Meri-Kotka activities to improve the safety of marine traffic in the Gulf of Finland

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Meri-Kotka

- Meri-Kotka marine research association will conduct research related to marine safety, logistics of transport and the marine environment, especially in the Gulf of Finland and the Baltic Sea.
- The objective is to strengthen research and development in the maritime arena on the basis of a broad international co-operation network.
- The research staff are under the administrative jurisdiction of the Helsinki University of Technology, Kymenlaakso University of Applied Sciences, University of Helsinki and University of Turku.

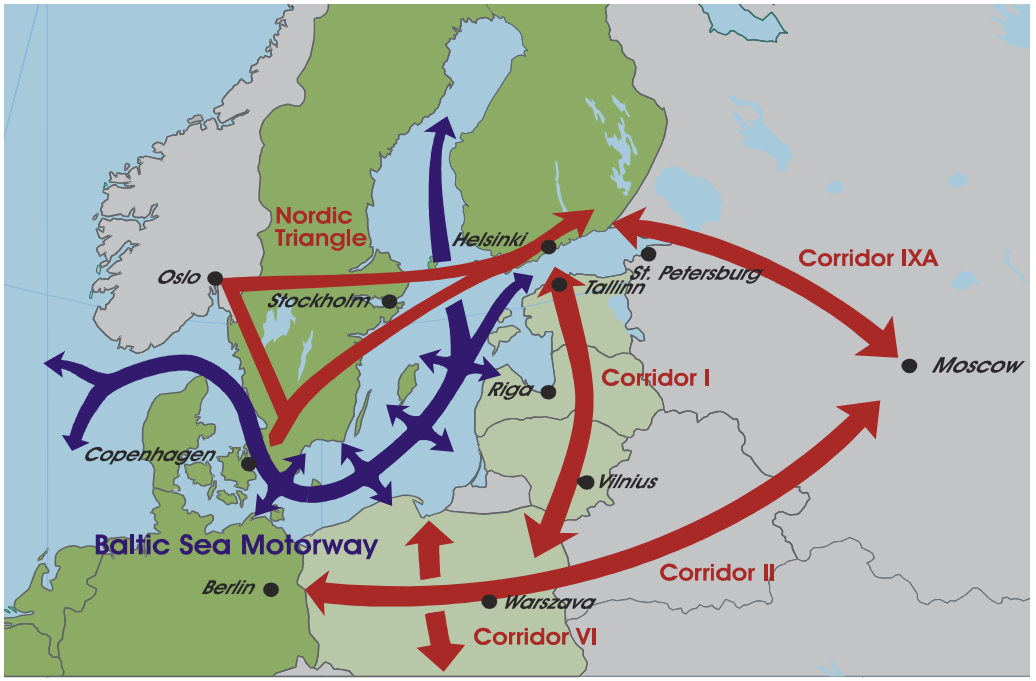
Key personel

- Managing director Terhi Lindholm
- Professors
  - Marine traffic and winter navigation safety, Prof. Pentti Kujala, Helsinki University of Technology
  - Marine traffic logistics, Prof. Ulla Tapaninen, University of Turku
  - Environment, Prof. Sakari Kuikka, University of Helsinki
- Research director related to harbour logistics at Kymenlaakso University of Applied Sciences, Tech.Lis. Jorma Rytkönen

The Baltic Sea – An Inland Sea of the Enlarged Union

- 150 million people live around the Baltic Sea
- High reliance on sea transport
  - (e.g. 85 % Finland's foreign trade is transported by sea)
- 500 million freight tons
- 7,5 million containers (TEU) or trailers on sea vessels
- 30 million sea passengers
- Estimated increase of transport volumes 4-5 % per year
- Severe winter adds to the costs (icebreaking etc.)

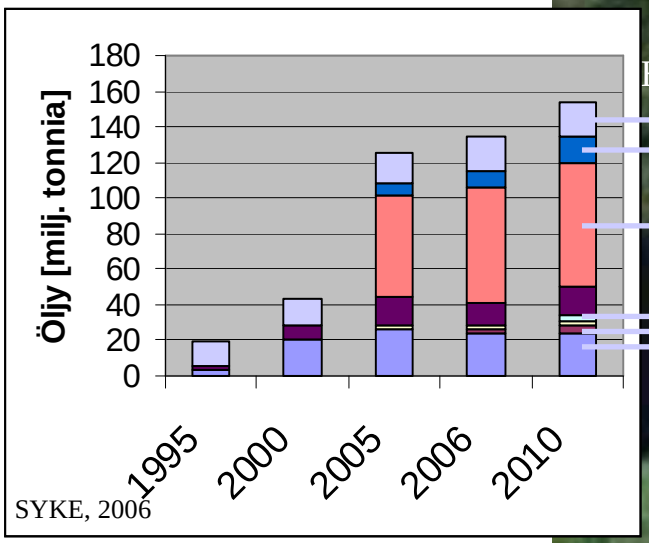
Source: Mintc, Finland



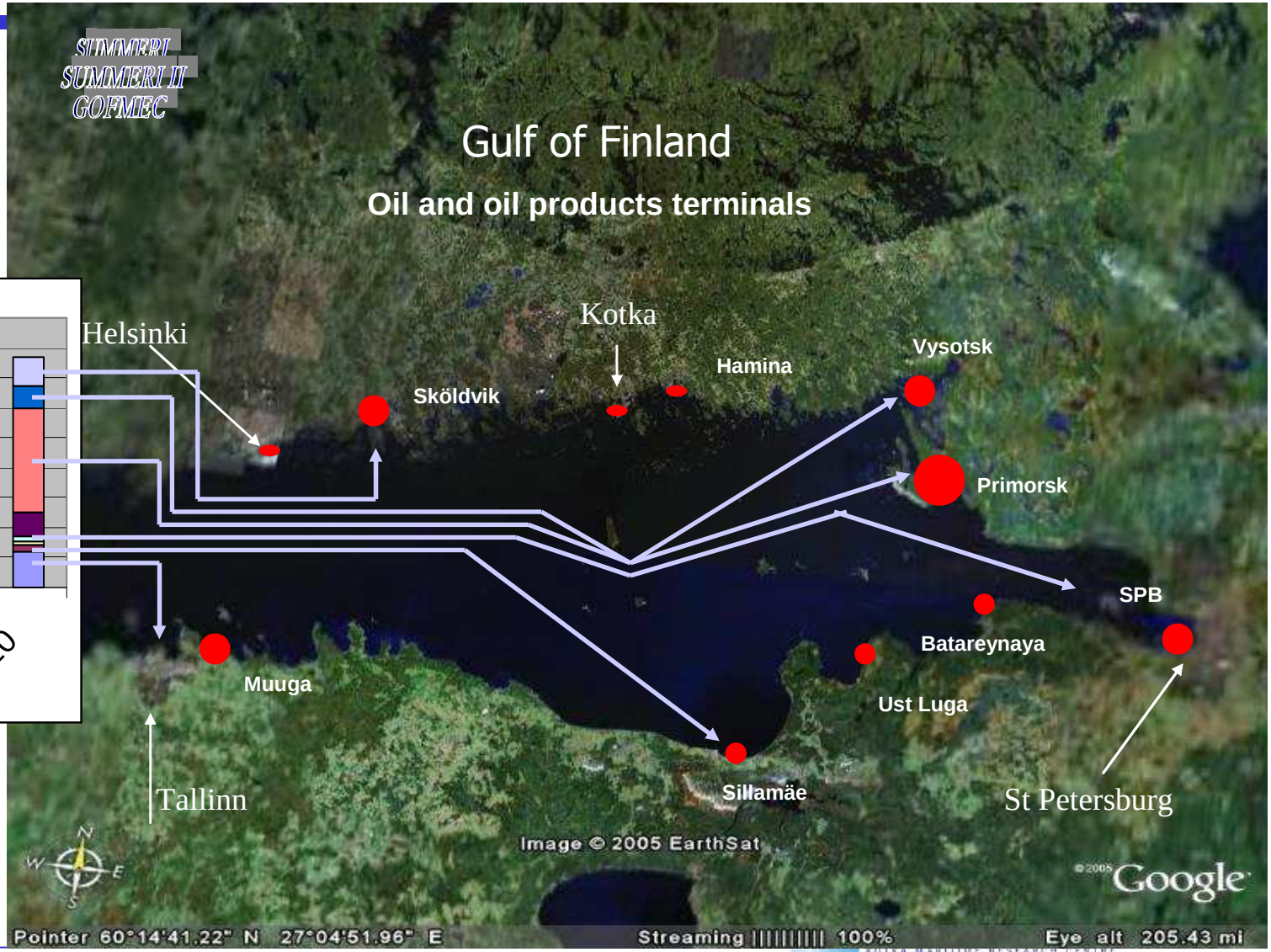
Main transport corridors

Source:Vehviläinen/Stora Enso

Increase of oil traffic in the Gulf of Finland



SYKE, 2006



How to improve the safety ?

Look backwards

Look ahead

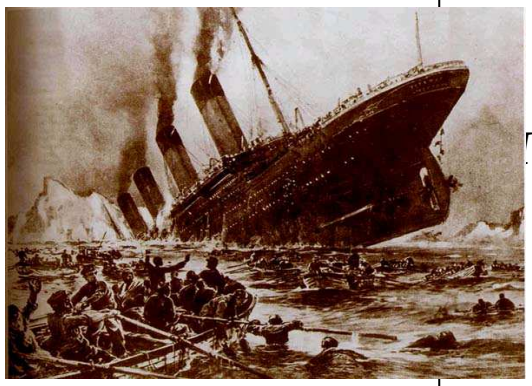
Analysis of accidents

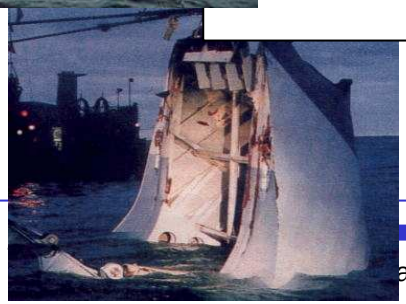
Risk analysis

Actions in other fields

Look aside

Accidents initiates new rules

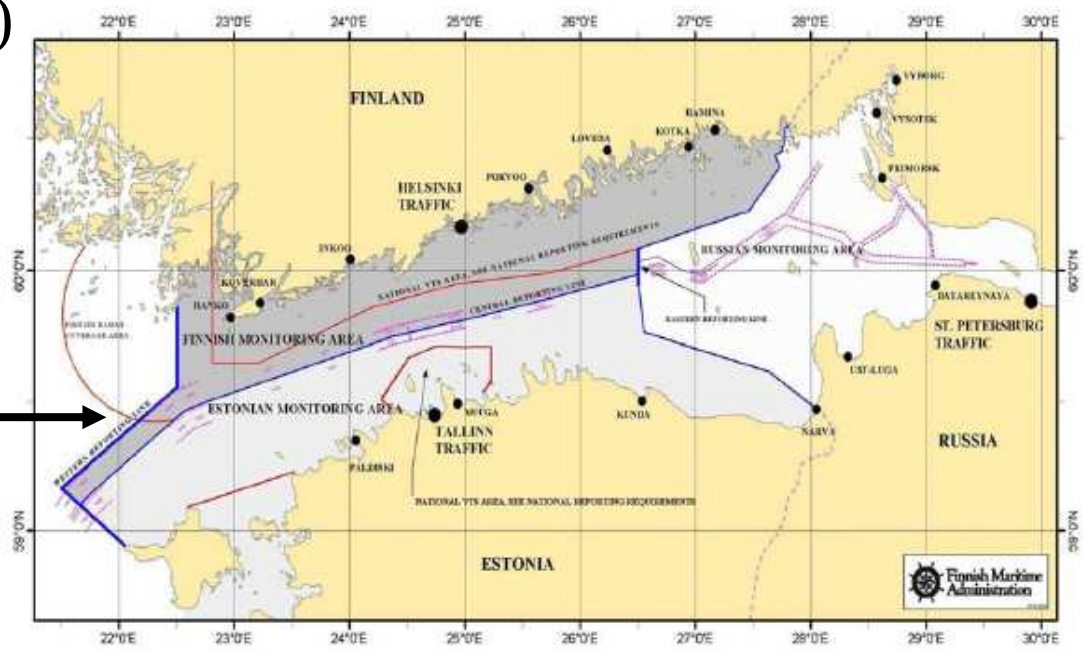




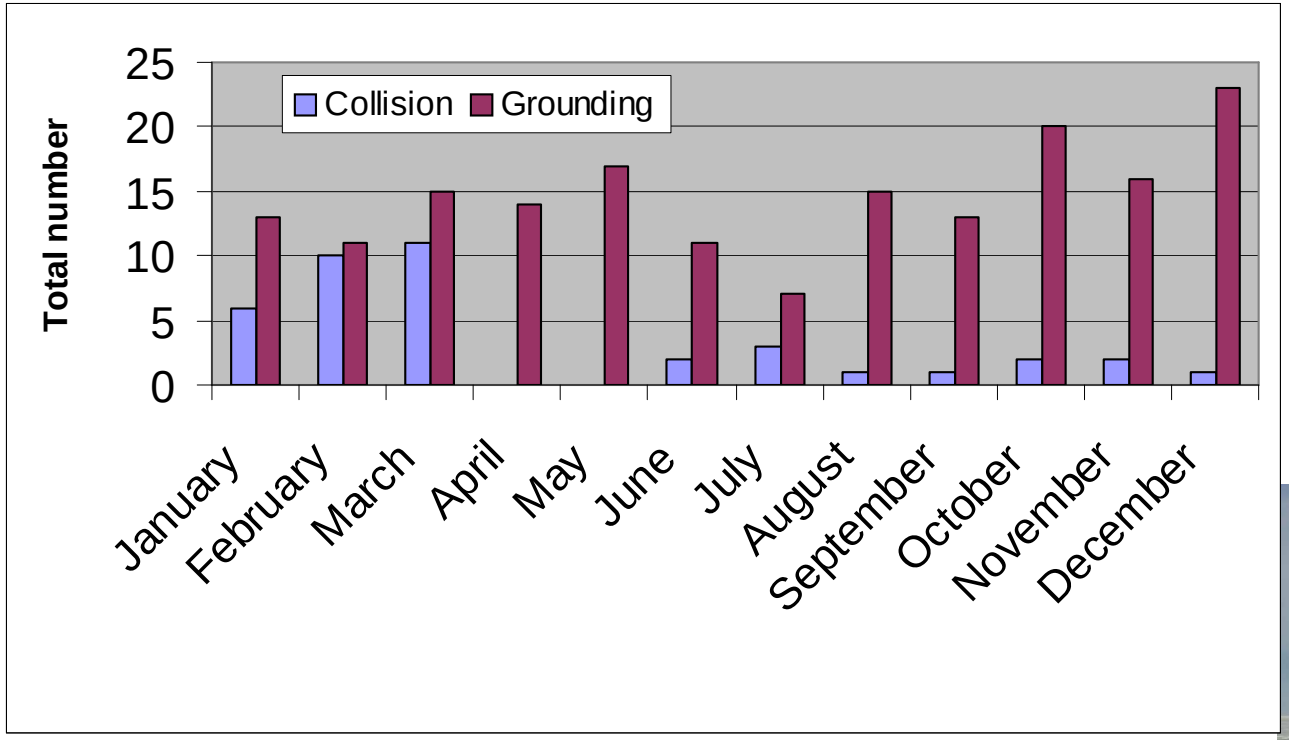
Titanic (1912)	**SOLAS (1929)**
Torrey Canyon (1967)	**MARPOL (1973) / STWC (1978)**
Amoco Cadiz (1978)	**SOLAS / MARPOL 1978 Protocols**
…er. of Free Enterpr. (1987)	**ISM / SOLAS Ch. II-1**
Exxon Valdez (1989)	**OPA 90 / MARPOL**
Scandinavian Star (1990)	**SOLAS Ch. II-2**
Bulk Carriers lost early 1990	**SOLAS Ch. XII (1997)**
Estonia (1994)	**SOLAS Ch. II-1 (1995)**
Erika (1999)	**EU activates**
Prestige (2001)	**Safe-Harbour?**

Actions in the other fields

- Nuclear power stations
- Copied from air traffic control:
  - Vessel traffic service (VTS)
  - Vessel Traffic Management and Information Systems (VTMIS)
  - Automatic Identification System (AIS)
  - Gulf of Finland Reporting System (GOFREP)



Winter will increase the risks



Tilasto 1990-2000, MKL (2001)

Lähde: Finstaship

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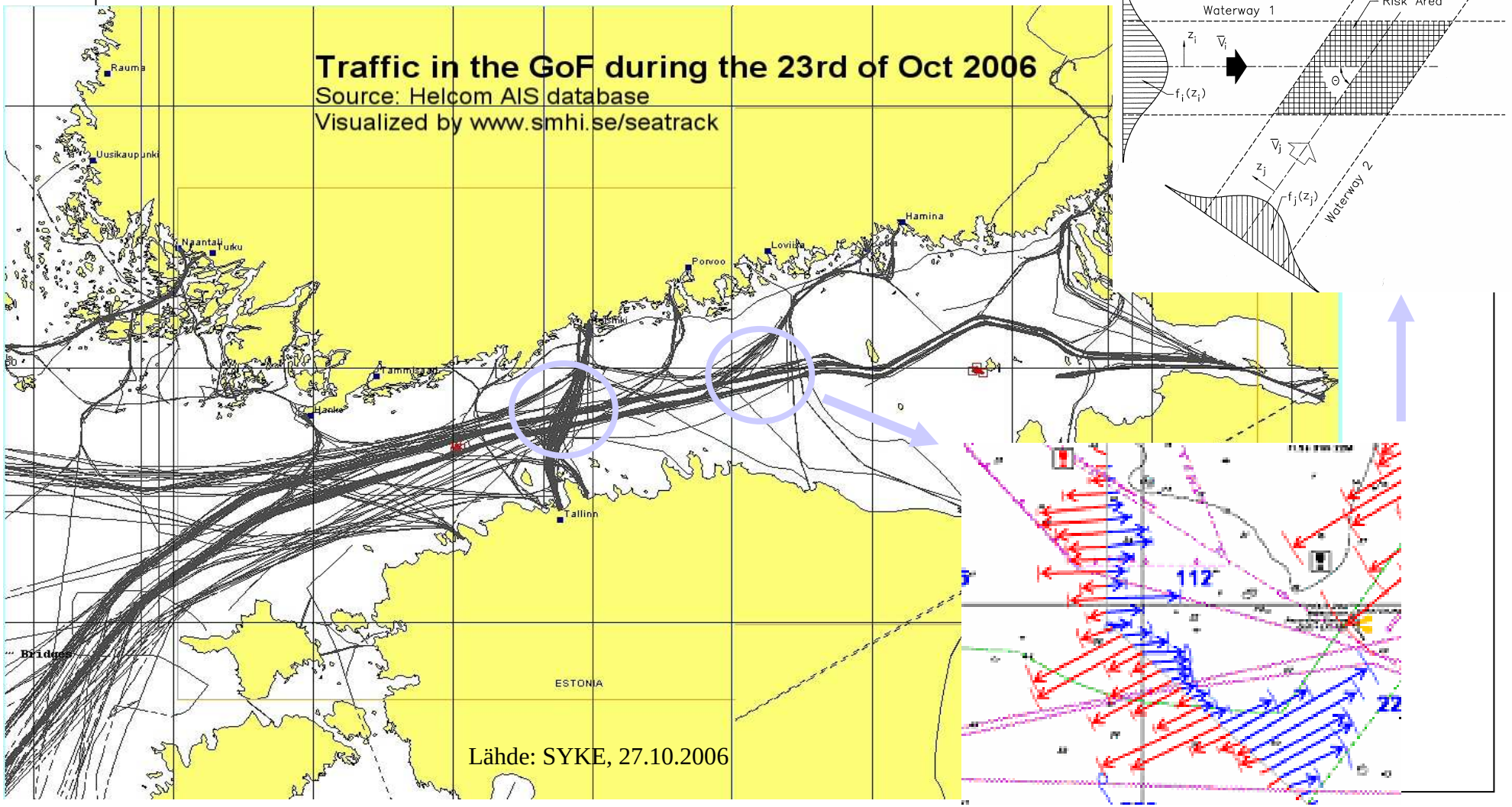
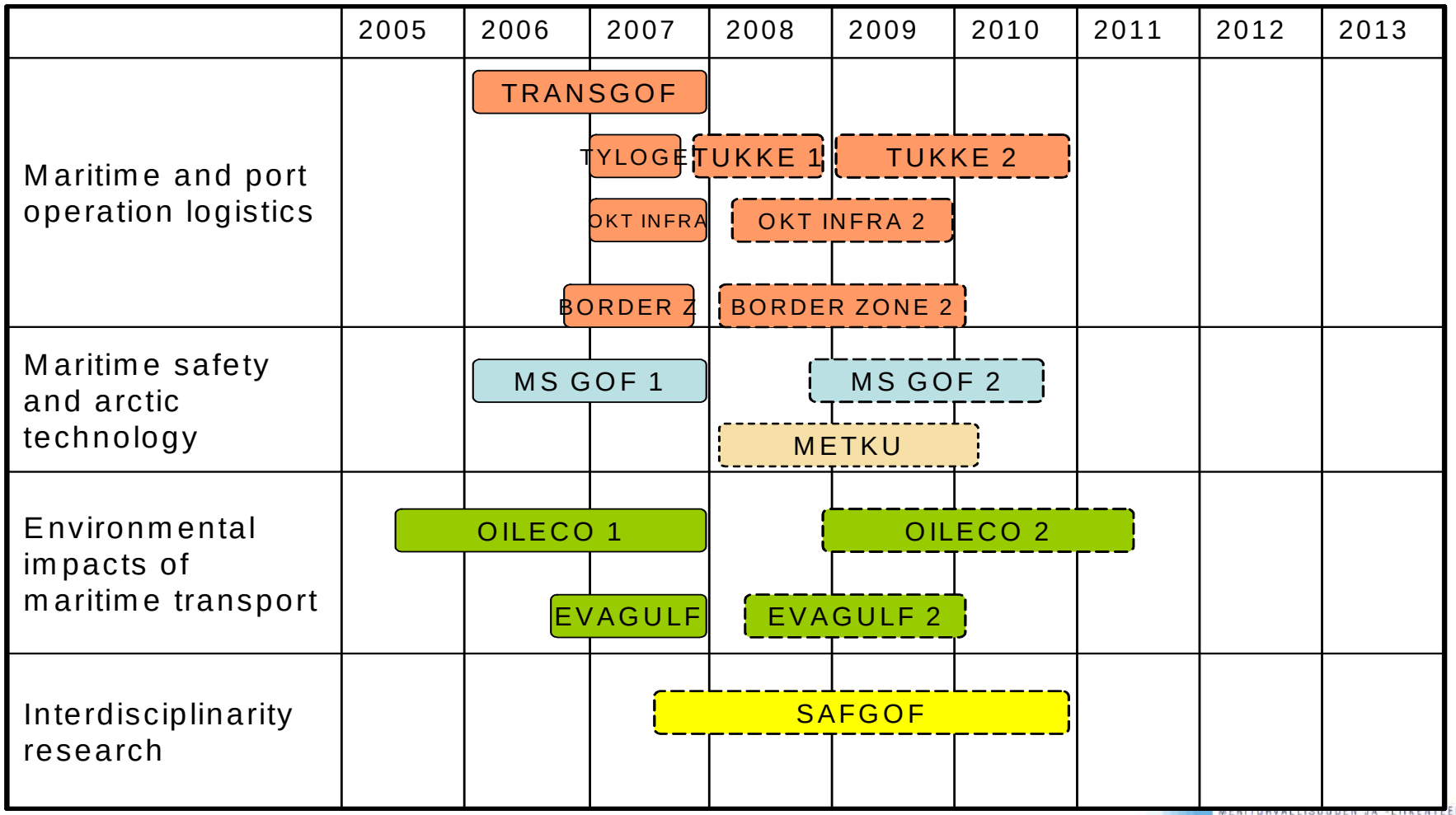
Simulation of marine traffic



On-going and planned research projects

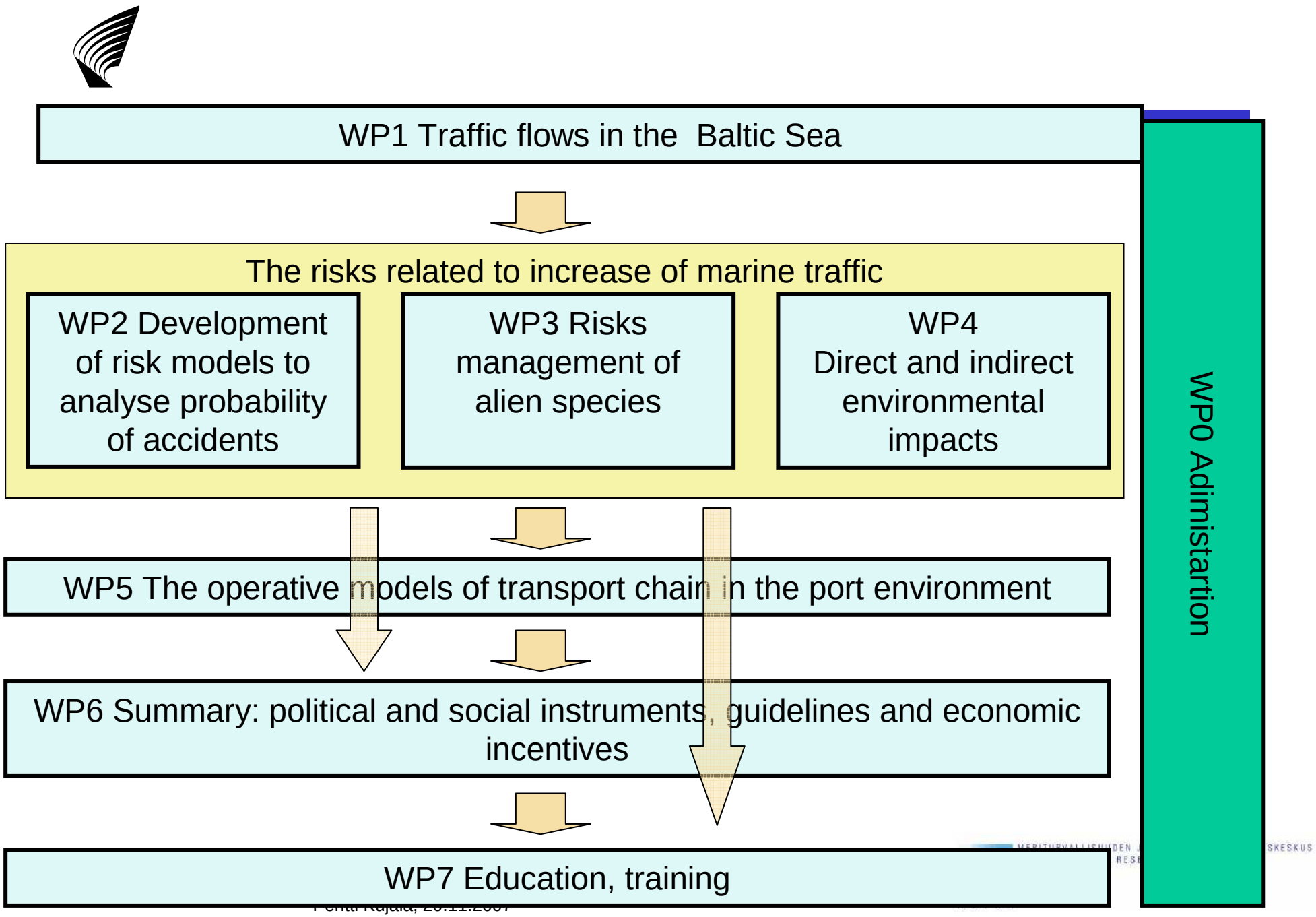


MS GOF

- The aim of the MS GOF -project is to increase safety of marine traffic in the Gulf of Finland. The work has been divided to 3 work packages:
  - WP 1: Safety of marine traffic and winter navigation
  - WP 2: Simulation of ship navigation in ice and development of the ice training practises
  - WP 3: Sea rescue activities in the eastern part of the Gulf of Finland
- Russian partners (Admiral Makarov State Maritime Academy, St Petersburg State Marine Technical University) with own financing schemes

SAFGOF

- A new project proposal including annual workshops in St.Petersburg
- Evaluation of the traffic increase in the Gulf of Finland during the years 2007-2015 and the effect of the increase on the environment and traffic chain activities
- Covers all the expertise area of Meri-Kotka
- Total budget abot 2 Meuro and the research will be conducted during 2007-2010


WP1 Traffic flows in the Baltic Sea
The risks related to increase of marine traffic
WP2 Development of risk models to analyse probability of accidents
WP3 Risks management of alien species
WP4 Direct and indirect environmental impacts
WP5 The operative models of transport chain in the port environment
WP6 Summary: political and social instruments, guidelines and economic incentives
WP7 Education, training
WP0 Adimistartion