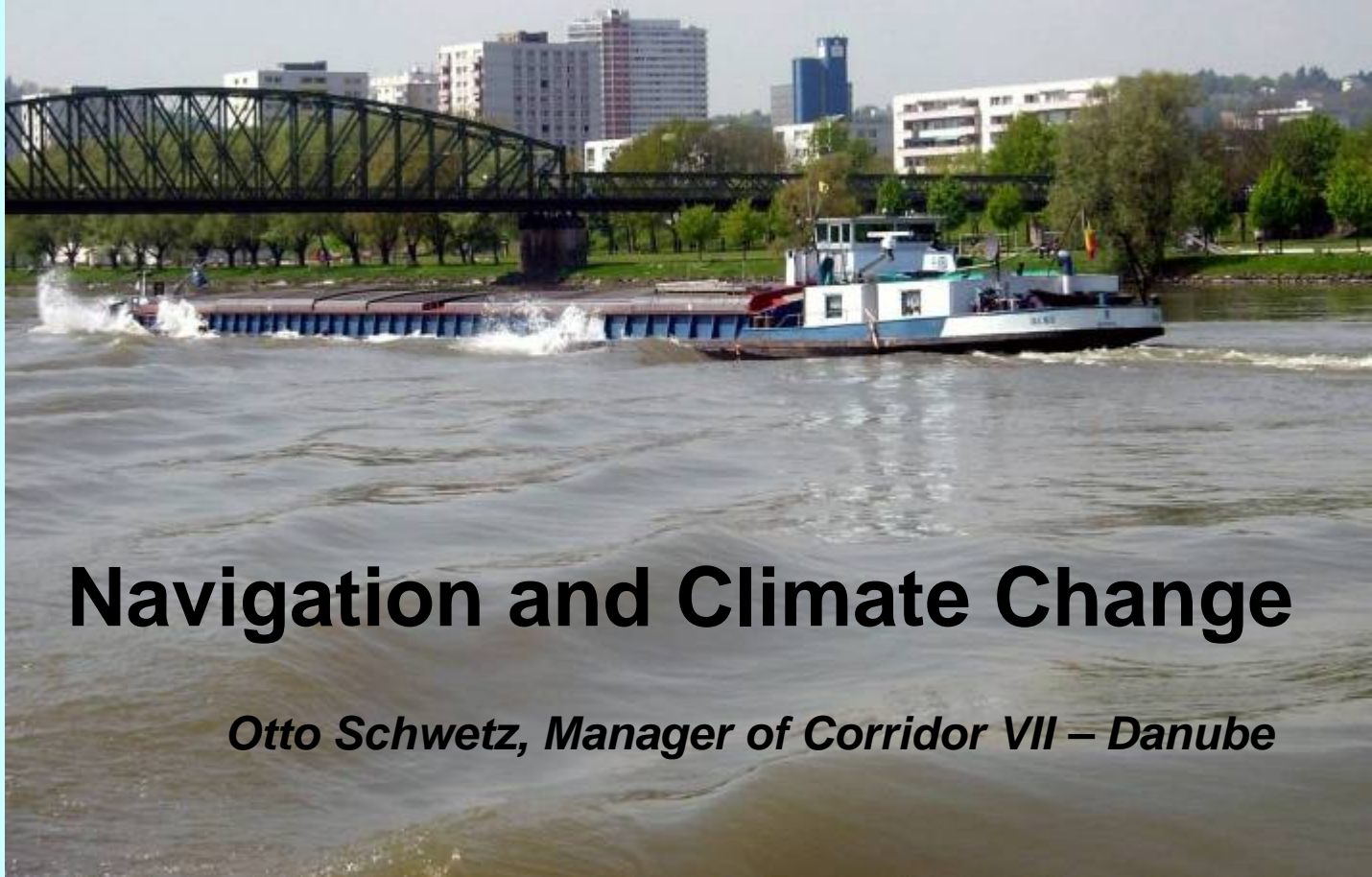


CONFERENCE ON ADAPTATION OF WATER MANAGEMENT TO EFFECTS OF CLIMATE CHANGE IN THE DANUBE RIVER BASIN



Navigation and Climate Change

Otto Schwetz, Manager of Corridor VII – Danube



Challenges for the European transport system

- Growing overseas trade and enlargement of the European Union towards Eastern Europe
- Freight transport volumes in Europe expected to increase by one third between 2005 and 2015
- Present transport growth leads to traffic gridlock and escalating logistics costs

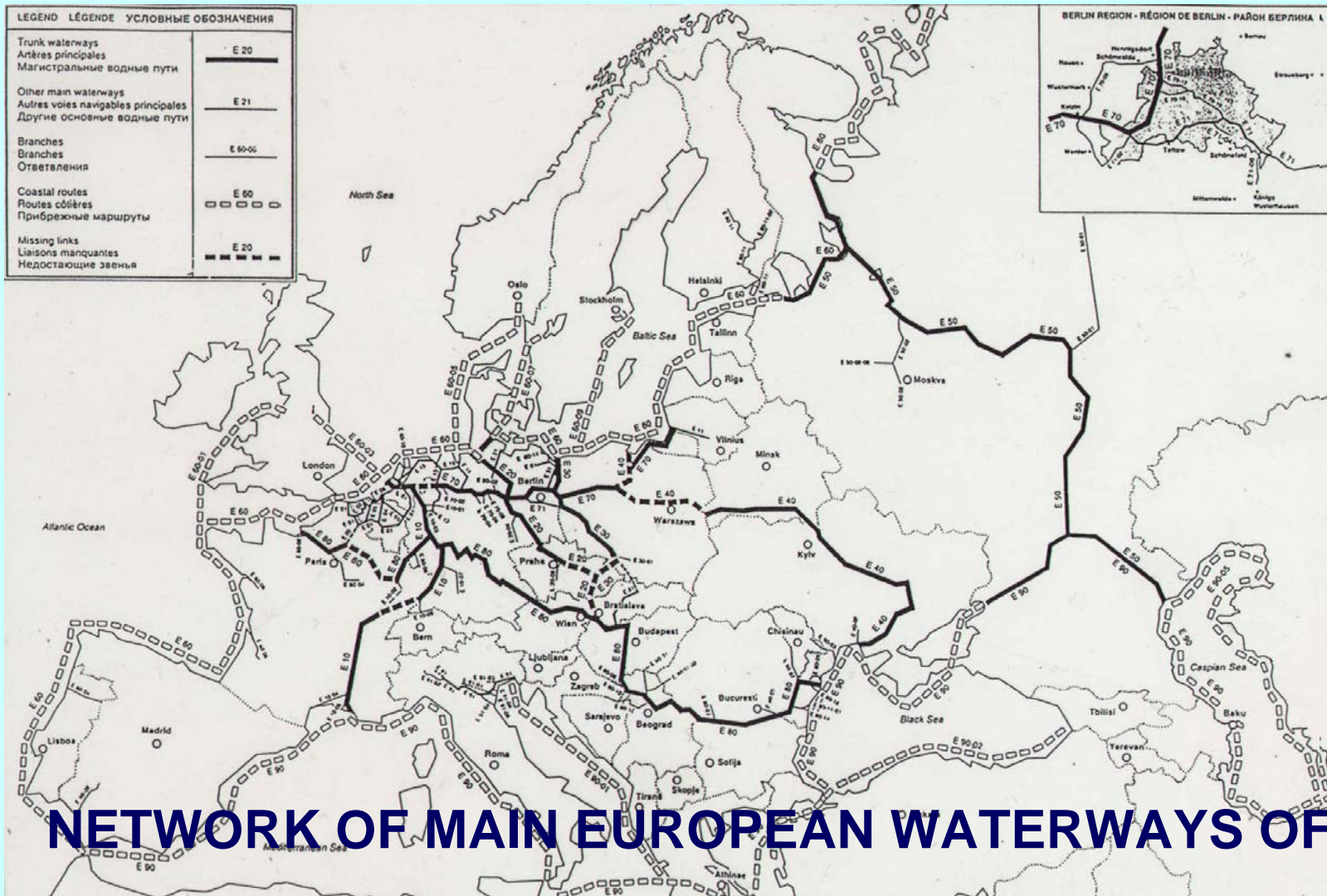
Inland navigation is already important ...

- Around 125 billion ton-km in Europe in 2005
- Impressive growth rates achieved in regional markets: e.g. increase by 57% between 1995 and 2005 on Flemish waterways
- Markets shares up to 43% in the catchment areas of major seaports like Rotterdam
- In Germany alone some 400.000 jobs directly or indirectly depend on the inland waterway sector and related companies.

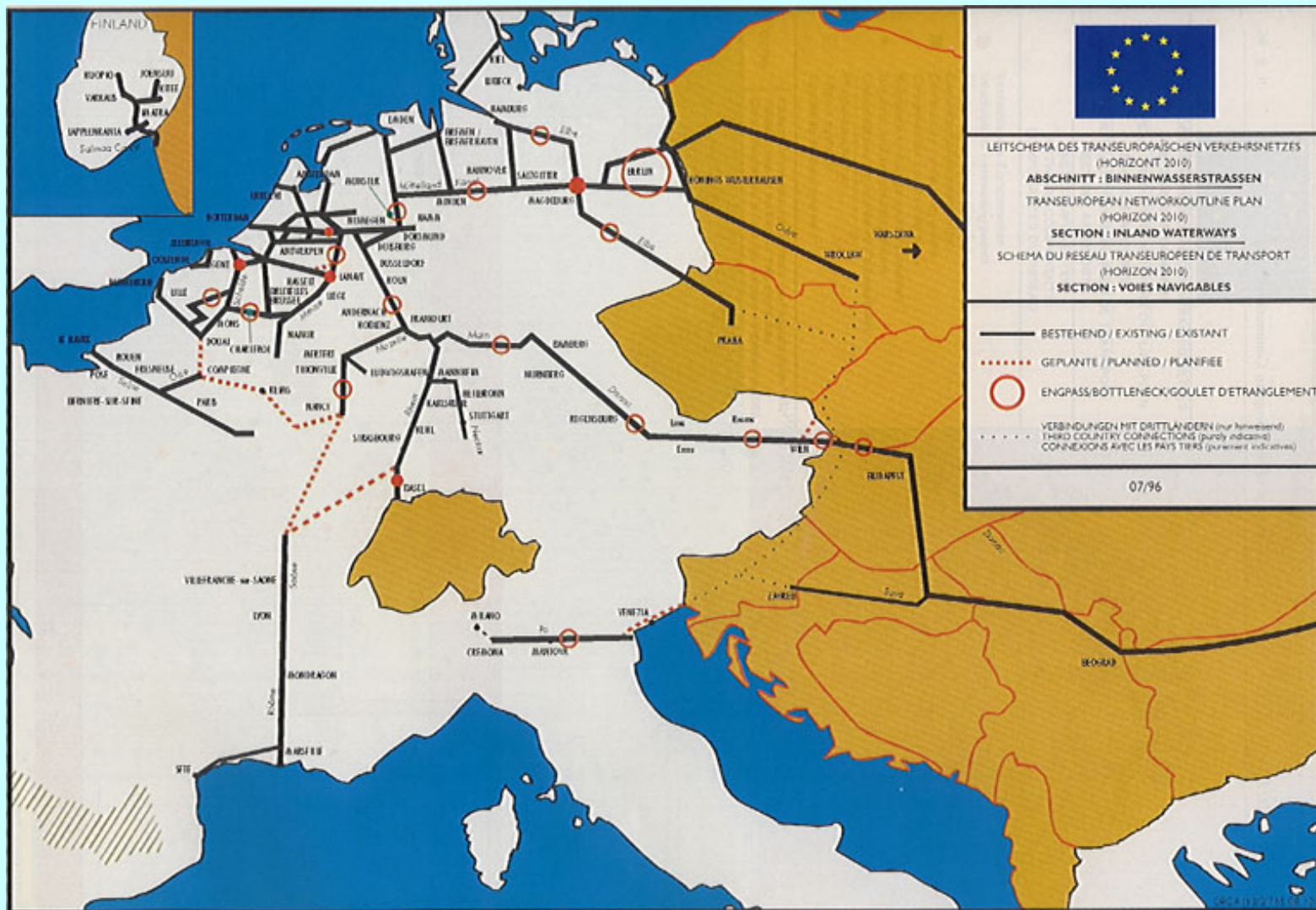
... and offers high societal benefits

- Safest mode: in the Netherlands – the country with Europe's highest densities of inland waterway traffic – the number of yearly fatalities caused by accidents is next to zero.
- Most environmental-friendly mode: without inland waterway transport, emissions to air in Europe would be at least 10% higher.
- Lowest external costs of IWT: 10 €/1000tkm (rail: 15 €/1000 tkm, road: 35 €/1000tkm)

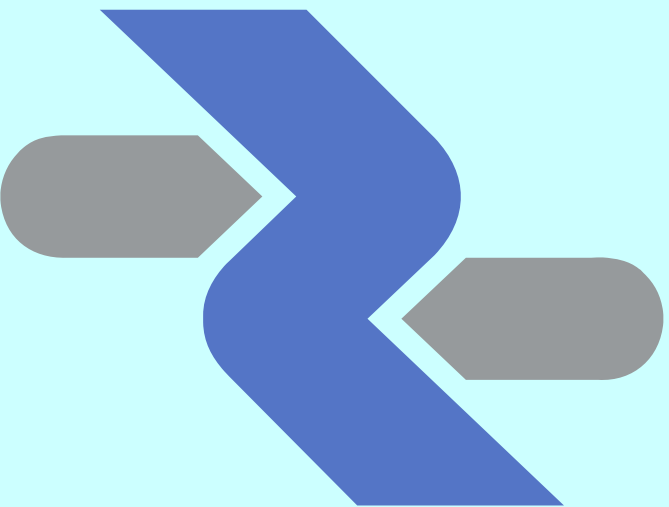
LEGEND	LÉGENDE	УСЛОВНЫЕ ОБОЗНАЧЕНИЯ
Trunk waterways Arteries principales Магистральные водные пути	E 20	
Other main waterways Autres voies navigables principales Другие основные водные пути	E 21	
Branches Branches Ответвления	E 60-66	
Coastal routes Routes côtières Прибрежные маршруты	E 60	
Missing links Liaisons manquantes Недостающие звенья	E 20	



NETWORK OF MAIN EUROPEAN WATERWAYS OF INTERNATIONAL IMPORTANCE ACCORDING TO THE AGN



- **Towards motorways of the seas ...**

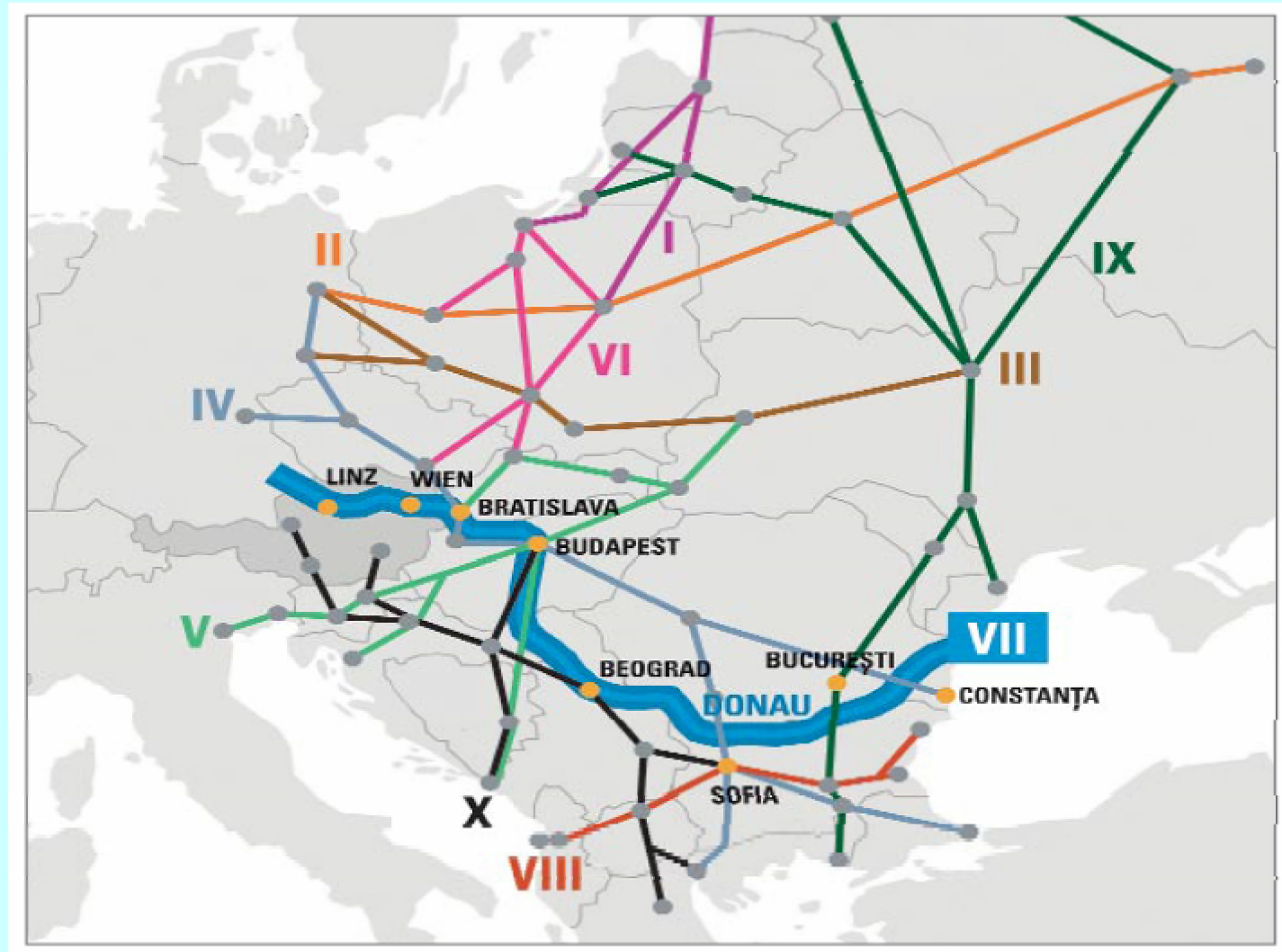


Corridor VII the danube

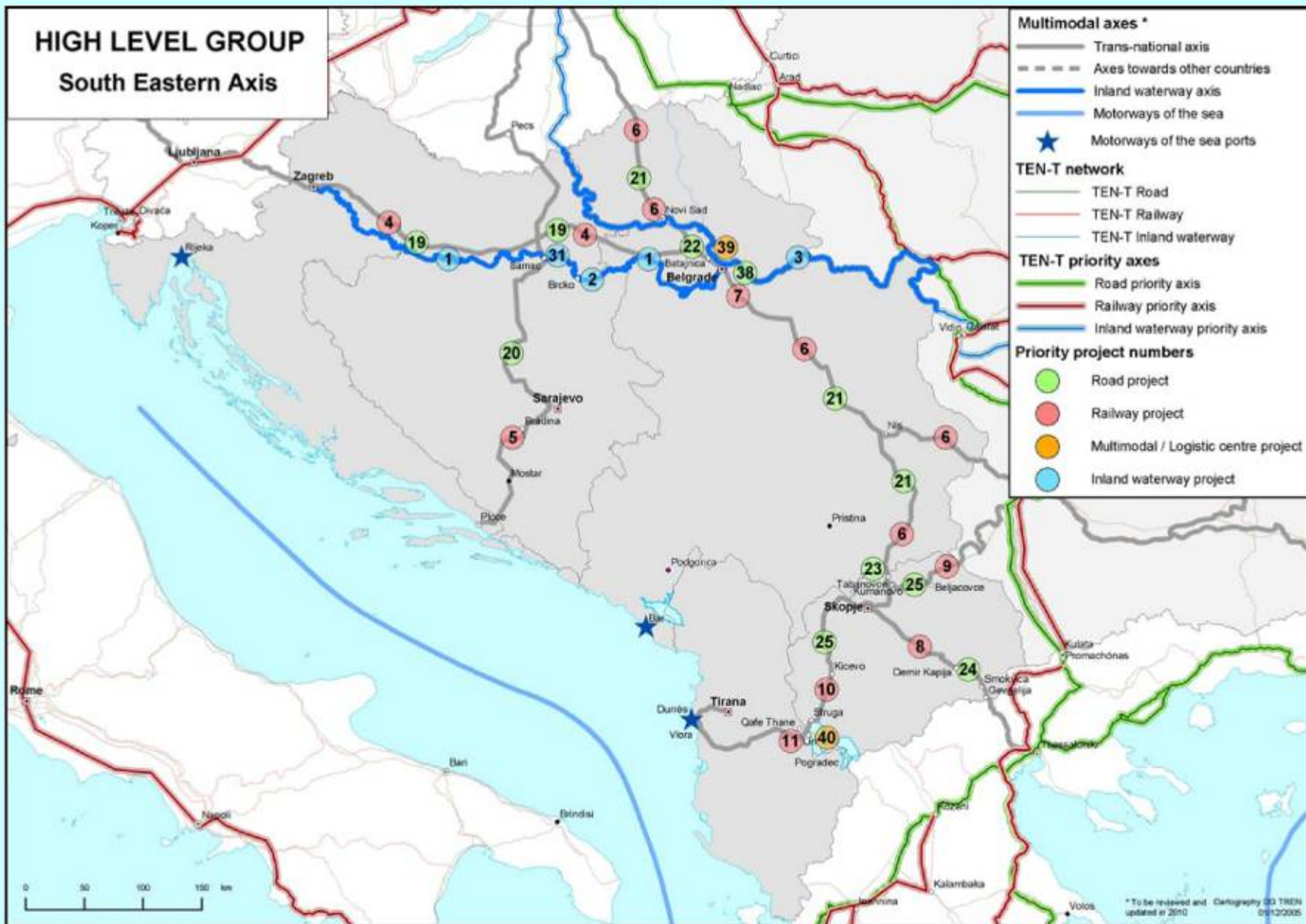


Corridor VII
the danube

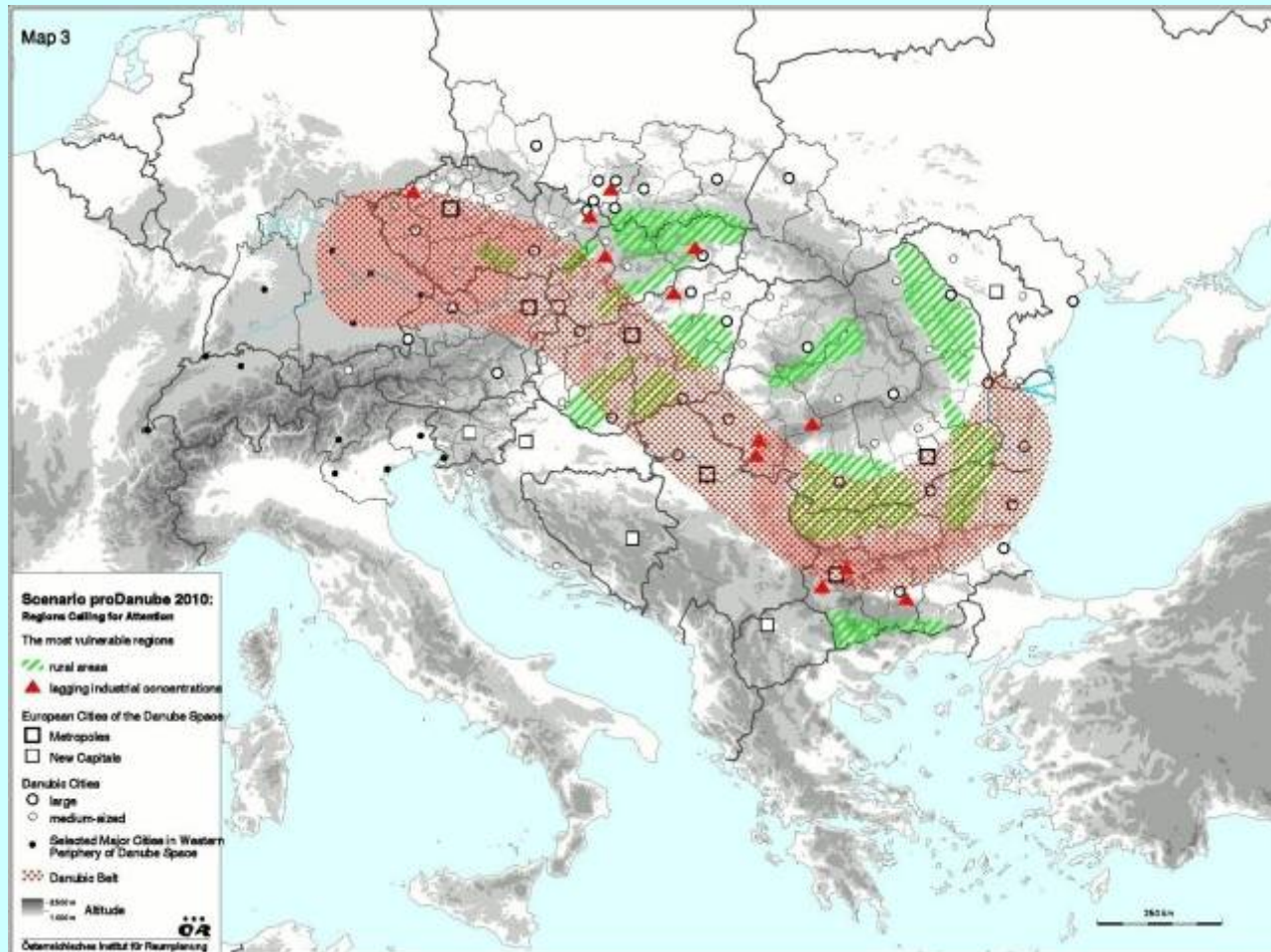
The Danube as a transport corridor



HIGH LEVEL GROUP South Eastern Axis

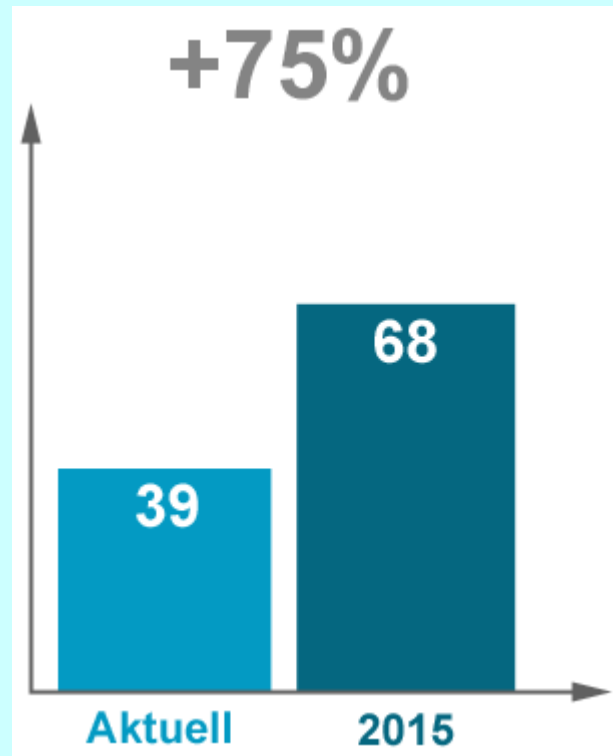


The “Danube belt” – an axis for development

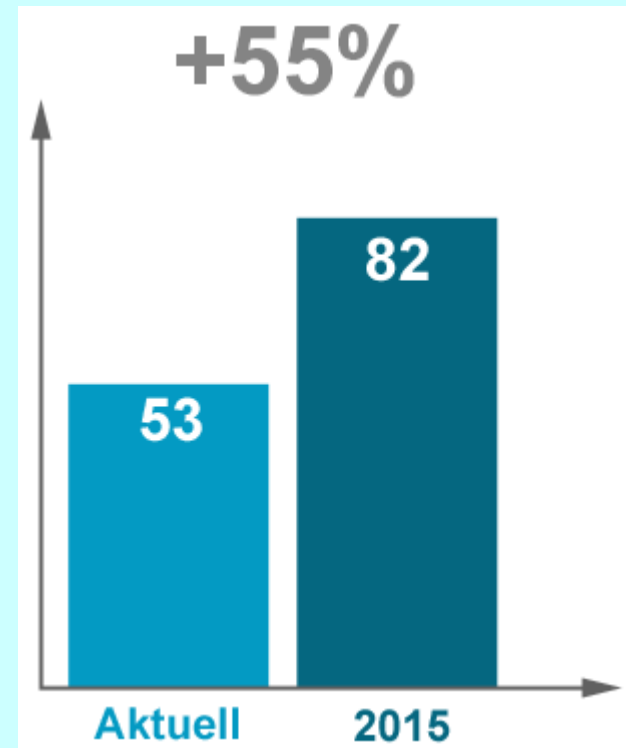


INCREASING OF TRAFFIC OF CARGO AND PASSENGERS

Development of Cargotransport till 2015
(in bill. tonnkilometers per year)

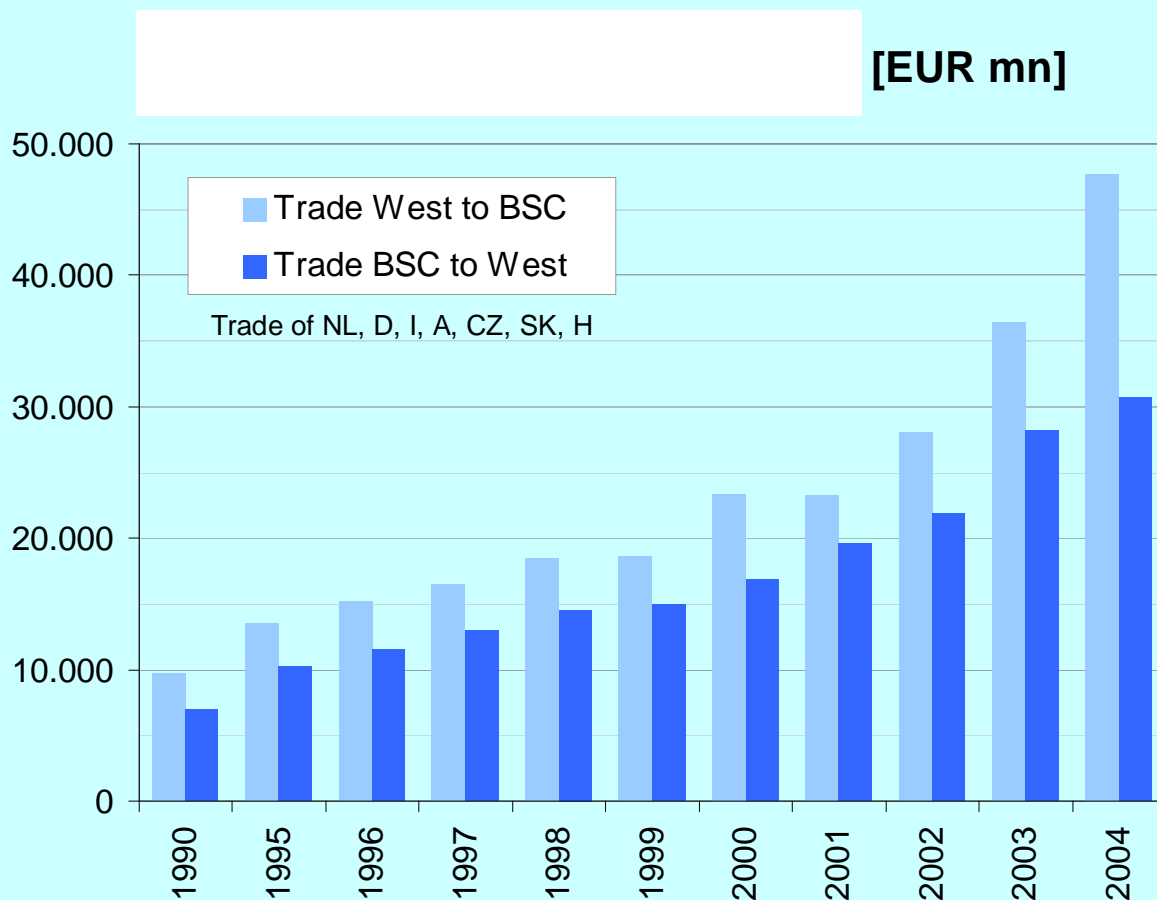


Development of Passengertransport 2015
(in bill. pasenger transports per year)



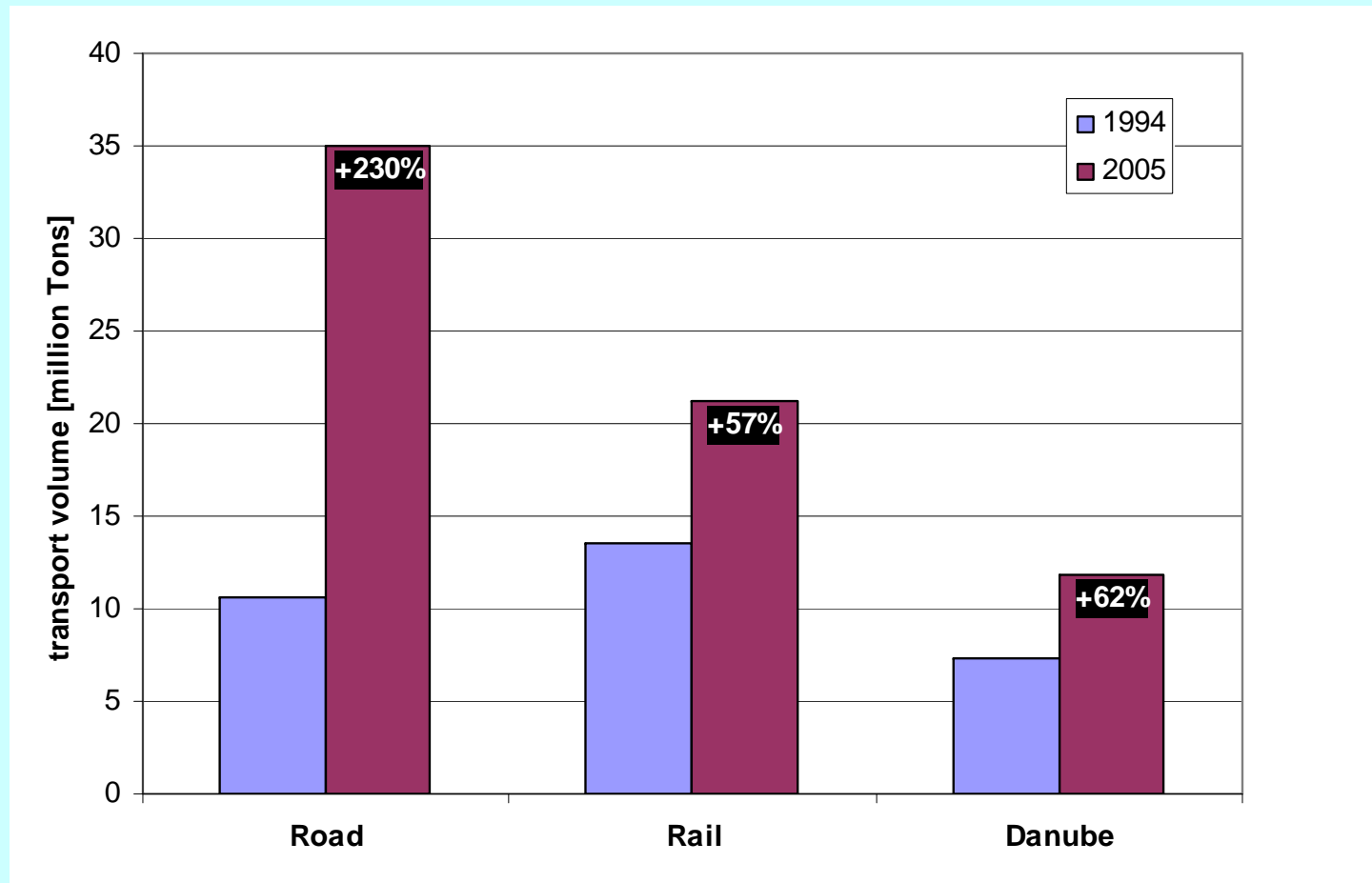
Quelle: Verkehrsmodell Österreich (BMVIT), Regional Consulting

Trade volumes between Western Europe and Black Sea countries



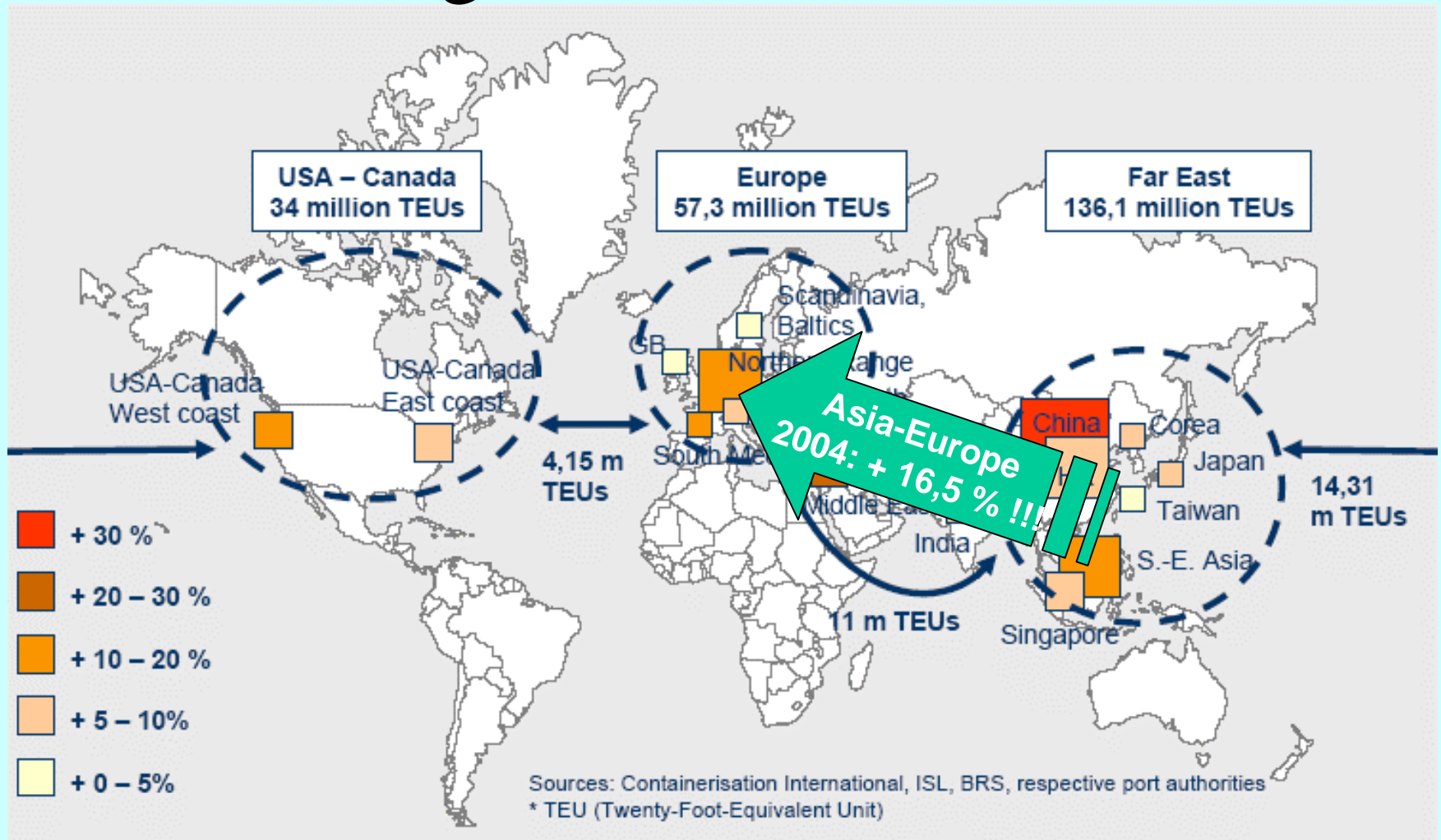
Source: OIR (Austrian Institute for Spatial Planning), 2006

Development of Modal-Split of transport volume in the Austrian Danube corridor



Source: OIR (Austrian Institute for Spatial Planning), 2006; figures include bilateral and transit traffic

Enormous growth of container traffic



Quelle: Hulocon 2005

Relation Constantza - Vienna

Container traffic

CO₂-Balance:

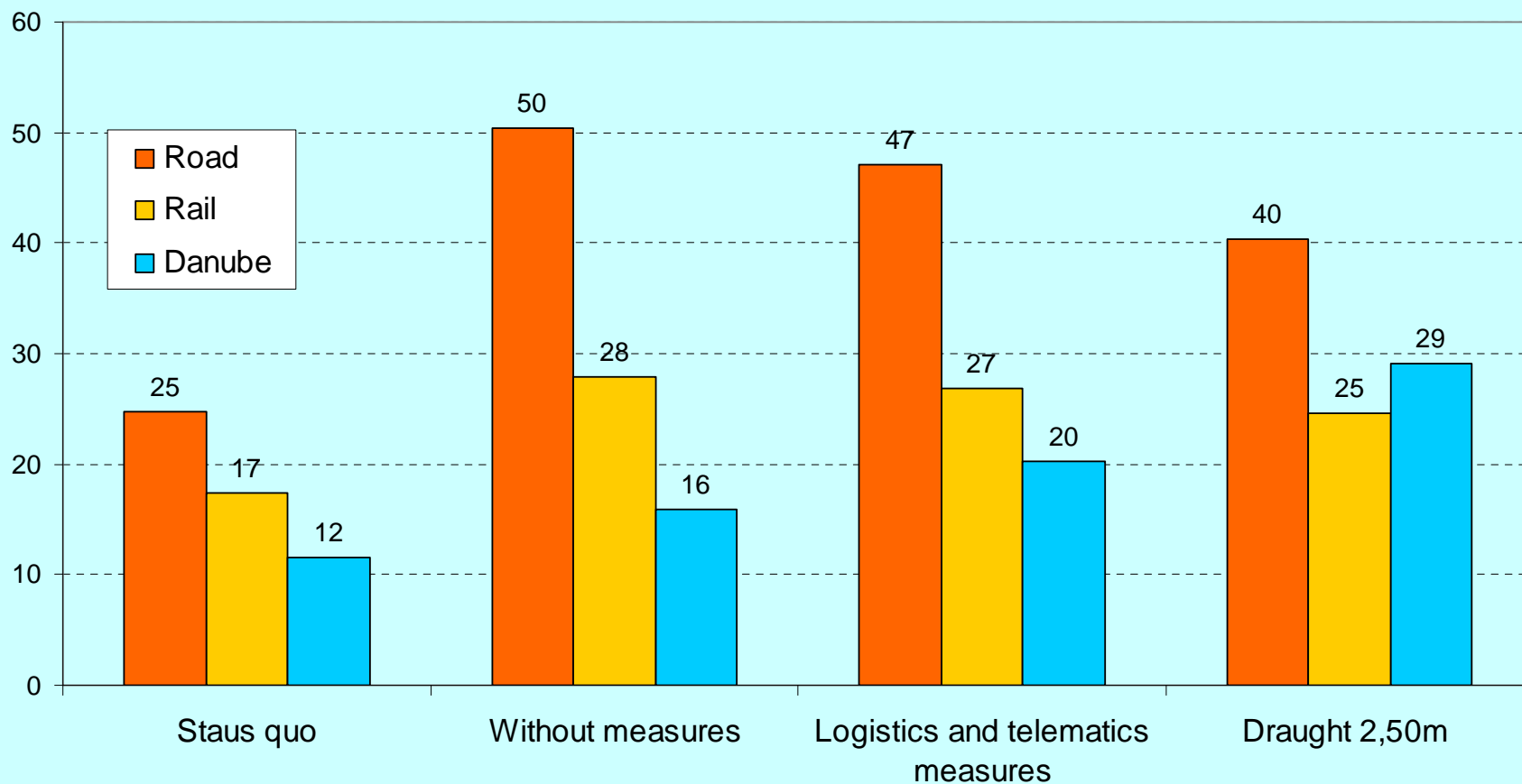
Inland

Vessel: **349 kg CO₂/TEU**

Rail: **567 kg CO₂/TEU** (+62% compared to vessel)

Road: **933 kg CO₂/TEU** (+167% compared to vessel)

Prognosis Danube Corridor 2015 Impacts of Measures for Danube Navigation [Mio. tons]



Source: ÖIR, Prognose ALSO DANUBE. Grenzüberschreitender und donauparalleler Binnenverkehr



Bottlenecks on the Danube waterway



- Inadequacy of navigation conditions
- Need of international co-operation
- Appropriate solutions for different forms of bottlenecks



PROJECT N° 18

DG TREN

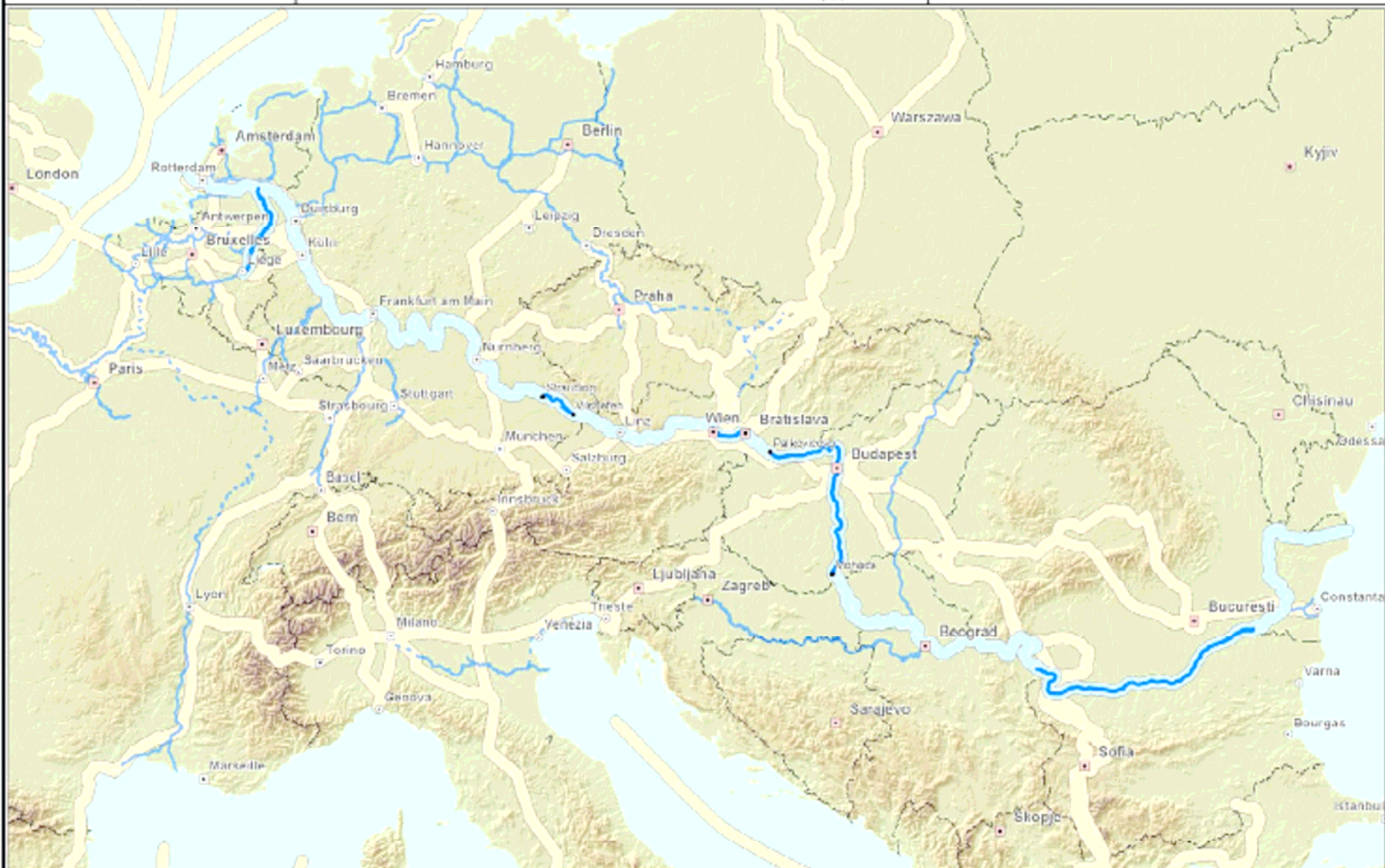
Trans-European Transport Network
Priority Projects

WATERWAY AXIS RHINE/MEUSE-MAIN-DANUBE



© Eurogeography 2001 for the administrative boundaries
Eurogeography DG TREN, Strasbourg

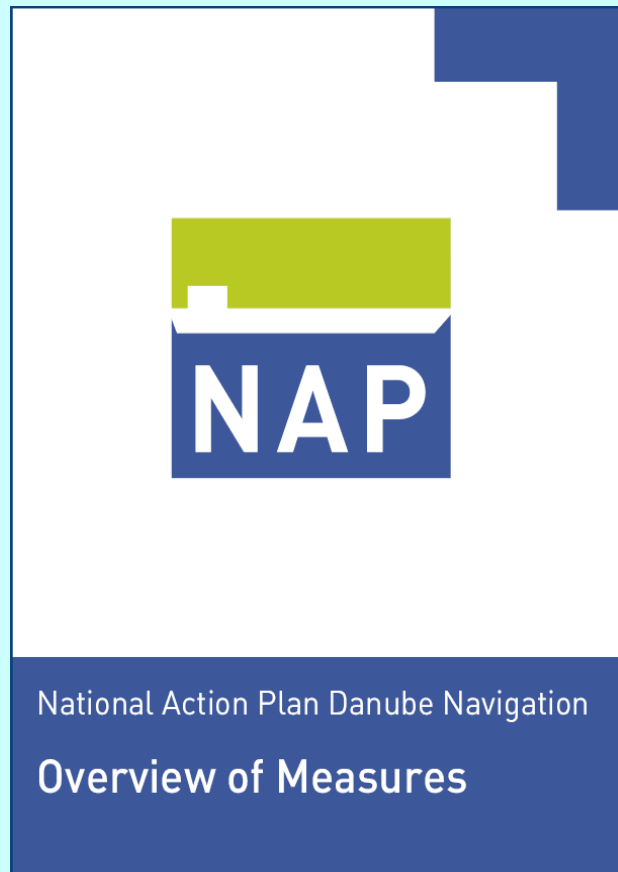
- Existing inland waterway
- Planned inland waterway
- Priority axis n° 18
- Priority sections
- Other priority axes



MAIN ISSUES:

- Physical Improvement of the River Danube
- Physical Improvements to the Ports
- Improvements to Shipyards
- Improvements to Fleets
- Improvements to Operations
- Institutional and Legal Issues

Austrian Action Plan Danube Navigation



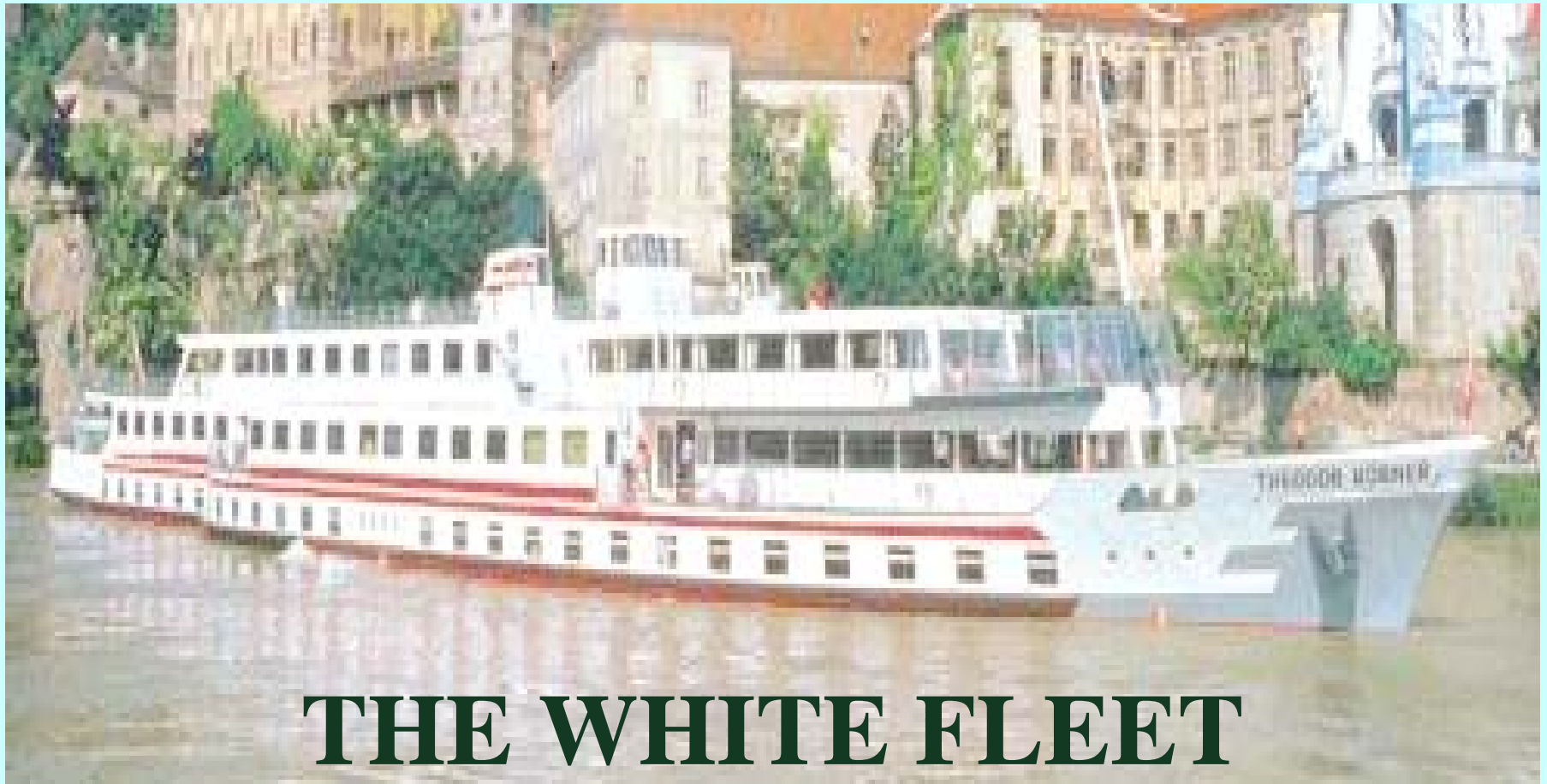
- Comprehensive and dynamic planning and decision-making instrument for Austrian shipping policy until 2015
- Austrian implementation strategy of the European NAIADES action programme
- Catalogue of measures developed in cooperation with inland ports and the inland navigation sector

NAIADES Action Programme

- Presented by the European Commission on 17 January 2006
- Multi-annual Action Programme in order to foster transport by inland waterways in Europe (2006 – 2013)
- **Objectives:** Increase competitiveness of inland waterway transport & integrate into door-to-door logistic chains
 - ⇒ More freight transport on European inland waterways
- **Addressee:** EU member states, industry, social partners, river commissions, European Commission and other EU institutions

Tri-modal Terminal Vienna - Freudenau





Danube Cruising Ships + Number of Passengers 1992 – 2006

1992	31 Vessels	
2003	75 Vessels	140.000 Passagiere
2004	84 Vessels	145.000 Passagiere
2005	99 Vessels	155.000 Passagiere
2006	114 Vessels	200.000 Passagiere

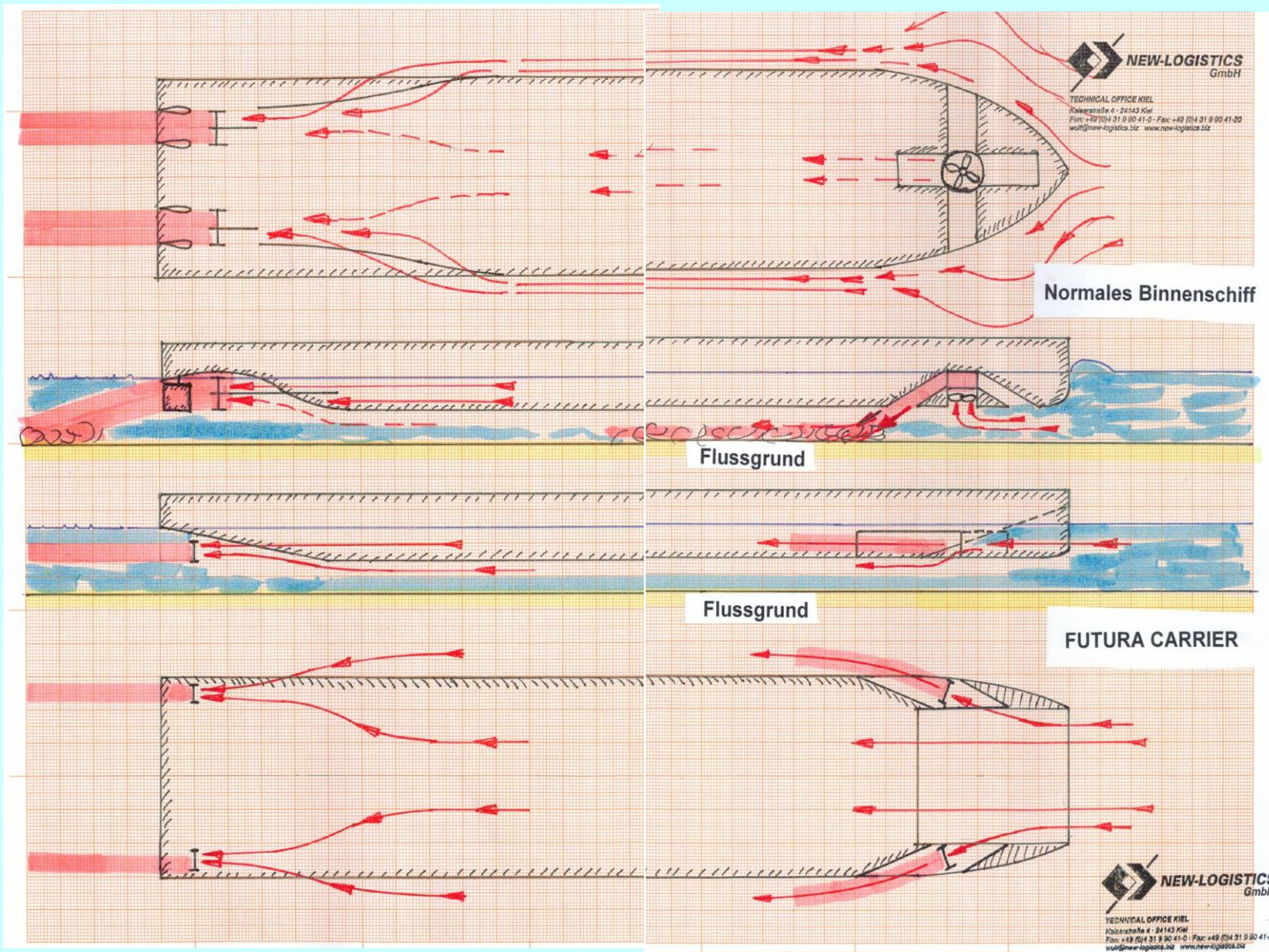
System Inland Vessels

FUTURA CARRIER / FUTURA TANKER



Definition of Design and Construction Elements:

- Highest Security in Operation
- Highest Maneuvering Possibilities
- High Cargo Loads at less Draught
- High Propulsion Efficiency in Shallow Watersections
- High Environmentally Friendly
- High Service- and Repair Friendly



NEW-LOGISTICS GmbH
 TECHNICAL OFFICE KIEL
 Kaiserstraße 4 • 24143 Kiel
 Fon: +49 (0)4 31 9 20 41-0 • Fax: +49 (0)4 31 9 20 41-20
 wulf@new-logistics.biz www.new-logistics.biz

Normales Binnenschiff

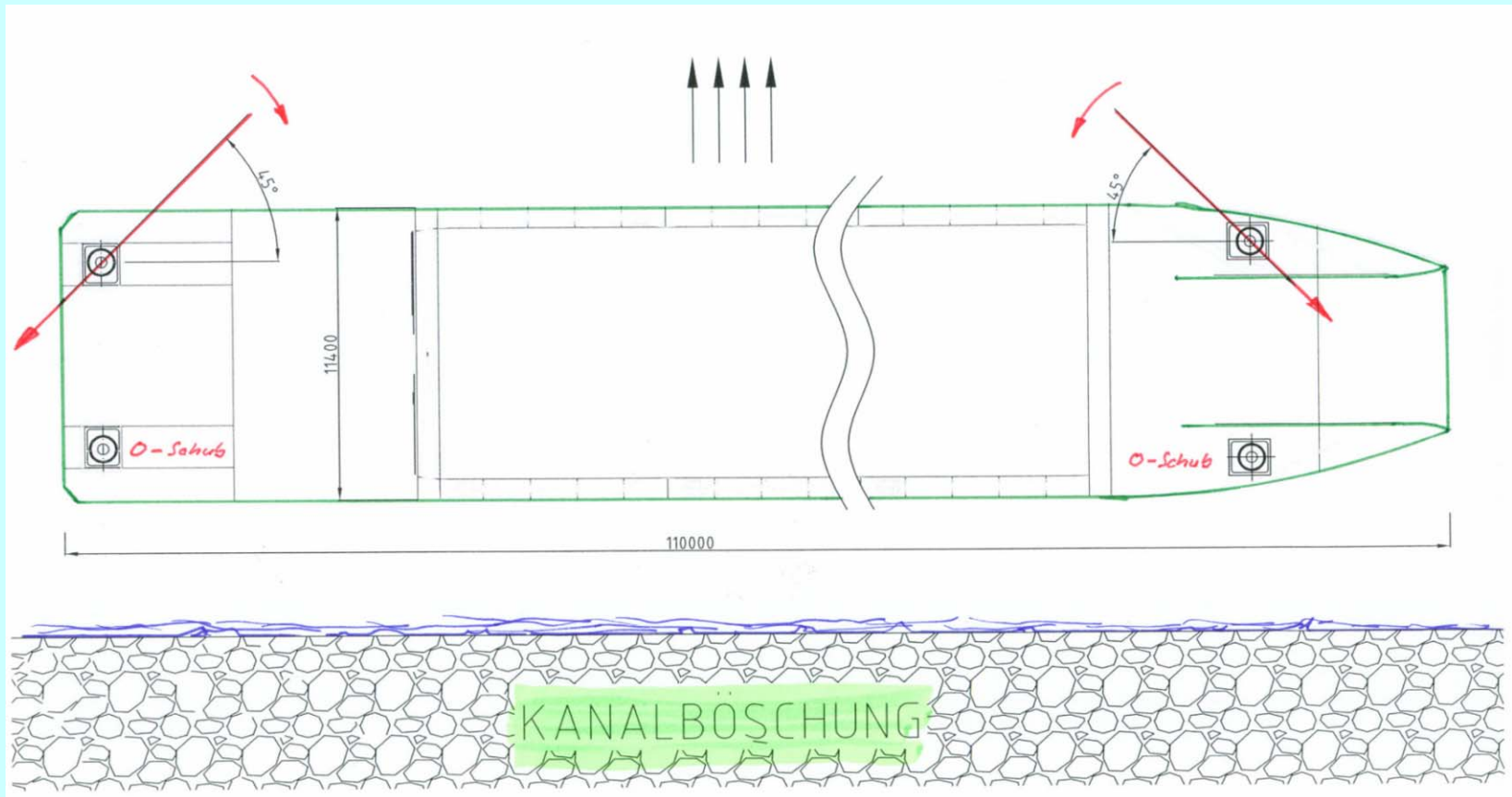
Flussgrund

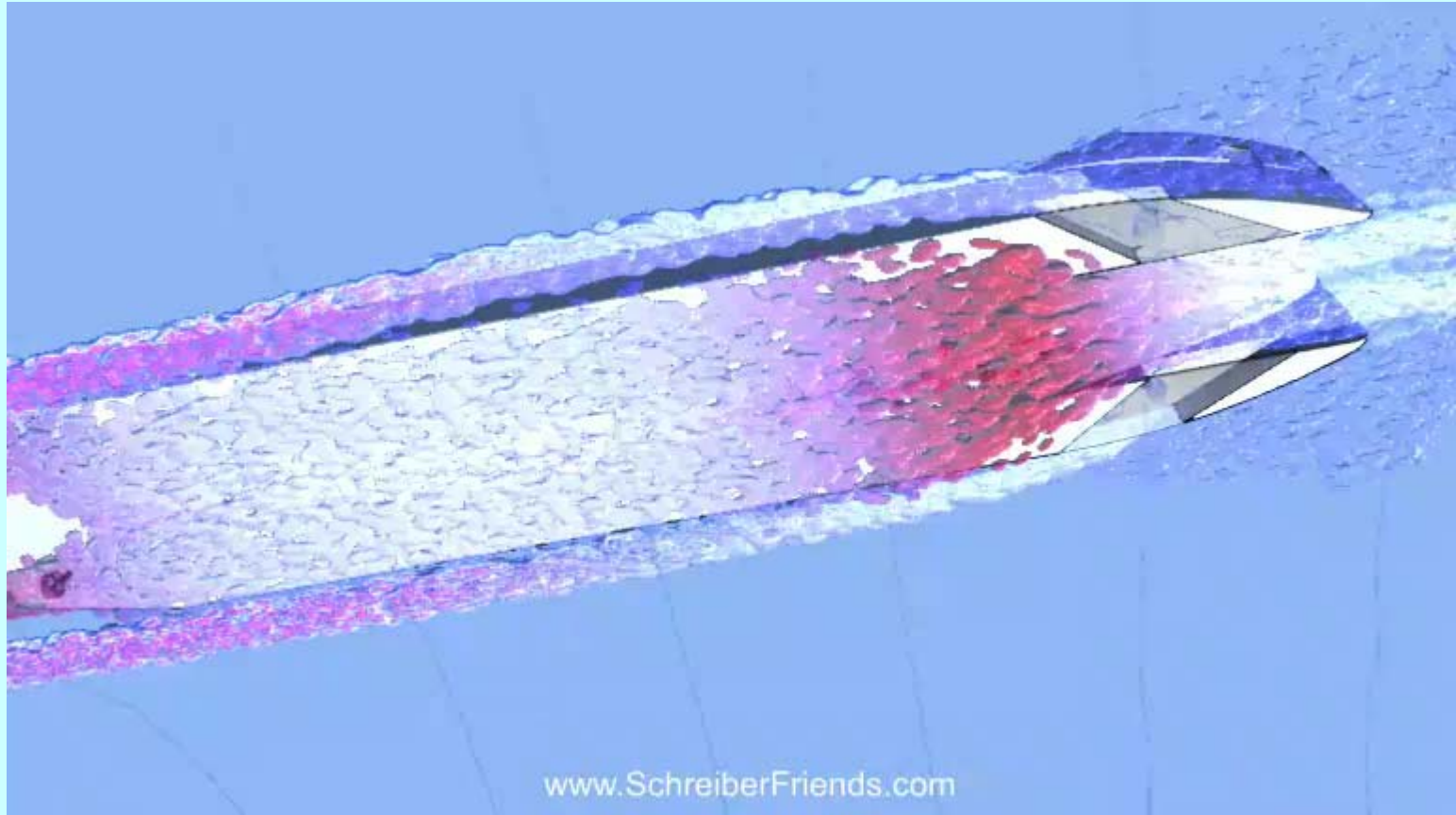
Flussgrund

FUTURA CARRIER

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 wulf@new-logistics.biz www.new-logistics.biz

Flexible Usage of the four Propellers





FUTURA CARRIER FC –MPC- 975

Binnenschiff für Kupfererz

Länge über alles:	97,50	m
Breite über alles:	13,60	m
Seitenhöhe bis Hauptdeck:	4,00	m
Tiefgang max:	3,00	m
Ballasttiefgang:	2,00	m
Fixpunkt im Ballast:	4,00	m
Laderauminhalt über 3 Räume: (Lukenabdeckung)	2648	m ³
Antriebssystem:	4 Ruderpropeller	
Propellerdurchmesser:	1,05	m
Dieselmotoren hinten:	2 x 338	kW
Dieselmotoren vorne:	2 x 338	kW
Geschwindigkeit:	max. 18	km/h
Generatorleistung:	2 x 107	kVA
Brennstoff:	80	m ³
Trinkwasser:	10	m ³
Schmutzwasser:	10	m ³
Ballastwasser:	800	m ³
Zuladung inkl. Vorräte:		
bei T = 3,00 m	2750	t
bei T = 2,50 m:	2120	t
bei T = 2,00 m:	1470	t
bei T = 1,50 m:	870	t



„Till Deymann“ (NL Baunummer FC 004)



„RMS Kiel“ at Beaufort 7 in the North Sea

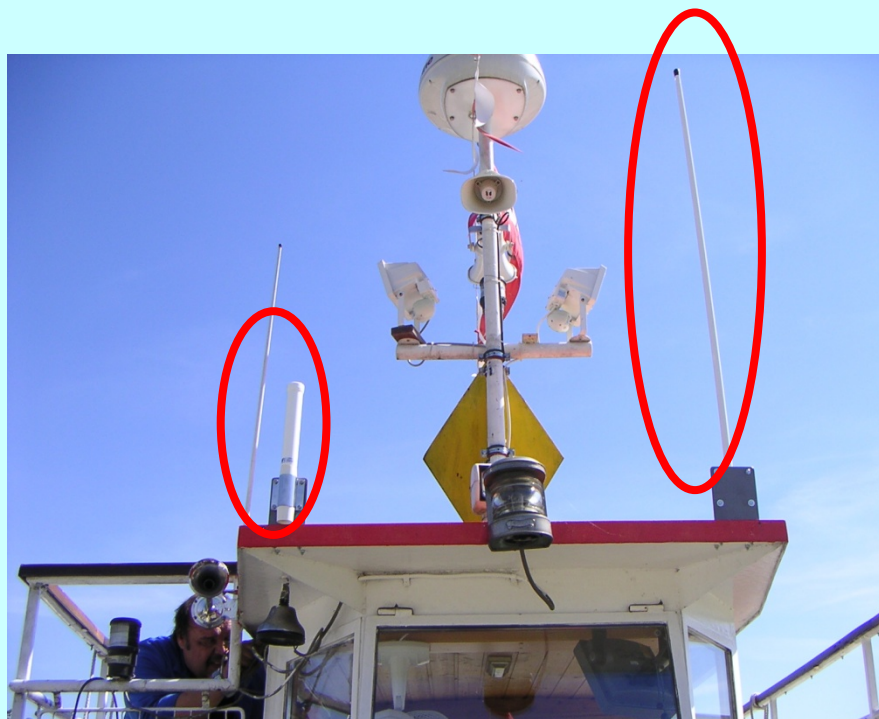


River Information Services

**Telematics Systems and
Information Services
in order to increase the
safety and efficiency of
inland waterway transport**



Vessel installation



280 vessels are already equipped through the Austrian equipment programme within DORIS

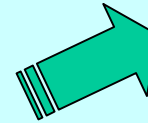
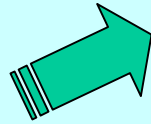
www.doris.kompit.at

DORIS
DONAU RIVER INFORMATION SERVICES



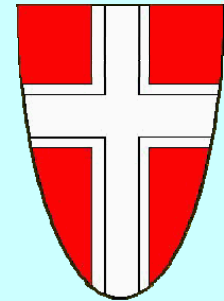
Corridor VII
the danube

innovative technology since 30 years

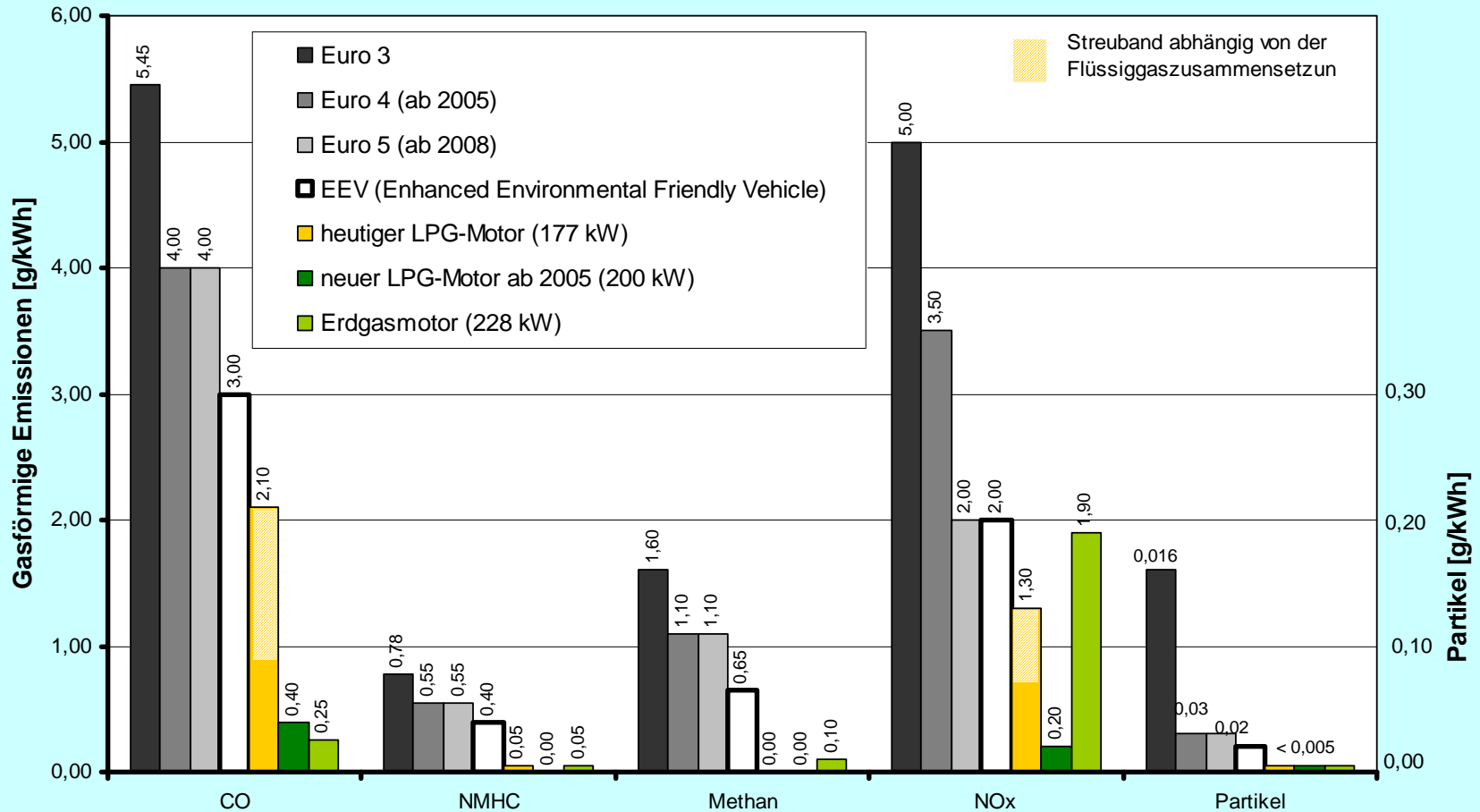


VIENNA:

THE ENVIRONMENTAL FRIENDLY
CITY



LIQUID-GAS BUSSES



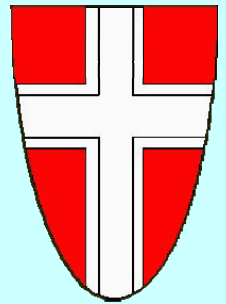


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w!enhold!ng