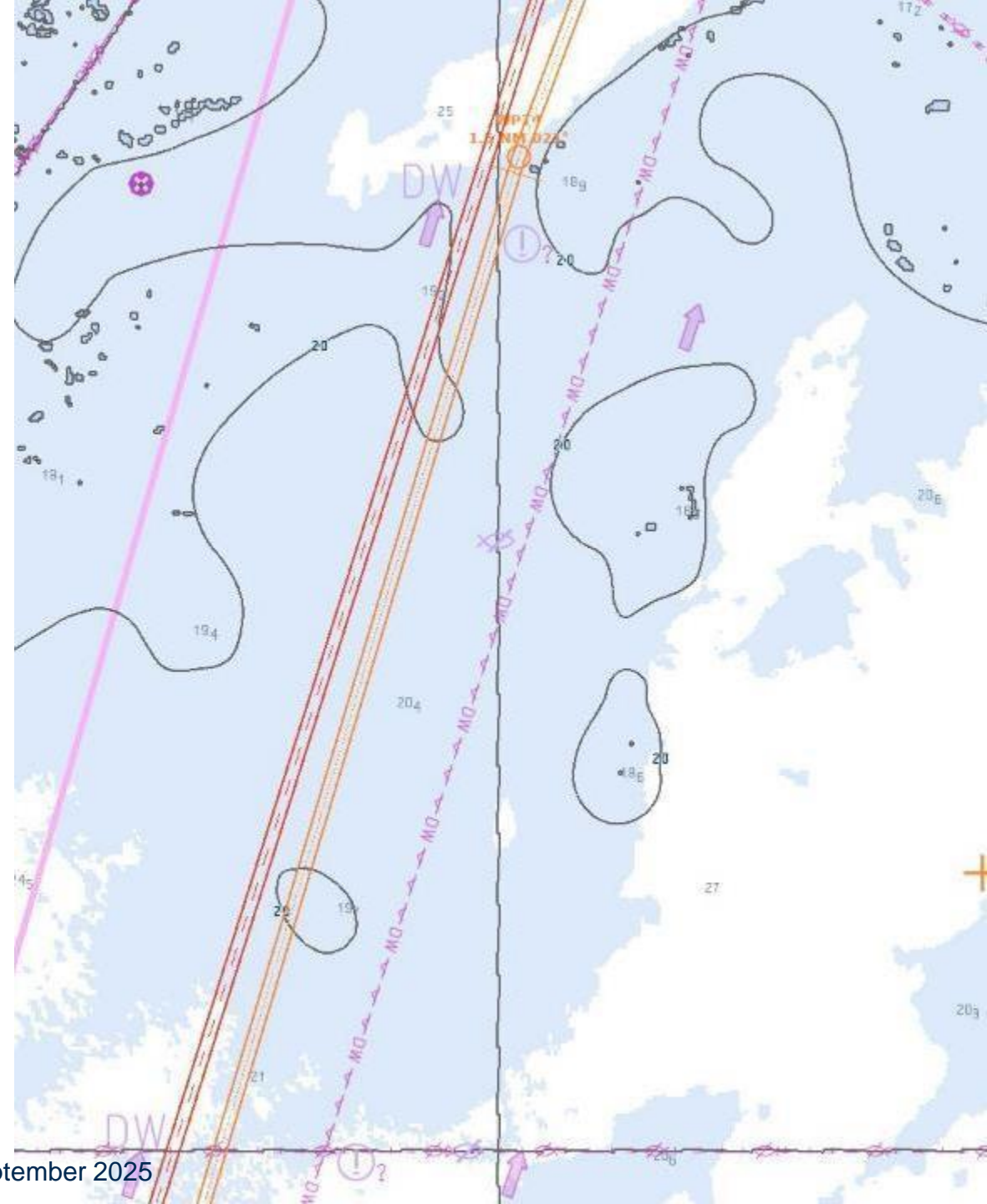
S-101



S-102

# Summary: Added value

- In terms of **safety** – more margins e.g. for course deviation
- In terms of **efficiency** – Ability to plan shorter / more optimal routes. More potential benefits with additional products.
- In terms of **usability** – More room for user adaptation, reduction of nuisance alerts.





# Communication activities

- Managed by SAMK. Most communication activities planned in period 5, but SMA and SAMK are trying to do some in earlier stages of the project.

- Note published in the IHO International Hydrographic Review (IHR)

<https://ihr.iho.int/articles/shared-waters-same-standards-the-baltic-sea-e-nav-project-a-partnership-for-the-future-of-marine-navigation/>

- Article in Baltic Transport Journal, [BTJ :: BTJ 2/25 - MARITIME: Development grounded in practice. Toward the S-100 standard in sea navigation - in the Baltic & beyond](#)
- Website [interreg-baltic.eu/project/baltic-sea-e-nav/](https://interreg-baltic.eu/project/baltic-sea-e-nav/)







# BSHC 30 is invited to:

1. Note the Baltic Sea e-Nav Report
2. Take any action as appropriate

**Interreg**  
Baltic Sea Region



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BLUE ECONOMY

**Baltic Sea e-Nav**