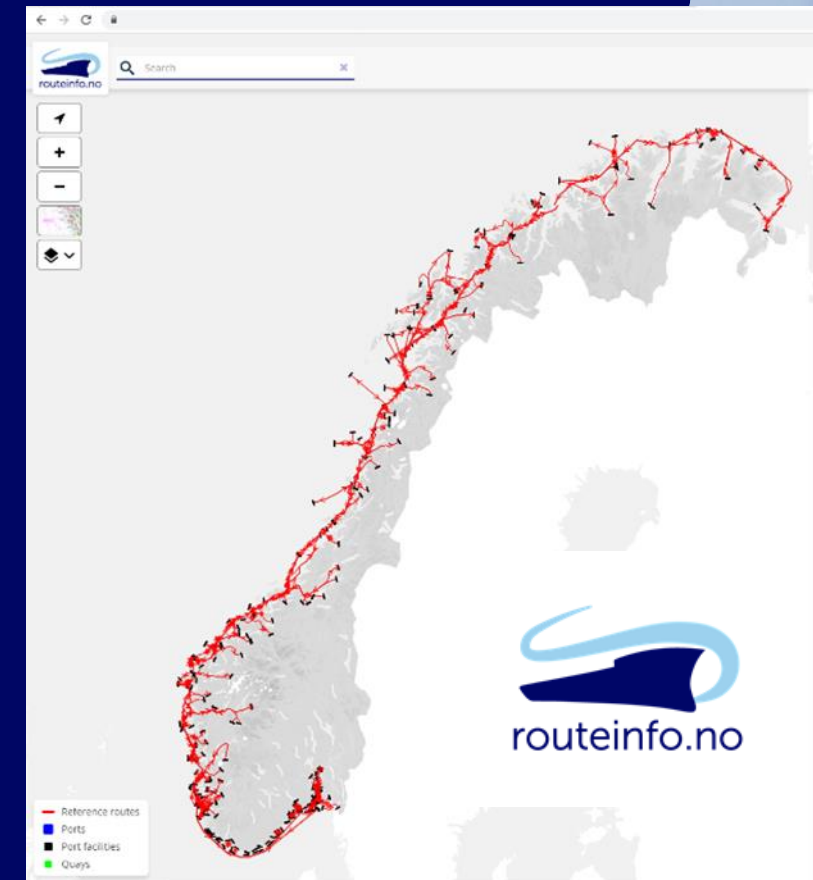


Harmonizing nautical and operational data and cross-domain re-use. Examples of values



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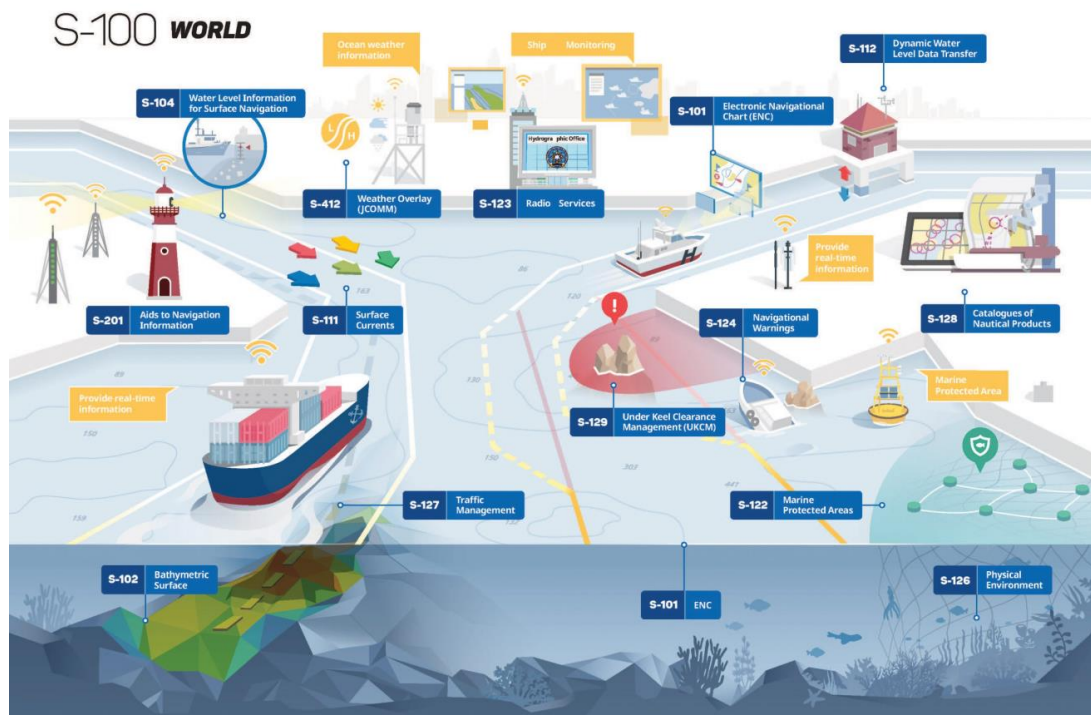


Film!



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Access quality assured routes and important route information



- The service on **reference routes for navigation** which the Norwegian Coastal Administration offers for free is based on the framework for digitalisation from IMO - The International Maritime Organisation (www.imo.org), and particularly the standard for exchange of routes defined in IEC 61174:2015, further developed in IEC 63173-1:2021 '**route plan**'.
- The routes shall assist the navigator without taking away his need of adjusting his route according to his vessel.



length 382 meter, width 124 meter



length 101 meter, width 17 meter

GIS

Information technology

Information management in
Geographical information System



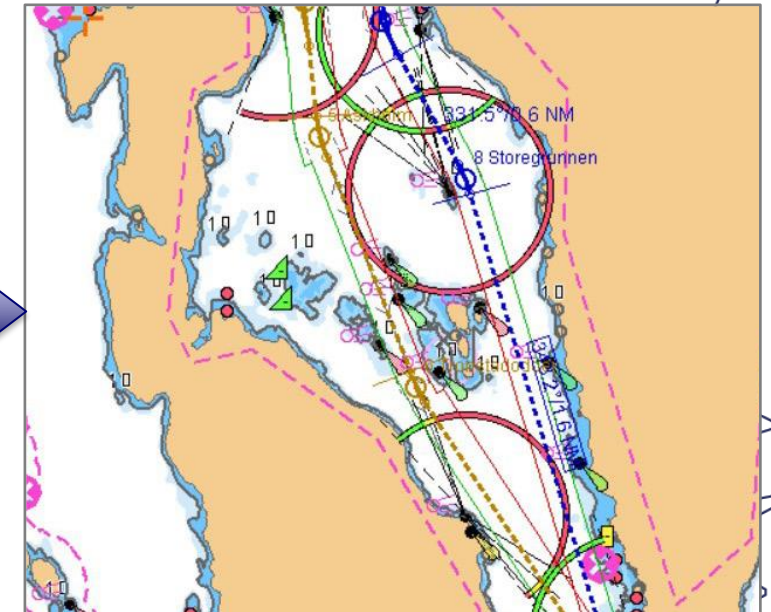
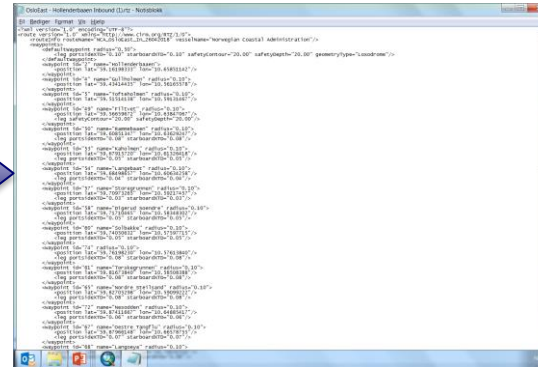
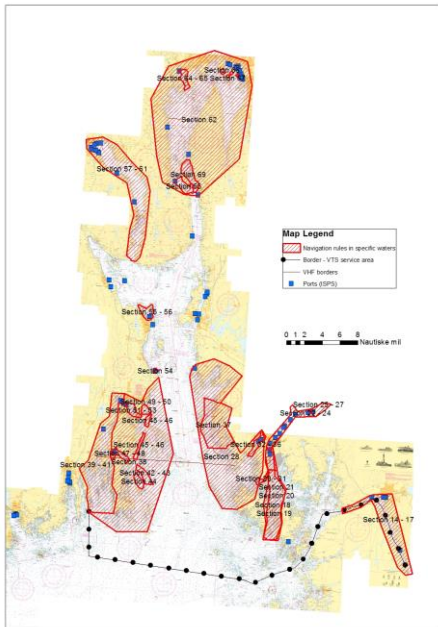
Maritime ITS

Operational technology

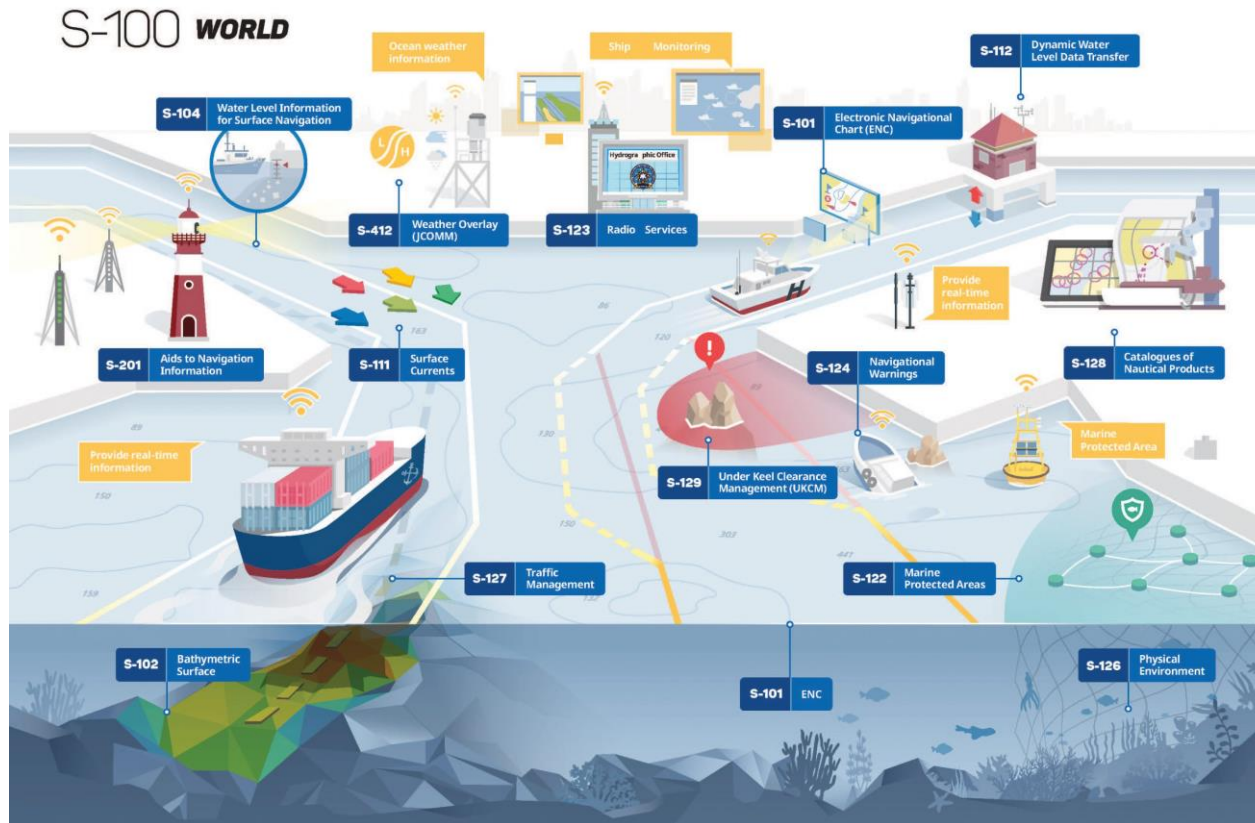
Nautical information in Electronic
Chart Display and Information
System (ECDIS)

Route plan

(rtz and other inter-national
standards)



The way forward



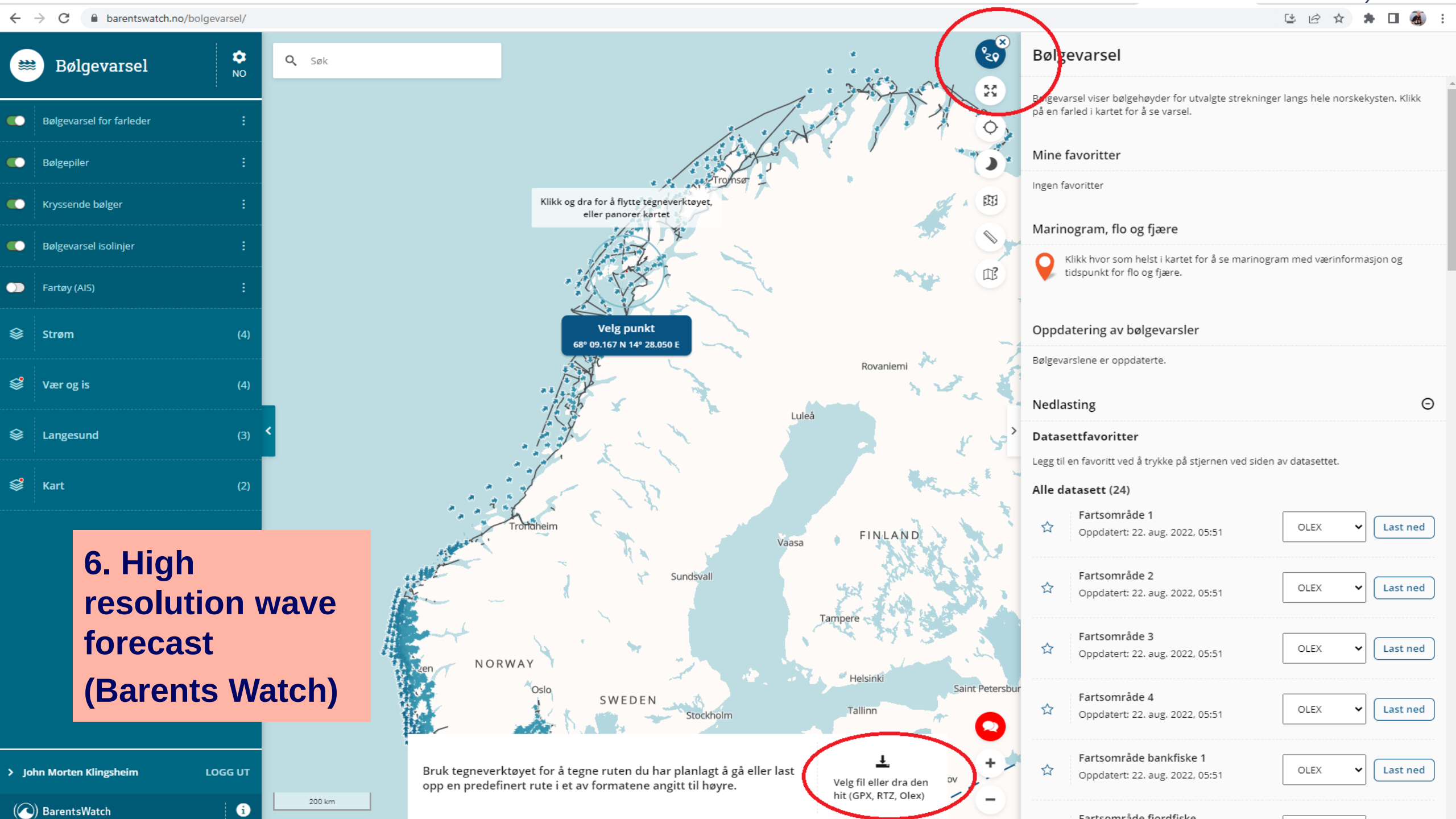
- Norway is therefore joining initiatives on the establishment of standards on maritime ITS which are based both in IMO, IHO, IALA, IEC and others.



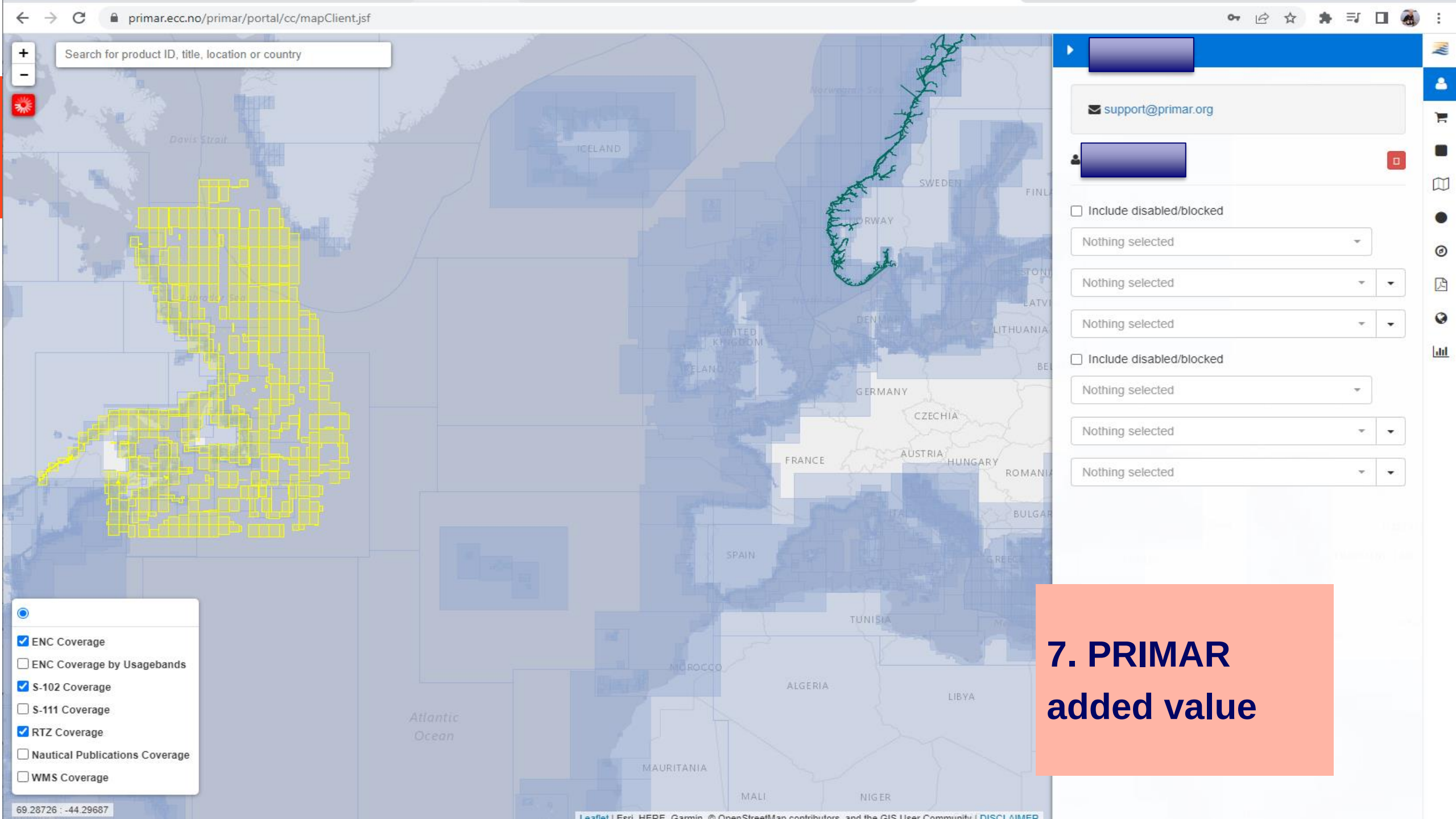
Quality assured reference routes give value on many areas as software can utilize open standard and API's,

639 routes per 29.8.2022

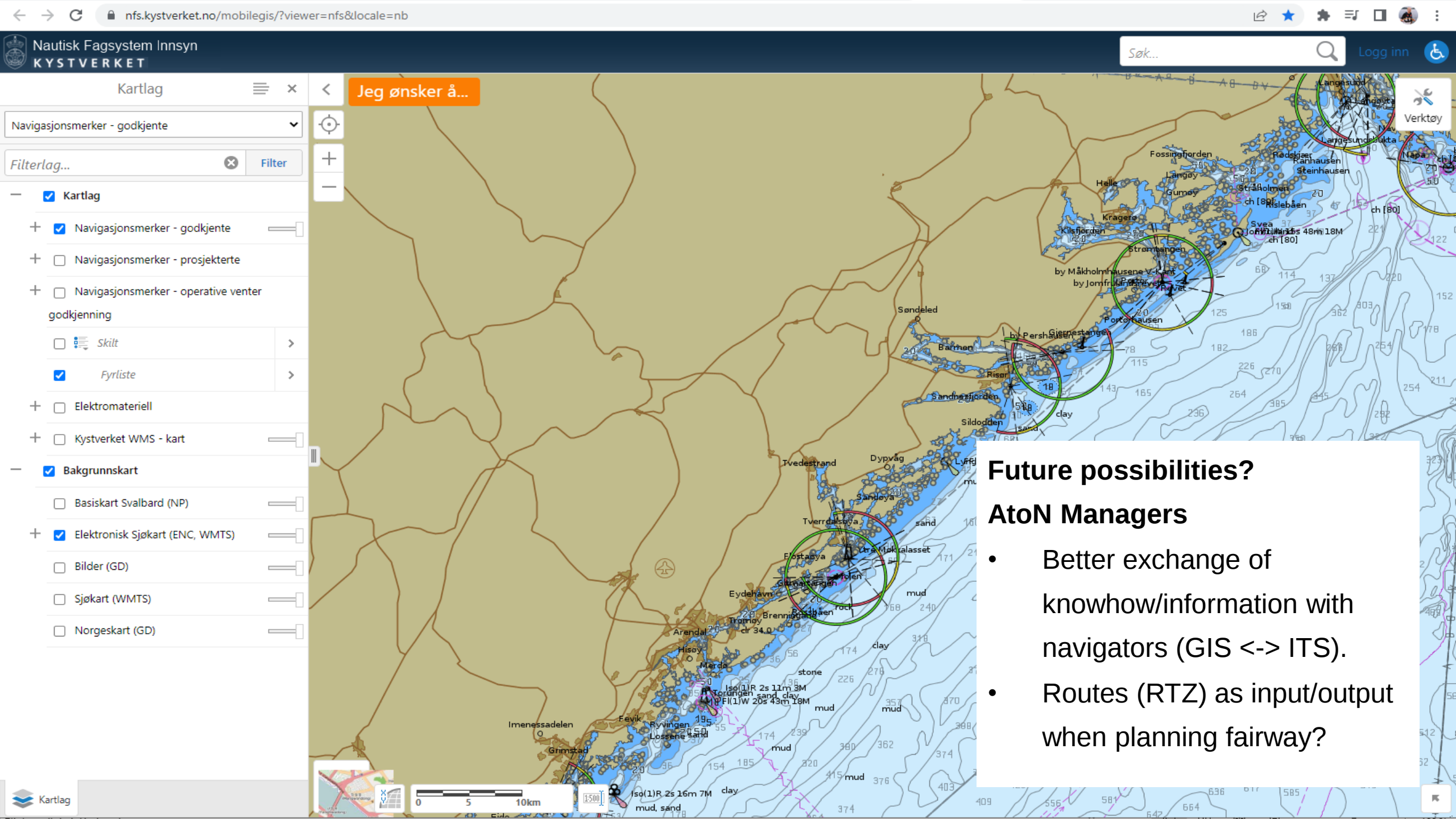
1. **More secure and efficient route planning** for the navigator.
 2. Route based access to relevant regulations for your voyage
 3. Route based access to information from Navigational Publications.
 4. **Support Just in time arrival.**
 5. Support **e-Navigation** services for example NAVTOR.
 6. Easy access to high-resolution wave forecast (Barents Watch).
 7. **PRIMAR**. Increased access to routes + additional services by combining data.
 8. **Hydrographic Service** has information to better plan surveys.
 9. **Pilots** (Portable Pilot Unit) always have updated reference routes available for use on duty.
 10. Single Window **reporting** of Port Call and smarter **VTS clearance**.
- Further priority:
 - Navigational warnings found based on route / reference route.
 - Low fossil maritime fuels availability
 - AtoN managers to better exchange information with navigators



6. High resolution wave forecast (Barents Watch)



**7. PRIMAR
added value**



Jeg ønsker å...

Future possibilities?

AtoN Managers

- Better exchange of knowhow/information with navigators (GIS <-> ITS).
- Routes (RTZ) as input/output when planning fairway?

RTZ/S421 could assist in digital information exchange!

[Frontpage](#) / [News](#) / Changed sailing pattern at Måløy Bridge from 14 September to 31 December 2022

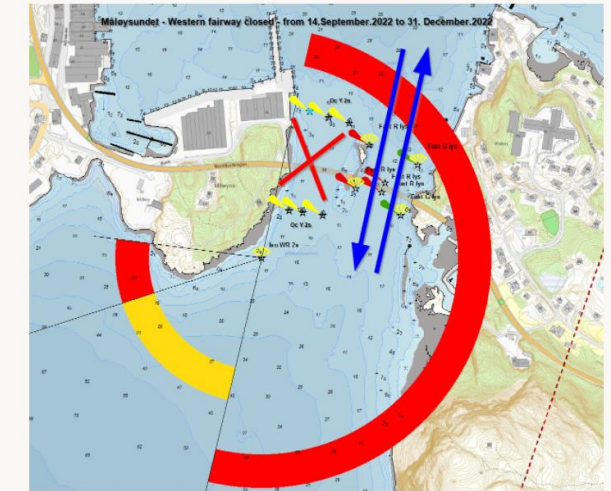
Changed sailing pattern at Måløy Bridge from 14 September to 31 December 2022

The Western fairway under the Måløy Bridge will be closed due to construction work in this period. All seagoing traffic, both northbound and southbound, must use the Eastern Fairway.

Published 8/30/2022. Updated 8/30/2022.

Changes in Aids to Navigation during the construction period:

See [new temporary plan for Aids to Navigation - effective from 14 September 20:00 \(local time\) til 31 December 23:59 \(local time\) 2022](#)



- <https://kystverket.no/en/news/changed-sailing-pattern-at-maloy-bridge-from-14-september-to-31-december-2022/>

API for access to reference routes

- https://a3cloud.kystverket.no/api/docs/swagger/ui/index?version=Kystverket#!/Kystverket47RouteInfo47RtzV2/RtzV2_getRouteV2

 **swagger** **Explore**

[Adaptive](#) [Adaptive.Veg](#) [AdvRtm](#) [Kystverket](#) [Onevoice](#) [SOMM](#) [FL](#)

Kystverket

Kystverket specific APIs.

Kystverket/Ksat/Ksat	Show/Hide	List Operations	Expand Operations
Kystverket/RouteInfo/AnchorageReport	Show/Hide	List Operations	Expand Operations
Kystverket/RouteInfo/Rtz	Show/Hide	List Operations	Expand Operations
Kystverket/RouteInfo/RtzAdaptive	Show/Hide	List Operations	Expand Operations
Kystverket/RouteInfo/RtzLocation	Show/Hide	List Operations	Expand Operations
Kystverket/RouteInfo/RtzV2	Show/Hide	List Operations	Expand Operations

GET	/api/kystverket/routeinfo/v2/routes/{routenumber}	V2 - Returns the reference route with the given routeNumber
GET	/api/kystverket/routeinfo/v2/routes/{routenumber}/download	V2 - Returns requested reference route as RTZ file
GET	/api/kystverket/routeinfo/v2/routes	V2 - Returns all reference routes within given maritime division id as JSON - can also be filtered by modified date
GET	/api/kystverket/routeinfo/v2/routes/list	V2 - List all reference routes within given maritime division id and changed after given modified date
GET	/api/kystverket/routeinfo/v2/routes/list/{lat}/{lon}	V2 - List all reference routes that is connected to a location near input coordinate. Locations is picked within a radius of 5000(default) meters.
GET	/api/kystverket/routeinfo/v2/routes/list/{locode}	V2 - List all reference routes that is connected to the given LOCODE(location code).

[Implementation Notes](#)

Quality assured port data – Cross domain values!



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MENU 

all our English content.

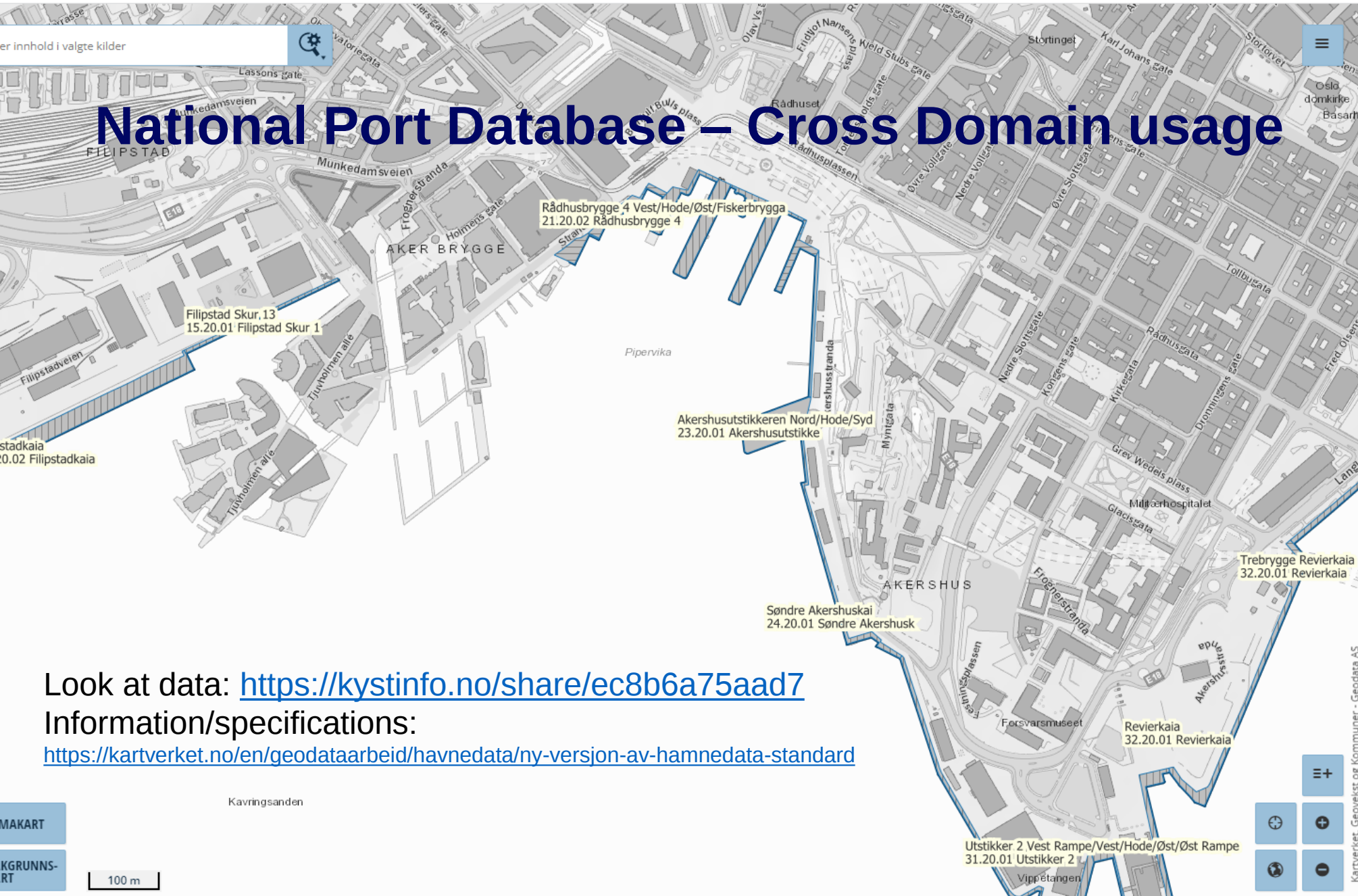
[Kartverket](#) ← [Geodataarbeid](#) ← [Havnedata](#) ← Sikre og effektive havner



KRISTIANSAND: Kristiansand havn KF er én av 17 norske havner som har deltatt i prosjektet Havnedata 2020. Foto: Trygve Emil Tønnesen

Last updated 2022-09-06

Sikre og effektive havner



National Port Database – Cross Domain usage

Look at data: <https://kystinfo.no/share/ec8b6a75aad7>
Information/specifications: <https://kartverket.no/en/geodataarbeid/havnedata/ny-versjon-av-havnedata-standard>

Temalagsvelger

ALLE TEMALAG SYNLIGE TEMALAG

- Fortøyning
 - ☒ Fortøyningsinnretning
 - ☒ Fender
 - ☒ Kaifront
 - ☒ Kaifrontområde
- Sikkerhetsutstyr
 - ☐ Beredskapspunkt
 - ☐ Havnegjerde
 - ☐ Havnesikkerhetsområde
- Kai-infrastruktur
 - ☒ Vanntilkobling
 - ☒ Strømtilkobling
 - ☒ Drivstofftilkobling
 - ☒ Avfallspunkt
 - ☒ Kran
 - ☒ Havnesensor
 - ☐ Lastbegrensningsområde
- Marine grunndata
- Marine grunnkart

Cross domain usage – Port information in local rescue centers



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TRAVEL WEEKLY
THE TRAVEL INDUSTRY'S TRUSTED VOICE



News & Featured Destinations Our Voices Resources Hotel & Cruise Search

CRUISE

No rules prevented Viking Sky from sailing in perilous waters

By Tom Stieghorst | Apr 01, 2019

A+ A-



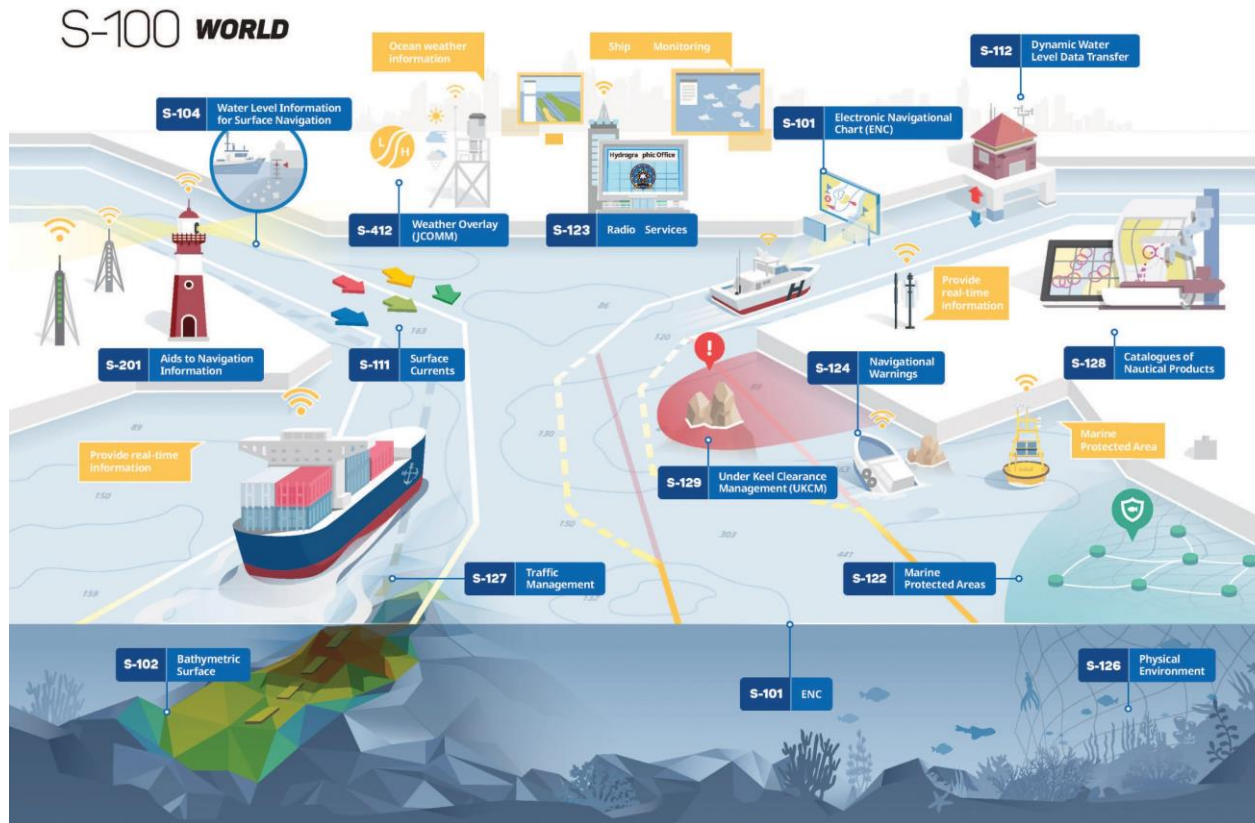
As authorities begin their investigation into a high-stakes evacuation of the Viking Sky off the coast of Norway on March 23, one issue that will not be probed is why Viking Ocean Cruises was sailing there in the first place.



The Viking Sky battles rough seas off Norway's stormy western coast. Many passengers had to be evacuated in a helicopter rescue operation. Photo Credit: CHC Helicopters via AP

Viking Sky situation/accident 21. March 2019
(<https://www.youtube.com/watch?v=shXQ5lYKzWs>)

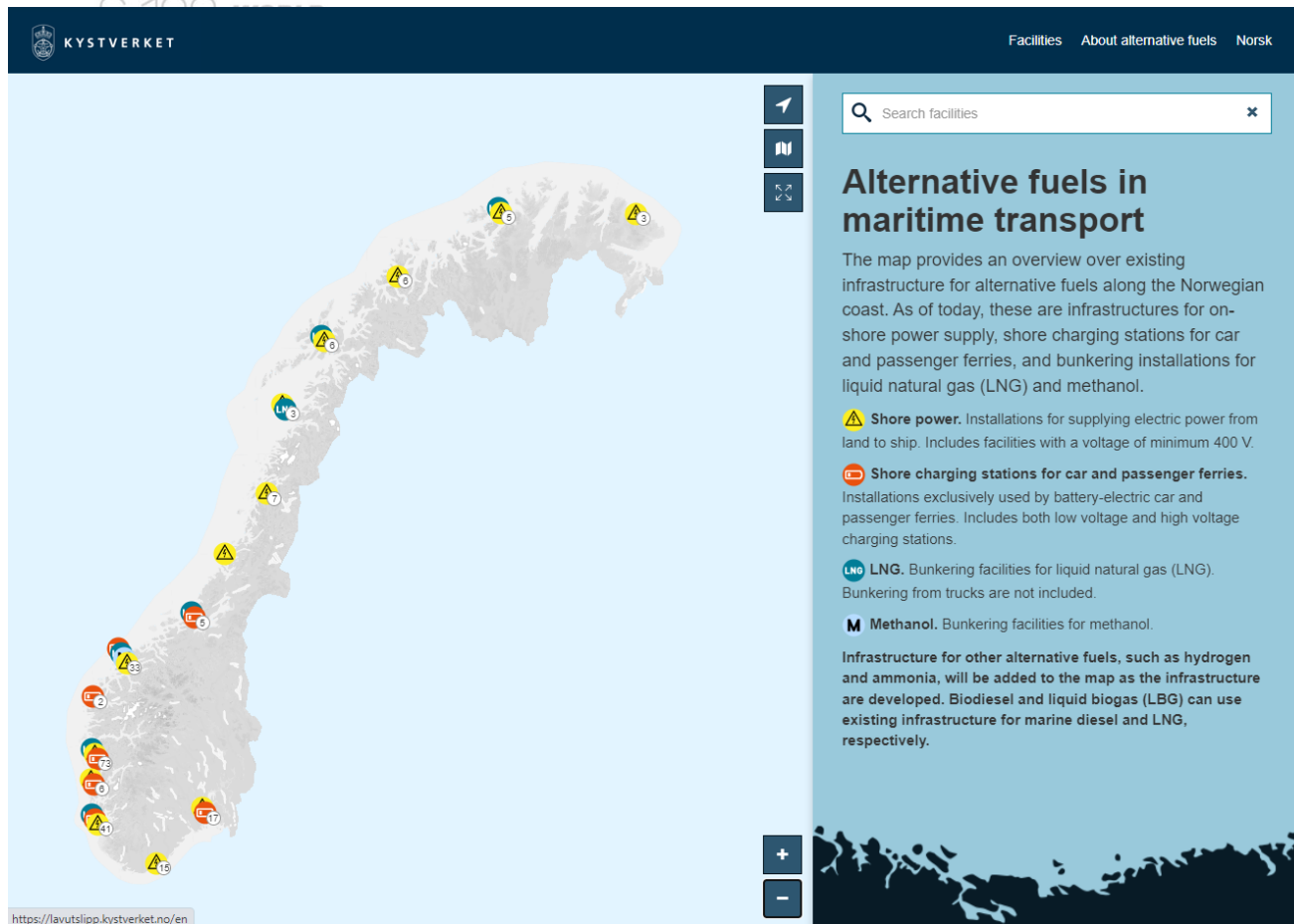
The way forward



- Norway is therefore joining initiatives on the establishment of standards on maritime ITS which are based both in IMO, IHO, IALA, IEC and others.



The way forward



- Norway is therefore joining initiatives on the establishment of standards on maritime ITS which are based both in IMO, IHO, IALA, IEC and others.
- A next step is also further testing of route exchange from vessels in real-time and include route information to the navigator where to access non-fossil fuels along his route in routeinfo.no.



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Thank you!

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