

DEMO PROJECT 5

OFFSHORE HUB & MoS LINKAGES

Edinburgh, 02 March 2011

FCSTT LINER SERVICE NETWORKS

(FCSTT – Floating Container Storage & Transhipment Terminal)







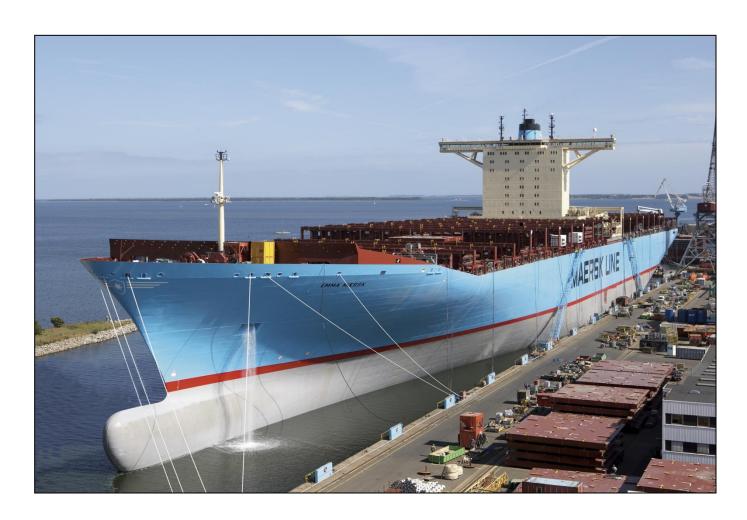
Contents

- Ship size developments
- Market size
- Feeder constraints in hub ports
- Offshore transhipment hub trends
- Scapa Flow as offshore hub location
- Mainline services
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- Summary





Ship size: 14,000 teu







Future ship size: 18,000 teu





Transatlantic is a sub-5,000 teu ship size trade







Market growth

StratMoS

Forecast North European container port demand to 2020, million TEU's

	2010	2115	2020
Base Case			
North Continent	34.32	48.17	62.37
British Isles	8.88	12.17	15.33
Nordic/Baltic Region	6.87	10.41	14.79
Total	50.07	70.75	92.49
Enhanced Recovery C	ase		
North Continent	35.41	52.01	68.98
British Isles	9.01	12.89	16.68
Nordic/Baltic Region	6.96	11.14	16.44
Total	51.39	76.04	102.1
Prolonged Recession	Case		
North Continent	33.81	45.34	58.00
British Isles	8.75	11.44	14.08
Nordic/Baltic Region	6.79	9.82	13.55
Total	49.36	66.6	85.63

Source: OSC, 2009



Market growth



Forecast North Europe container transhipment demand to 2020

	2010	2115	2020
Total Transhipment (m TEU	's)		
Base Case	11.84	17.49	24.04
Enhanced Recovery Case	12.16	18.76	26.49
Prolonged Recession Case	11.66	16.48	22.35
Range Market Shares (%)			
North Continent East	50.8	48.4	47.0
North Continent West	43.8	40.7	41.0
UK	5.5	11.0	12.0

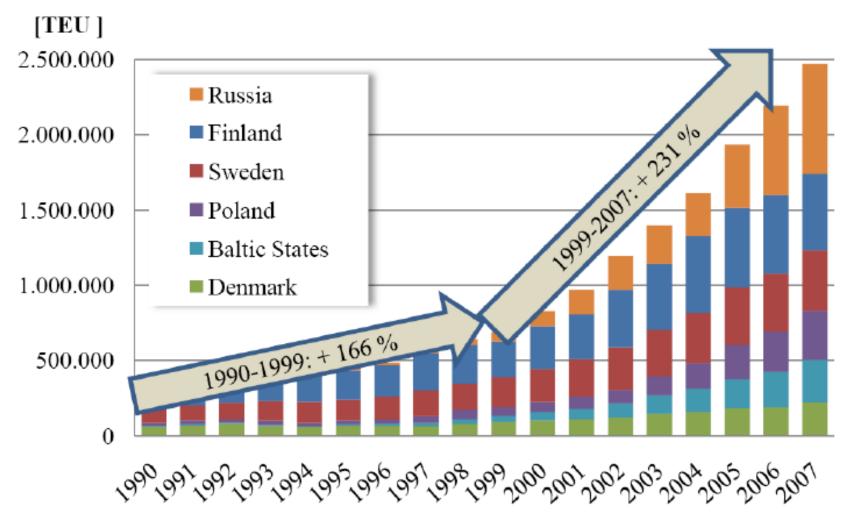
Source: OSC, 2009

North European transhipment markets are expected to double between 2010-2020, even under pessimistic scenario



Feeder Container Handling @ Port of Hamburg

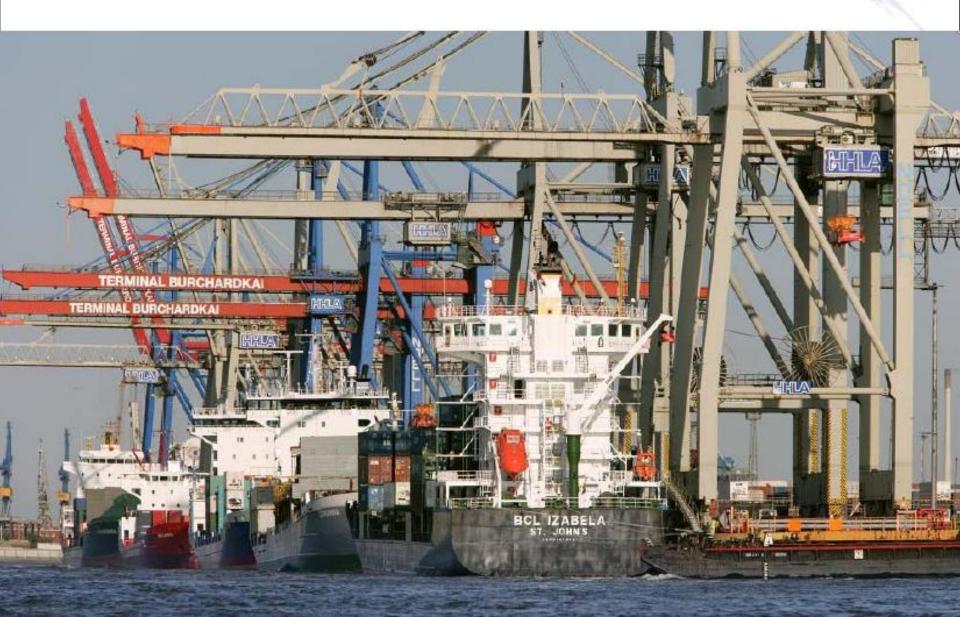






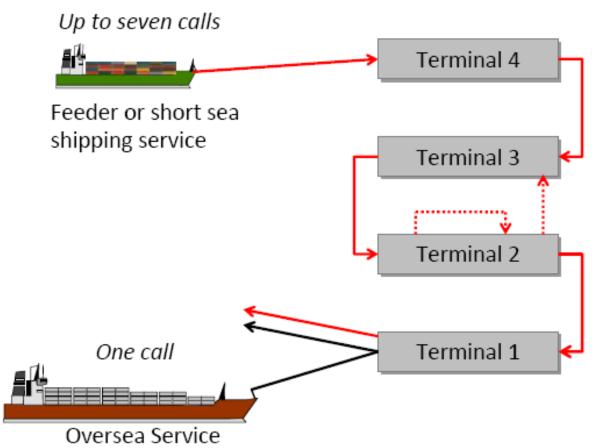
What this looked like...





Principle Feeder/Short Sea Operation





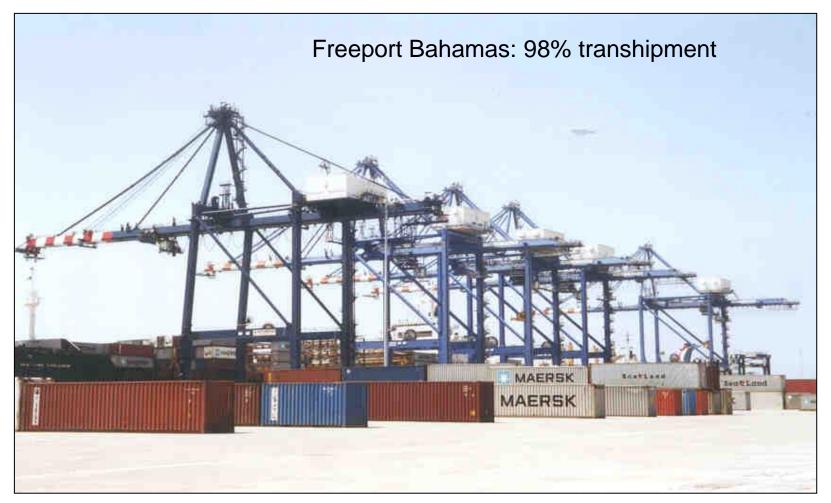
- Feeder and short sea shipping cargo is distributed over several terminals
- Feeder ships have to collect cargo over different terminals
- Feeder operations characterized by many shifts within the port

Serious feeder inefficiencies at current hubs!



Moving transhipment traffic to offshore hubs





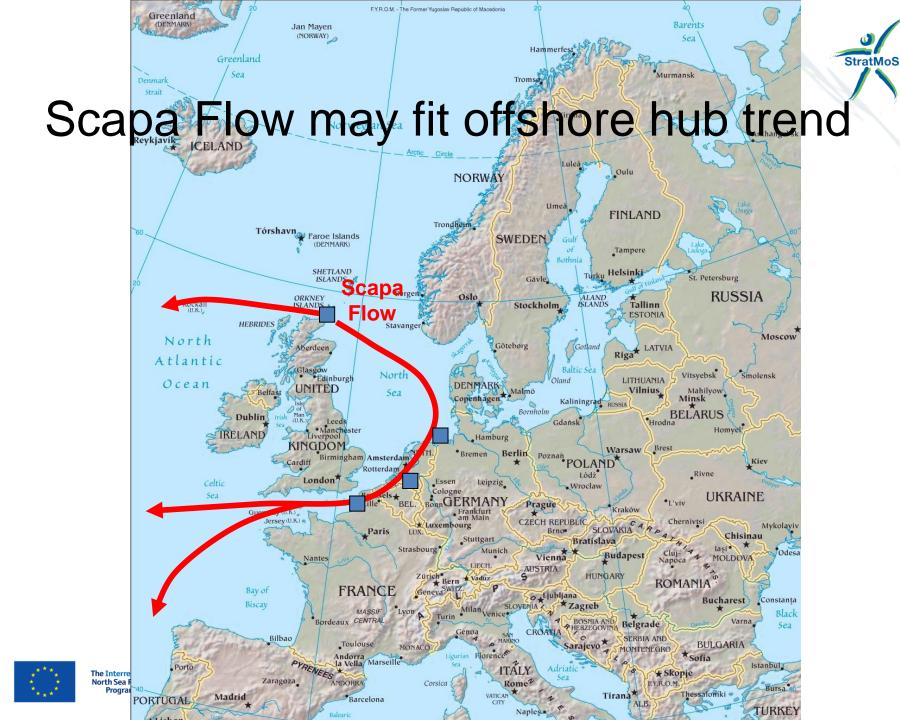


Ex naval bases used as offshore hubs



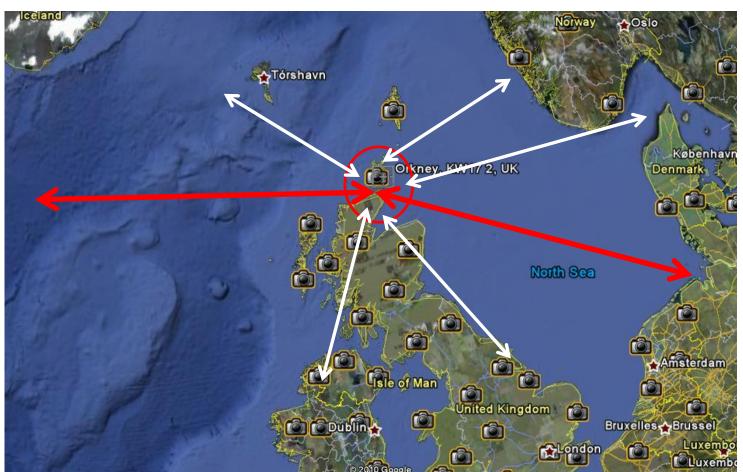






At the crossroads between North Sea and Atlantic Ocean

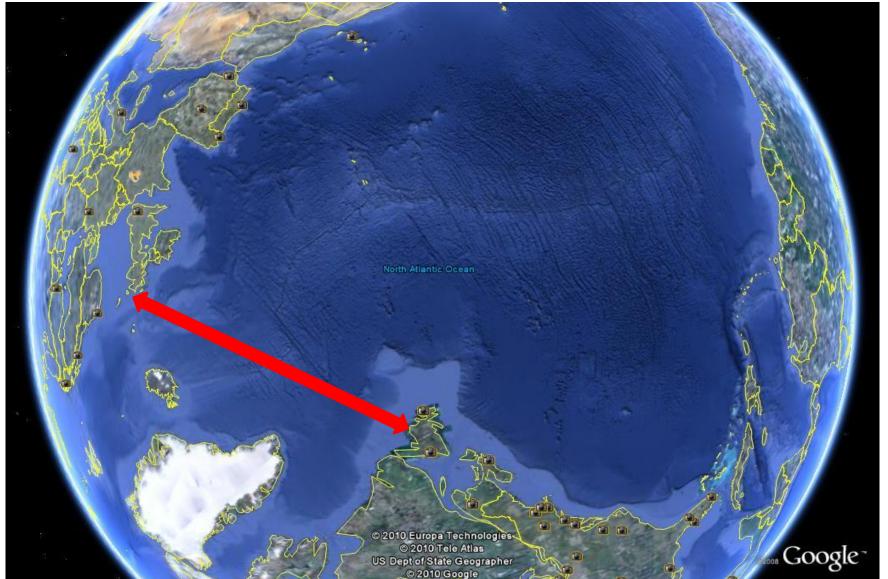


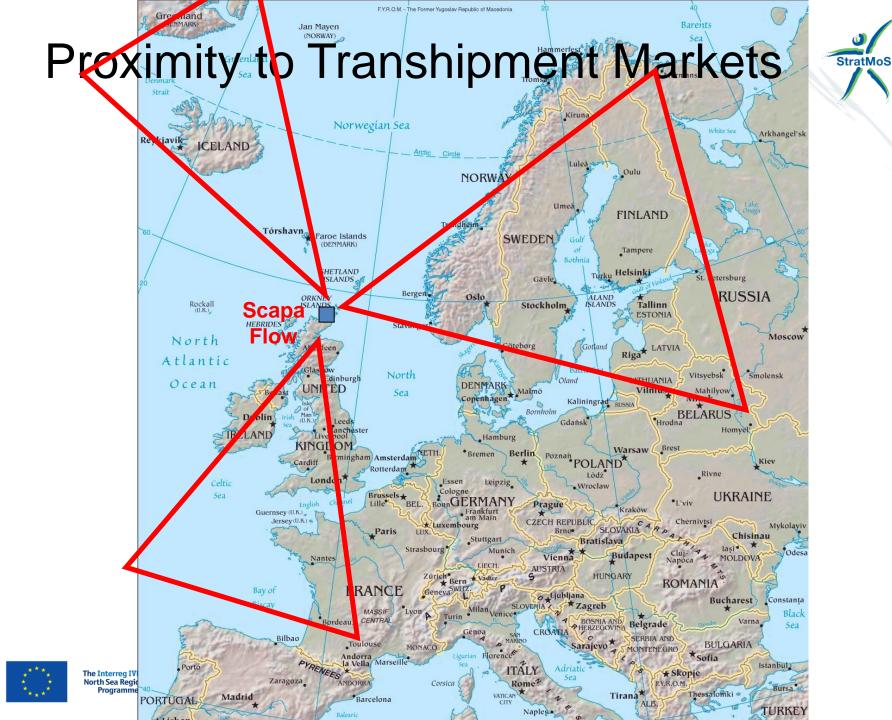


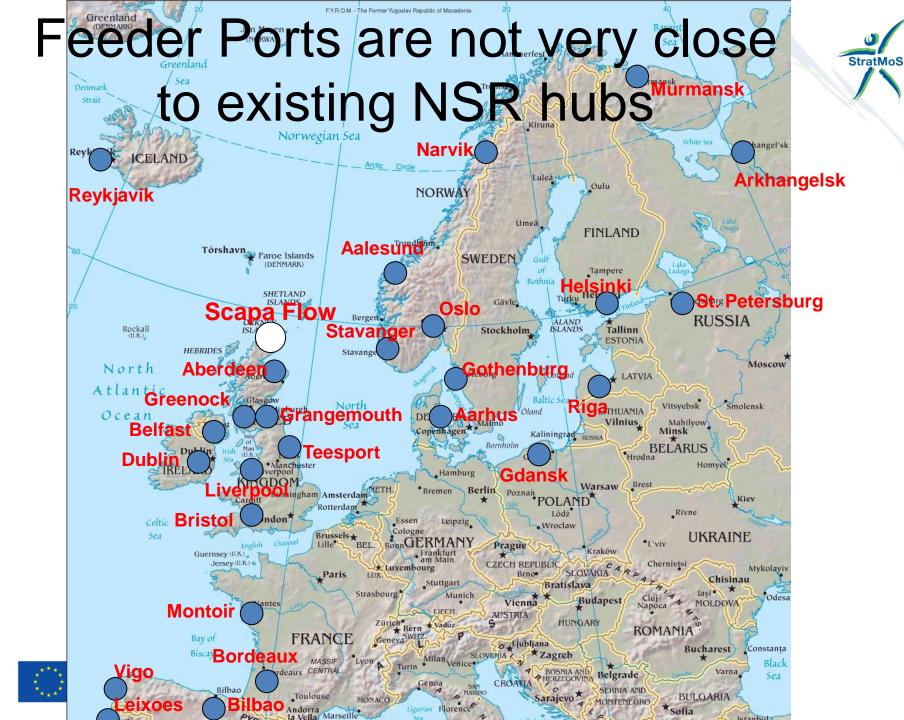


Shortest route between Europe-North America



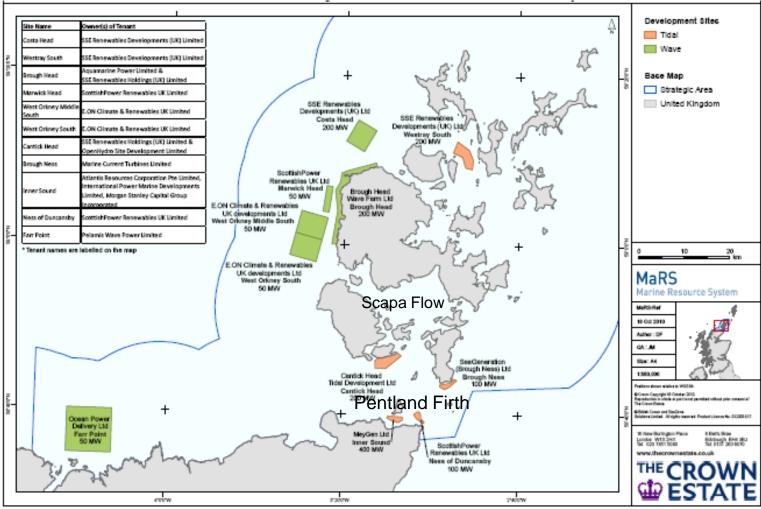






Marine Renewables Industry: Round 1 Development Sites in Orkney (2,000 MW)







Marine renewables port, Lyness, Orkney (completion 2011)

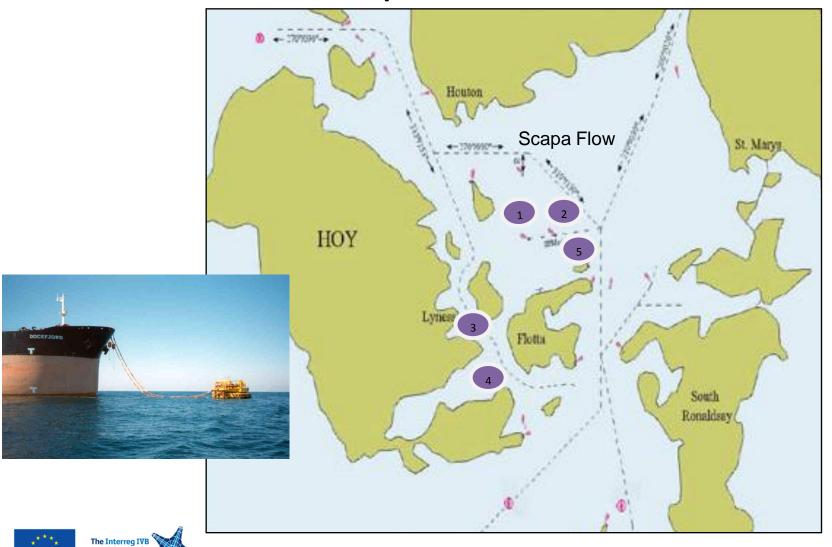






Proposed FCSTT anchorage positions in Scapa Flow

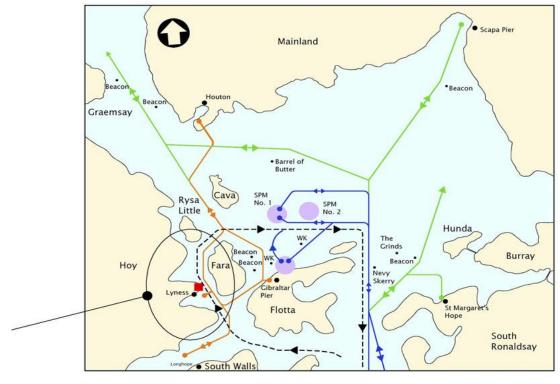




North Sea Region

Scapa Flow - suggested shipping tracks









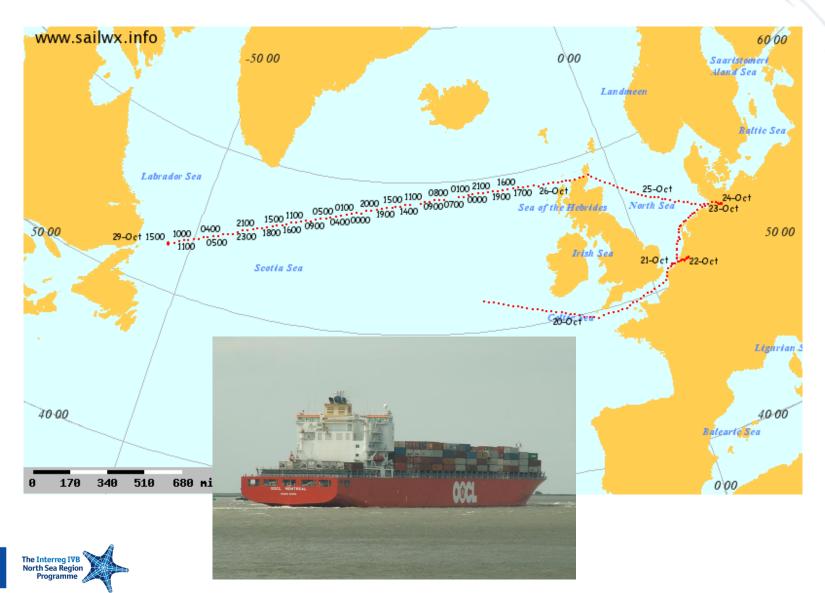


Liner services passing through Pentland Firth Channel





OOCL – N. Europe-Canada





Hapag Lloyd: N. Europe-US East/Gulf



Maersk Line: N. Europe-US East/Gulf Coast





StratMoS

APL: N. Europe-US East/Gulf Coast



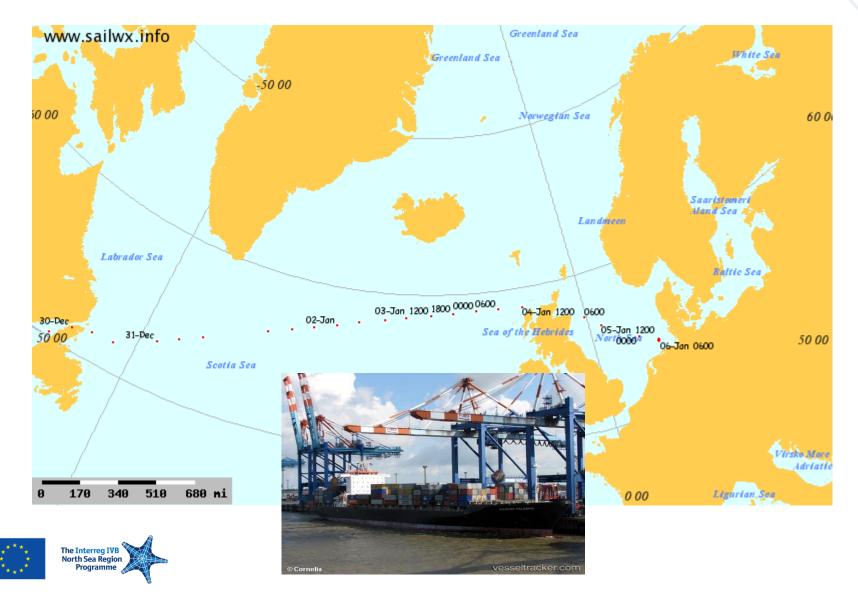


Hapag Lloyd: N. Europe-Canada





Maersk Line: N. Europe-Canada



Hapag Lloyd: N.Europe-US East/Gulf Coast





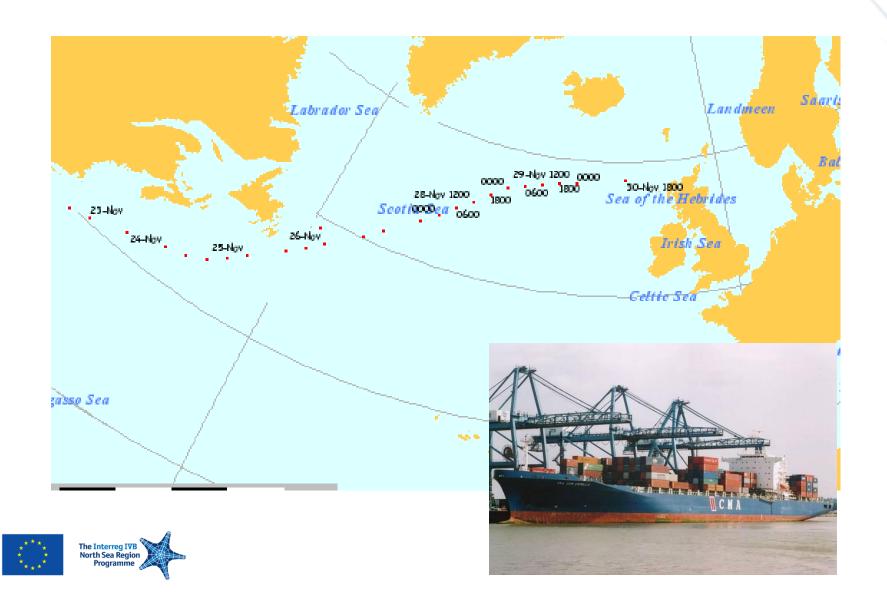
MSC: N. Europe-US East Coast



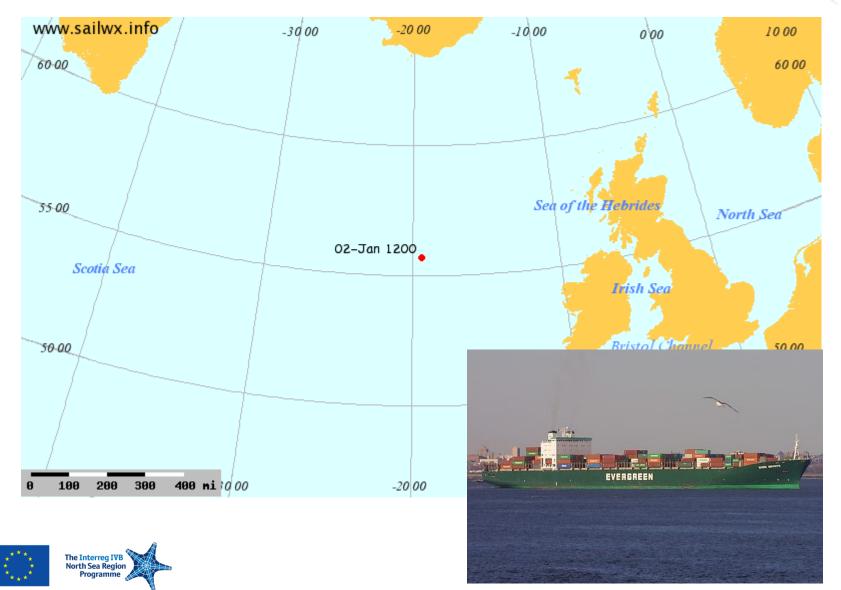


StratMoS

CMA-CGM: N. Europe-US East Coast



Evergreen: N. Europe-US/Carib/Asia



StratMoS

ACL: N. Europe-USEC/Canada





Independent Container Line: N. Europe-US East Coast





StratMoS

Rickmers Line: N. Europe-US East/Gulf



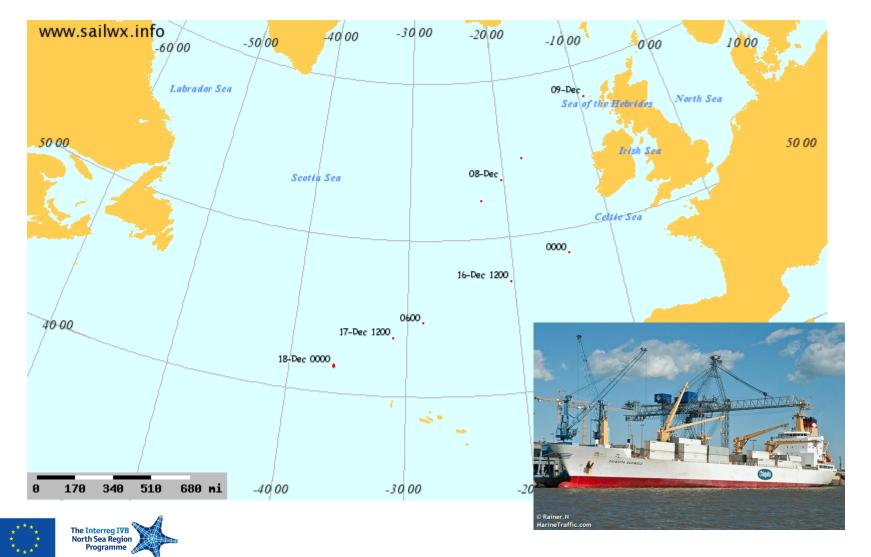
Atlantic RoRo Carriers: Russia-US East/Gulf Coast



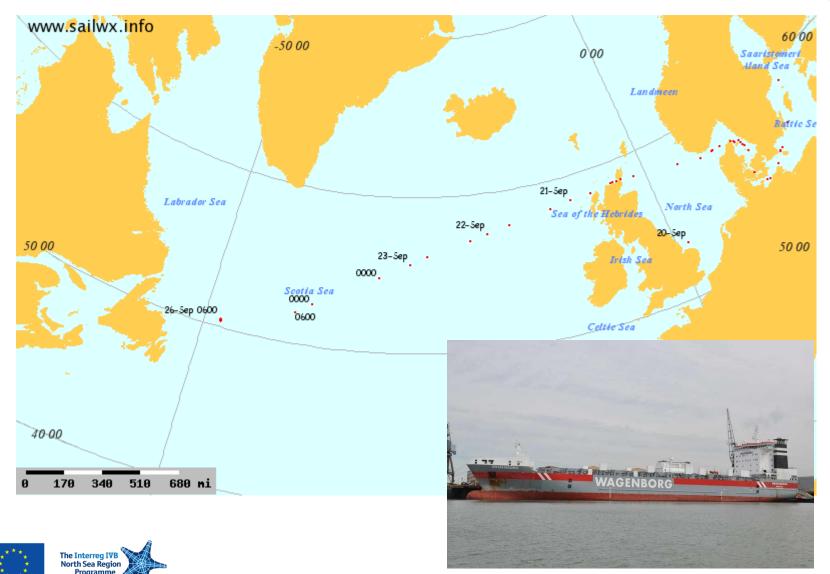


Chiquita: Europe-Caribbean and Central America



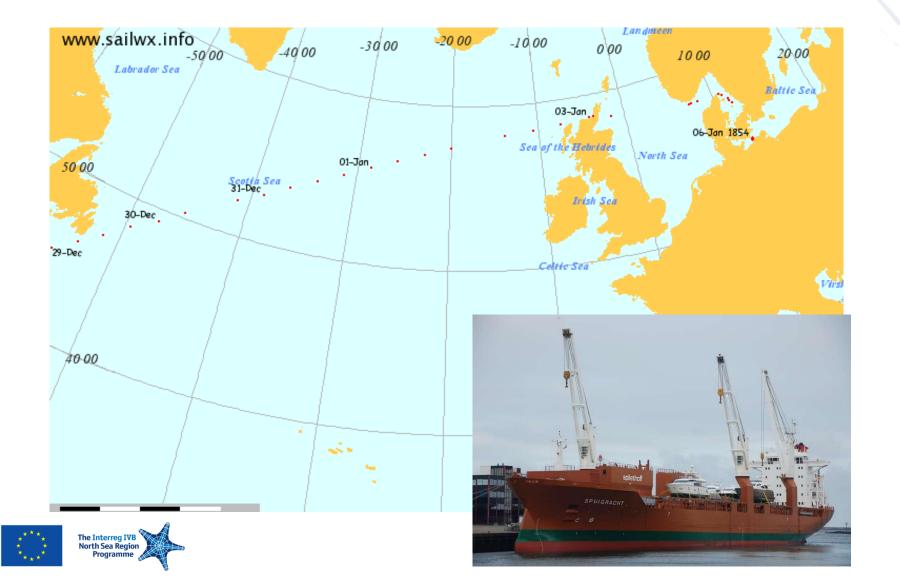


Wagenborg: N. Europe-USA/Canada



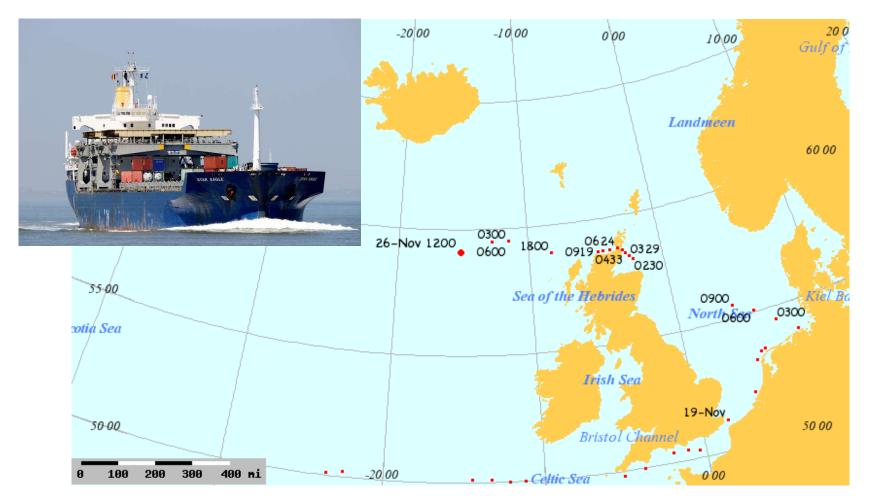
Spliethoff: N. Europe-US East/Gulf Coast





Star Lines/Atlanticargo: N. Europe-US East/Gulf Coast

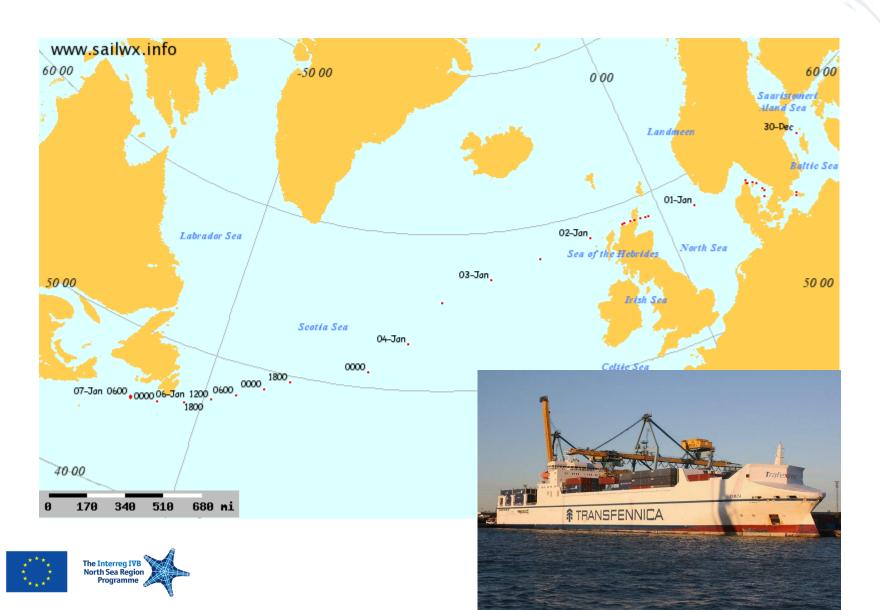








Transfennica: Baltic-US East Coast



Universal Reefer: N. Europe-USA/Canada



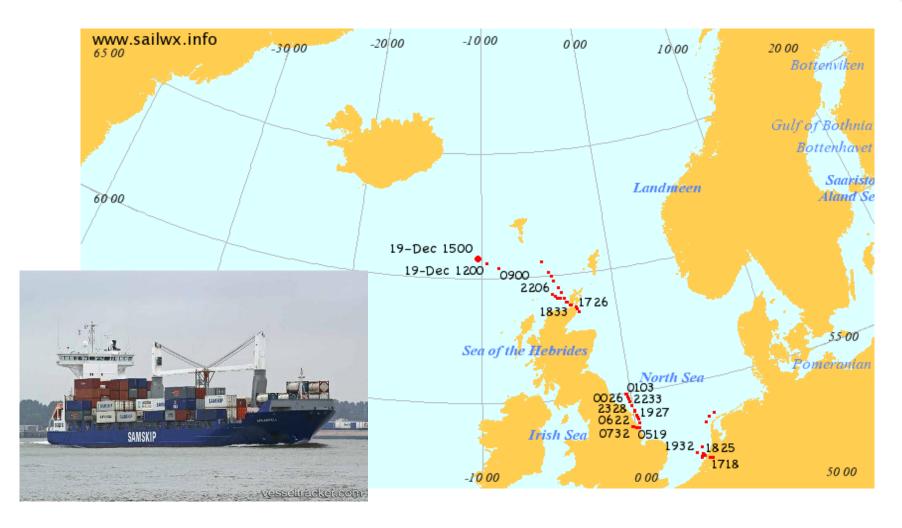




Feeder and intra-Europe services passing through Pentland Firth Channel

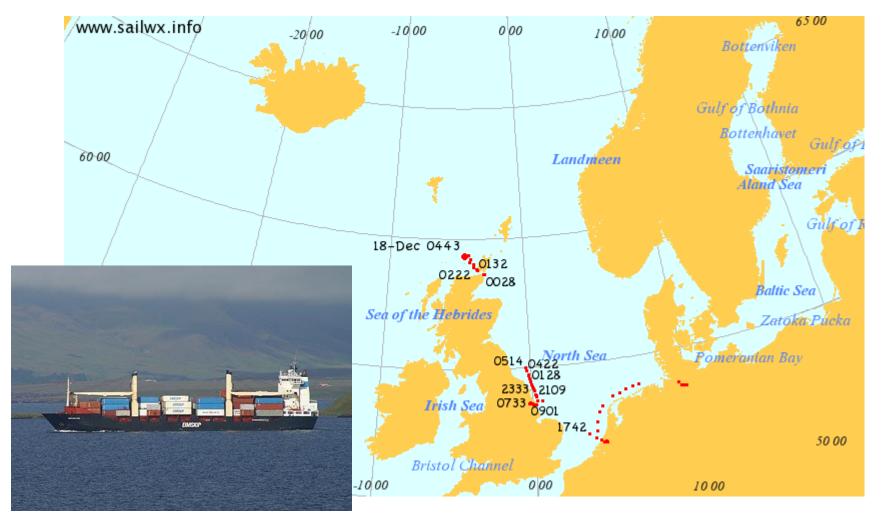


Samskip: Iceland/Faroe-N. Europe/UK



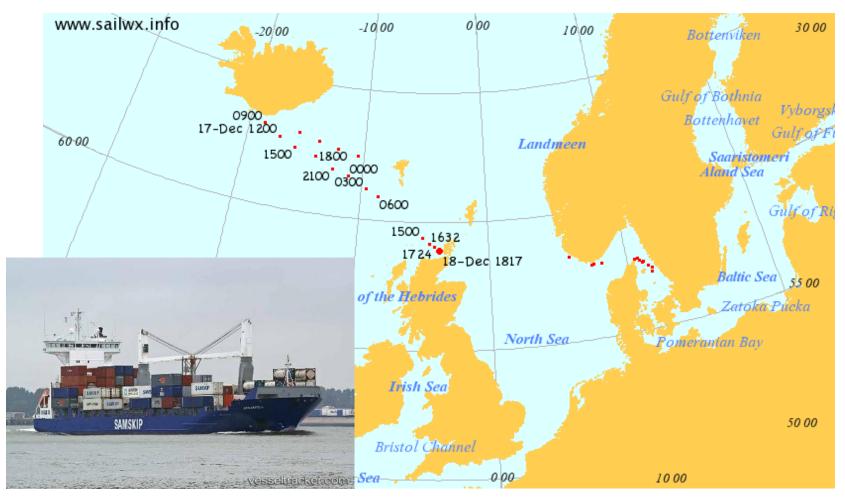


Eimskip: Iceland/Faroe-UK/Continent/



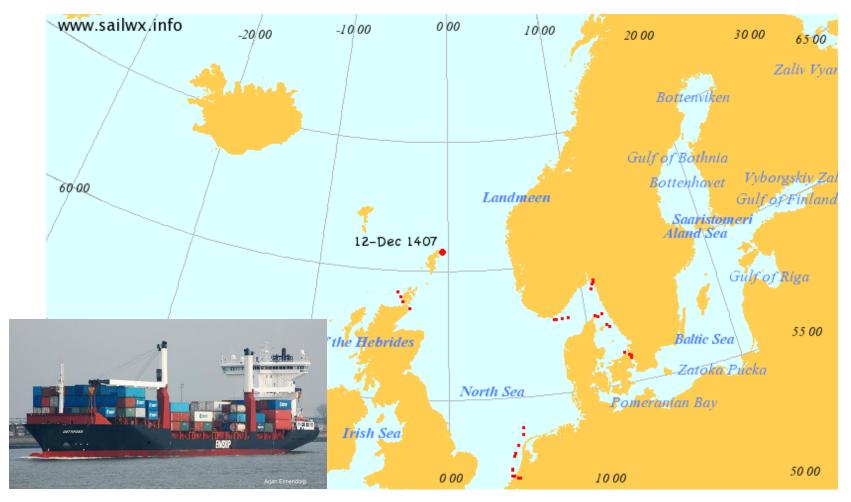


Samskip: Iceland-Baltic/Scandinavia





Eimskip: Iceland-Baltic/Scandinavia







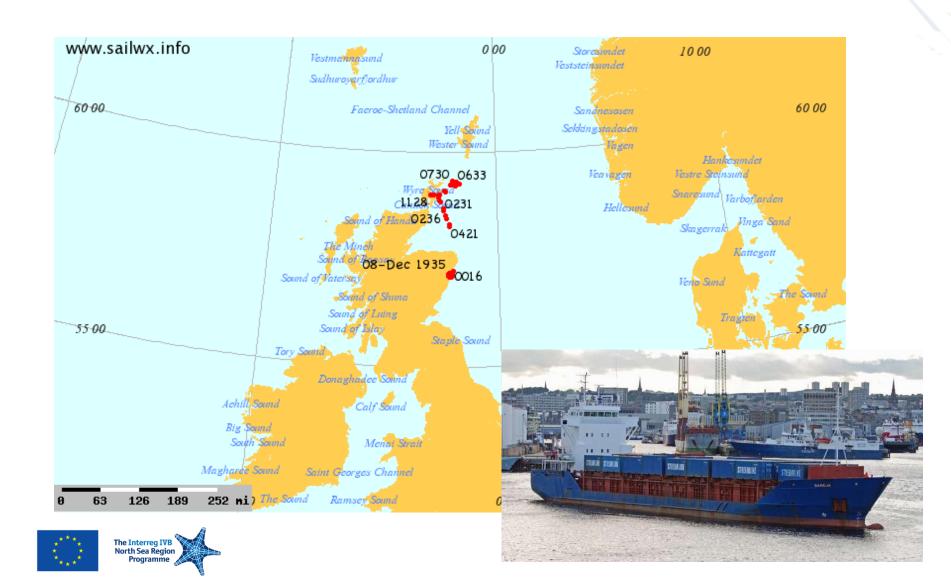
Royal Arctic Line: Greenland-Denmark





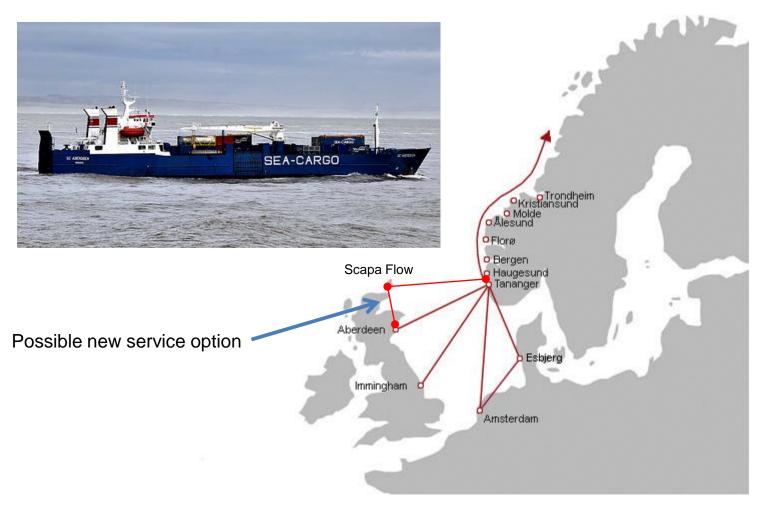


Streamline: Orkney/Shetland-Aberdeen





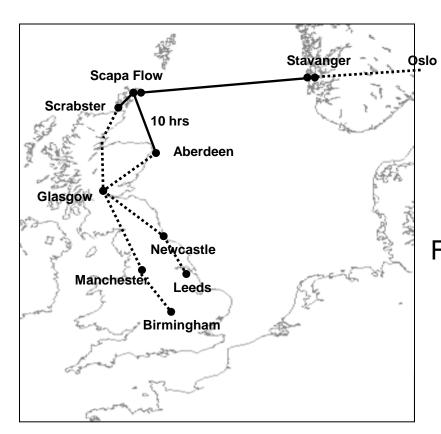
SeaCargo AS: Norway-UK/Continent





Intermodal connections







Frequent feeder/intermodal service

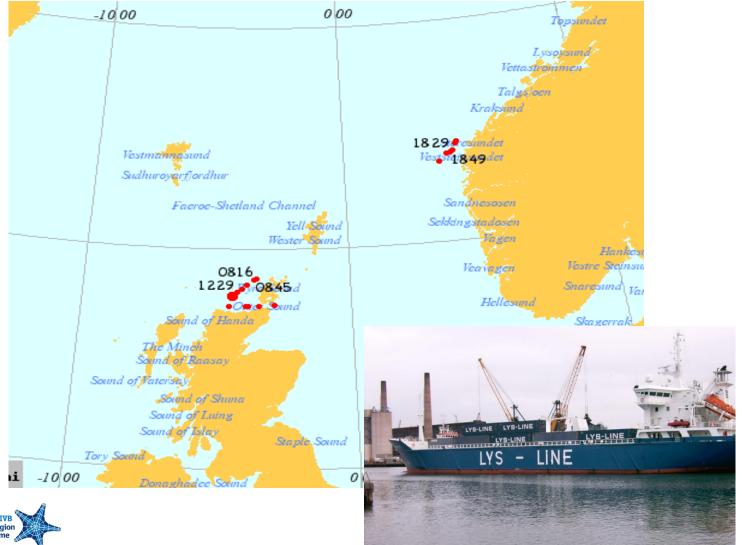


Rail Intermodal Connection



Lys Line/DFDS: Norway-UK west coast/Ireland









Faroe Ship: Faroe-Scotland



Northern Shipping Co: NW Russia-UK/Continent







Green Reefers: Iceland/Faroe-Baltic



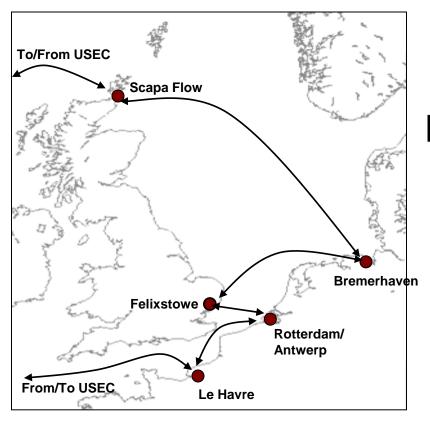


Wilson: Intra-Europe



Salvador/Angel Luis Godar Moreira Ghant (BEL), 23 June 2010





TRANSATLANTIC END-TO-END SERVICES

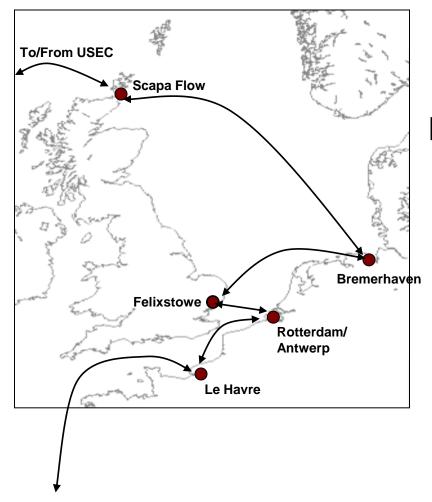
StratMoS

- •USEC
- •Canada
- •Gulf
- •Caribbean
- •WCSA

FCSTT FITS INTO MULTI-PORT ROTATIONS







From/To Asia, Mid East, Med etc.

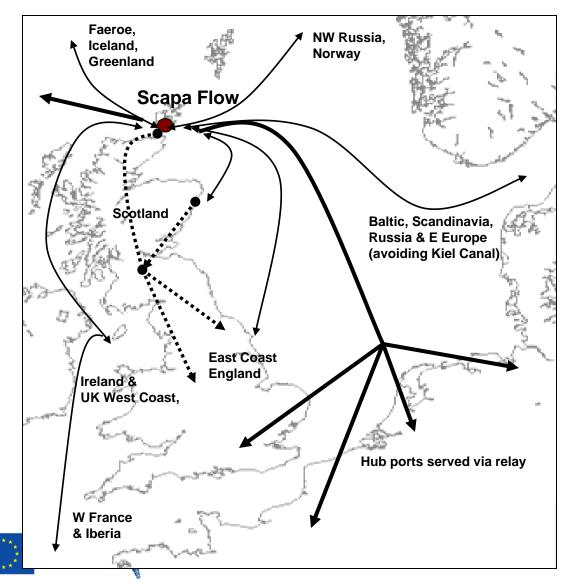
ASIA-EUROPE-AMERICAS PENDULUM/RTW SERVICES

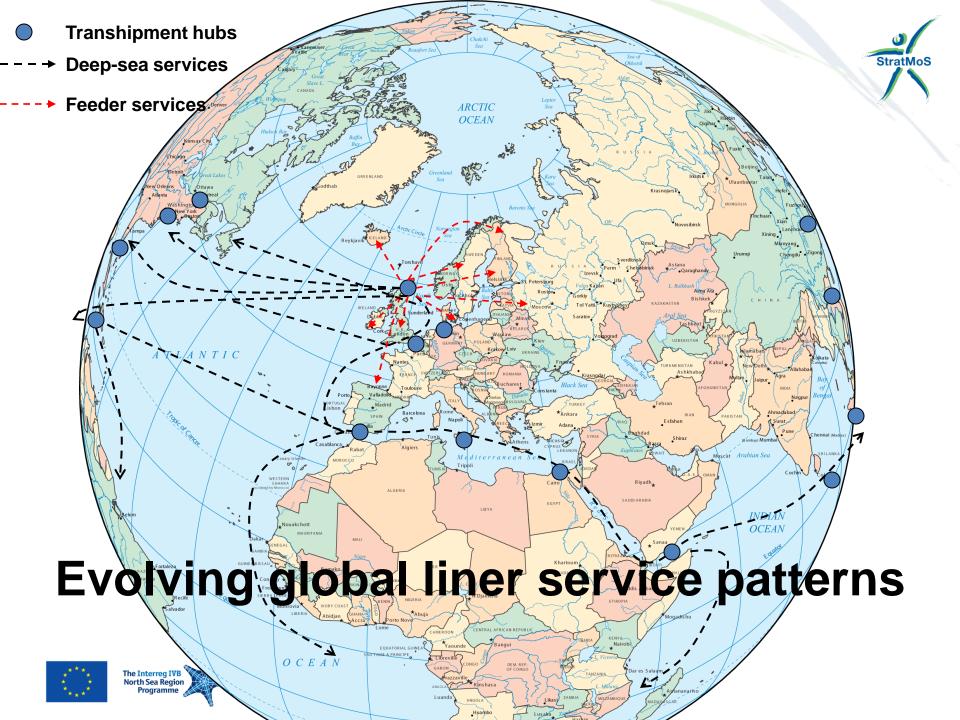
- Asia
- •Med
- •Africa
- Mid East
- •Australasia



Scapa Flow could offer Transhipment, intra-Europe and Relay Connections







Summary

- Large and fast growing transhipment market in Northern Europe
- Feeder inefficiencies at current hub ports
- Offshore-hub trend fits with growth in transhipment
- Modest ship size on Transatlantic trades (at present)
- Scapa Flow location offers minimal deviation for existing liner & intra-Europe services
- Mainline & intra-Europe/feeder services could exploit new networks based on Scapa Flow hub

