D 7 – PRACTICAL CASE STUDIES FROM ITALY: NAPLES, SALERNO AND SAVONA PORTS

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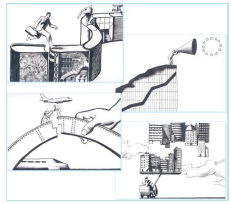

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Practical case studies from Italy: Naples, Salerno and Savona ports

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Summary of the study

MoS market in Italy:

- Demand analysis and predictions
- Hinterland market study: industries and markets analysis
- Italian legal framework on development of MoS and incentive measures

MoS quality and selection criteria for port users

- Performance areas for MoS: infrastructures and services
- Technical evaluation of terminal considered
- KPI's panels

Case studies: Italy – Spain MoS services

- Feasibility of new MoS services: Savona-Valencia, Naples-Barcelona and Salerno-Valencia
- Competitiveness analysis
- Cost Benefit Analysis

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Market study: analysis of existing lines and their frequency

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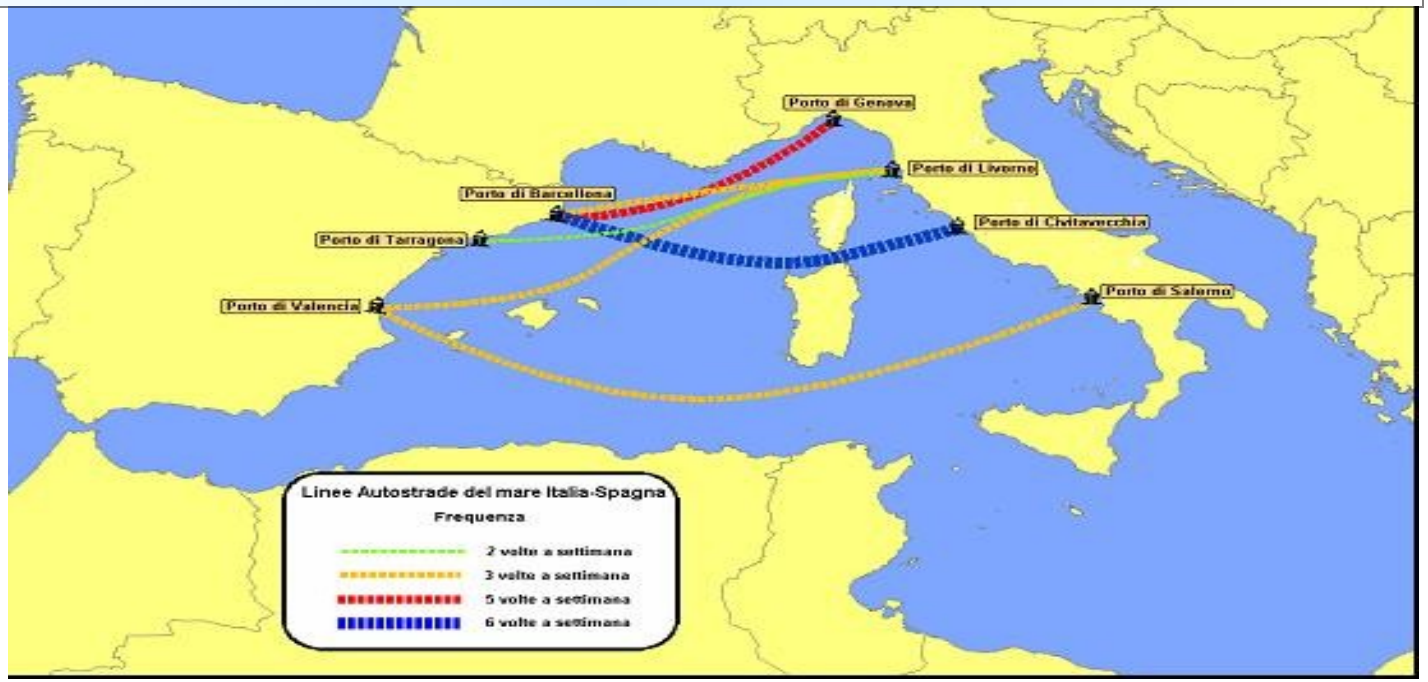
Source: Our elaborations on ship agents, Rete Autostrade Mediterranee data



Line	Operator	Frequency	Transit time	Cost full truck 16.5 m	Cost empty truck 16.5 m	Cost full trailer	Cost empty trailer	Type of Ship
Genoa – Barcelona	GNV	5	18	655	527	638	470	ro-pax
Livorno – Valencia	Gruppo Grimaldi	3	38	850	723	720	640	ro-multipurpose
Livorno – Tarragona	Flota Suarrdiaz	2	26	650	650	600	600	ro-car carrier
Livorno – Barcelona	Gruppo Grimaldi	3	19	700	700	600	600	ro-feerry
Civitav. – Barcelona	Gruppo Grimaldi	6	19	824	824	694	595	ro-ferry
Saerno – Valencia	Gruppo Grimaldi	3	46	879	741	652	578	ro-multipurpose

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Quality criteria requirements: Methodology

Theoretical and qualitative definition of service quality criteria and infrastructural port requirements for MoS

- Performance area Port 1
- Performance area Port n..
- Performance area Service a
- Performance area Service n..

Analysis and quantification of specific KPI's (for port performance areas)

Technical and legal analysis of considered terminals (facilities, concessions studies)

Regional market drivers (socio-eco, political): actual situation, predictions

SWOT analysis for each port and MoS connection analysed

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Mos requirements: performance areas and KPIs

Performance Area	Objective	Indicator	Benchmark value	Actual value (Savona-Vado)
Sea access	Ship access in port	*N. closing hours per year*	*< 200 h*	√
	Port basin configuration	*Sailing canals size (m)*	*>= 187 m*	√√
	Basin's depth	*Basin's depth (m)*	*>= 8 m*	√√
Hinterland connections	Access to the main road network	*N motorways directly linked*	*>= 1*	√√
		Fast access to the main road network (min)	*< 20 min*	√
	Access to the main railway network	*N. of rail track access*	*>= 1*	√
		Dedicated freight line (yes/no)	*No*	X
Port roads	Internal port road	*Port road size (m)*	*>= 3.5 m*	√
		N of lanes per direction	*>= 1*	√
	Safety	*Monitoring system (yes/no)*	*Yes*	√
Terminal features	Physical characteristics	*Yard capacity (n of vehicles)*	*>= 2.5 vessel's capacity*	√√
	Layout	*Terminal specialization (yes/no)*	*Yes*	X
		Surface parking areas (m)	*>= 3.5 x 15*	√
	Design and specification of the ramp	*Possibility of 2-vehicle crossover when embarking/disembarking (yes/no)*	*Yes*	√
	Lighting	*Lighting power*	*>= 70 lux*	√
	Security	*Access control (yes/no)*	*Yes*	X

Legenda	
X	Does not meet requirements
√	positive
√√	Very positive

The infrastructural performance area is represented in the chart.

A specific analysis has been carried out also on:

- hinterland services (road congestion, rail slot availability, marshalling and shunting..)
- port services (customs, Terminal operations, ICT, documental flows, intermodality and interoperability..)

Sources: REALISE, ISIC (Task D), PORTMOS, Puertos del Estado, MOSES (WP 25), in-house elaborations

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SWOT analysis: Port of Savona Vado, terminal Forship

Strengths

- Closure to the main north Italian markets and has at its disposal good road and rail connection infrastructures (with Piedmont in particular), high freight accessibility.
- Strong automotive industry in Piedmont. Possible convenience for the development of mixed services (Ro-Ro and car carriers) on several O/D considered.

Opportunities

- High congestion in road coastal and hinterland infrastructures, especially in certain periods, and forced cross of Alps and Pyrenees could facilitate MoS services.
- Savona PA has planned a strengthening of terrestrial connections with the basin of Vado (due to the new Maersk container terminal). This could benefit also MoS traffics.
- Possibility of good load factors (mixed freight and passenger traffic).

Weaknesses

- Strong competition for the proximity to the port of Genoa (daily GNV service Ge-Bar) and the services Livorno-Valencia (Grimaldi) and Livorno-Tarragona (Flota Suardiaz).
- High congestion in road connections to the port: in particular motorway A12 (Ge-Ventimiglia) and A6 (Turin-Savona).

Threats

- No cargo dedicated terminals, that could create inefficiencies.
- Lacking of quays, very few space for development (VTE problems congested Forship terminal with part of the shifted container traffic).

Savona Vado - Terminal Forship

Port of Naples:
Calata Piliero, Immacolatella Vecchia, Calata Porta di Massa

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Strengths

- In a 50km range from the port there are 3.5m of inhabitants (51% of the GRP and 3,4% of GDP).
- Presence of several steady operators, due to several MoS services with Sicily.
- Good services to passengers.

Opportunities

- Presence of potential demand on the Southern Italy – Spain route (yearly growth rate: +5% since 2003)
- Demand for new services with southern Med countries (EuroMed Free Trade Area). In particular with Maghreb, Algeria and Morocco
- Integration of MoS services with the regional freight villages system (Interporto di Nola, port access gate).

Weaknesses

- No steady Ro-Ro international lines: weakness in comparison to the direct competitors. In Salerno and Civitavecchia port there is an embedded presence on international MoS services, in particular with Spain
- Lack of land and parking areas. inhomogeneous situation in different port areas (but definitely critical)

Threats

- Wharfs and quays have a small residual capacity.
- Need for larger areas in relation to the growth of unaccompanied Ro-Ro traffic. (Actual trends show a constant increasing of this type of traffic).
- In the future congestion problems and inefficiencies will probably increase without new wharfs and port infrastructures.

Naples – Calata Piliero, Immacolatella Vecchia, Calata Porta di Massa

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Port of Salerno:
Banchina Rossa, Molo di Ponente

Strengths

- Steady SSS relations with Spain, since 1996. At first with Barcelona, now with Valencia.
- MoS traffics are growing, (from 88,000 commercial vehicles in 2005 to 175,000 in 2007).
- Dedicated terminal offer fast and flexible services and operations 24/7. Internal viability is designed specifically for Ro-Ro traffics and flexible for modifications of traffic patterns

Opportunities

- Presence of potential demand on the Southern Italy – Spain route (yearly growth rate: +5% since 2003)
- Integration of MoS services with the regional freight villages system (Interporto di Nola, port access gate).

Weaknesses

- Competition with Civitavecchia in relations with Spain and France. Civitavecchia serves a broader catchment area than Salerno, and it is competitive also on the Southern Italian markets. It is also better positioned in relation to destinations from Toulon to Barcelona (<450 nm) therefore it is possible to make a tri-weekly service with a single vessel (at 24 knots).
- Road connections are inadequate, in terms of capacity and because of the crossing of city centre.
- Lack of spaces for loading operations, specific internal viability helps causes problems to port efficiency

Threats

- Need for larger areas in relation to the growth of unaccompanied Ro-Ro traffic. (Actual trends show constant increasing of this traffic).
- In the future congestion problems and inefficiencies will probably growth without new wharfs and port infrastructures.

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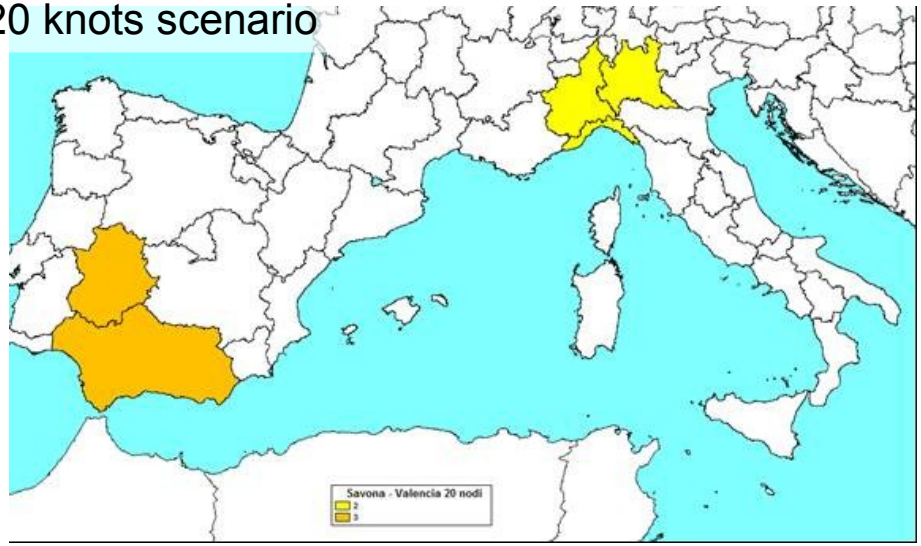
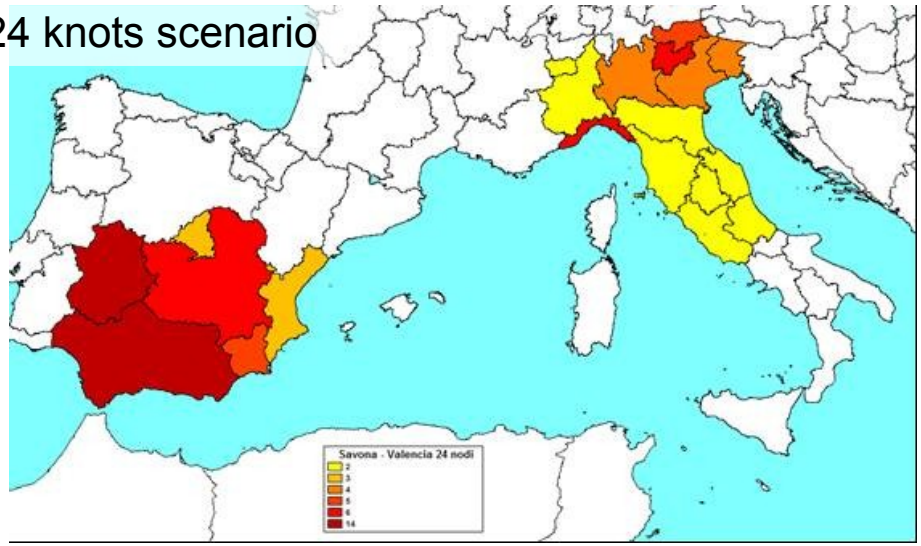
Market study: catchment area Savona – Valencia line

20 knots scenario



24 knots scenario



The figures shown result from the scenario of a 10% threshold of convenience compared to the all road solution

- The hp of service with Valencia seems to be competitive on a broader catchment area, among the others examined.

- The best hp seems to be an all cargo service operated with vessels of the “Eurocargo Napoli” type (used on the Salerno – Valencia, with a capacity of about 2,000 lm), at a 20 knots speed, in order to offer a bi-weekly service with regular schedule.

- Strong competition with the GNV service from Genoa to Barcelona.

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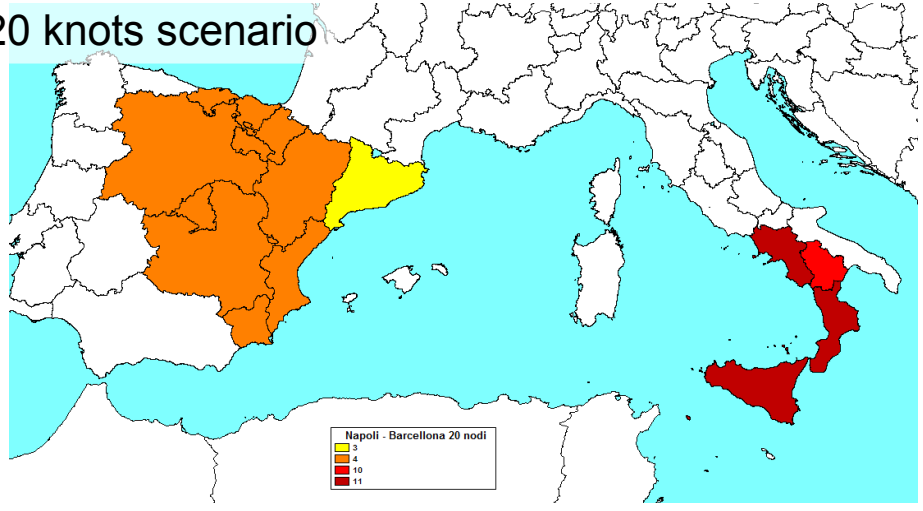
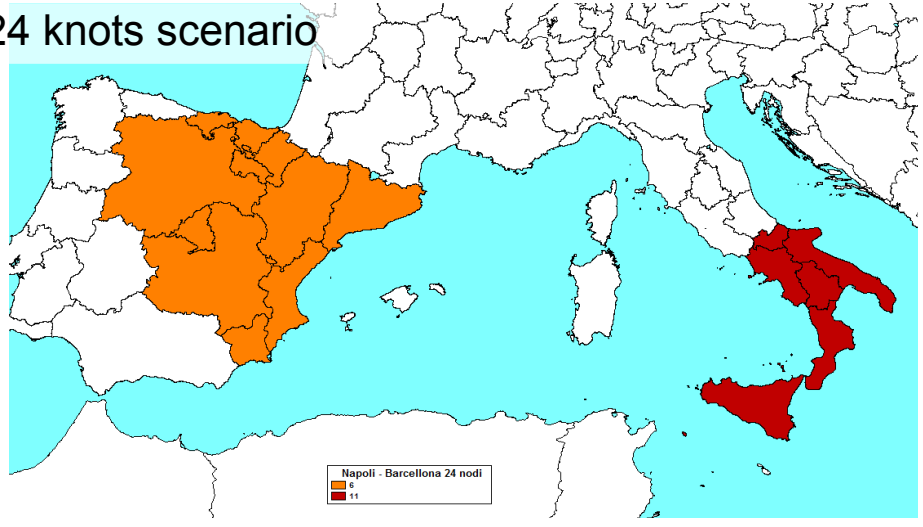
Market study: catchment area Naples – Barcelona line

20 knots scenario



24 knots scenario



The figures shown result from the scenario of a 10% threshold of convenience compared to the all road solution

- The hp of service with Barcelona seems to be competitive on a broader catchment area, among the others examined.

- The best hp seems to be a service with similar features of the Salerno-Valencia line (with the possibility of a triangulation on Palermo).

The service could be operated with vessels of the “Eurocargo Napoli” type, (about 2,000 ml), at a speed of 24 knots. With such a vessel it would be feasible to operate a bi-weekly service with triangulation on Palermo.

- Possible competition with the Civitavecchia-Barcelona service, and with the Salerno-Valencia operated by Grimaldi

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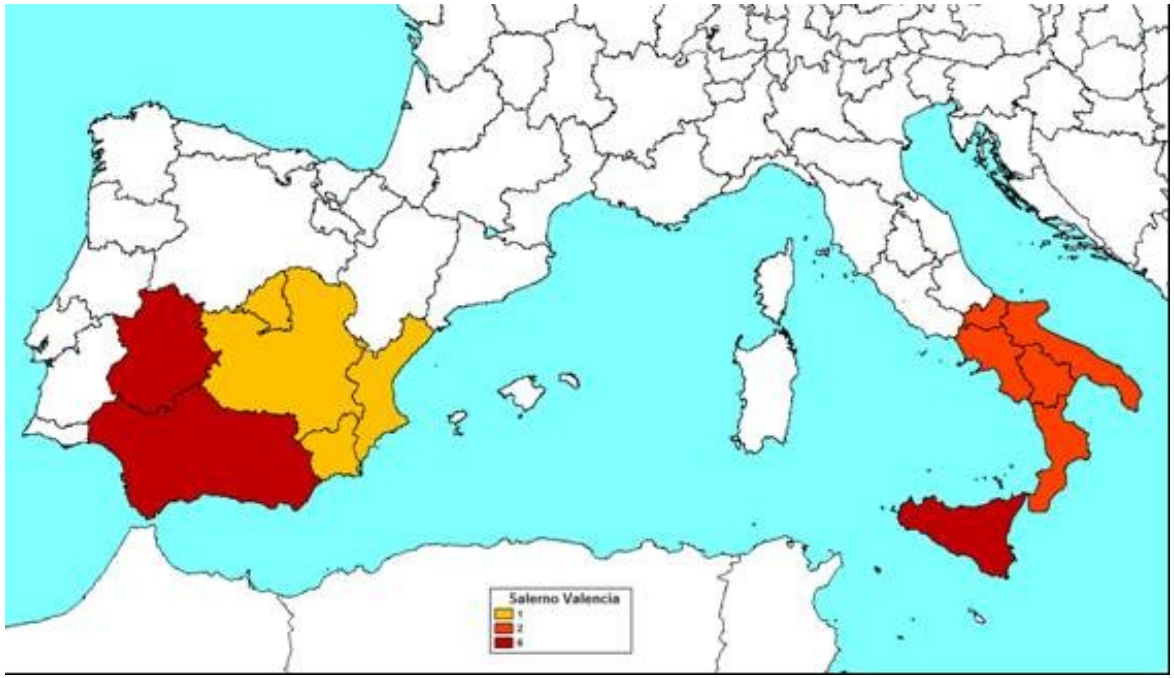
Market study: catchment area Salerno – Valencia line



The figures shown result from the scenario of a 10% threshold of convenience compared to the all road solution

- The hp of a new service from Salerno resulted to be not feasible, strong competition with Naples and Civitavecchia

The best option seems to be the strengthening of the service to Valencia that, at the current growth rate, is foreseeable to be necessary within a short period.

This strengthening could be done adding a third vessel on route. In this way a triangulation with a North African port could be possible. This will increase (from 3 to 4) the weekly connections with Valencia and will permit to call another port.

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Market study: modal shift and considerations

The Campanian port system has a less relevant market than the Ligurian one, but the Campanian market is more captive, in relation to variation of the convenience threshold compared to the all road solution.

There is a higher elasticity to the speed of vessels for Savona and the Ligurian basin, lower for Naples and Salerno. This is due to the "arc effect", that permits bigger distance savings from Southern Italy to Spain than from Ligurian ports.

	Modal shift from road	
	Competitiveness threshold: 0%	*Competitiveness threshold:* 10%
Naples-Barcelona (20 knots)	**-29.9 mio tkm**	**-68.4 mio tkm**
Savona-Valencia (20 knots)	**-534.3 mio tkm**	**-1603.9 mio tkm**

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Cost-Benefit Analysis

Costs

C1. Investment costs, that differ according to the type of vessel

C2. Running costs, which include crew, insurances, port costs, bunker

Benefits

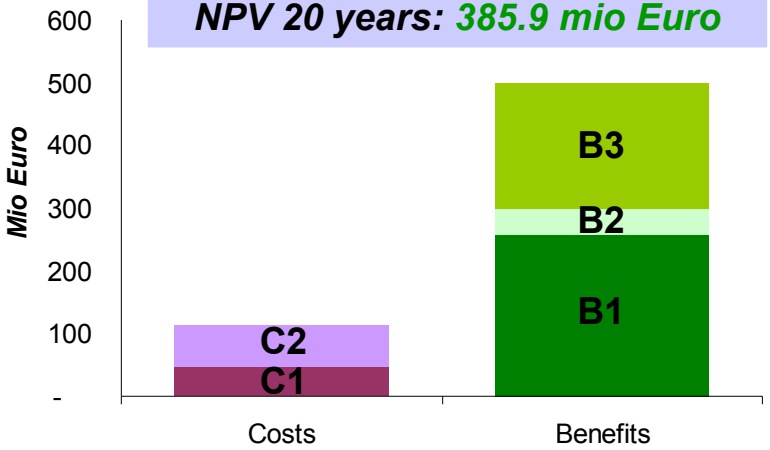
B1. Reduction of external costs, that derive from the modal shift from road to maritime

B2. Variation of the time spent for goods to be transported door-to-door

B3. Savings in road transport costs, which consider the fuel, maintenance and tyre savings due to the fact that the truck does not drive for most of the trip

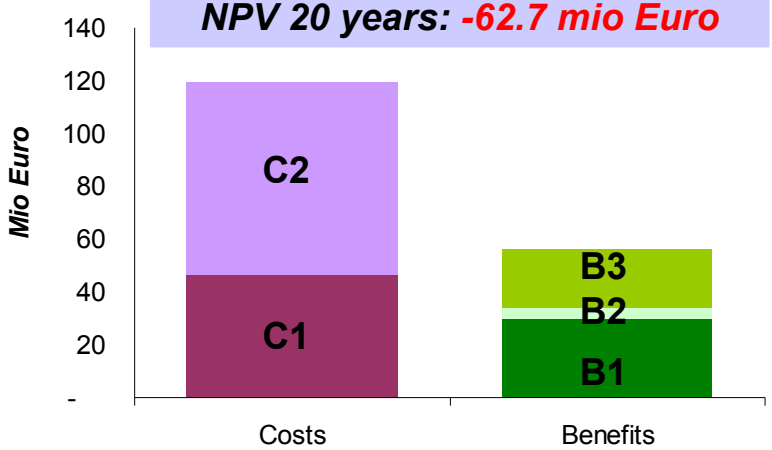
Savona-Valencia (20 knots)

NPV 20 years: 385.9 mio Euro



Naples-Barcelona (20 knots)

NPV 20 years: -62.7 mio Euro



Thank you for your attention

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