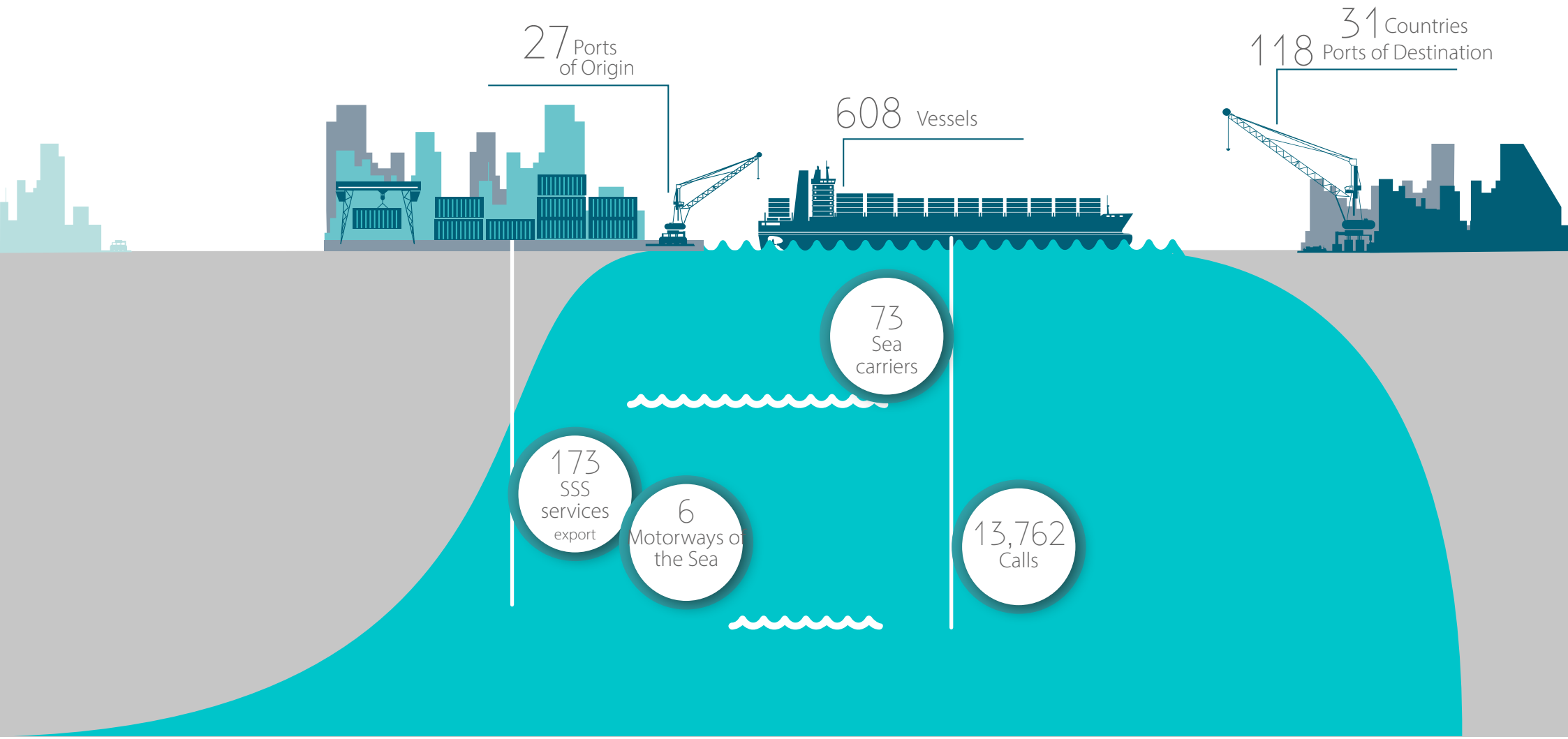
2nd SEMESTER
2018

SUPPLY OF SSS

AT SPANISH PORTS

FUNDACIÓN
VALENCIAPORT

índice


27 Ports of Origin
608 Vessels
31 Countries
118 Ports of Destination
73 Sea carriers
173 SSS services export
6 Motorways of the Sea
13,762 Calls

01. SSS SERVICES CHARACTERISATION

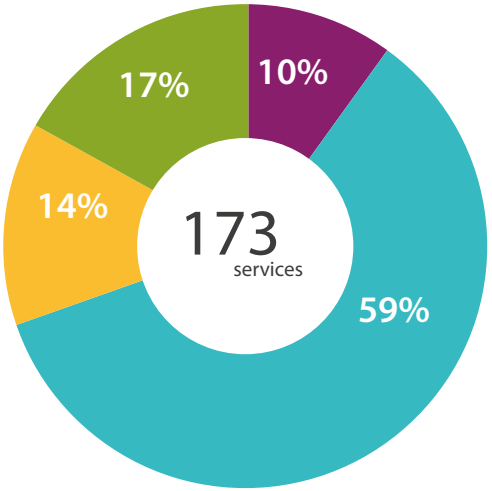


Figure 1. SSS services by type of freight

Figure 2. SSS services with interoceanic calls

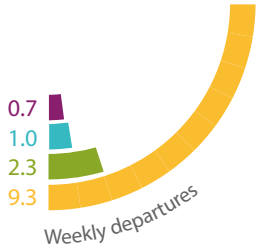


Figure 3. Average frequency of SSS services by type of freight

CAR-CARRIER CONTAINER ROPAX RORO

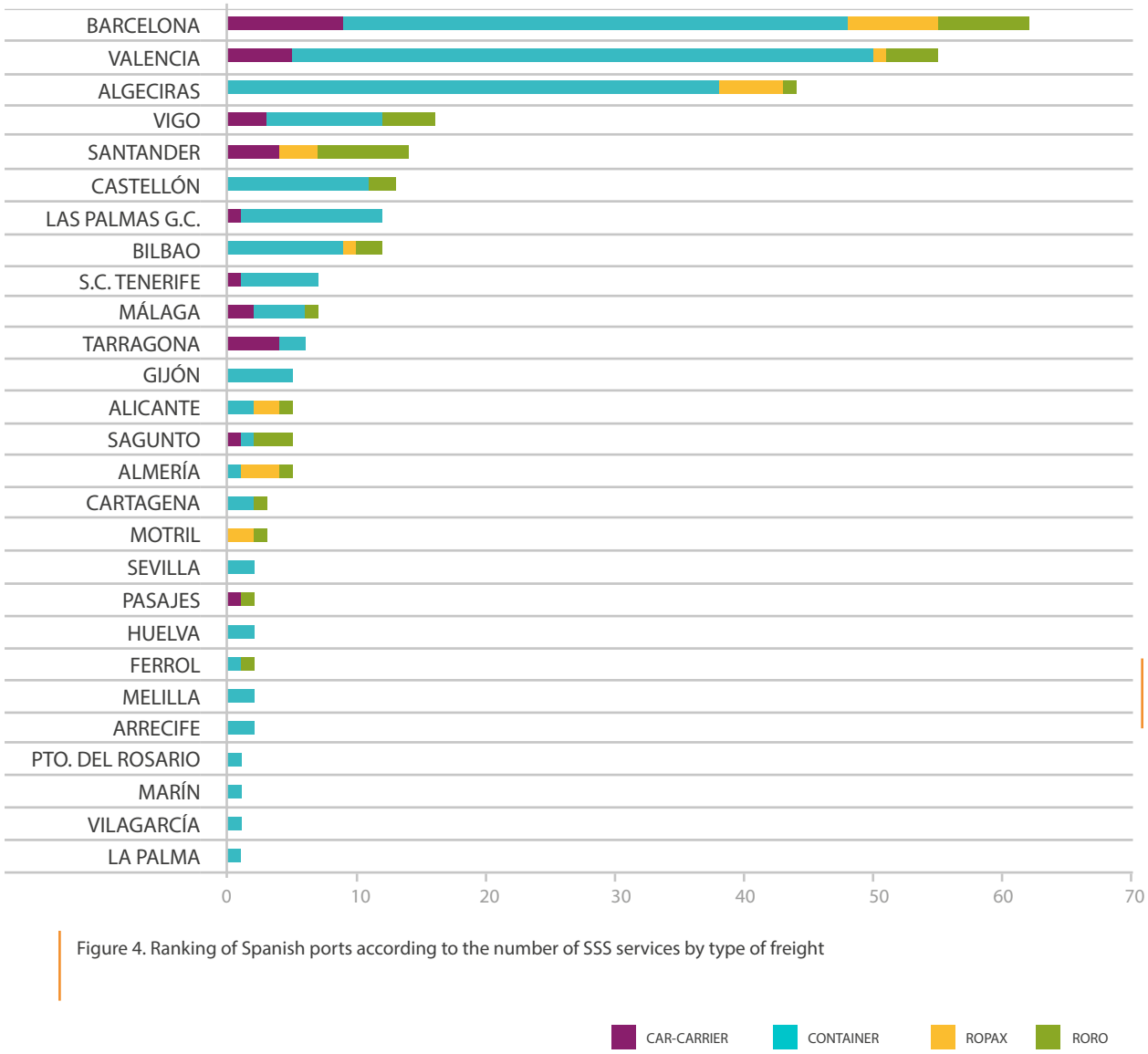


Figure 4. Ranking of Spanish ports according to the number of SSS services by type of freight

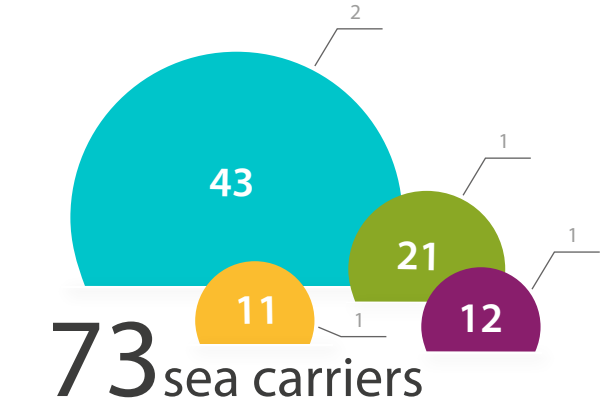


Figure 5. Sea carriers offering SSS services by type of freight

Average of sea carriers by service

02. PORT CONNECTIVITY INDEX

CONTAINER

Port origen	PCI 2018
VALENCIA	100%
BARCELONA	89%
ALGECIRAS	89%
CASTELLÓN	32%
LAS PALMAS	31%
VIGO	22%
BILBAO	20%
MALAGA	18%
GIJON	14%
TENERIFE	12%
TARRAGONA	12%
SAGUNTO	8%
MELILLA	6%
MARÍN	6%
ALICANTE	6%
HUELVA	5%
CARTAGENA/SP	5%
ARRECIFE	5%
SEVILLA	4%
PTO DEL ROSARIO	3%
ALMERIA	3%
FERROL	3%
LA PALMA	3%
VILAGARCIA	3%

RORO FREIGHT

Port origen	PCI 2018
BARCELONA	100%
ALGECIRAS	66%
SANTANDER	61%
VALENCIA	56%
VIGO	43%
CASTELLÓN	31%
BILBAO	29%
SAGUNTO	29%
ALMERIA	20%
MOTRIL	19%
ALICANTE	18%
CARTAGENA/SP	14%
PASAJES	11%
MÁLAGA	10%
FERROL	9%

Figure 6. Port connectivity index by type of freight

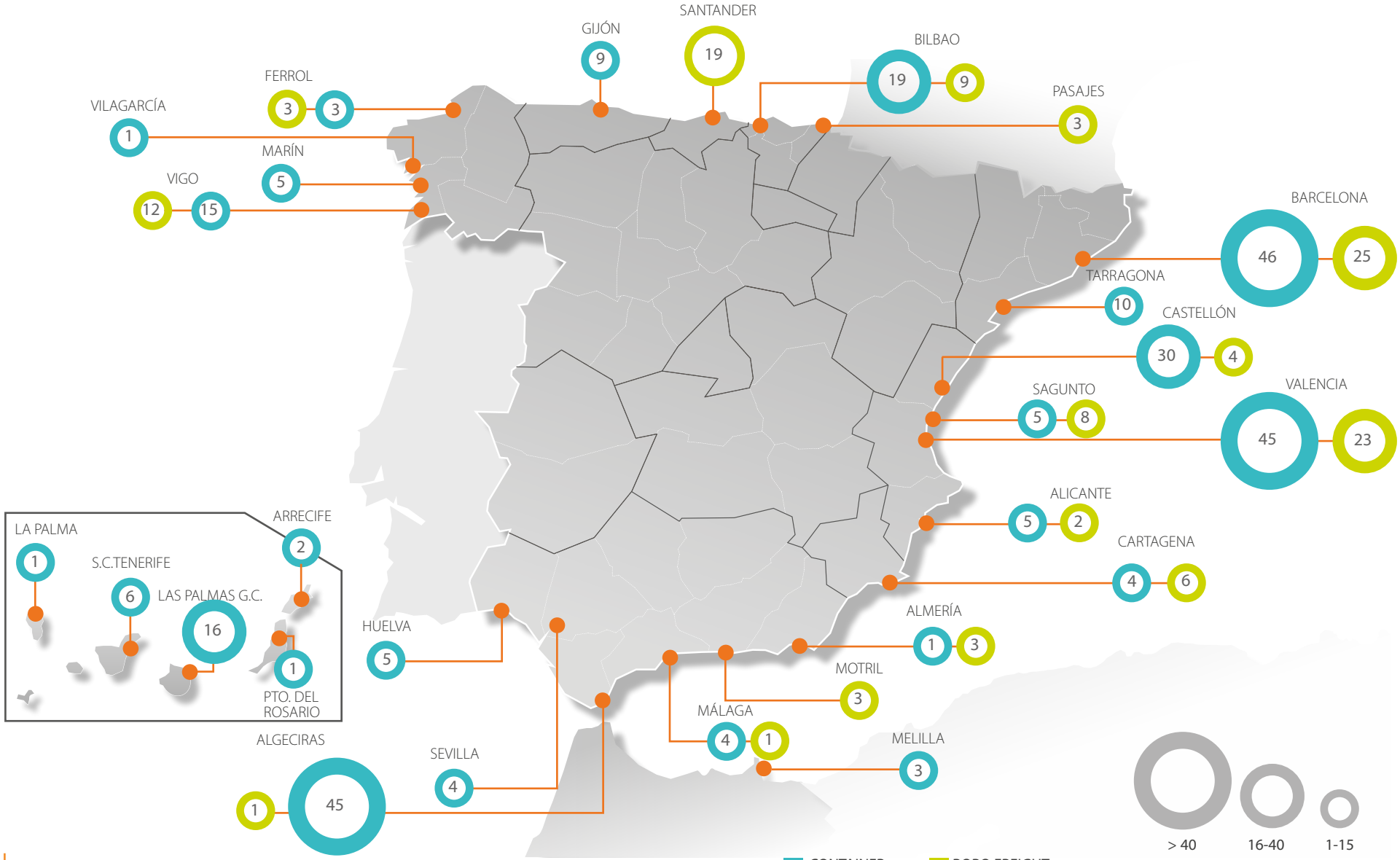


Figure 7. Ranking of Spanish ports according to the number of connected ports of destination

03. SSS FLEET ANALYSIS IN SPAIN

608
vessels

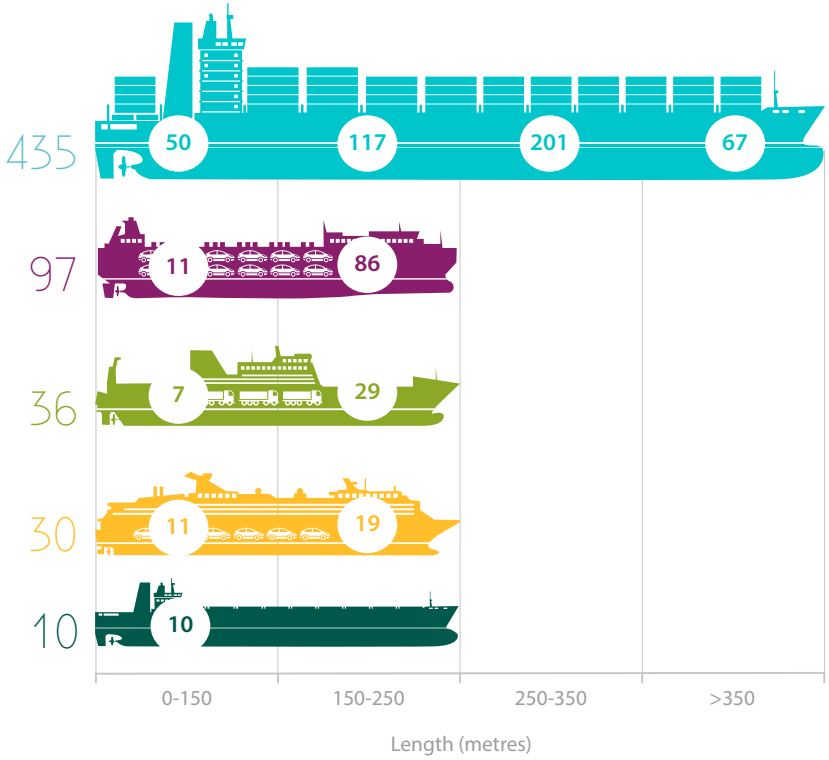


Figure 8. Number of vessels by length and type of freight

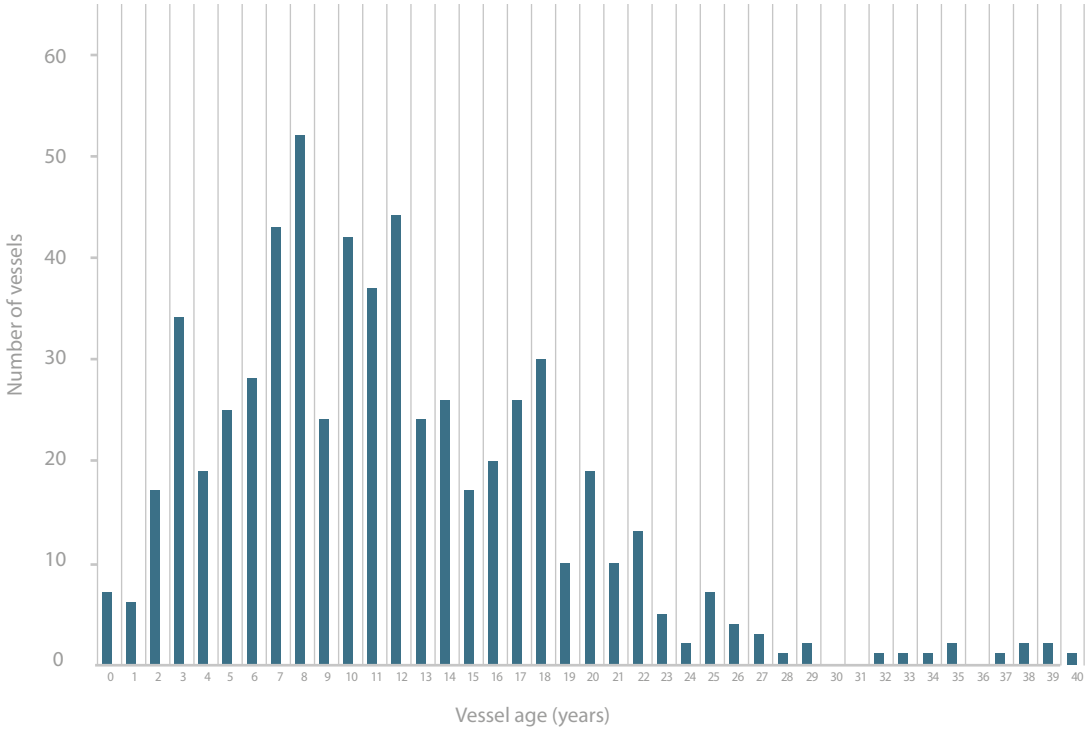


Figure 9. Number of vessels according to vessel age

CAR-CARRIER CONTAINER ROPAX RORO GENERAL CARGO

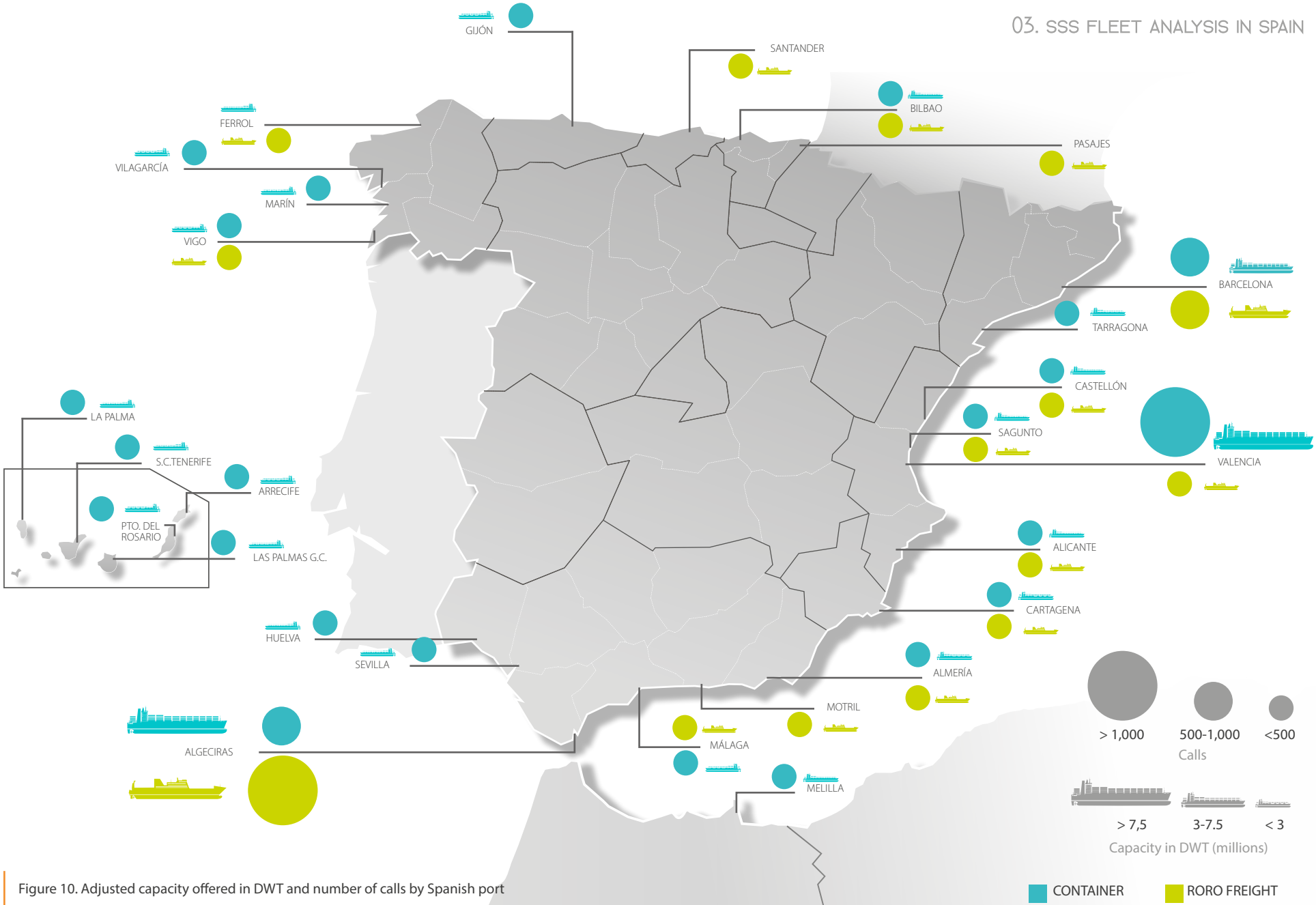
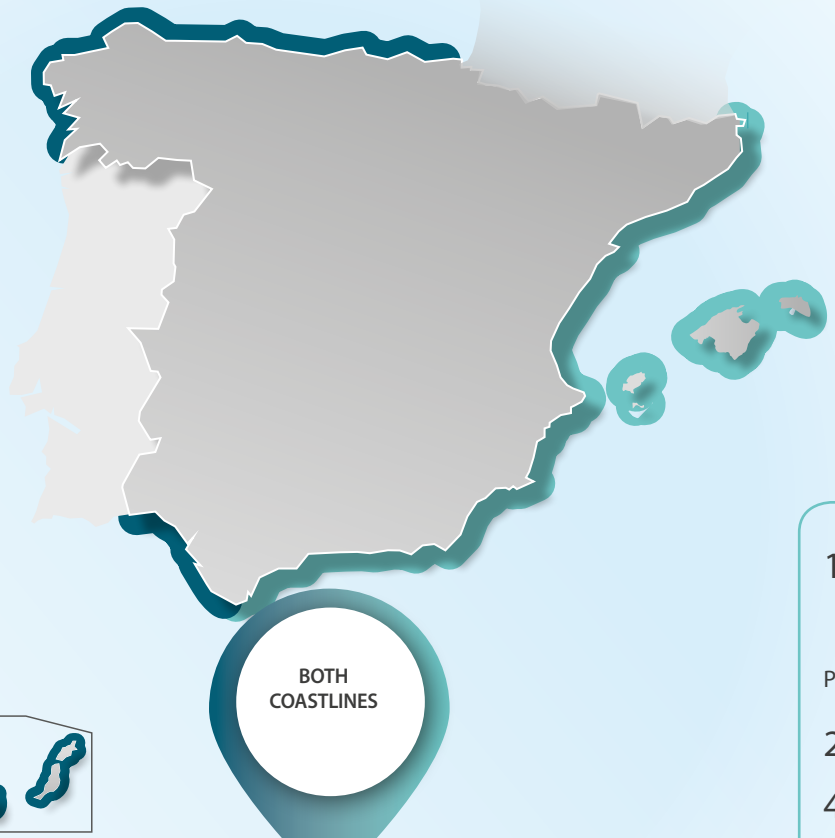


Figure 10. Adjusted capacity offered in DWT and number of calls by Spanish port

04. SSS BY SPANISH COASTLINE



ATLANTIC COASTLINE

38 SERVICES

23 OCEAN CARRIERS

PORTS
- 14 origin
- 53 destination

1.3 Weekly departures

91 VESSELS

BOTH COASTLINES

14 SERVICES

20 OCEAN CARRIERS

PORTS
- 20 origin
- 39 destination

0.9 Weekly departures

55 VESSELS

MEDITERRANEAN COASTLINE

121 SERVICES

61 OCEAN CARRIERS

PORTS
- 11 origin
- 87 destination

2.8 Weekly departures

466 VESSELS

05. MOTORWAYS OF THE SEA

Route	Ocean carrier	Frequency	Transit time	Vessels
SANTANDER-PORTSMOUTH	BRITTANY FERRIES	3 x semana	24h	3
BILBAO-PORTSMOUTH	BRITTANY FERRIES	3 x semana	28h	3
VIGO-SAINT NAZAIRE	SUARDIAZ	4 x semana	35h	2
BARCELONA-PORTO TORRES-CIVITAVECCHIA-PORTO TORRES	GRIMALDI	6 x semana	12/20h	2
VALENCIA-BARCELONA-LIVORNO-SAVONA	GRIMALDI	6 x semana	36/51h - 20/35h	5

Western MoS South-West MoS ROPAX RORO

06. SSS ANALYSIS BY COUNTRY

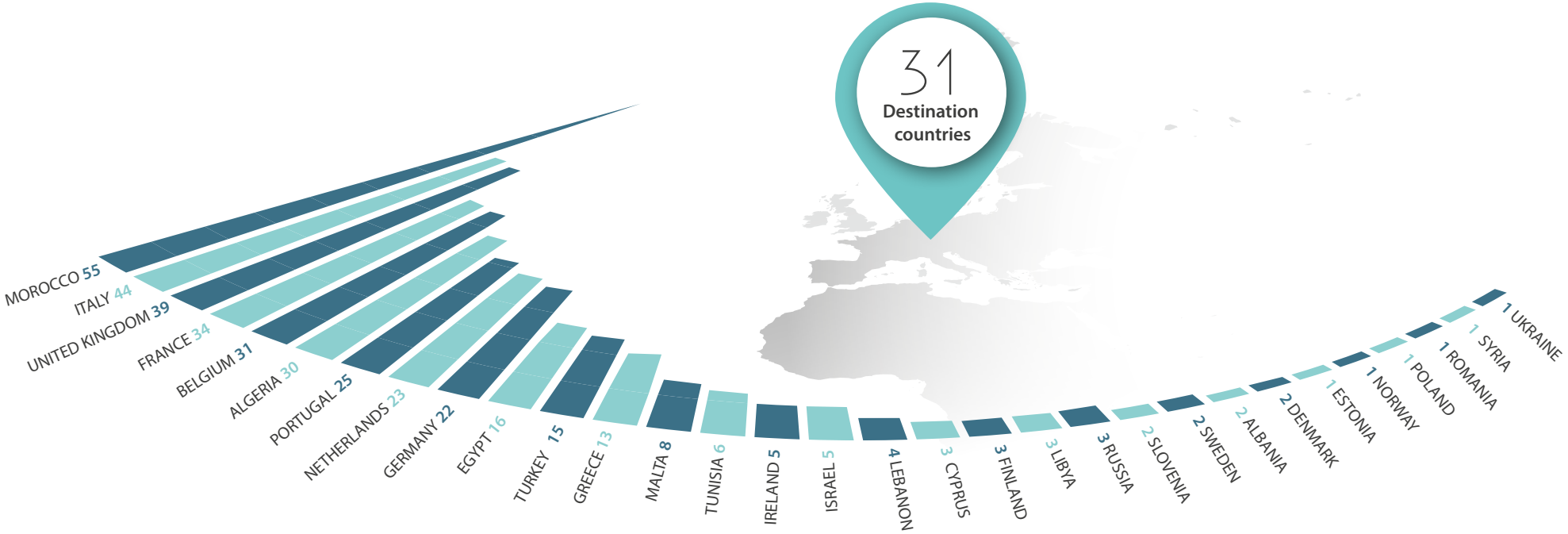


Figure 11. Destination countries according to the number of SSS services

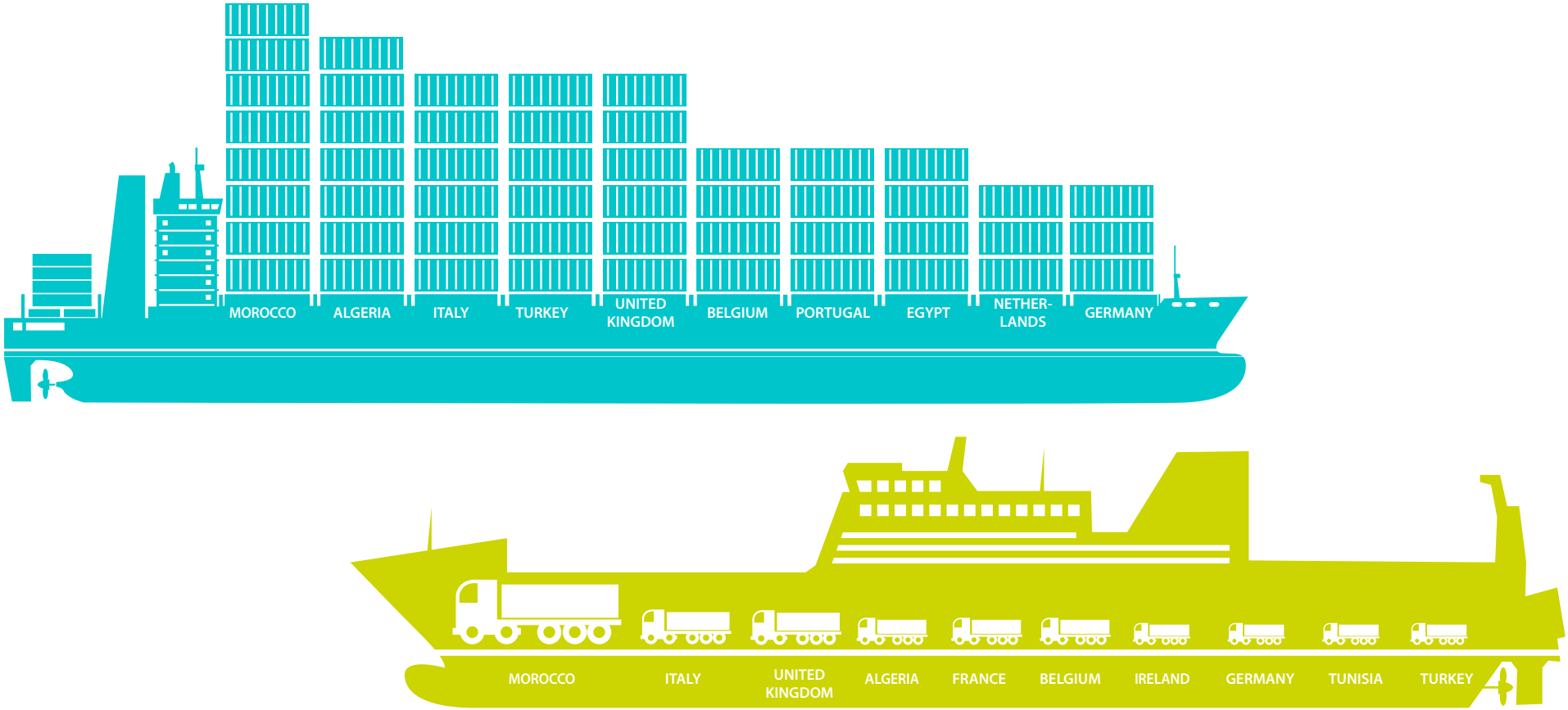
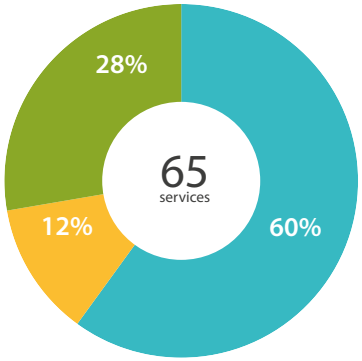
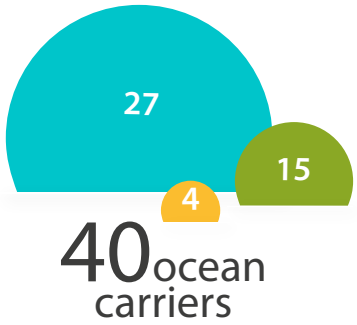
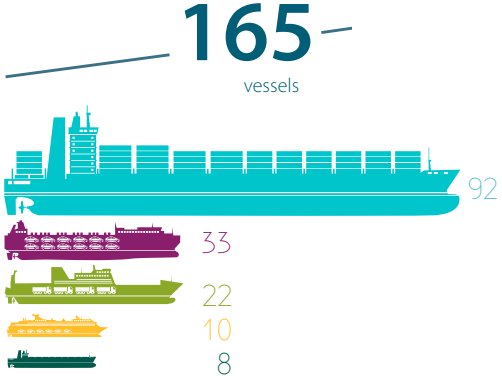


Figure 12. Ranking destination countries according to the adjusted capacity offered (TEU and line metres)

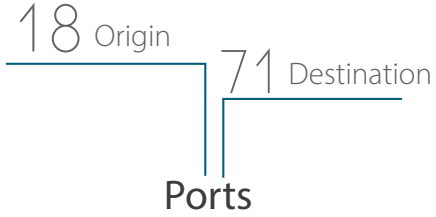
07. SSS ALTERNATIVE TO ROAD TRANSPORT







CAR-CARRIER CONTAINER ROPAX RORO GENERAL CARGO



	Services	Ocean carriers	Ports		Frequency	Vessels
			Origin	Destination		
Atlantic Coastline	27	17	9	38	1	51
Both Coastlines	7	13	12	20	1	20
Mediterranean Coastline	31	21	6	38	2	94

Methodological notes

The LinePort databases, developed by the Fundación Valenciaport, compile information related to the regular short sea shipping services (SSS) for EXPORT (therefore, they do not include national services).

This section details the methodology used to calculate the indicators published in this edition.

SSS SERVICES

Classifications defined in the LinePort database

Classification of services

• **SSS:** commodity and passenger transport services by sea between ports in geographical Europe or between those countries and others situated in non-European countries having a coastline on the enclosed seas bordering Europe - in keeping with the definition of SSS by the European Short Sea Network (ESN).

Interoceanic maritime transport services that accept freight bound for destination countries studied by the LinePort database have also been considered.

• **SSS alternative to road transport:** this category includes maritime container or ro-ro services that we believe represent an alternative to overland transport.The traffic between Spain and countries or islands not accessible over land* (except Ireland) have therefore been excluded from this classification, along with bulk and vehicle freight and interoceanic services, as they are considered to have a series of logistical features that make road transport unfeasible or uncompetitive and can consequently be considered, to a certain extent, a captive market of maritime transport.

• **Motorways of the Sea:** SSSS services that both meet the criteria regulators established by the European Commission as defined by the Fundación Valenciaport, in coherence also with the criteria defined in successive calls for financial instruments for development of the Trans-European Transport Network.

• **European Commission criterion (Regulation (EU) No 1315/2013):**

1. Projects of common interest for motorways of the sea in the trans-European transport network shall be proposed by at least two Member States. They shall comprise:

(a) a maritime link and its hinterland connections within the core network between two or more core network ports; or

(b) a maritime link and its hinterland connections between a core network port and ports of the comprehensive network, with a special focus on the hinterland connections of the core and comprehensive network ports.

2. Maritime links between maritime ports of the comprehensive network or between a port of the comprehensive network and a third-country port where such links are of strategic importance to the Union;

• **Fundación Valenciaport criterion:**

Minimum frequency of three departures per week.

Three maximum number of calls.

Ports studied

• **Origin ports:** 46 Spanish ports of general interest grouped in 28 Port Authorities.

The following classification is obtained using the location of the Spanish ports as a basis:

• **Atlantic Coastline:** Includes the Spanish ports on the coast of the Atlantic Ocean and the Cantabrian Sea.

• **Mediterranean Coastline:** Includes the port of Algeciras Bay, the Spanish ports on the coast of the Mediterranean Sea.

• **Destination ports:** The ports included in the LinePort database are located in geographical Europe or in non European countries having a coastline on the enclosed seas bordering Europe.

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Calculation of indicators

otal SSS services: total number of services in the LinePort database during the sample period.

Total SSS services with interoceanic calls: total number of services in the LinePort database that accept freight bound for destination countries studied.

Total services by port of origin and type of freight: total number of operative services during the sample period broken down into Spanish load ports, grouped according to type of service and the type of freight defined previously. The aggregate of this classification differs from Total SSS Services as one same line is accounted for in all the Spanish ports it calls at where goods can be loaded.

Average frequency: average frequency of all services, calculated as the number of departures per week offered by the services during the period they are operative.

Ocean carriers by type of freight: total number of ocean carriers that provide services over the sample period.

Total origin ports: total number of Spanish ports offering SSS services.

Total destination ports: total number of foreign ports of destination connected with Spanish ports.

Destination ports by origin port and type of freight: sum of foreign ports of destination connected with Spanish ports according to type of freight.

Connectivity index of Spanish ports: Based on the Liner Shipping Connectivity Index (LSCI) proposed by UNCTAD for the connectivity index by country, the Fundación Valenciaport has calculated an index focusing on the connectivity of Spanish ports only in terms of the regular SSS services.

$$PCI_{j,i}=\left(\left(\frac{N_j}{Max(N_{j\ldots n})}+\frac{L_j}{Max(L_{j\ldots n})}+\frac{C_j}{Max(C_{j\ldots n})}+\frac{B_j}{Max(B_{j\ldots n})}+\frac{TB_j}{Max(TB_{j\ldots n})}+\frac{F_j}{Max(F_{j\ldots n})}+\frac{PD_j}{Max(PD_{j\ldots n})}\right)/X\right)$$

PCI= Port Connectivity Index

j= port under study

i= year for which the PCI is calculated

n= total number of ports included in the PCI

N (Ocean carriers): number of ocean carriers offering services in each Spanish port

L (Lines): number of SSS services offered during the year under study

C (Adjusted Capacity): total DWT of the vessels offering services in each port

B (Vessels): total number of vessels per service involved in the rotation

TB (Vessel size): maximum size of vessel operating in the port in question, in DWT

F (Frequency): number of departures per week offered by each port

PD (Ports of destination): total number of connected foreign ports of destination for each Spanish port.

X: total number of variables that make up the PCI

Total vessels: total number of vessels deployed for all the services that are operative during the period under consideration.

Vessels by size and type of freight: sum of vessels that are operative during the period under consideration according to the length of the vessel and type of freight.

Vessels according to the vessel age: sum of vessels that are operative during the period under consideration grouped by vessel age.

Total capacity: calculated bearing in mind the frequency of the line and the characteristics of the vessels that operate on the route.

- **Total capacity offered in DWT:** sum of the total DWT offered by each service.
- **Total capacity offered in TEU:** sum of the total TEU that can be transported by each service.
- **Total capacity offered in LINE METRES:** sum of the total line metres offered by each service.

Adjusted capacity by origin port: Due to the fact that the load capacity allocated to a port does not coincide with the maximum capacity of the vessel on certain routes, the concept of adjusted capacity has been used. This figure is the result of applying a weighting factor to the total capacity of the vessel.

$$\text{Adjusted capacity}_{\text{origin port}} = \text{Total capacity} \times \left(\frac{1}{\text{No. ports origin}} \right)$$

Adjusted capacity by destination country: The concept of adjusted capacity also applies when considering the capacity by country of destination, using a weighting factor which distributes total TEU and line metres among calls by country destination.

$$\text{Adjusted capacity}_{\text{destination country}} = \text{Total capacity} \times \left(\frac{\text{No. destination ports in the same destination country}}{\text{Total destination ports}} \right)$$

Concerning SSS services with interoceanic call, as the ultimate purpose of these lines is to transport freight between large geographical regions (e.g. Far East-Mediterranean line), a correction factor of 0.1 is added to the foregoing adjustment ratio to calculate adjusted capacity. The correction factor stems from the hypothesis that only 10% of freight will be bound for the ports studied by LinePort.

Calls by origin port and type of freight: Total vessel calls at the spanish ports during the period under consideratial, grouped according to type of freight.

The indicators calculated in this publication include methodological improvements that represent a break in the historical series of the data calculated so far. In order to save this break, the Fundación Valenciaport will elaborate a special edition, calculating the historical data with the current methodology.

Data from databases

For quotation this information, please refer to LinePort database of the Fundación Valenciaport.

Edition

Lorena Sáez

Data analysis

Lorena Sáez
Amparo Mestre
Mark Tanner
Julián Martínez
Solanyi Rodríguez

Graphic design

Laura Pérez
Lorena Sáez

FUNDACIÓN VALENCIAPORT

Fundación Valenciaport
Sede APV - Fase III
Avda. Muelle del Turia, s/n
46024 Valencia (España)

www.fundacion.valenciaport.com
lineport@fundacion.valenciaport.com

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