



NAPA Container Market Study

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Co-financed by the European Union
Trans-European Transport Network (TEN-T)



Summary

- Study in 2010-11 for NAPA on potential for additional container traffic through the North Adriatic
- Part-funded by TEN-T

Presentation:

1. Objectives, scope & approach
2. Results of study



1 OBJECTIVES, SCOPE & APPROACH



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Study objectives & scope

- Objective of the study:
 - To produce a view on the *potential demand* for *container port* facilities in the North Adriatic ports system
 - Taking into account port's collective characteristics and likely future business environment
- Geographic scope:
 - Worldwide foreland
 - European hinterland
 - 5 NAPA ports: Koper, Ravenna, Rijeka, Trieste & Venice
- Time horizon: 2030



Approach

- Approach:
 - Analytical, based mainly on in-house databases & economic modelling techniques
 - Creating cost-based demand simulation model for European deep sea container market called the *European Container Port Demand Model (ECPDM)*
- Phasing:
 - Phase 1: Analysis of current position (Base Case for model)
 - Phase 2: Trade forecasting & scenarios for *ECPDM*



2 RESULTS OF NAPA CONTAINER MARKET STUDY



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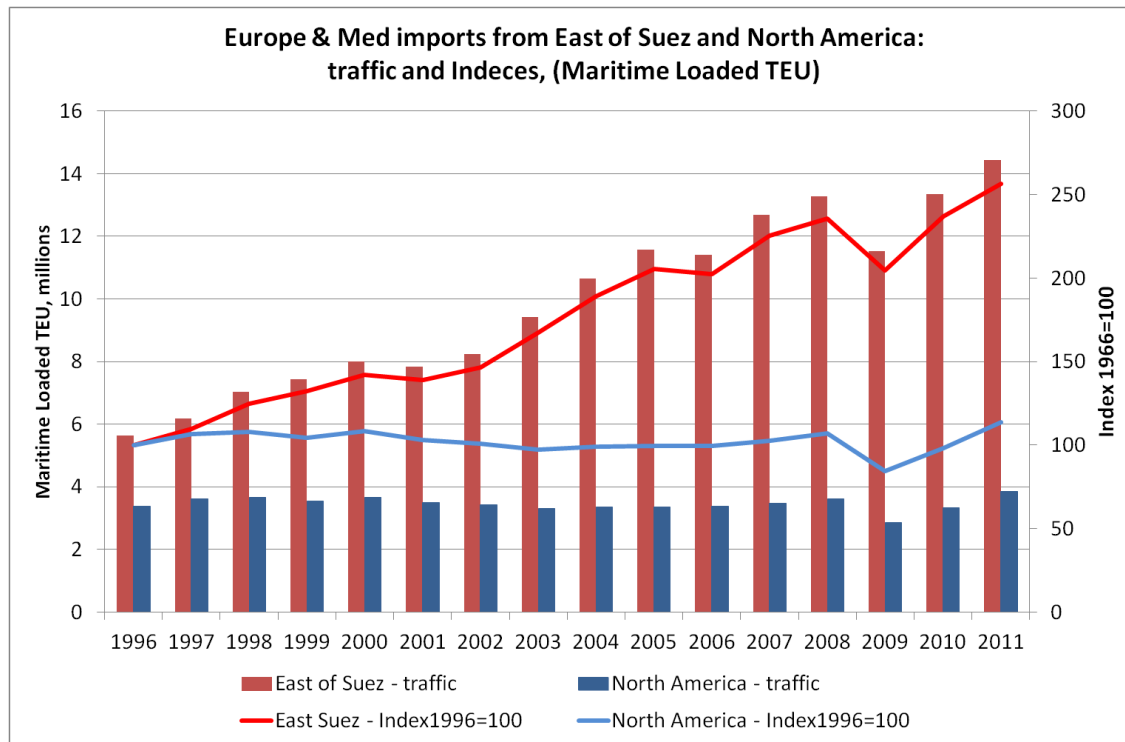


History – trends now favouring North Adriatic

- After World War II & during Cold War: focus on transatlantic supply & trade routes
- 1989-1999: Berlin Wall falls, but wars in former Yugoslavia
- 2001: China joins WTO – rapid switch of manufacturing capacity to Far East
- 2004-11: C&E European countries join EU & economies increasingly integrated into EU
- **Container traffic through Suez increasingly important compared to transatlantic trade**
- **Centre of gravity of inland distribution for container trade in Europe is switching to south & east**
- **NAPA ports closer to Suez & provide access to more dynamic economies of C&E Europe (plus N Italy, Bavaria, Austria...)**



Declining importance of North American imports compared to East of Suez



**Imports to Europe & Med
1996-2011 by origin:**

East of Suez +170%

North America +10%

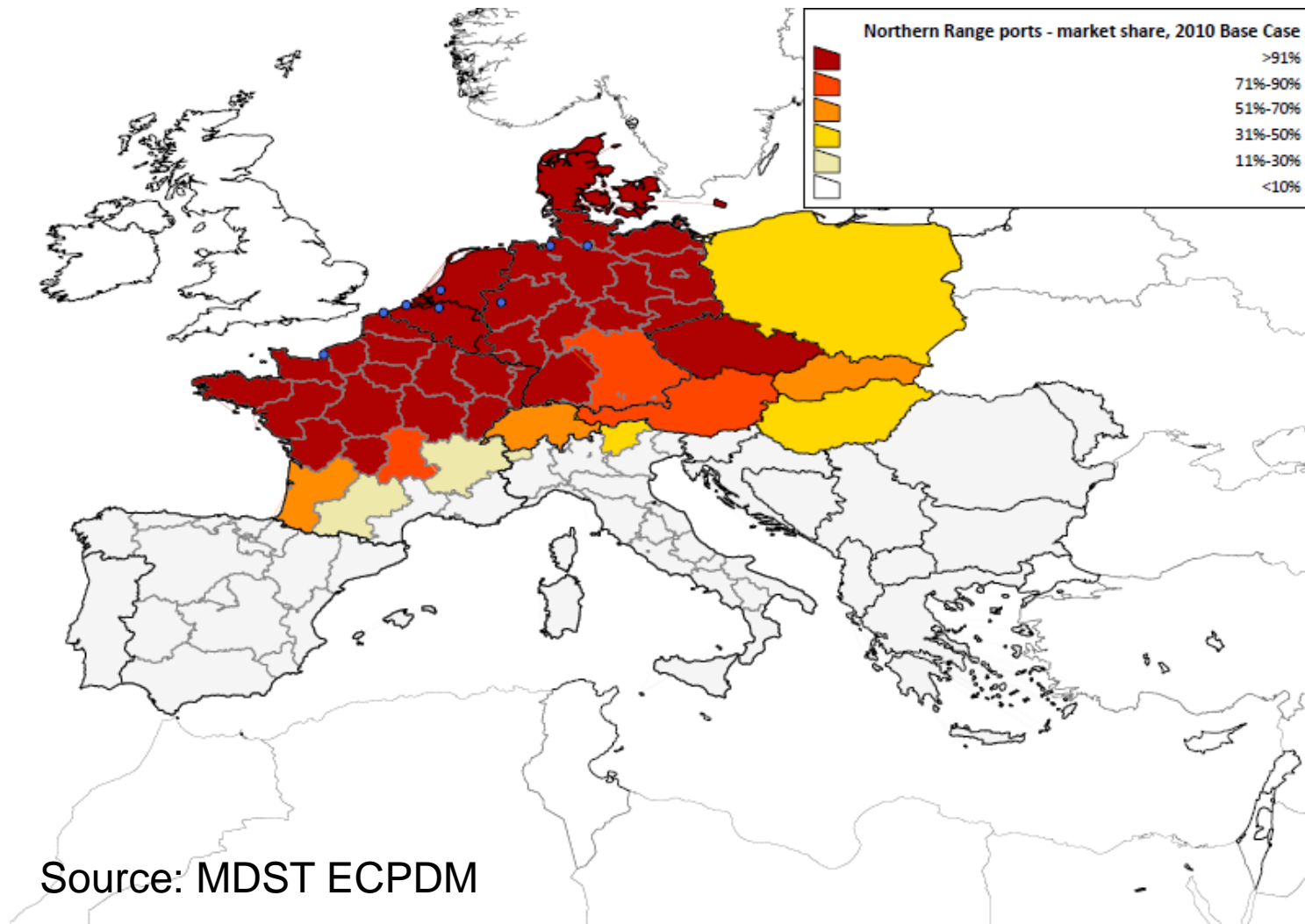
Source: MDST World Cargo Database



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Container ports & shipping in 2010: inertia – Northern Range retains dominance



Source: MDST ECPDM



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European Container Port Demand Model

- Developed computer model to simulate container port market for European continental mainland (Base Case 2010) to allow “what if” scenarios to be developed for the future (scenarios for 2030)
- Objective of model: to describe & “explain” the market based on generalised door-to-door transport costs
- Cost-based model which assumes that shipping lines & shippers seek lowest cost solution
- Data inputs:
 - Trade data = O/D matrix (MDST World Cargo Database)
 - Container shipping costs/TEU between world regions & 40 European container ports (MDST)
 - Port costs/TEU (MDST estimates)
 - Road, rail & inland waterway costs/unit (MDST)
 - Shipping line deployment (MDST Containership Databank)



Assumptions for “NAPA Development Potential Scenario 2030”

- Tested 2030 scenario that considered impact of:
 - Trade growth, so larger ships call at all ports as trade increases
 - Future oil price +18.8%
 - Availability of deeper water at NAPA ports to attract more direct calls from large vessels (11,000 TEU at NAPA ports)
 - Longer (750m) trains for inland distribution from all European ports
 - Removal of rail freight grants through Switzerland
 - More liberalisation of rail freight market in Europe
 - Internalisation of external costs in Europe (all modes, including shipping)



Results of “NAPA Development Potential Scenario”

Traffic volumes (M TEU)	2010	2030	Increase 2010-30
NAPA	1.3	6.0	348%
Northern Range	20.4	31.1	52%
Tyrrhenian	3.6	6.0	68%
Total market	31.0	53.5	73%
Market share			
NAPA	4.3%	11.3%	6.9%
Northern Range	66.0%	58.3%	-7.7%
Tyrrhenian	11.6%	11.3%	-0.3%

- NAPA increases volumes by 350% & gains additional 7% share of European continental mainland market
- All port groups benefit from traffic growth
- Northern Range & Tyrrhenian ports lose some market share
- Northern Range retains 58% market share
- NAPA has 6.0 MTEU of traffic in 2030, compared to 1.3 MTEU in 2010 & 2.6 MTEU in “Business-as-Usual Scenario”



Sensitivity tests: assumptions

	Central Forecast	Business-as Usual (BAU)	No Internalisation of External Costs	BAU with Big Ships
Price of oil (increase on 2010)	+18.8%	+18.8%	+18.8%	+18.8%
Swiss trans-alpine rail freight grants	Grant phased out	Grant available.	Grant phased out	Grant available.
Rail freight liberalisation	20% increase in the utilisation of locomotives	No change from 2010	20% increase in the utilisation of locomotives	No change from 2010
Length of trains from all ports (750m at Northern Range ports)	750 metres	No change from 2010	750 metres	No change from 2010
Ship size at non-NAPA ports	Increases in line with trade growth	Increases in line with trade growth	Increases in line with trade growth	Increases in line with trade growth
NAPA ship size for direct calls	11,000 TEU	5,000 TEU	11,000 TEU	11,000 TEU
Internalisation of external costs for all modes	Full internalisation of costs for all modes, with container shipping using low sulphur fuel	-	No internalisation of external costs	-



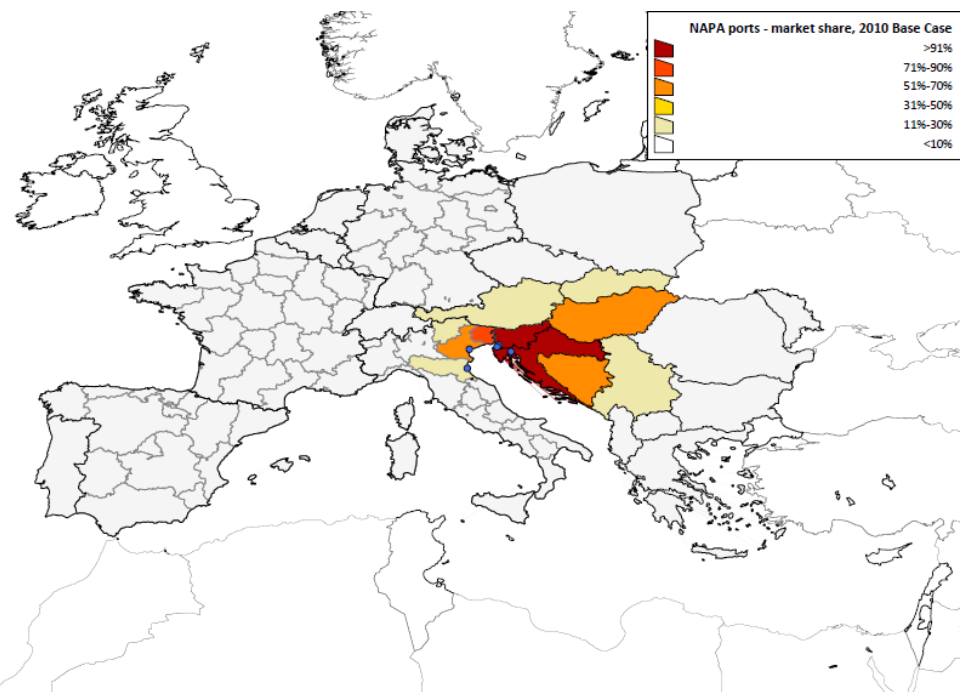
Sensitivity tests: results

	Central Forecast	Business-as Usual (BAU)		No internalisation of external costs		BAU with big ships	
	Traffic volume	Traffic volume	Difference cf. Central Forecast	Traffic volume	Difference cf. Central Forecast	Traffic volume	Difference cf. Central Forecast
NAPA	6.0	2.6	-3.4	5.9	-0.1	4.9	-1.1
Northern Range	31.5	35.2	+3.7	31.8	+0.3	34.1	+2.6
Tyrrhenian	6.0	5.8	-0.2	5.7	-0.3	4.9	-1.1
Black Sea	0.7	0.7	-	0.7	-	0.6	-0.1
Other	9.5	9.1	-0.4	9.4	-0.1	9.0	-0.5
Total	53.5	53.5		53.5		53.5	

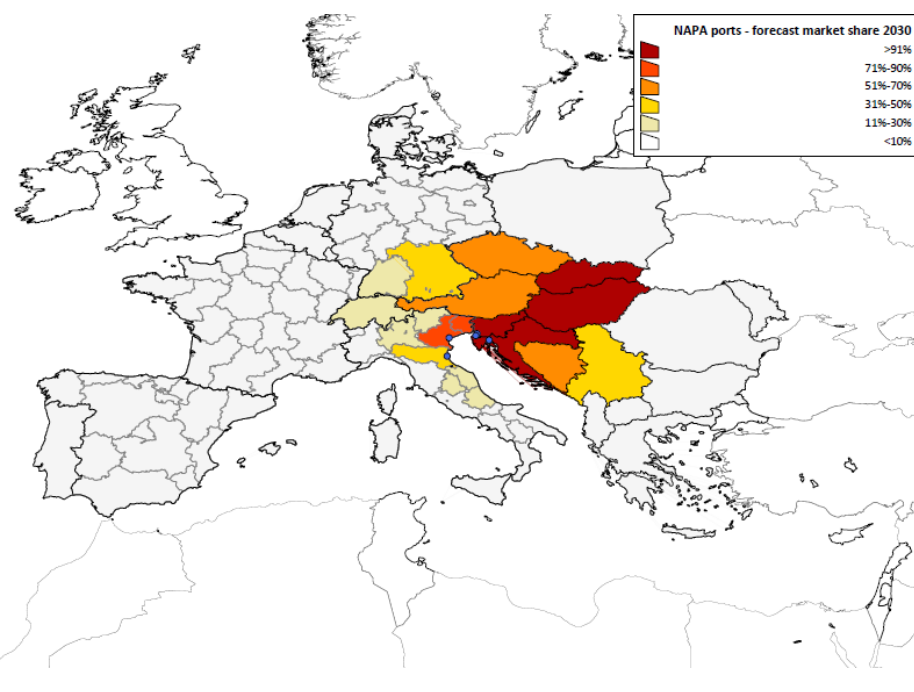
- Business-As Usual: NAPA secures 43% of its 6.0 MTEU potential
- BAU with Big Ships: poor rail offer loses NAPA 1.1 MTEU
- No internalisation of external costs: NAPA potential not sensitive to implementation



North Adriatic: 2010 versus 2030



Base Case 2010



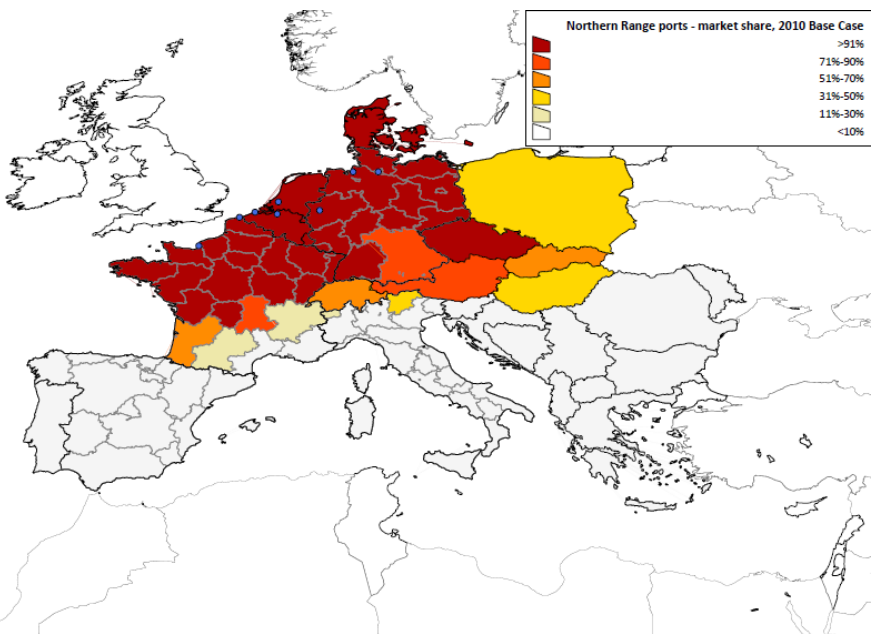
NAPA Development
Potential Scenario 2030



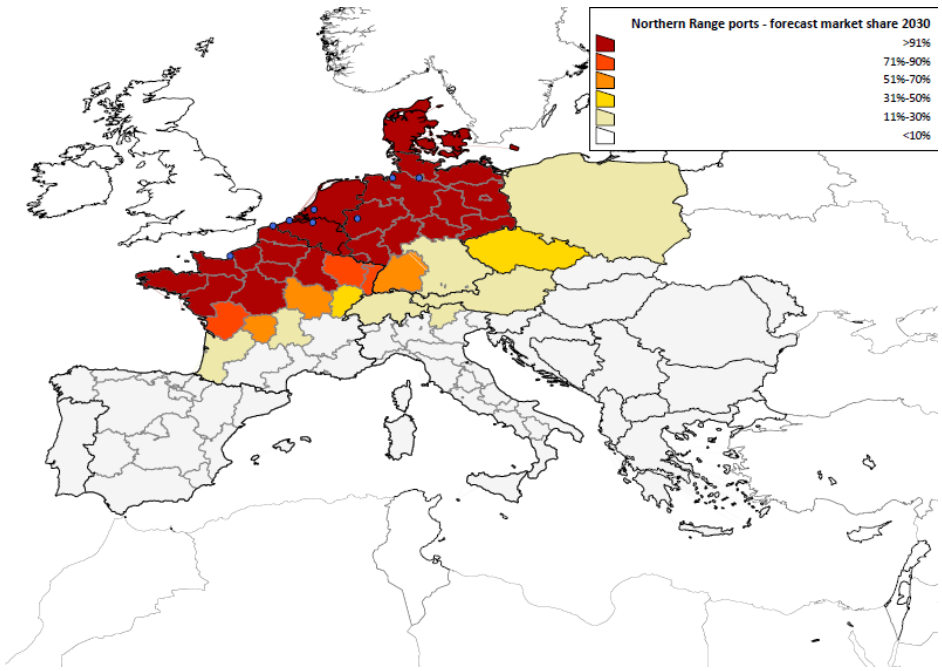
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Northern Range: 2010 versus 2030



Base Case 2010



NAPA Development
Potential Scenario 2030



What is needed in North Adriatic by 2030?

- More container terminal capacity with deeper water
- Up-graded rail network capacity from ports, with 750m long trains
- More rail freight liberalisation i.e. more competition in rail freight traction market with open access to port & inland terminals



Thank you!

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