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EfficienSea 2

Efficient, Safe and Sustainable Traffic at Sea

Presentation for IALA Council

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Project in numbers

Length: 36 months

Start: May 2015

Budget: 11.5 M Euro

EU funding: 9.8 M Euro

Partners: 32

Partner countries: 12

Total work: 1164 man months

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Participants: Governmental

★	Danish Maritime Authority (Coordinator)	Denmark
	Danish Geodata Agency	Denmark
	Danish Meteorological Institute	Denmark
★	Estonian Maritime Authority	Estonia
★	Finnish Transport Agency	Finland
★	Maritime Office of Gdynia	Poland
	National Institute of Telecommunications	Poland
★	Swedish Maritime Administration	Sweden

★ = IALA members

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Participants: Academia

Chalmers University of Technology	Sweden
Department of Computer Science, University of Copenhagen	Denmark
National Space Institute at the Technical University of Denmark	Denmark
Latvian Maritime Academy	Latvia
★ Offis e.V.	Germany

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Participants: International Associations

- The Baltic and International Maritime Council BIMCO
- ★ Comité International Radio-Maritime CIRM
- ★ The International Association of Marine Aids to Navigation and Lighthouse Authorities IALA

Participants: Other non-profit organisations

Maritime Development Centre of Europe	Denmark
SSPA Sweden AB	Sweden
★ FORCE Technology	Denmark

Participants: Commercial enterprises

★ Collecte Localisation Satellites	France
Danelec Marine	Denmark
★ Frequentis AG	Austria
★ Furuno Finland Oy	Finland
★ GateHouse	Denmark
LITEHAUZ ApS	Denmark
Lyngsø Marine A/S	Denmark
MARSEC-XL	Malta
Rocketbrothers.dk ApS	Denmark
Thrane & Thrane A/S	Denmark
★ Transas Marine International AB	Sweden
★ Vissim AS	Norway
★ United Kingdom Hydrographic Office	United Kingdom

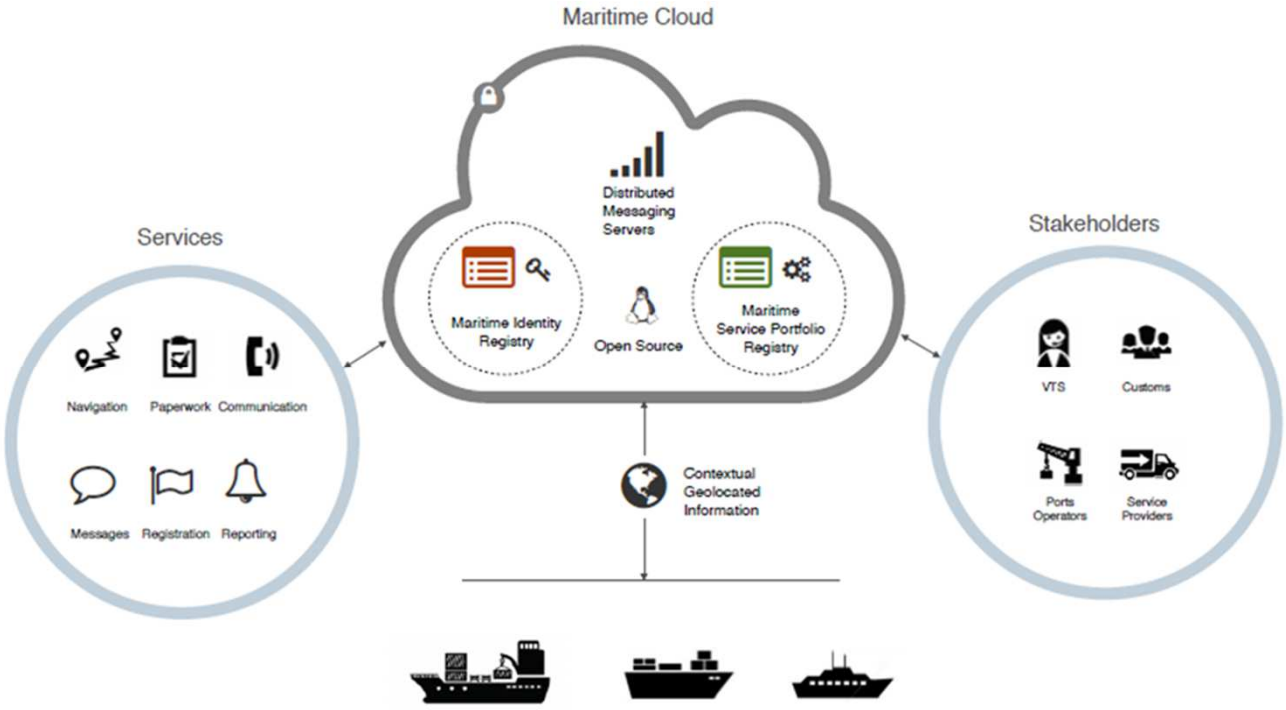
Project objective

- **The overall objective is to co-create and deploy innovative solutions for safer and more efficient waterborne operations.**

- **The project has seven specific objectives**

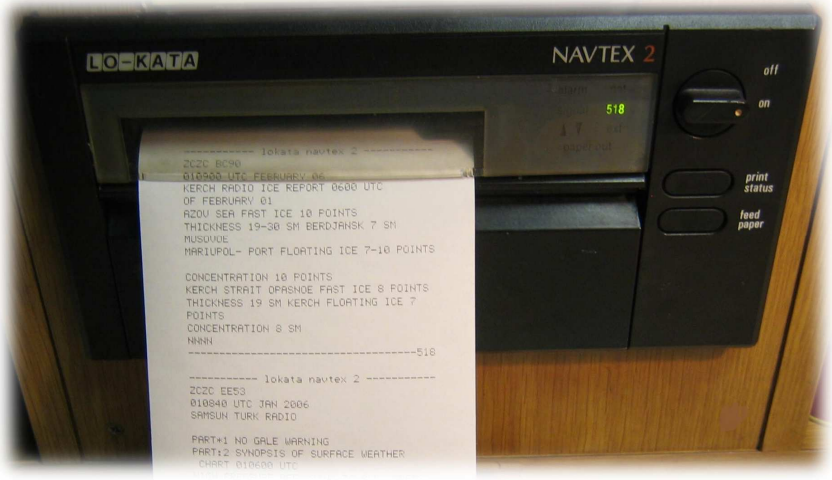
‘The Maritime Cloud’

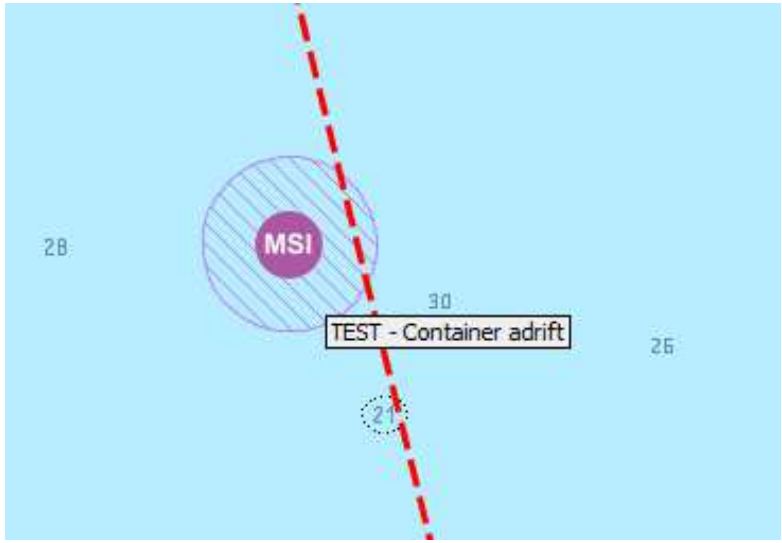
- **Create and implement a ground-breaki communicati framework**



e-navigation services

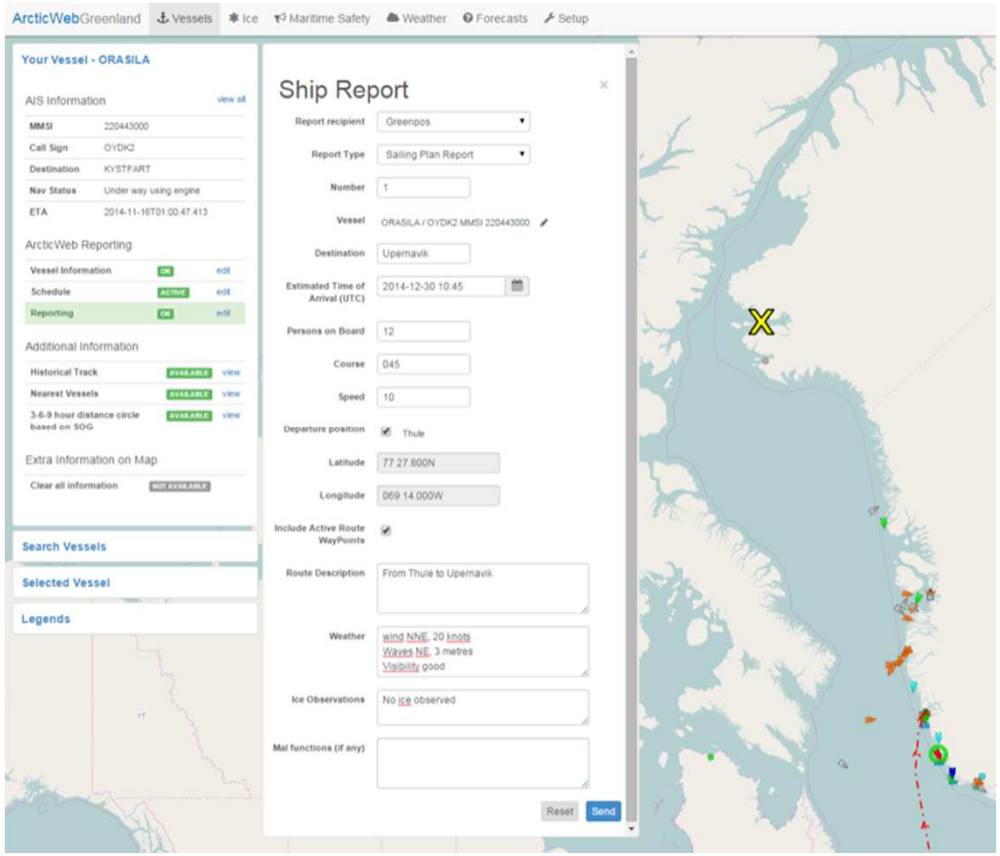
- **Solutions that will reduce the risk of accidents**
- **7 different e-navigation services**





e-maritime services

- Develop, test and, where possible, implement e-maritime solutions.
- 3 services to decrease administrative burdens



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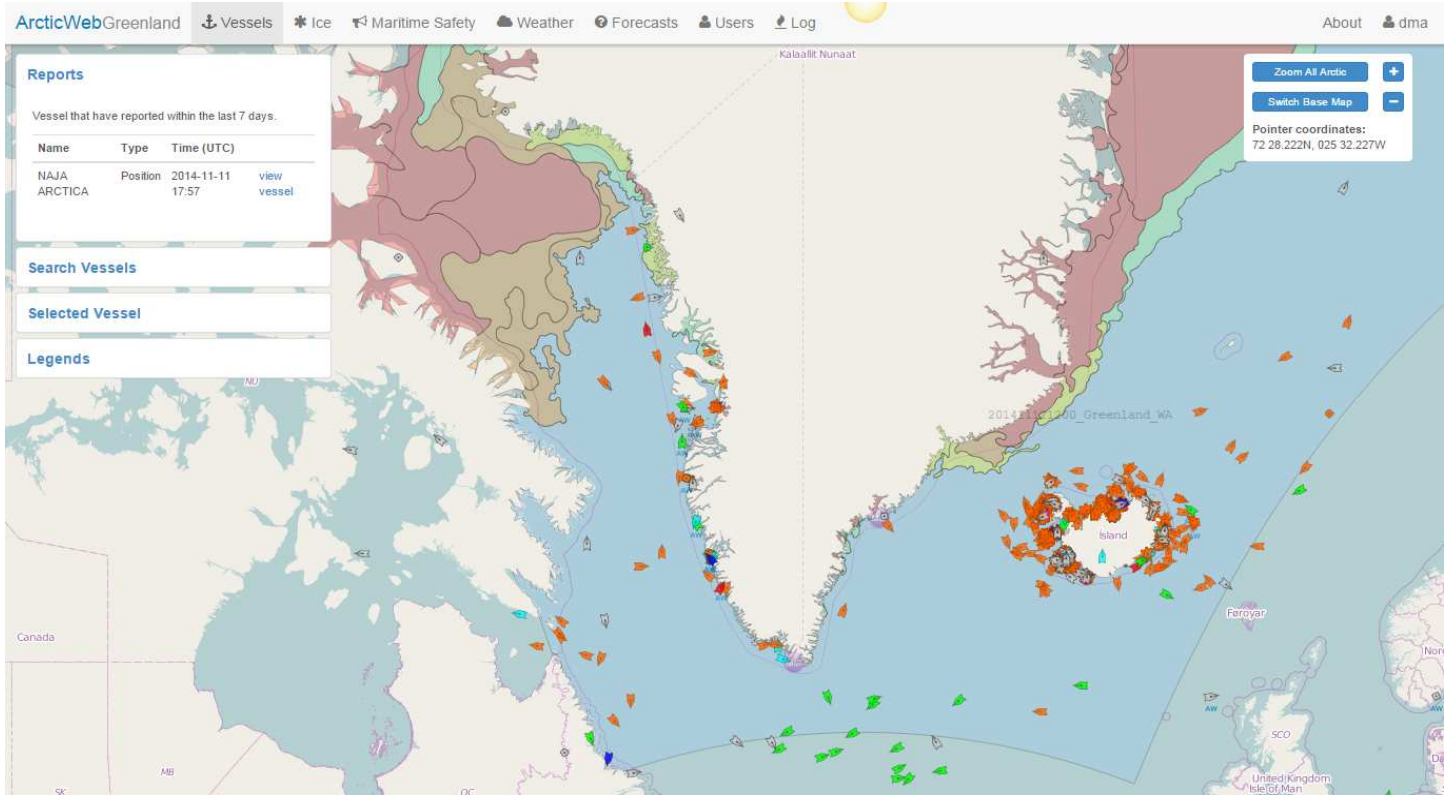
Emergency response solution for Arctic



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SOx emissions monitoring service

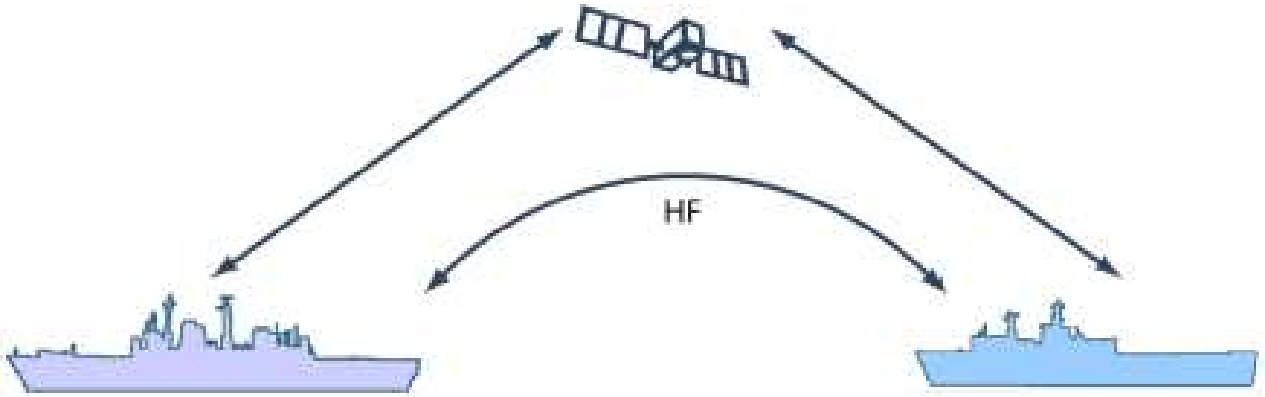
- **Develop solutions to monitor emissions with a focus on SOx and conduct validation trials in the Baltic Sea Region.**

- **A service for monitoring information about vessels' SOx emissions will be developed**

Novel communication channels

- **Create innovative and cost-effective solutions with novel communication technology to deal with ships' challenge of getting access to information services at a reasonable price, especially in remote places such as the Arctic.**

- **Work will focus on maturing VDES (VHF Data Exchange System)**



Standardisation and harmonisation

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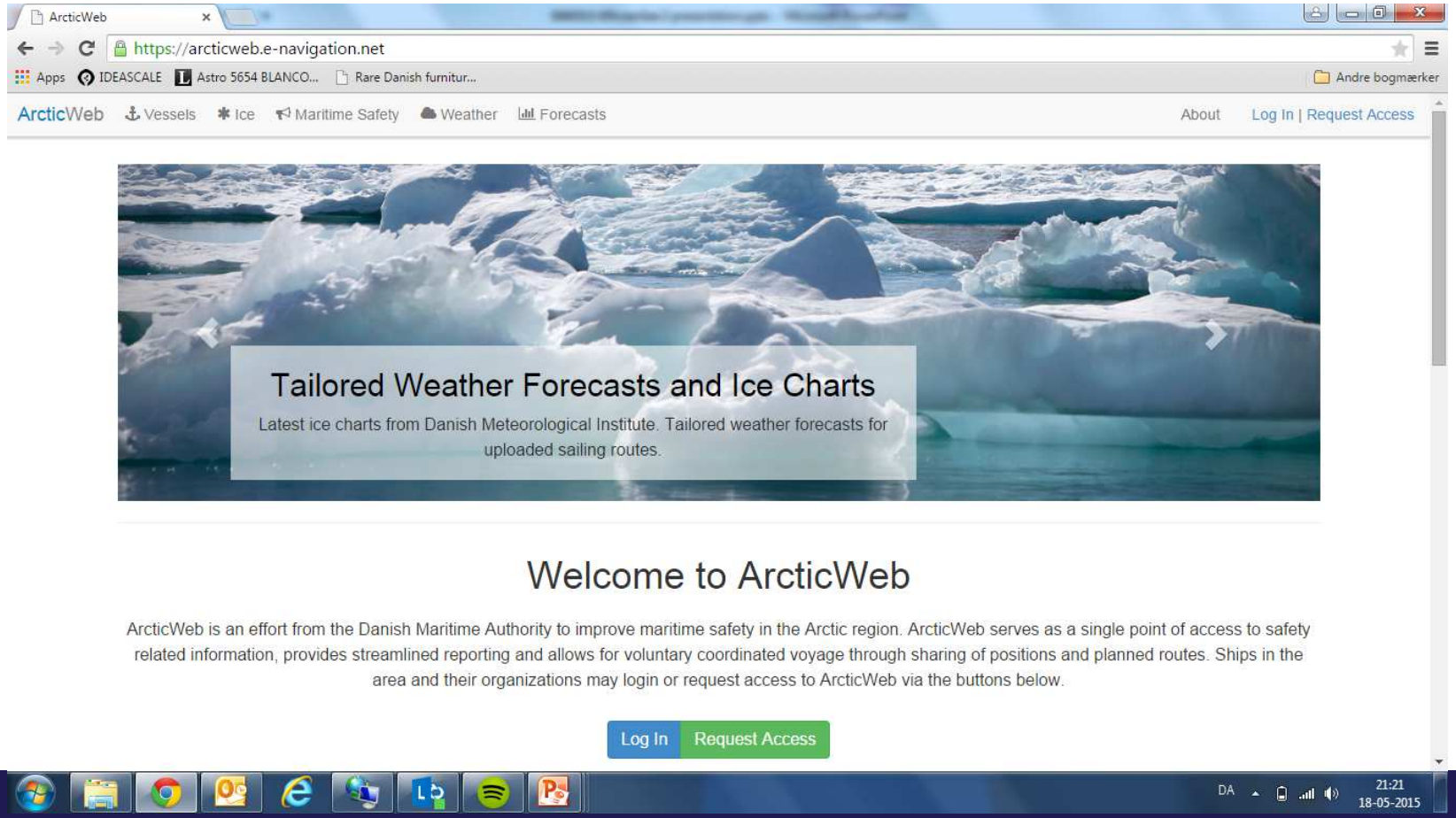
First the Arctic and Baltic – then the rest of the globe



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EfficienSea 2 – Path to Impact

Service coverage	Arctic & Baltic Sea	Global spread emergning from Baltic and Arctic	Continued global expansion
			
End user adoption of Services and Maritime Cloud	80% Cruise ships in Arctic 15% in Baltic	< 50% in Baltic 15% World Fleet	40% World Fleet
SERVICES AND IMPACT	**2018**	**2020**	**2025**
Solution to improve Navigational Safety and Efficiency	4 services implement on web 1 Service on ECDIS The rest have draft standards	4 Services on ECDIS Standards set The rest of the services are on web	Fully implemented on ECDIS
Solution to Arctic Navigation and Emergency response	Arctic SAR and live position-ing on web	Standards Set Implementation on ECDIS Transfered to Antarctic	Fully implemented Concept transfered to other domains
Solution to decrease Administrative Burdens	1–2 services on web Standard Drafts	3 Services on web and other appropriate platforms Standards Set	Fully implemented
Solution to improve Environmental Monitoring and Enforcement	Prototype demonstrated in Baltic	Service implement in Baltic Service being rulled out in the rest of EU	Implemented in relevant areas around the world
ENABLERS			
Maritime Cloud	Operational in Baltic and Arctic Standards set	World Wide Communication Infrastructure for e-navigation supported by IMO	Used by 40% of World Fleet
Novel Communication Technologies	Tested prototype standards draft	Standards set Commercial product with knowledge from E2	Low cost communication links with better coverage widely implemented

IMPACT TIMING PROFILES

IALA's role in EfficienSea 2

Task lead on two tasks:

1. **Liaison and coordination with other projects and test beds**
2. **Coordinating standardization of solutions**

Activities

High Level User Group

- The Nautical Institute
- The International Chamber of Shipping (ICS)
- Arctic Expeditions Cruise Operators (AECO)
- Oceanwide Marine Services
- Lindblad Expeditions/National Geographic
- Maersk Maritime Technology
- Elbe Pilots
- DanPilot
- DFDS Seaways A/S
- Scandlines A/S
- Royal Artic Line A/S
- SIMAC Svendborg International Maritime Academy
- Anthony Veder Rederijzaken B.V.

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Thank you