

The New Port Framework in Spain As a Means to Support the Increase of Traffic Potential in the Mediterranean Sea

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THE ROLE OF SPAIN as ‘ports land’ has grown over the last decades along with the economic development of the country. This has required a modernization process of the Spanish port system, not only in terms of infrastructures but also as an evolution in terms of organization and governance. This is why Spain, like other Mediterranean countries, has gone through a ‘port reform’ process. This article focuses on the reasons and outcomes of this process. After a rather detailed introduction that covers the evolution of maritime traffic in the Mediterranean region and in Spanish ports, which is due to the deep changes that concern the organization of maritime trade (known as the ‘logistics revolution’), this paper provides an overview of the recent Spanish port reform. The Spanish model – which revolves around a central intermediate public authority called ‘Puertos del Estado’ – is extremely interesting for the whole Mediterranean area because it introduces elements like efficiency, autonomy, support to competition, and connections between ports and territories in the port sector, while maintaining a strong policy coordination at State level.

THE IMPORTANCE OF MARITIME TRAFFIC IN THE
MEDITERRANEAN SEA AND IN SPANISH PORTS

Maritime Transport in the Mediterranean Sea

In order to fully understand the description of the Spanish port reform, which is the main topic of this paper, we must consider it as part of a more general picture that portrays the evolution of Spain’s role in the maritime transport system in the Mediterranean Sea and, in more general terms, in the development of the whole traffic system.

TABLE I Evolution of port traffic in the Mediterranean Sea

Category	Annual growth increase between 1997 and 2006 (in %)	Percentage distribution
Liquid bulk	7%	31%
Solid bulk	3%	27%
General goods	8%	36%
Containers	10%	26%
Ro-Ro Traffic	5%	10%
Other		6%
Total	5%	100%

[62]

Maritime transport in the Mediterranean Sea increased by over 50% between 1996 and 2007. Container traffic contributed most to this increase (by over 10% a year) and it was much higher than the level reached by energy products (7%), solids (3%) and general goods (8%).

If the total traffic is split into its components, we can see that 24% of the goods flow in the Mediterranean was made up of energy products, whereas general goods were 36% of the total. At the same time, most transactions in this area concerned EU countries, whereas 8% of the foreign EU trade involved non European Mediterranean countries.

Routes connecting Mediterranean ports with Asia were predominant and this fact brings to the fore some recent trends: an increase of ship dimensions due to the higher load capacity required and what happened to Mediterranean ports, which increased their market shares in comparison with the ports of the Northern Range (i. e. an area that stretches from Le Havre to Hamburg). This determined the rise and consolidation of new hub ports like Port Said, Tangier Med, Algeciras, Marsaxlokk and Gioia Tauro, which became first rate international hubs.

With no embargoes, the traffic and trade levels within the Mediterranean Sea were weak (about a fourth of the total); the south-north traffic became well-established (mainly because of the exportation of oil and gas) as opposed to trade among the southern Mediterranean countries.

Port infrastructures respond to various dynamics. First of all, to the greater ship dimensions and to the fact that now ports need deeper shores. Secondly, port offer dynamics are faster than demands; perhaps



TABLE 2 Main Mediterranean ports (measured in TEU)

Port	(1)	(2)	(3)	(4)	(5)	(6)
Valencia	3,602,112	3,653,890	1.4	1,803,697	1,972,694	9.4
Port Said	3,257,984	3,464,453	6.3			
Algeciras	3,324,310	3,042,759	-8.5	1,474,149	1,482,548	0.6
Gioia Tauro	3,467,772	2,857,438	-17.6			
Istanbul	3,235,329	2,517,059	-22.2	832,493	1,312,392	57.6
Marsaxlokk	2,234,182	2,260,000	-3.2			
Barcelona	2,569,550	1,800,213	-29.9	872,150	899,187	3.1
Genoa	1,766,605	1,533,627	-13.2	678,000	753,262	11.1
Alexandria	1,259,000	1,277,000	1.4			
Damietta	1,236,502	1,263,925	2.2			
Tangier	921,000	1,222,000	32.7			
Haifa	1,251,158	1,133,523	-9.4		631,000	

Column headings are as follows: (1) 2008, (2) 2009, (3) % variation, (4) January/June 2009, (5) January/June 2010, (6) % variation. Adapted from <http://www.cargo-systems.net>.

this aspect shows an offer overcapacity that may translate into an excess of capacity in some ports and facilities. Lastly, the consolidation of logistics hubs in large industrial areas can be observed.

Behind this there is greater competition among ports, which emphasizes dominant and hierarchical conditions, as well as a higher concentration around ports that are different and selective.

Recently, synergies among ports and other transport modes have generated a greater intermodality and more frequent rail-port connections, as shown by the integration of new companies both in rail, logistics and port areas along the routes that stretch from the Mediterranean Sea to Europe's hinterland.

Considerations on Spanish Ports in the Mediterranean Sea

Spanish ports in the Mediterranean Sea are very important. In Spain there are 13 Port Authorities, one of which is an insular port authority (the Balearic islands), while two correspond to the autonomous cities of Ceuta and Melilla, located on the southern coast of the Mediterranean Sea. All together, they correspond to 267 million tonnes, that is 62.3% of the total Spanish traffic. This great port proliferation de-

[63]

TABLE 3 Presence of the major terminal operators and specialized terminals of the main container carriers (2006)

Term. operators	Ports	Spec. terminals	Ports
APM Terminals	Rotterdam, Aarhus, Bremerhaven, Tangier, Zeebrugge, Algeciras, Dunquerque, Port Said, Gioia Tauro, Costanta.	Maersk (APM Terminal)	Rotterdam, Aarhus, Bremerhaven, Tangier, Zeebrugge, Algeciras, Dunquerque, Port Said, Gioia Tauro, Costanta
Eurogate	Hamburg, Tangier, Bremerhaven, Gioia Tauro, La Spezia, Livorno, Ravenna, Cagliari, Lisbon, Rijeka.	Evergreen	Taranto
DP World	Southampton, Tilbury, Shell Haven, Antwerp, Le Havre, Marseilles, Costanta, Yarimca.	Cosco	Antwerp, Naples, Port Said
Hutchison Ports	Fleixtowe, Thamesport, Rotterdam, Gdynia, Barcelona, Alexandria.	CMA/CGM	Antwerp, Zeebrugge, Le Havre, Marseilles, Tangier, Marsaxlokk
PSA Corporation	Antwerp, Zeebrugge, Flushing, Genoa, Venice, Mersin.	MSC	Antwerp, Tangier, Bremerhaven, Marseilles, Las Palmas, Valencia, Genoa, La Spezia, Naples, Venice, Ambarli

Adapted from Ocean Shipping Consultants (2006).

termines a major port traffic aggregation to the point that the three most important Spanish ports for traffic movement are located in the Mediterranean Sea (Valencia, Algeciras and Barcelona) and make up 66% of the whole port traffic in the Spanish Mediterranean. If the ports of Cartagena and Tarragona are considered, it can be claimed that the first five ports in the Mediterranean Sea absorb 85% of the total traffic.

If these ports are analysed on the basis of goods types, the main



[64]

TABLE 4 Features of Mediterranean ports

Port	(1)	(2)	(3)
Algeciras	161.5	1534	0
Alexandria	134.2	1691	32
Barcelona	222	4160	209
Damietta	234.7	1050	0
Genoa	228.3	1926	352
Gioia Tauro	230.8	3011	66
La Spezia	123.5	1297	337
Marsaxkoll	58.3	2360	0
Marseilles	168	2970	290
Piraeus	222.4	3885	178
Port Said	112.2	1315	0

Column headings are as follows: (1) container area (in acres), (2) quay length (in metres), (3) deviation to the Suez-Gibraltar route (in sea miles). Adapted from Italian Ministry of Transport and Merchant Navy (2001); Schinas and Papadimitrou (2001).

[65]

energy ports are Tarragona, Cartagena and Barcelona. In total, the liquid bulks of Mediterranean ports make up 58.41% of the total Spanish traffic. Among the ports specialised in solid bulk, the most important are Tarragona, followed by Barcelona and Almeria; together, they make up 38.5% of the total. As for general goods, Valencia, followed by Algeciras and Barcelona, hold the first three positions and this means that the Mediterranean ports make up 53% of the total Spanish traffic.

Valencia, Algeciras and Barcelona stand out for container numbers too. The port of Tarragona has also recently registered a certain growth. Container cargoes at Mediterranean ports make up 78% of the total Spanish traffic. As for cruising, the passengers number has increased over the last few years.

Barcelona has become the focal point with about 2.5 million cruise passengers, followed by the Balearic Islands with 1.5 million and Malaga with over 650,000 passengers. Mediterranean Spanish ports make up 70.6% of the Spanish share in this sector.

Spanish ports are characterised by the presence of global operators. Hutchinson Port Holdings works in the port of Barcelona, Mediterranean Shipping Co. in the port of Valencia, Dubai Ports and ZIM in

TABLE 5 Statistics on Spanish port traffic in the Mediterranean Sea (provisional data for 2010)

Port	(1)	(2)	(3)	(4)	(5)	(6)
Algeciras	23,601,987	1,475,910	40,263,733	70,320,246	2,802,790	—
[66] Malaga	54,620	772,746	1,434,462	2,382,773	298,401	659,123
Motril	1,279,609	464,442	269,613	1,925,664	3,422	2,335
Almeria	4,459	3,105,224	580,743	3,791,320	2,698	58,743
Cartagena	14,978,265	2,961,640	927,185	18,988,917	63,562	104,294
Alicante	127,887	723,478	1,327,904	2,191,923	146,651	75,795
Valencia	4,964,000	2,629,000	56,000,000	63,877,316	4,150,000	257,000
Castellon	7,674,075	2,940,558	1,834,550	12,487,162	103,724	—
Tarragona	19,476,691	9,427,806	3,699,537	32,776,461	255,409	3,148
Barcelona	11,494,325	3,542,502	27,712,213	43,858,342	1,940,729	2,345,974
Balearic Islands	1,778,352	1,869,013	7,94,387	11,705,305	77,620	1,541,290
Ceuta	959,260	141,410	875,714	2,642,092	9571	4,220
Melilla	72,003	42,473	702,766	829,501	22,389	2,265

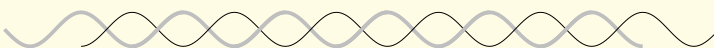
Column headings are as follows: (1) liquid bulk, (2) solid bulk, (3) general goods, (4) total, (5) TEU, (6) number of passengers.

the port of Tarragona, and AP. Maersk y Hanjin in the port of Algeciras. In 2011 Hapag Lloyd should have Malaga as its operational basis.

Spanish ports in the Mediterranean Sea export a lot because of the high specialization of the traffics they deal with. The main movement of goods is determined by cars and their component parts, iron and steel products, iron and equipment, paper and wood products.

Lastly, the number of ships that arrive at Mediterranean ports has increased in comparison with 2009. In this respect, the average Spanish growth is 6.3%, whereas the ports of Algeciras (+18.2%), Castellon (+11.8%), Valencia (+4.3%), Motril (+6.0%), Cartagena (+4.7%), Tarragona (+4.1%), Malaga (+2.9%), of the Balearic Islands (+1.4%) and Ceuta (+1.1%) with their respective growth levels make up for the decrease registered by Alicante (-5.2%), Almeria (-3.4%), Barcelona (-2.8%) and Melilla (-0.7%).

The importance of Mediterranean Spanish ports comes to the fore if they are compared to their counterparts in that geographical area:



three of them are among the first ten in Europe for container movement, Valencia ranks first, Algeciras ranks third and Barcelona ranks fifth, while Barcelona and the Balearic Islands are in the top five in the cruise sector.

[67]

THE ORGANISATION OF THE MARITIME AND PORT
SECTOR: THE INTERNATIONAL CONTEXT
AND THE MAIN TRENDS

The evolution of maritime flows outlined in the preceding paragraph is not the only aspect that can help understand the changes that are necessary to make to port legislation in order to support the economic dynamics. It is necessary to observe the deep changes that have taken place at world level in the organisation of the maritime and port industry.

The Five Main Trends in the Global Maritime Sector

Over the last 30 years, world port organisation has had to make adjustments. In the late 1970s the main maritime hubs corresponded to the commercial powers of the 'Triad' (that is USA, Japan and Europe). Later on, the Gulf countries emerged because of their massive exportation of oil and later still the southern Asian countries and the south-eastern Asian countries, along with some African countries, came to the fore for their exportation of raw materials. However, there is no doubt that in the 1970s oil traffic was the core of commercial flows, which in turn shed light on the export flow originating from Asian countries and dedicated to the sale of manufactured goods and to the importation of raw materials and energy needed to produce them.

The 1980s began with an oil crisis and so the traffic in the Gulf shrank, whereas the rise of Asian economies helped the exportation of raw materials and manufactured goods. The period 1990–2005 was characterised by the exploit of containers and of traffics from southern Asia to the American and European continent. Large development areas were located in the Asian continent, and the decreased relative importance of the EU and of Europe in maritime transport could be perceived: such areas became both importers and receivers of Asian goods.

The main world trends are: (a) the growing globalisation of production and markets; (b) technological development; (c) the strengthening of a port elite; (d) the trend towards transport costs reduction; (e) the rise of new management models in commercial ports.

[68] The growing globalisation is led by large companies and by multinational conglomerates. At the same time, the sharp increase of commercial flows has given a great boost. Maritime traffic has grown, a larger number of countries have become new players and accepted the market's rules, and there is a greater volume of exchanged goods.

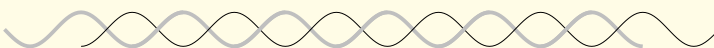
This growth of exchange flows translates into changes in the importance of circulation routes. Inter-Asian traffic predominates, followed by transpacific routes and east-west routes.

The second main trend refers to the relevant technological development. On the one hand, the massive introduction of containers has contributed to determining changes in the commercial, logistics and operational world. On the other hand, the dynamics of the 'naval giants' (larger ships) have stimulated a progressive ship specialization. Both are responsible for a major change concerning traffic separation and the use of multi-purpose and ro-ro ships.

The progressive introduction of technological innovations has produced new needs in terms of port facilities and new information and communication technologies. In short, this has had an impact on transport speed, loading tracks and reduced ship stop time in ports.

The third trend refers to the consolidation of a port elite where the larger quantity of goods flows concentrate. This selection and hierarchy dynamic is associated also with greater port competition and rivalry which is based on new selection criteria with a new cargo redistribution towards minor ports (creation of feeder lines). This brings about the consolidation of hub & spoke logistics models. The direct consequence of this process is the reorganisation of maritime fleets and the modernisation of maritime companies.

The fourth trend is the dynamic of transport costs reduction. This process was brought about by labour force reduction, new forms of work organisation and by the technical changes that have an impact both on the ship stop time and on various load management conditions.



Lastly, the fifth trend refers to new management models in commercial ports. The different inter-institutional coordination modes and the greater link with economic and social stakeholders is brought to the fore. The distinct actions concerning deregulation and decentralisation are taken into account. This means that the various political choices at institutional sub-levels are highlighted along with the choices that guide the participation of the various stakeholders of the port, logistics and commercial community. The liberalisation trend of port services has involved most public port administrations, but this phenomenon has involved nearly all of the others too. These routes are associated with a greater volume of commercial exchanges and with the deriving of space redistribution based on the progressive domination of container cargoes.

[69]

Container maritime transport has other features too. First of all, it is possible to determine regular lines, and thus the distribution logic, with greater accuracy. Secondly, new conditions for infrastructure and equipment come into existence; lastly, relevant economies of scale can be brought into being.

By way of example, container transport standardizes the work mode in all feeding chains, it improves transport regularity and safety. These features create a better coordination in maritime transport and in other transport modes.

The way things are, this regularity and this work structure enable one to avoid inactivity and speed up the deriving flows. It is the new maritime transport regulation forms and the networks structure that turn ports into real 'entry/exit ports' of commercial flows, that is into new economic gateways.

Guerrero (2010) divides ports into three groups: (a) the pioneers of central spacing, which are the old container distribution centres; they are located in the 'Triad,' they developed in the 1970s and 1980s and their recession started after that period; (b) the components of the first phase of regional differentiation, which are located at the outskirts of the 'Triad.' They are located around the Persian Gulf, connected to the great hubs and close to the east-west routes; (c) these ports are connected to the second phase of global distribution; they are characterised by great growth and located at the outskirts of the 'Triad.' In

the 1990s they went through alternate growth/recession phases because they were sensitive to competition and to the economic situation.

[70] Two main points emerge from this. The first is that port growth goes hand in hand with the restructuring of maritime networks (Rimmer 1998; Frémont and Ducruet 2004; Yap and Lam 2006) and, most of all, that it is influenced by the new relations of competition, rivalry and complementarity in maritime and land space. As for the second point, it is easy to find asymmetries among the various situations or areas, which highlight the different traffic intensity and the impact of these organisational phenomena and processes. This is how the dynamics of specialized traffic, hub & spoke networks and transshipment intensify.

This is how the best port locations in the world in terms of traffic increase are classified. As Guerrero (2010) states, 'The geographical organisation of ports is far from having been determined.' The restructuring of maritime exchanges offers the chance of highlighting the most attractive and selective features in contrast with those that mark isolation.

Changes in Port Models

Over the last years, and especially starting from the 1990s, we have seen major changes in port organisation models. In a study on conceptual port models, UNCTAD (1992) set down three key criteria: port development policies concerning strategies and activities; capacity and variety of port activities and integration of activities. This classification enables us to identify three generations.

The first generation, which preceded the 1960s, was characterised by the fact that ports were operating in isolation and as an interface between land and maritime transport. This way, ports remained disconnected from commercial and transport activities; ports were isolated from the surrounding areas and there was no cooperation among them. Lastly, the various companies that operated with ports did so in an independent way, without resorting to common enterprises meant to promote ports at commercial levels.

Second generation ports carry out a whole range of functions and act as centres of commercial, industrial and transport services. Port ac-



tivities include commercial activities and add value to cargoes. Unlike first generation ports, second generation ports are characterised by a close relation between commercial and transport stakeholders and the areas close to ports, that is ports no longer act in isolation but by relating to the transport industry.

[71]

Third generation ports, which characterised the 1990s, are part of the globalisation era. They are dynamic hubs within a complex international production/distribution network. Port management is characterised by the development of integrated transport centres and by the creation of logistics platforms. Port services are specialized and have become more diversified by combining multiple services and performances. These ports are capable of adjusting to technological and equipment developments. Industrial areas are created in ports in order to generate greater load efficiency and the measures used for environment protection and safety are strengthened.

Lastly, third generation ports are characterised by a great improvement in administrative efficiency so as to improve and make uniform administrative documents and bureaucratic procedures.

A limited variety of carriers work within port economies. At first, a concentration strategy based on the attraction power and on the location of the shipowners' and agents' activities is determined in order to achieve progressive costs reduction and an increasing traffic concentration. Afterwards, a traffic intensification strategy that takes into account the number, type and size of ships, and particularly of container ships is drawn up, thereby increasing the quality of the services provided and enabling routes to be extended by including other ports and geographical areas. Lastly, an overall integration strategy based on intermodality is pursued; it has to be capable of developing equipment, facilities, logistics platforms and the networks that are required to establish priorities with reference to service quality, while adding value to the geographical location and the core of international trade.

Two types of analysis are carried out in order to implement these strategies. The first focuses on goods and maintains that ports' tasks are redistributing cargoes, integrating and combining the different land and maritime transport modes, improving and boosting exchange and distribution quality, providing new warehousing functions as well as

TABLE 6 Port model types of the three generations

Item	First generation	Second generation	Third generation
Port development strategy	Bulk loading; trans-port exchange point.	Solid and liquid bulk; transport, commercial and industrial centre.	Bulk and container loading; integrated transport system/logistics platform for international trade.
Type of activity	Loading, unloading, warehousing, shipping services; quays and adjacent maritime areas.	Loading, unloading, warehousing, shipping services; cargo transformation; industrial and commercial services connected to ships; larger port area.	Loading, unloading, warehousing, shipping services; cargo transformation; cargo distribution and information; logistics activities; terminal and port extension ashore.
Organisation features	Independent activities within ports; informal connection between ports and users.	Greater connection between ports and users; poor contacts between port activities; limited contacts between ports and adjacent municipalities.	The port community is compact; port integration through a commercial and transport chain; high connection between ports and areas; greater port organisation.
Production features	Load flow; individual service; low added value.	Load flow; cargo transformation; combined services; improved added value.	Information and load flow; multiple service package; high added value; technology/know-how.

Adapted from UNCTAD 1992.

specialized port facilities like port equipment, coping with the multiplying differentiated areas and the existence of adequate facilities for liquid cargoes, solid and combined goods, along with equipment like cranes, transtainers, containers, terminal automation, etc., which are the essential elements for the consolidation of a hub.

The second type of analysis focuses on ships; port functions require



TABLE 7 Evolution of the features of port facilities

Feature	Beforehand	Now
Stop time	Long. It used to be an important factor.	Short. At present it is very important and as short as possible.
Efficiency	It used to be determined by inventory needs.	Nowadays, the main factor is goods flows management.
Added value	This concerned the concept of goods.	The key factors are invested capital, the existence and structure of global production chains and goods flows circulation.
Restrains	The effects and elements concerning space, time and connections were not taken into account.	Selective spaces (junctures and hubs) are integrated and connected; spaces and time are integrated; time and spaces are integrated.

[73]

the presence of fundamental features that can guarantee the presence of load units like control, access and circulation towers, tugboats, room for manoeuvre, the capability of immobilizing ships, supplies, energy, water and ship repair: these are all good examples of the new and indispensable requirements.

The start of the ‘second logistics revolution’ in maritime transport and in port organisational structures has forced ports to equip themselves with specialized terminals and new facilities. If transport is carried out without breaking up the cargo and through one or more transport modes, it is easier to manage, load, unload and store. Besides, investments in port infrastructures are likely to have greater success than other activities because they generate greater productivity since a container quay can contain and store ten times more loads/goods than a standard quay.

Many port infrastructures are converted into goods exchange platforms; this growth determines the creation of maritime hubs (networks junctions) where mother ships that feed average-size container carriers (feeders) stop, thereby bringing about a new balance: hub/core + logistics platform. This triggers the new development trends of port facilities.

Ports gain importance as ‘functional junctures’ again and carry out

[74] attraction and traffic search functions; they also give impetus through specific territorial development dynamics in order to influence and deviate goods flows. The new port goals translate into: (a) attracting new goods traffic; (b) connecting economic areas and formalizing transport corridors; (c) attracting investments to stimulate territorial and economic development; (d) stimulating 'land-sea' interfaces; (e) constantly adjusting to the new institutional norms and to the economic regulations. This new dynamic determines specialized port growth, greater partnership processes and privatizations that increase rivalry and competence.

THE SPANISH PORT SYSTEM AND THE NEW LAW

The Structure of the Spanish Port System

The Spanish port system is made up of 28 Port Authorities that include 64 ports of general interest. Such Port Authorities are individual management units coordinated by the Public Authority 'Puertos del Estado,' which is in charge of carrying out and implementing the port policy drawn up by the government. Law 27/1992 placed the Puertos del Estado in charge of the 'general coordination, along with the various bodies that make up the Administración General del Estado, of the control of port space and of transport modes within state jurisdiction as far as port activities are concerned' (Article 25b).

It must be pointed out that the Spanish Constitution (Article 149) states that ports of general interest are within the exclusive jurisdiction of the State. Controls are carried out with the purpose of analysing the security of assets, the reliability of financial information and the creation of the relevant laws and norms. In spite of this, port laws stress the fact that every Port Authority will carry out its enterprise autonomously. This means that the Spanish port system relies on the Port Authority Puertos del Estado, which acts as intermediary (for the State management and administration), as a management body (with reference to the execution and revision of all actions taken by each Port Authority) and as a collaboration body (mentioned in the Port Authorities common agreement and its corresponding amendments)

The Spanish port system is characterised by a whole range of ports. They can be subdivided as follows:



- By traffic volumes and type. There is a group of ports that generate the movement of over 10 million tonnes and others with a traffic level below a million tonnes. Many of them are specialized in liquid bulks, others in solid bulks. There are some ports where general goods are prevalent and others where container traffic is predominant.
- For being part of international maritime networks. Some ports have substantial connections with maritime routes and with regular transshipment routes.
- There are ports that are closely bound to their hinterlands and can cope with the import/export flows thanks to them.
- There is a high port proliferation beyond the Spanish coastline.

[75]

Those ports reflect the location of industrial economic areas and it can be maintained that no Spanish economic location lacks port connections.

In short, the Spanish port system is distributed along four directrices: (a) the Cantabrian directrix, which stretches from Gijón to Pasajes and includes the ports of Avilés, Gijón, Santander, Bilbao and Pasajes; (b) the Galician directrix that includes five Port Authorities and six ports: San Cibrao, Ferrol, La Coruña, Vilagarcía, Marin and Vigo; (c) the Mediterranean directrix, which includes a large number of port roadsteads. It includes the Port Authorities of Huelva, Cádiz, Sevilla, Algeciras, Málaga, Motril, Almería, Cartagena, Alicante, Valencia, Castellón, Tarragona, Barcelona and the Balearic Islands as well as the ports of the cities of Ceuta and Melilla. In total, they make up 24 ports; (d) lastly, the ports of the Canary Islands, which include seven roadsteads pertaining to two Port Authorities: Las Palmas and Santa Cruz de Tenerife.

Traffic volumes have increased considerably over the last few years with substantial growth rates. Every port could benefit from this increase because they were all involved in the traffic.

Trends are characterised by a high level of specialization and differentiation. Among the ports specialized in liquid bulk there are Cartagena, Huelva, Castellón, Bilbao, Tarragona and La Coruña, whereas among the ports specialized in solid bulks there are Gijón, Tarrag-

TABLE 8 Port ranking 2009 (in tons)

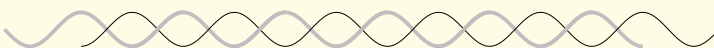
Port	Traffic	Port	Traffic
B. Algeciras	64,203,256	Sevilla	4,501,492
Valencia	57,507,523	Santander	4,422,231
[76] Barcelona	41,793,734	Avilés	3,950,444
Bilbao	31,604,448	Almería	3,836,168
Tarragona	31,310,047	Cádiz	3,835,981
Cartagena	20,513,425	Vigo	3,525,971
Las Palmas	19,034,434	Pasajes	3,467,740
Huelva	17,538,873	Alicante	2,485,821
s c Tenerife	15,012,389	Ceuta	2,201,751
Gijón	14,497,282	Malaga	2,075,342
Ferrol	12,232,590	Motril	1,945,316
Balearic Islands	11,753,831	Marin	1,641,928
La Coruña	11,496,378	Vilagarcía	958,240
Castellon	11,073,077	Melilla	823,202

TABLE 9 Port traffic in Spain 2009

Liquid bulk		143,529,909
Solid bulk		79,133,203
General goods	Conventional	48,652,266
	Containers	127,927,536
	Total	176,579,802
Total port traffic		399,242,914
Other data	Containers number (thousand TEUS)	11,749,298
	Ship number	113,72
	Ship dimensions (GT)	1,619,337
	Passengers number (thousands)	25,328

ona, Ferrol and Huelva. As for goods, Valencia ranks first, followed by Barcelona, Algeciras, Las Palmas, Santa Cruz de Tenerife, Castellon and Vigo, whereas Valencia, Algeciras, Barcelona, Las Palmas and Bilbao stand out for container movements. The most important ports for ro-ro are Barcelona, the Balearic Islands and Valencia, whereas Barcelona ranks first in cruise traffic, followed by the Balearic Islands.

The Spanish port system could benefit from great investments that



were made starting from the early 1980s. Resources were allocated for the construction, adjustment and creation of new infrastructures and equipment. About 9,000 million Euro were invested between 2000 and 2009; this amount was used to create a total of 15,796 meters for mooring, 670 hectares of land surface and 801 hectares of protected waters. [77]

It was observed that the investments made to restructure infrastructures were greater than the capability of attracting new traffic. This means that the Spanish port system is quite capable of coping with new traffic increases and with new lines that stop at port roadsteads.

The Networks Set Down by the New Law

The new Spanish port law 33/2010 of the 5th of August changed the law 48/2003 on economic rules governing ports and on port service performance. It was approved by a large majority of the Spanish legislative assemblies because there was a wide parliamentary consensus. The new law gives the port system its own stable and permanent legal framework according to which it is possible to optimize the development of each port and of each combined system so as to contribute to a sustainable growth of the Spanish trade and economy.

The contents of the new law have created the basis for a balance between criteria and goals, which may appear contradictory at first, whereas in fact these elements can be brought under the same roof. In order to make this clear, here is a list of the contradicting elements for which the law strives to find a balance:

- 1 management autonomy under state control
- 2 tariff moderation versus profitability
- 3 flexibility versus supervision
- 4 free market versus regulation
- 5 independent planning versus network integration

Projects have focussed on drawing up a port model that can include various policies and build a body that can integrate them all.

Six integrated policies have been defined that include: State intervention and coordination on industrial policies (meeting the demands of industrial and service specialization like those of the automobile industry or fishing); implementing port maritime activities (this con-

[78] cerns terminal operators, general operators and technical and nautical services); respecting integration concepts in transport modes (through interoperativity, intermodality and networks adjustment); respecting territories (so that local and regional policies can be sustained and protected while bearing in mind the relations between ports and cities); social aspects (to make sure that social and economic stakeholders are represented and involved) and environmental aspects (that is the challenge posed by sustainability along with the need to improve levels).

Which are the new concepts introduced by the law? They are basically ten.

- 1 Greater tariff freedom. Port Authorities can put forward their own tariffs for taxes on ships in transit and for goods depending on their economic situation. The law aims at moving away from the former rigid system.
- 2 Strict economic and financial control based on rationality and balance criteria. The port system must reach an annual profitability of 2.5%.
- 3 Creating ports that are more attractive for private enterprises. This is done to offer greater chances to companies that are interested in establishing their businesses in the area of port services in a given territory by creating activities linked to transport and logistics. In their case, the employment tax becomes more flexible and there are greater contributions for investments made with own capital.
- 4 Safeguarding competition. Free access to port service performances is set down. This means that all the companies that respect the requirements set down by Port Authorities have the right to have a licence to provide port services. At the same time, the application range of self-employment and of services integration is extended with the aim of meeting the needs of all port customers. This enables one to make sure that there are free market rules in every port, while the system is regulated by a framework of fair competition among ports. A new management model concerning labourers is also regulated through a new entity, the Sociedad Anónima de Gestión de Estibadores



Portuarios (SAGEP), which replaces the previous dichotomy that made it possible to combine SEED (Sociedades Estatales de Estiba y Desestiba) and APIES (Agrupaciones Portuarias de Interés Económico).

- 5 More competitive ports in a global economy. Investments on taxes on ships in transit and goods are increased as much as possible in order to make Spanish ports as competitive as possible. This way, Port Authorities will be able to put forward greater investments on traffic with strategic interest, like import/export, maritime transit or specialized terminals like hubs. [79]
- 6 Quality and efficiency as keys to the future. The new law rewards Port Authorities that strive to rationalize the restructuring of infrastructures and to approve infrastructures and facilities, thereby making investments easier in terms of productivity and return level.
- 7 Ports more committed in the social and economic contexts. This law includes several elements through which ports can strengthen connections with their own economic contexts and with cities. The framework for the creation of a solid integration between ports and urban and metropolitan areas is created and the implementation area of each one of them is clearly defined. The law contributes specifically to sustaining and supporting key sectors like the automobile sector and fishing.
- 8 Greater management autonomy through the President of the Port Authority. Greater leadership is awarded so that there is more room for manoeuvre and therefore greater responsibility in managing land and infrastructures and in regulating port service performances. This enables ports' autonomy to be increased, which gives greater autonomy to port systems.
- 9 Greater port integration in the transport system. This means that port authorities have to analyse inter-operativity between port roads and railways and the rest of the transport system of general interest. This is done to guarantee a balanced development of the transport network, which has to meet the demand for routes and goods transport in order to increase the inter-operativity of the various transport systems. The results at stake

with the coastline motorways are emphasized through a development and support formula that aims at guaranteeing regular and more efficient transport in intermodal and environmental terms.

[80]

- 10 A sustainability challenge. The new port law forces each Port Authority to draw up a sustainability report. Such report will be carefully monitored, and operators that offer port services on the basis of a licence, authorization or franchise through good environmental practices will be rewarded with investments.

In short, ports as management units must offer goods owners and maritime carriers the best infrastructures and the best services in comparison with other ports whose influence areas overlap so as to be able to increase traffic. This means that the new port law enables logistics and port costs to be reduced, in order to stimulate competition. This new legal framework grants each Port Authority the freedom to adjust to each territorial area and its specific service offer, thereby stimulating competition between other operators and enabling them to develop the licence models that have been used so far.

Since in most cases infrastructures and services are not offered by a single entity, port competition translates into logistics or port chains; this is 'door to door transport' in contrast with the 'port to port' concept used in the past.

Ports are part of this chain and so they do not want to have direct control over it, since they want to have traffics and become part of multimodal chains through vital entrepreneurial alliances.

FINAL CONSIDERATIONS: THE BASIS FOR THE POLITICAL IMPLEMENTATION

The Spanish port system has a distinctive feature: its geographical location adjacent to the great maritime transport routes that can be transformed into a logistics platform for the development of maritime trade. At the same time, ports have a relevant role in external trade since port traffics make up 85% of imports and 60% of exports. This makes ports the 'entry/exit gateway' of local and regional economies.

This means that there is a high number of ports of different dimen-



sions that are located along the coast and that create a bridge between the sea and the territory.

Data on Spanish ports and their traffics in 2010 have been published. Inter annual taxes, that is data on the corresponding month in comparison with the preceding month of the previous year, are over 8% for general goods and 9% for containers. As for the total traffic, in August 2010 it was similar to the level reached in October 2008, which corresponds to a U form, that is to an initial improvement. At the same time, present infrastructures and port structures are sufficient to cover a 6% annual increase in the next five years.

[81]

Our challenge is creating a new entrepreneurial culture in management. Goals are set so as to provide Port Authorities with advanced management autonomy, with economic and financial self-sufficiency, with greater chances of finding more liberalised port services, with a more pragmatic regulation of the public domain in terms of port activities by increasing links with cities; this is done also to reduce port competition and to introduce mechanisms that enable them to have more flexible port taxes.

At present we have a more stable legal framework and we have increased port autonomy, because we have higher coordination and regulation levels thanks to the Public Authority Puertos del Estado. In short, there is a 'new state perception' that derives from the procedure included in the implementation of the new law. It must be pointed out that this law contributes to sustaining both vital economic sectors and the coastal areas close to them.

Expectations for the next financial years are flattering because of the challenge consisting in the integration of maritime and port networks, of the inclusion in global supply chains and of the greater skills possessed by management and qualified personnel that will enable the Spanish port system to experience a *port rebirth*.

This law enables ports to take advantage of the turning point in the port dimension and, on the basis of this dynamic, 'ports will have to cease to be places and become spaces;' 'ports will stop worrying about form and will invest in processes;' last, but not least, 'ports are enterprises' because they will have to generate profit and added value by joining forces with supplied services.

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