



KYSTVERKET

# Project related to enhanced navigation Norwegian Coastal Administration

*Senioradvisør  
Tommy Håugsnes*

– Vi tar ansvar for sjøvegen

# The Norwegian Coastal Administration

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- A national agency for safety at sea, and emergency preparedness against acute pollution.
- Advisor and executive agency under the Ministry of Transport and Communications.
- Meet the needs of shipping – provide an *efficient, environmentally friendly* and *predictable* transport alternative.



Director General  
Kirsti Lovise Slotsvik  
(Railway Directorate 5/3)

# Overall goals and responsibility

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- Promote safe and efficient seaways included maritime infrastructure
- Ensure sufficient width and depth in the fairway.
- Prevent marine accidents and acute pollution.
  - Pilot service
  - PEC
  - VTS

## VISION:

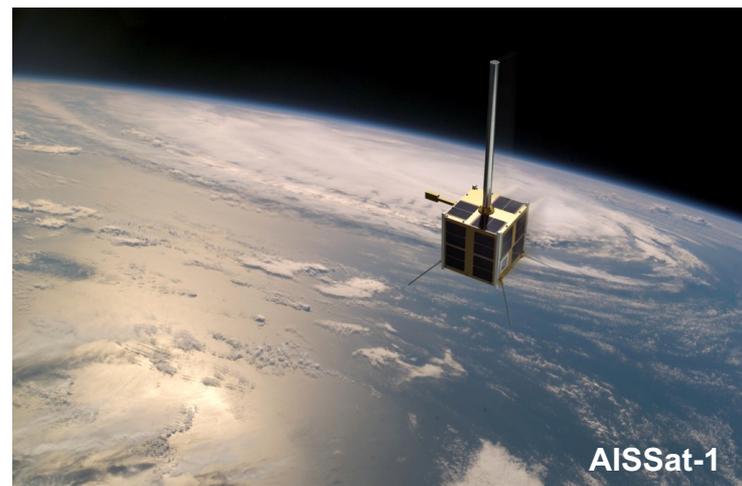
To make our coast and waters the safest and cleanest in the world.



# Information and Reporting Services

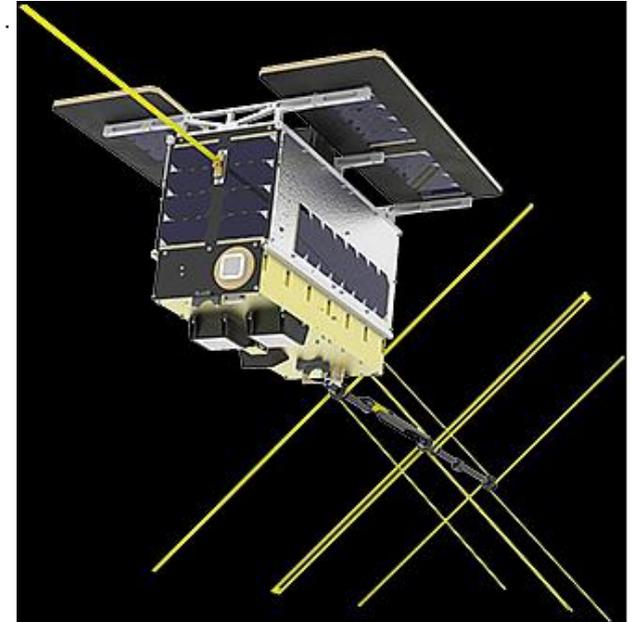
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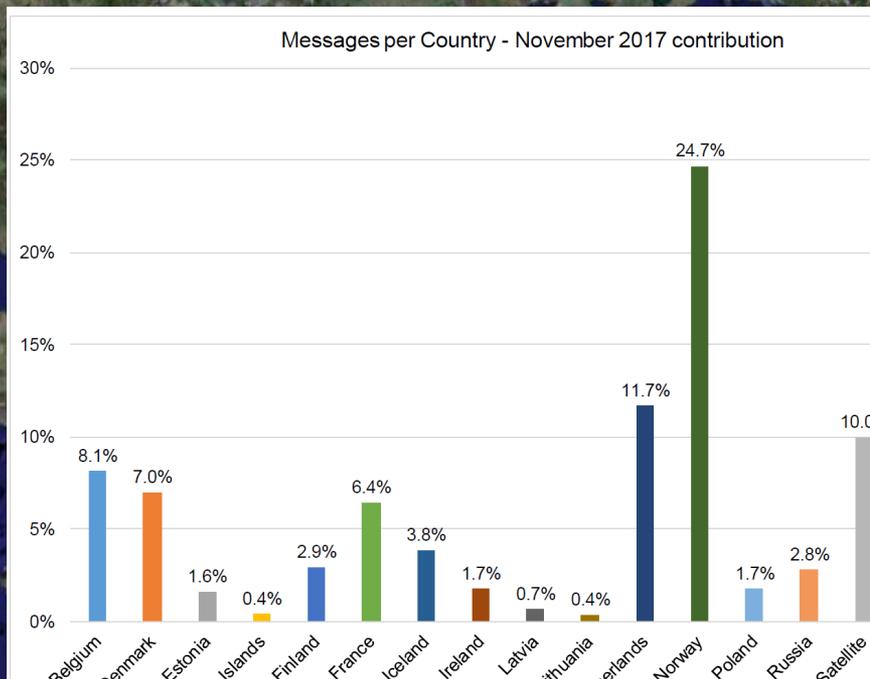
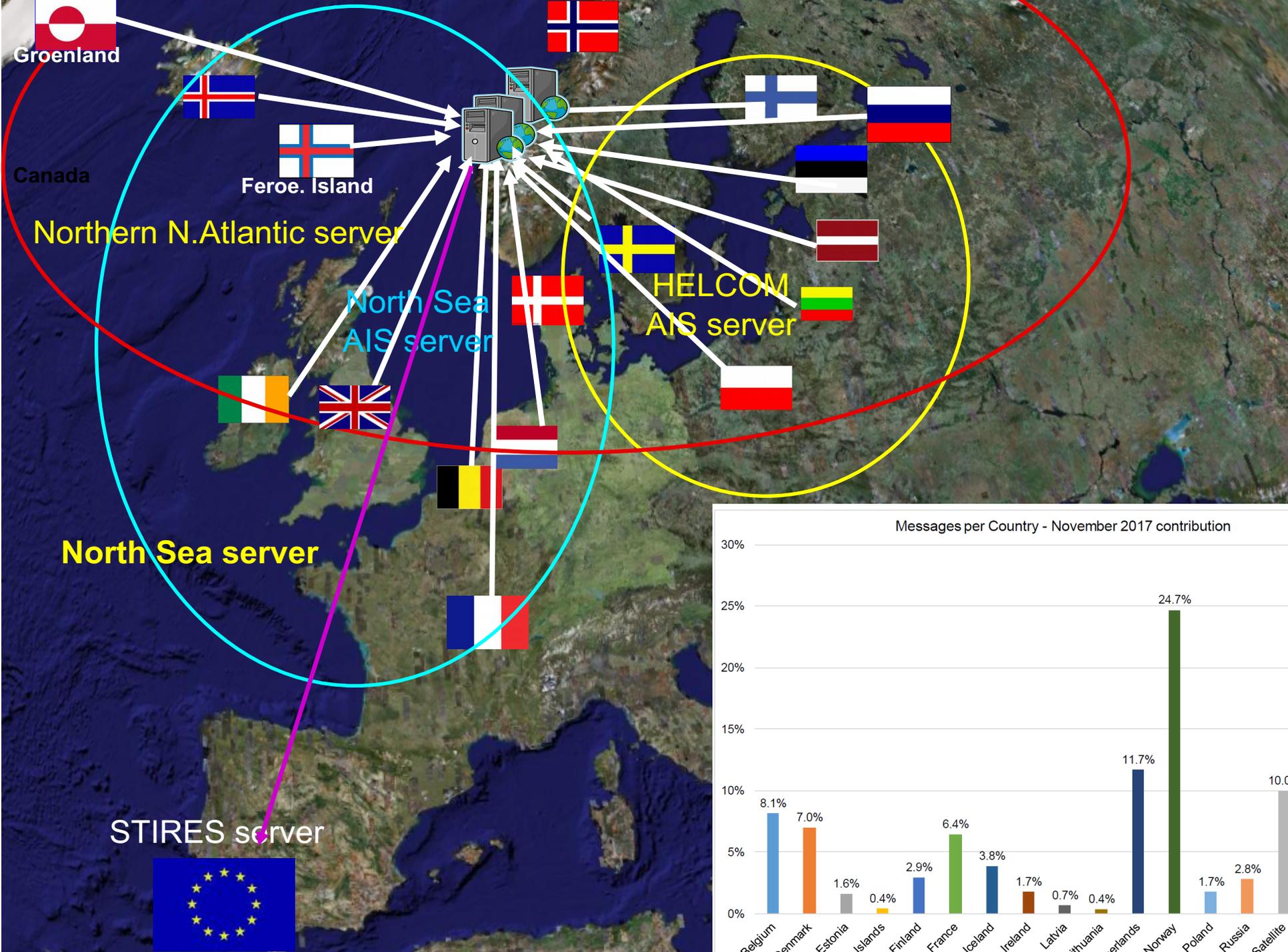
- Map service (Kystinfo)
- Navigational warnings (NAVCO)
- Radio navigation (DGPS)
- Long-Range Identification and Tracking (LRIT)
- SafeSeaNet Norway – Ship reporting system
- Wave and Current notifications
  - Open web solution barentswatch



# AIS – Automatic Identification System

- Ground- and satellite based
- 50 ground based stations covers coastal areas
- Planned 9 ground stations at Spitsbergen
- AISSat-1, AISat-2, 3-failed
- NORSAT 1 and 2 launched 2017 with VDES
- Inter-agency cooperation – SAR, police, customs, fisheries





# International work

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- Participates in a number of international forums.
- Contributes to the development of policies and framework for safety at sea and maritime transport.
- **Promotes Norwegian competence on maritime issues.**
- Main cooperating partners:
  - International Maritime Organization
  - IALA (International Association of Marine Aids to Navigation and Lighthouse Authorities)
  - European Maritime Safety Agency
  - EU/EEA
  - BPAC (The Baltic Pilotage Authorities Commission)
  - PIANC (Permanent International Association of Navigation Congresses)
  - IAPH (International Association of Ports and Harbours)



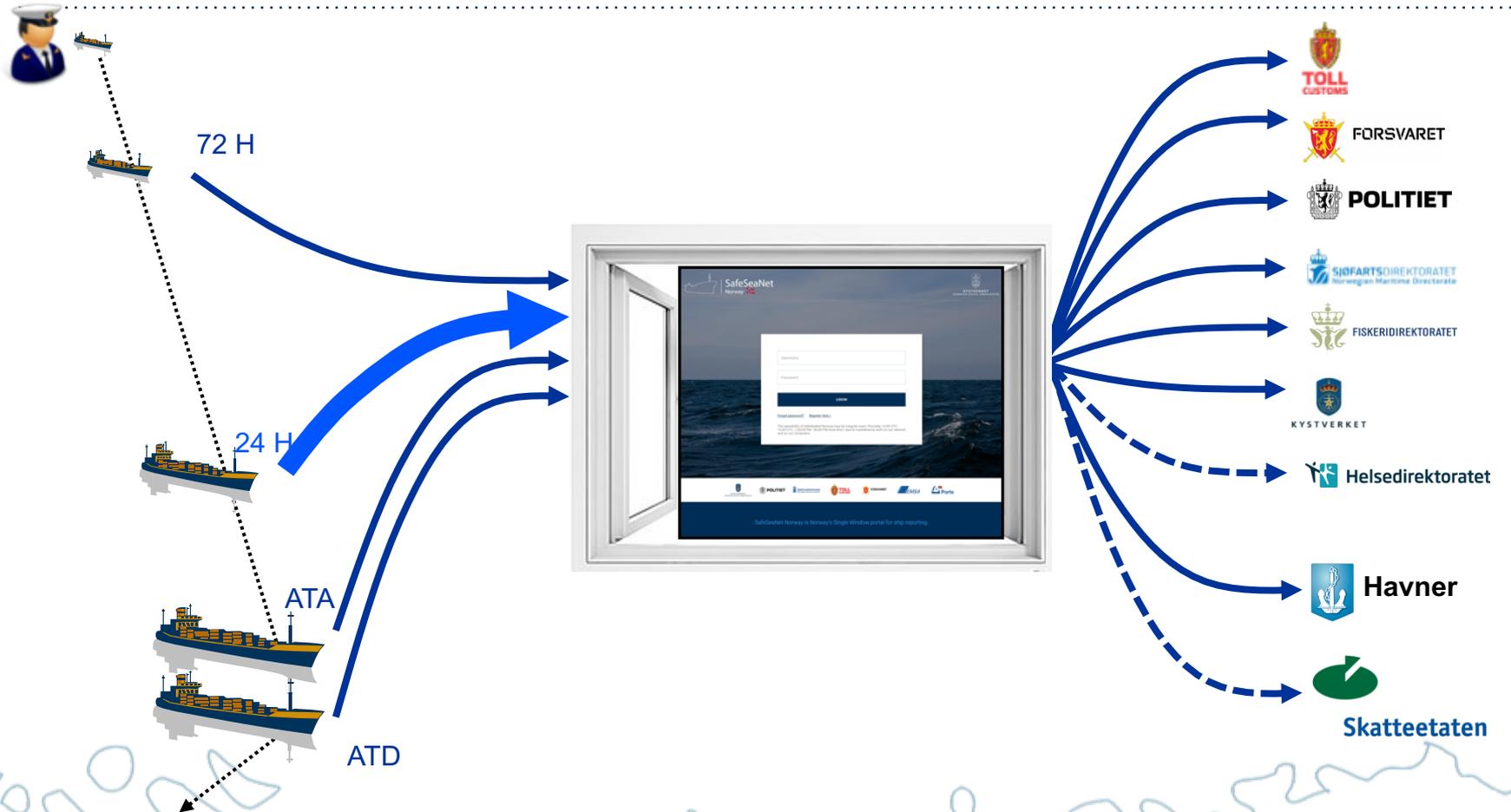
# Areas for research and development

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- ITS (Intelligent Transport Systems)
  - Communication between systems on board and ashore
  - Holistic, automatisisation
  - ITS Norway – forum for inter-agency cooperation (rail, road, sea, air transport)
- e-navigation
  - IMO initiative, SIP (Strategy Implementation Plan) coordinated by Norway 2016-2019
  - Provide needed information, in electronic format, to a ship's bridge team to enhance the safety and efficiency of marine navigation.
  - Simplify the exchange of information between systems on board and between ships, and on shore.



# SafeSeaNet-Single Window

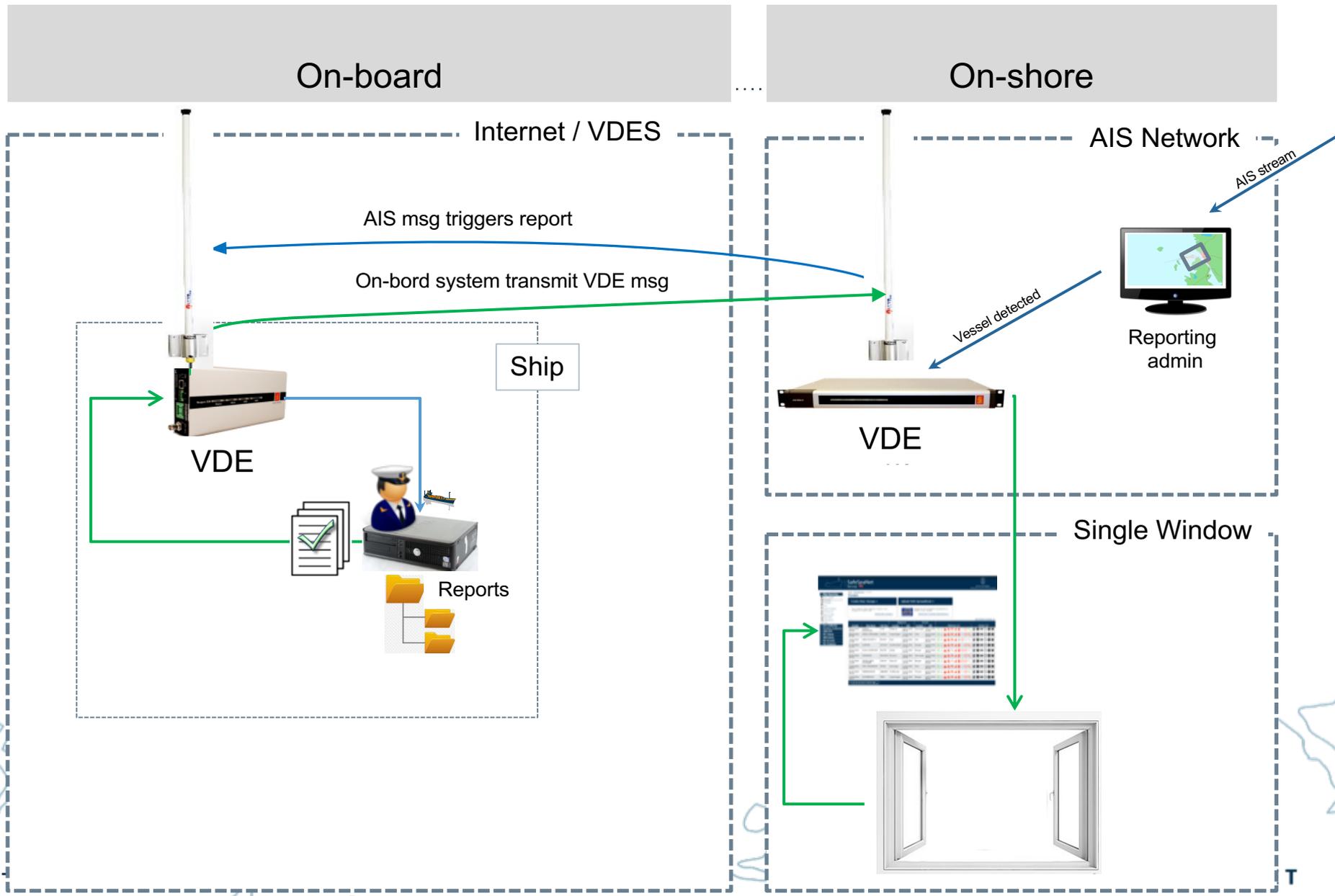


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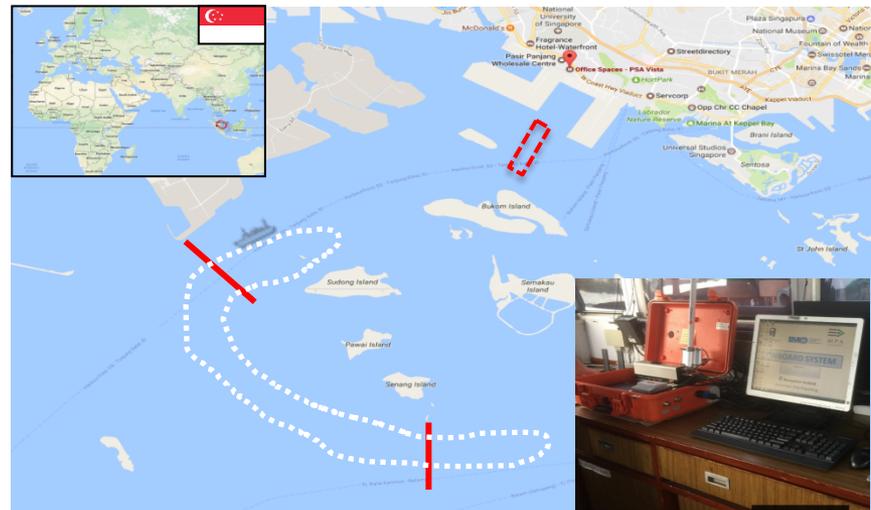
# Automatic Ship Reporting – Testbed Generic Concept



# Automatic Reporting, Singapore

**Singapore** - February 2017

- 2<sup>nd</sup> generation HW/SW/concept
- VDES and mobile communication
- Ship<sup>2</sup>Shore

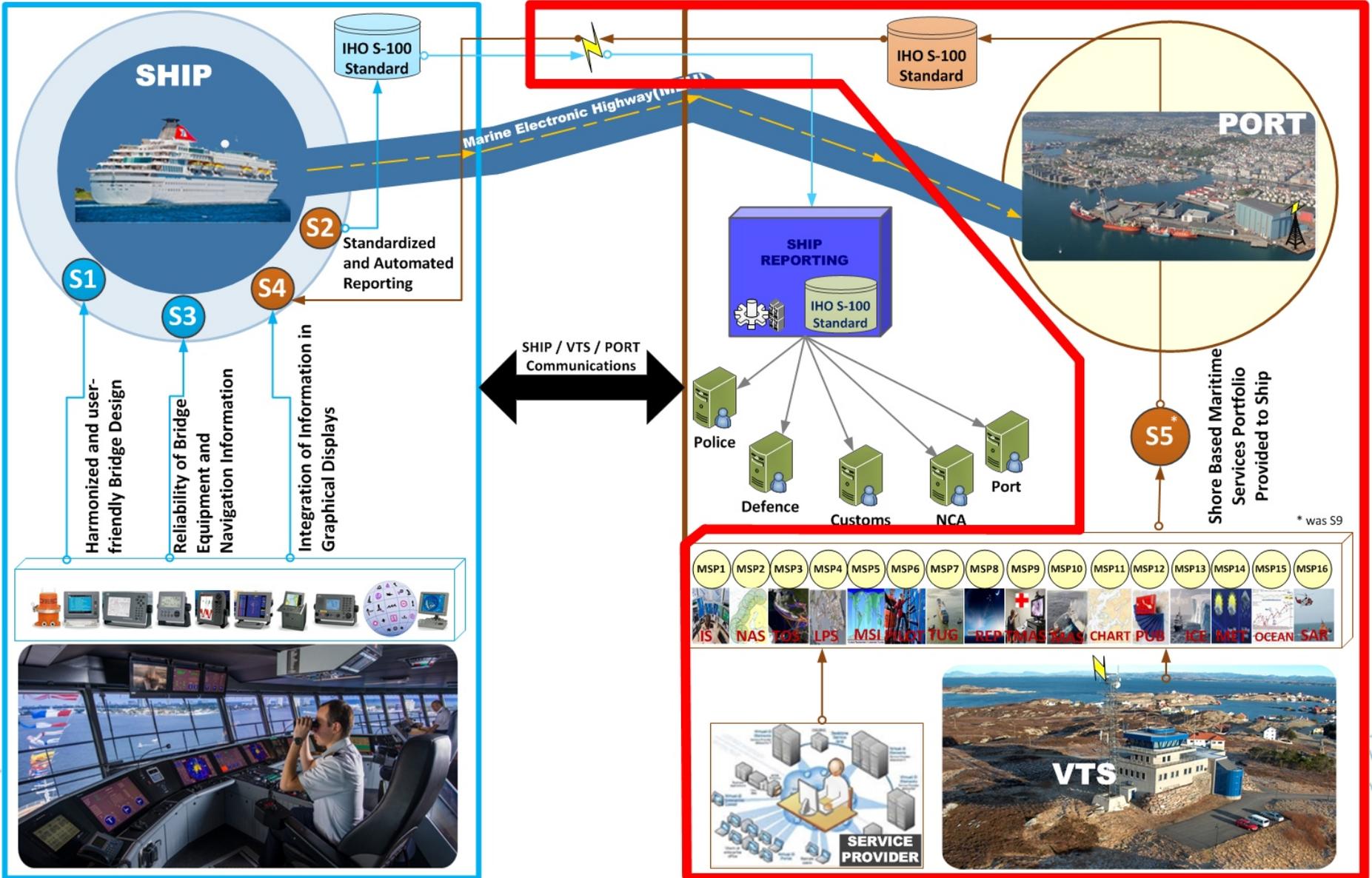


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# e-navigation Concept



– Vi tar ansvar for sjøvegen

# Operational context live test beds

- 300 vessels
- 13 ports
- 7 shore centres



# Services to be tested in STM

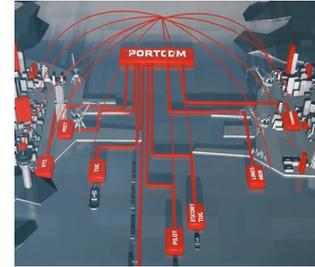
Route exchange ship-ship



Enhanced Monitoring



Port Collaborative Decision Making (PortCDM)



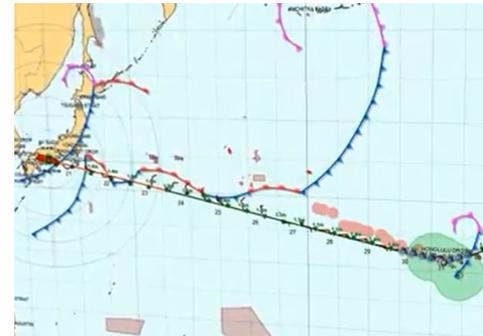
Winter Navigation



Area Management



Route Optimisation



Search and Rescue(SAR)

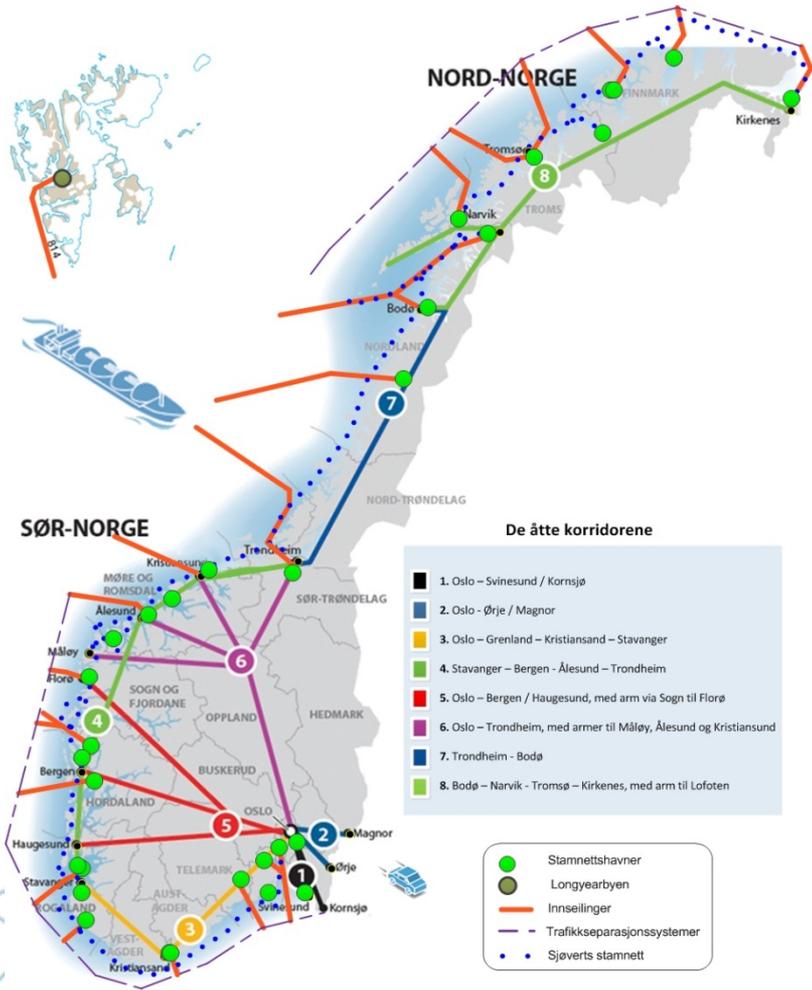


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# Effective multimodal transport



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# Sharing and reuse of digital information



Figur 1. OPENBRIDGE skal muliggjøre kostnadseffektive brukervennlige multi-leverandør brosystemer.

# Increased threats to security and crime



# Why is our work important?

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- Norway has the second longest coastline in the world.
- Around 80% of Norway's population lives less than 10 kilometres from the coast.
- Around 70% of imported goods (measured by weight) arrive by ship.
- Around 35% of all domestic cargo transport (measured by weight) is transported by ship.
- There are around 120 000 commercial ship movements with pilots or PECs per year.
- There are approximately 600,000 leisure boats along our coast.
- Norway's most important industries operate in coastal and maritime areas within oil, gas, fishing and aquaculture.
- Tourists want to see clean and beautiful fjords



# Trends in maritime tourism

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**Some decades ago**



**Today**



Cruise ships are bigger  
New destination

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OPPMERKSOMHETEN

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[www.kystverket.no](http://www.kystverket.no)

