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SUSTAINABLE TOURIST ROUTES TOWARD GREENER HORIZON

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1st Workshop | 11.02.2021

Investments in port infrastructures to address the 2030 Agenda

Gianfranco Fancello

D.I.C.A.AR. – University of Cagliari (Italy)

www.greece-italy.eu

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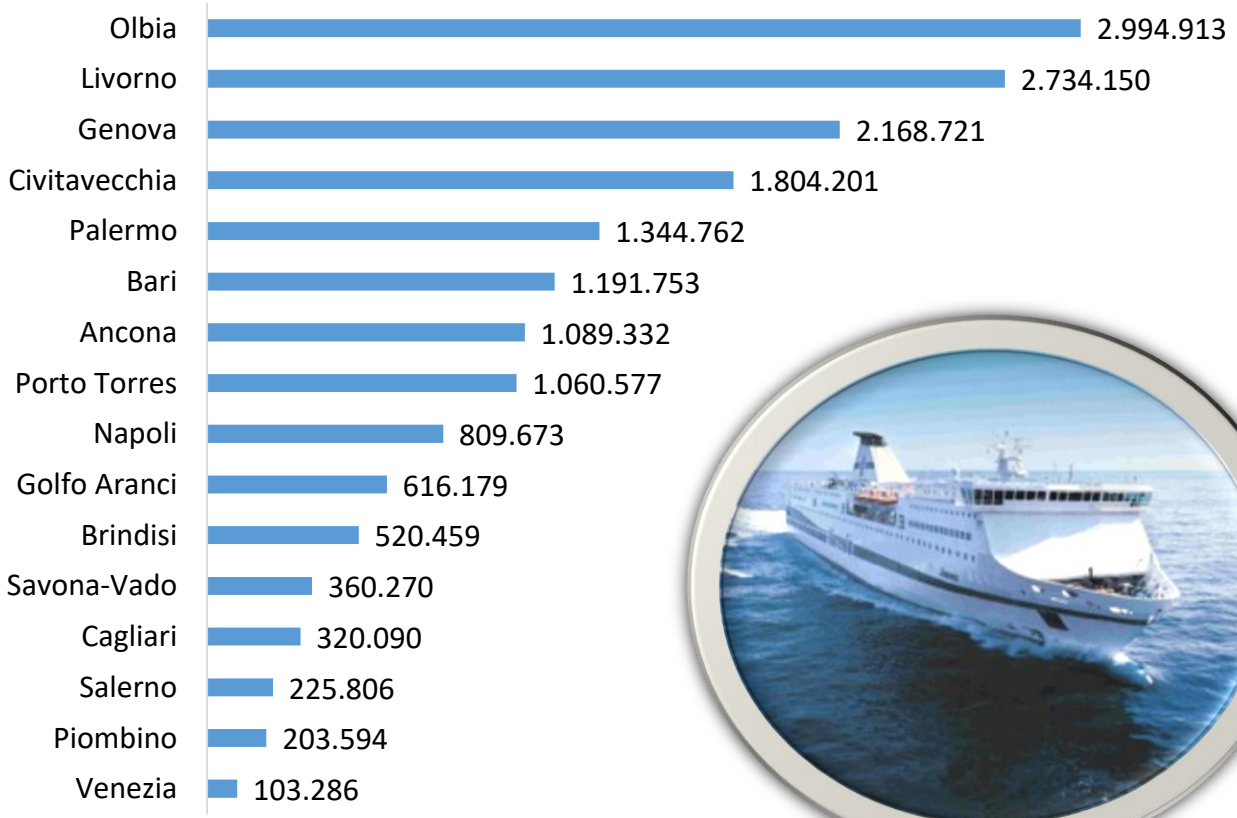
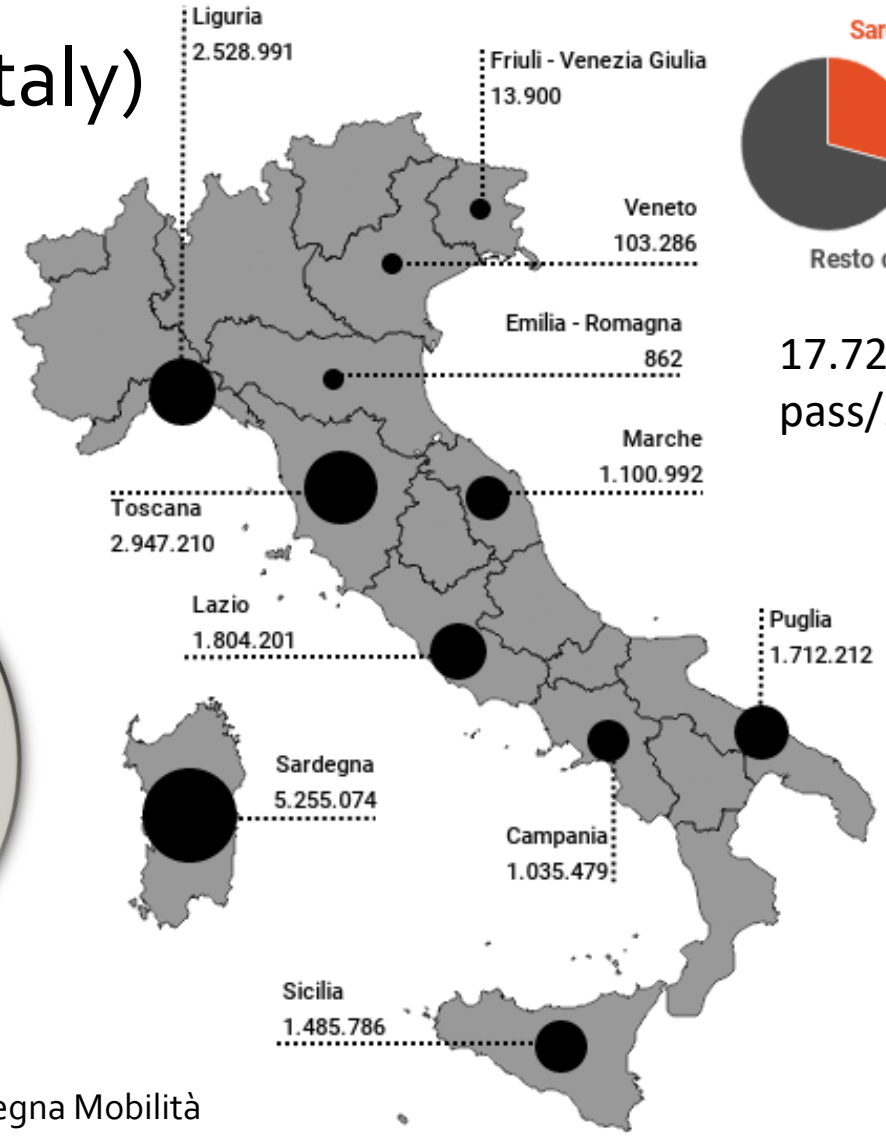
Maritime traffic 2019 – long distances (Italy)





17.724.678 pass/2019

Fonte: Elaborazione su dati Assoporti e RAS, Sardegna Mobilità

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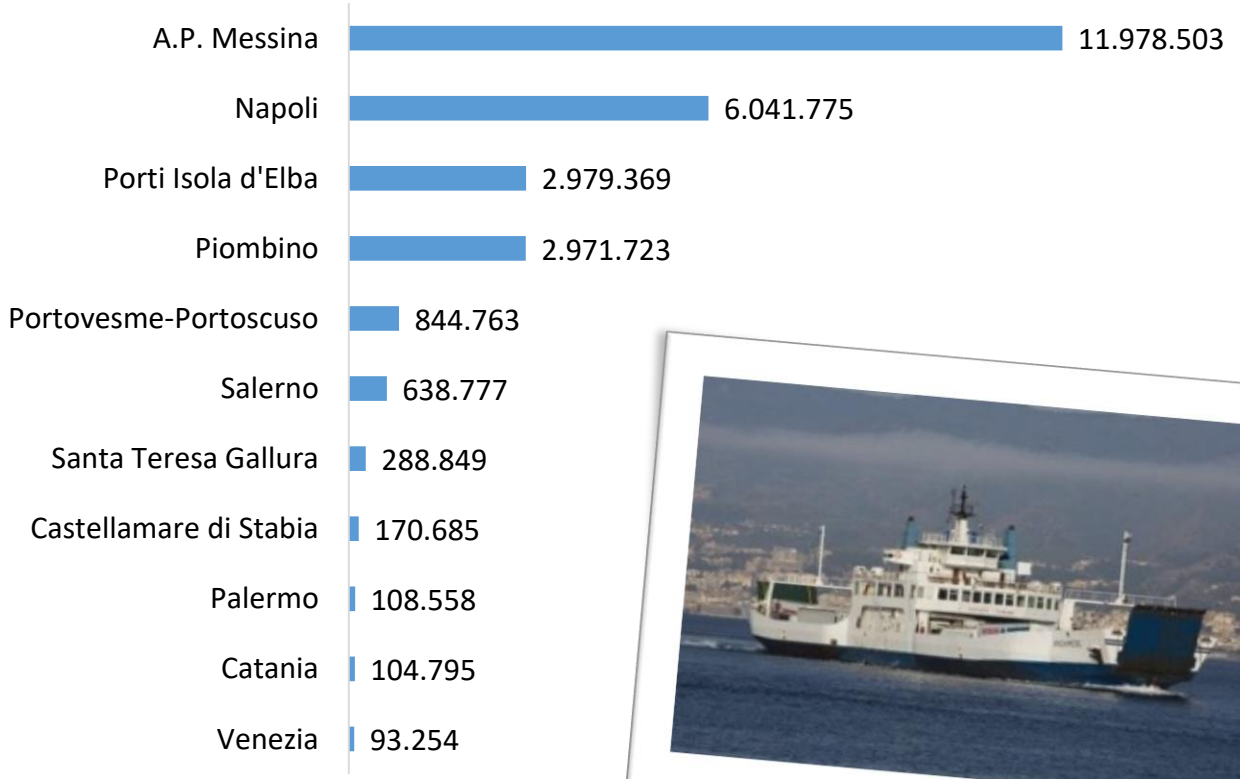
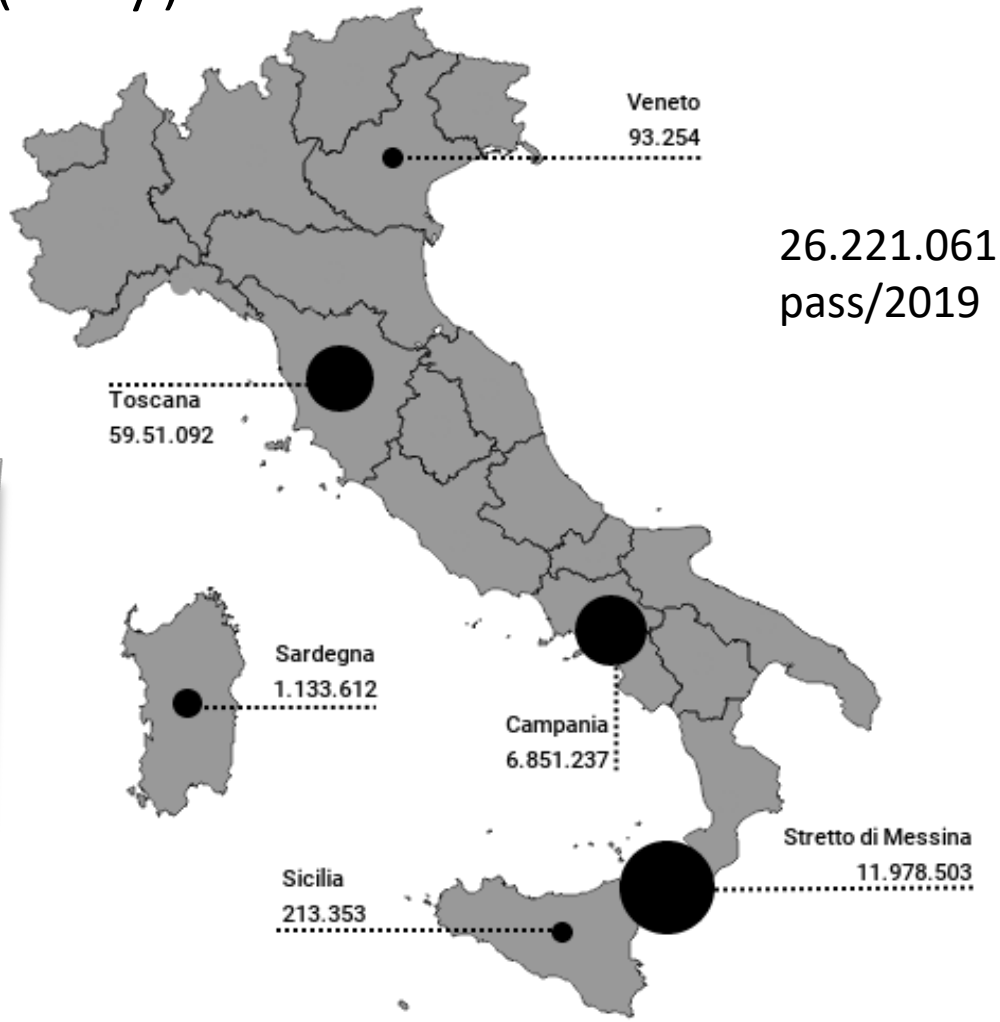
Maritime **traffic** 2019 – short distances (Italy)





26.221.061 pass/2019

Fonte: Elaborazione su dati Assoporti

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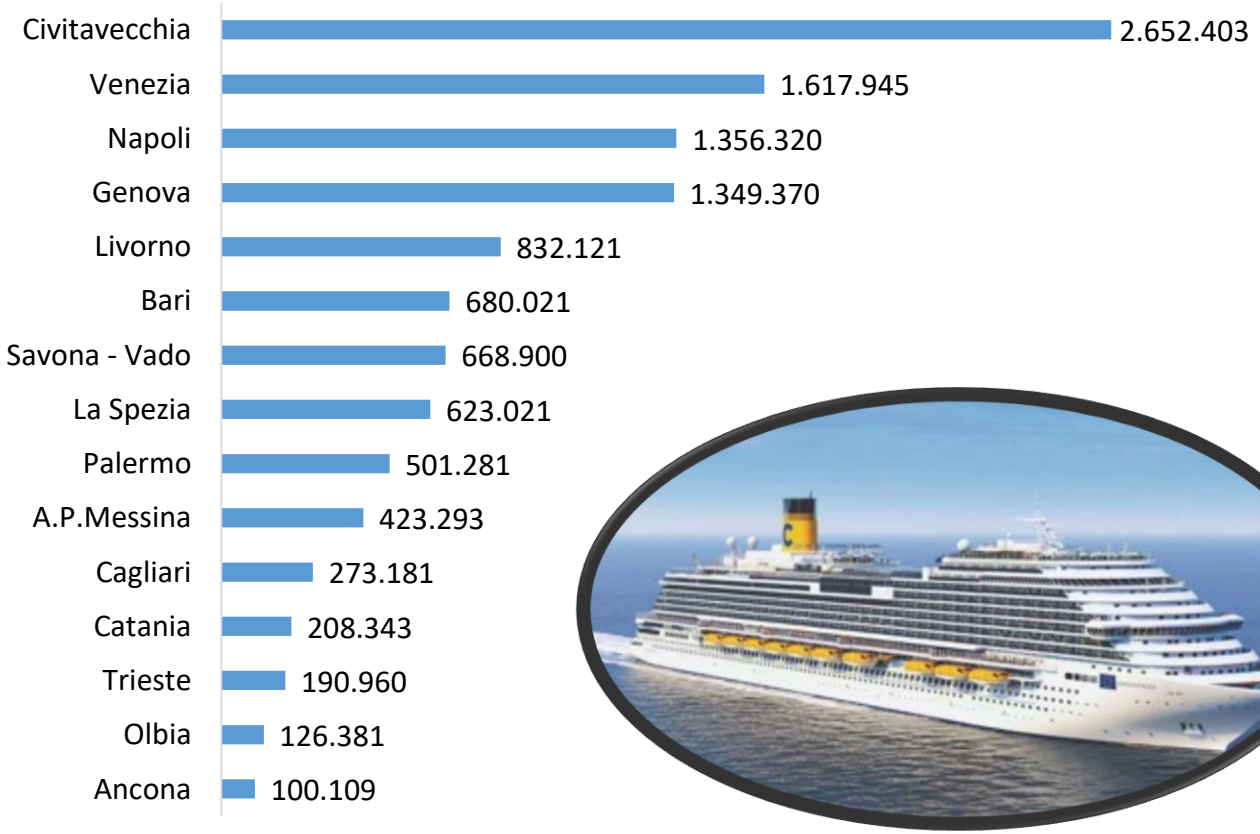
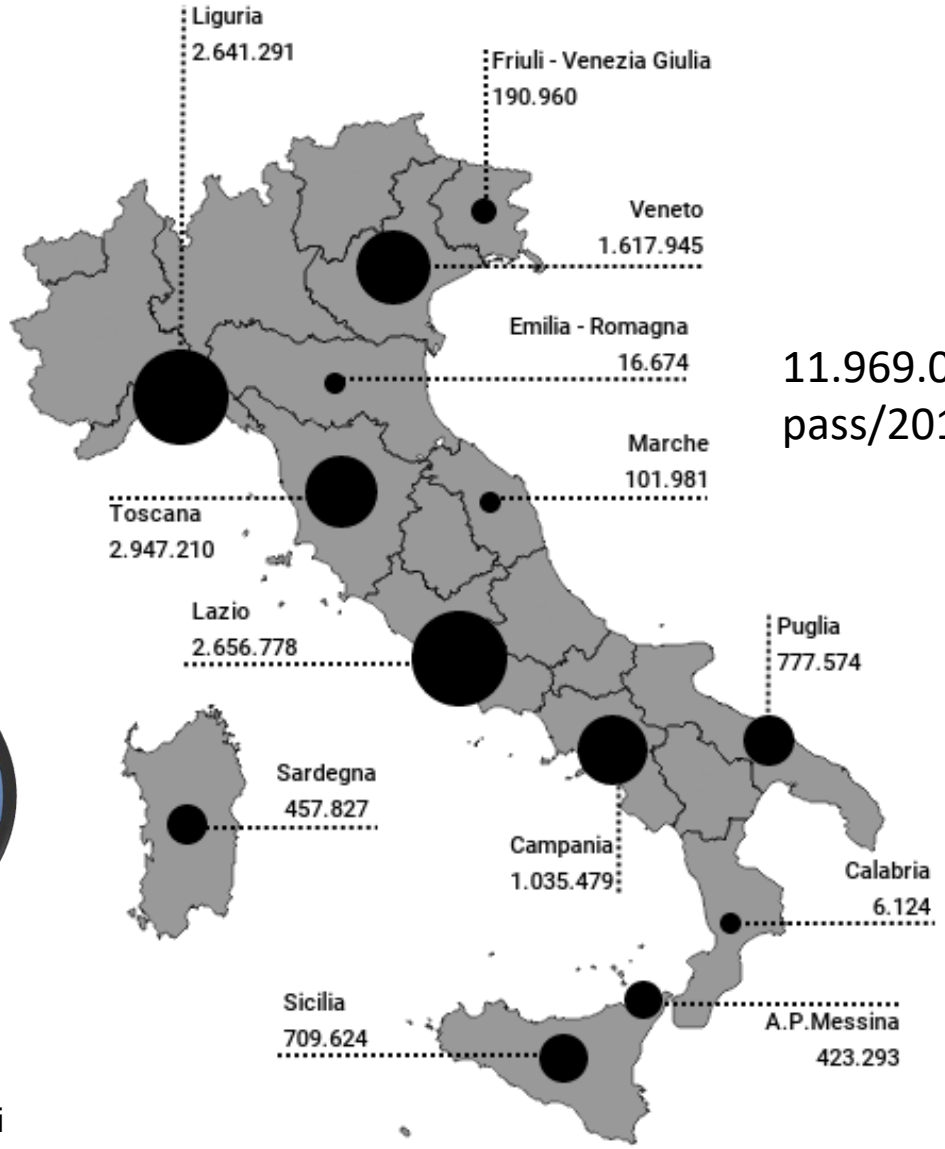
Cruise Traffic 2019 (Italy)





11.969.006 pass/2019

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Fonte: Elaborazione su dati Assoporti

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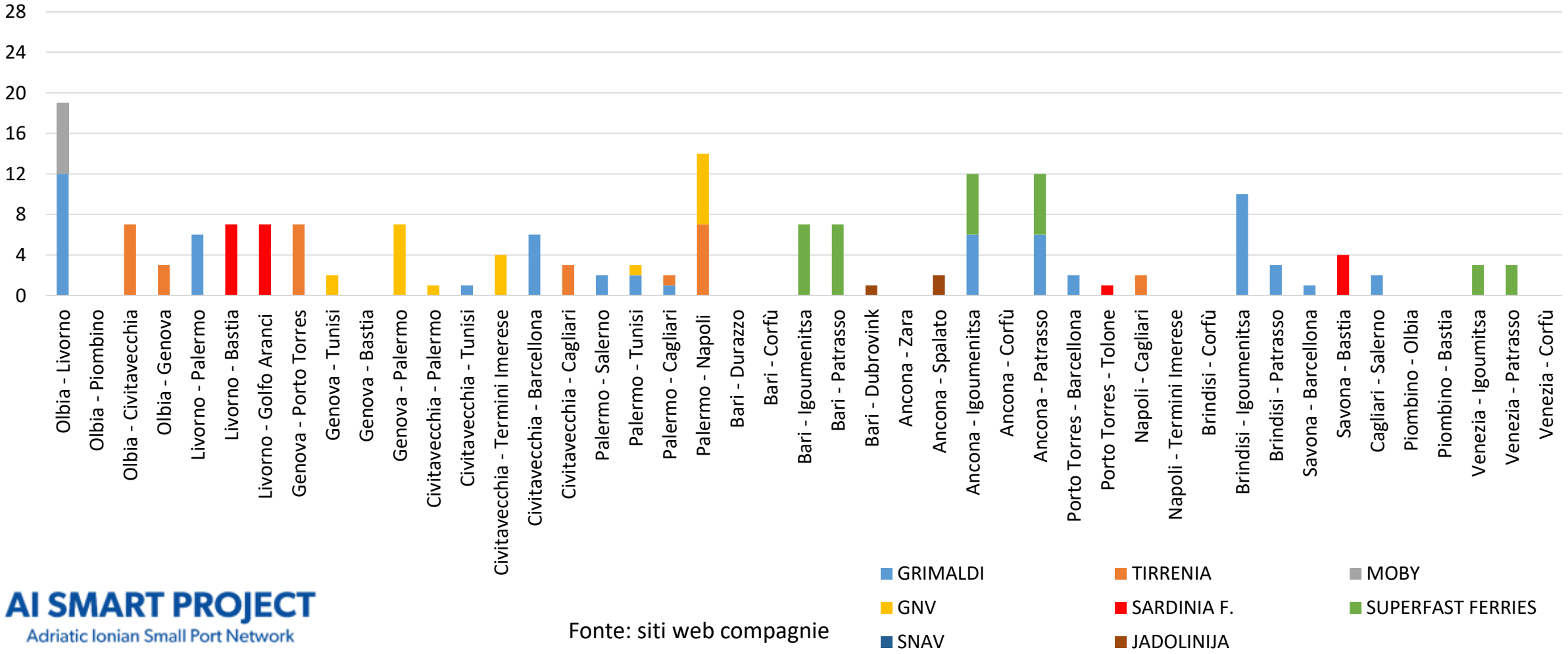
Lines Frequencies (long distances) – winter season



Fonte: siti web compagnie

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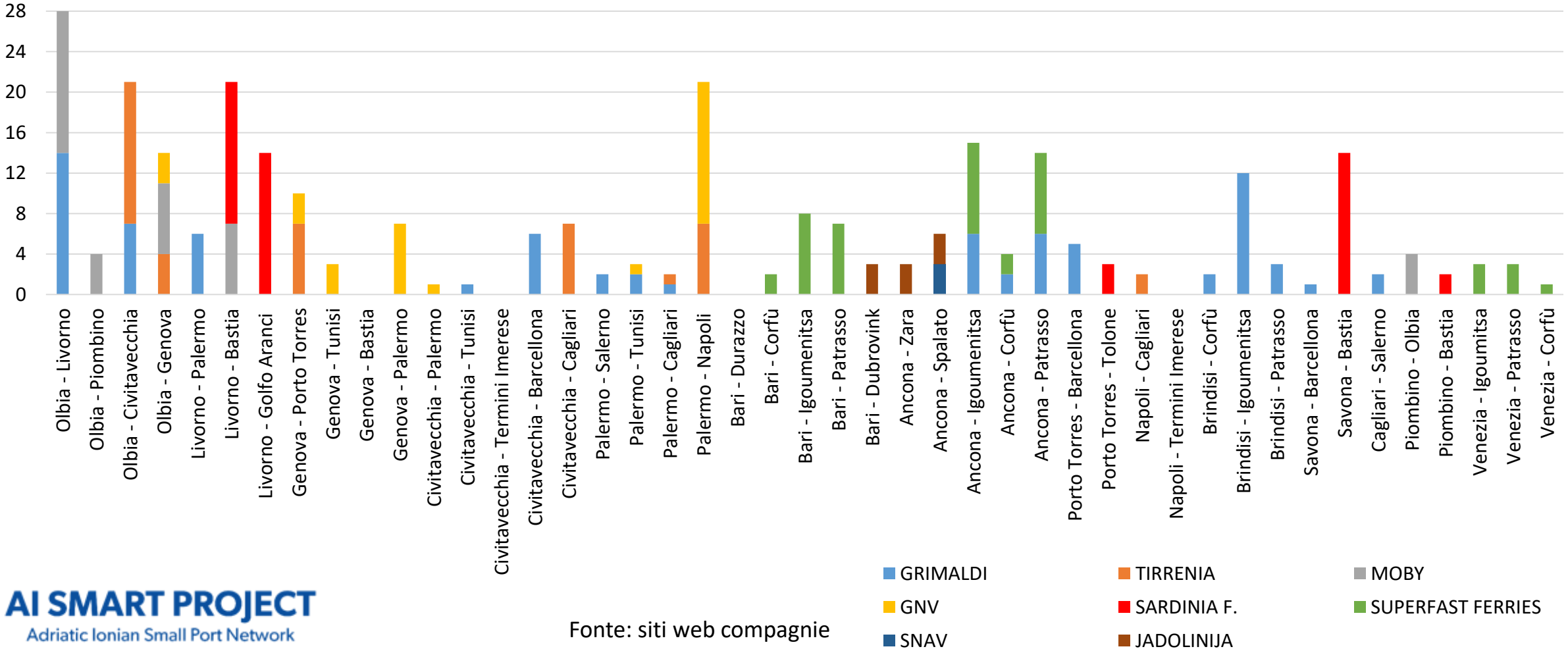
Lines Frequencies (long distances) – summer season



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What will the future be?

Maritime transport (lines, companies, shipowners)

Ports and infrastructures

Related to Agenda2030

Gli obiettivi di sostenibilità 2030 in una visione generale.

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Maritime transport (lines, companies, shipowners)

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Maritime transport (lines, companies, shipowners)

1. **Technological measures**:
- Change the fuel quality by using low-sulfur fuel oil;
- Switch to alternative fuel options;
- Invest in cleaning equipment;
- Ship design (es. hull optimization).

2. **Operational measures (fleet-related):**
Speed management;
Route planning and voyage optimization.

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UE REPORT 2019

11,600 UE ships (38% world fleet)

138 million tons of CO_2 emissions (3,7 % EU emissions)

62% ships

-15%- -20% speed reduction

CO_2 emissions

+ 5,6% from 2013 to 2018

-50% within 2050

Foto: AIDAnova, la prima crociera GNL al mondo

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Ro-Pax fleet with LNG in Med

Nave	Anno	DWT	Compagnia	Linea	Tipo
ELIO	2018	1.673	Caronte&Tourist	Villa San Giovanni - Messina	dual fuel
HYPATIA DE ALEJANDRIA	2019	7.000	Balearia	Valencia - Baleari	GNL
MARIE CURIE	2019	7.000	Balearia	Huelva - Canarie	GNL
NAPOLES	2002/2019	7.500	Balearia	Barcellona - Baleari; Malaga - Mellilla	dual fuel
ABEL MATUTES	2010/2019	5.300	Balearia	Barcellona - Baleari	dual fuel
SICILIA	2002/2020	7.000	Balearia	Huelva - Canarie; Barcellona - Baleari	dual fuel
BAHAMA MAMA	2009/2020	3.520	Balearia	Barcellona - Baleari	dual fuel
MARTIN I SOLER	2009/2021	9.737	Balearia	Barcellona - Baleari	dual fuel
HEDY LAMARR	2010/2021	8.702	Balearia	Valencia - Baleari	dual fuel
ARMON GIJON G021	2021	1.200	Balearia	-	GNL
BARRERAS 1708	2021	5.800	Naviera Armas	-	GNL
2 UNITA'	2022	-	Corsica Ferries	-	GNL
1 UNITA'	2022	-	Corsica Linea	-	GNL
2 UNITA'	2022-2023	-	Gruppo Moby	-	dual fuel

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LNG – Cruise fleet

Nome	Anno	DWT	Compagnia
AIDANOVA	2018	12.500	AIDA Cruises
COSTA SMERALDA	2019	13.000	Costa Crociere
MSC EUROPA	2022	18.000	MSC Crociere
2 Classe ICON	2022	13.500	Royal Caribbean
COSTA TOSCANA	2021	13.000	Costa Crociere
MSC WORLDCLASS 1	2024	18.000	MSC Crociere
MSC WORLDCLASS 2	2025	18.000	MSC Crociere
MSC WORLDCLASS 3	2027	-	MSC Crociere
MSC MERAVIGLIA PLUS	2023	13.610	MSC Crociere

Foto: AIDAnova, la prima crociera GNL al mondo

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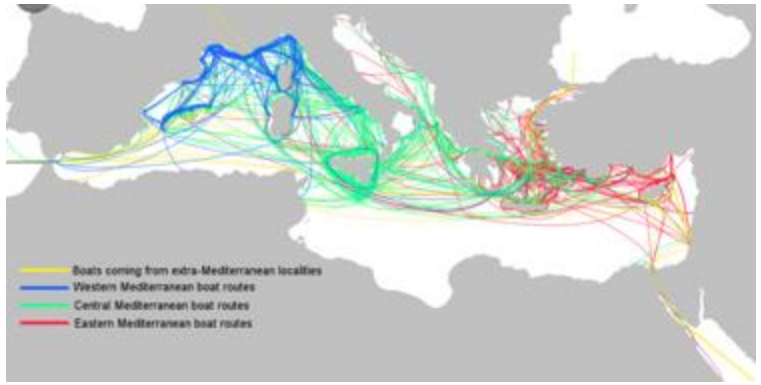
Maritime transport (lines, companies, shipowners)

3. Market-based measures:

- Tax, incentives and green shipping practices.



4. **Management measures and Decision Support Models:**

- Network design, fleet deployment, berth allocation, scheduling optimization and vessels routing

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Italian territorial continuity towards major islands

The maritime territorial continuity towards the major islands

18 July 2012 and valid until 18 July 2020

extended to 28 February 2021

The convention regulates: services to be performed, frequency, minimum frequencies, maximum ticket prices, type of ships, etc. The annual fee paid to CIN from 2012 to 2021 was € 72.685.642.

FROM AND TO SARDINIA 53.8 mln €

Genova - Porto Torres (low season)
Civitavecchia - Olbia (low season)
Genova - Olbia - Arbatax
Civitavecchia - Cagliari - Arbatax
Napoli - Cagliari
Napoli - Cagliari (freight) suppressed
Cagliari - Palermo
Cagliari - Trapani suppressed
Livorno - Cagliari (freight)

FROM AND TO SICILY 16.2 mln €

Napoli - Palermo (low season)
Ravenna - (Brindisi) - Catania (freight)

FROM AND TO TREMITI ISLANDS 2.7 mln €

Termoli - Tremiti

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Ports and infrastructures

OBIETTIVI PER LO SVILUPPO SOSTENIBILE

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1st Generation
-----/1940
Mechanic Port
Mechanical operation
Handicraft works

2nd Generation
1960
Container Port
Free Zone
Industrial area
Free tax port

3rd Generation
1980
EDI Port
International network
Integrated centre
Commercial area
EDI services

4th Generation
2000
Internet Port
Global Network
Port community
Logistic area
Intermodal services
Internet services

5th Generation
2020
Smart Port
ITS port
Logistic community
Smart City
Smart Hinterland
Multimodal services
Sustainable port

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SMART PORTS APPLICATION AREAS

Terminal Automation

City Integration and new Infrastructures

Digitalization

Energy Transition

Port Management

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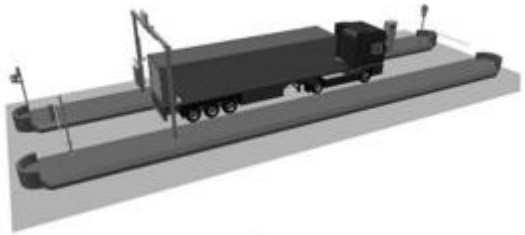
Terminal Automation

- Automated Quay Crane
- Automated Carries
- Automated Yard Cranes
- Gate Automation (gate control, Digital platform)



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Digitalization

- Port Community System (Interoperability, paperless, administration tasks)
- Smart Port Management (VTS, Data tracking, blockchain system, Digital route, planning)
- Digital dock Planning (smart Quay, online booking berth)

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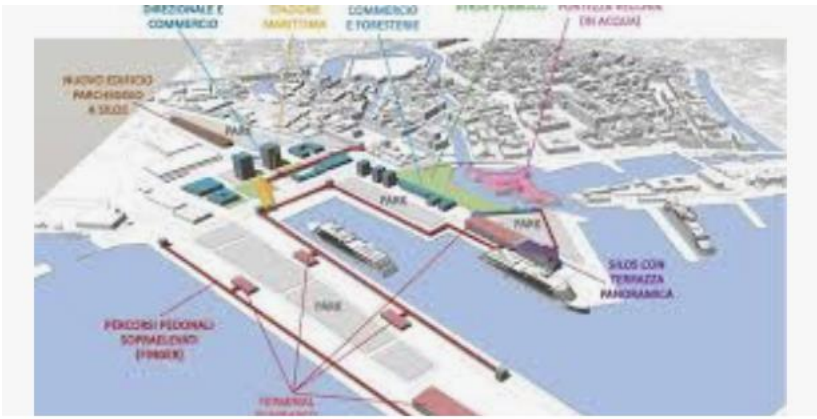
City Integration & New Infrastructures

- Multimodal approach
- New Infrastuctures
- Data traffic management
- Urban integration



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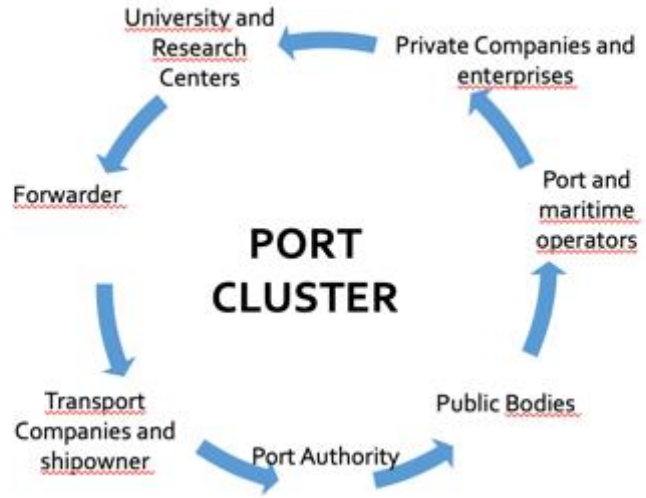
Port management

- Cluster port management
- Training for operators
- Predictive port mantainance
- Accident port management (Safety &Security)



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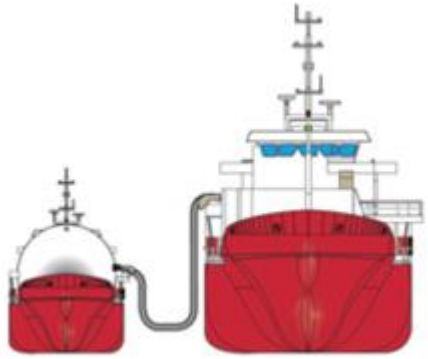
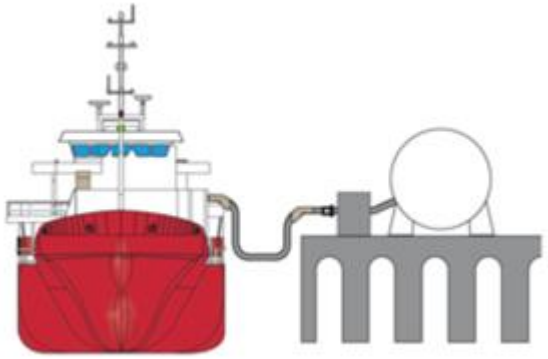
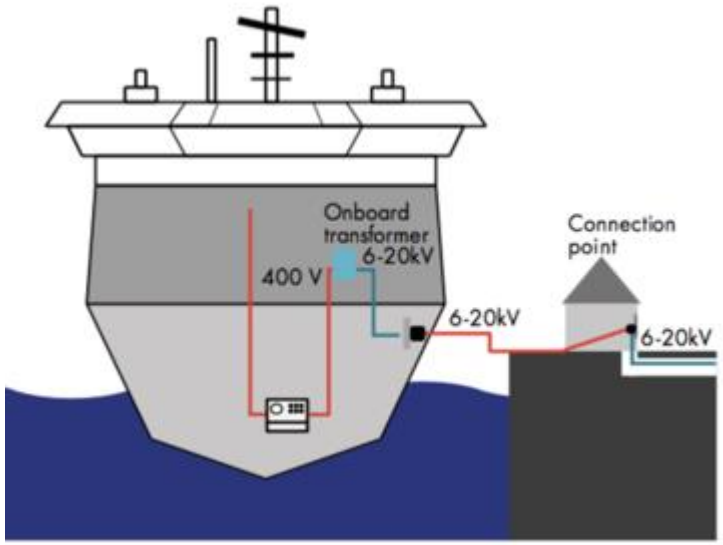
Energy transition

- LNG bunkering (ships and port trucks)
- Renewable energy & smart grid
- Emission monitoring
- Waste management and circular economy
- Plug in port and ship
- DEASP







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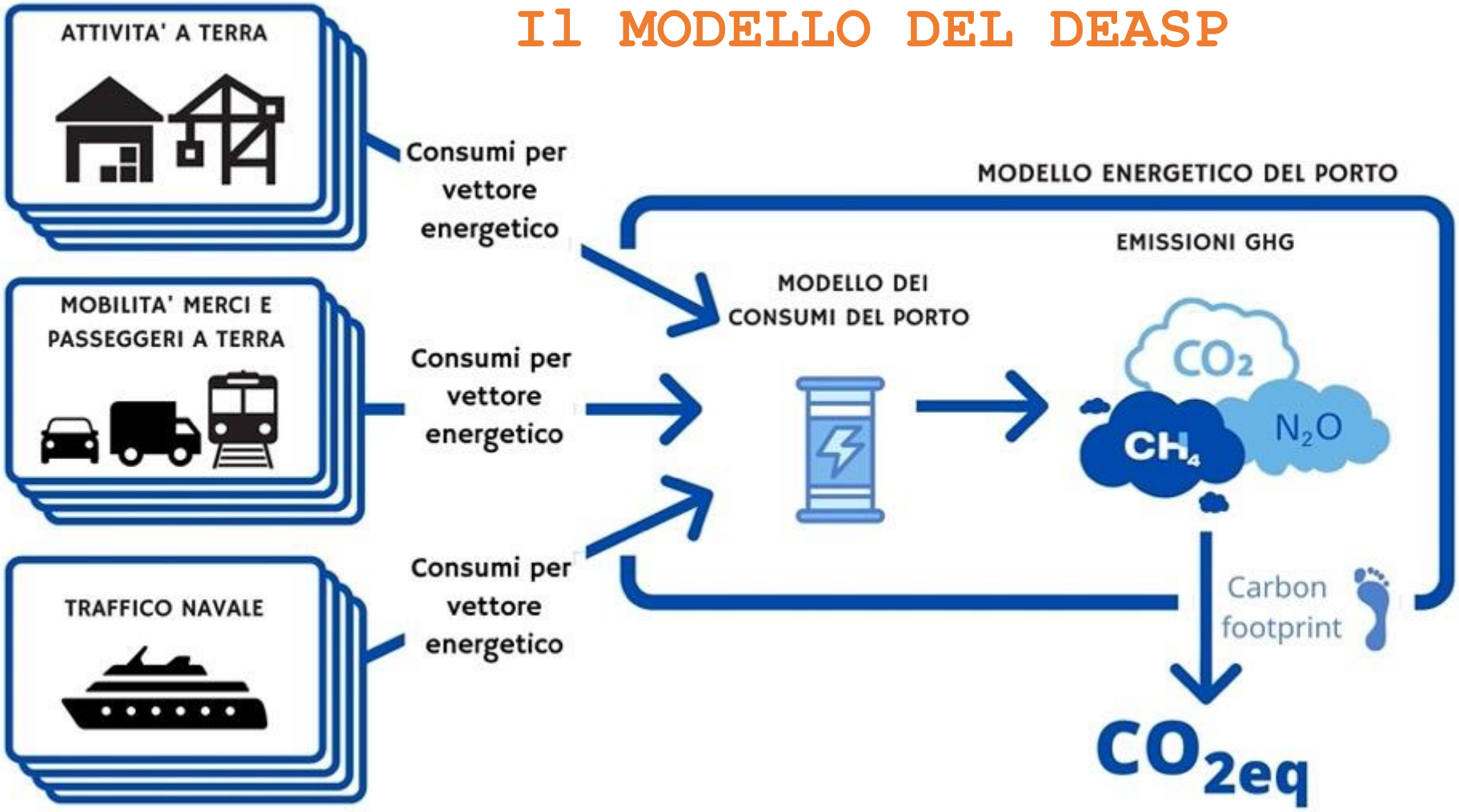
Il MODELLO DEL DEASP



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OBIETTIVI GENERALI

- Gestione integrata dell'energia elettrica nelle aree portuali- rete elettrica portuale
- Riduzione dei consumi energetici dei natanti: elettrificazione mezzi e banchine, GNL, cantieristica green
- Riduzione dei consumi energetici di edifici, impianti e attrezzature
- Efficientamento dei sistemi di movimentazione delle merci e delle persone
- Produzione di energia da fonti rinnovabili, cogenerazione, recupero scarti e rifiuti, accumulo
- Risparmio energetico nelle operazioni portuali
- Incentivazione delle buone pratiche dei terminalisti nei processi di selezione o acquisto
- Azioni di sensibilizzazione, formazione e informazione sulle tematiche energetiche ed ambientali della comunità portuale

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Smart Energy

Smart Connections

Smart Logistics

Smart Infrastructures

Smart Innovation

Smart Management

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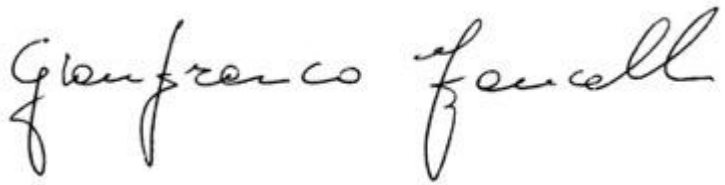
Thanks a lot for your attention



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