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THE IMPACT OF GLOBALIZATION ON MEDITERRANEAN CONTAINER TERMINALS

Gianfranco Fancello, Daniel M. Vitiello, Patrizia Serra

DICAAR – Department of Civil and Environmental Engineering
and Architecture, University of Cagliari, Cagliari, Italy

Towards a SUSTAINABLE BLUE ECONOMY

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Summary

- Overview of the main Mediterranean container ports, analyzing the growth in the last twenty years
- Description of the infrastructural elements that characterize the ports
- Focus on container shipping alliances
- Focus on the main global trades that include the Mediterranean region

Goal of the study

The proposed analysis offers an overview of Mediterranean container ports, thus providing some useful information on the state of the art.

The main objective is to present a report with the last updated traffic data.

Introduction

The authors have decided to study the main ports that overlook both sides of the Mediterranean basin, thus including in the same system, ports that belong to different geographical regions.

- 36 ports
- 15 countries
- 60 mln TEUs (2019)

Figure 1: Map of the 36 ports analysed

- ↑ Annual rate (2002-2020): **5.4%**
- ↑ Overall increase (2002-2020): **160%**
- ↓ 2009 (**-5.8%**); 2015 (**-2.4%**); 2020 (**-0.2%**)

Mediterranean container ports throughput

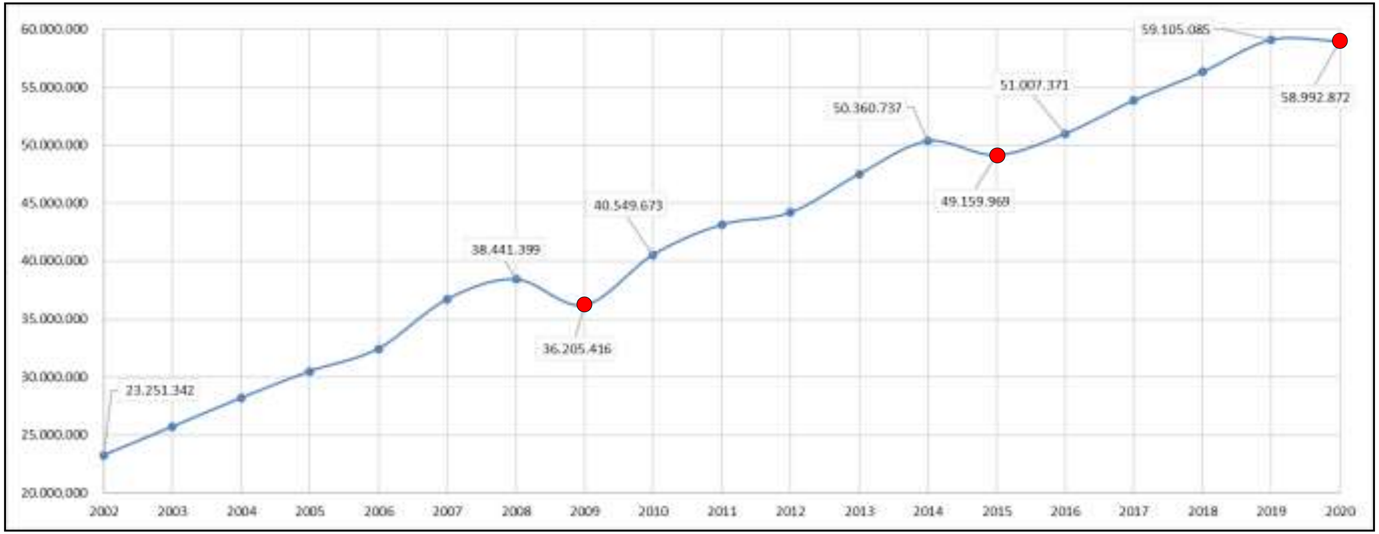

Figure 2: Mediterranean container ports throughput (TEU)

Port	Main service	Throughput (TEU) 2010	2019	2020	Var% 2010-2019	Var% 2019-2020
Alexandria-El Dekheila	transshipment	832,494	1,814,950	1,693,252	118.0%	-6.7%
Algeciras	**transshipment**	2,810,242	**5,119,500**	5,107,873	82.4%	-0.3%
Alicante	gateway	147,308	170,739	113,000	15.9%	-33.8%
Ambarli	gateway	2,540,000	3,104,882	2,887,800	22.2%	-7.0%
Ashdod	gateway	1,017,000	1,400,000	1,584,000	37.7%	13.1%
Barcelona	gateway	1,948,422	3,324,651	2,958,040	70.6%	-11.0%
Beirut	gateway	949,155	1,229,081	772,873	29.5%	-37.1%
Cagliari	transshipment	629,127	151,405	68,406	-75.9%	-54.8%
Damietta	transshipment	1,214,910	1,068,002	1,051,869	-12.1%	-1.5%
Genoa	gateway	1,758,858	2,635,000	2,352,769	48.7%	-10.0%
Gioia Tauro	transshipment	2,852,264	2,522,874	3,193,364	-11.5%	26.6%
Haifa	gateway	1,263,000	1,400,000	1,470,000	10.8%	5.0%
Izmir	gateway	727,675	605,727	436,386	-16.8%	-28.0%
Izmit	gateway	416,000	1,715,193	1,800,642	312.3%	5.0%
Koper	gateway	476,731	959,000	945,000	101.2%	-1.5%
La Spezia	gateway	1,285,000	1,490,537	1,173,660	16.0%	-21.3%
Latakia	gateway	586,283	325,097	243,348	-44.5%	-25.1%
Limassol	transshipment	348,358	389,900	360,408	11.9%	-7.6%
Livorno	gateway	628,489	789,833	716,233	25.7%	-9.3%
Marsaxlokk	transshipment	2,370,729	2,720,000	2,441,589	14.9%	-10.3%
Marseille	gateway	953,000	1,454,621	1,717,028	52.6%	18.0%
Mersin	gateway	1,024,171	1,939,000	1,948,700	81.1%	5.1%
Naples	gateway	532,432	681,929	643,540	28.1%	-5.6%
Piraeus	**transshipment**	878,083	**5,650,000**	5,437,477	543.2%	-3.7%
Port Said East	transshipment	2,793,416	3,200,000	3,510,140	7.5%	16.9%
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Ravenna	gateway	183,041	218,138	194,868	19.2%	-10.7%
Rijeka	gateway	137,048	305,049	344,091	122.6%	12.8%
Tanger	**transshipment**	2,058,430	**4,801,713**	5,771,200	133.3%	20.2%
Taranto	transshipment	581,936	0	5,512	-100.0%	-
Thessaloniki	gateway	273,282	448,766	460,724	64.2%	2.7%
Trieste	gateway	281,629	789,640	776,022	180.4%	-1.7%
Tunis-Radès	gateway	420,089	285,262	256,078	-32.1%	-10.2%
Vado Ligure	gateway	196,434	54,542	146,081	-72.2%	167.8%
Valencia	**transshipment**	4,206,327	**5,439,800**	5,382,303	28.1%	-0.1%
Venice	gateway	393,913	593,070	529,064	50.6%	-10.8%

36 ports

- 23 gateway
- 13 transshipment

TOP 4 Throughput 2019

I. Piraeus 5,650,000
II. Valencia 5,439,800
III. Algeciras 5,119,500
IV. Tanger 4,801,713

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Venice	gateway	393,913	593,070	529,064	50.6%	-10.8%

Var% 2010-2019

↑ **27 ports** have increased their traffic (19 gateway, 8 transshipment):

i. Piraeus 543%
ii. Izmit 312%
iii. Trieste 180%

↓ 9 ports have decreased their traffic (4 gateway, 5 transshipment):

i. Taranto -100%
ii. Cagliari -76%
iii. Vado Ligure -72%

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Table 1. Mediterranean container ports: 2010, 2019 and 2020 throughput (TEU)

Var% 2019-2020

↑ **12 ports** have increased their traffic (8 gateway, 4 transshipment):

i. Vado Ligure 168%
ii. Gioia Tauro 27%
iii. Tanger 20%

↓ 24 ports have decreased their traffic (15 gateway, 9 transshipment):

i. Cagliari -55%
ii. Beirut -37%
iii. Alicante -34%

Gateway and transshipment ports

Figure 3: Mediterranean container throughput: gateway and transshipment ports (TEU)

Year	All ports	Gateway	Transhippment
↓ 2009	-5.8%	-13.0%	+0.2%
↓ 2015	-2.4%	+0.5%	-4.4%
↓ 2020	-0.2%	-5.2%	+3.7%

Group	2010	2019	Var%
Aegean and Marmara Sea	4,835,040	11,522,624	128%
North Adriatic Range	1,472,362	2,864,897	89%
West Mediterranean Range	11,170,729	18,808,796	73%
North Mediterranean Range	4,821,781	6,404,908	27%
East Mediterranean Range	10,863,184	13,139,501	21%
Central Mediterranean Area	7,386,577	6,364,359	-11%

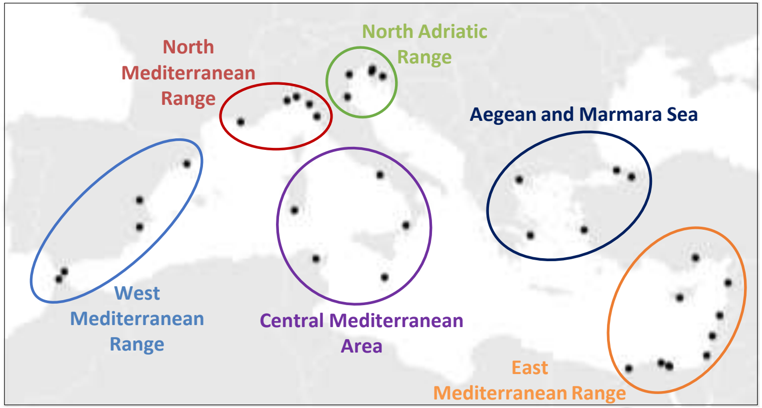

Figure 4: Mediterranean container ports grouped by location

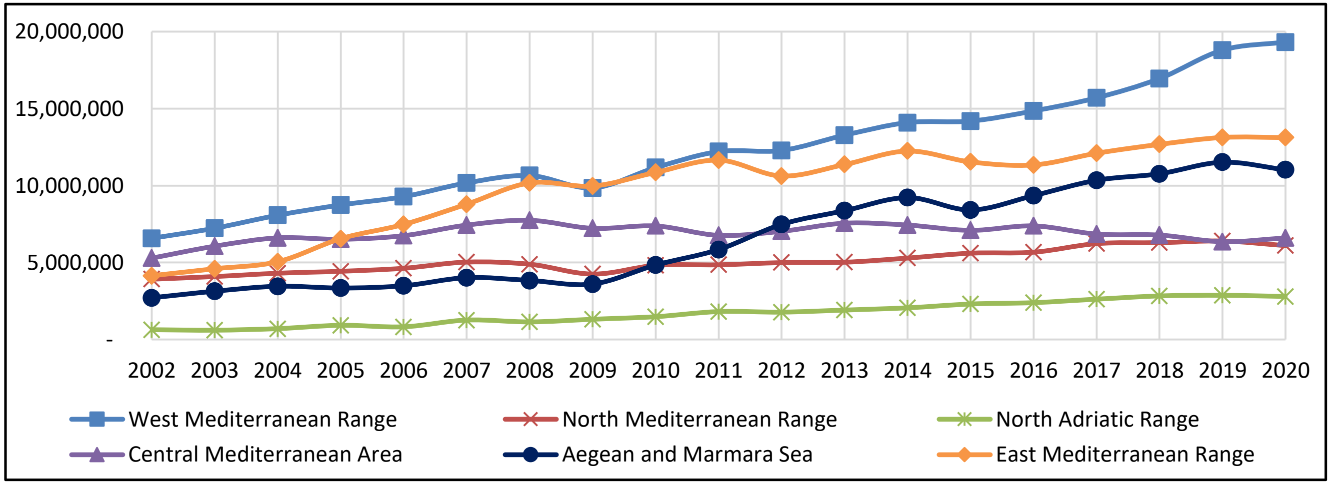

Figure 5: Mediterranean container throughput (TEUs) for the six identified port groups

Mediterranean container ports grouped by location

Mediterranean container ports infrastructures

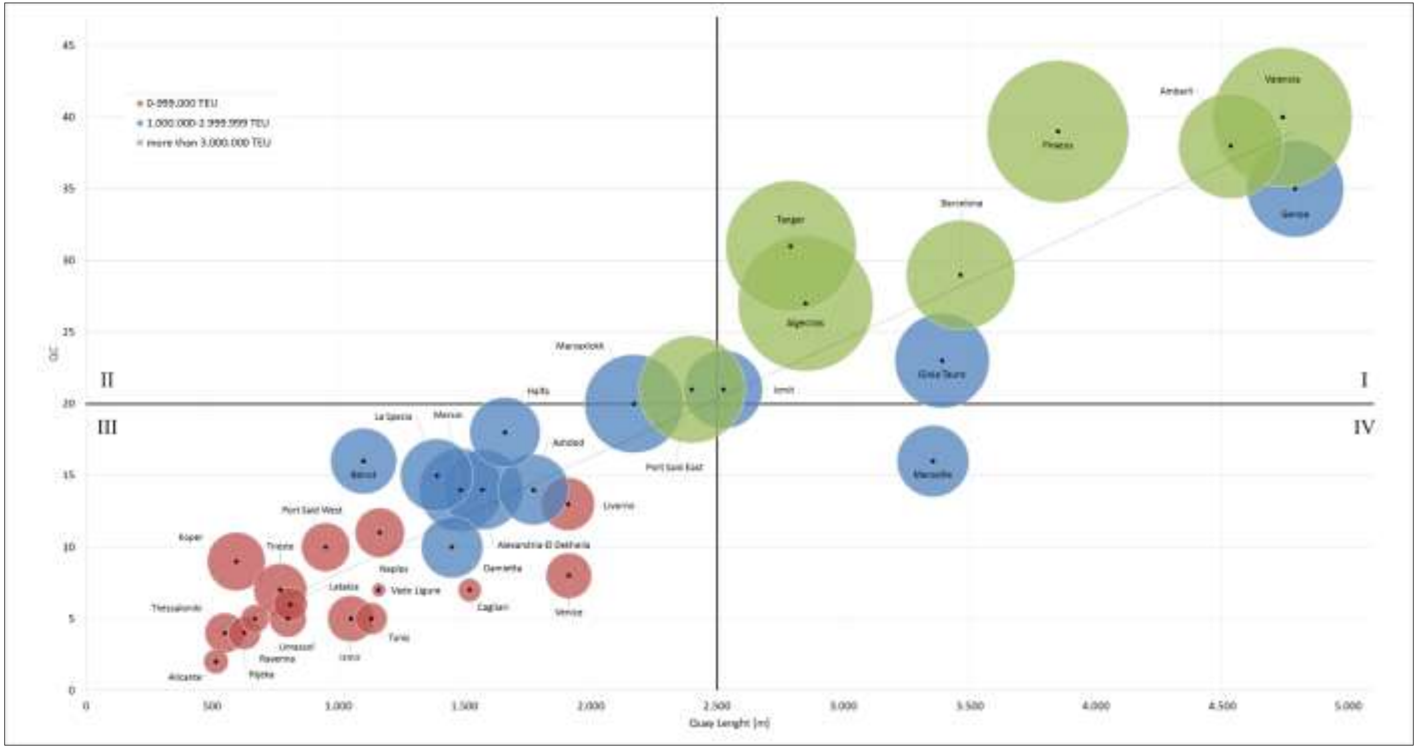

Figure 6: Mediterranean container ports: quay length, QC and TEU throughput

Global container shipping companies

Global container shipping companies aim to increase the capacity of their fleet. For this reason, the market is dominated by only a few container shipping companies.

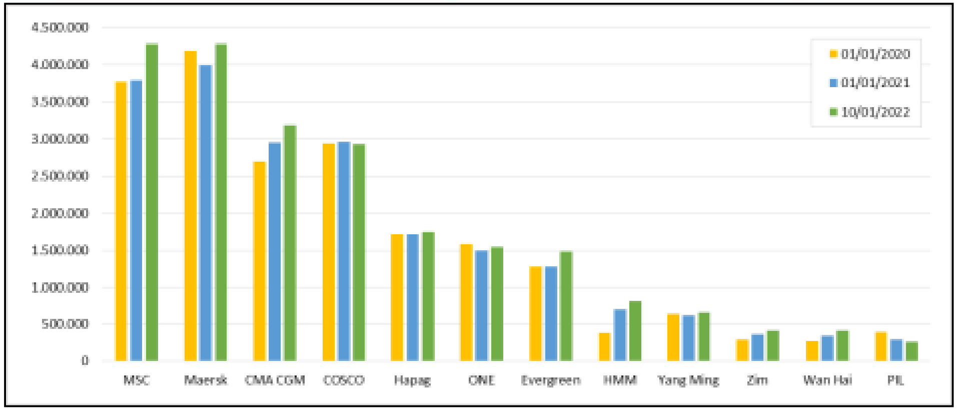

Figure 7: Top 12 shipping container operators: TEU capacity (Source: Alphaliner TOP 100 / 10 Jan 2022)

Rank	*Operator*	*TEU*	*Ships*	*TEU Share*
1.	MSC (Mediterranean Shg Co.)	4.284.728	645	17,0%
2.	Maersk Line	4.277.274	736	17,0%
3.	CMA CGM Group	3.186.432	568	12,6%
4.	COSCO Group	2.932.779	479	11,6%
5.	Hapag-Lloyd	1.745.032	251	6,9%
6.	ONE (Ocean Network Express)	1.540.540	210	6,1%
7.	Evergreen Line	1.477.644	204	5,9%
8.	HMM Co Ltd	819.790	75	3,2%
9.	Yang Ming Marine Transport Co.	662.047	90	2,6%
10.	Zim	419.064	111	1,7%
11.	Wan Hai Lines	414.542	145	1,6%
12.	PIL (Pacific Int. Line)	266.667	83	1,1%

Table 2. Top 12 shipping container operators (Source: Alphaliner TOP 100)

TEU share

First 12 operators: **87.3%**

First 4 operators: **58.2%**

Container shipping companies: "terminal operating holdings"

These big players have changed their strategic approach towards terminal activities, often creating their own 'terminal operating holding' such as:

- Maersk Line (APM Terminals): Algeciras, Barcelona, Izmir, Marseille, Port Said East, Tanger, Vado Ligure and Valencia;
- COSCO Group (COSCO Shipping Ports) Piraeus and market shares of Ambarli, Marseille, Port Said East, Vado Ligure and Valencia;
- MSC (TiL-Terminal Investment Limited) Ambarli, Genoa, Gioia Tauro, La Spezia, Livorno, Marseille, Naples, Trieste, Valencia and Venice;
- CMA-CGM (Terminal Link) Algeciras, Latakia, Marseille as well as Malta Freeport;
- HMM owns shares of Algeciras terminal;
- Hapag-Lloyd entered in the new Tanger terminal at the beginning of 2021.

Global container shipping Alliances

Alliances have become a dominant feature of container shipping.

- Between 2001 and 2011, there were three alliances (CYKH, Grand Alliance and New World Alliance) and their combined market share was around 35%.
- From 2012 onwards, with the creation of the MSC/CMA CGM alliance, the global market shares of alliances gradually increased year by year.
- In 2015, MSC and Maersk created the 2M Alliance, with an initial share of about 30%. In the same year, Evergreen joined CYKH.

Global alliances mainly operate on East-West trade lanes, where the combined market share of the three alliances is around 95%.

Alliance	*Operators*	*TEU*	*Ships*	*TEU Share*
2M Alliance	2M Alliance: MSC, Maersk Line	8.562.002	1.381	34,0%
Ocean Alliance	Ocean Alliance: CMA CGM, COSCO, Evergreen	7.596.855	1.251	30,1%
THE Alliance	THE Alliance: ONE, Yang Ming, HMM, Hapag-Lloyd	4.767.409	626	18,8%

Table 3. The three global alliances in container shipping (Source: Alphaliner TOP 100 / 10 Jan 2022)

Together they hold **83% share** of the global container fleet capacity

The Mediterranean region on the main global trades

Container traffic along the **East-West trades**, such as Asia-Europe and Europe-North Amerca, involve also Mediterranean ports.

Variation 2009-2021 (%)

- Asia ↔ Europe: **+55%**
- Europe ↔ North America: **+51%**

Westbound trade > Eastbound trade

Figure 8: Containerized trade on major East-West trade routes, 2009-2021 (Source: UNCTAD)

Conclusions

- This work presents a large data collection related to the main Mediterranean container ports. Through this study, the authors want to emphasize the **strategic importance of the Mediterranean basin** compared to the other global markets.
- Its **key positioning along the major trading routes** has influenced the total throughput growth of the Mediterranean container ports, favoring the main transshipment hubs.
- Currently, Mediterranean container ports face a double task: on one hand an increase in **competitiveness with** the much larger and more structured **ports of the Northern Range** and on the other an **internal match** against their competitors in the **Mediterranean area**.
- The collected data show how the Mediterranean container port system has experienced a **strong growth in the last twenty years**, consistently with the main global container ports.
- The Mediterranean basin remains an important trading area, taking advantage of its **central position** with respect to **North-South trades**, such as European and North African markets and to **East-West trades** between South-East Asia and North America.

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Thank you very much

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