

Rectors, Deans and Business
Directors in the eRegion Meeting
Adriatic transport route
Portorož , 26.01.2015.

Professor Serdjo Kos, FRIN
University of Rijeka , Faculty of Maritime Studies

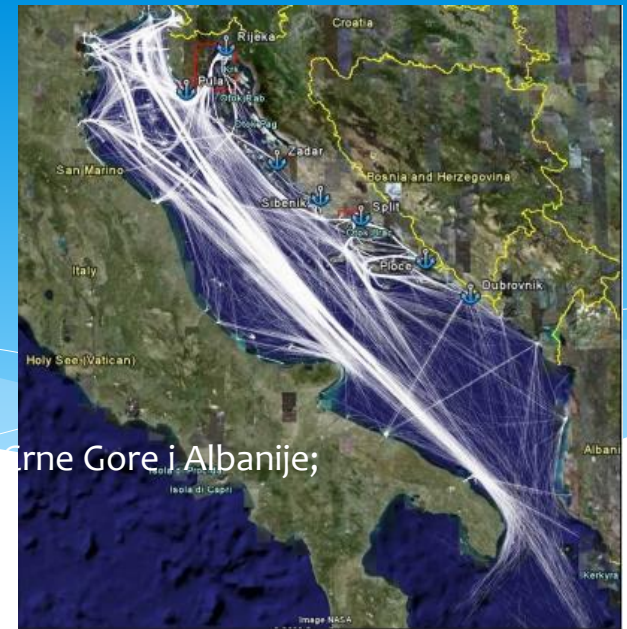


CONTENT

- * Adriatic sea: basic characteristics
- * Ports of the Adriatic sea with emphasis on container traffic
- * Redirection of world's traffic flows
- * Comparison of traffic – some European ports (*Case Study Hamburg*)
- * Gravitational area of the port of Rijeka
- * Default target
- * Example of cost reduction, transport time and emission of harmful gases
- * Conclusion

Adriatic sea

- According to the IHO, Mediterranean sea is divided into :
 - * Alboran sea – between Spain and Morocco;
 - * Balear sea – between Spain coastland and Balear;
 - * Ligurian sea – between Korcula and province of Liguria;
 - * Adriatic sea – between Italia, Slovenia, Croatia , BIH and Montenegro i Albanije;
 - * Ionian sea – between Italy, Albania and Greece;
 - * Aegean sea - between Greece and Turkey;
 - * Marmor sea – between Aegean and Black sea (Turkey)
- * Final west point of Mediterranean sea - Strait of Gibraltar, Final east point - coast of Iskenderum bay in Turkey
- * Mediteranean sea strategically enables connection with the Atlantic ocean – **Strait of Gibraltar**, **Strait of Otranto** connects Adriatic sea with the Mediterranean sea and it is the shortest connection with the Suez canal
- * **Strait of Otranto** – sea passage between Italia and Albania, natural entrance/exit to the Adriatic sea; sea passage width 40 – 75 M, length of sea passage app. 37.8 M (70 km), depth 90 – 1100 m:
- * Adriatic sea
- * Longitudinal axis (estuary of river Butrintit – Porto di Lido): 475 NM; transversal axis (Omiš - Vasto): 117 NM
- * Surface: 138 595 km²
- * Total lenght of coastline - 7 912 km
- * **Adriatic sea** – **strategically** the most important sea area for **the Far east – Europe sea transport route**

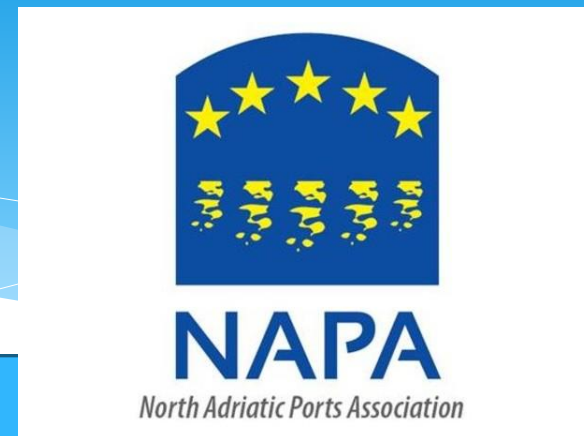


Ports of Adriatic sea with emphasis on container traffic

Bar
Split
Ploče

Rijeka
Trst
Kopar
Venecija
Ravena

North
Adriatic
Port
Association

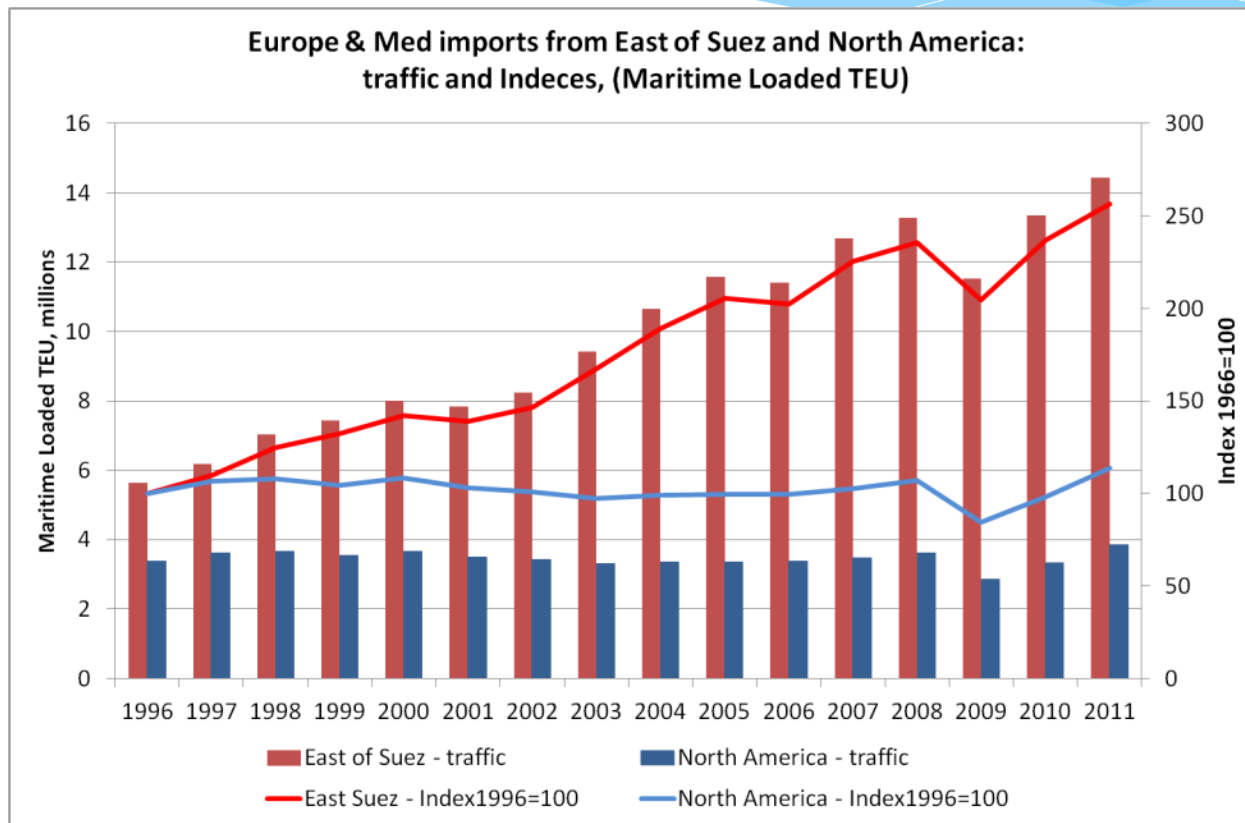


Linije				Učestalost	NAPA luke pristajanja				Tjedna angažiranost					
					Ravena	Venecija	Trst	Kopar	Rijeka	2010 1.kv	2.kv	3. kv	4.kv	2011 1.kv.
CMA-CGM/ PHEX/AE12	MAERSK	LINE-	Tjedno		X	X	X		6,548	6,548				
			Tjedno		X	X	X				6,548	5,704	6,548	6,498
HANJIN/YANG MING/HYUNDAI/UASC-AA			Tjedno		X	X	X	X			4,365			
			Tjedno		X	X	X	X				4,300		4,300
Ukupna angažiranost u NAPA regiji									6,548	6,548	10,913	10,004	10,847	10,797

Redirection of world's traffic flows

- * Geographical aspect of container traffic between Europe and the world in the last 15 years dramatically changed because of two basic reasons :
- * There have been a significant change in the relative importance of Far East for the import of trade products. This change was accelerated by the entry of China in the World Trade organisation.
- * Integration of central and eastern european countries with their dynamic economies , the origin and destination points of container traffic in Europe are transferred their gravitational points from the interior parts of land to the south and east of european continent

Import in the Europe and Mediteranean area from the countries east of Suez channel and North America :Traffic and indexes (TEU)



Comparison of traffic – some european ports

Total traffic in millions of Tons (2011)	
Rotterdam	434.0
Antwerp	187.1
Hamburg	132.2
NAPA Luke	124.2
Marseille	88.2
Bremen	80.5
Zeebrugge	47.0

Total container traffic in TEU-s for 2011.	1 TEU ~ 18 t
Rotterdam	11.8
Hamburg	9.0
Antwerp	8.6
Bremen	5.9
Zeebrugge	2.2
NAPA Luke	1.8
Marseille	0.9

DISTANCE FROM THE MARKET: SHIFTING OVER TIME

The centre of gravity in Europe reducing mean distance from eastern and southern ports:

Ports	Mean distance		Differences 2011 minus 1996*
	1996	2011	
Constanta	2 418	2 279	-139
Gdynia	1 568	1 475	-94
Marseille	1 214	1 235	21
Rotterdam	908	918	10
Trieste	1 294	1 223	-71

-negative figure means that the distance to the market has fallen (assumes entire European market bound for one port)

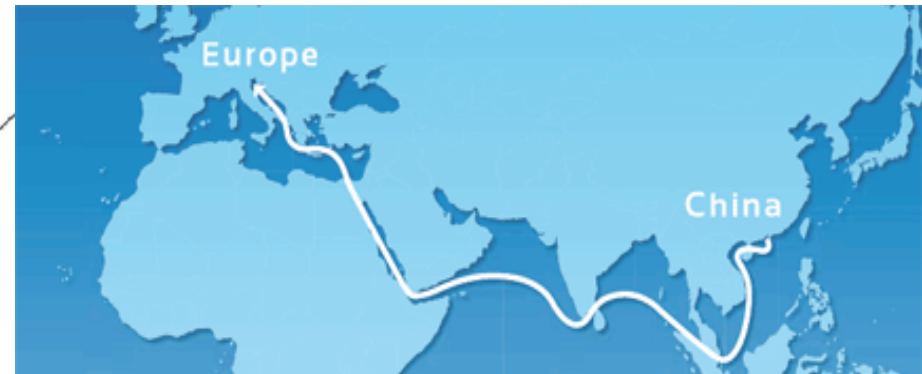
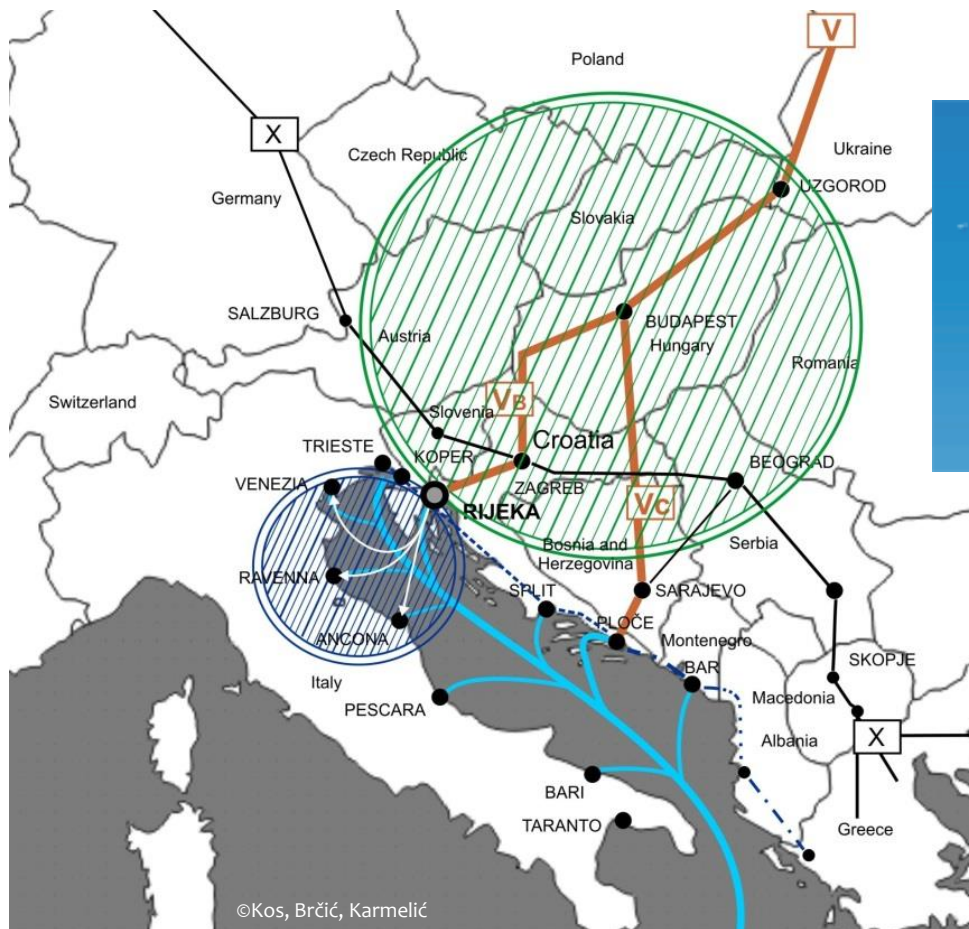
Case study - Hamburg

EXISTING STRENGTHS VERSUS POSSIBLE FUTURES! (source: Port of Hambourg)

Highly developed intermodal networks from Northern Europe:	
-the Hamburg case: 1.9m TEU by rail	
-trains per week with:	
Denmark	6
Poland	24
Czech Republic	71
Slovakia	28
Hungary	28
Austria	61
Italy	10
Switzerland	36
within Germany	553

Versus the opportunity from elsewhere: French announcement of 1,500m long trains from Marseilles; potential lessons for the Alpine corridors to raise capacity

Gravitational area of the port of Rijeka



DEFAULT TARGET

- * Redirection of world's traffic flows from the northern to the southern sailing routes over the ports of Adriatic sea instead over the North European ports – direct reduction of 'door-to-door' costs and emission of harmful gases

Munich – referent point of Central Europe



Example of reduction (1) of costs , (2) Time , (3) Emission of harmful gases

- * Reduction of time and travel costs:
- * Road distance between Munich and ports of Benelux (North Europe) is ~830 km, distance Munich – Adriatic ports ~550 km;
- * Voyage time from Far East to Munich over Adriatic ports is shorter for 280 road km and 4815 kilometers (2600 M) on the southern adriatic ship's route, in correlation with the north-european sea route (~4-6 days of ship's sailing!)
- * Reduction of emission of harmful gases(calculation for one TEU container):

From	To	Distance	Total emission of CO2
Korea	North Adriatic	17,400 km	2,595 kg
Korea	Rotterdam	21,345 km	2,915 kg

- * Total reduction of emission of CO2 is 320 kg per container

Conclusion

- * To achieve redirection of traffic flow from the northern sea route to the southern sea route through the Adriatic sea it is necessary to :
- * Maximize advantages of natural geographical traffic flow which passes through the Adriatic sea ,
- * Perform the reconstruction and construction of capital transport infrastructure and superstructure facilities,

Bibliography :

- * Garrattt, M. (2011). **Intermodal Europe 2011: Supply & demand in the deep-sea trades and the impact on intermodal opportunities**, MDS Transmodal Ltd., Hamburg, Germany.
- * Hrvatski hidrografski institut (2012). **Peljar I. Jadransko more – Istočna obala**. HHI Split, Hrvatska.
- * Kesić B., Jugović A., Perko N. (2004). **Potrebe i mogućnosti organizacije logističko – distribucijskog centra u riječkoj regiji**. *Pomorski zbornik* 42 (1); pp. 187 – 208.
- * Kos, S., Brčić, D. & Karmelić, J. (2010). **Strukturalna analiza hrvatskih kontejnerskih luka**. *Pomorstvo*, 24 (2); pp. 189 – 209.
- * MDS Transmodal Ltd. 2012. **NAPA: Market study on the potential cargo capacity of the North Adriatic ports system in the container sector: Final Report**. Ref: 211015R3. Hamburg, Germany.
- * Mencer, M. Č. (2000). **Prilog gospodarskoj strategiji razvitka Republike Hrvatske – Riječki prometni čvor**. *Ekonomski pregled*, 51 (9-10), pp. 1053 – 1074.
- * Zec, D. & Frančić, V. (2011). **Adria VTS: Služba nadzora i upravljanja plovidbom na Jadranu**. Ministarstvo mora prometa i infrastrukture. Zagreb, Hrvatska.
- * North Adriatic Ports Association (NAPA). 2013. Dostupno na: <http://www.portsofnapa.com/>



Thank you for your attention !