

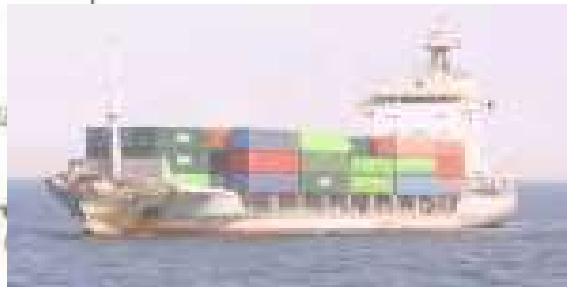
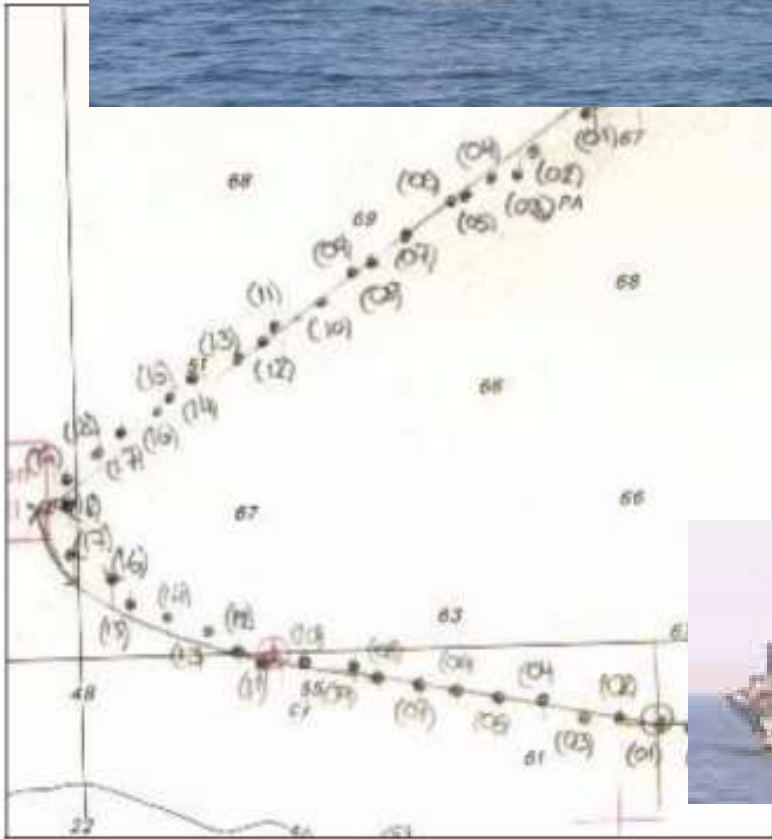


Voyage Exchange Between Ships and VTS

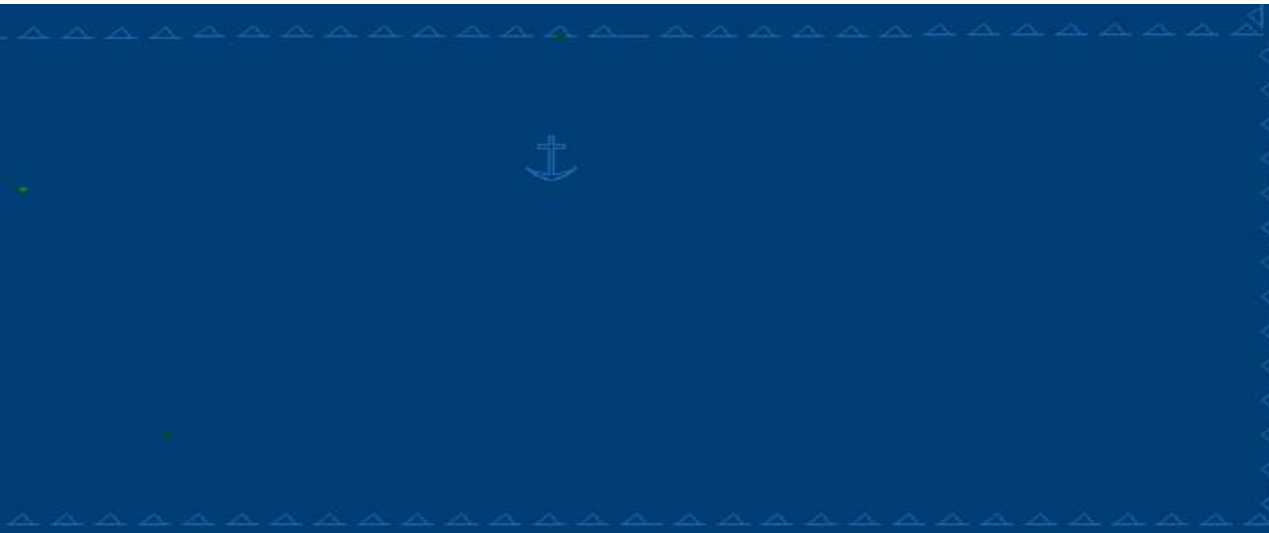
Fredrik Karlsson, Swedish Maritime Administration



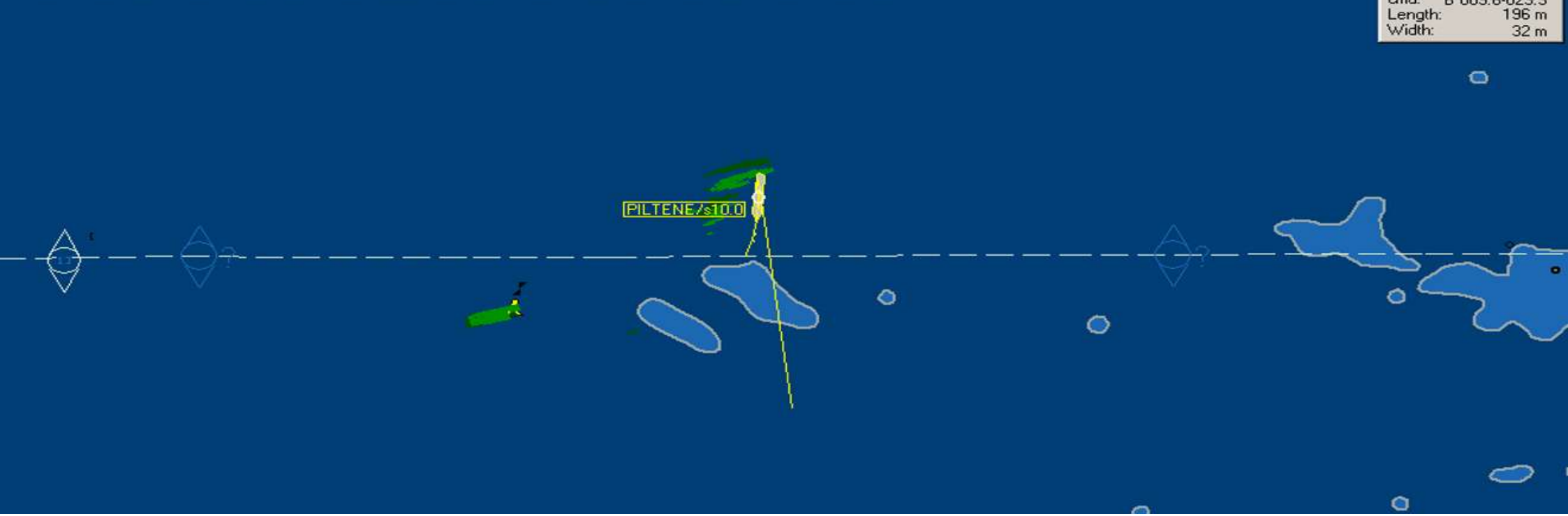
Recons
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from Ra

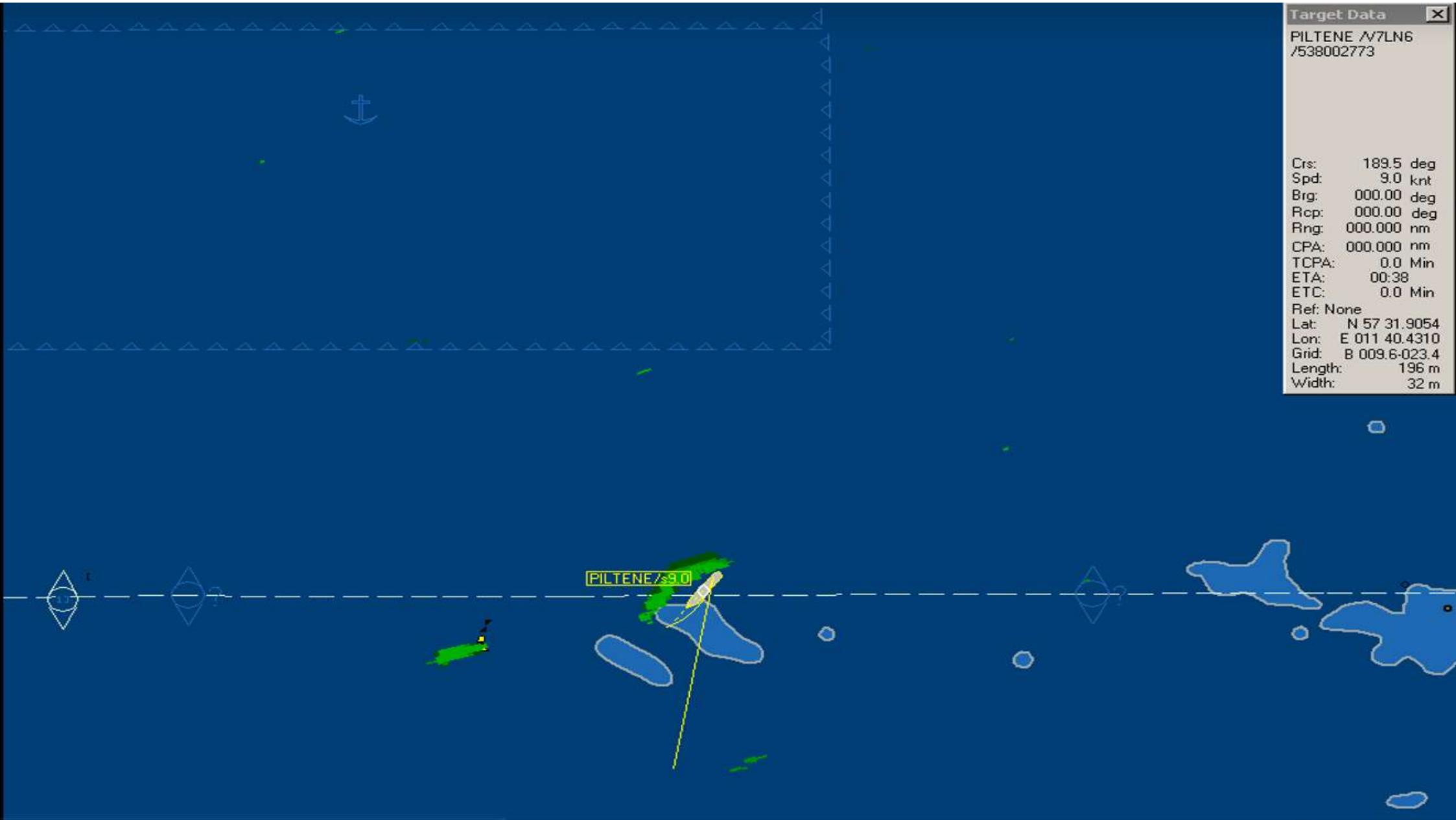






Target Data		X
PILTENE /V7LN6 /538002773		
Crs:	174.4	deg
Spd:	9.9	knt
Brg:	000.00	deg
Rcp:	000.00	deg
Rng:	000.000	nm
CPA:	000.000	nm
TCPA:	0.0	Min
ETA:	00:38	
ETC:	0.0	Min
Ref: None		
Lat:	N 57 32.0224	
Lon:	E 011 40.4528	
Grid:	B 009.6-023.3	
Length:	196 m	
Width:	32 m	





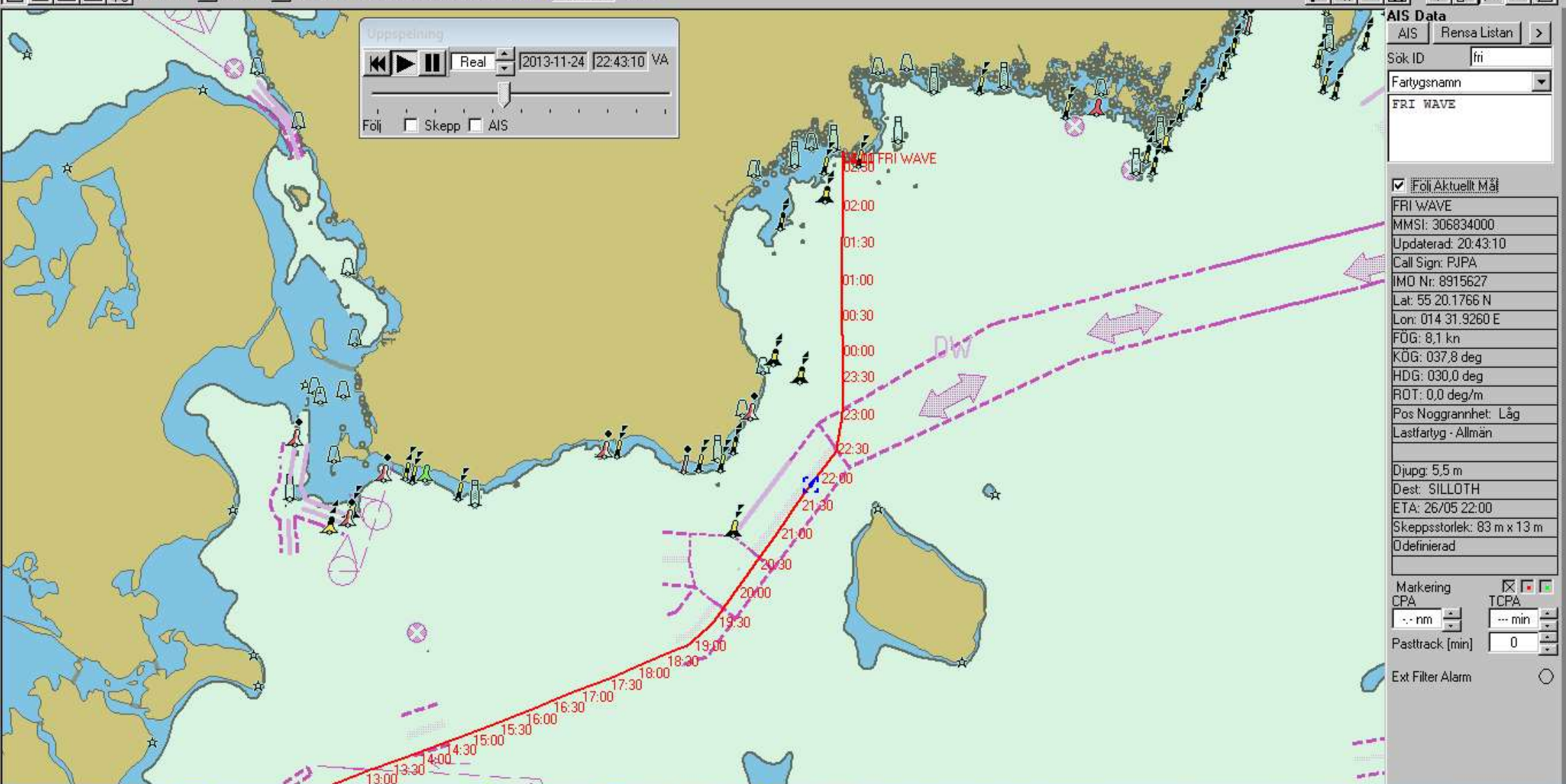
Target Data

PILTENE /V7LN6
/538002773

Crs: 189.5 deg
Spd: 9.0 knt
Brp: 000.00 deg
Rcp: 000.00 deg
Rng: 000.000 nm
CPA: 000.000 nm
TCPA: 0.0 Min
ETA: 00:38
ETC: 0.0 Min
Ref: None
Lat: N 57 31.9054
Lon: E 011 40.4310
Grid: B 009.6-023.4
Length: 196 m
Width: 32 m



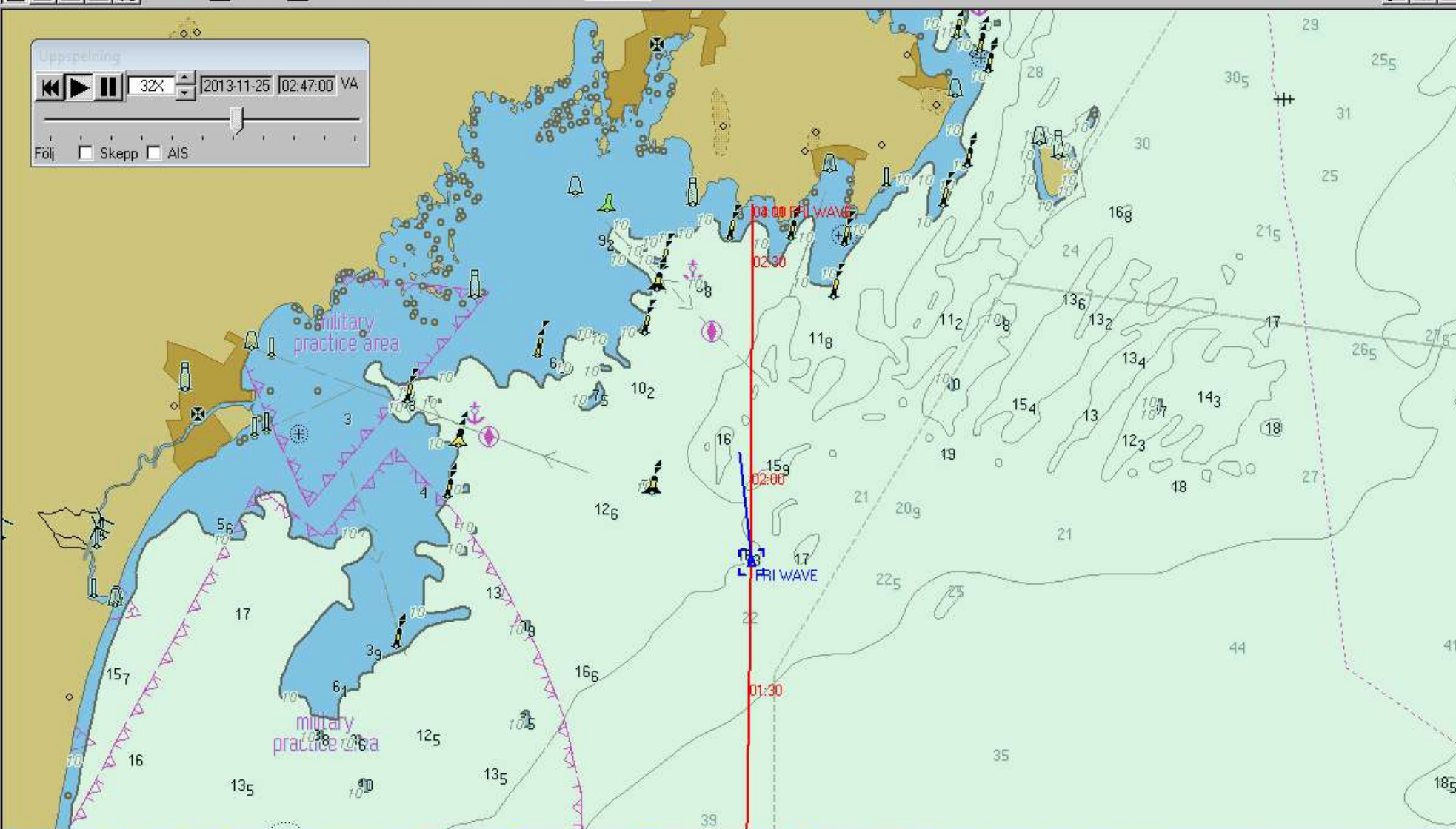




Uppspelning

32X 2013-11-25 02:47:00 VA

Följ ☐ Skepp ☐ AIS



AIS Data

AIS Rensa Listan >

Sök ID

Fartygsnamn

FRI WAVE

☒ Följ Aktuellt Mål

FRI WAVE

MMSI: 306834000

Uppdaterad: 00:47:00

Call Sign: PJPA

IMO Nr: 8915627

Lat: 55 52.3100 N

Lon: 014 38.9414 E

FOG: 8,9 kn

KÖG: 000,3 deg

HDG: 354,0 deg

ROT: 0,0 deg/m

Pos Noggrannhet: Låg

Lastfartyg - Allmän

Djupg: 5,5 m

Dest: SILLOTH

ETA: 26/05 22:00

Skeppsstorlek: 83 m x 13 m

Odefinierad

Markering

CPA

nm

TCPA

min

Pasttrack [min]

0

Ext Filter Alarm

Rutt Databas Inspelning Spår ECDIS Visa WGS84 Konfigurera Tidvatten Emulator Om Sjökortsskala:Hamnspecial

0.20 nm 15 s 55 59.7927 N 014 38.5869 E Klar Fri Dag H Insp



Uppspeln



Följ



AIS Data

AIS Rensa Listan >

Sök ID

Fartygsnamn

FRI WAVE

☒ Följ Aktuellt Mål

FRI WAVE

MMSI: 306834000

Updaterad: 01:37:20

Call Sign: PJPA

IMO Nr: 8915627

Lat: 55 59.8135 N

Lon: 014 38.9970 E

FOG: 0,5 kn

KÖG: 000,1 deg

HDG: 356,0 deg

ROT: 0,0 deg/m

Pos Noggrannhet: Låg

Lastfartyg - Allmän

Djupg: 5,5 m

Dest: SILLOTH

ETA: 26/05 22:00

Skeppsstorlek: 83 m x 13 m

Odefinierad

Markering

CPA

--- nm

Pasttrack [min]

0

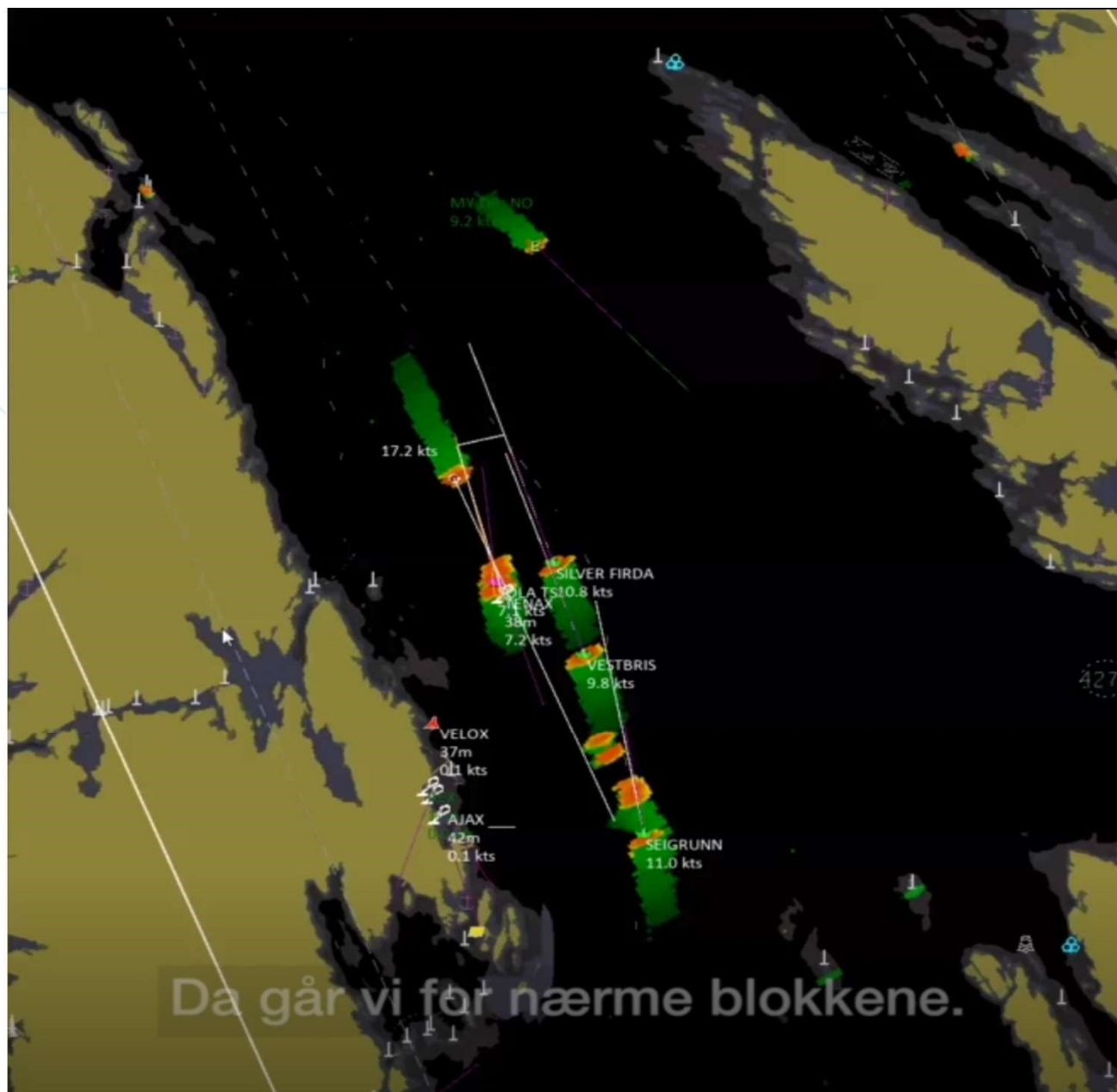
Ext Filter Alarm

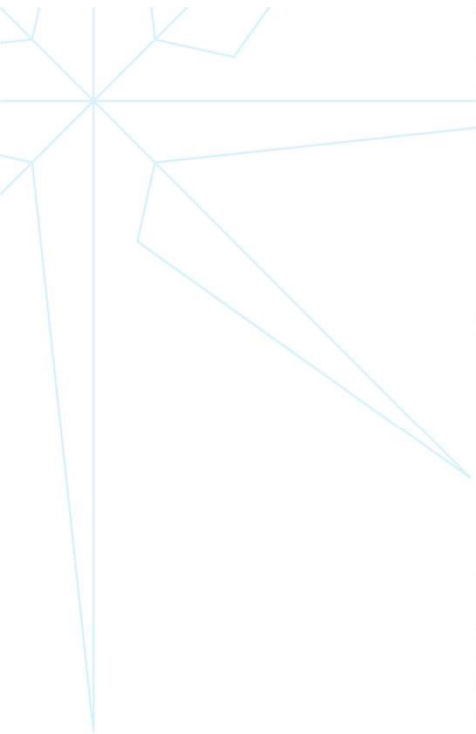


SV 09:47 2013-12-02











HDTV MFOV Auto

DDE

CORR-

GeoPnt

RE

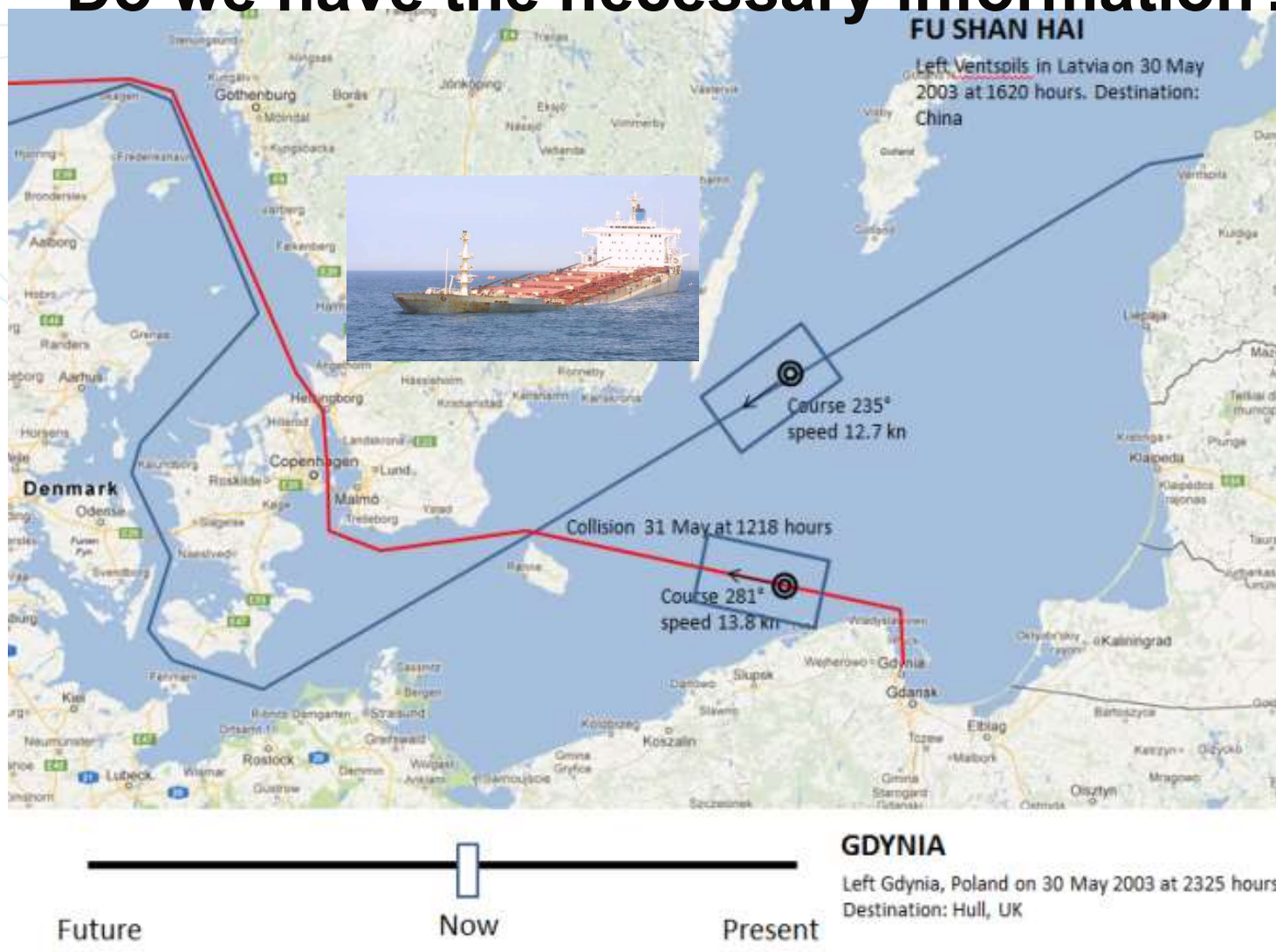


TLat N 60° 37.852' TLon E 4° 50.844' Alt Of S Rng: 1573m Ins Nav HdgUncert=0.04
Lat: N 60° 37.838' Lon: E 4° 52.497' Az: -49.9° El: -17.6° 13-Nov-2018 08:36:16Z

A green rectangular road sign with rounded corners and a white border of reflective dots. The word "Intention" is written in large, white, sans-serif capital letters. The sign is mounted on two wooden posts. The background is a bright blue sky with scattered white clouds.

Intention

Do we have the necessary information?



One of the main challenge in VTS and anti collision navigation is in predicting the future...

- One way of doing this is to have a common understanding of the present.

Voyage Plan example...

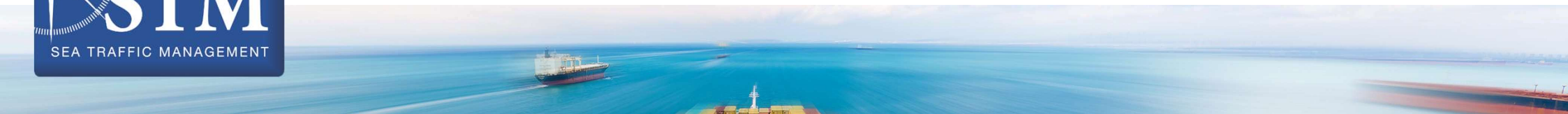
- Solas Chapter V - Regulation 34
 - on Safe navigation and avoidance of dangerous situations
 - "Prior proceeding to sea, the master shall ensure that the intended voyage has been planned, taking into account the guidelines and recommendations developed by the Organization *"
- *IMO RESOLUTION A.893(21)
 - Guidelines for voyage planning
 - "Prior to departure the navigating officer will prepare detailed planning of the whole voyage or passage plan from berth to berth"



- One way of doing this is to have a common understanding of the present.

Creating a common situational awareness

Common situational awareness



NEED TO
SHARE

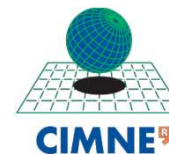


ARITIME
ATION

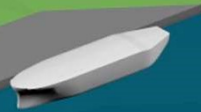
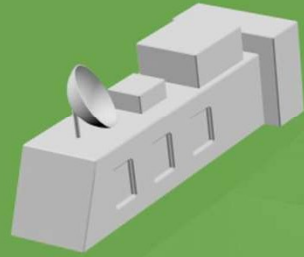


Co-financed by the European U
Connecting Europe Facility





Example voyage from port - port in an MSP I, II & III e-Navigation environment



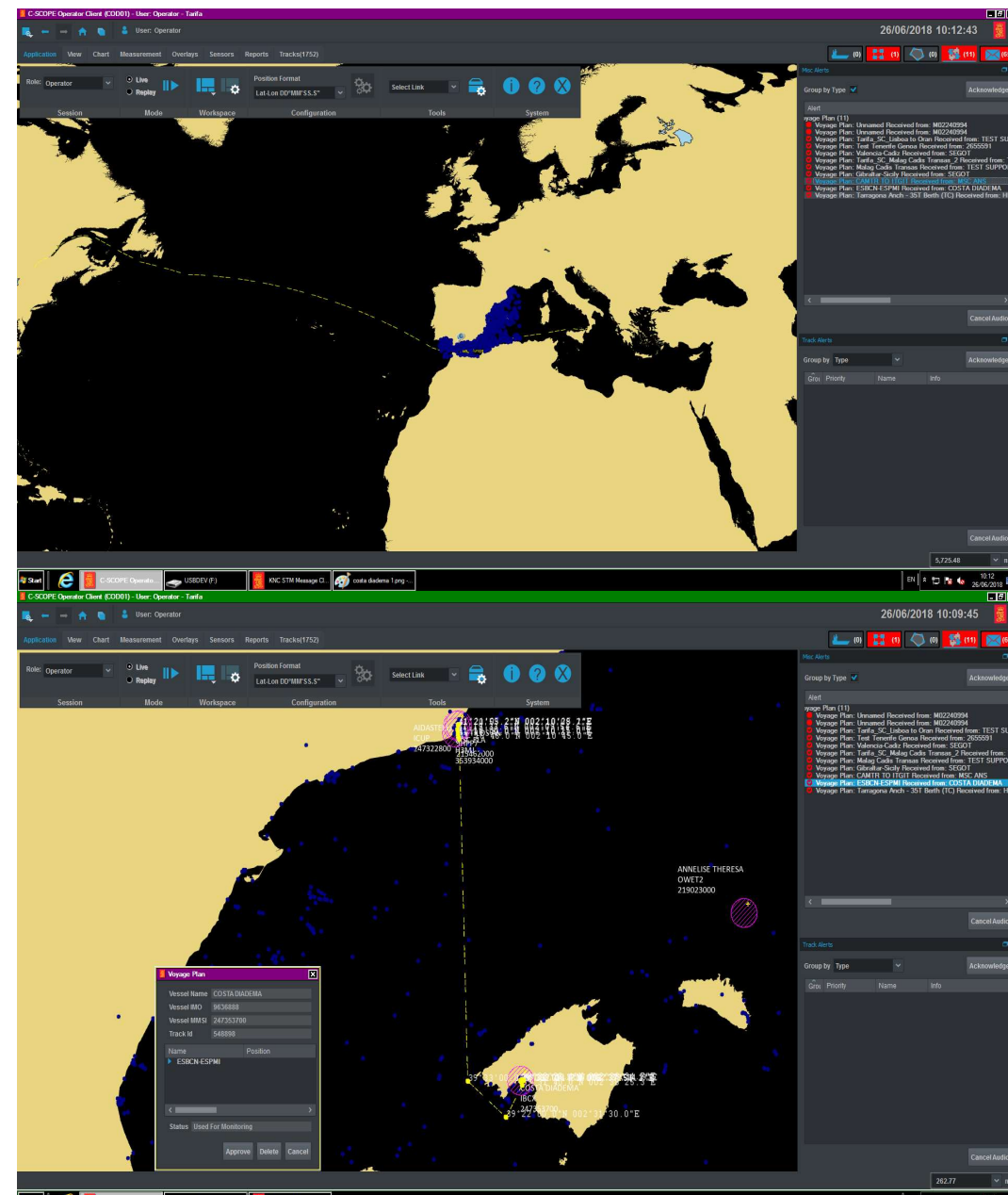


- S-421, included in IEC 61174 ed4 for ECDIS
- Both Geography and time/speed
- Last waypoint ETA is used for ETA optimization, easy communicating desired ETA from port to ship in real time during the whole passage.
- Create ETA window and/or timeslots very early.

ARITIME
ATION



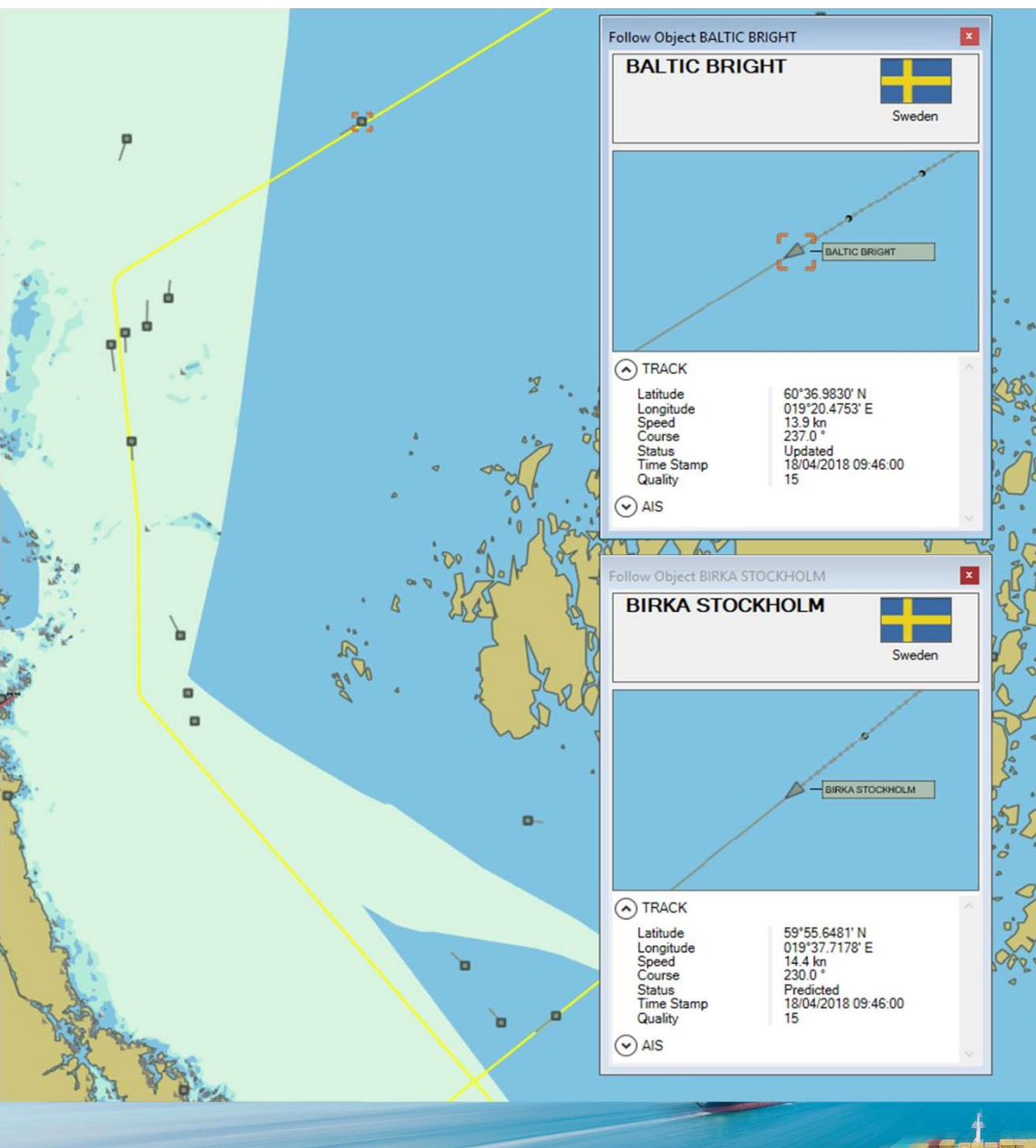
Co-financed by the European Union
Connecting Europe Facility



1.7 ASSOCIATED TECHNICAL SERVICES

Name	ID (MRN)	Description	Architect(s)	Standardisation Body
Voyage Information Service	urn:mrn:stm:service:specification:sma:vis	The service supports exchange of voyage plans, text		IEC?

I:\NCSR\05\WP\NCSR 5-WP.4.docx

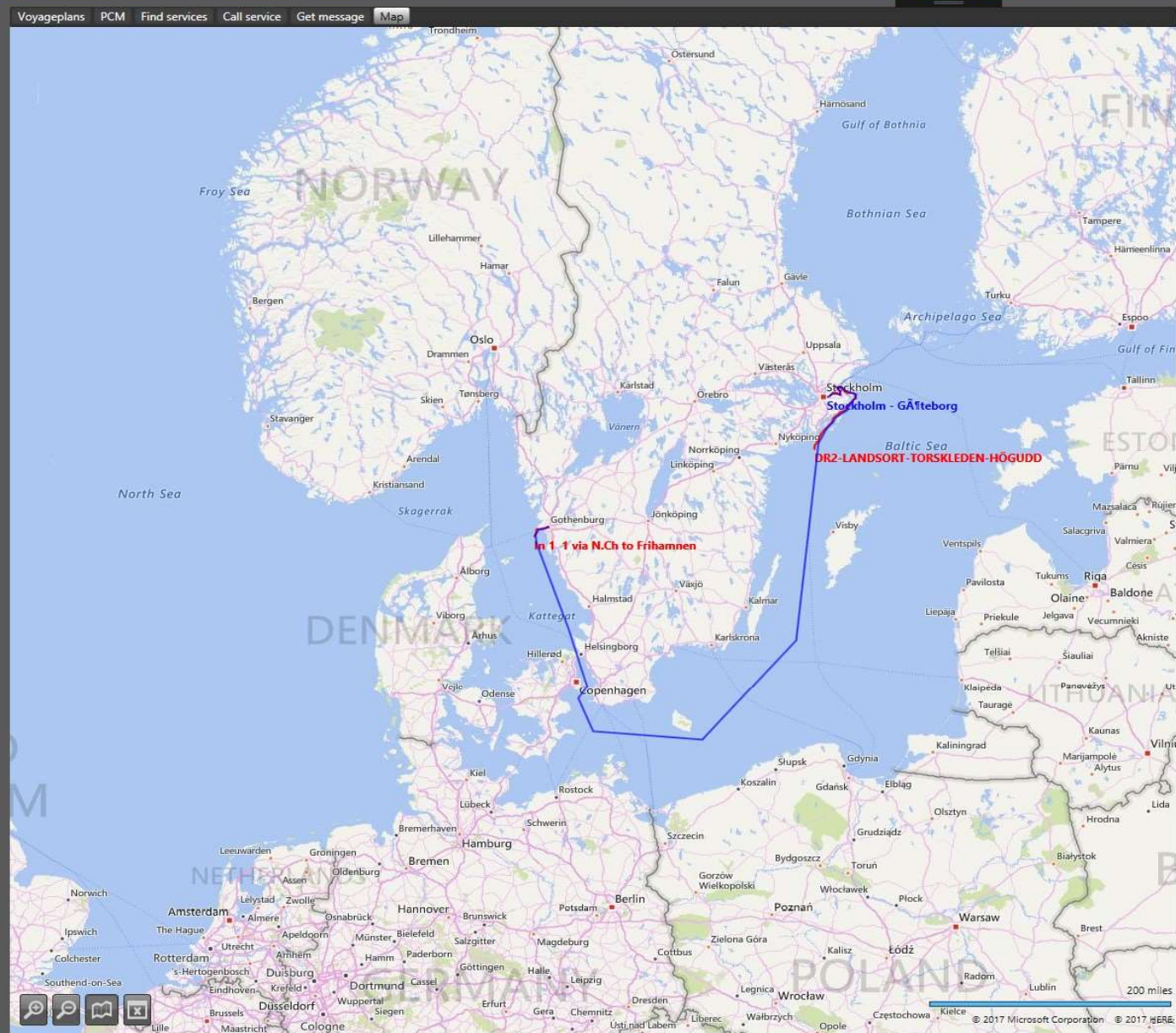


Current STM Testbed

- 250 Ships, 4 major ECDIS Brands
- 5 VTS / Shore Centres, 5 major VTS manufactures.
- Target 300 ships in April
- 12 Ports

Services Provided

- Enhanced Monitoring (Safety, depart from planned Route)
- Pilot Route Service (Norway, Finland, Sweden)
- Ice Routes (Sweden, Finland)
- Optimization (Weather, UC//Squat)
- Route Check (Navigational)
- Port Call Optimization (ETA optimization)
- SAR (40 SAR Units)



Notifications

2017-04-06 13:44	New voyageplan uploaded.
2017-04-06 13:44	New voyageplan uploaded.
2017-04-06 13:44	New voyageplan uploaded.
2017-04-06 13:45	New voyageplan uploaded.
2017-04-06 13:45	New voyageplan uploaded.
2017-04-06 13:45	New voyageplan uploaded.

From org:
From service:
Notification type:

Routes List | Routes | IBNext

https://testiextranet.liikennevirasto.fi/ibnextmulti_center/#/routes

IBNEXT
2.15.0-SNAPSHOT

MapShipsMessagesTrafficPortsDirwaysRoutesJournalTraffic Restrictions

Fuel Reports

132

Vessel routes

Hide all routes

Hide all geographical message features

Show only the latest routes

ALL

Filter by free text query

RECEIVED

RECOMMEND
(Sending)

DELIVERED

FAILED

Vessel	Delivery Status	Destination	ETA		Action	Last updated
MASTERA	RECEIVED	FINLI	2017-09-13 12:23		Details >	2017-09-05 16:21
SILJA SERENADE	DELIVERED		2017-09-07 09:56		Details >	2017-09-05 16:20
SILJA SERENADE	RECEIVED		2017-09-07 09:56		Details >	2017-09-05 16:13
SILJA SERENADE	RECEIVED		2017-05-30 09:55		Details >	2017-09-05 16:13
EMILIE	RECEIVED				Details >	2017-09-01 17:42

Map | IBNext Multi

https://testiextranet.liikennevirasto.fi/ibnextmulti_center/#/map

IBNEXT
2.15.0-SNAPSHOT

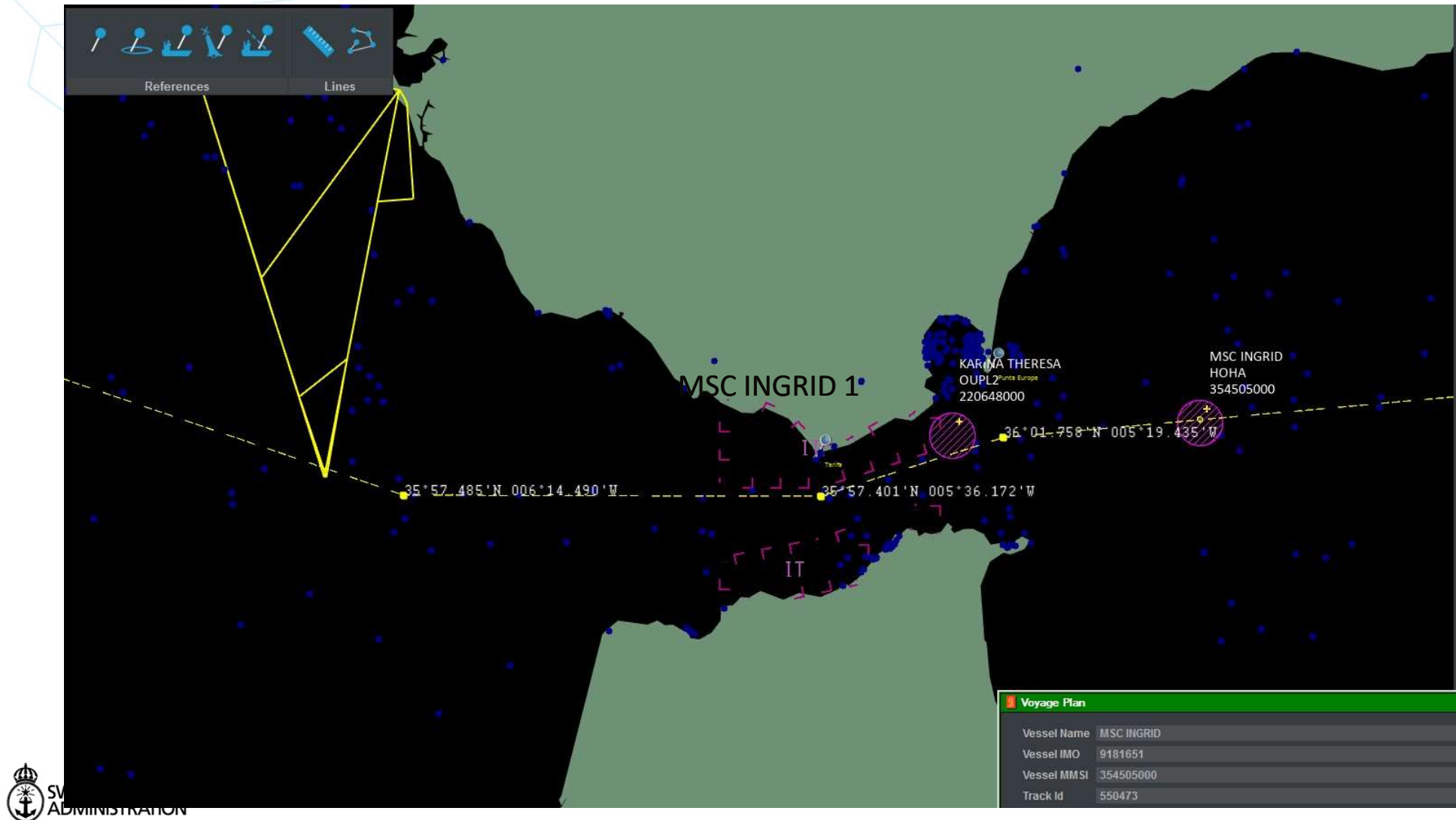
MapShipsMessagesTrafficPortsDirwaysRoutesJournalTraffic Restrictions

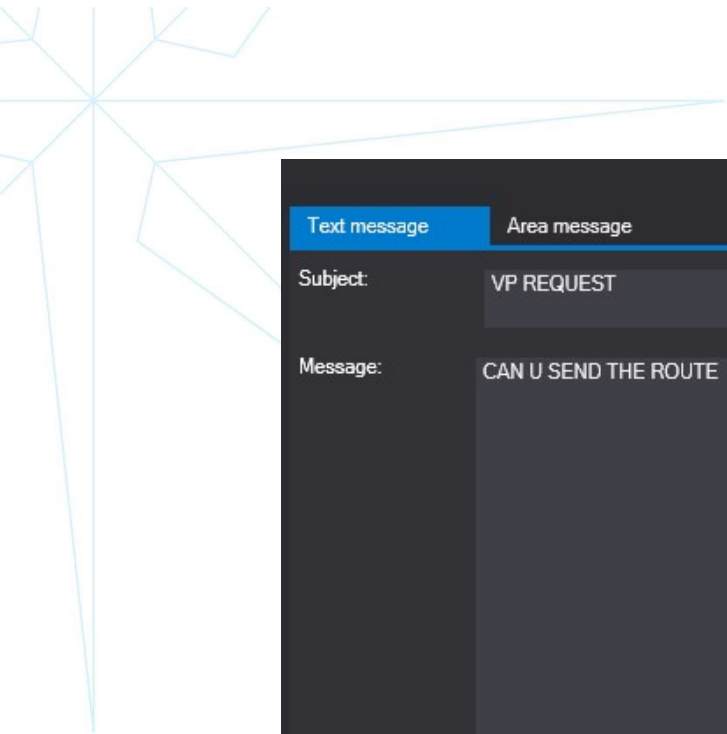
Fuel Reports

132

Vessel name:
SILJA SERENADE

MSC INGRID on route from Gemlik, Turkey, towards Felixstowe, UK





Text message

Area message

Subject:

VP REQUEST

Message:

CAN U SEND THE ROUTE

Latitude:

Longitude:

☒

Text message

Area message

Subject:

SUGGESTED ROUTE SENT

Message:

GOOD MORNING AGAIN,

SUGGESTED ROUTE SENT

WE HAVE CHANGED GIBRALTAR EXIST WP

35° 57,485'N 006° 14,49'W IS HAS BEEN CHANGED FOR 35° 56,753'N 006° 28,697'W

PLEASE LET US KNOW IF YOU HAVE RECEIVED THE ROUTE AND YOU ARE GOING TO ACCEPT IT.

BEST REGARDS

TARIFA SC

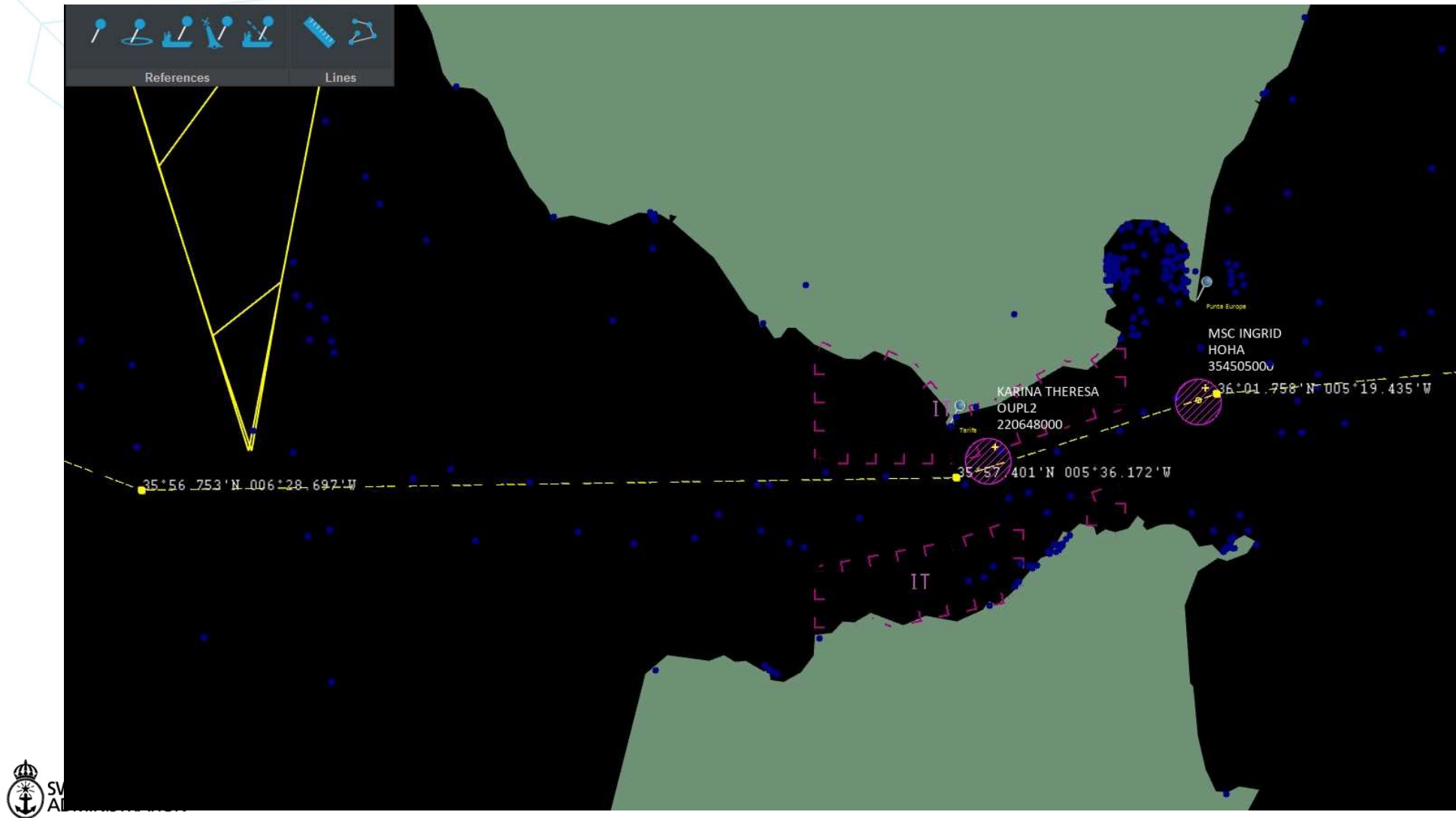
Latitude:

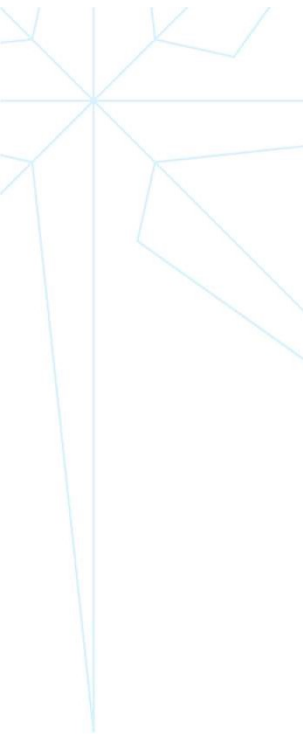
Longitude:



Selected Area preview:

MSC INGRID on route from Gemlik, Turkey, towards Felixstowe, UK





Text message

Area message

Subject:

SUGGESTED ROUTE SENT

Message:

WELL RECIEVED . WE WILL FOLLOW UR INSTRUCTIONS

Latitude:

Longitude:

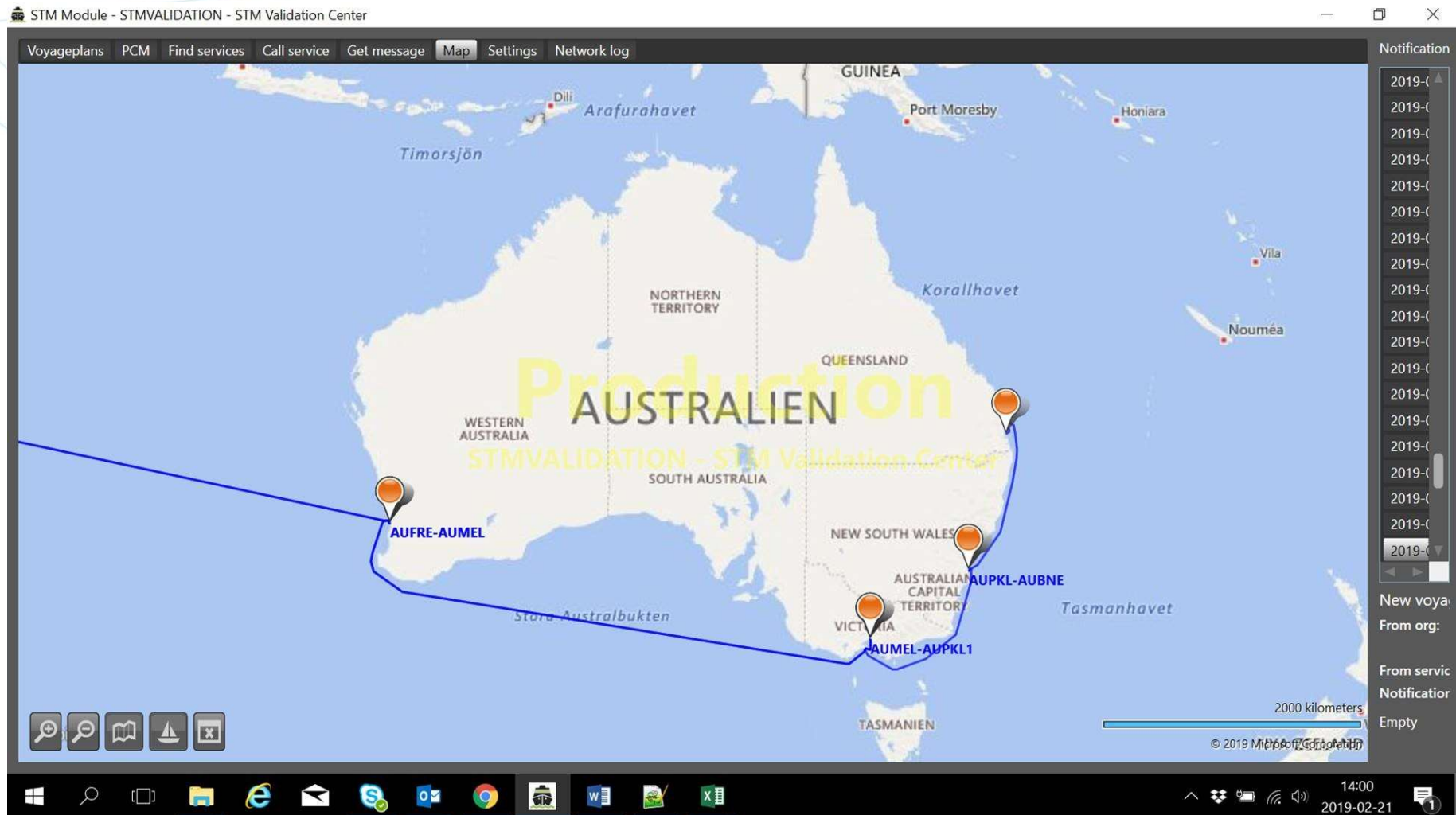
☒

Selected Area preview:

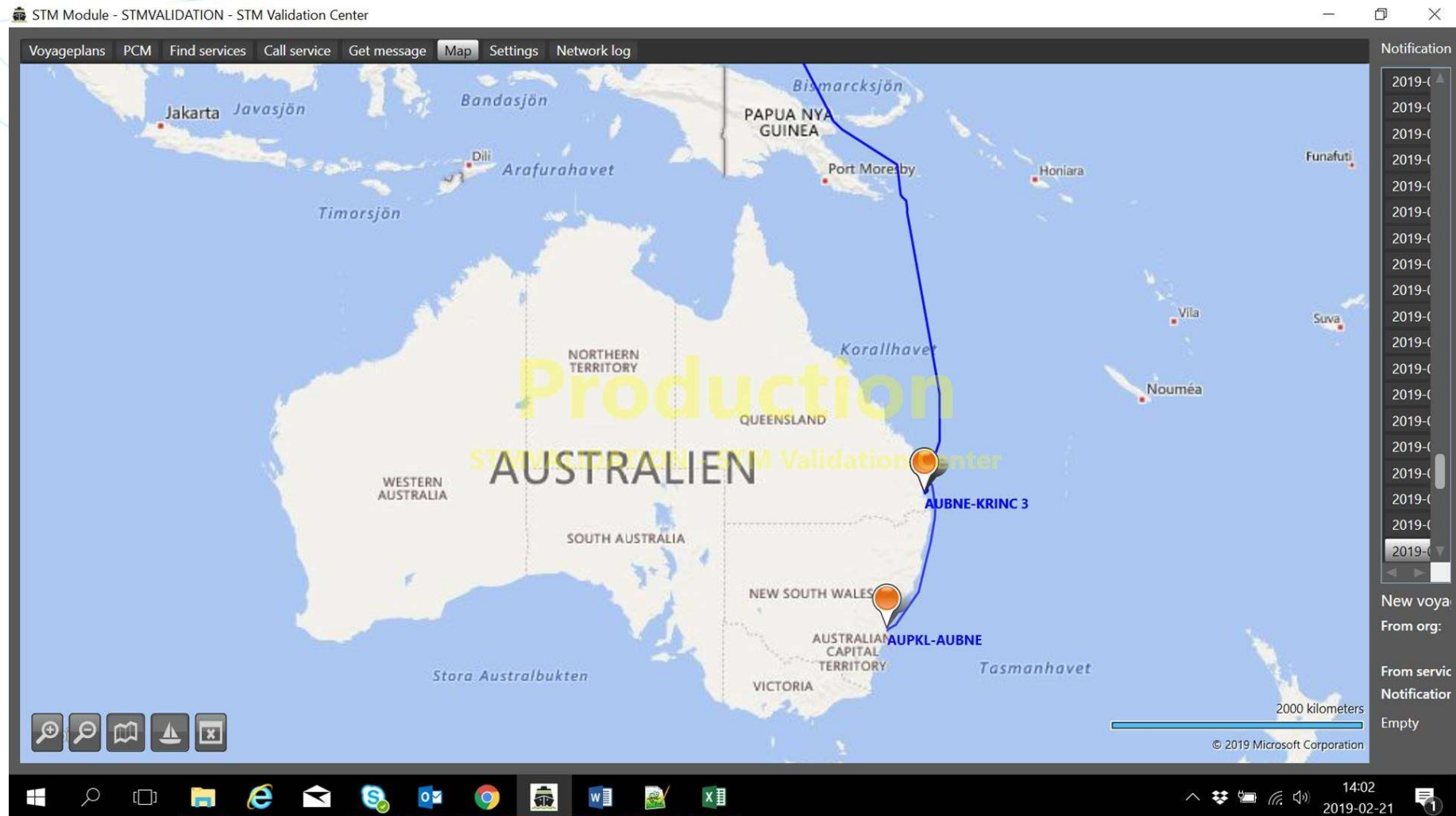
Select receiver:

MSC INGRID

WWL ELEKTRA on route from Europe, towards Korea via Austrailia

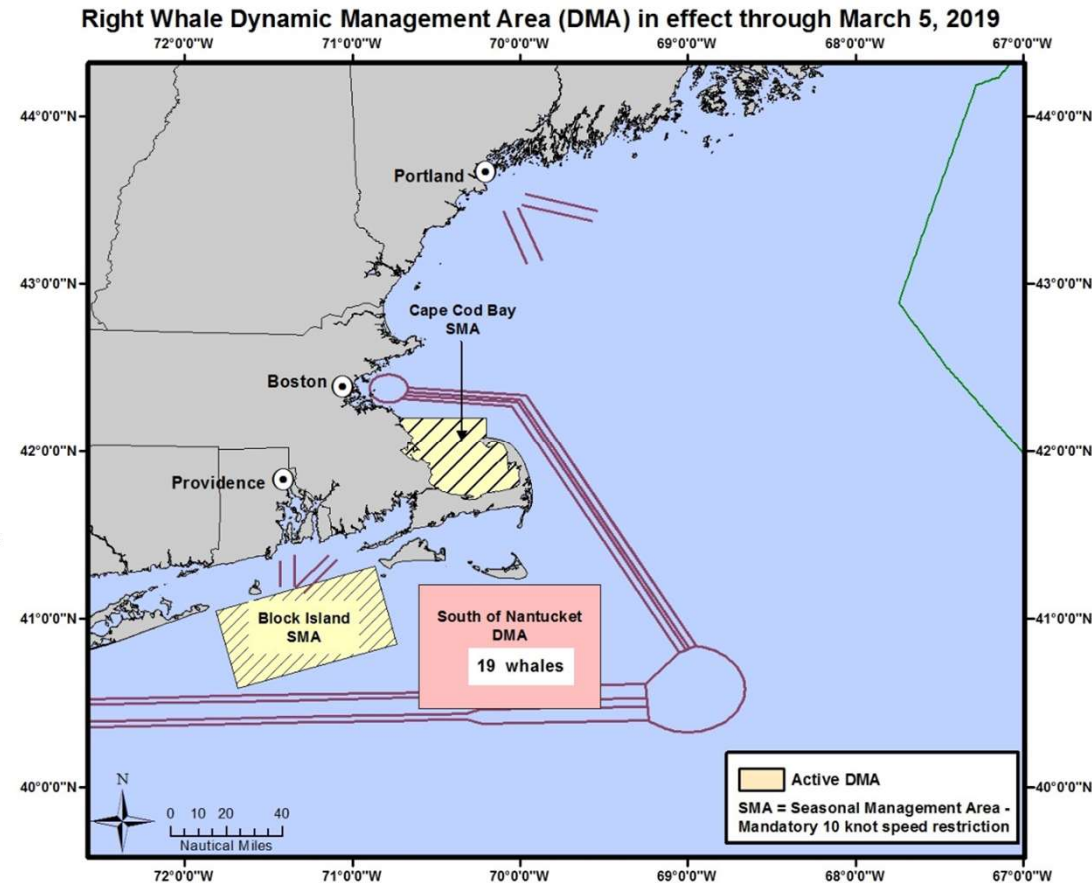


WWL ELEKTRA on route from Europe, towards Korea via Austrailia



16 February 2019 was 'World Whale Day'

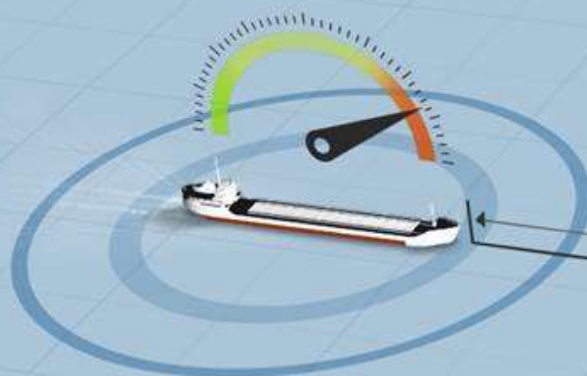
- **Mandatory ship reporting:** Ships of 300 gross tons and above must report to a shore-based station when entering two key right whale habitats
- Recommended shipping lanes are provided by NOAA
- Provided VP:s to ship-owner in Sweden and Greece





Port Call Synchronisation

ETA 12:07

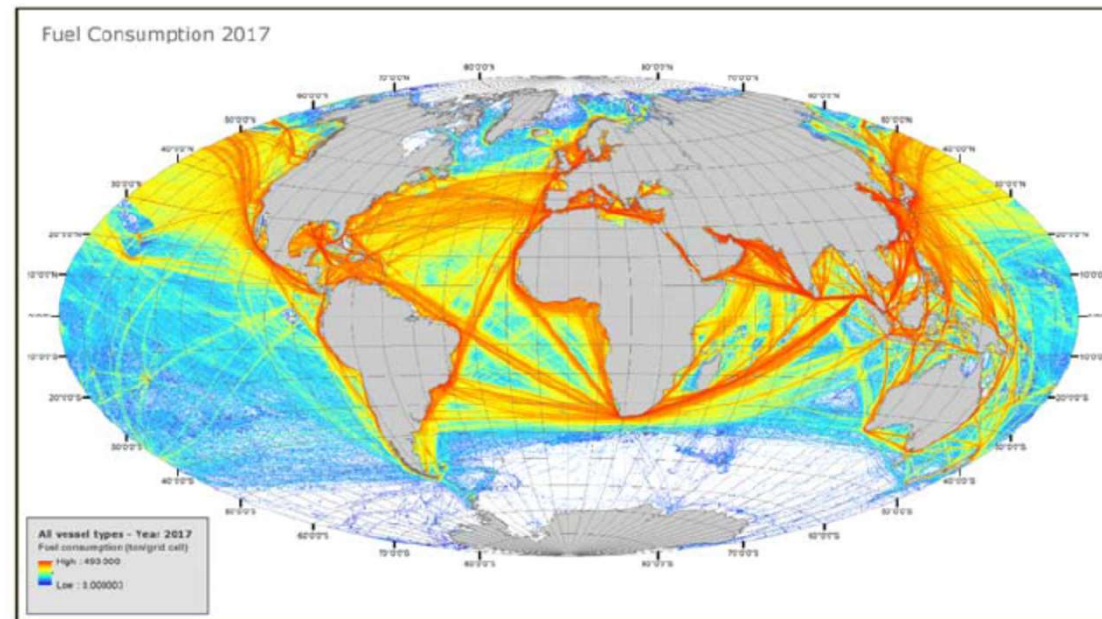


ETA 12:07



CLIMATE CHANGE AND MARITIME TRANSPORT CONTEXT

- Maritime transport emits around 1,000 million tonnes of CO₂ annually and is responsible for about **2.5% of global greenhouse gas emissions** ([3rdIMO GHG study](#)).
- Shipping emissions are predicted to **increase between 50% and 250%** by 2050 – depending on future economic and energy developments.



World cargo fleet fuel consumption, 2017. Source: DNV GL

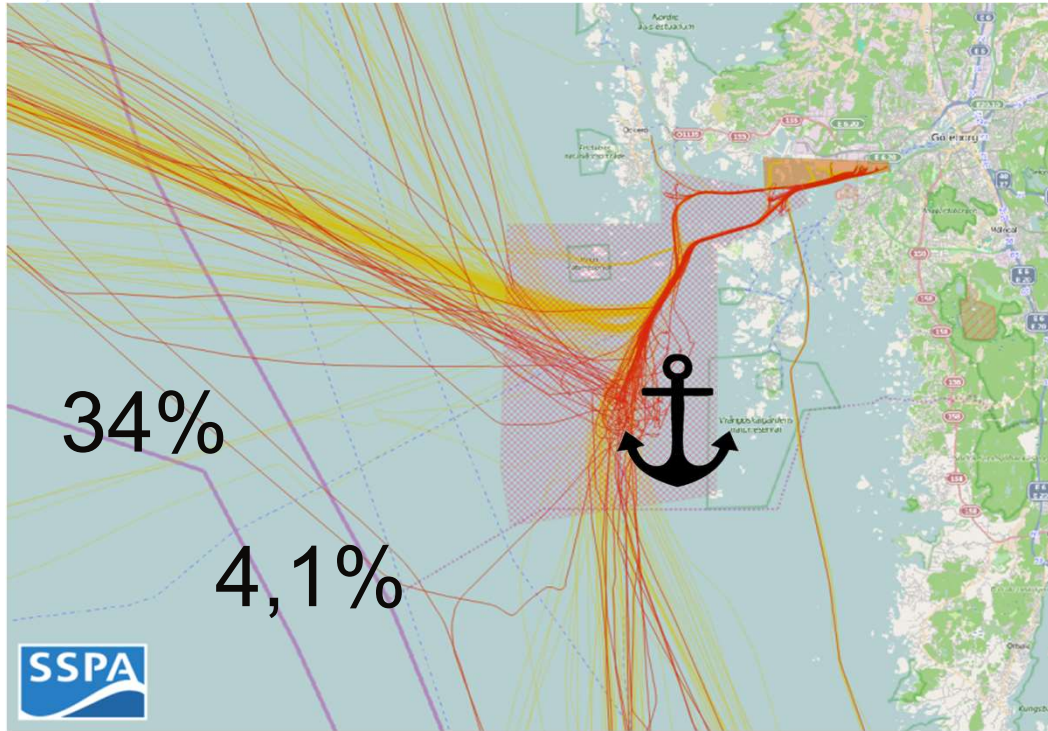
CLIMATE CHANGE AND MARITIME TRANSPORT CONTEXT

IMO's Strategy on GHG Reduction

In April 2018, **IMO's Marine Environment Protection Committee (MEPC)** adopted an initial strategy on the reduction of greenhouse gas emissions from ships, setting out a vision to reduce GHG emissions from international shipping and phase them out, as soon as possible in this century.

The initial strategy envisages for the first time a reduction in total GHG emissions from international shipping to **reduce the total annual GHG emissions by at least 50% by 2050 compared to 2008**, while, at the same time, pursuing efforts towards phasing them out entirely.

Improved Efficiency – Just in Time / Right Steaming / Green Steaming (IPCC #SR15)



- New hull designs \approx 2-5% But fleet lifespan over 20 years so to slow.
- Propeller and paints \approx 2%
- New engines not feasible in short and middle term,
- New Fuels, LNG, Ammoniac no infrastructure, no large commitment, expensive.
- Electrification, good but not feasible on large scale and longer transports at the short and middle perspective.
- **Management and traffic control to archive Right/Green/JIT – stemming via digitalisation and regulations \approx 15-25%**






STAY IN LANE

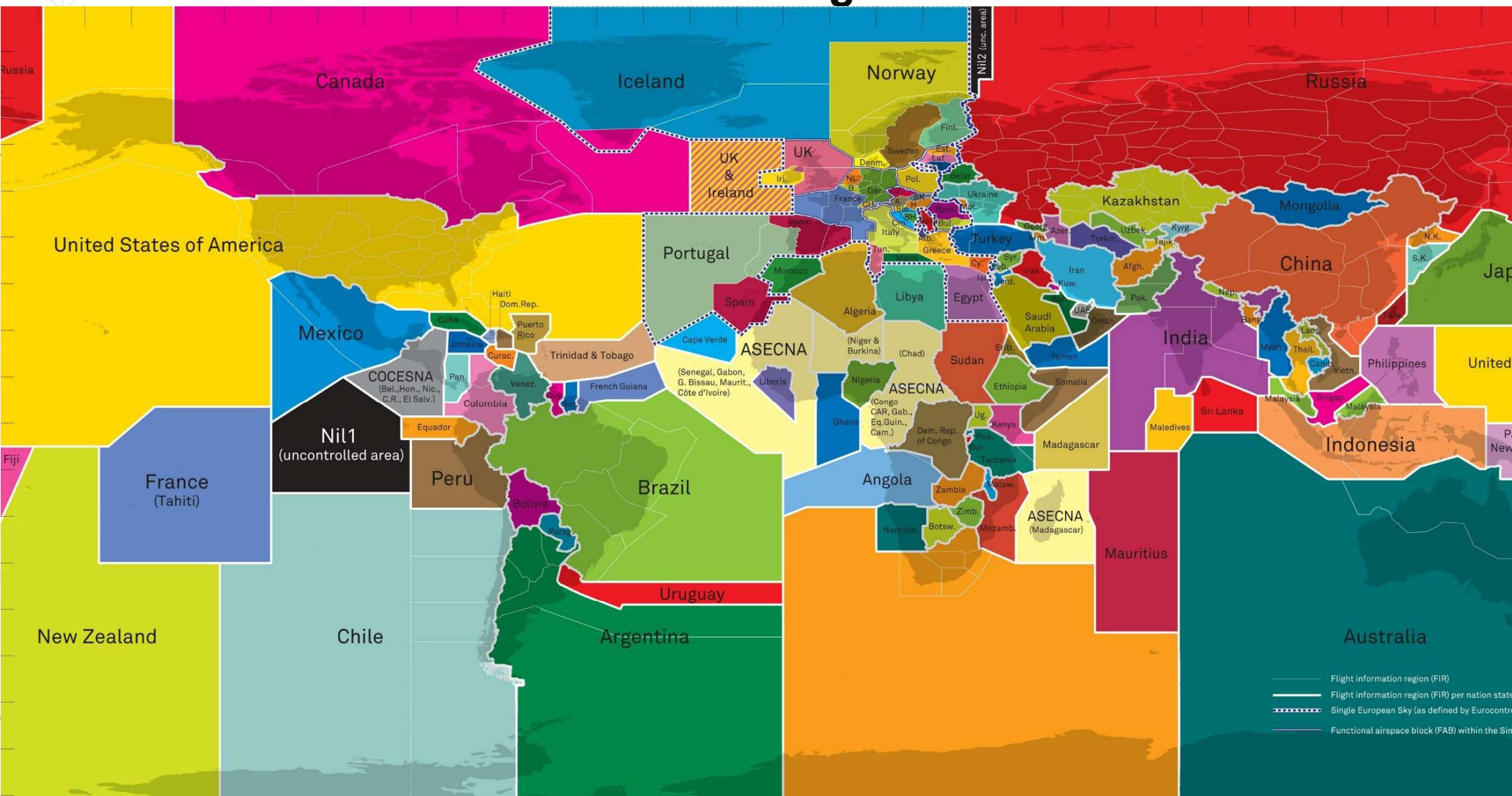
FUTURE

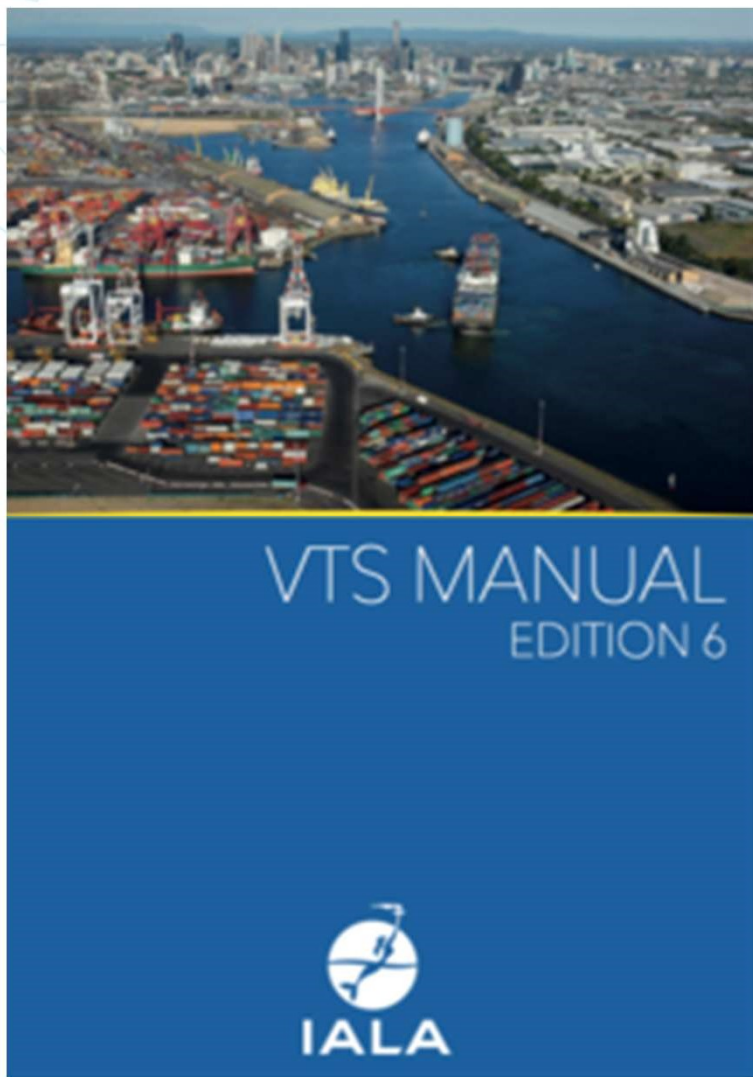
PAST

- 
- Task 2.3.1 - Develop a Data Model for Digital Information Services for VTS
 - Task 1.2.4 - Draft Guideline on Maritime Services



Berth to Berth Navigational Assistance





IALA GUIDELINE

1089

PROVISION OF VTS SERVICES
(INS, TOS & NAS)

Edition 1.0

December 2012

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Tél. +33 (0)1 34 51 70 01- Fax +33 (0)1 34 51 82 05 - contact@iala-aiom.org
www.iala-aiom.org

International Association of Marine Aids to Navigation and Lighthouse Authorities
Association Internationale de Signalisation Maritime



Helcom recommendation 34 E/2

- amended by HELCOM Maritime 17 (October 2017)

- **RECOMMENDS** the Governments of the Baltic Sea countries to bring forward/develop concrete solutions suitable for testing and validating e-navigation services in the Baltic Sea region and to take necessary actions to support the technical developments, including defining the relevant performance and technical standards, and potentially define the regulatory framework
- **RECOMMENDS FURTHER** that the Governments of the Baltic Sea and other relevant parties bring the BALTIC STM test and other Baltic Sea region e-navigation developments to the attention of IMO to enable further global progress
- **ENCOURAGES** the Governments of the Baltic Sea and other relevant parties to take part in the coming test period for Sea Traffic Management (STM) exchange of voyage plans in shore-based systems and services e.g. VTS, ice-breaking, Search and Rescue and pilotage

MARITIME
ATION



Co-financed by the European Union
Connecting Europe Facility



Get
involved
