Examples for harmonised and overall Supervision of Sea Transport in the Baltic Sea Region - The Gulf of Finland Ship Reporting System (GOFREP)

Are Piel

Head
VTS Department
**Estonian Maritime Administration**

- Covers ~ 30 000 km^2
- Average depth ~ 37,5 m
- Lot of shallows and underwater rocks
- Constitutes ~ 5% of Baltic Sea
- Gulf of Finland as a Sensitive Sea Area :

– seashores and **underwater ecosystems** have been concidered as high ecological values with a mixture of species found in oceans and freshwaters

– the routes of the **oil tankers** cross seal breeding areas, and nesting and resting areas of migratory birds

– the sea is normally covered by **ice** 100 days per year

– important **recreational areas** for hundreds of thousands of people using the sea for boating, fishing, bird-watching etc

– millions of people **cruising** with high-class vessels between the capitals of the Baltic Sea

Finland

EESTI

Estonia

Saaremaa

	Pipeline
	Teritorial border
	EEZ border
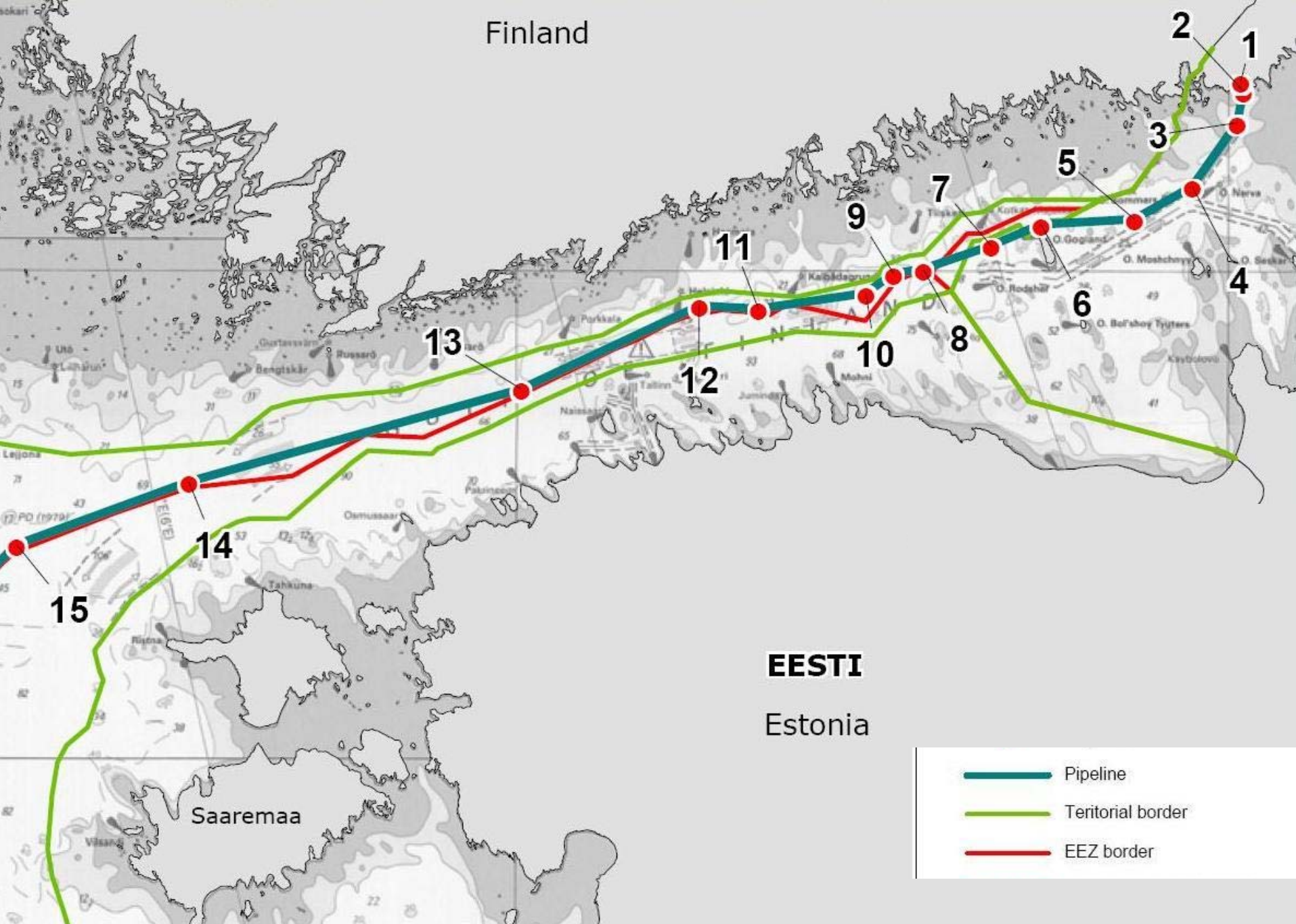
Spread of oil spill in average autumn weather
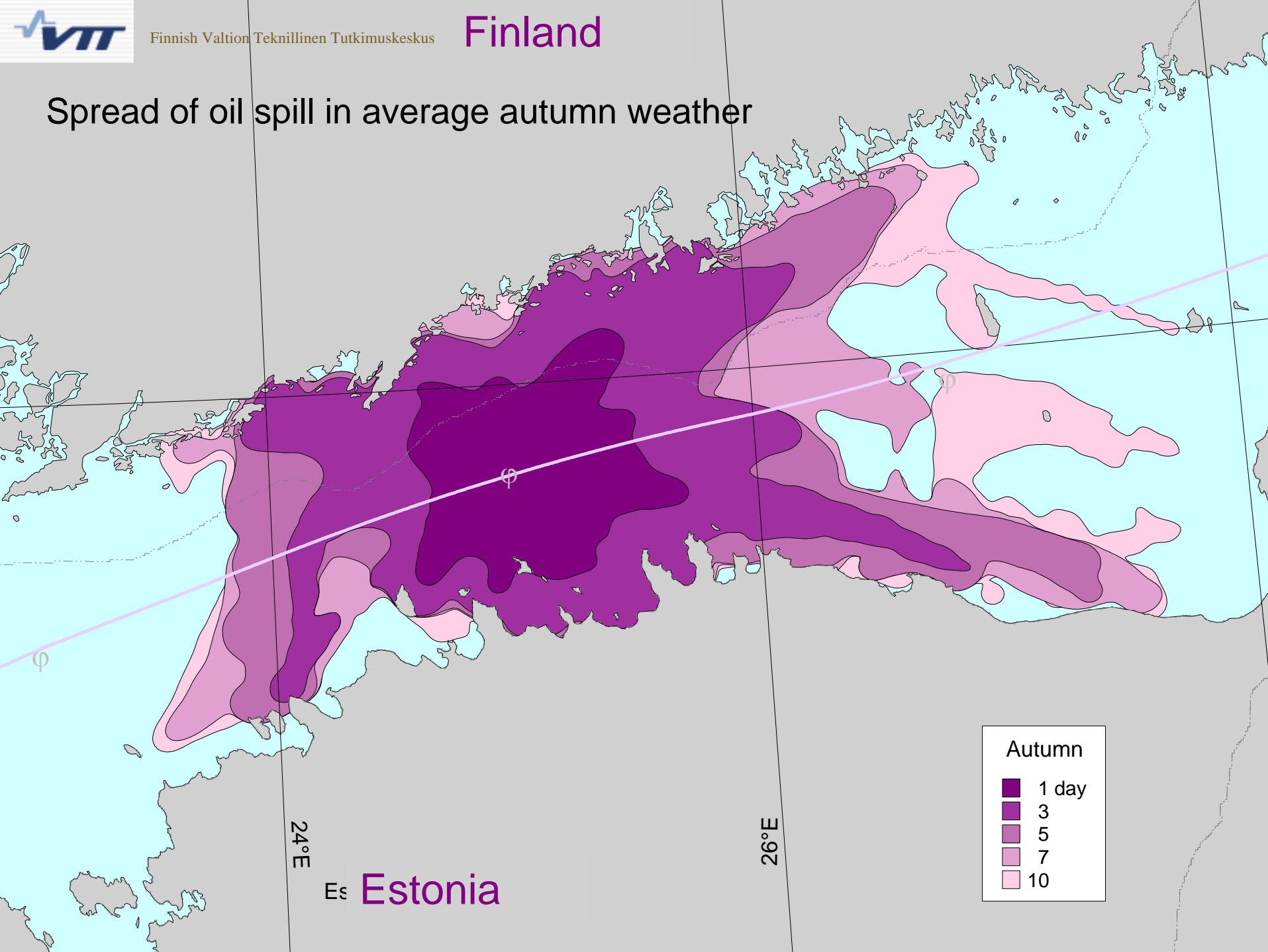
Prognosis

⦿ The transportation of oil and other potentially hazardous cargoes is growing. The oil being shipped on the Baltic reached 170 million tonnes in 2008 and is expected to increase about 40% by the year 2015.

⦿ The use of much bigger tankers 100,000-150,000 tonnes of oil is also expected to rise.

⦿ The amounts of cargo shipped on the Baltic will grow 64% by 2020 from a level of 731 million tonnes in 2003.

Preconditions for VTM Systems

- Development of economics
  - Construction of new oil terminals
  - Increase of transportation of oil products and other chemical products
  - Increase of vessel traffic
- HELCOM Copenhagen Declaration

10. September 2001 Helsinki Commission (Baltic Marine Environment Protection)

Estonia, Finland and Russia declared the preparedness to support a joint submission to IMO regarding the need for a new **mandatory routeing and reporting system** in the Gulf of Finland.

Some Policies
Balancing Efficiency & Effectiveness...

- Cooperation – with institutions having the similar infrastructure

- Harmonization of procedures and standards

- Modernization of infrastructure and integration into the relevant European maritime structures

- Increasing reliability of technical systems
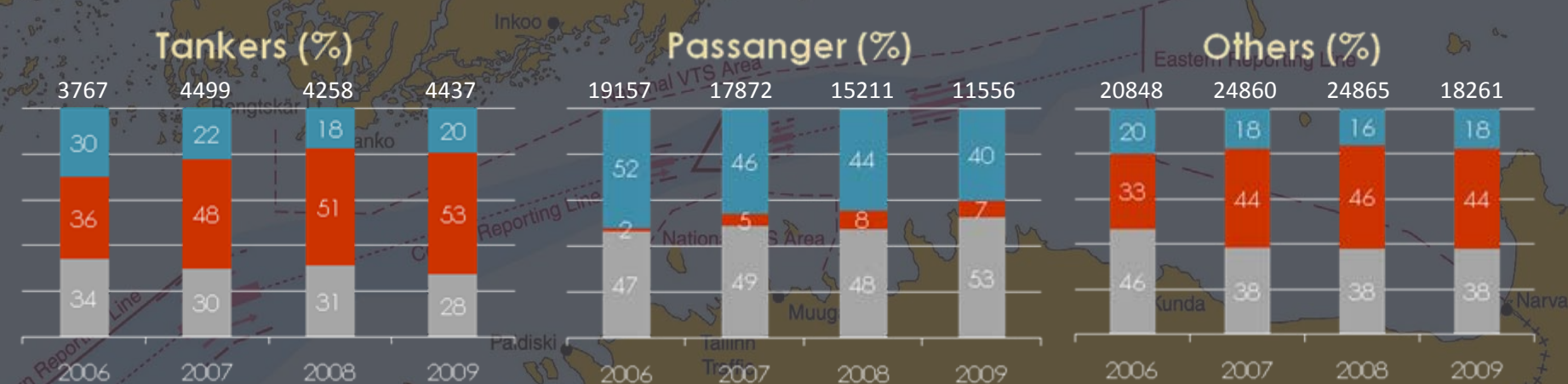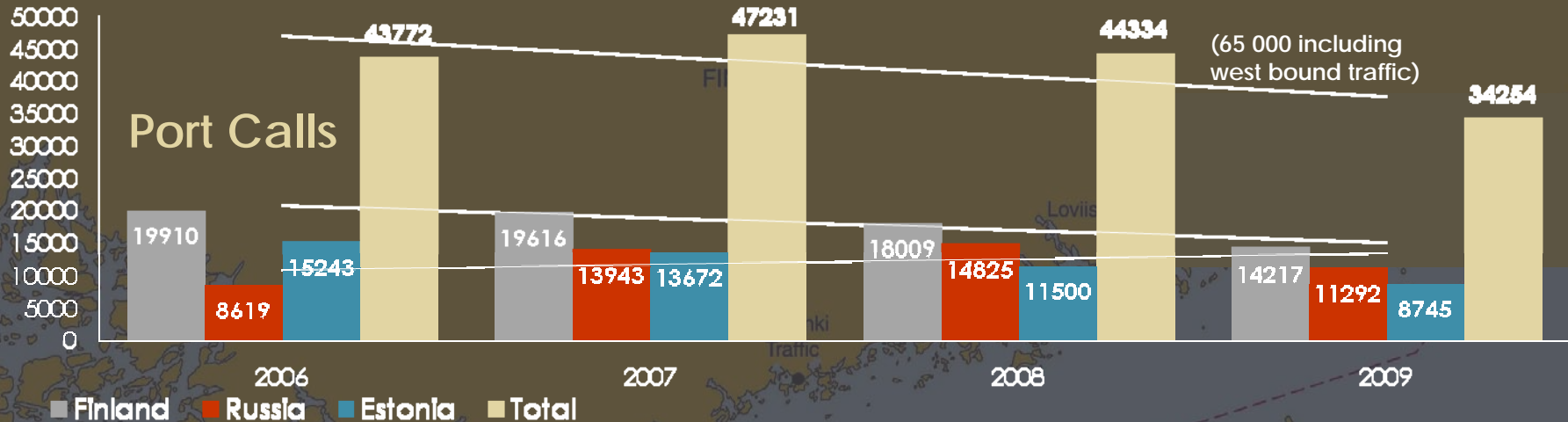
- Continuous training of personell

Mission

To prevent accidents at Sea

To provide useful information to relevant institutions (traffic, vessel, cargo.....) in emergency situations & for SAR

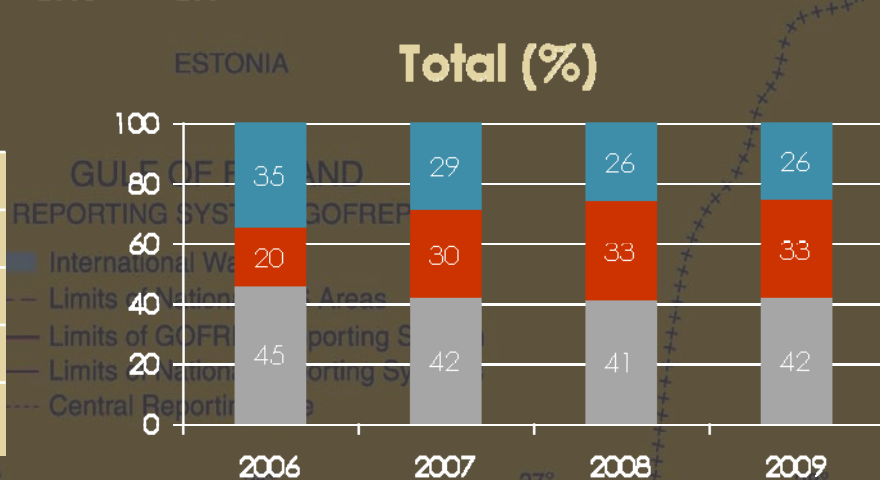To exchange information with stakeholders

To enhance marine environment protection
To contribute to the safety of life at sea

Port Calls

50000, 45000, 40000, 35000, 30000, 25000, 20000, 15000, 10000, 5000, 0

43772 — 2006: Finland 19910, Russia 8619, Estonia 15243
47231 — 2007: Finland 19616, Russia 13943, Estonia 13672
44334 — 2008: Finland 18009, Russia 14825, Estonia 11500
34254 — 2009: Finland 14217, Russia 11292, Estonia 8745

(65 000 including west bound traffic)

Legend: ▉ Finland ▉ Russia ▉ Estonia ▉ Total

Tankers (%)

	3767	4499	4258	4437
Estonia	30	22	18	20
Russia	36	48	51	53
Finland	34	30	31	28
	2006	2007	2008	2009

Passanger (%)

	19157	17872	15211	11556
Estonia	52	46	44	40
Russia	2	5	8	7
Finland	47	49	48	53
	2006	2007	2008	2009

Others (%)

	20848	24860	24865	18261
Estonia	20	18	16	18
Russia	33	44	46	44
Finland	46	38	38	38
	2006	2007	2008	2009

Yearly Change (%)

Total movements	Fin	Rus	Est	Total
43772 (2006)	0	0	0	0
47231 (2007)	-1	62	-10	8
44334 (2008)	-8	6	-16	-6
34254 (2009)	-21	-24	-24	-23
Total since 2006	-29	31	-43	-22

Total (%)

	2006	2007	2008	2009
Estonia	35	29	26	26
Russia	20	30	33	33
Finland	45	42	41	42

Development of VTM

VTS   –   Vessel Traffic Services

March 1976 – Береговая Радиолокационная Станция (БРЛС)
1988 – Olympic Yacht Center
31. May 2002 – Port of Hundipea
15. August 2003 – Modern VTS systeem (HITT)
1. April 2008 – New version of VTS system (HITT)

GOFREP – Gulf of Finland Reporting system - 1. July 2004

Helcom statistics - 1. July 2005

New VTS Center (2007)

❑ VTS & GOFREP
❑ Ministry's Crises Management Center

Premises for VTS simulator and technical systems

Vessel Traffic Services - VTS

Information Services

To ensure that essential information is available in good time to assist the shipboard navigational decision making process.

⊙the positions, intentions and destinations of vessels

⊙amendments and changes in promulgated information:
› boundaries, procedures, radio channels or frequencies, reporting points etc.

⊙the variables influencing the navigation of vessels:
› meteorological and hydrological conditions
› status of aids to navigation
› traffic congestion and special vessels with limited manoeuvrability
› other potential hindrances

Navigational Assistance

To assist the navigational decision making process on board and to monitor the effects, especially in difficult navigational or meteorological circumstances or in case of defects or deficiencies.

⊙course and speed made good by a vessel
⊙position relative to fairway axis and way-points
⊙positions, identities and intentions of surrounding traffic
⊙warnings to individual vessels
⊙participation in the decision making process by giving navigational advice

The beginning and the end of navigational assistance should be clearly stated by the vessel or the VTS
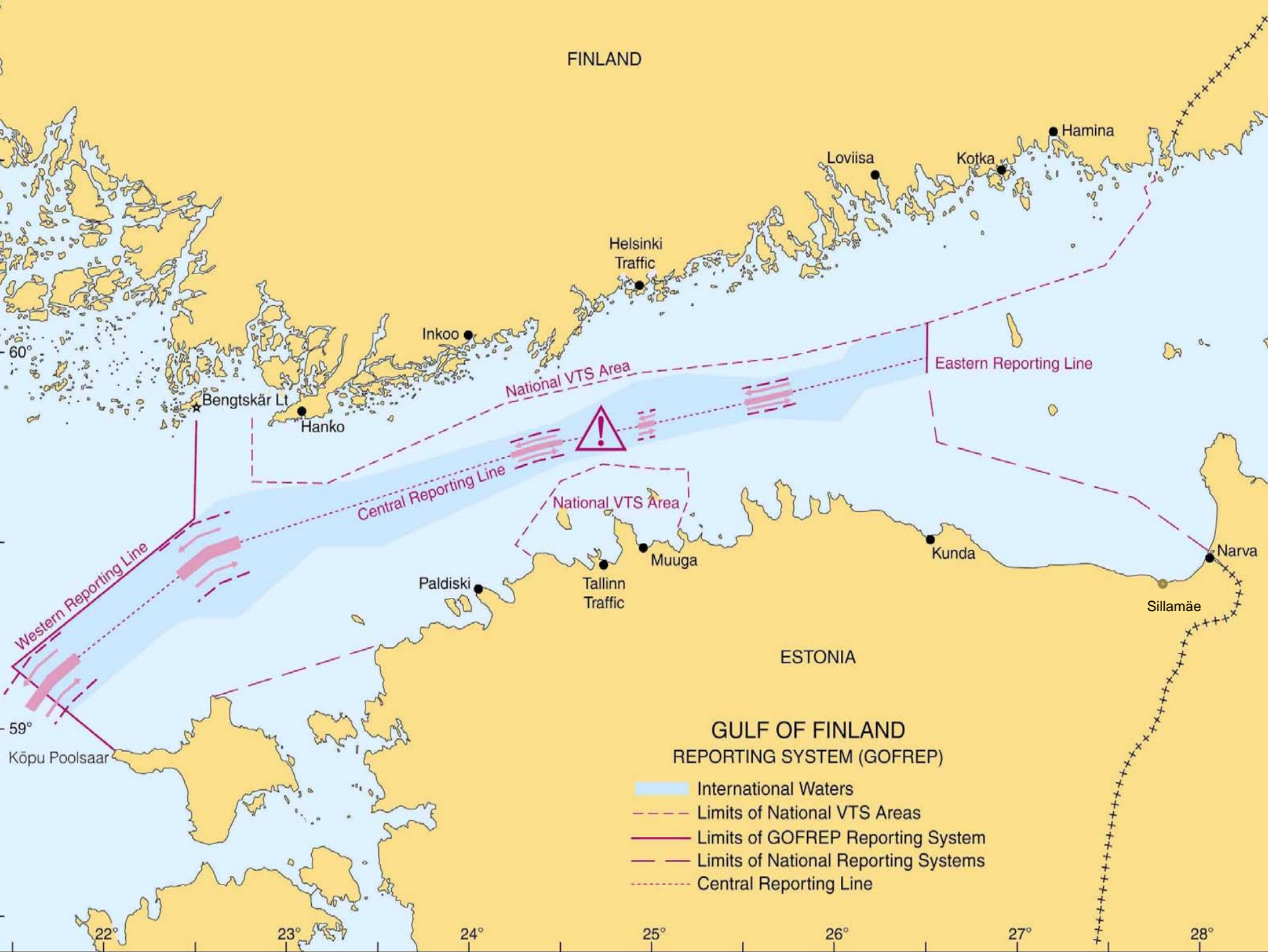
Traffic Organisation

To prevent the development of dangerous situations within the VTS area (**forward planning of movements**).

⊙establishing and operating a system of traffic clearances in respect of the priority of movements
⊙the allocation of space
⊙the mandatory reporting of movements
⊙establishing routes to be followed
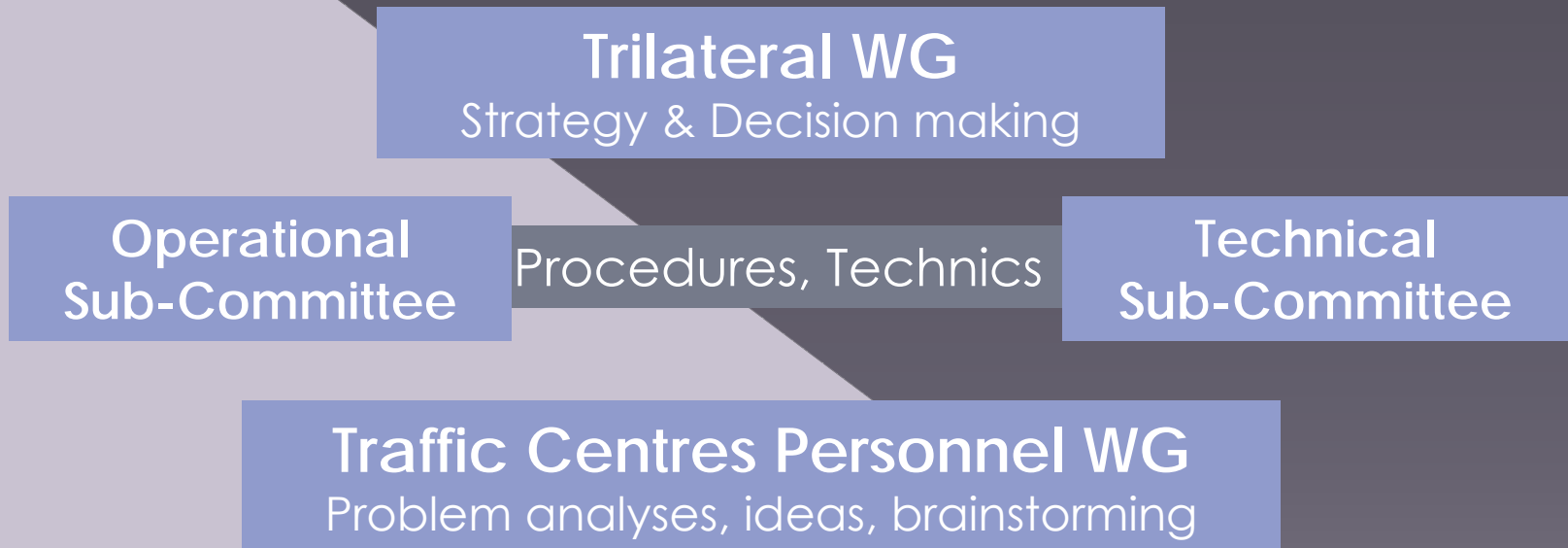⊙speed limits to be observed and such other measures as may be considered necessary and appropriate by the VTS.

The instructions should be "result orientated" only and leave the details of the execution to the vessel.
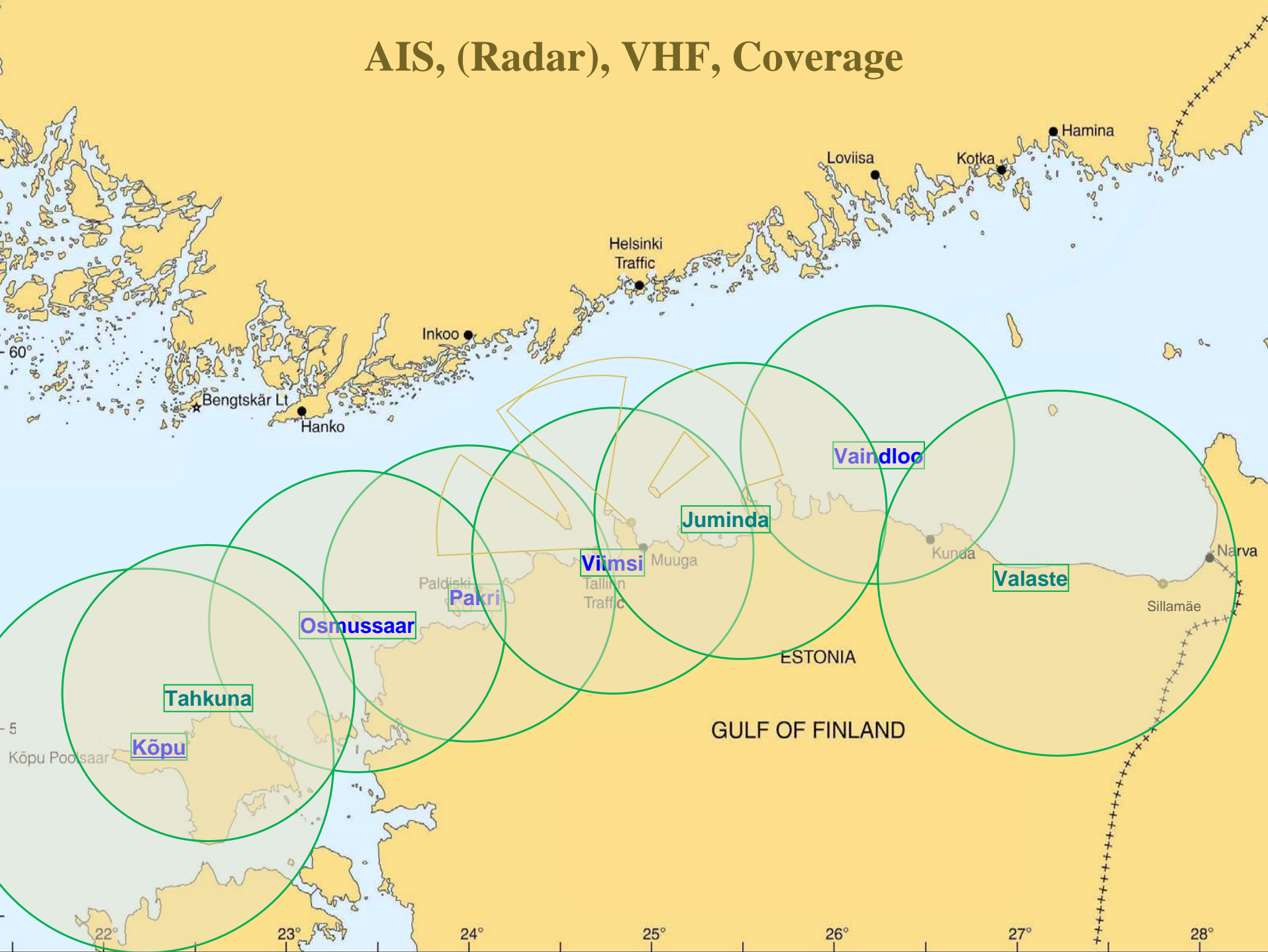
Sailing Plans
The estimated time of arrival in the VTS area or the departure from a berth or an anchorage.

FINLAND

Hamina

Loviisa

Kotka

Helsinki
Traffic

Inkoo

60°

Eastern Reporting Line

Bengtskär Lt

National VTS Area

Hanko

Central Reporting Line

National VTS Area

Paldiski

Tallinn
Traffic

Muuga

Kunda

Narva

Western Reporting Line

Sillamäe

ESTONIA

59°

GULF OF FINLAND
REPORTING SYSTEM (GOFREP)

Kõpu Poolsaar

International Waters

Limits of National VTS Areas

Limits of GOFREP Reporting System

Limits of National Reporting Systems

Central Reporting Line

22°   23°   24°   25°   26°   27°   28°

GOFREP Organisatsion

Trilateral WG
Strategy & Decision making

Operational Sub-Committee

Procedures, Technics

Technical Sub-Committee

Traffic Centres Personnel WG
Problem analyses, ideas, brainstorming

AIS, (Radar), VHF, Coverage

Directions

Time period: 2005-06-13 00:00:00.0 – 2005-06-16 00:00:00.0

GOFREP
Mandatory Ship Reporting System in the Gulf of Finland

Document of Joint Procedures
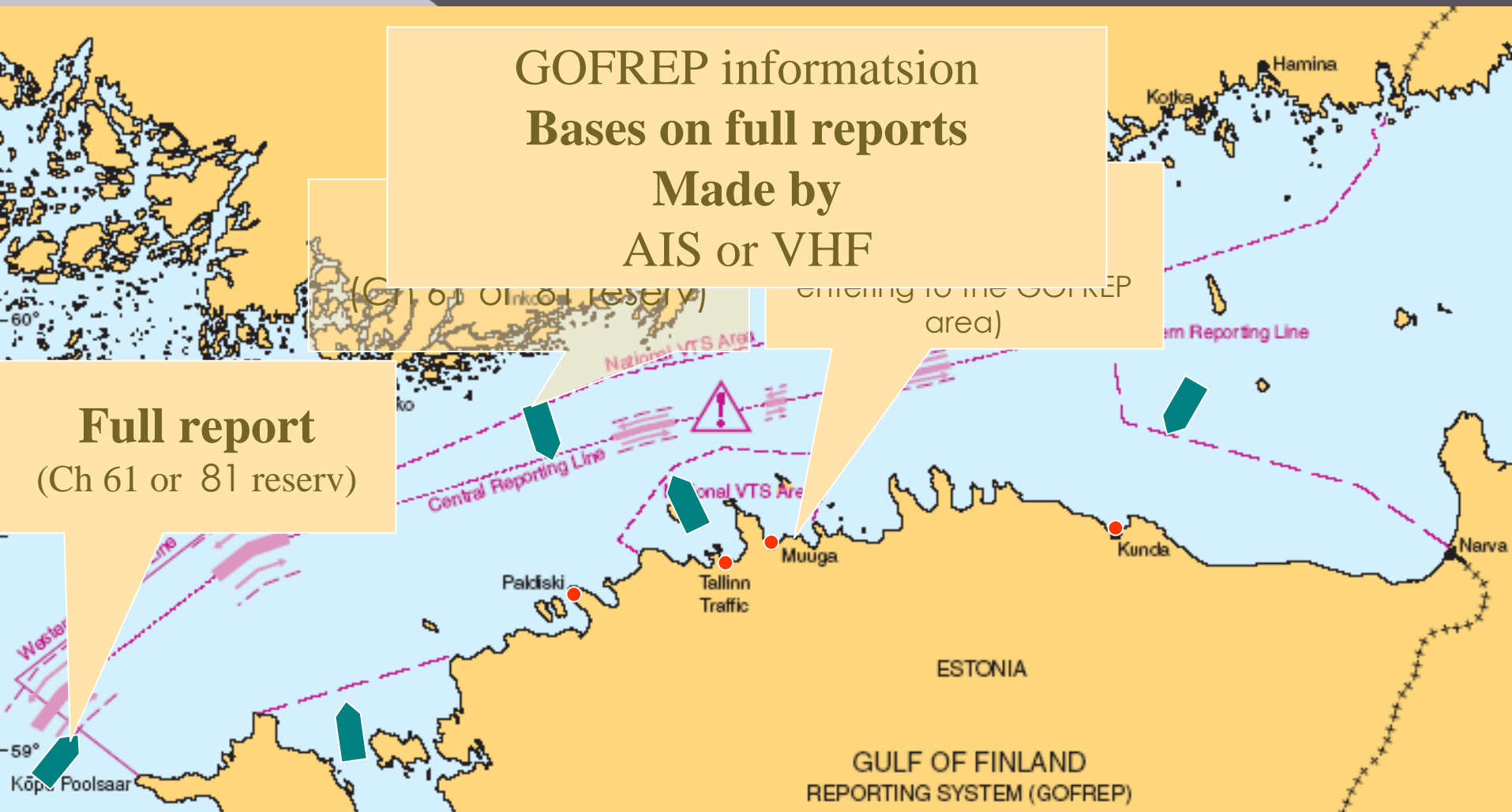## Traffic Centres operator's Manual

DJP

Version 2.0

GOFREP system

GOFREP informatsion
Bases on full reports
Made by
AIS or VHF

(Ch 61 or 81 reserv)

entering to the GOFREP
area)

Full report
(Ch 61 or 81 reserv)

Hamina

Kotka

em Reporting Line

National VTS Area

Central Reporting Line

onal VTS Area

Paldiski

Tallinn
Traffic

Muuga

Kunda

Narva

ESTONIA

Kõpu Poolsaar

GULF OF FINLAND
REPORTING SYSTEM (GOFREP)

Reports from ships (IMO)

| Desig nator	Function	Information required
A	Ship	Vessel's name, call sign and IMO identification. MMSI may be reported.
C	Position	Geographical position by two 6 digit groups; or
D	Position	Bearing and distance in nautical miles from a clearly identified landmark
E	Course	True course in three (3) digit group
(F)	Speed	Speed in knots with one decimal
(H)	Entry	Time (UTC) and point of entry into the GOFREP area
I	**Destination and ETA**	Destination and expected time of arrival
O	Draught	Vessel's present draught in metres with one decimal
P	Cargo	Dangerous goods on board, main classes and total quantity in metric tons with up to two decimals. The amount of classes 1 and 7, if any, shall be reported separately. *)
Q	Deficiencies	Brief details of defects or restrictions of manoeuvrability
R	Pollution	Description of pollution or dangerous goods lost overboard
T	Owner or agent	Contact information of agent in the Gulf of Finland
U	Size and type	Ship's type and length in meters
W	Persons	Total number of persons onboard
X	Bunkers and navigational status	Characteristics and estimated quantity of bunker fuel for ships carrying more than 5000 tons of bunker and navigational status

Short Report (by AIS)

Full Report (mainly by AIS)

VTS GOFREP

GOFREP
Information Exchange

Helsinki

SRS Database

St. Peterburg

SRS Database

Tallinn

SRS Database
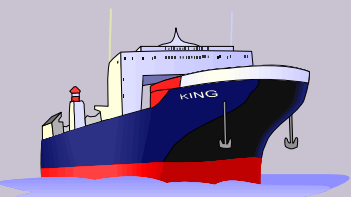
AIS
(VHF)

Short-
Full-

Reports

XML file transfer

Violation reports

+

| A	Ship
C	Position
D	Position
E	Course
(F)	Speed
(H)	Entry
I	**Destination and ETA**
O	Draught
P	Cargo
Q	Deficiencies
R	Pollution
T	Owner or agent
U	Size and type
W	Persons
X	Bunkers and navigational status
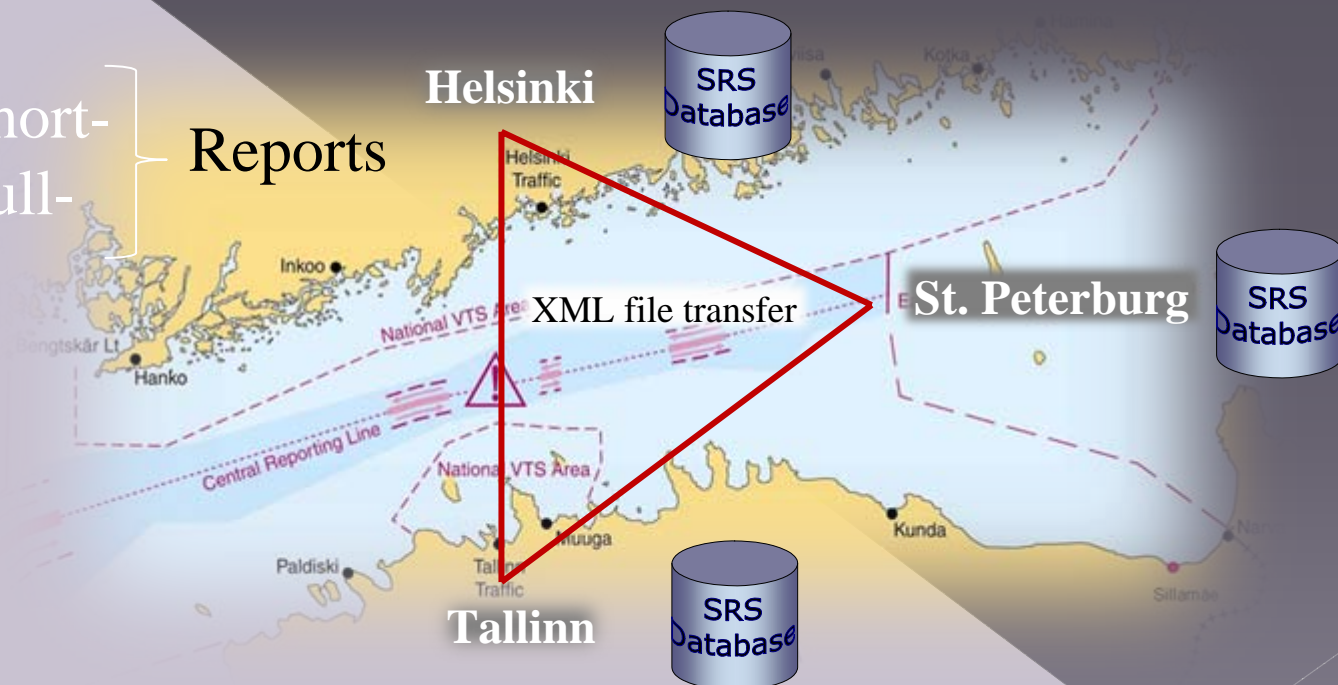
General Operational Concept

1. To gather information (AIS data, traffic situation, weather, obstacles, dangerous goods...)

2. To distribute information to avoid collisions between ships and obstacles (including shallow waters)

3. To monitor vessel traffic copmpliance with regulations

4. To respond adequatly to emergency situations

HELCOM Statistics & Monitoring System
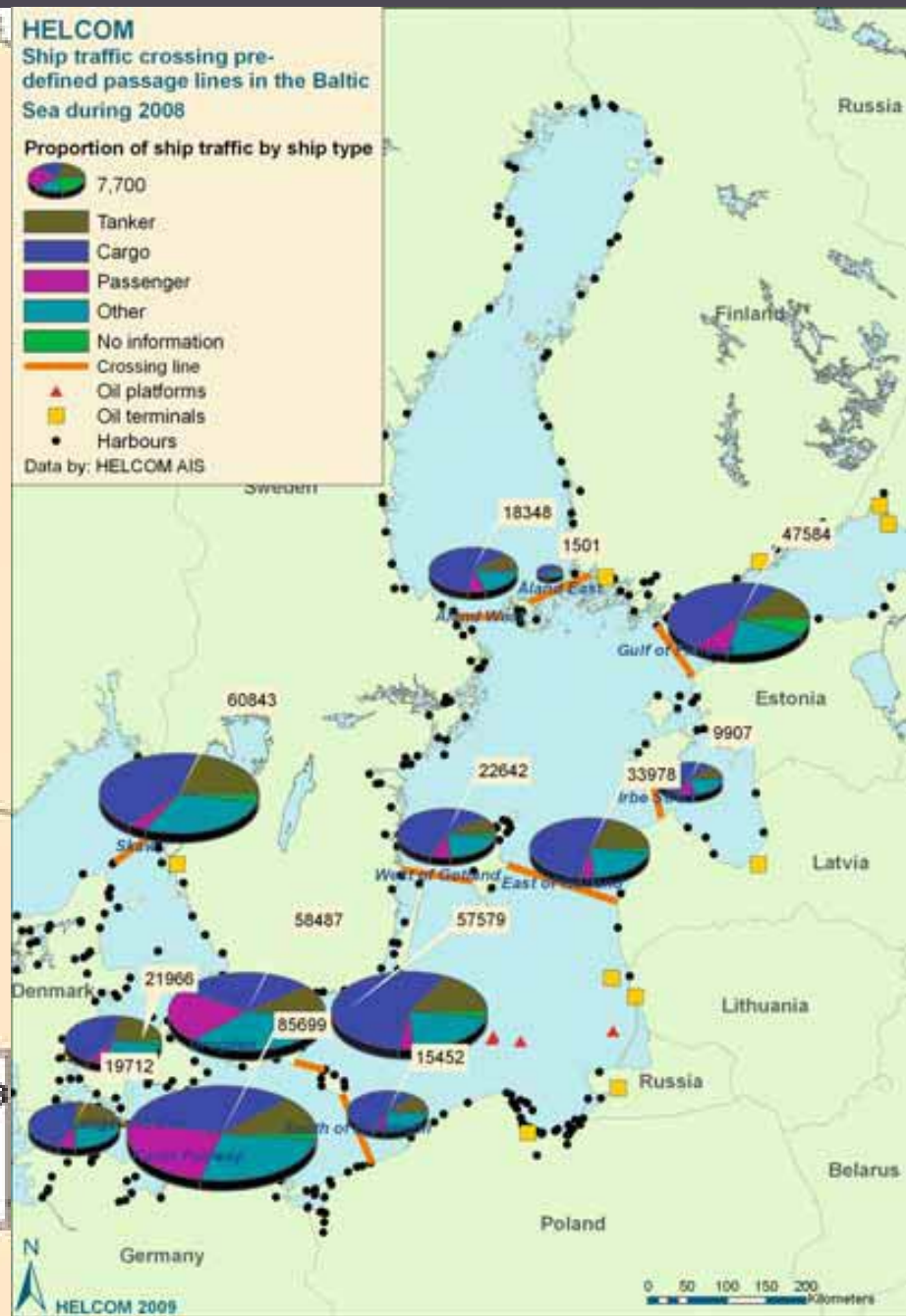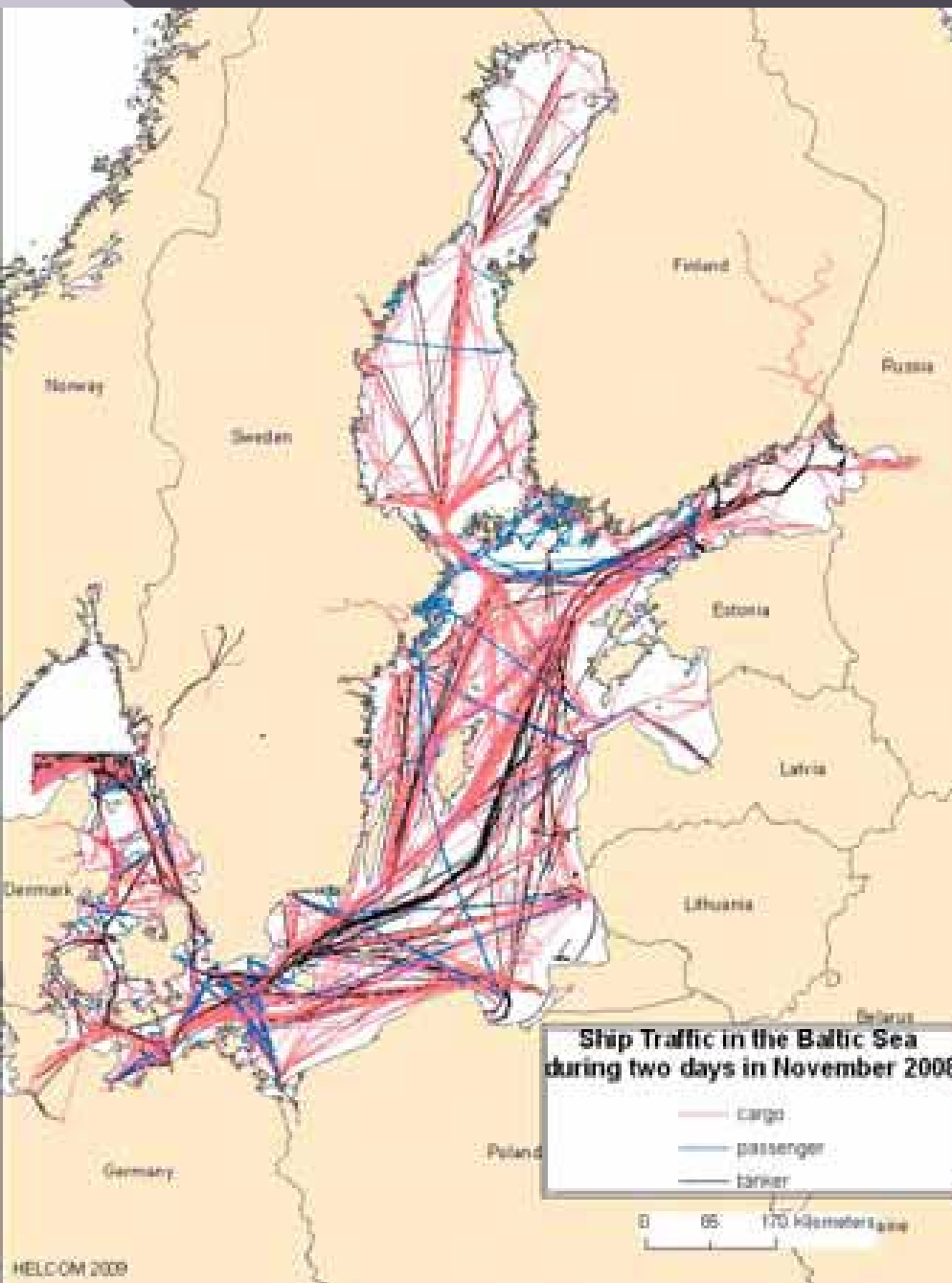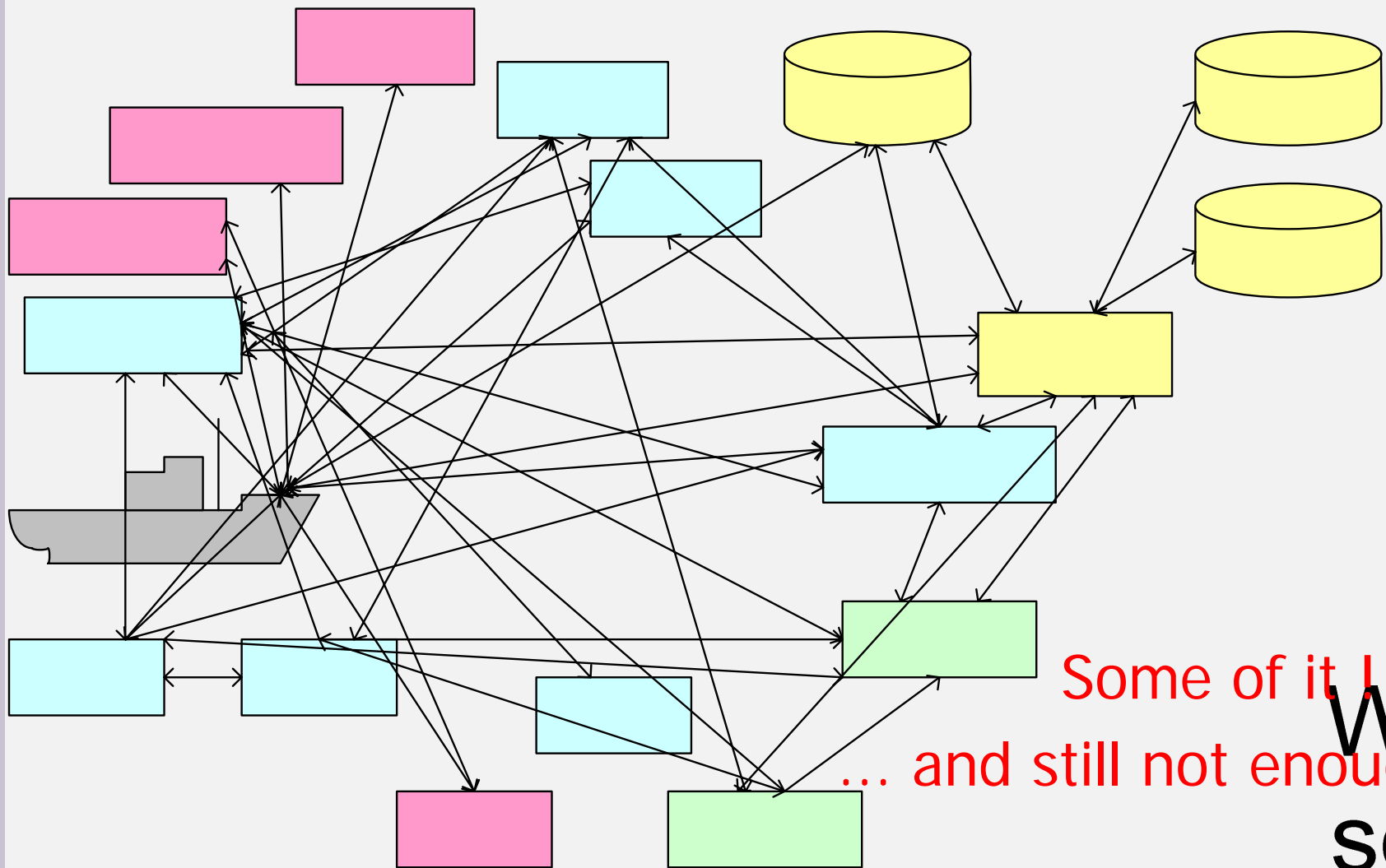
SafeSeaNet

&

Single Window
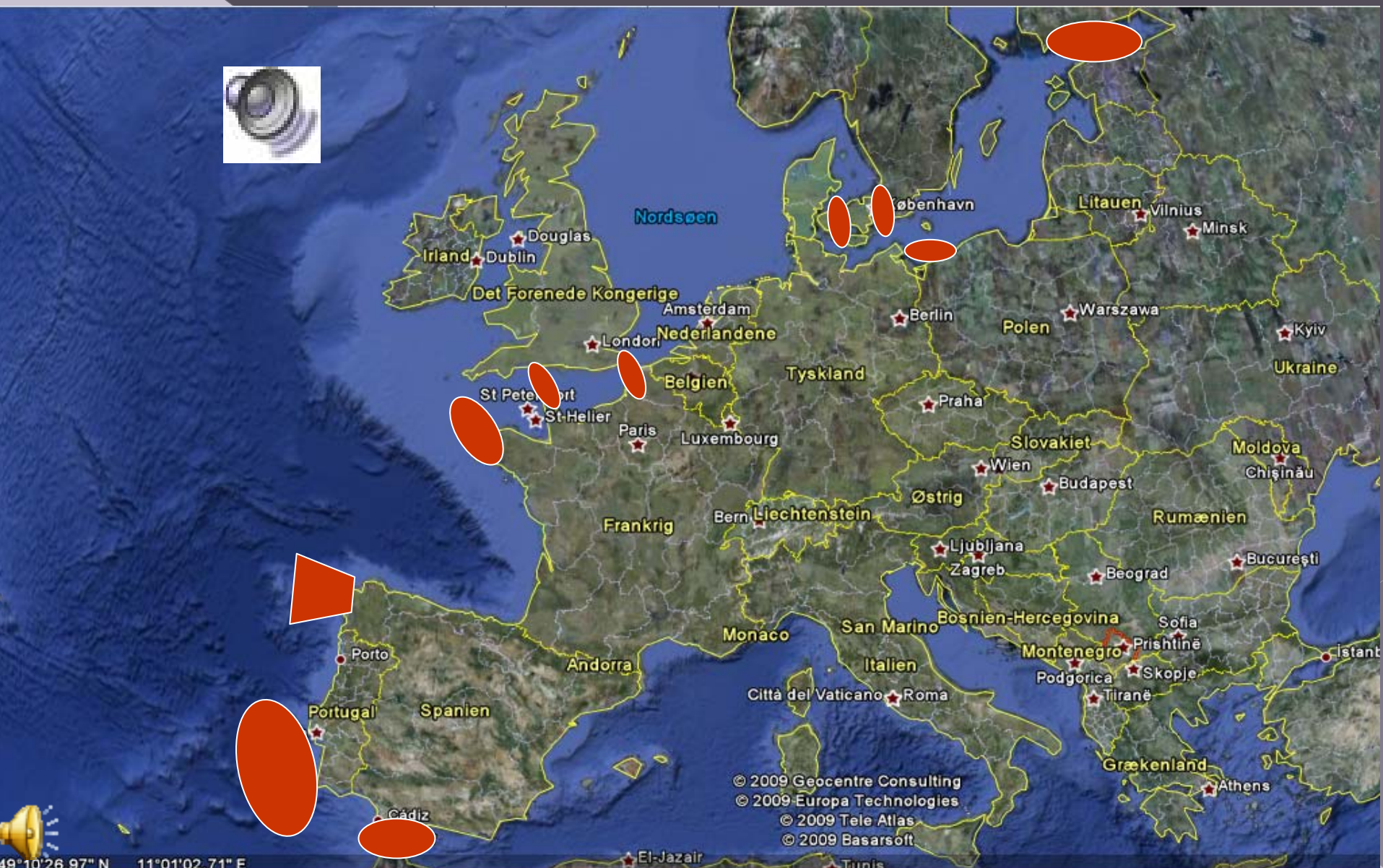
SSN - Safe Sea Net

◉ SafeSeaNet enables the "receipt, storage, retrieval and exchange of information for the purpose of maritime safety, port and maritime security, marine environment protection and the efficiency of maritime traffic and maritime transport".

◉ This information is gathered:

› by Automatic Identification System (AIS) based position reports - which are sent by vessels and received by coastal stations

› on notification messages (such as pre-arrival, ship's voyage, HAZMAT and Incident Report notifications) sent by designated authorities in participating countries
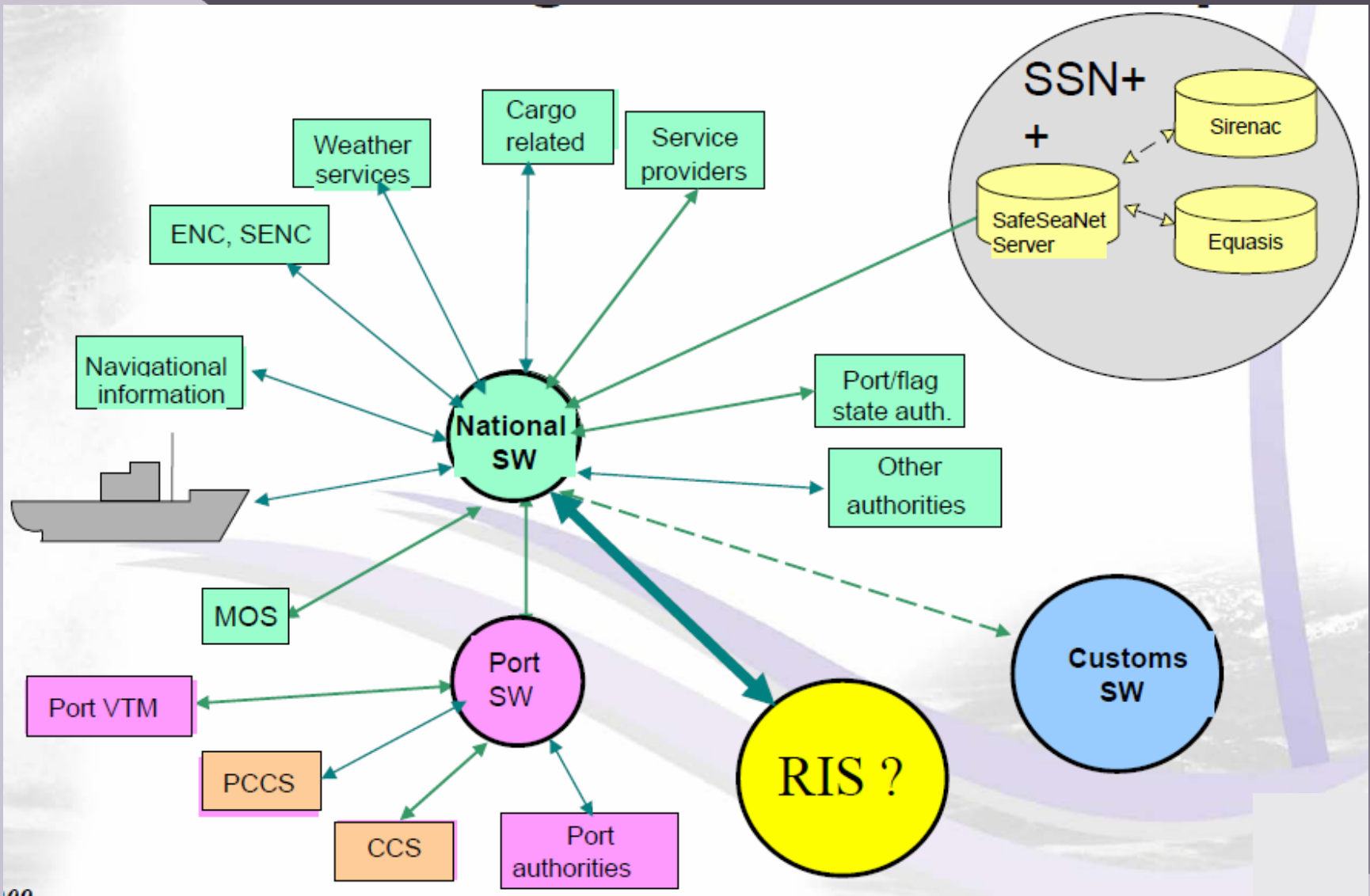
SafeSeaNet distribution process

LCA
Data Requester

(2)

LCA
Data
Provider

(1)

Full

NCA

(3)

NCA

Request
message

SSN European Central Index

Notification
message

(1) Notification to SSN

(2) Request

(3) Reply

Today's information flow

Some of it !

… and still not enough !

Weat

servi

Single Window

HWG – Harmonization Working Group

HWG on Ship Reporting Systems (SRS) and Vessel Traffic Services (VTS) was established in 2007. It is a forum where authorities and partners can discuss matters in relation to ship reporting systems and vessel traffic services and share best practice in order to make the Baltic Sea region and the Norwegian waters safer and give the shipping the feeling of one united sea area with the same level of service and procedures.

MARSUNO – Maritime Surveillance North

MARSUNO – Maritime Surveillance North (2010 – 2011)

The pilot project supports the policy process of the European Commission to create a Common Information Sharing Environment for the EU maritime domain. The MARSUNO project consists of 24 authorities from 10 countries.

Work groups:

- Integrated Border Management – Law Enforcement
- Vessel Traffic Monitoring Information Systems
- Maritime Pollution Response
- Search and Rescue
- Fisheries Control
- Maritime Situational Awareness

Expected Results

- Harmonization of SRS, VTS and training – incl. regulations, procedures and quality measures - in order to
  - Reduce burden to ship masters,
  - Raise the quality of vessel traffic management and
  - Focus more on vessel traffic safety and environmental protection matters.
- Share Best Practices