

Norwegian S-AIS



KYSTVERKET
NORWEGIAN COASTAL ADMINISTRATION

Further Development, Maintenance and use of the System

Jon Leon Ervik, NCA

The Norwegian Coastal Administration

- The Norwegian Coastal Administration is a government agency under the Royal Ministry of Fisheries and Coastal Affairs.
- The NCA is the national authority on coastal management and infrastructure, maritime traffic safety and monitoring, and preparedness against acute pollution.



Director General
Kirsti Lovise Slotsvik



Regional organisation

- The five coastal regions have individual operative tasks managed on behalf of the NCA Head Office:

NCA Head Office					
Information systems Property Mngt Transportation planning	Pilotage VTS Radio navigation Reporting services	Fairways Lighthouses and beacons Central storage	Planning and development	Information technology Administration Personnel Accounting	Development and maintenance of aids to navigation
NCA Region Southeastern Norway	NCA Region Western Norway	NCA Region Central Norway	NCA Region Nordland	NCA Region Troms og Finnmark	NCA Shipping Company



NCA goals

- Safe coastal voyage
- Clean environment
- Modal shift from land to sea transport
- Sustainable coastal communities
- Quality-based services
- Always on duty



Clean environment

- Department for emergency response against acute pollution
- Cooperation with other national partners
- Training exercises
- Modern equipment, geographical diversity - rapid response time and damage control
- Environmental perspective in all activities



Preventive focus is better than an accident



KYSTVERKET

Source: The North Sea Foundation

www.kystverket.no

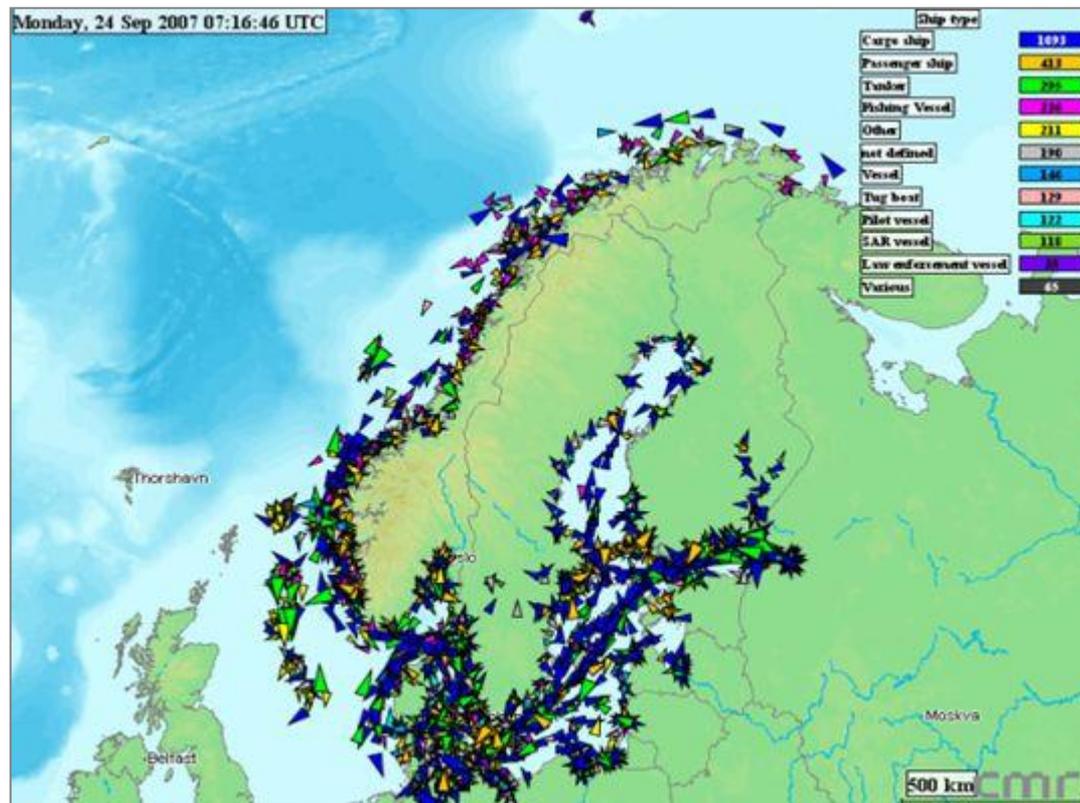
Maritime services

- Piloting service
- Vessel Traffic Monitoring Service (VTS)
- Radio navigation
- Reporting service for navigators



Automatic identification system (AIS)

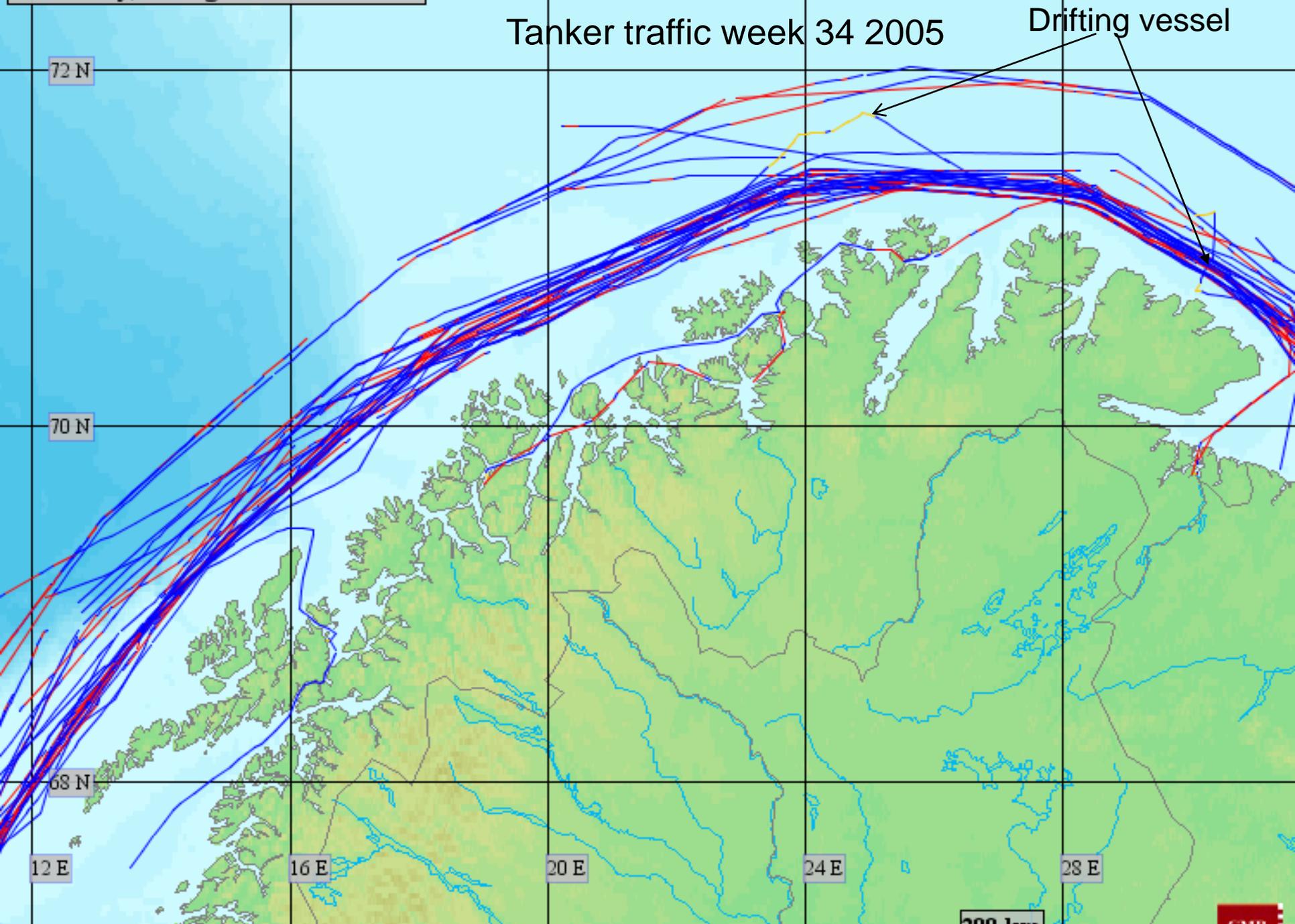
- 36 basestations
- Receives AIS signals from vessels with AIS transmitters onboard
- Coordinating webbased AIS information to other government agencies
- Used in traffic planning



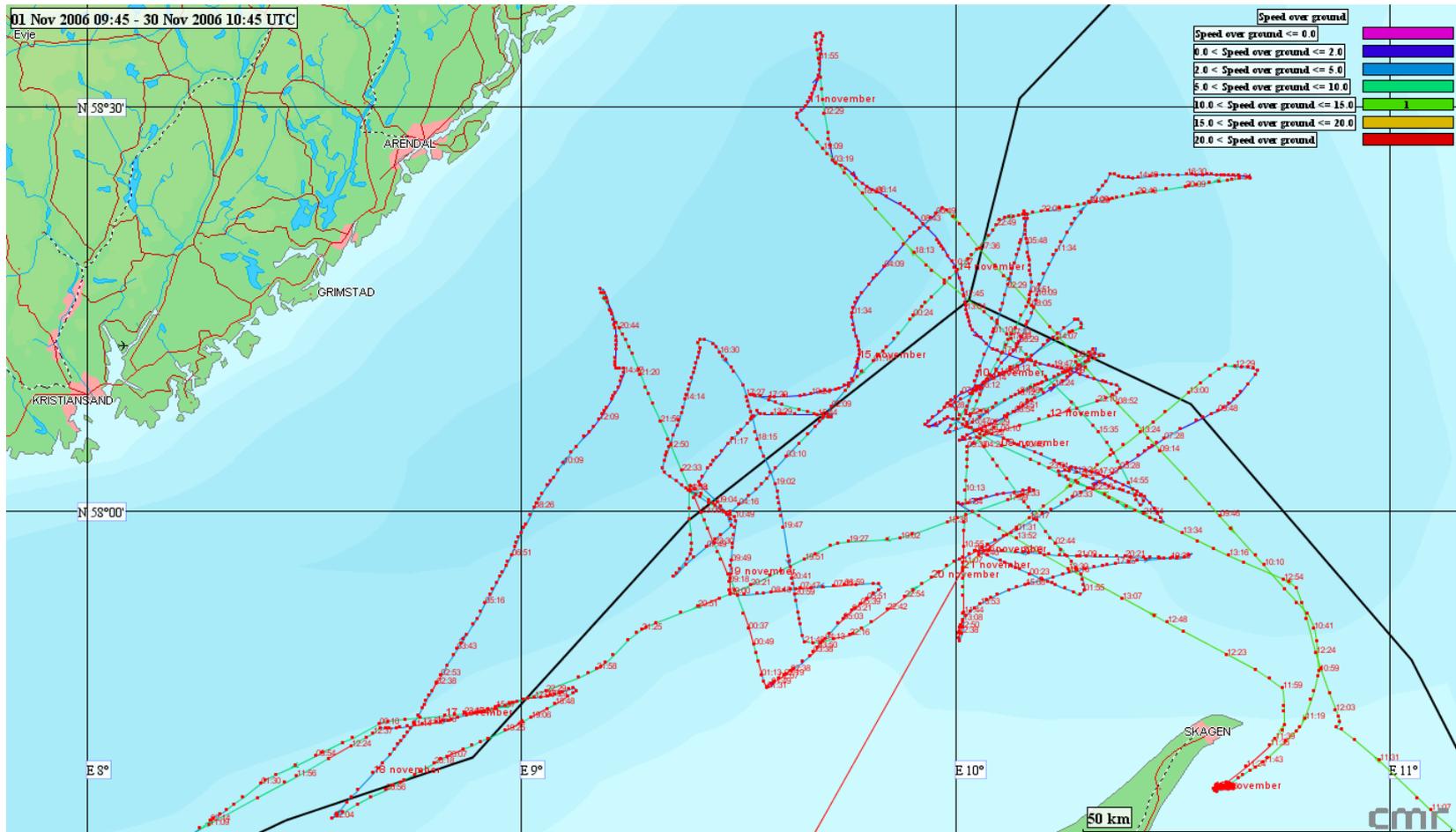
Wednesday, 31 Aug 2005 08:40:32 UTC

Tanker traffic week 34 2005

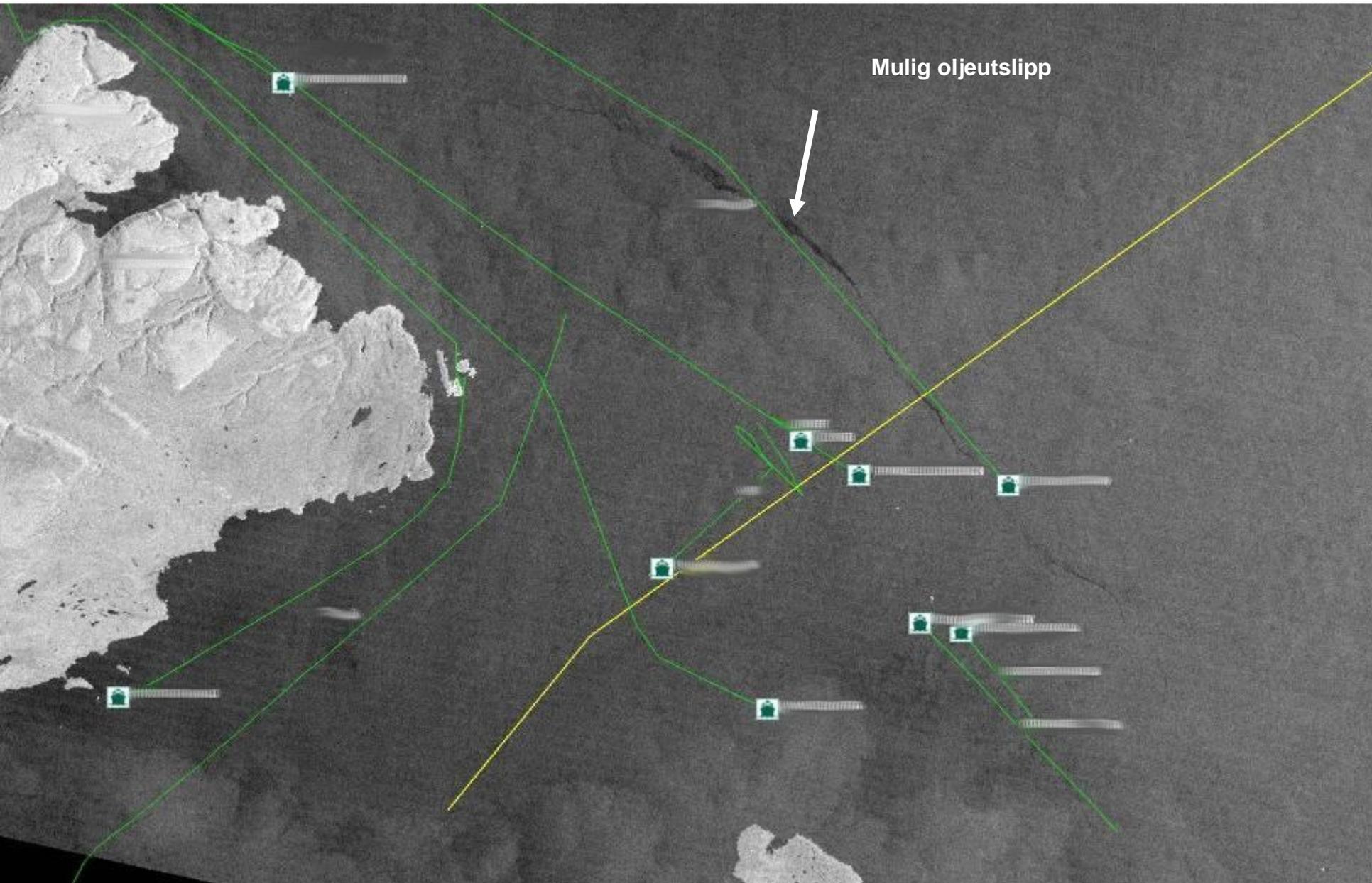
Drifting vessel



Legal business ?



Use of AIS and Radarsat



VTS test site Rotterdam 1948



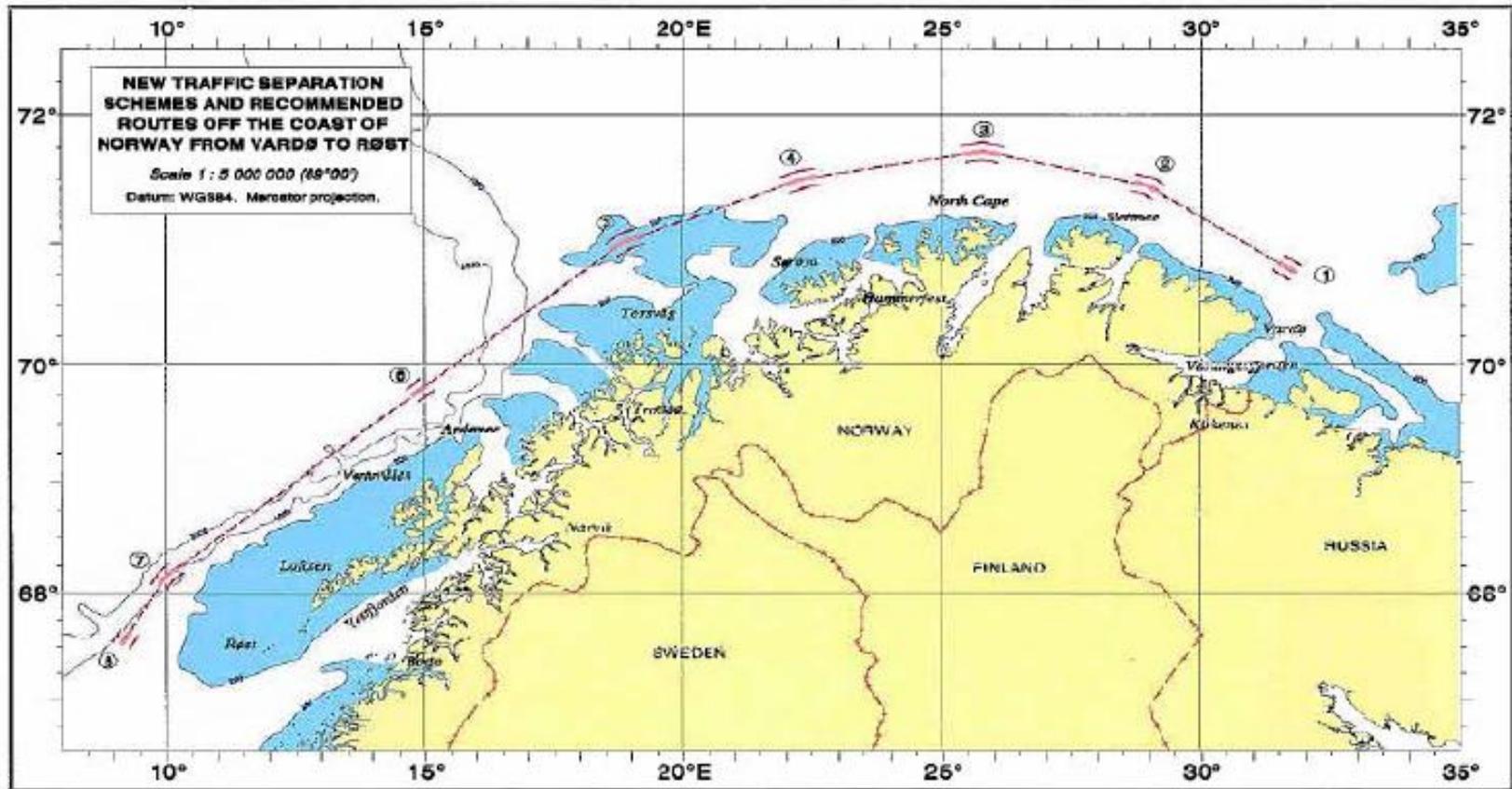


Vessel Traffic Service Centres

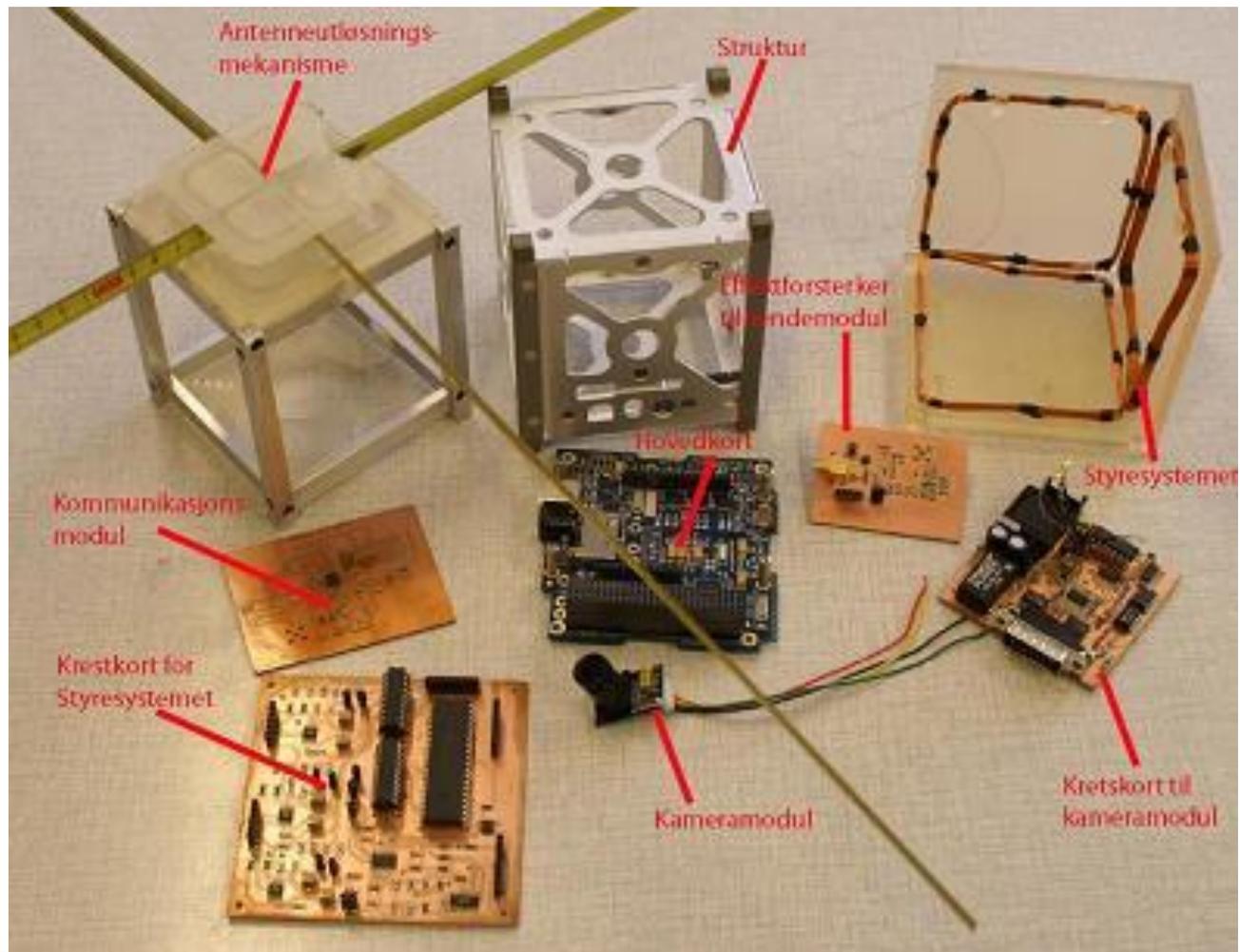


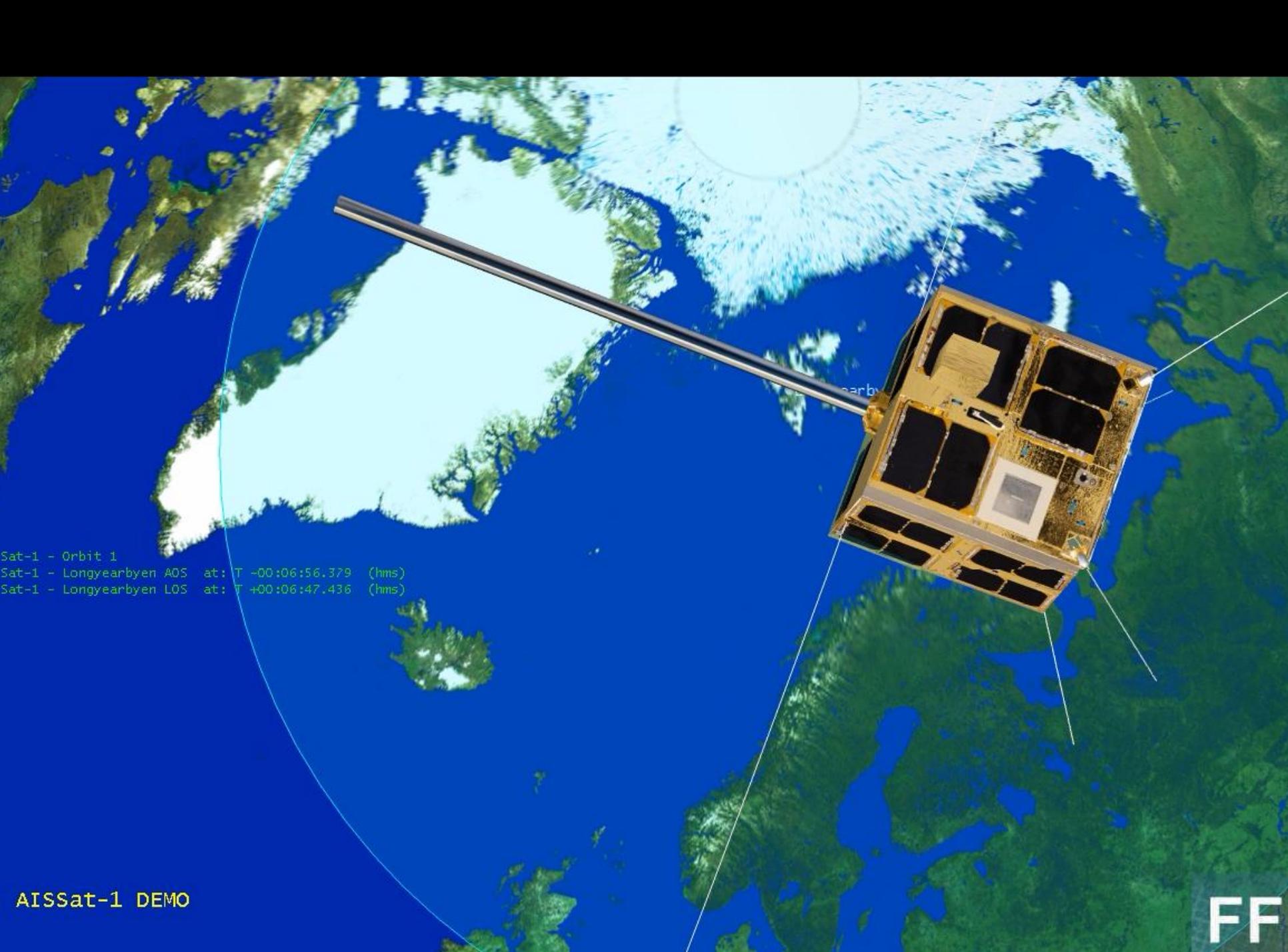
New traffic separation schemes and recommended routes

NAV 52/18
ANNEX 1
Page 6



S-AIS



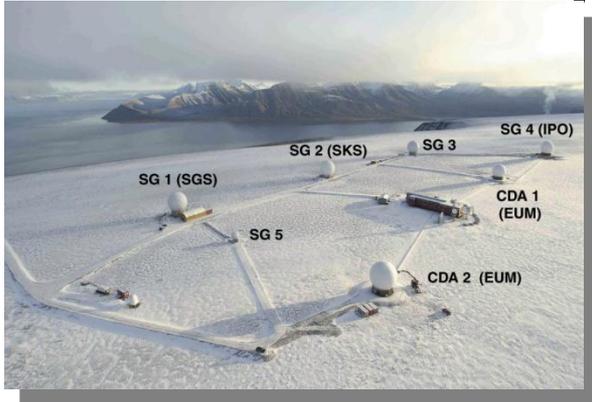


Sat-1 - Orbit 1
Sat-1 - Longyearbyen AOS at: T -00:06:56.379 (hms)
Sat-1 - Longyearbyen LOS at: T +00:06:47.436 (hms)

AISSat-1 DEMO

FF

Area of interest



SvalSat



Grimst
Trolls

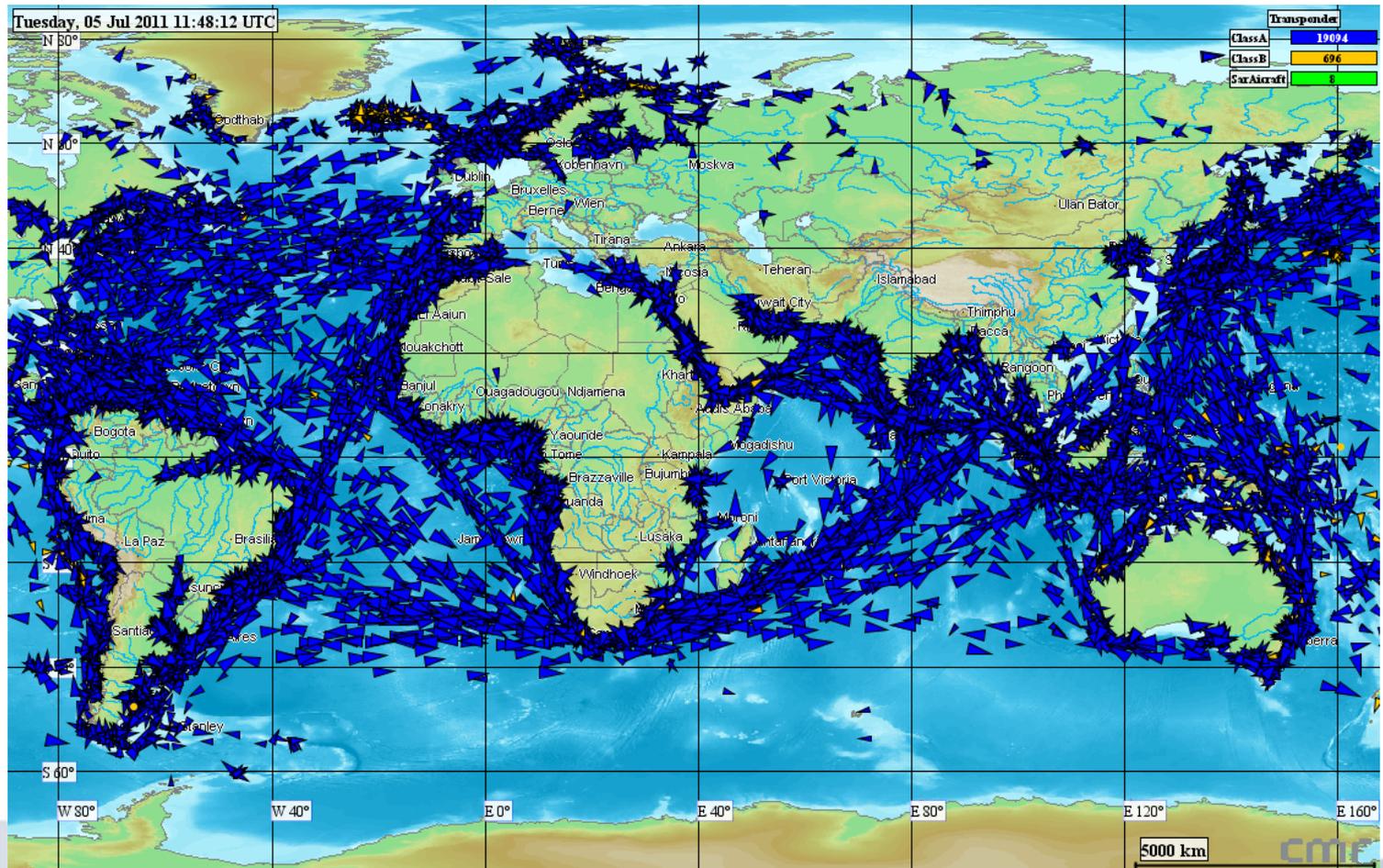


Tromsø Station

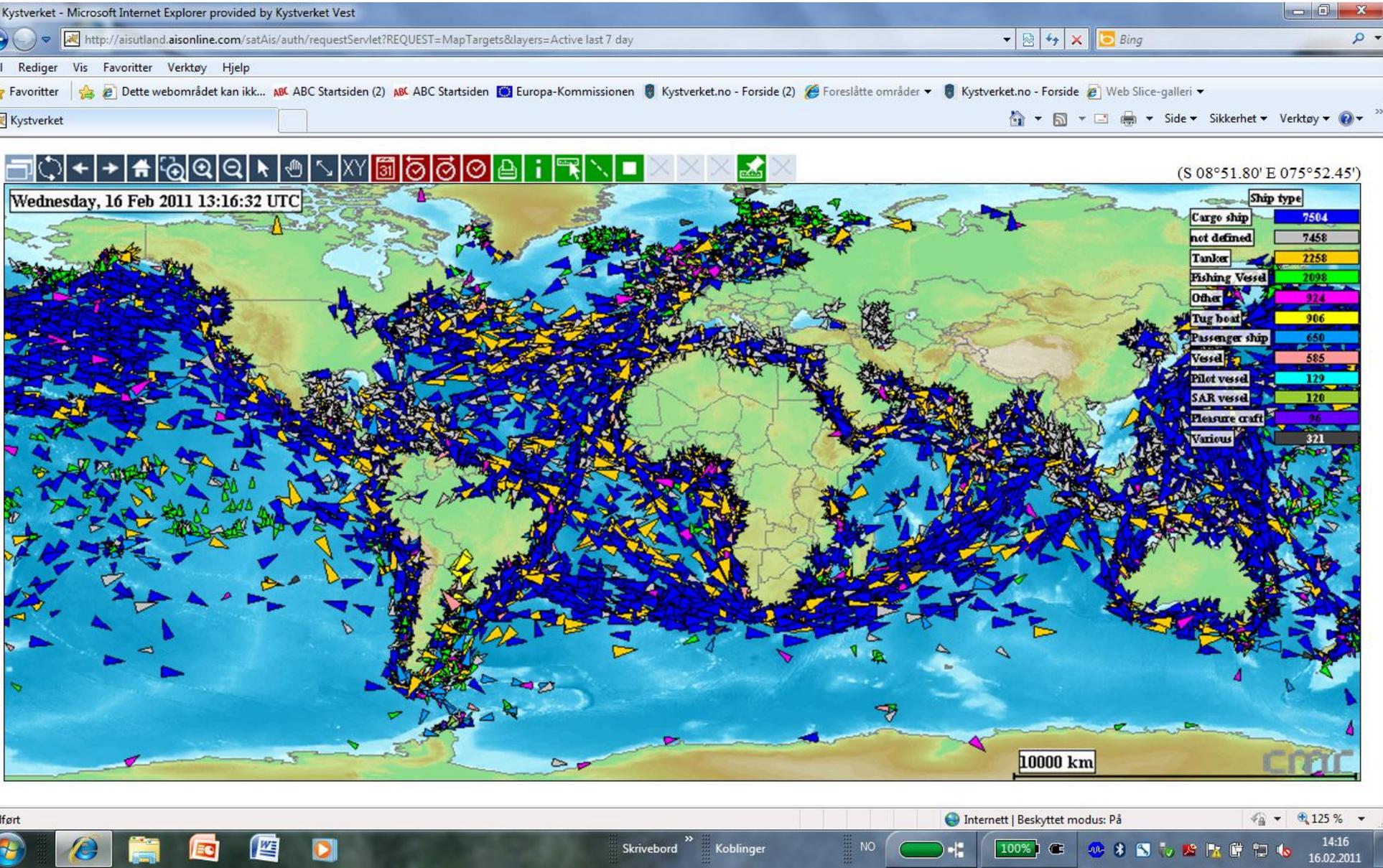


Antarctica

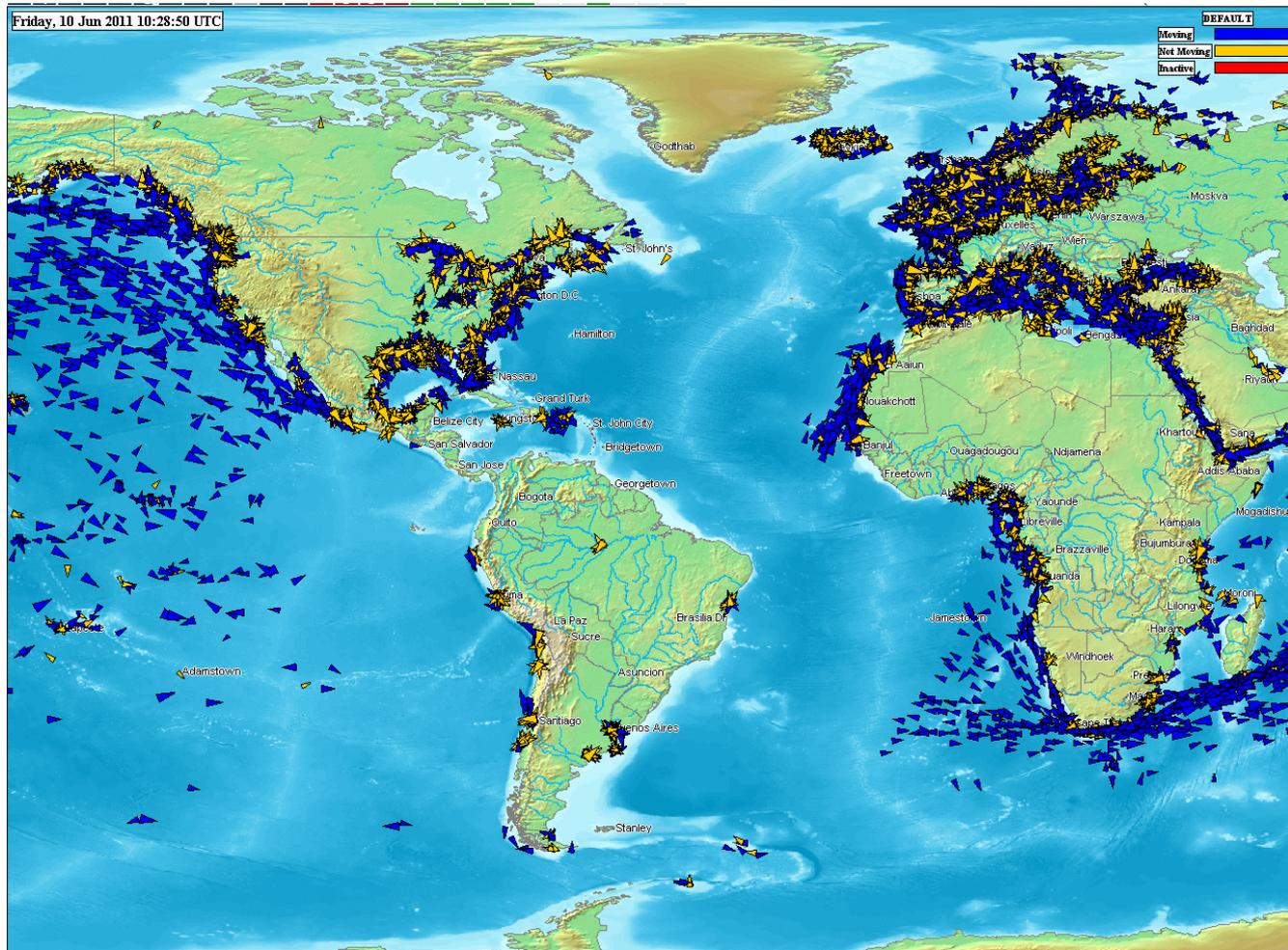
AIS sat1 24 hours



After one week

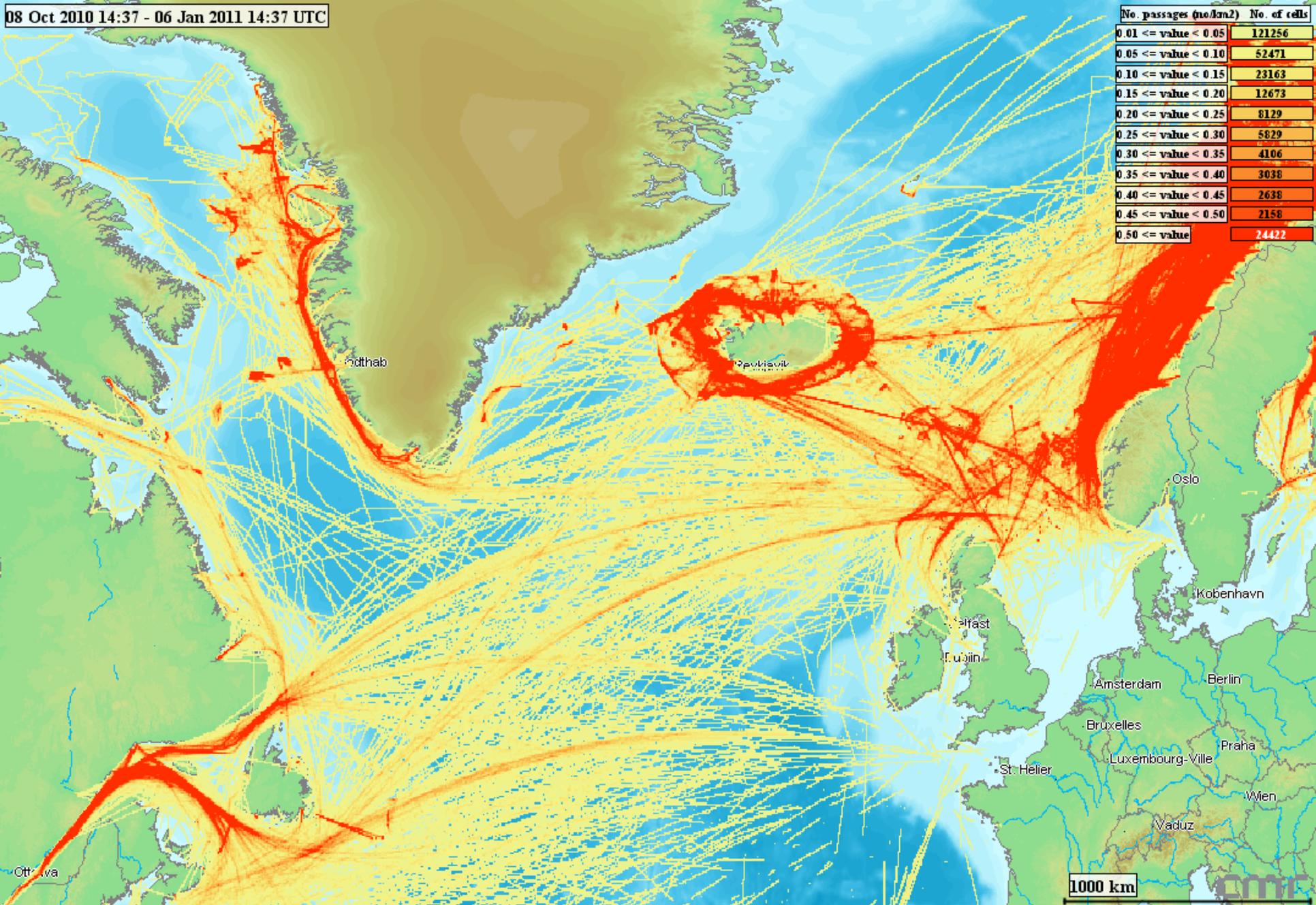


Shore based AIS and S-AIS



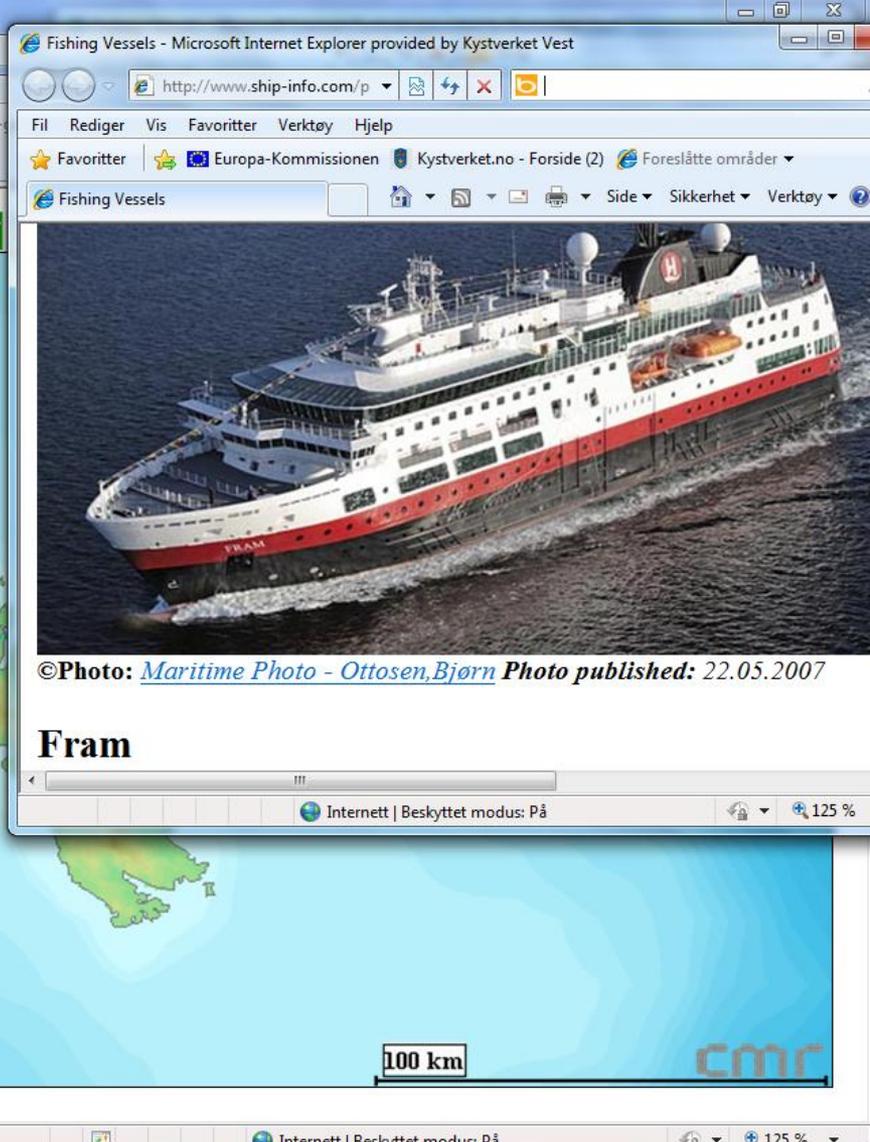
08 Oct 2010 14:37 - 06 Jan 2011 14:37 UTC

No. passages (no/km2)	No. of cells
0.01 <= value < 0.05	121256
0.05 <= value < 0.10	52471
0.10 <= value < 0.15	23163
0.15 <= value < 0.20	12673
0.20 <= value < 0.25	8129
0.25 <= value < 0.30	5829
0.30 <= value < 0.35	4106
0.35 <= value < 0.40	3038
0.40 <= value < 0.45	2638
0.45 <= value < 0.50	2158
0.50 <= value	24422



1000 km

Feature name	Value
MMSI	258932000
Country	Norway
Active	true
Ship name	FRAM
Call sign	LADA7
IMO number	9370018
Ship type	Passenger ship
Cargo	No additional information
Destination	PR.CHRISTIAN SUND
ETA	2010-09-30T08:00:00
Maximum actual draught	5.1 m
Positioning device	GPS
Transponder	ClassA
From Country	NOT REGISTERED
From Port	NOT REGISTERED
Latitude	S 54°08.86'
Longitude	W 036°48.64'
Time stamp	2010-11-10T10:13:59Z



Windows taskbar showing system tray with icons for network, volume, and battery. System clock displays 14:51 on 10.11.2010. Taskbar includes 'Skrivebord', 'Koblinger', and 'NO'.



(S 54°11.97' W 036°46.13')

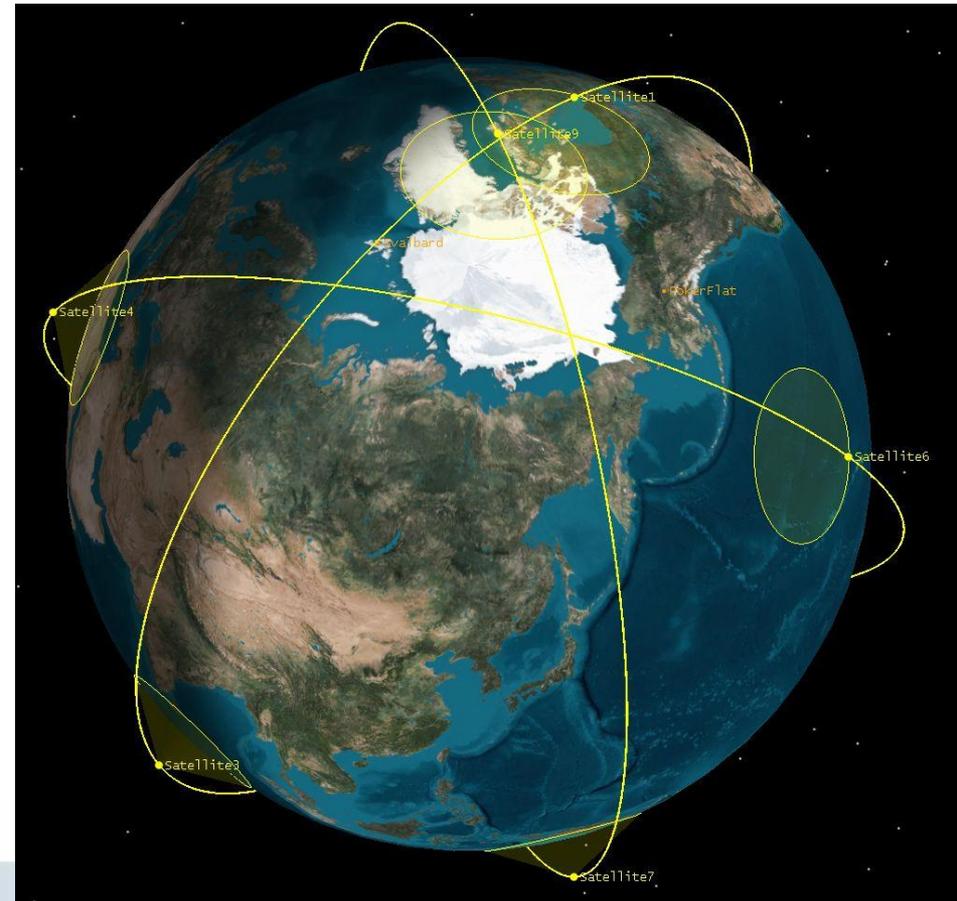
Wednesday, 10 Nov 2010 13:53:22 UTC

DEFAULT	
Moving	
Not Moving	
Inactive	

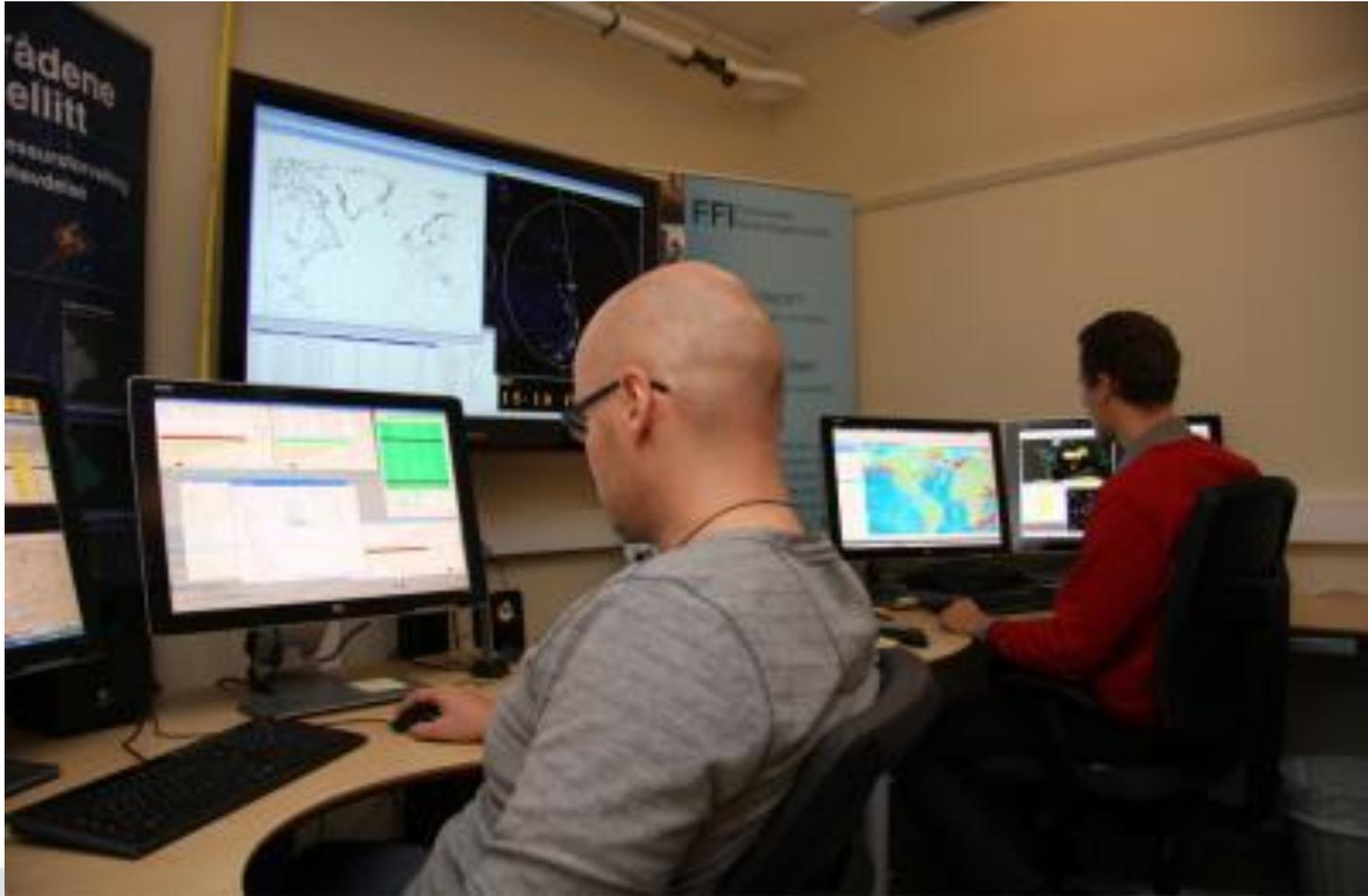


System Deployment #3 (SS_06 Operational Configuration + 4 Polar GS)

- Satellite Segment: 9 Sun-Synchronous satellites in Walker configuration 9/3/2
- Ground Segment: FULL CONFIGURATION - 4 Polar Ground Stations (Svalbard+Troll+PokerFlat+McMurdo)
- Antenna: Patch_4.



Earth control FFI



Development in Norway

- Close cooperation with EMSA and ESA and partners in the North Atlantic IMC
- Investigate further use (operational, historical and statistic)
- Develop and launching AISSat2 in 2013
- Develop and launching AISSat3 in ?
- Educate relevant personnel
- Transfer the earth control from FFI to NCA





Thank you