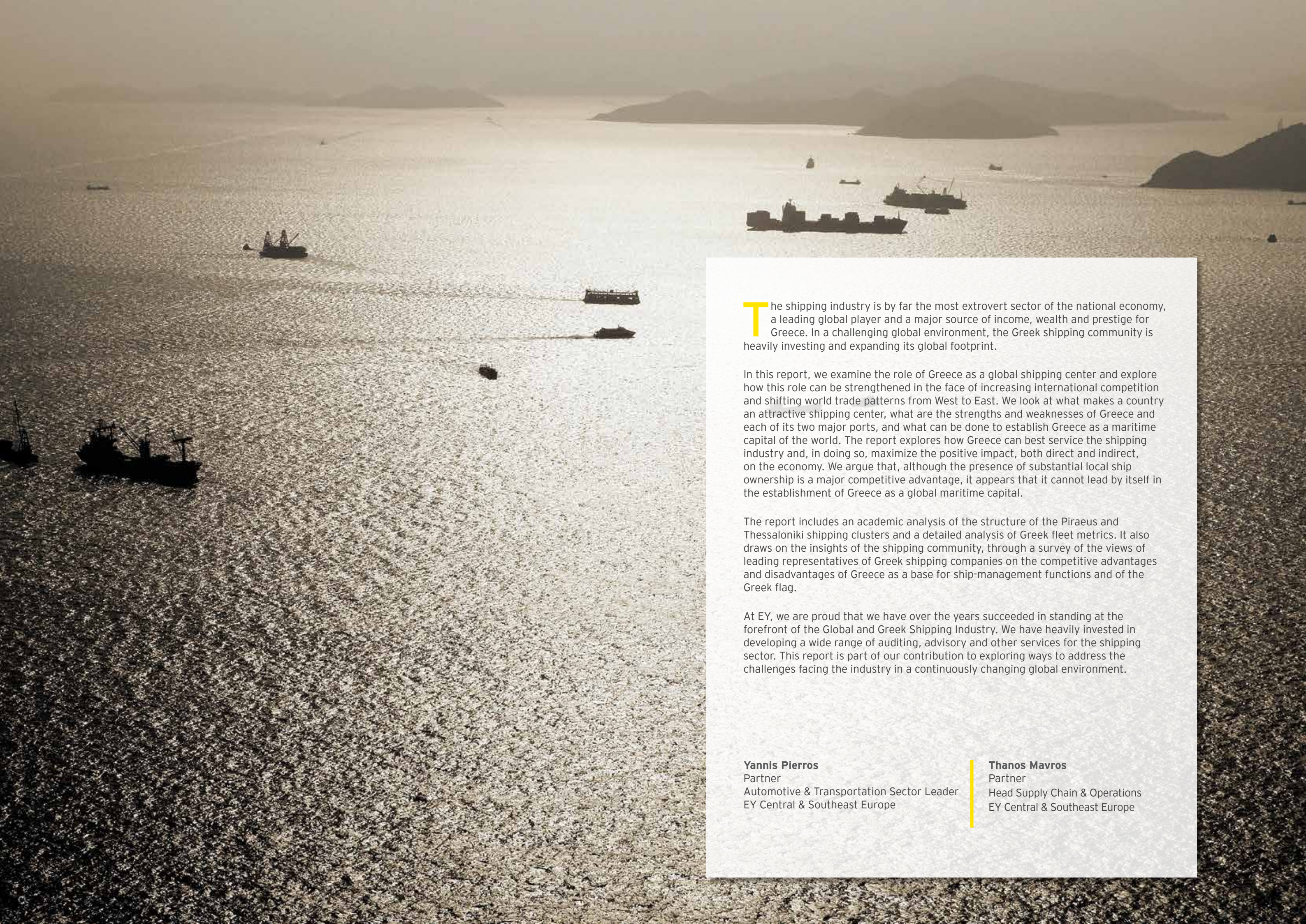


Re-positioning Greece as a global maritime capital



Building a better
working world



The shipping industry is by far the most extrovert sector of the national economy, a leading global player and a major source of income, wealth and prestige for Greece. In a challenging global environment, the Greek shipping community is heavily investing and expanding its global footprint.

In this report, we examine the role of Greece as a global shipping center and explore how this role can be strengthened in the face of increasing international competition and shifting world trade patterns from West to East. We look at what makes a country an attractive shipping center, what are the strengths and weaknesses of Greece and each of its two major ports, and what can be done to establish Greece as a maritime capital of the world. The report explores how Greece can best service the shipping industry and, in doing so, maximize the positive impact, both direct and indirect, on the economy. We argue that, although the presence of substantial local ship ownership is a major competitive advantage, it appears that it cannot lead by itself in the establishment of Greece as a global maritime capital.

The report includes an academic analysis of the structure of the Piraeus and Thessaloniki shipping clusters and a detailed analysis of Greek fleet metrics. It also draws on the insights of the shipping community, through a survey of the views of leading representatives of Greek shipping companies on the competitive advantages and disadvantages of Greece as a base for ship-management functions and of the Greek flag.

At EY, we are proud that we have over the years succeeded in standing at the forefront of the Global and Greek Shipping Industry. We have heavily invested in developing a wide range of auditing, advisory and other services for the shipping sector. This report is part of our contribution to exploring ways to address the challenges facing the industry in a continuously changing global environment.

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Executive Summary

Over the last decades, the global shipping industry has been one of the major factors of the globalization process. At the same time, the shipping industry is itself being transformed by growing international trade, market integration and the shifting balance of economic power from developed economies to rapidly growing lower wage economies. As shipping-related economic activities are also becoming more globalized, cities and states have to compete to attract international maritime companies. Traditional shipping clusters in Europe are being successfully challenged by countries and cities in the developing world, primarily in Asia.

As a result of the recent global economic turmoil, the decline in global growth rates and the drop in demand for both consumer and industrial products, accompanied by the deliveries of the new-built vessels, have had a negative impact on the shipping industry, leading to substantial tonnage overcapacity, and a dramatic decline of freight and charter rates.

The Greek shipping industry has weathered the storm and the Greek-owned fleet, with over than 5,272 vessels and a value approaching USD 86 billion, remains the largest in the world, in terms of tonnage capacity, and has enhanced its dominant position in terms of value, in many of the sector's segments. The shipping industry is by far the most extrovert sector of the Greek economy. The inflows from shipping activities account for approximately 6.5% of Greek GDP and also have a substantial indirect multiplier effect on the Greek economy through cross-industry organizations gathering all or part of the maritime subsectors.

The multiplier effect is channeled into the economy primarily through shipping clusters, consisting of all related and downstream industries and associated institutions, which advance the competitiveness and increase the value input of shipping in the economy of a country. Some of the shipping clusters, such as Singapore, were nurtured with government support, while others, like Piraeus, have developed on an ad hoc basis with limited government support, developed mainly by the shipping industry entrepreneurs.

The shipping clusters constitute a key tool in the effort

of Greece to increase its attractiveness for the global shipping community and strengthen its role as a global shipping center. The Athens-Piraeus maritime center is all important in this context, with Thessaloniki playing a minor, more specialized role, primarily due to the importance of its port as a gateway to Southeast Europe and the prospects created by the privatization of the port.

Four main factors are the main contributors to the attractiveness of a city or region as a global maritime center:

- a.** The presence of substantial local ship ownership and ship-management activity
- b.** Well established financial, legal and other sophisticated business services
- c.** The existence of significant port and logistics infrastructures
- d.** A tradition of maritime technology associated with R&D, innovation, education and availability of talent

In addition, the overall business environment, the stability of the regulatory framework, tax regime and political institutions, transparency of the legal system and the willingness of local government to support the industry are vital in securing the attractiveness of a maritime center.

Over the coming years, competition among the major global maritime centers will intensify. As the shift of global trade towards the Far East continues, it is very likely that, in the next twenty years, none of the top maritime capitals of the world will be located in Europe. London, Hamburg, Oslo and Rotterdam, each with its own strong competitive advantages, are struggling to emerge as the leading maritime center within Europe. Greece (Piraeus) will need to work hard if it is to retain or strengthen its standing as a maritime capital in the world.

Our survey among leading members of the Greek shipping community sheds light on the shipping industry's perceptions of the competitive advantages and disadvantages of Greece as a basis for ship-management functions, the attractiveness of competitive maritime centers and the ways in which the competitiveness of the Greek maritime cluster

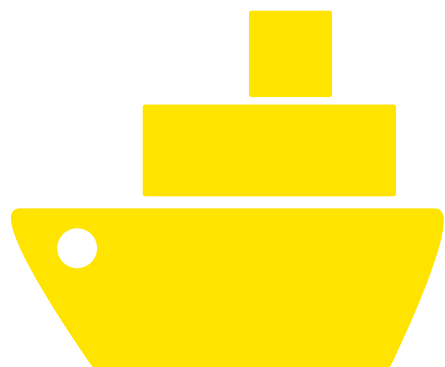
could be improved. The related issue of the perceived advantages and disadvantages of the Greek flag is also examined.

Our survey revealed that human capital, the seamanship, along with geographic location and, obviously, ship-ownership, are the main competitive advantages of Greece as a ship-management center, while the lack of a stable regulatory environment governing the cluster, lack of access to financial institutions, poor infrastructures and tax issues are the main disadvantages. As a result, more than half of the respondents would consider a potential relocation of their ship-management function outside Greece, with Singapore, London and Dubai identified as the most attractive alternative destinations. Three out of four respondents singled out Singapore as the likeliest leading maritime center within the next ten years. Cyprus is also emerging as a close by to Greece, competitive maritime cluster.

In spite of the perceived disadvantages of Piraeus and the growing attractiveness of competing maritime centers, the Greek shipping community remains confident about the role of Greece as maritime center in the coming years and believes that its enhancement would strengthen their business. Our survey, and the in-depth analysis of the maritime clusters of Piraeus and Thessaloniki, that was performed with the contribution of Professors A.A. Pallis and G.K. Vaggelas, highlights four main areas where concerted effort could potentially improve the competitiveness of Greece as a whole, as a maritime center.

- 1. Education:** Marine and maritime educational institutions need to be strengthened while young Greeks need to be encouraged to consider the option of a career in the shipping industry.
- 2. Regulation:** A more business-friendly regulatory environment which will facilitate establishing and operating a shipping-related business in Greece is urgently needed.
- 3. Infrastructures** need to be upgraded in order to improve the ports' accessibility and connectivity.
- 4. A closer coordination** of private sector initiatives aimed at establishing a competitive Greek shipping cluster will also help in promoting its image globally.





Global Shipping trends

During the past two decades, against a background of growing globalization, world GDP increased by 73% in real terms. Over the same period, world seaborne trade increased by 112%, with the value of world trade carried by sea today accounting for 90% of the total, according to the IMO.

Operational and technological developments in the industry, which have dramatically reduced transportation costs, have been a major driver of market integration and the growth of international trade. At the same time, the shipping industry has also been hugely influenced by growing international trade and market integration. The shifting balance of economic power as the advanced economies' share of world GDP dropped from 80% to 60%, and that of developing economies grew from 20% to 40%, has also left its mark on the shipping industry. Against the background of this thriving market, the world fleet grew in terms of number of vessels, as well as gross tonnage.

These megatrends were abruptly interrupted by the economic downturn of 2008-2009 and the subsequent decline in global growth rates and the drop in demand for both consumer and industrial products. The ensuing surge in new deliveries resulted in a dramatic correction of freight and charter rates and asset values as the market entered a new era of tonnage oversupply affecting all major sectors.

The shipping industry has responded to the prolonged downturn primarily through slow steaming, vessel

idling and cost-cutting. As the prospects of a sustained recovery remain distant, the trend has also been towards industry consolidation operationally, through alliances, and financially, through mergers and acquisitions.

Maritime transport: a globalised industry

Against this background, the shipping industry is becoming more integrated and globalised, while, at the same time, shipping-related economic activities are increasingly concentrated in specific countries and geographical regions around the globe. Traditional players, who had dominated the industry for decades, can no more take their leading positions for granted, as they are being challenged by new entrants from developing, low-wage economies enjoying significant competitive and locational advantages.

Nationals of Greece and Japan continue to own just below 30% of the global fleet. However, more than 40% of vessels are registered in Panama, Liberia and the Marshall Islands. Korea and China account for approximately 70% of shipbuilding, while more than 90% of scrapping takes place in India, Bangladesh, China and Pakistan. Operation is largely conducted from Denmark and Switzerland¹, while the UK and Scandinavian countries are the main providers of financial and other services. Hong Kong, the Netherlands, Singapore, and the UAE¹ account for

close to 30% of container terminal operators. Finally, a significant share of seafarers today originate from the Philippines and Indonesia.

It is well documented that the shipping industry has a significant impact on the economies of host countries. Apart from the direct impact of freight services, etc., this includes:

- ▶ An indirect impact from port services, shipping-related financial, legal and insurance services, shipbuilding and repairs, etc.
- ▶ An induced impact from spending on consumer goods, recreation services, real estate, etc.

This leads to a substantial multiplier effect for national or regional economies. It is estimated that for the European Union, for every €1 million the shipping industry contributes to GDP itself, it creates another €1.6 million elsewhere in the economy, while for every direct job it creates, another 2.8 are created elsewhere in the EU economy. For Greece specifically, an in-depth study published from a credible source, estimated that attracting more ship-management activities to Greece could create an added value of €25.9 billion and create up to 550.000 jobs².

It comes as no surprise, therefore, that countries and individual cities are competing to attract shipping companies and emerge as the leading maritime clusters of the world. As companies are becoming more mobile and increasingly prepared to split up their value chains and move activities to the most attractive locations, this competition is intensifying.

Consequently, in this race to secure a place among the leading maritime clusters of the world, it is increasingly cities, rather than states that are competing. This is a race to attract shipping companies, but even more so to retain and attract shipping activities and create autonomous and complete shipping clusters. It involves building infrastructures, attracting specialised knowledge-based services and creating a business-friendly tax framework and regulatory environment.

The winners of the future will be the ones that will be able to attract:

- ▶ Science and education
- ▶ Owners and headquarters
- ▶ R&D
- ▶ Leading maritime finance and law services

Each of the leading maritime clusters today draws its strength from a competitive advantage in one or more of the above areas, though in a rapidly changing global environment very few can be confident of retaining those competitive advantages.

Greece and Piraeus specifically, is home to a large ship-owning community with a historical tradition. Large fleets are also based in Tokyo, Hamburg, Oslo and, to a lesser extent, Singapore, which also hosts a large number of ship-management companies.

London, New York and Oslo have traditionally been considered the leading maritime financial cities, with New York hosting the most important maritime stock exchange. The role of London is further strengthened by the predominance of English law in the industry and its strong marine insurance services. All three, however, are being challenged by Singapore and Shanghai, especially after the strengthening of the latter's stock exchange.

Singapore is by far the most important cluster in terms of port services and logistics, though its predominance in Southeast Asia is being challenged by Shanghai because of the dramatic rise of Chinese exports. Rotterdam is the largest port in Europe, while Hamburg is the gateway of the largest European economy and leading exporter. Dubai is emerging as a major regional logistics hub. The privatisation of the port of Piraeus with the involvement of COSCO, as well as the recent privatisation of the port of Thessaloniki, raise hopes that the country's role as a gateway for Southeast Europe may be strengthened in the coming years.

Maritime technology encompasses a series of criteria on the basis of which different cities hold leading positions. Hamburg and Oslo share a tradition in maritime R&D and maritime equipment. The importance of Oslo has been boosted over the past decades by its strong offshore sector. It also hosts major shipbuilding industries, as do Busan and Tokyo in Asia. London, Tokyo, Shanghai and Oslo are home to the world's leading classification societies. Two of Athens' traditional competitive advantages in the maritime technology category have largely receded over the past decades: its once strong shipbuilding industry has collapsed, while there are major concerns that maritime education is no longer able to provide the industry with the necessary human capital, let alone attract foreign talent.

In addition to these four largely objective and measurable sets of criteria, the attractiveness of maritime clusters is greatly influenced by their overall business environment, the stability of the regulatory framework, the tax regime and political institutions, the transparency of the legal system and the willingness of local government to support the industry. These are areas on which governments will need increasingly to focus and are likely to determine the winners among today's leading maritime clusters.

1. Jan Hoffmann (2016), "10 key long term trends in the maritime business", Genova/Paris
2. Foundation for Economic and Industrial Research (2013), "The Contribution of Ocean-going Shipping to the Greek Economy study"

Clusters' background

Piraeus and Thessaloniki

A shipping cluster is a geographical concentration of companies dealing with shipping and shipping-related industries, sharing common challenges, opportunities and threats. The cluster is a form of formal or informal cooperation between companies operating in the same or similar markets. Shipping and ship-management companies are key elements of a shipping cluster, which are joined by suppliers of inputs, components, financing, machinery and services; they are linked with firms in related and downstream industries and specialised port and maritime infrastructure providers; in many cases they are supported by government or local authorities; they are facilitated by institutions providing marine and maritime education, specialised research, development and innovation (RDI), technical support and training, and quality standards certification bodies.

With shipping being a global industry, the benefits of clustering allow regions to attract shipping and shipping-related activities. Historically, some develop having at their core a shipping financial center (City in London), others a more generic financial center (New York), while others evolved around a seaport (Rotterdam and Singapore).

The Piraeus Shipping Cluster

The Piraeus shipping cluster expands across the wider geographical area of the Attica region, having a geographical core around the port of Piraeus. This is a shipping cluster, which has shipping companies as its core and an international major port playing a significant secondary role for its development. The strong presence of shipping companies, marked by their competitiveness, and their dominant position of Greek-owned fleet in the global maritime world, are the cornerstones of the shipping cluster. On the other hand, in 2015, Piraeus port was the 8th top European container port¹, among the top 50 ports globally in terms of containers (holding the 45th place)², and the eighth most popular Mediterranean cruise port³, being the backbone of the Greek coastal system.

Over the last decade, the port of Piraeus has undergone significant reform changes. In 2009, Piraeus Port Authority S.A. privatised the right to operate the Pier II container terminal of the port to Piraeus Container Terminal (PCT) S.A., a subsidiary

company of COSCO Pacific. Since then, the provision of process reorganization services and significant investments by PCT S.A. to upgrade Pier II terminal - and construct the Pier III terminal - have contributed to an impressive market growth. Piraeus port "climbed" 49 positions in the world ranking of the biggest container ports in terms of number of TEUs handled, reaching in 2015 a position among the 50 biggest container ports (44th) and emerging as the fourth biggest Mediterranean port - following only Valencia, Algeciras and Port Said. In August 2016, the Greek State sold the majority of the shares of Piraeus Port Authority S.A. (51%+16% in the next five years) to a private company, the China COSCO Shipping Corporation Limited.

While the shipping cluster has grown around the port of Piraeus, today it is traced in various locations of the prefecture of Attica: shipping companies operate their headquarters from locations approximately 20 kilometres away from the port of Piraeus.

The Piraeus shipping cluster counts a total of 3.273 enterprises that operate in the shipping-related business sectors and operate across distinctive geographical areas of the Athens and Piraeus region. The most dominant cluster group, with the participation of 974 companies, are "Ship-managers and Operators". Another highly populated group of activities (i.e. many firms are active), is that of "Spare Parts & Marine Equipment" that counts approximately 600 active firms.



An evaluation of the Piraeus shipping cluster

Despite its size and importance for the local and national economy, the Piraeus shipping cluster has not been subject to any official or unofficial governance scheme. On these grounds, it is interesting to proceed to an evaluation of the strengths, weaknesses, opportunities and threats (SWOT analysis) for the Piraeus shipping cluster. The analysis is detailed as follows:



1. <http://www.porteconomics.eu/2017/02/16/portgraphic-top-15-container-ports-in-europe-in-2016-has-teu-growth-resumed/>
 2. <http://www.worldshipping.org/about-the-industry/global-trade/top-50-world-container-ports>
 3. MedCruise (2016), "Cruise Activities in MedCruise ports: Statistics 2015", Piraeus, Greece.

The Thessaloniki Shipping Cluster

The Thessaloniki shipping cluster develops around the wider geographical area of the city, having at its core the port of Thessaloniki. The cluster is small in size and not very diverse in terms of activities.

Contrary to the case of the Piraeus shipping cluster, which has shipping companies as its core and the port plays a significant yet secondary role, in the case of the Thessaloniki shipping cluster, the port is the core of the shipping cluster and all the companies belonging to it are directly or indirectly related to the port operation.

The core of the cluster: Thessaloniki port

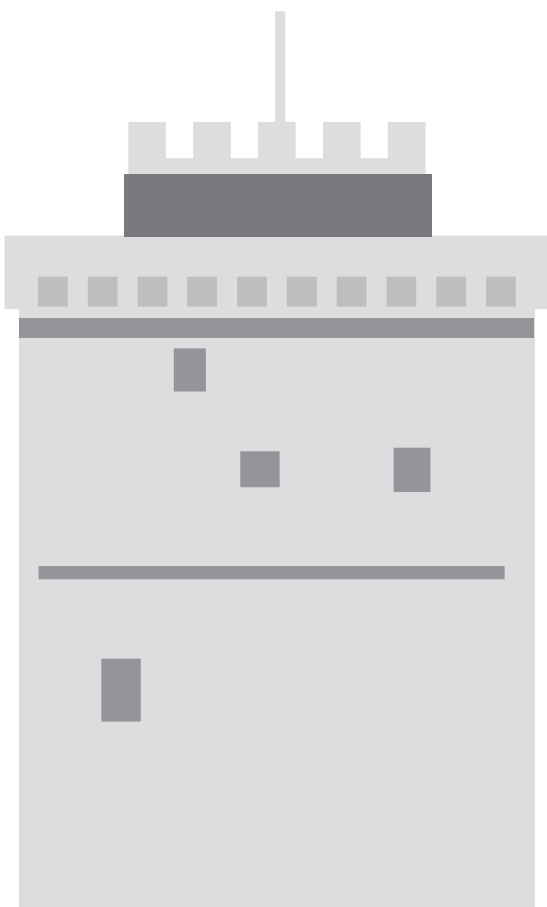
The port of Thessaloniki is a multipurpose international port that handles all kinds of cargo traffic and hosts all types of passenger movements.

This is the second biggest port in Greece in terms of total throughput, while it is the major port as regards the dry bulk cargoes. Apart from facilitating the trade flows of North Greece, the port of Thessaloniki acts as a gateway port for the neighbouring Southern Balkan countries taking advantage of its proximity to these countries, as well as of the road and rail network that connects the port with the hinterland. The port serves a significant volume of transit cargoes with major parts of the dry bulk and general cargoes throughput destined to F.Y.R.O.M. and Bulgaria, or originated from these countries.

Following a period of turbulence and industrial actions against private sector involvement in the port industry in 2008-2009, that affected the entire Greek port industry, the port of Thessaloniki managed to regain part of the cargo volumes that had been lost during that period. Container traffic has been on the rise every year since 2010. The volumes of the bulk cargoes have been quite stable. As regards passenger movements, the port of Thessaloniki experiences a continuous decrease in coastal passenger traffic. This is due to several reasons, with the major one being the long-lasting economic crisis, and the consequent reform of strategies by coastal shipping companies, including the reduction of the coastal fleet. Cruise movements had a peak in 2008. Since then and up to 2012, when some recovery was recorded, cruise activities in Thessaloniki experienced a significant drop.

The final stage of the process for the sale of a majority stake in the Thessaloniki Port Authority (OLTH) S.A. has been completed, with the consortium consisting of Deutsche Invest Equity Partners GmbH - Termina I Link SAS - Belterra Investments Ltd. emerging as the highest bidder. The Greek government, which owns OLTH through the Hellenic Republic's Asset Development Fund (TAIPED), has completed the tender for the disposal (sale) of 67% of OLTH shares. The sale (of 67% of the shares) is expected to alter the current trends, via the expansion of activities and the commitment of the buyer to substantial investments and, thus, contribute to the growth of the current, heavily port-related Thessaloniki port cluster.

The 118 shipping and shipping-related companies that are part of the Thessaloniki shipping cluster spread along 16 categories of activities. The cluster is actually concentrated in three groups of market segments, namely (1) Agents (57 companies), (21) Ship-managers & Operators (24 companies) and (22) Spare Parts & Marine Equipment (12 companies). It is worth mentioning that the cluster emphasises further the high concentration in intermediate type of shipping-related business, such as agents. The rest of the categories count from one to four companies.



An evaluation of the Thessaloniki shipping cluster

Based on the findings as regards the size of the Thessaloniki shipping cluster and the types of shipping and shipping-related activities that develop in the region, we present an evaluation of the strengths, weaknesses, opportunities and threats (SWOT analysis) for the Thessaloniki shipping cluster. The analysis is detailed as follows:



Piraeus & Thessaloniki shipping cluster per activity

Market Segment		No of companies per market segment		Segment as % of cluster (number of companies)	
		Piraeus	Thessaloniki	Piraeus	Thessaloniki
1	Agents	245	57	7,49%	48,31%
2	Bunker Services	64		1,96%	
3	Chambers	2		0,06%	
4	Crew Manning	24		0,73%	
5	Environment/Safety/Security	30	1	0,92%	0,85%
6	Finance/Banking/Accounting	26	1	0,79%	0,85%
7	Forwarding & Marine Logistics	58	5	1,77%	4,24%
8	ICT & Telecommunications	33		1,01%	
9	Legal Services	115	2	3,51%	1,69%
10	Marine Engineering & Naval Architects	39	1	1,19%	0,85%
11	Marine Insurance	94	3	2,87%	2,54%
12	Marine/Maritime Consultants	95	1	2,90%	0,85%
13	Maritime Education	25		0,76%	
14	Maritime Organisations/Institutions/Ministries/Representations	47		1,44%	
15	Other Marine Services	26		0,79%	
16	P&I Club Representatives	21		0,64%	
17	Press & Publications	16		0,49%	
18	Ship Registration Classification	36	1	1,10%	0,85%
19	Shipbrokers/Charterers	217	4	6,63%	3,39%
20	Shipbuilding & Breaking	193	1	5,90%	0,85%
21	Ship-managers & Operators	974	24	29,76%	20,34%
22	Spare Parts & Marine Equipment	612	12	18,70%	10,17%
23	Technical Services	123		3,76%	
24	Towing - Salvage	18	2	0,55%	1,69%
25	Trade-Related Services	38		1,16%	
26	Travel Agents	31	2	0,95%	1,69%
27	Unions/Associations/Clubs	54	1	1,65%	0,85%
28	Yachts	17		0,52%	
Total		3.273	118		

Source: Own elaboration

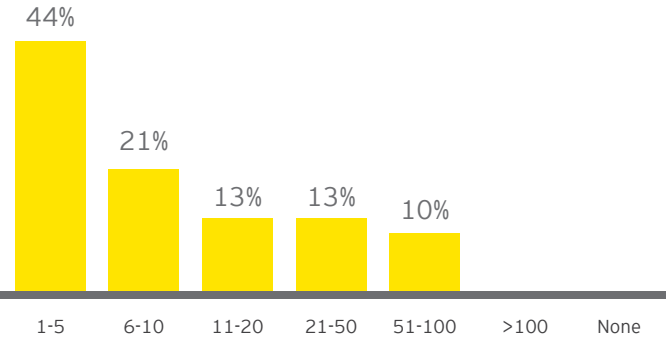
Greece as a shipping cluster: Advantages and disadvantages

In order to better understand the Greek shipping community’s perceptions of the comparative advantages and disadvantages of Greece as a basis for ship-management functions, the attractiveness of competitive maritime centers and the ways in which the competitiveness of the Greek maritime center could be improved, we collected the views of a representative sample of leading representatives of the industry.

Composition of the sample

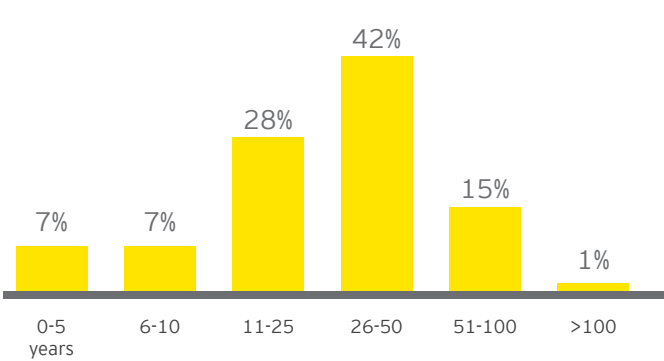
Our findings are based on the responses of ship-owners, managing directors and top executives of Greek shipping companies. Our sample represents a characteristic cross section of the Greek shipping industry in terms of size and age of the company, types of vessels owned or managed and executive positions held within the company.

How many vessels do you manage / own / charter?



44% of respondents represented companies owning up to five vessels, 34% between six and 20, 13% between 21 and 50 and 10% between 51 and 100.

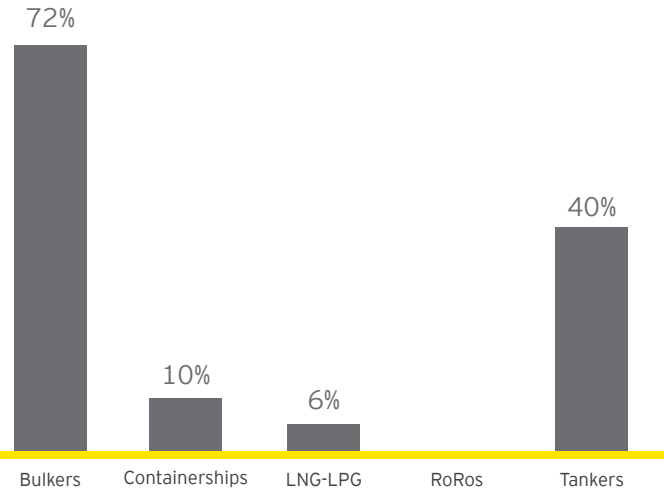
When did your company commence operations?



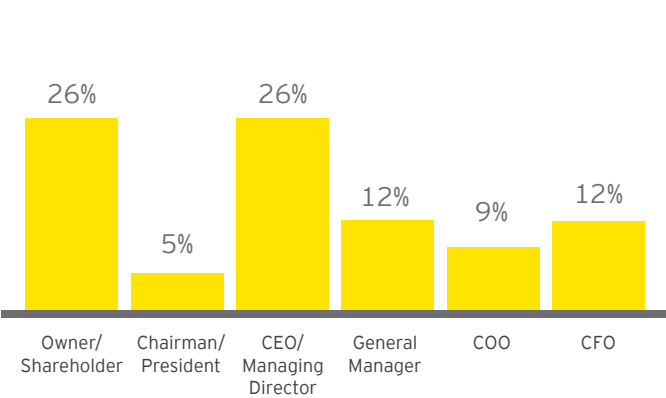
Most of the respondents (42%) represent companies which have been in operation for 26-50 years. Fourteen percent are relatively new entrants with up to ten years in operation, while 1% spoke on behalf of companies with more than 100 years in the business.

What type of vessels do you manage / own / charter? Please select all that apply

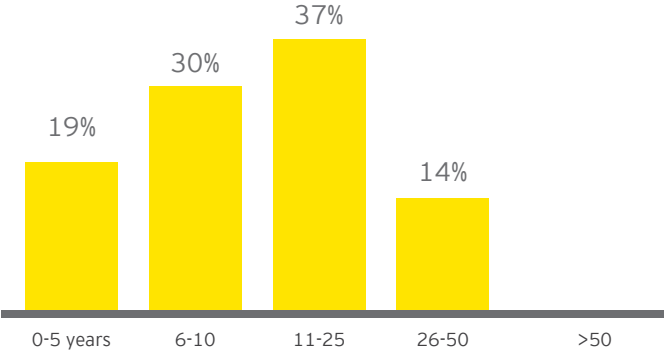
The vast majority of respondents (72%) own or manage bulkers, followed by tankers (40%), while 16% own or manage containerships and LNG-LPGs.



What is your current job title?



How many years have you been in this role?



The Greek flag

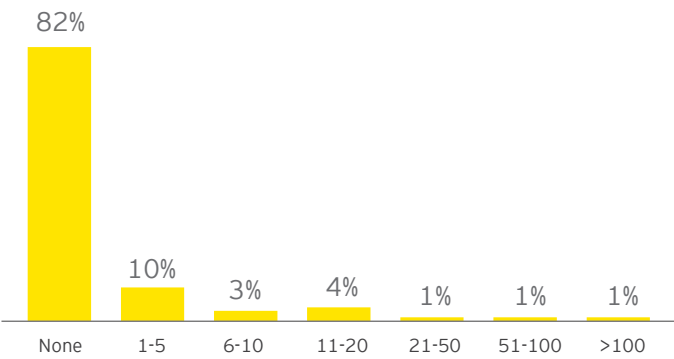
Participants in our survey have a relatively positive view of the standards of the Greek flag: almost half (46%) report they have a strong perception of the standards of the Greek flag, while only 15% do not.

I highly perceive the standards of the Greek flag



However, the vast majority (82%) own no ships flying the Greek flag, with the Marshall Islands, Panama, Liberia and Malta being the most widely used flags.

Among the vessels you own/manage/charter, how many fly the Greek flag?



Please select all the flags that you currently use for your fleet



It comes, therefore, as no surprise that respondents did not attribute great value to the advantages of the Greek flag. Only 13% of our sample believes that it provides significant competitive advantages, while 45% disagree or strongly disagree with this statement.

I believe that the Greek flag provides significant competitive advantages

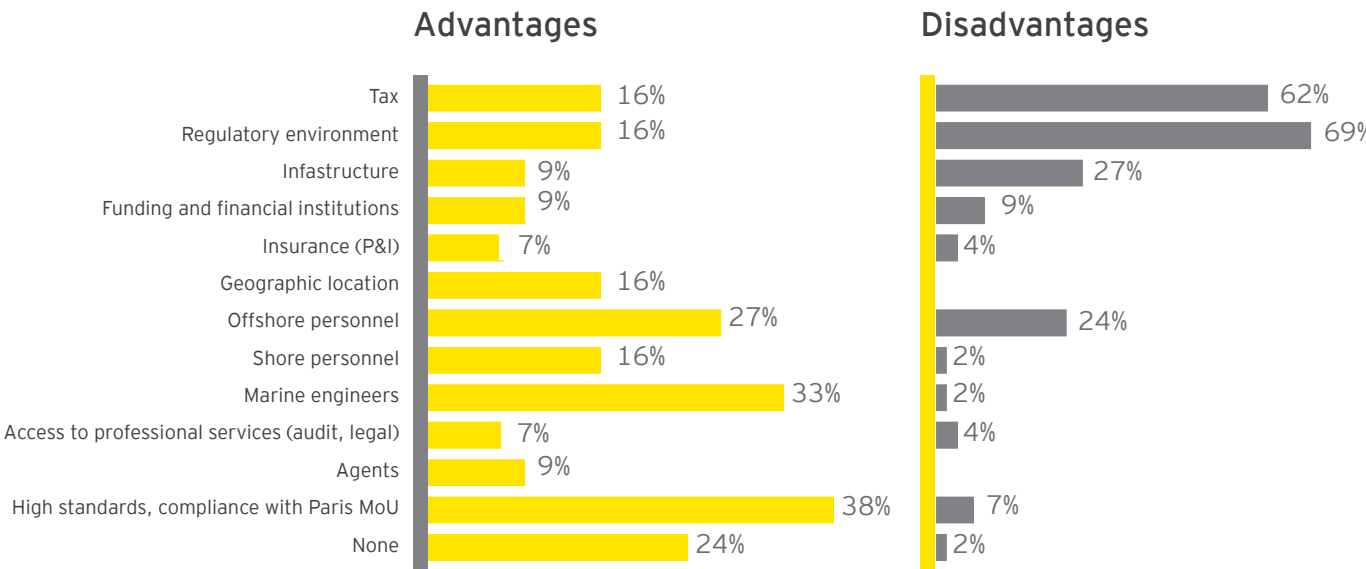


Almost one in four respondents found no competitive advantage in flying the Greek flag, while none of the perceived advantages were considered significant by more than 40%. The high standards of compliance with the Paris Memorandum of Understanding-MoU (38%), and the existence of marine engineers (33%) and offshore personnel (27%) were the most frequently mentioned advantages. (It is worth noting that most of the perceived advantages are actually more closely related to having a ship-management office in Greece, as opposed to flying the Greek flag.) International

reputation was also spontaneously mentioned as an advantage.

With regard to disadvantages, the regulatory environment (69%) and tax (62%) were found to be by far the most critical negative factors associated with the Greek flag. Spontaneous responses as regards disadvantages included various restrictions concerning the seas going personnel and the high social security and payroll cost of Greek personnel compared to other nationalities.

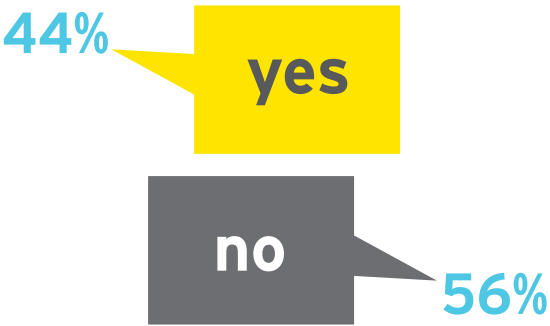
Which are the competitive advantages and disadvantages of the Greek flag? Please select all that apply



Greece as a base for ship-management functions

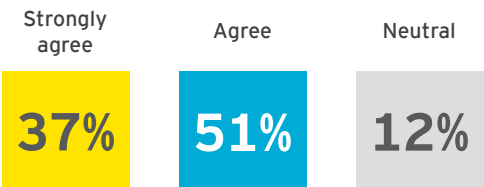
Although a majority of participants in our survey do not fly the Greek flag on their ships, a full 97% reported that they perform at least some of their ship-management functions in Greece, of which 56% perform all such functions in Greece and 44% perform some functions outside Greece.

Are any of your ship-management functions performed outside Greece?



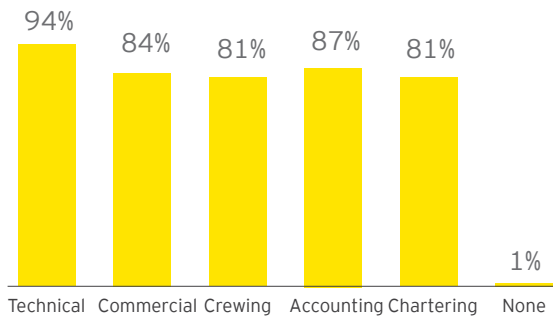
Moreover, a full 88% of our sample believe that a potential enlargement of the Greek maritime center would be an opportunity for their business.

A potential enlargement of the Greek maritime centre would be an opportunity for my business

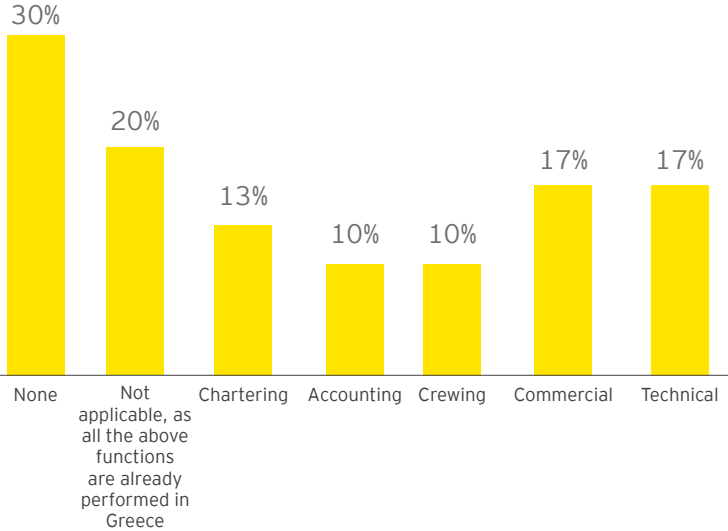


When asked which specific functions they perform in Greece, the most frequent responses were technical functions (94%), accounting (87%), commercial (84%) and crewing and chartering (81% each). Asked whether, and in which areas, they would consider expanding their management function in Greece, one in three (30%) replied they would not. Seventeen percent mentioned technical and commercial functions, 13% chartering and 10% each crewing and accounting.

Of the following ship-management functions, which ones do you perform in Greece? Please select all that apply

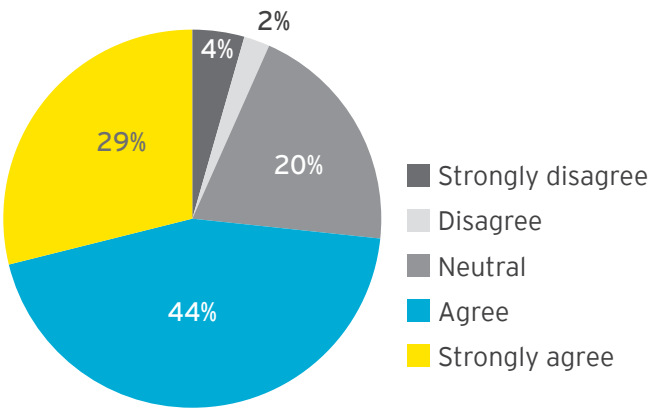


In which areas would you consider to expand your management function in Greece? Please select all that apply



In itself, this is a clear indication that Greece as a maritime center, rather than a jurisdiction, offers some considerable advantages. Indeed, this is recognized by a clear majority of respondents, with 73% reporting that they agree or strongly agree that having a ship-management office in Greece provides them with competitive advantages, with only 6% disagreeing with this statement. This is in clear contrast with the perception of the competitive advantages of flying the Greek flag.

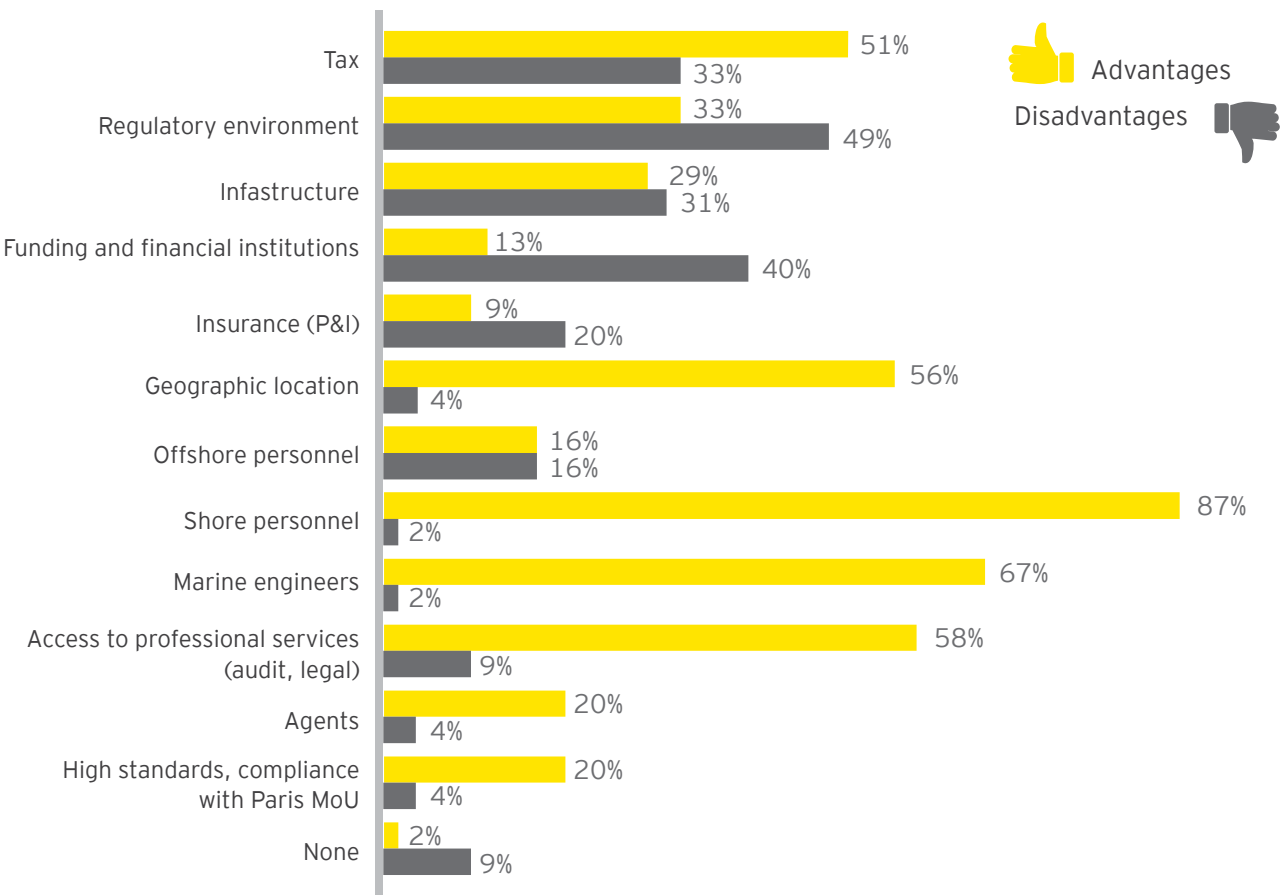
I believe that having a ship-management office in Greece provides me with competitive advantages



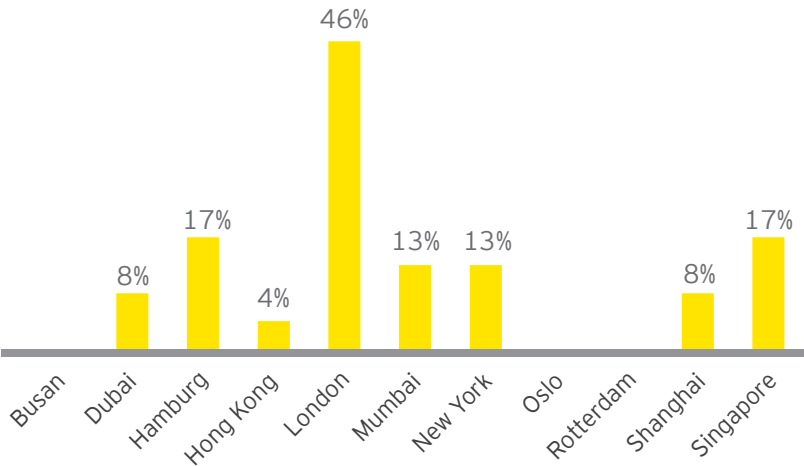
When asked to identify the main competitive advantages of Greece as a maritime center, shore personnel (87%) and marine engineers (67%) were by far the most popular answers. More than half of the respondents also mentioned access to professional services (58%), geographic location (56%) and tax (51%), while the regulatory environment,

infrastructures, agents and high standards of compliance with the Paris MoU also emerge as significant advantages. Significantly, the regulatory environment (49%), tax (33%) and infrastructures (31%) were also mentioned as major disadvantages, along with funding and financial institutions (40%).

Which are the competitive advantages and the disadvantages of having a ship-management office in Greece? Please select all that apply



Where are your other ship-management functions performed? Please select all that apply

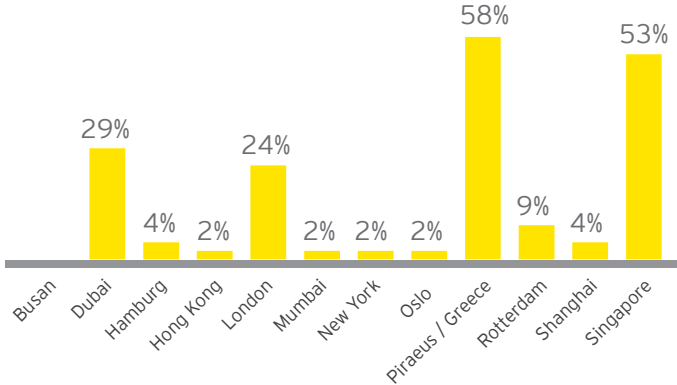


Participants in our survey who reported that they perform at least some functions outside Greece, were asked to specify the location. Almost half (46%) mentioned London, followed by Singapore and Hamburg (17% each), New York and Mumbai (13% each) Shanghai and Dubai (8%), and Hong Kong (4%). Other ports mentioned in spontaneous responses, included Copenhagen, Limassol, Antwerp, Chennai, Nantes, Manila and Odessa.

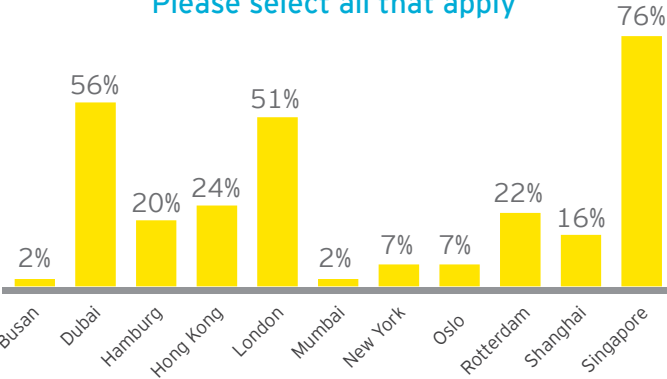
Asked to name which maritime centers currently offer the single most attractive and complete maritime environment for locating their ship-management office, more than half (58%) mentioned Piraeus, with 53%

identifying Singapore, 29% Dubai and 24% London. Singapore, Dubai and London were also identified as the biggest competitive threats to Greece from a maritime cluster perspective.

Which maritime centre/s offer currently the single most attractive and complete maritime environment for locating your ship-management office?

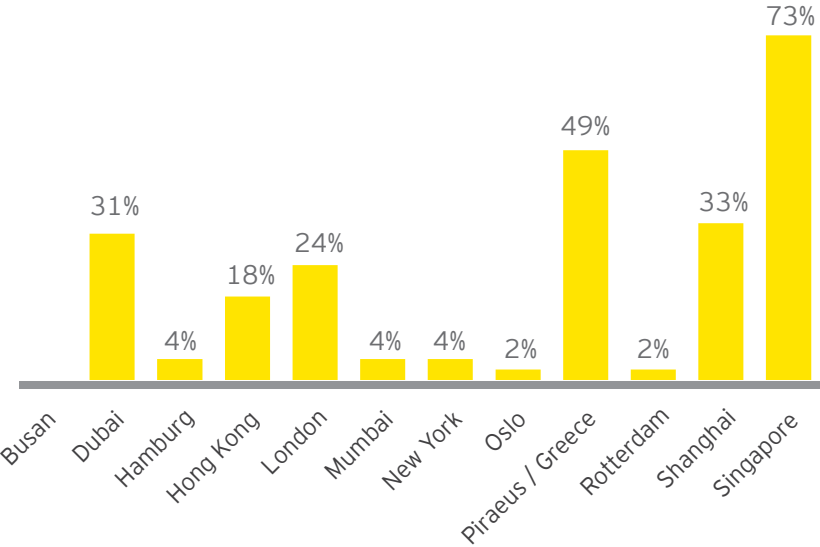


Which maritime centre/s do you consider the biggest competitive threat to Greece from a maritime cluster perspective? Please select all that apply



Within the next 10 years, which maritime centre/s do you believe will be the leading ones globally?

Asked to predict which would be the leading maritime centers within the next ten years, Singapore was by far their port of choice (73%), followed by Piraeus (49%), Shanghai (33%), Dubai, London and Hong Kong.



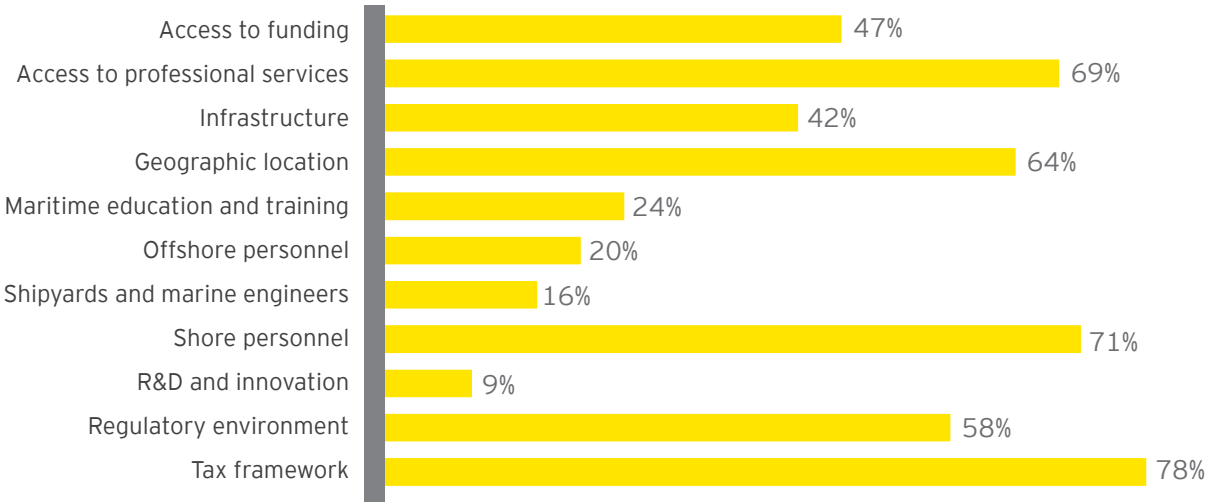
Four of the six top choices were in Asia, reflecting the shifting balance of economic activity towards Asia and the Pacific basin. Only two centers were in Europe and none in the rest of the Western part of the world.

Significantly, the percentage of respondents who believe Piraeus will be the leading maritime center in ten years (49%) is well below those who describe it as the most attractive option today (58%), indicating that they are well aware of the growing competition from both existing and emerging centers.

We also enquired on the basis of which criteria our respondents selected their maritime centers of preference. Several factors emerged, reflecting the key concerns of the Greek shipping community. The tax framework and regulatory environment were predictably among the key criteria. Shore personnel,

geographic location and access to professional services were also high on the list, followed by access to funding and infrastructures. Maritime education and training, offshore personnel and shipyards and maritime engineers were also mentioned by several respondents.

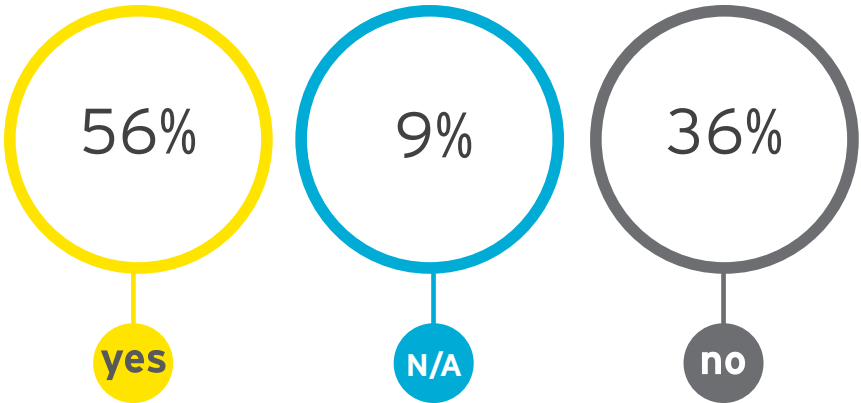
Based on which of the following criteria, did you select the maritime centre/s of preference? Please select all that apply



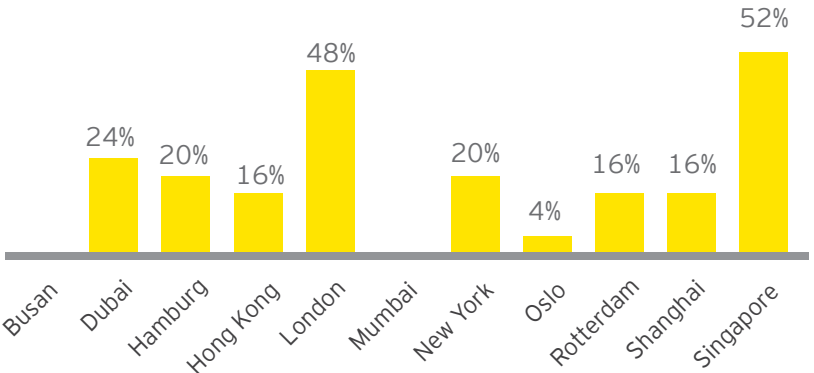
Given the balance of advantages and disadvantages of Piraeus, the shift of economic activity towards emerging economies in Asia and the growth of alternative maritime centers, 56% of participants in

our survey state that they would consider a potential relocation of their ship-management function outside Greece, compared to 36% who would not.

I would consider a potential relocation of my ship-management function outside Greece



In which maritime centre/s would you go? Please select all that apply

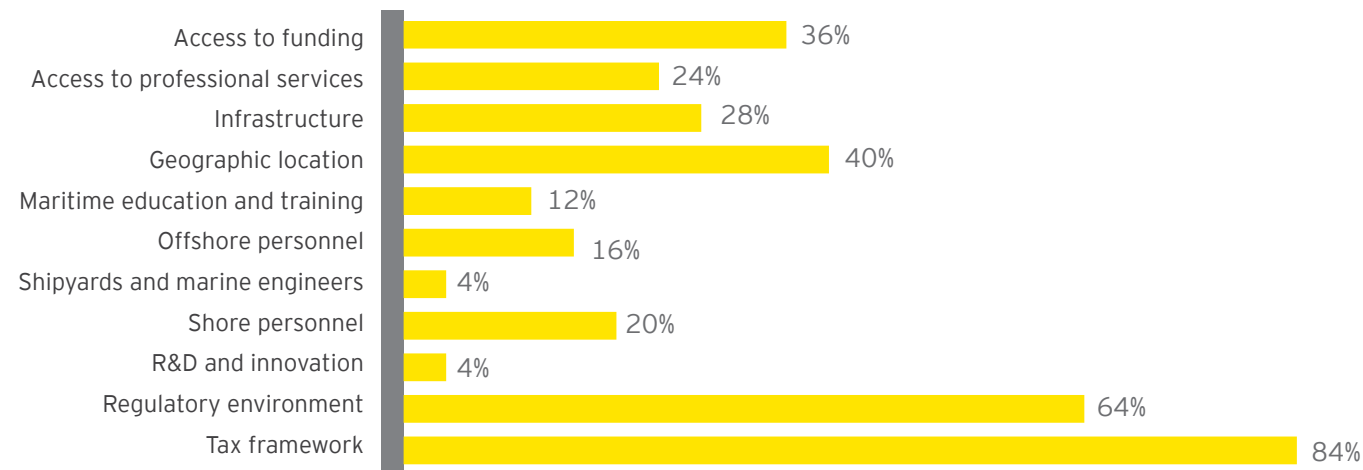


52% among them would choose to move to Singapore, while 48% would opt for the more traditional alternative of London. Dubai, Hamburg, New York, Hong Kong, Shanghai and Rotterdam were among their other preferred destinations.

The tax framework (84%) and the regulatory environment (64%) were once again the main reasons for considering relocation, followed by geographic

location and access to funding. The absence of a stable economic and political environment and concerns about Grexit were also spontaneously mentioned.

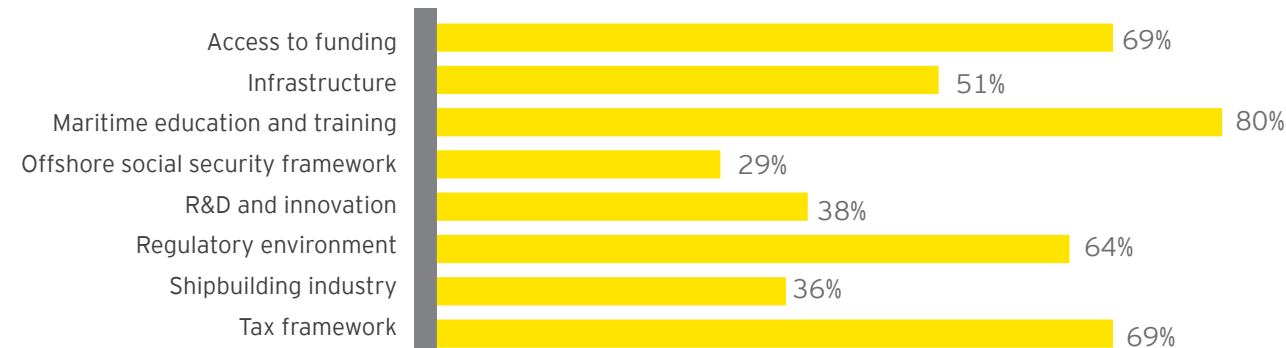
Why would you consider relocating outside Greece? Please select all that apply



In view of the concerns expressed about the future of the Greek maritime center, respondents were also asked to indicate ways in which the competitiveness of Greece as a maritime center could be improved. Significantly, the key field where efforts should be

concentrated is maritime education and training, an area where traditionally, but also according to the findings of the survey, Greece has had a competitive advantage.

How do you believe that the competitiveness of the Greek maritime centre could be improved? Please select all that apply



Securing more adequate access to funding is also considered a high priority by 69% of respondents, reflecting the comparative advantage in this area of centers including London, but also New York and Singapore. The same number of respondents identified tax issues as a main priority, reflecting the need for a stable tax framework. More specifically, concerns were raised about plans currently considered by the EU Commission to increase the tonnage tax, apply taxation on dividends and tax transfer or inheritance of shares.

Improving the regulatory environment was also identified as a key priority for facilitating maritime operations.

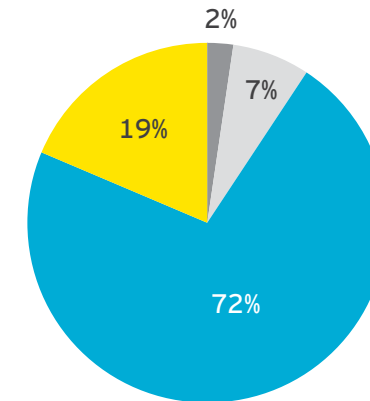
Infrastructures were the fifth area of potential improvement identified by 51% of respondents.

Strengthening of the shipbuilding industry, R&D and innovation and the offshore social security framework were also identified as priorities by several respondents.

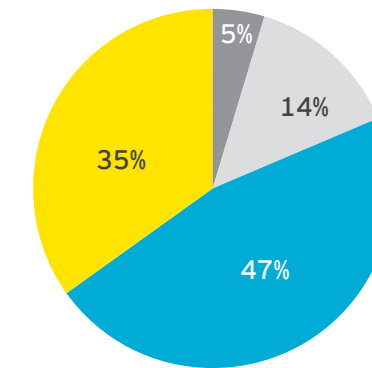
In conclusion, participants in our survey were asked to assess the importance of a series of factors with respect to building a leading maritime center. Not surprisingly, the existence of a managed fleet of substantial size and value, which is the main advantage of Piraeus compared to its main competitors, was found to be of major importance by 91% of respondents. Key services including legal, insurance, financing and brokering were also considered vital by 82%. Seventy-nine percent agreed that factors associated with maritime technology such as shipyards, R&D and education, classifications headquarters, IT services and maritime equipment are also relevant. Ports and logistics, as measured by port volume, port operators and logistics services, were a lesser consideration, with only 40% agreeing as to their relevance. Finally, 98% of participants agreed that the overall business environment was a major consideration.

How would you rank the following factors with respect to their relevance / importance in building a leading maritime centre?

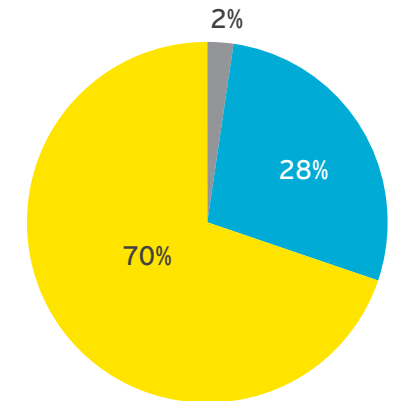
Shipping center (in terms of fleet size, fleet value, managed fleet)



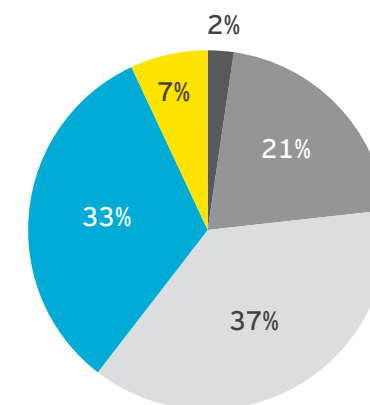
Finance and law (law, insurance, financing, brokering, market capitalization of listed stocks)



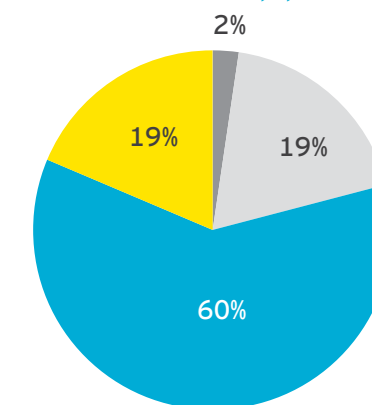
Attractiveness and competitiveness (overall business environment)



Ports and logistics (port volume, port operators, logistics services)

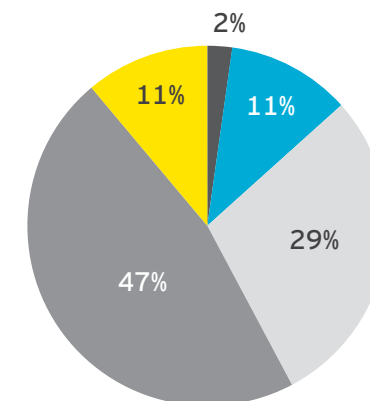


Maritime technology (shipyards, R&D and education, classification HQs, IT services, maritime equipment)

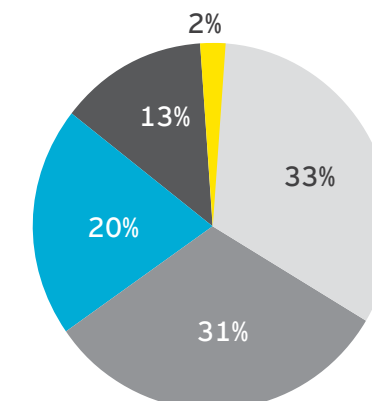


■ Strongly disagree
 ■ Disagree
 ■ Neutral
 ■ Agree
 ■ Strongly agree

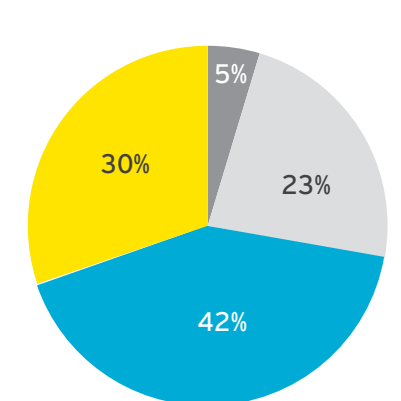
I believe that the Greek State can do more to improve the perceived standards of the Greek flag



The commitment of the Greek State towards the local maritime cluster is very strong.



I would participate in an official campaign to promote the Greek maritime cluster globally



Asked to comment on their perception of the commitment of the Greek State towards the local maritime cluster, only 22% of respondents felt it is "very strong", while 44% said it is not. At the same time, a full 72% of respondents reported that they would participate in a campaign to promote the Greek maritime center globally.

However, as international experience shows, not all successful maritime centers grew and prospered under government support. Most developed on an ad hoc basis, with the help of private initiative. Several such initiatives exist in Greece today. What may be needed is a mechanism to better coordinate their activities.

Summary of recommendations

International experience and best practices, combined with our analysis of the Piraeus cluster and the findings of our survey, which reflects the views of the Greek shipping community, suggest that there are four major areas where strategic measures and policy interventions will improve the prospects of Greece in its efforts to establish itself as a major global maritime center.

1. Maritime education and training is a field where Greece traditionally has enjoyed a competitive advantage. Significantly, 80% of respondents to our survey identified maritime education and training as a key factor that could improve the competitiveness of the Greek maritime center.

Today, however, two factors appear to be undermining this advantage: Firstly, as documented by an earlier study by EY¹, in spite of persistent high levels of unemployment, fewer young Greeks are today opting for a career in shipping. Secondly, there is widespread concern that marine education is being overlooked. Marine academies are grossly underfunded, while their curricula are rapidly becoming outdated. There is a need for the formulation of a national strategy on marine and maritime education, an increase of funding for marine academies and closer involvement of the shipping community in the formulation of curricula, in order to strengthen the supply of human capital in terms of both numbers and quality.

R&D is also a critical success factor for a global maritime center, as demonstrated by Oslo and Hamburg, which are recognized as the world's leading maritime technology hubs. Closer cooperation between Greek academic institutions, renowned researchers and companies with a strong R&D presence should become a key priority.

2. A stable, transparent and business-friendly regulatory, legal and tax framework is a key priority for facilitating maritime operations. Indeed, almost half (49%) of respondents to our survey identified the regulatory environment as a key disadvantage of Greece as a ship-management center, while one in three mentioned tax. Such a framework should encompass the International Maritime Organization (IMO)/ International Labour Organization (ILO) conventions and be globally oriented. Further, minimizing transaction costs by curtailing bureaucracy and red tape, modernizing the ship registry and tax authority for shipping through the use of new technologies, will greatly contribute to making Greece a more attractive base for the operation of shipping companies. Modernisation of IT infrastructures - or their introduction where they do not exist - is a key priority.

Emerging shipping centers, which aim to play a global role as maritime capitals of the future, are characterized by their systematic focus on attracting primary ship-management activities through the introduction of attractive fiscal regimes for non-resident companies.

Introducing a single shipping point of contact to facilitate the establishment of companies in Greece will also be a major step forward, as, today, shipping companies have to deal with a big variety of agencies. Ideally, the task of attracting major players and high ranking executives serving shipping could be assigned to specialised and service oriented "account officers", who would act as a single point of reference, address the "client's" issues and requests, coordinate all relevant resources and manage the relationship on a

long-term basis. A similar approach has been successfully implemented by the Marshall Islands to promote its flag.

Addressing the legal framework and high payroll-related costs is also critical. Finally, maintaining a stable tax framework and establishing a favourable tax environment for the relocation of expatriates is crucial for strengthening the position of Greece compared to emerging shipping centers. The example of Singapore is instructive in this respect: Singapore's dedicated Maritime Sector Incentive (MSI) scheme, targeting both shipping and shipping-supporting companies, has played a major role in transforming the city-state into a business hub for the Asia-Pacific region.

3. Infrastructure is another critical area with great improvement potential. Connecting the port of Piraeus by rail to the rest of Europe, would improve its prospects by leveraging its geographical position as a gateway to Southeast Europe.

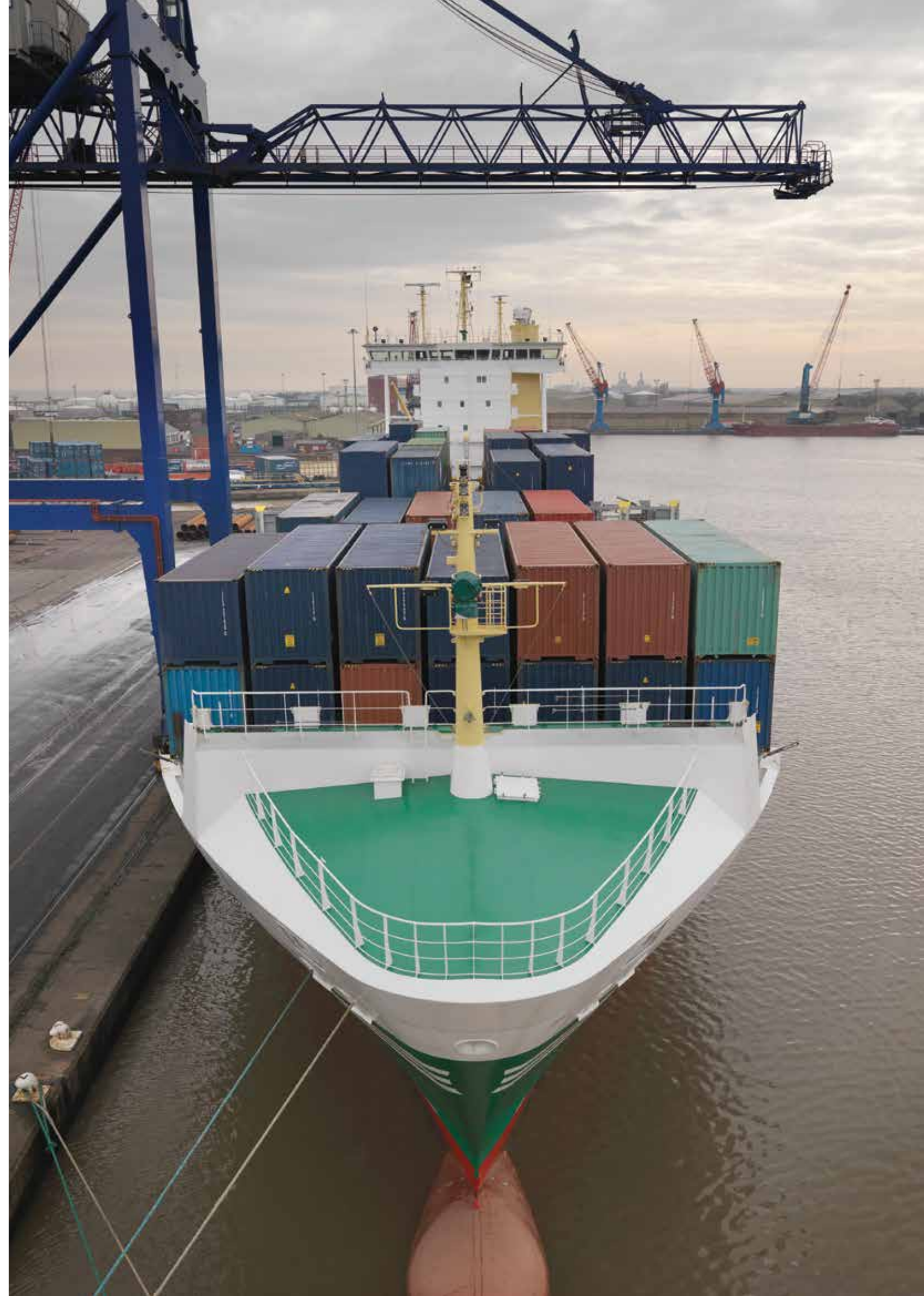
The exploiting of the port's ship-repairing zone by the new port operator can bring extra activities and participants in the cluster. The improvement of accessing Piraeus by car, which has forced several shipping companies to relocate to the north of Athens, is also a priority.

4. Finally, closer coordination between the Piraeus cluster participants and the establishment of a governance scheme would strengthen initiatives to leverage synergies and advance the port's operational excellence. It will also provide a framework for more effective cooperation and coordination between the shipping industry, the government and other stakeholders and for promoting the image of the Greek maritime center globally, on the basis of an in-depth marketing analysis and a well thought out promotion plan. Significantly, a strong majority of participants in our survey indicated they would back a national promotion strategy.

Maritime UK, a non-profit organisation which brings together the UK's shipping, ports, marine and business services sectors to promote the UK as a world-class maritime center, could be a useful model for a similar Greek association. The Singapore Maritime Institute (SMI) is a similar initiative, aiming mainly to develop strategies and programs related to the academic, policy and R&D aspects of the industry. By working closely with knowledge partners and attracting researchers and renowned academics, it seeks to prepare the next generation of talent and promote the R&D ecosystem.

The implementation of the above policy recommendations is a long-term project, which will need to be based on an ongoing inter-governmental dialogue with all stakeholders and will require a strong political commitment from all major political parties.

It goes without saying that a key prerequisite for establishing Greece as a global maritime capital is the existence of a stable political and economic environment. This will not only help in convincing Greek shipping companies to retain their base of operations in Greece, but will also help attract leading providers of financial, legal, insurance, technology and other knowledge-based services, as well as human capital, which are vital for the transformation of Greece into a one-stop shop for the shipping industry and, thus, a truly global maritime center.



1. EY Greece's survey (2016), "A youth perspective on the Greek shipping industry"

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