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Impact Analysis of the Greek Shipping Industry January 2020

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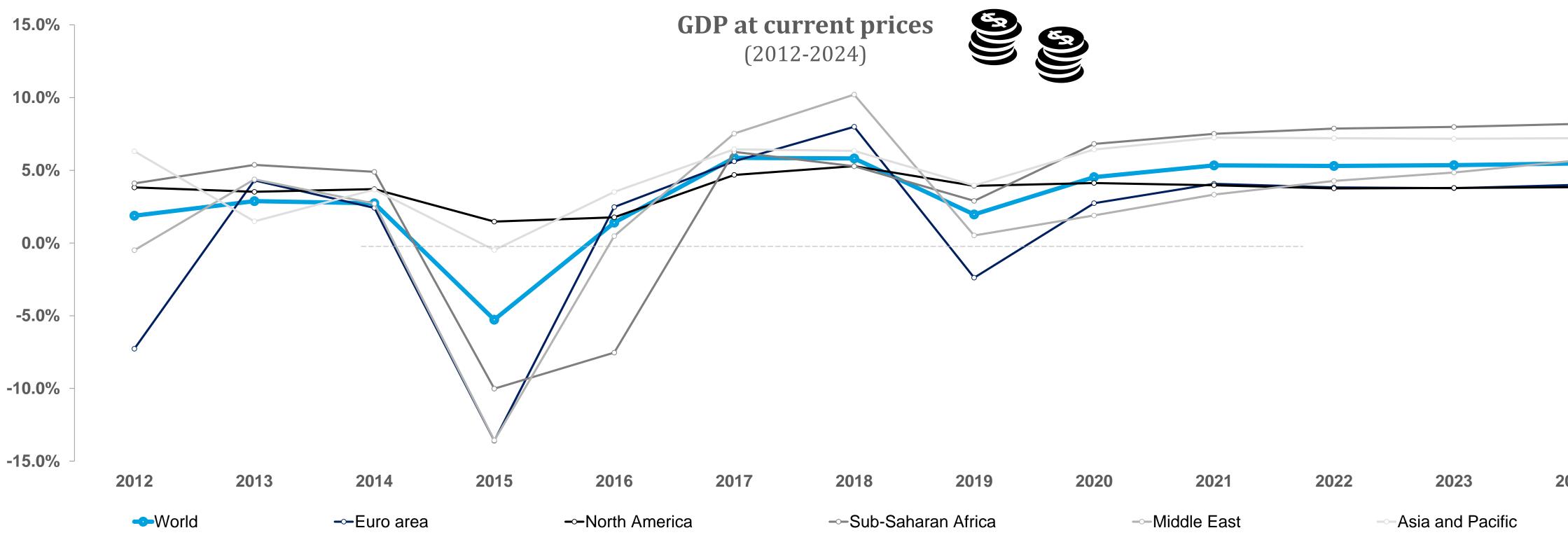
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Global growth

The Chinese economic deceleration had a major impact to the GDP growth rate in 2015. In 2019 trade wars are yet again slowing down the world economy although it is forecasted that growth rates will recover mainly driven by the sub-Saharan, Asian and the Middle East markets.



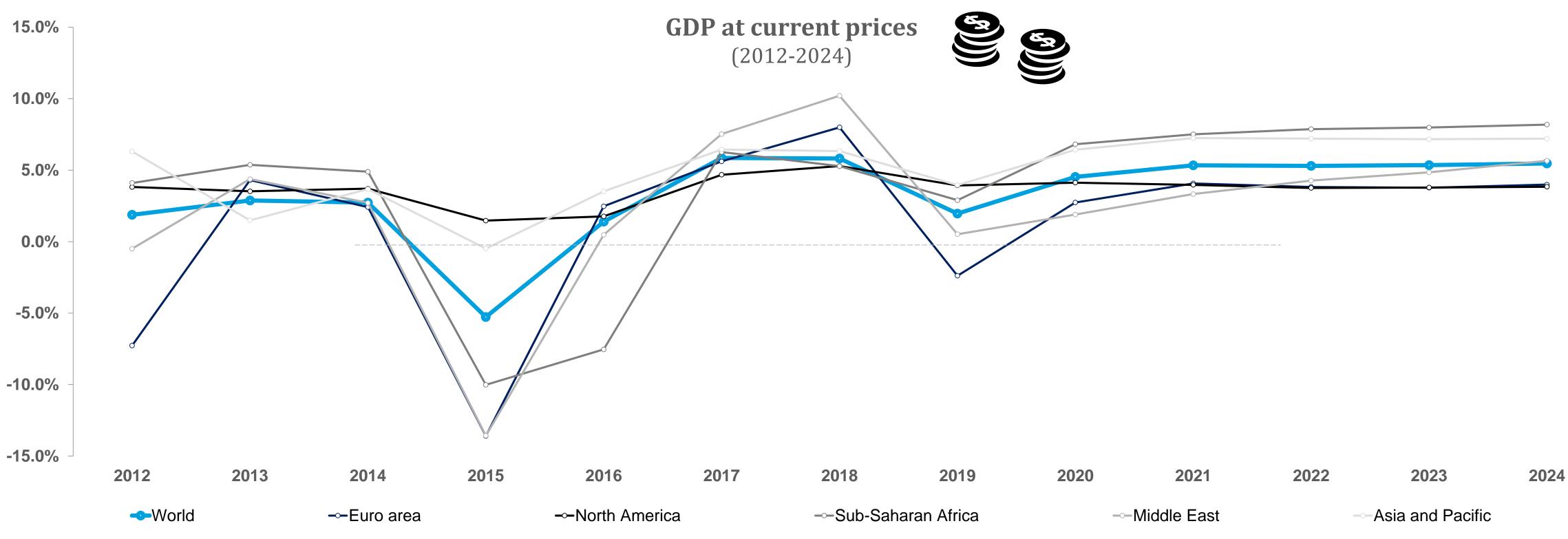
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2024

Source: IMF, 2019 - 3 -

Global growth

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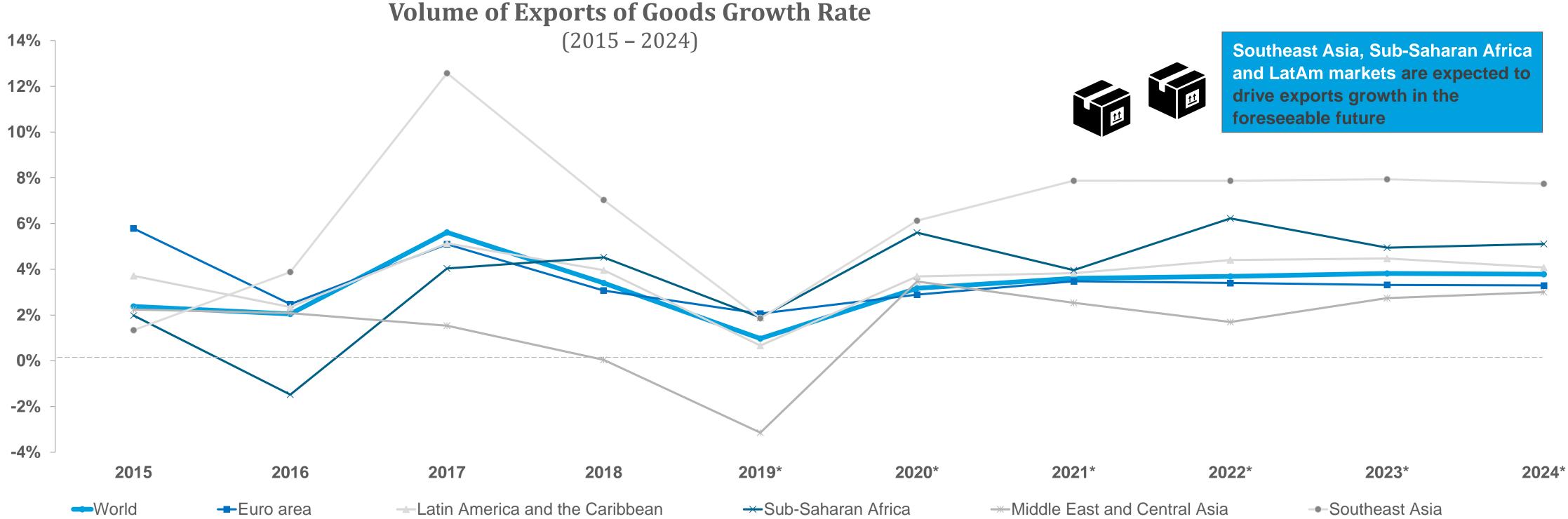
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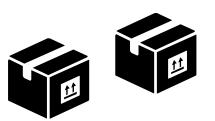
Source: IMF, 2019 - 4 -

Volume of exports

High growth of the volume of exports of goods from Southeast Asia is still expected to be the main trend of the coming years. On the other hand, export growth deriving from Euro area and Middle East & Central Asia is stagnating.



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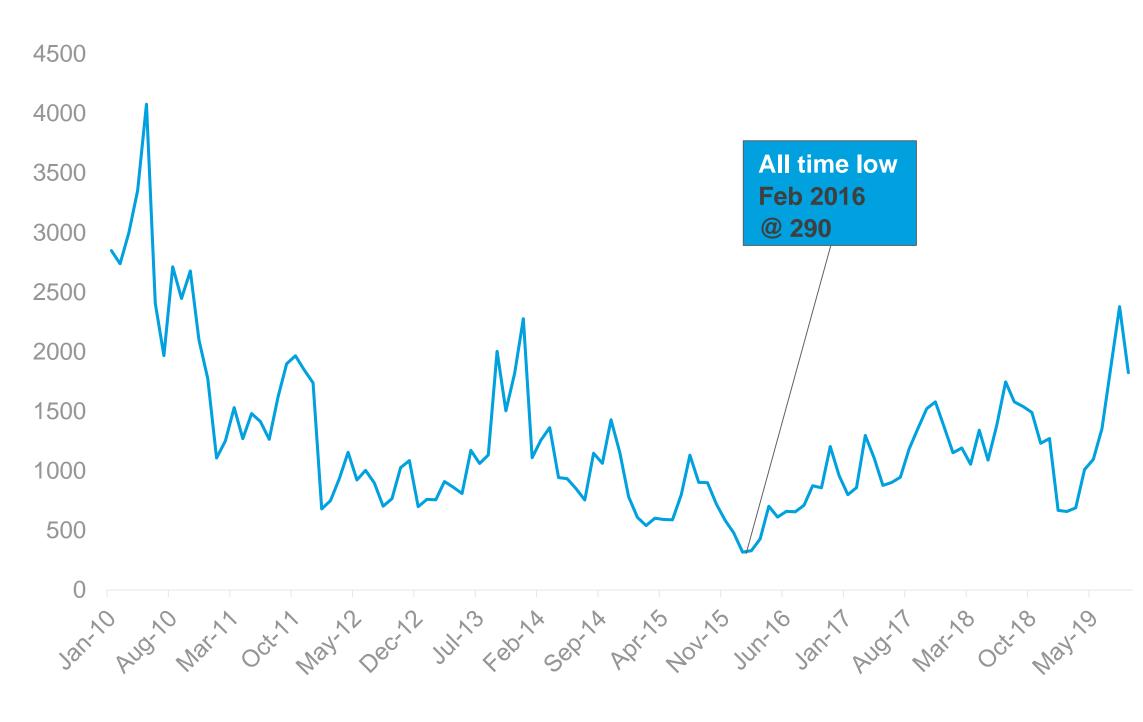




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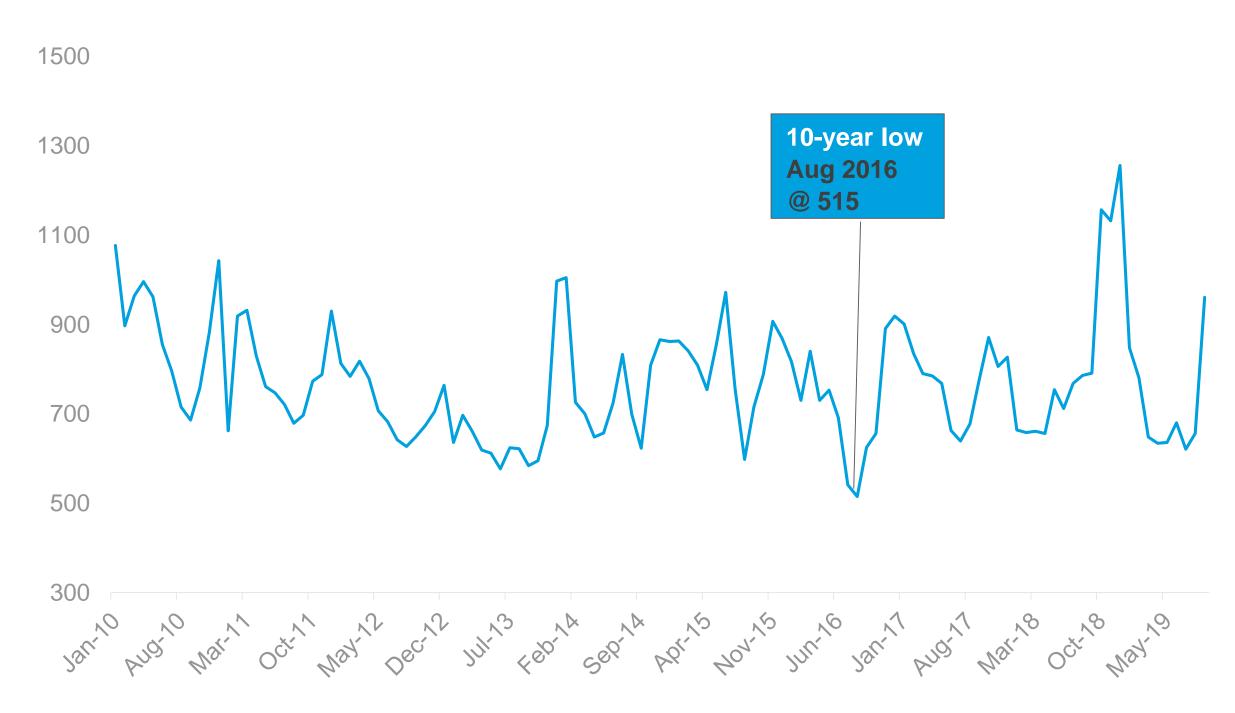
Freight prices

Prices for transported cargo have fallen sharply during the last years as the result of the imbalance between supply of fleet and demand.



Baltic Exchange Dry Index

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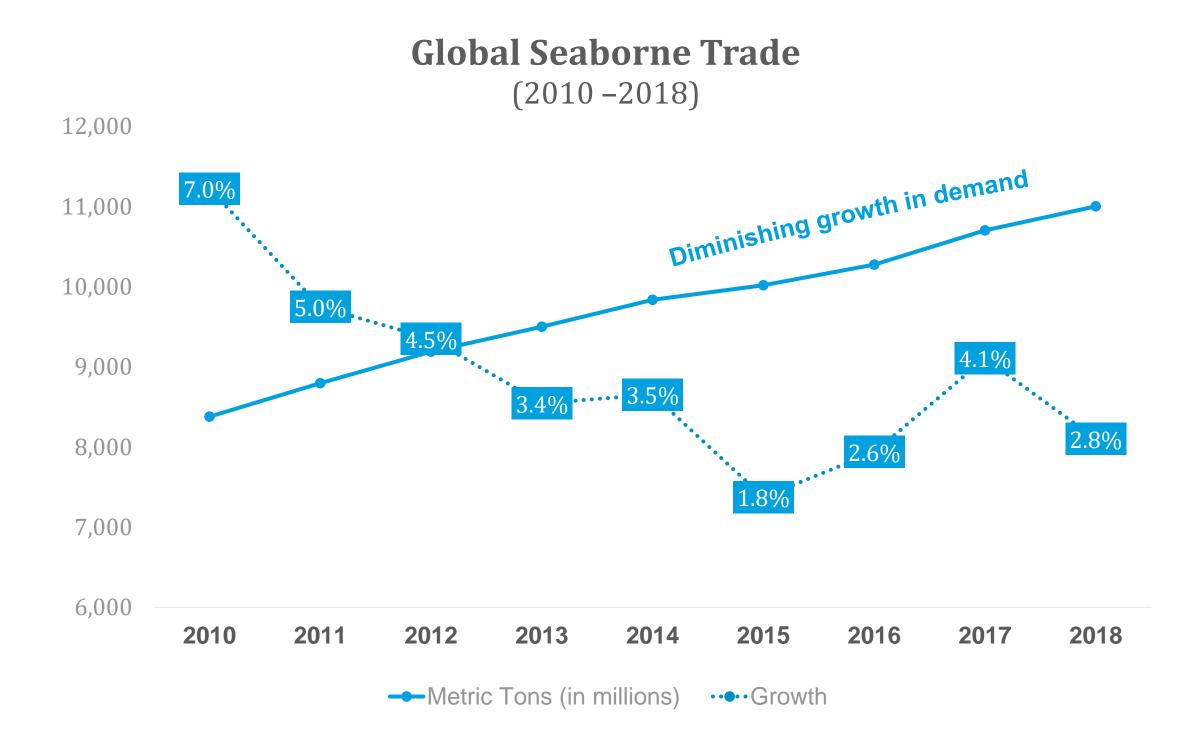


Baltic Exchange Dirty Tanker Index

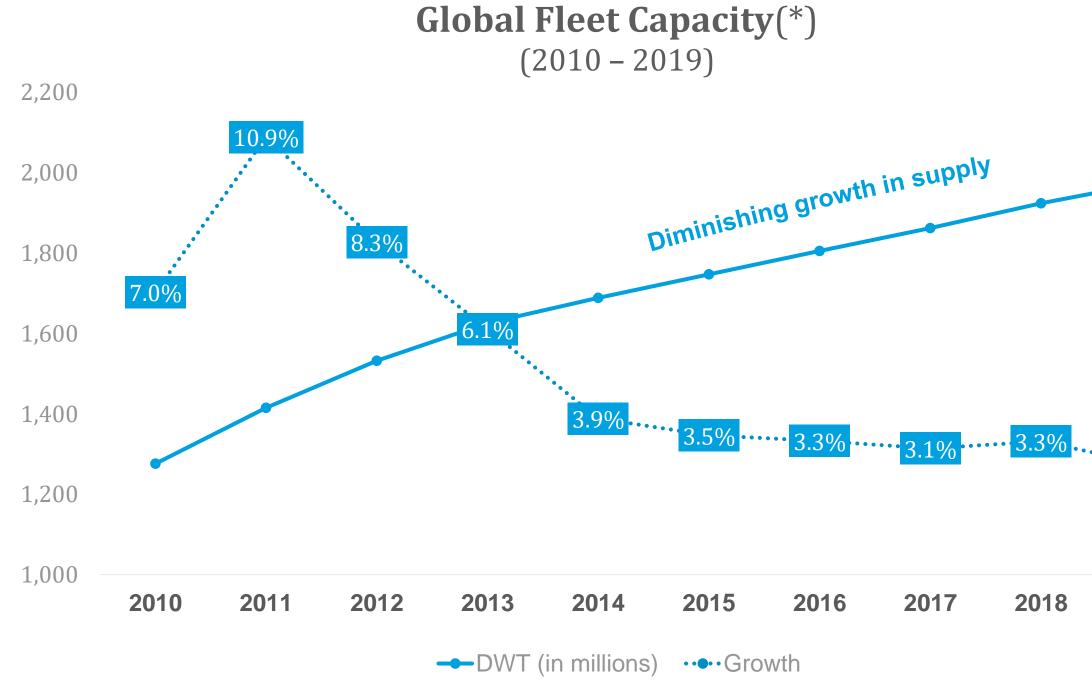


Seaborne trade & global fleet

Global seaborne trade as well as fleet capacity continue to rise, however, at a diminishing growth. Global fleet supply growth rates from 2012 onwards have been significantly reduced



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Source: UNCTADstat 2019, Deloitte Analysis - 7 -





2019

Greek Shipping Industry in numbers



Greece: The top Shipping Nation

Greece remains a global shipping stronghold, while Greek Ship Owners, as leaders in the sector, control roughly 20% of the global fleet in terms of capacity (*)

Vessels			Dead-Weight Tonnage	
Rank (dwt)	Country of ownership	# Vessels	Total dwt (mn)	% Global Capacity
1	Greece 🗮	4,536	349.2	17.8%
2	Japan	3,822	225.1	11.5%
3	China	6,125	206.3	10.5%
4	Singapore	2,727	121.5	6.2%
5	Hong Kong, China	1,628	98.1	5.0%
6	Germany	2,672	95.5	4.9%
7	Republic of Korea	1,647	76.7	3.9%
8	Norway	2,038	61.1	3.1%
9	United States	1,975	58.4	3.0%
10	Bermuda	532	58.2	3.0%

Propelled seagoing merchant vessels of over 1,000GT ranked by dead-weight tonnage

Source: UNCTAD Review of Maritime Transport 2019, Deloitte Analysis

Greek Flag remains the 2nd most preferred flag in EU (behind Malta) and ranks 9th in the world



The Greek fleet is also 1st in terms of value surpassing the \$100Bn milestone in 2019

(*) According to the UGS Annual Report 2018-19, (based on the IHS Markit World Shipping Encyclopaedia 2019) the Greek-owned fleet in 2019 numbers 4.936 vessels with a total of 390 mn dwt, representing roughly 21% of the global feet



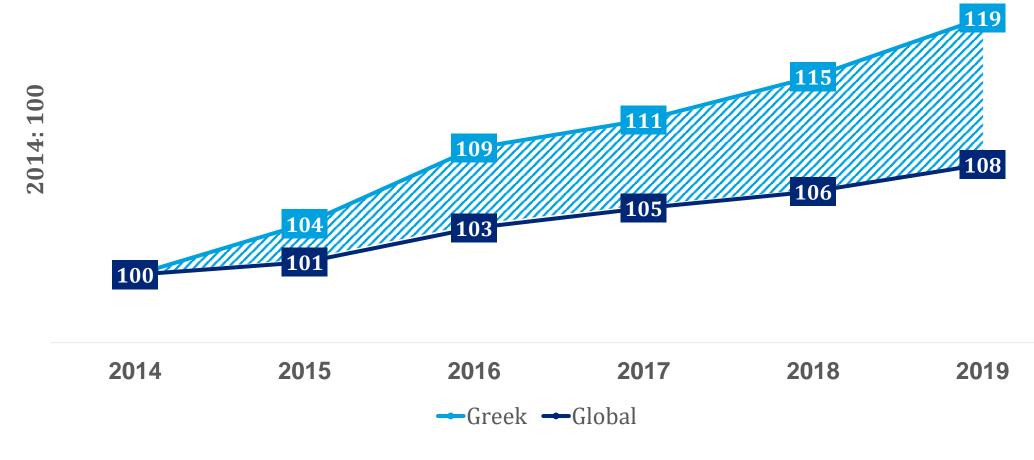
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Greek-owned Fleet

Greek ship ownership is on the rise, surpassing global growth rates in terms of supply (both in number of ships and in available capacity), effectively positioned for an anticipated market recovery.

Global vs Greek Interest Fleet

(number of vessels, growth index 2014–2019)

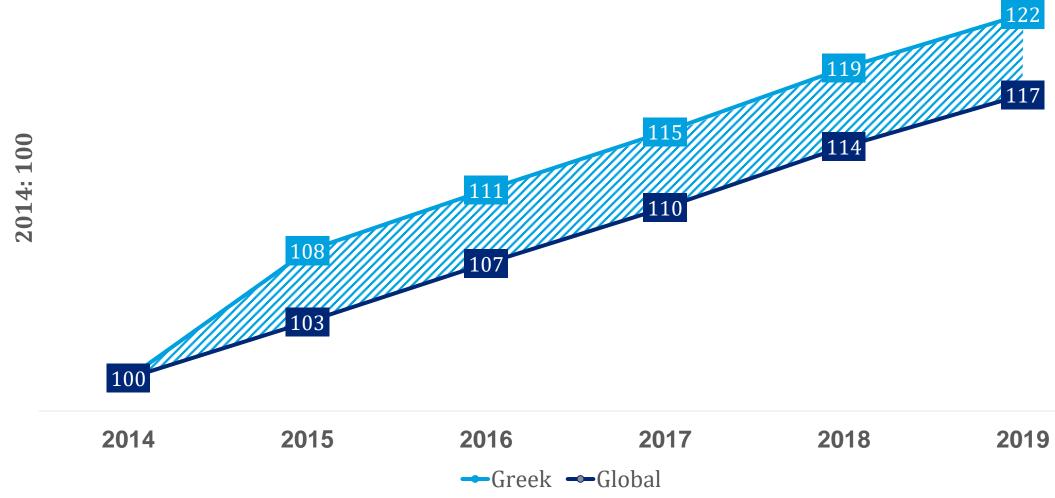




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Global vs Greek Interest Fleet

(capacity growth index, 2014 – 2019)

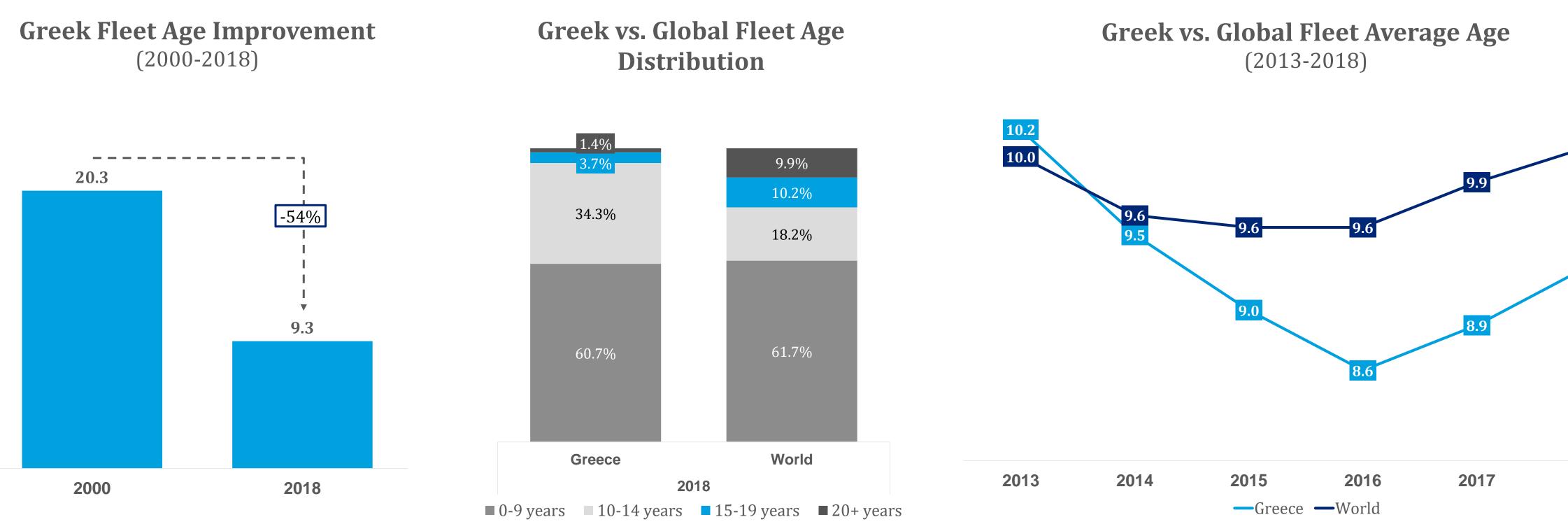


Greek interest fleet remains strong, while exhibiting impressive growth rates in capacity



Greek fleet vs global fleet age

Greek Ship-Owners continuously renew and expand their fleet with an age profile well bellow the world fleet's average.



Deloitte.

Source: Petrofin Research 2018, Hellenic Chamber of Shipping, UNCTAD Review of Maritime Transport 2013-2018



2018

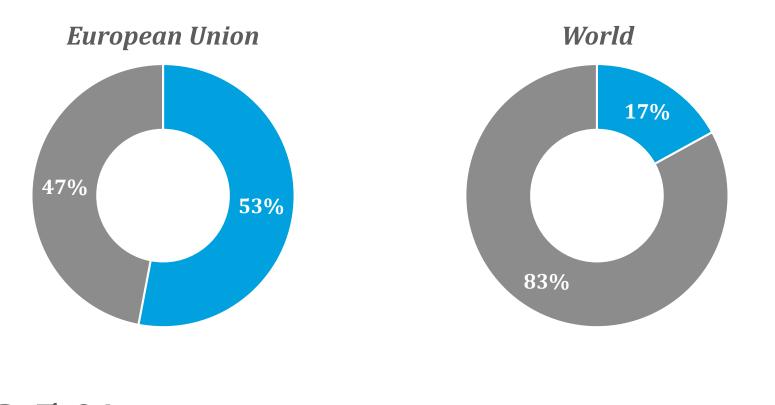




Strategic position in global trade

Greece, accounting for only 0.16% of world population and 0.26% of Gross World Product, has a dominating role in the global shipping industry.

Greece is the major shipping nation within EU, having 53% of total EU interest capacity.

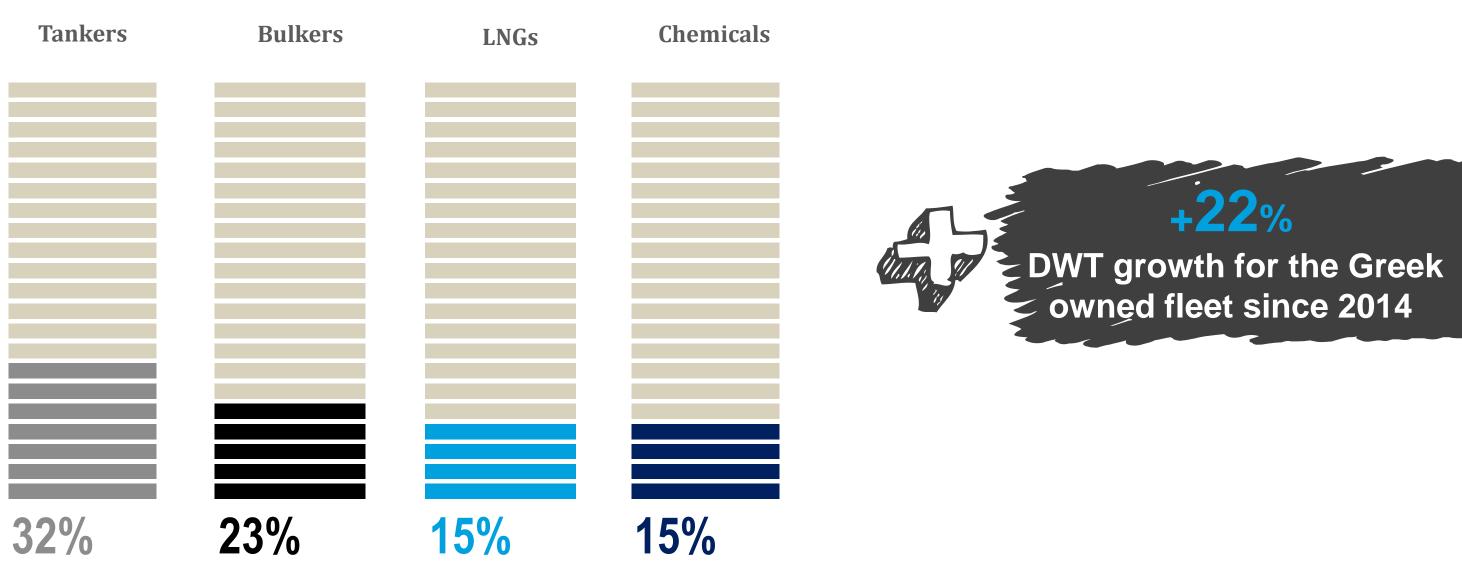


22,5% of trade to and from the U.S.

20,3% of trade to and from Europe

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Greek fleet as % of global fleet per vessel type



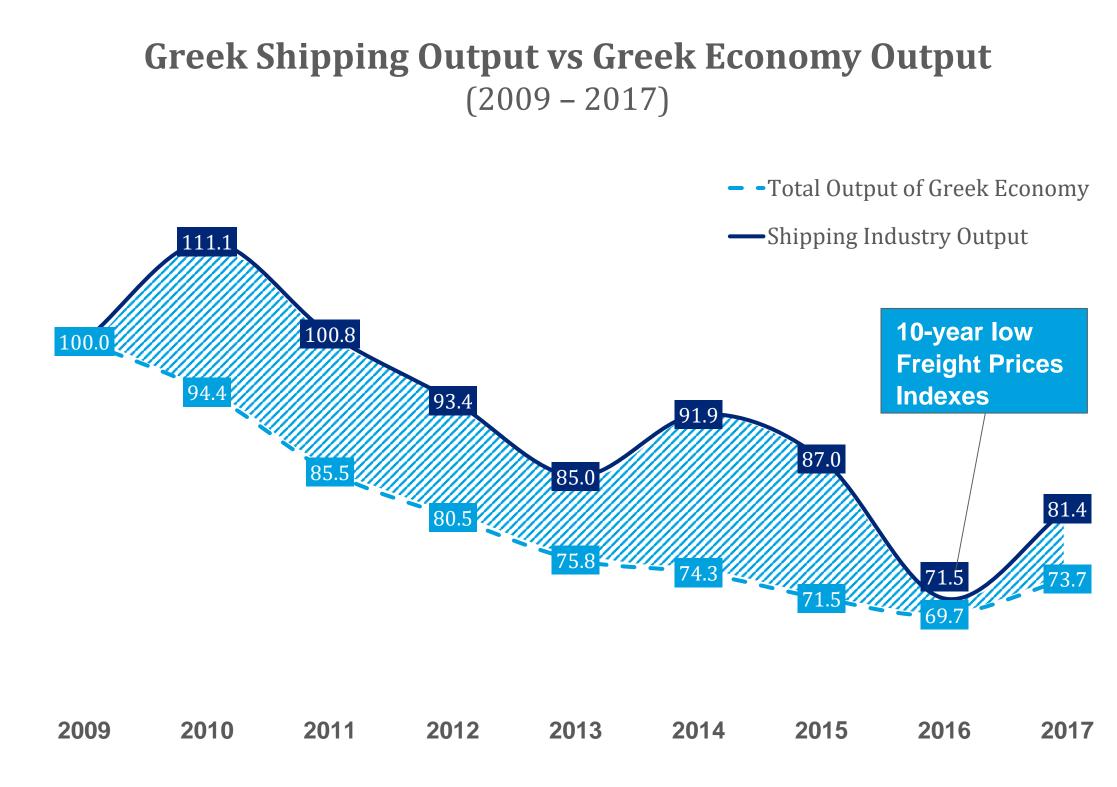
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The impact of Greek Shipping to the Greek economy & society



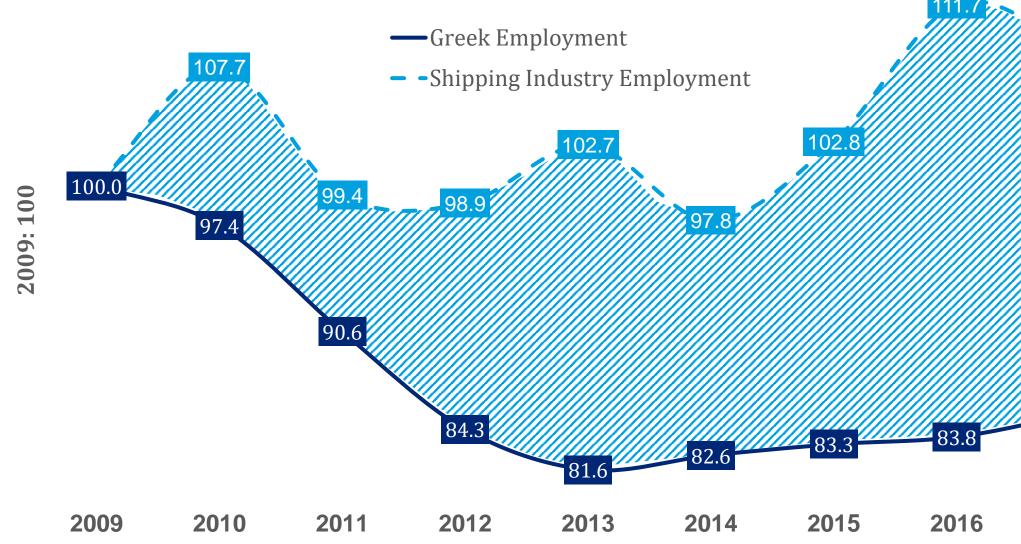
Greek Shipping performance during the economic crisis

The Greek shipping industry has held well during the recent economic crisis, exceeding the performance of the overall economy both in terms of output and in terms of employment sustained.



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Greek Shipping Employment vs Greek Employment (2009 – 2017)





2017

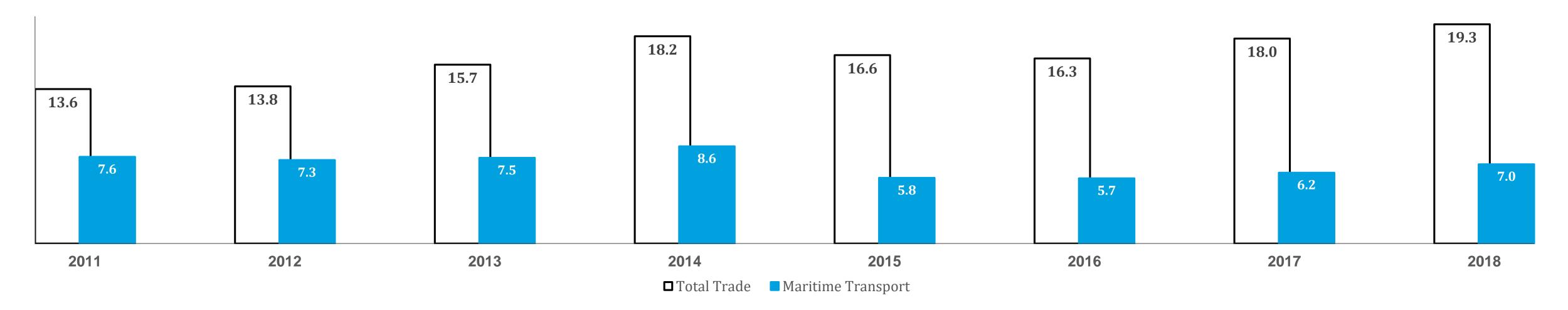
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Services Balance of Payments

Sea transport represents a major component of the national trade balance. Along with the tourism sector, they represent the strongest components of the Services Balance of Payment.

Sea Transport contribution to Services Balance of Payments (Euro Bn, 2011-2018)





Since 2011 the shipping industry contributed more than Eur 55Bn to the balance of payments

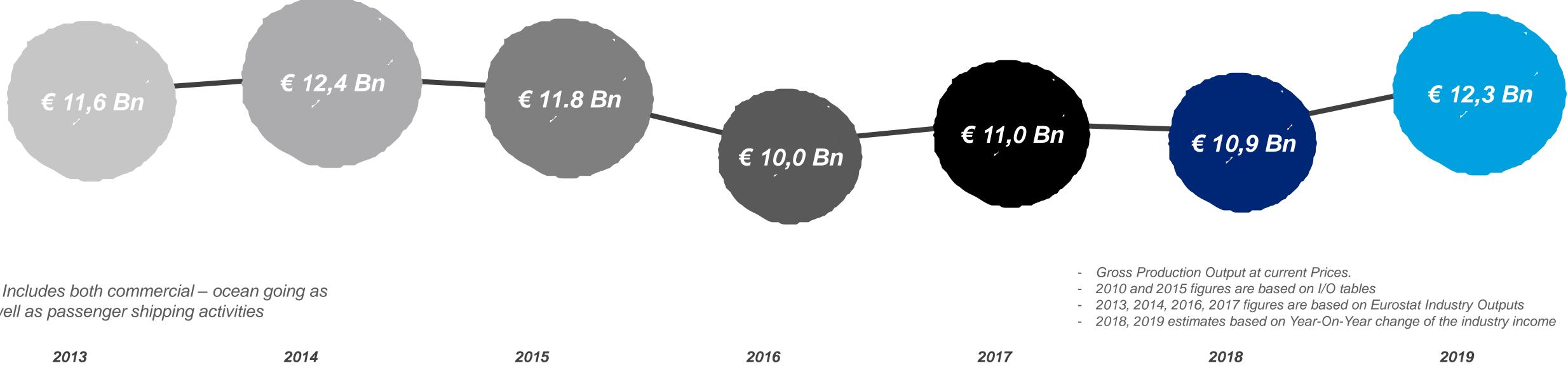


Source: Bank of Greece 2020 - 15 -

Evolution of Greek Shipping output

positive outlook for a recovery in the following years.

Gross Production Output of Water Transport Services* (2013 - 2019)

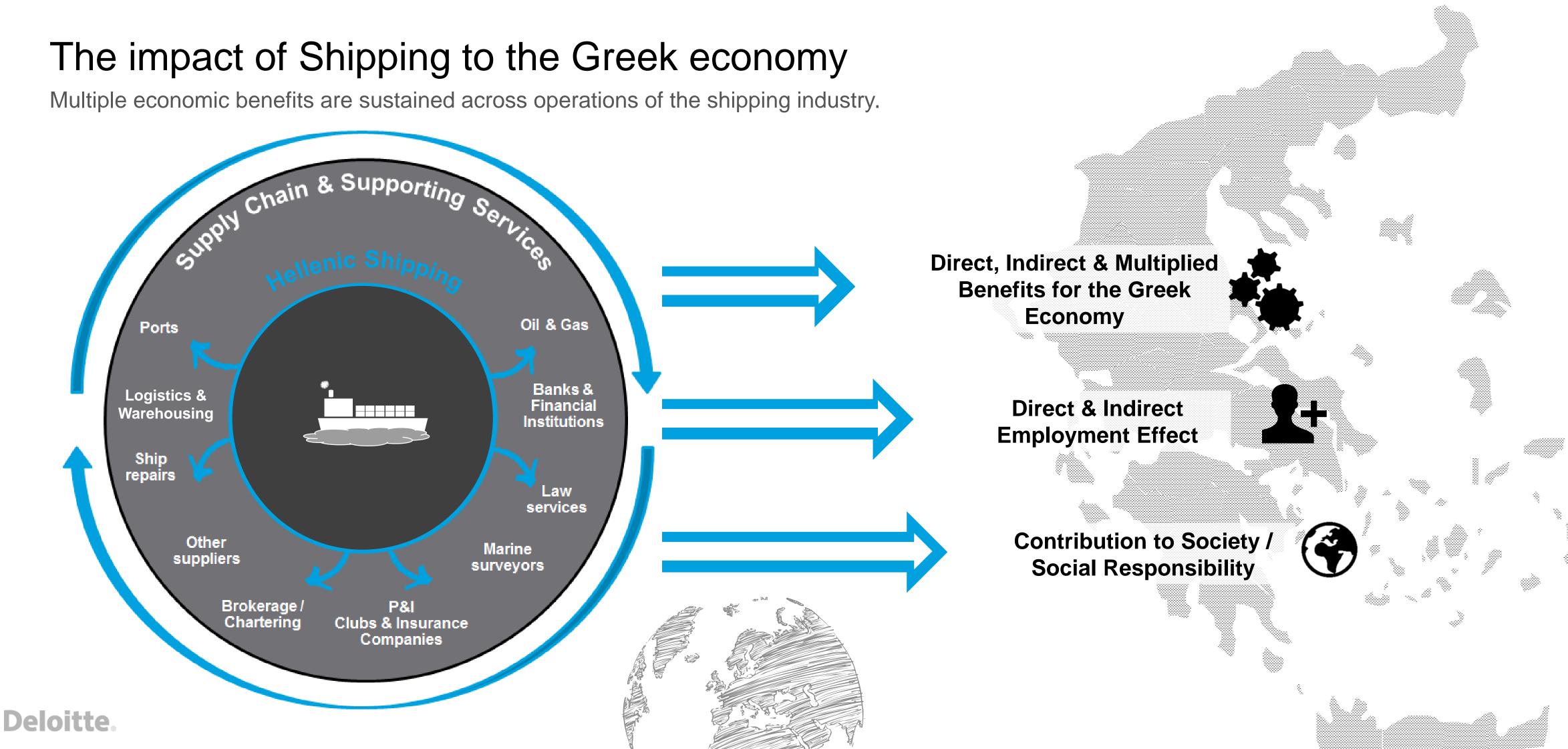


* Includes both commercial – ocean going as well as passenger shipping activities

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Even though gross production output has been fluctuating in recent years, Greek Shipping activities remain a solid and major pillar of the Greek Economy, with a

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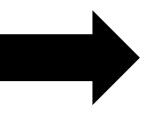




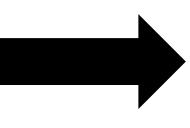


Economic Impact Assessment Model

Analysis is based on the identification of the interlinkages of the shipping industry with other sectors that sustain indirect and induced benefits within Greece.



Direct Impact to the economy from the shipping industry activity



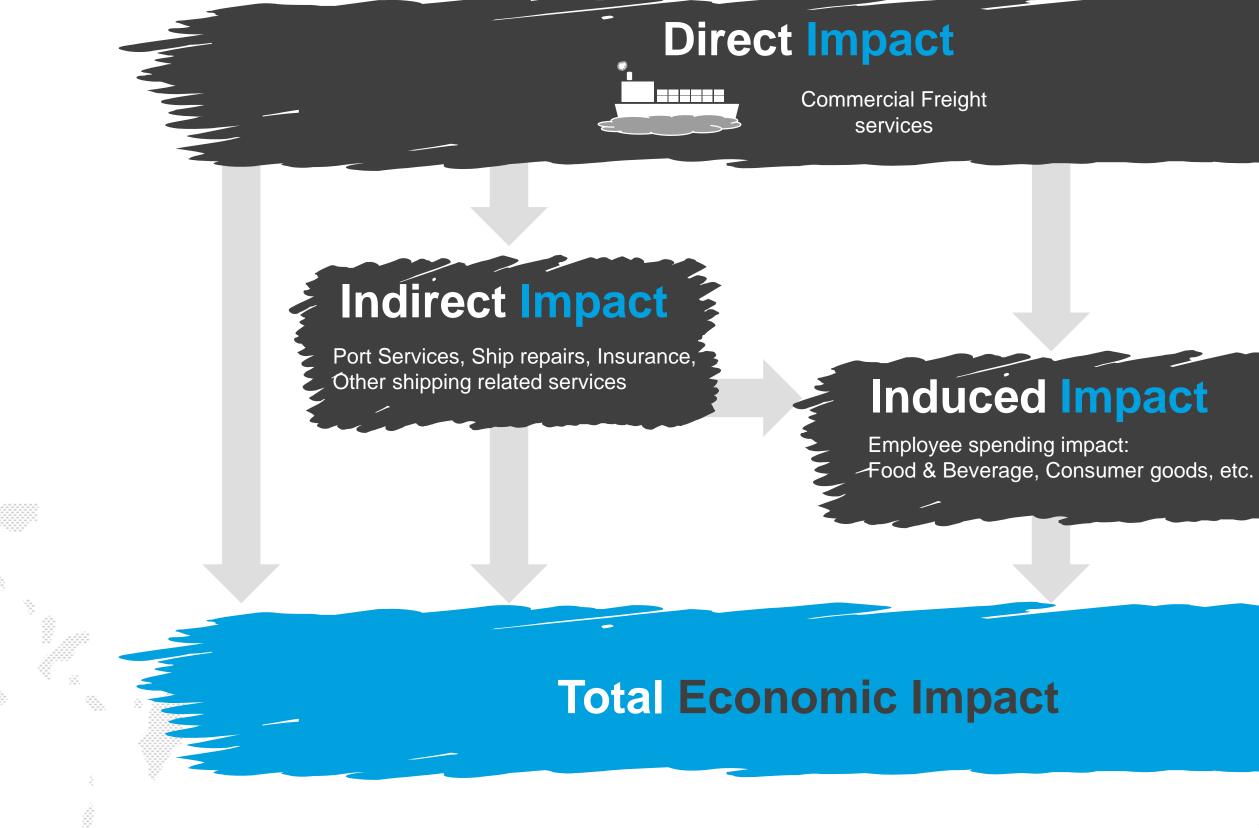
Indirect Impact

to other industries and sectors that form the supply chain of the Shipping Industry



due to the consumer spending, induced by the employment within the shipping Industry, as well as the wider supply chain

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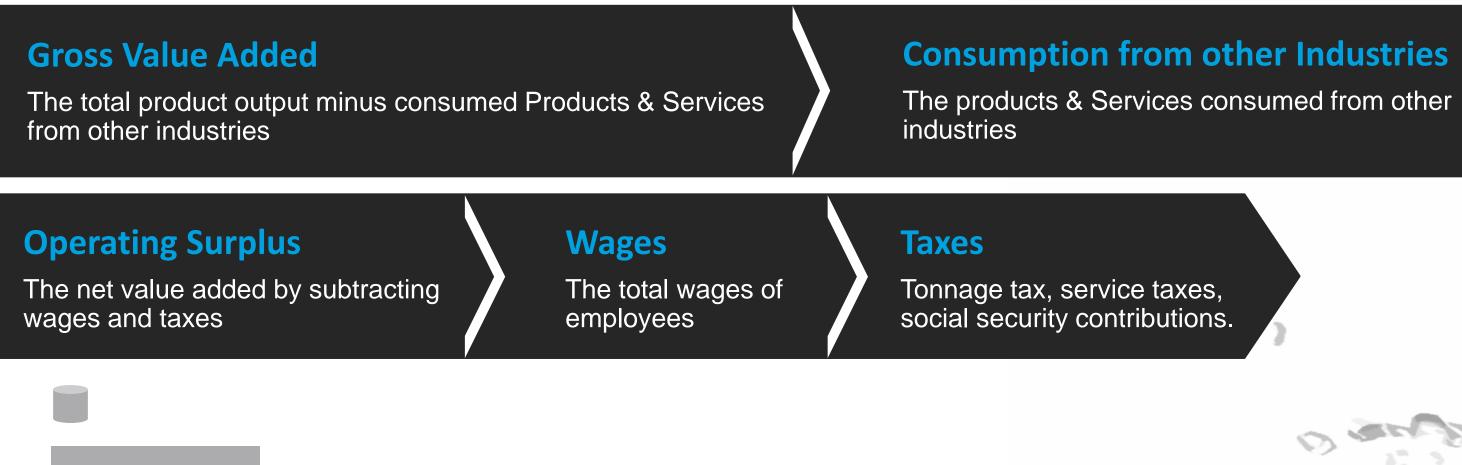


Calculation of socio-economic impact methodology

The Shipping industry contributes to the Greek economy in terms of produced economic activity, sustained employment, national GDP creation and public revenues.

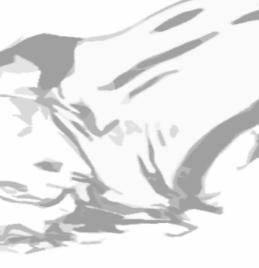
Product Output

The product output is the result of the shipping economic activity that has consumed inputs to produce services.





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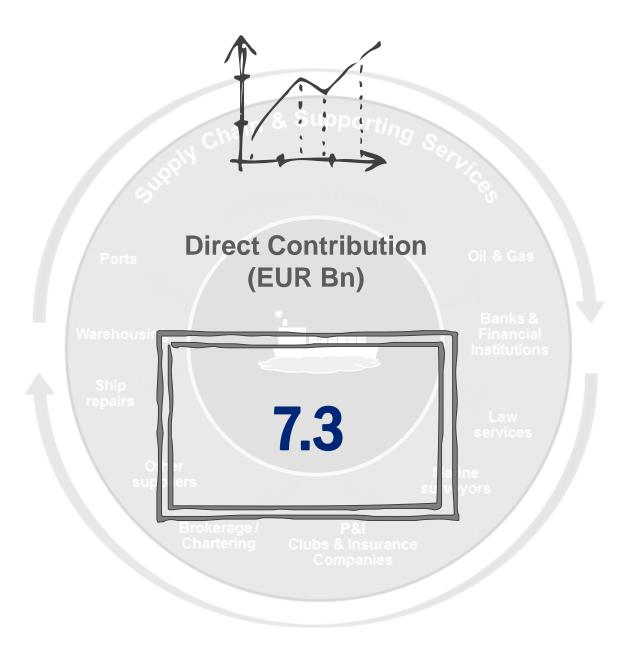




Economic Impact

The total contribution of the Greek Shipping industry, including indirect and induced effects, exceeds EUR 11Bn in 2019, accounting for 6.6% of the GDP.

Economic Impact to the Greek Economy







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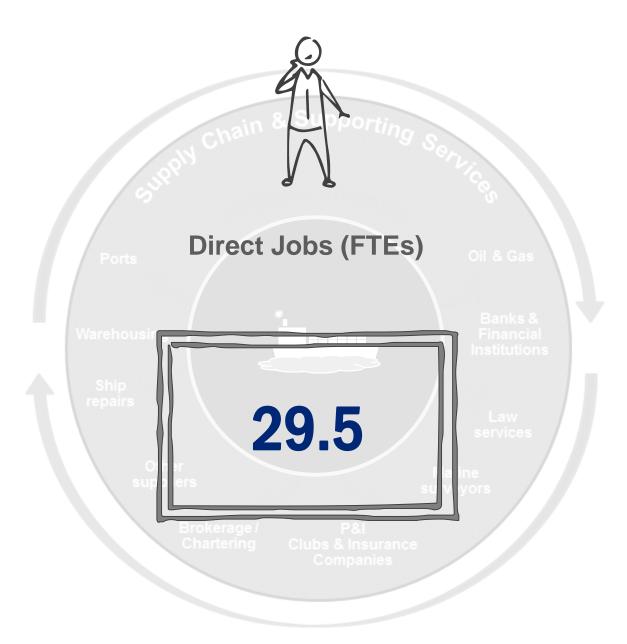
Additional benefits are recognized due to public receipts from taxes. • Tonnage tax & voluntary contribution: ~EUR 0.17 Bn • Other taxes (products, social security, etc.): ~EUR 1,11 Bn Figures are based on the Input / Output Country Table published by Eurostat

Source: Eurostat I-O Tables, Greek Government budget 2020, Deloitte Analysis Note: The above calculations include also passenger shipping - 20 -

Employment Impact

The total contribution in terms of job created or sustained by Shipping, including indirect and induced employment, exceeds 160,000 and surpasses 3% of total Greek employment.

Employment Impact to Greek Economy in thousands





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Ship owners' Social Responsibility

Apart from the economic impact that derives from the Shipping industry, ship owners have been actively engaging in Social Responsibility activities, while the Union of Greek Shipowners is the only industry group that has developed its own Social Responsibility subsidiary, Syn-enosis.

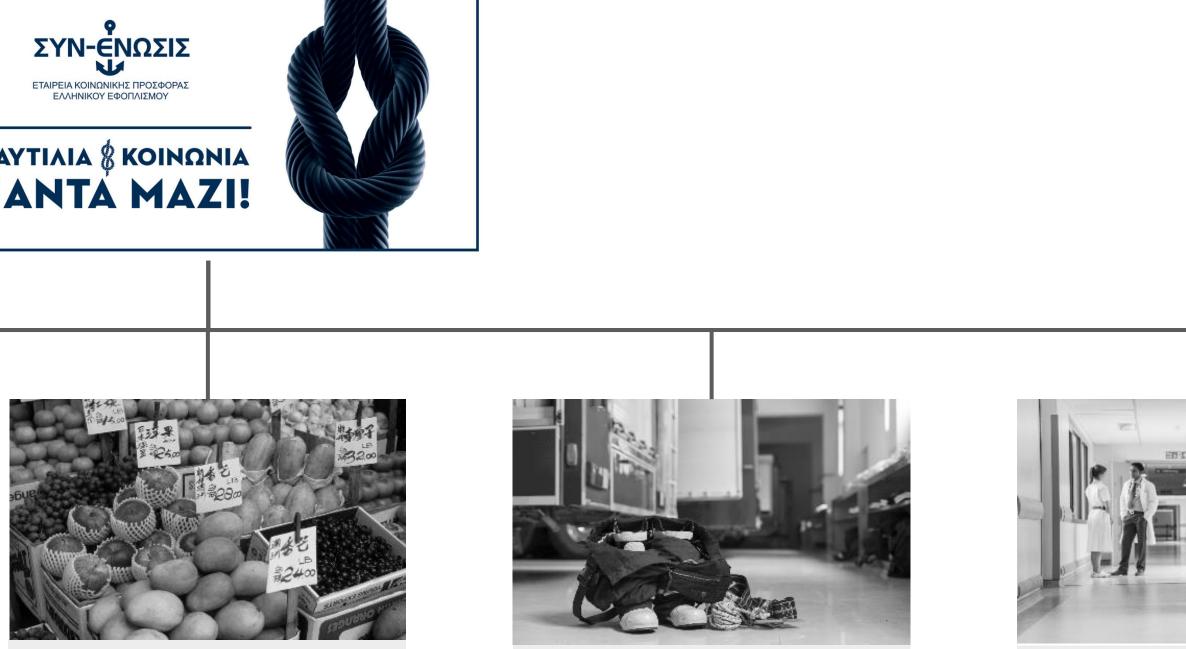




Support for Public Healthcare



Support for Public Education



Food Aid

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Crisis Management

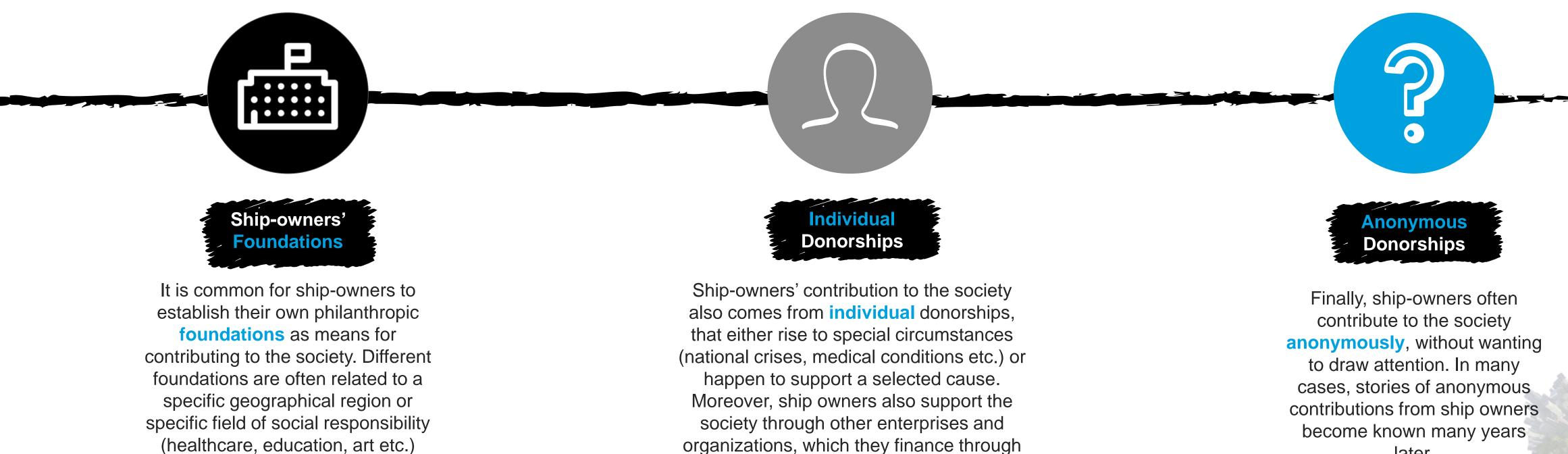
Assistance for People with Special Needs





Ship-owners' Social Responsibility

Ship-owners are also known for their independent social responsibility contributions, through foundations that carry their names, individually, or even anonymously.



Deloitte

shipping.

later.





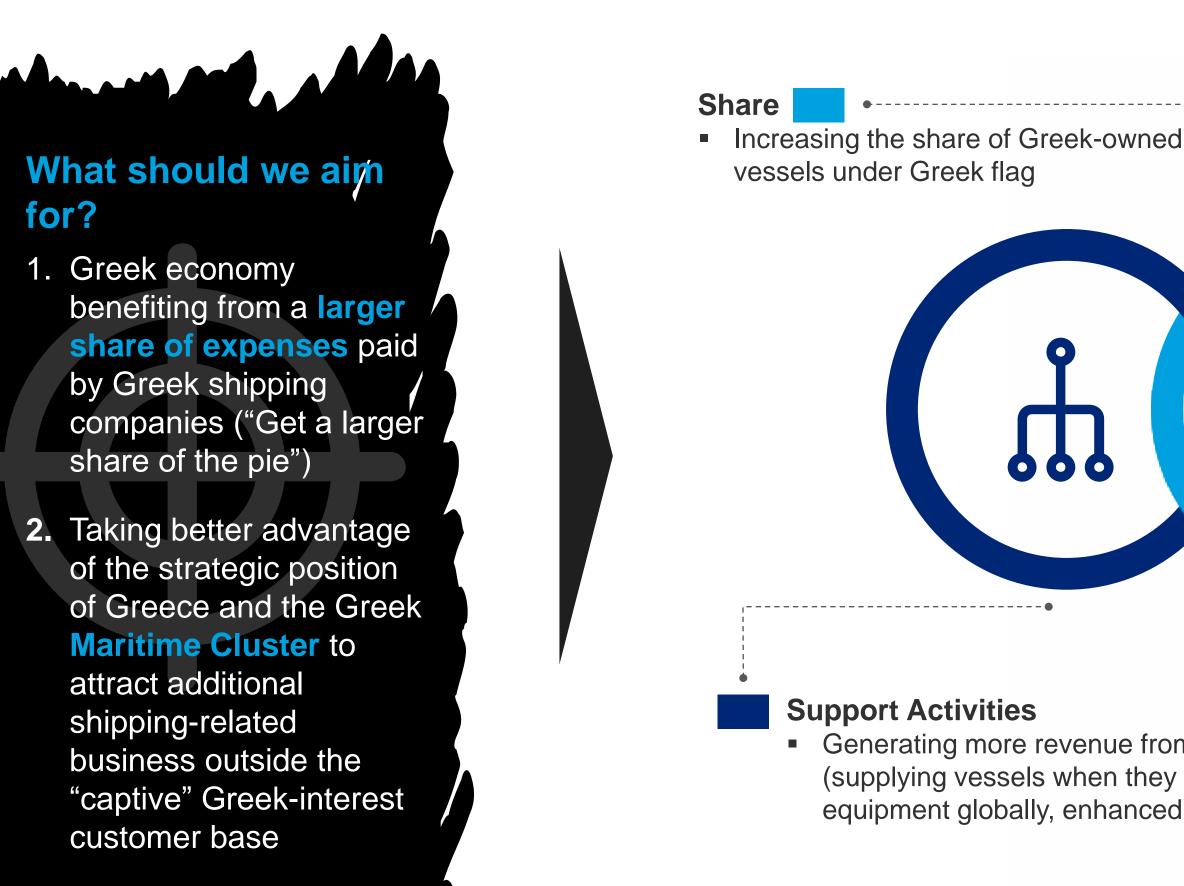


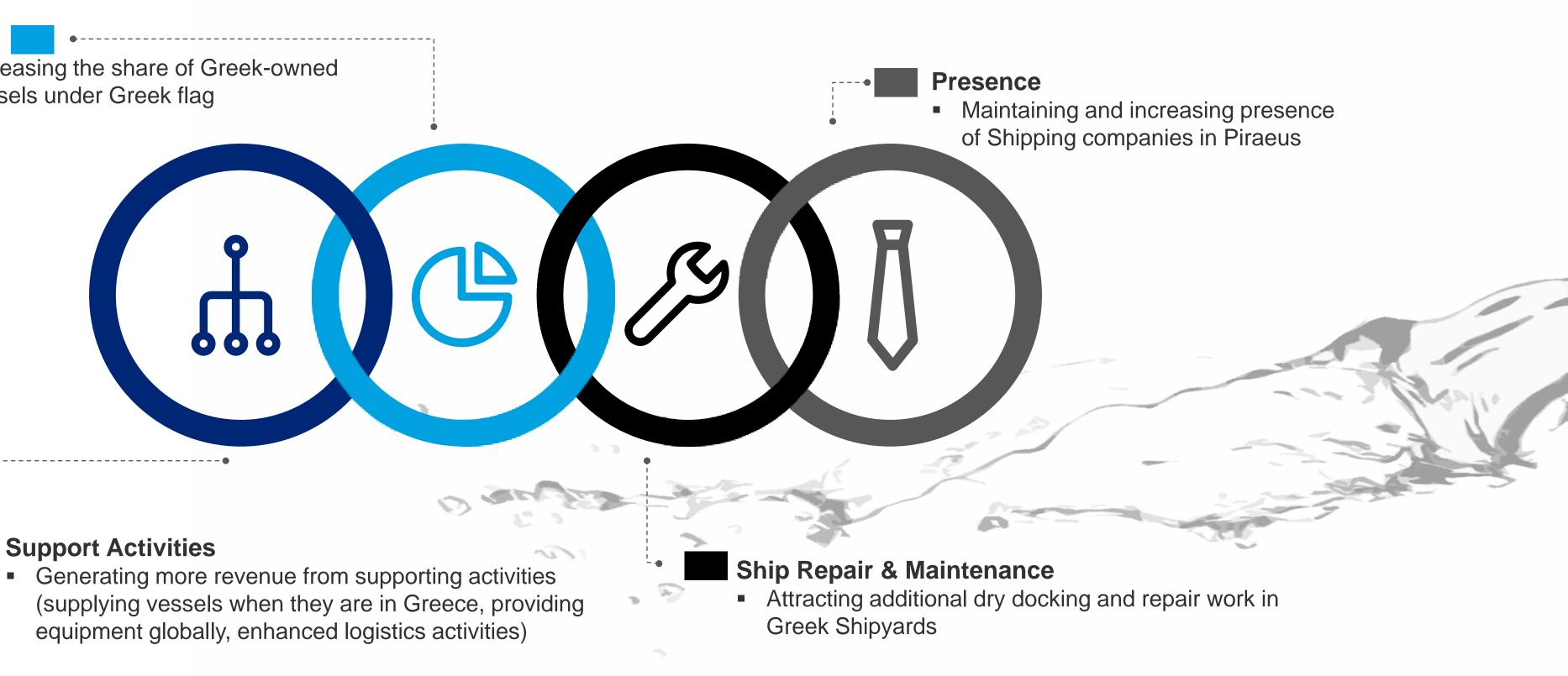
Opportunities to increase impact



Opportunities to increase impact

A main aim of our study has been to recognize ways to increase the contribution of shipping to the Greek economy. Through interviews with industry participants we assessed a number of opportunities, but also identified the required interventions to explore them.

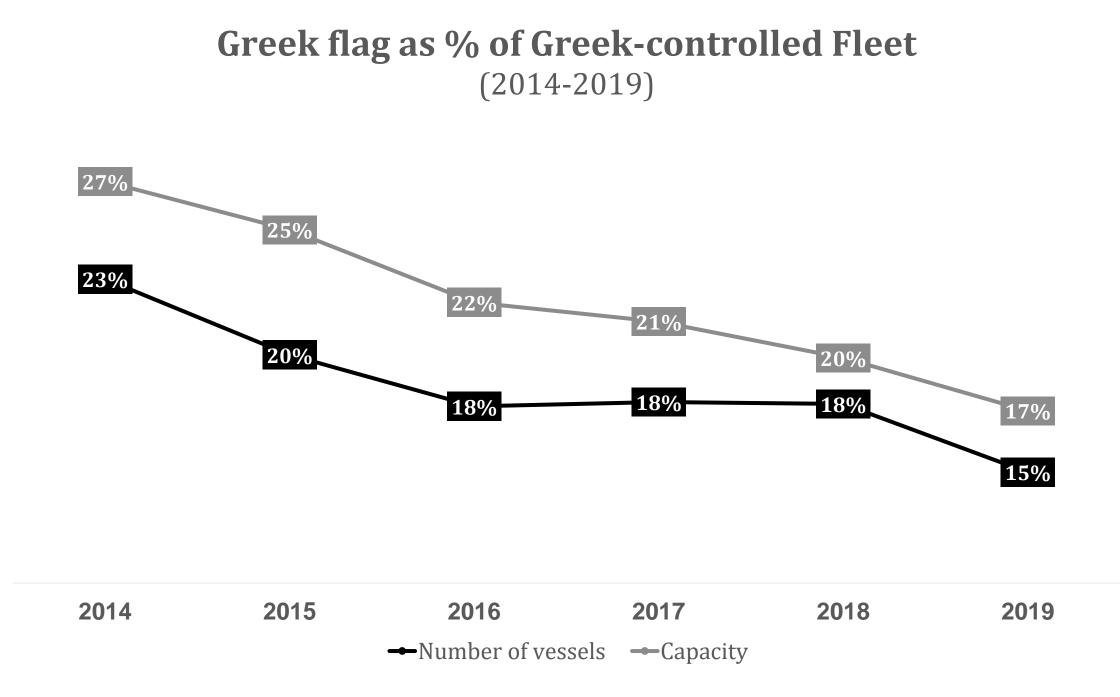






Greek Flag

The proportion of Greek-owned vessels in the Greek Register has been declining for years. At the start of 2019 only 670 out of a total 4,536 Greek-owned vessels over 1,000 GT were flying the Greek flag (14.8%), corresponding to 17.4% of total dwt.



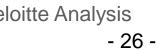
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Global vs Greek Flag Fleet

(vessels growth index, 2014 – 2019)

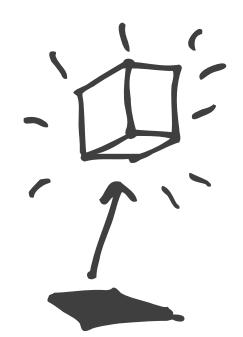






Greek Flag

In addition to strategic benefits, economic benefit to the economy from registering a Greek-owned ship under the Greek flag is also derived from the requirement to have a number of Greek officers in the crew, and thus from the spending impact of additional salary income pouring into the Greek economy



Benefits for Greece and the economy from bringing Greek-owned vessels under the Greek flag

- A matter of national prestige
- Provides strategic depth to the country
- Creates high-paying jobs for Greek merchant marine officers
- Generates ongoing revenues from Registry-related activities



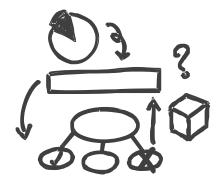
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Insufficient supply of Greek officers puts upwards pressure on salaries, compared to foreign crew

- What it means in practice? A good flag, reflecting quality High position in Flag State Performance Table (white-listed)
- **Greek employment requirements** (typical ND 2687/53 approval for larger vessels: Captain +5 crew)

Crew taxation regime provides incentive for Greek officers to work under foreign flag



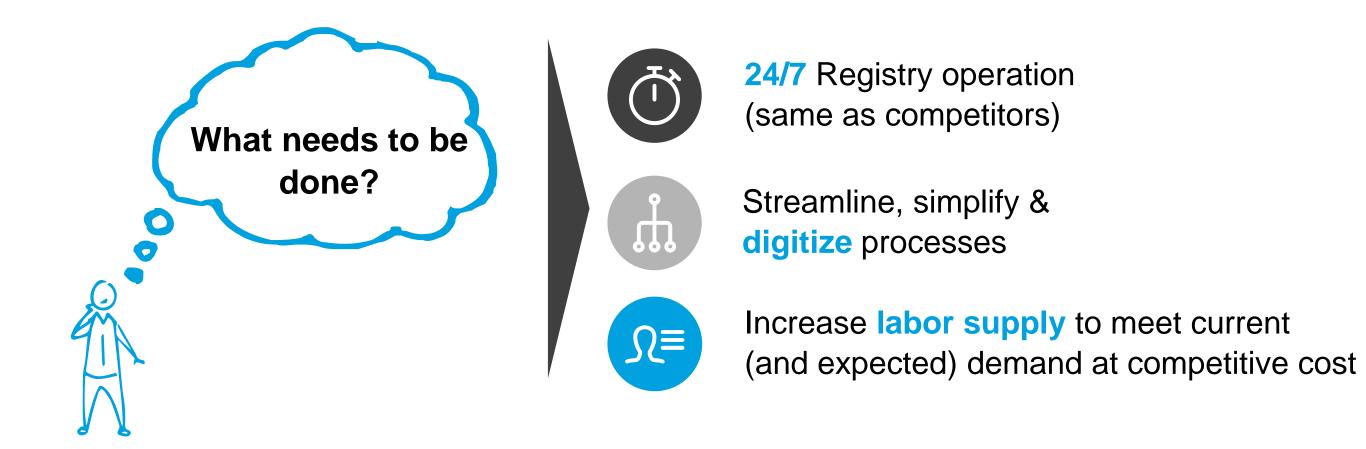
Bureaucracy and less flexibility, compared to leading Registries, increases burden and/or reduces level of service during Purchase & Sale, Vetting, Audits, Port State controls etc





Greek Flag

To make the return to the Greek flag a viable proposition for Greek ship owners, the Greek Registry must operate in a more flexible way and the supply of Greek officers must increase to meet additional demand so as to maintain a competitive cost base for the Greek-flagged vessels



Under a **conservative** target to bring an additional 10% of Greekowned fleet to the Greek registry (+450 vessels) and reasonable assumptions on crewing and salaries:

- The economic impact to the Greek GDP would amount to more than EUR 220 mn.
- ~3,600 additional Greek officers would be needed to cover 2,700 ship positions.

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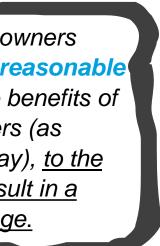
Ministry of Maritime Affairs already in the process to simplify and digitize Registry operations

- Technical specs under preparation
- Digital certificates under study
- Work will be part of a long-term **Integrated Information System** project, including Interoperability
- Need to consider quick wins and priority deliverables

In general, Greek ship owners seem willing to incur a reasonable additional cost for the benefits of employing Greek officers (as already is the case today), to the extent that it will not result in a competitive disadvantage.



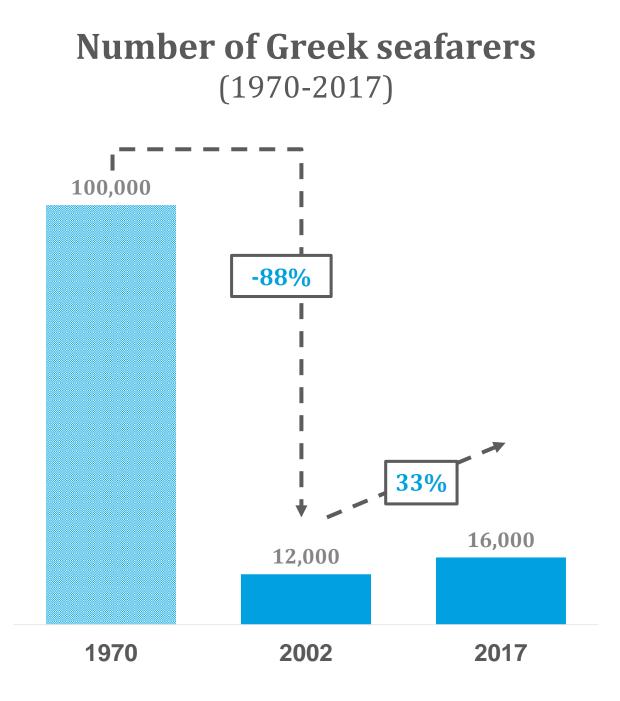


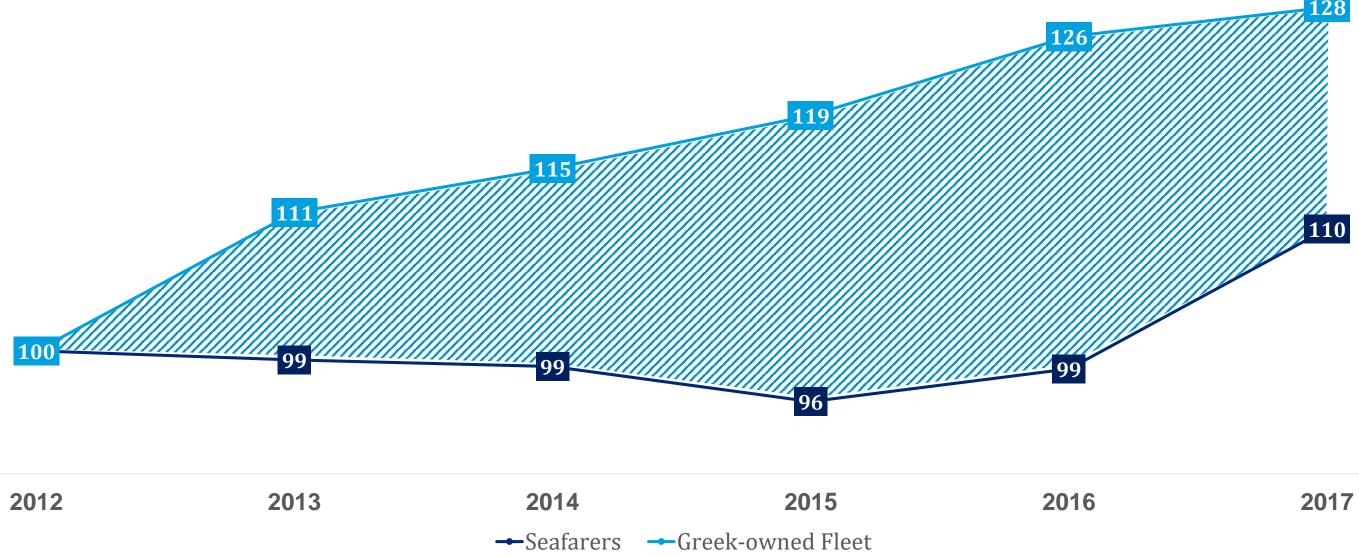




Careers in the shipping industry

The seafarer professions have been declining in popularity since the 70s, reaching a historical low of 12,000 employees in 2002. Despite the slow increase of the last years, especially during the recent economic crisis, there are not enough Greek officers to cover the increasing Greek-owned fleet needs



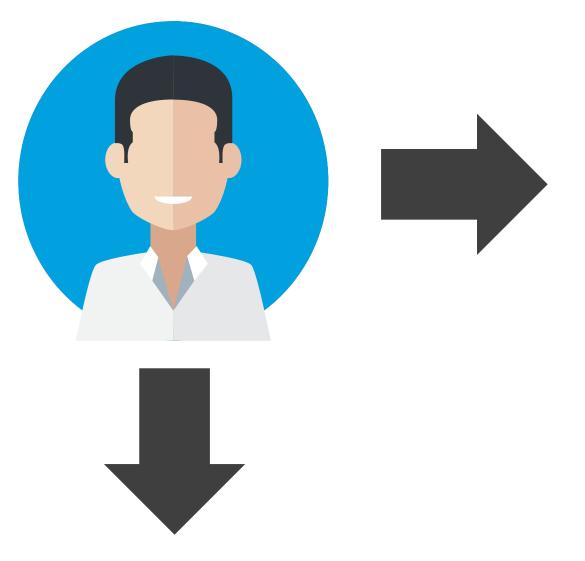


Number of Greek Seafarers vs Number of Greek-owned Vessels (2012-2017)

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Maritime education and training

Although Greece is known for its maritime education, there are certain issues that need to be reviewed with a view to the new age of the shipping industry.



Infrastructure Aspect

- Dedicated Naval High Schools (abolished in 1999) superior to current Vocational High Schools
- Training "somewhat old fashioned", needs to be modernized (modern ships use much more automation)
- Relatively low level of satisfaction (surveys)
- Relatively high drop out rate or students not continuing in naval careers
- During the crisis the number of trainees increased and quality improved
- Alternatives for Marine education are emerging: Private Marine Academies in Greece (and abroad)
- The overall Marine Education & Training system needs to be thoroughly re-evaluated

Communication Aspect

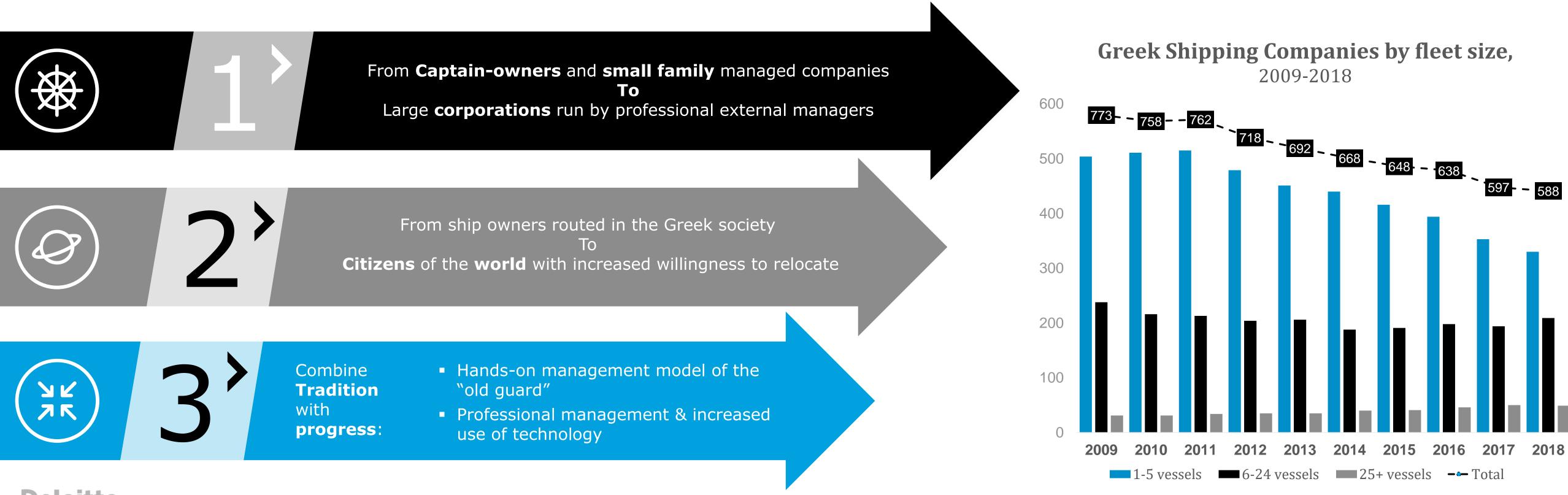
- "Smart" marketing campaigns promoting careers at sea, targeted at young persons (social media, influencers etc.)
- Convey the message of improving work conditions / fewer months at sea, to improve perceptions
- Stress the much higher salaries and low unemployment

The Greek State and the Shipping Industry should work together to make maritime education more attractive and increase the pool of Greek merchant marine officers



Ship Management

Ship ownership and ship management remained in Greece, despite economic crisis and capital controls. But increasingly, Greek ship owners need to face the strategic challenge of the transition to the new generation



Deloitte.

Source: Petrofin Research 2018, Deloitte Analysis



Ship Management

As the wave of consolidation and globalization continues, Greek shipping faces new challenges and new opportunities. Ship management activities (as opposed to ship ownership) and taking better advantage of the potential of the Greek Maritime Cluster can be used as levers for growth.

"Challenges are not stop signs, they are guidelines"

CHALLENGES



Minor ship-owners (<5 vessels) face difficulties to **break even**

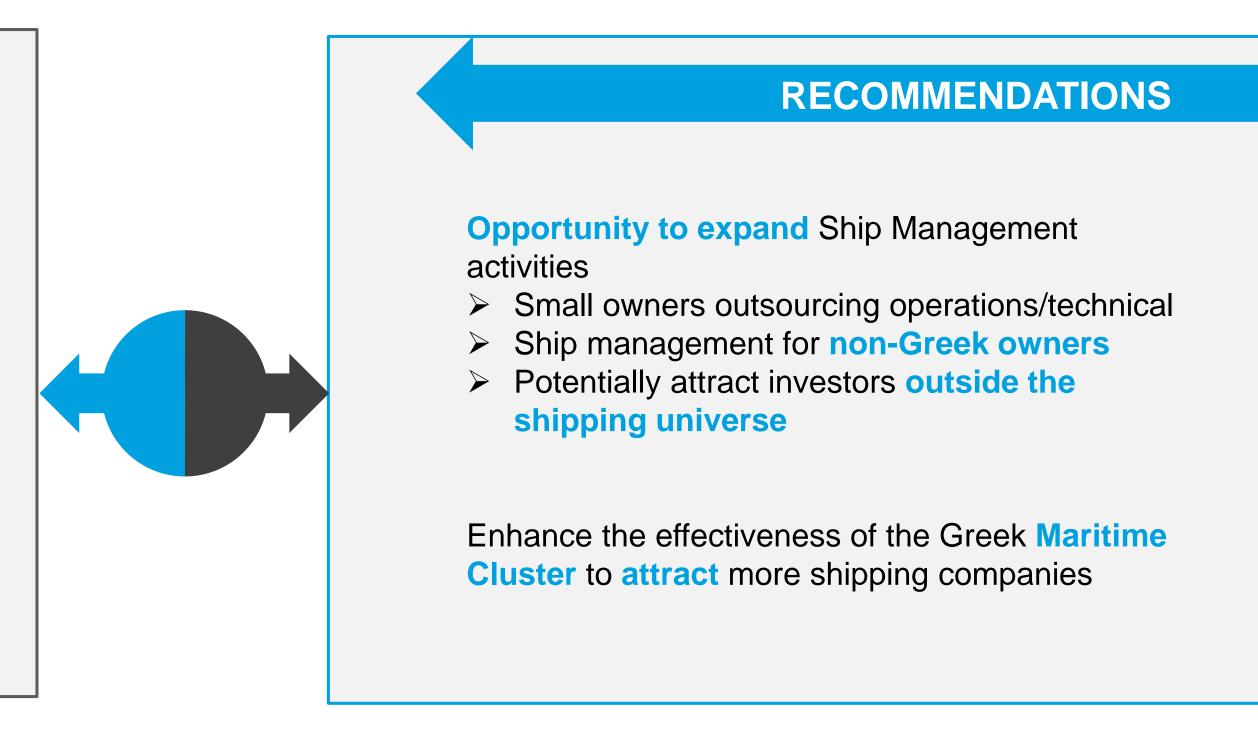


Attract more non-Greek shipping companies in Piraeus



Brexit: More a threat than an opportunity? *(will London turn into a prestigious offshore jurisdiction?)*

Deloitte.









Ship Repair Industry

As demand exceeds supply and Greece is in a advantageous geographical position, the opportunity of becoming a ship repair destination should not be left unexploited.

Demand

Core Activity: Dry docking (as prescribed by Class), surveys, repairs

Potential for additional work:

- Installation of water ballast treatment equipment
- Ship building: Need for 100m Ro/Pax newbuilds for Greek coastal shipping (limited availability in 2nd hand market)
- In the future: Offshore drilling support

Supply

Syros Shipyards under new private management: A success case (Improved labor cost and mentality)

Hellenic Shipyards: No commercial operation, pending legal proceedings (400,000 dwt dock)

Elefsis Shipyards: No commercial activity, Seeking new investor

Critical Success **Factors:**



Costs must be competitive within our geographical area

(Ports, tugs, agents, labor)

Competitive position



Strategic location in terms of traffic (Asia-Europe, Mediterranean-Black Sea routes)



Labor cost has gone down compared to the past, but working hours and overtimes remain a major issue



Willingness of Greek owners to bring work to Greek yards

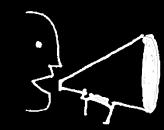


Increasing needs for electrical/electronic maintenance, where supply is thin



Specialists with good technical skills available, especially in metal works (3,000 certifications through PCCI)



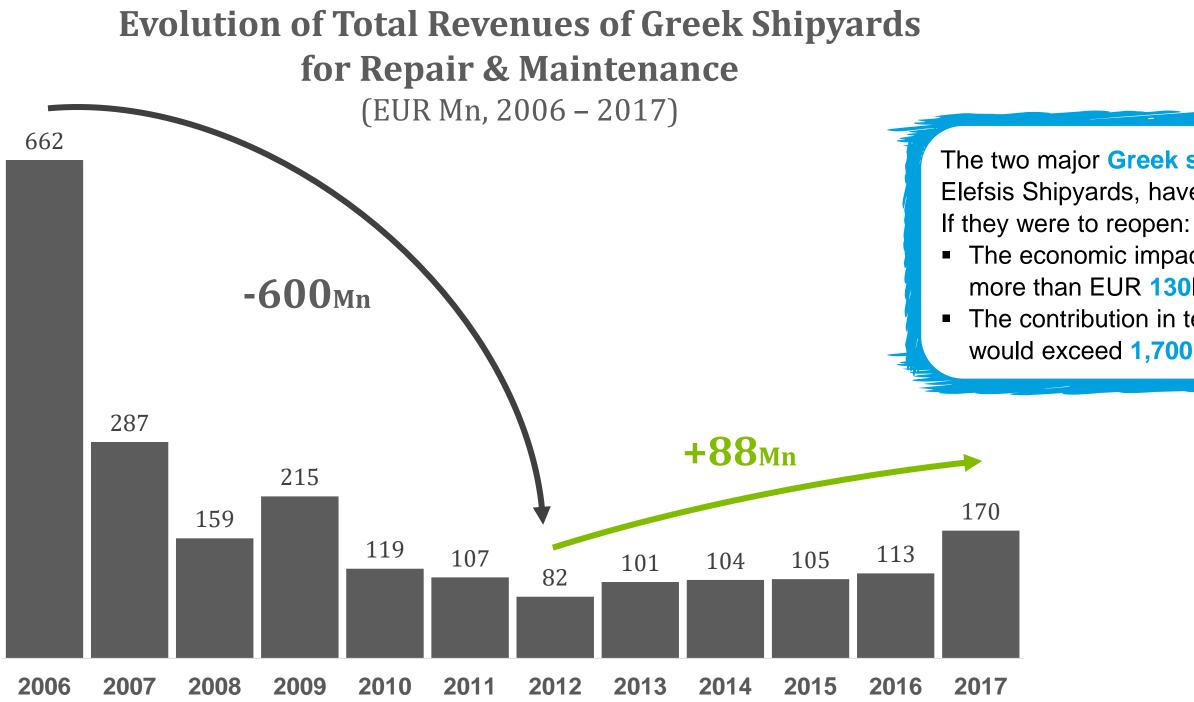


Labor relations



Ship Repair Industry

Greek ship owners create a market of approximately \$1.35Bn for R&M from their fleet while major Greek shipyards are idle or underutilized. With the reopening of the two major Greek shipyards, the contribution to the economy in terms of added value and jobs will substantially increase



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The two major Greek shipyards, Hellenic Shipyards and Elefsis Shipyards, have currently no commercial operations.

The economic impact to the Greek GDP would amount to more than EUR 130Mn.

The contribution in terms of job created or sustained would exceed 1,700 jobs.



\$1.35Bn

is the estimated value (on an annualized basis) Greek ship owners spend for ship repair & maintenance

> 20% of the Greek fleet operates in the Mediterranean

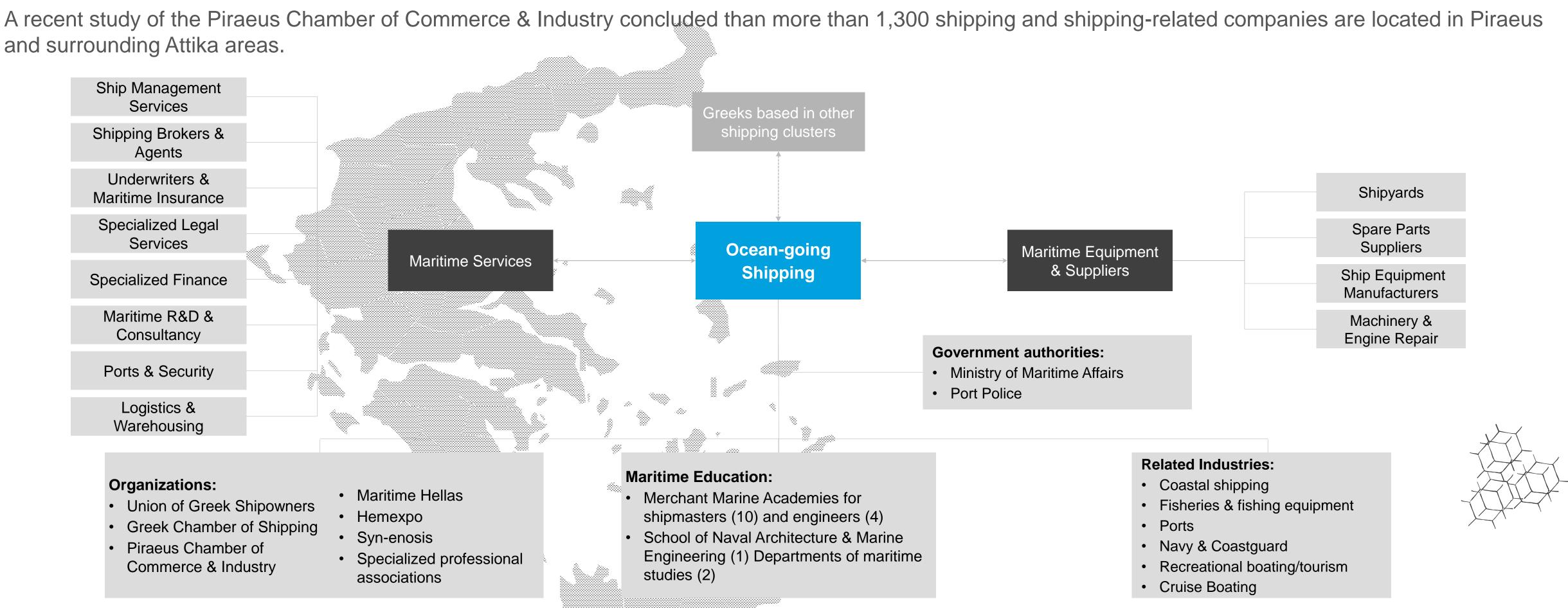
> > What can Greece Capture?



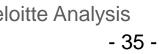
- 34 -

The ecosystem of the Greek Shipping Industry

and surrounding Attika areas.



Source: The Greek Shipping Cluster HBS, Worldatlas, Piraeus Chamber of Commerce & Industry, Deloitte Analysis

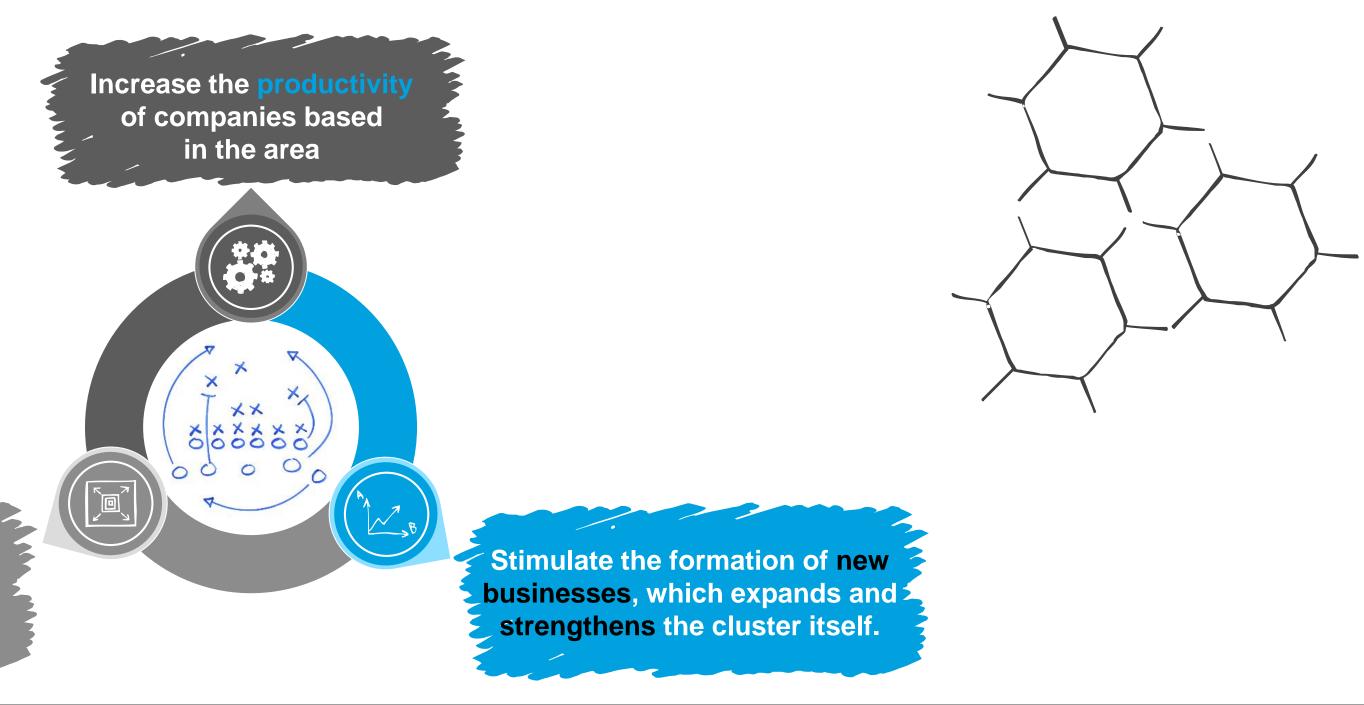


Benefits of Clusters

As Michael Porter (Monitor Deloitte) described it, a business cluster is a geographical location where enough resources and competencies amass and reach a critical threshold, giving it a key position in a given economic activity, and a decisive sustainable competitive advantage over other geographies.



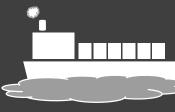
A cluster allows each member to benefit as if it had greater scale or as *if it had joined with others* formally—without *requiring* it to sacrifice its *flexibility (M. Porter)*



Drive the direction and pace of innovation, which underpins future productivity growth

The Greek topography and geography resulted in the creation of one of the most influential shipping clusters.

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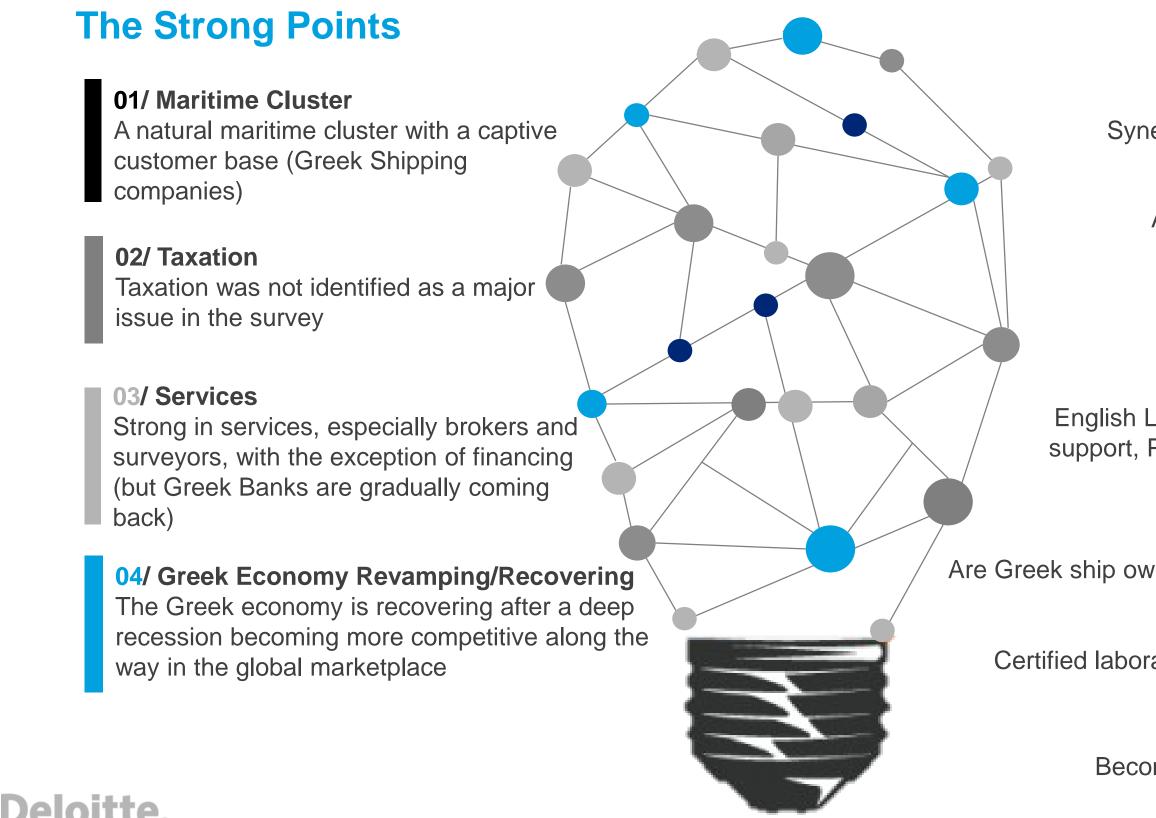
Source: The Competitive Advantage of Nations M. Porter, Deloitte Analysis





The Greek Shipping Cluster

Piraeus is a first-class Maritime Cluster, benefiting from the Greek naval tradition and 75 years of experience in ship management. A key competitive advantage is the concentration of decision makers representing close to 5,000 vessels.



Areas of Improvement

01/ Synergies

Synergies between Port & Thriassio Logistics compounds ("Dry Port")

02/ Equipment manufacturers

Aim to be included in shipyards' Makers Lists (joint Government – Industry – Ship owners effort)

03/ Insurance Keep part of the risk in Greece?

04/ Legal Services

English Law is the undisputable standard in shipping. But with shipowners' support, Piraeus could aim to become an important Arbitration Center. Still, Greek Maritime Law is long overdue for modernization.

05/ Classification Society

Are Greek ship owners willing to back a rebirth of the Hellenic Register of Shipping?

06/ Certified Laboratories

Certified laboratories / research institution for testing, calibration, inspection and certification of maritime equipment

07/International Training Center

Become an international Shipping Education / Maritime Training center



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Examples of good practices in Maritime Cluster organizations

Maritime London



HOME SERVICES MEMBERS ABOUT



Maritime London | An overview

Maritime London - the promotional body for UK-based companies providing professional services to the international shipping industry. Funded by over 100 companies and organisations from a wide range of disciplines,

Mission: To maintain and grow the UK's position as the world's leading provider of maritime professional services

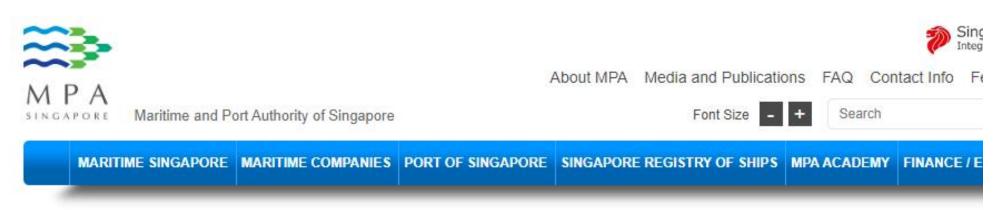
Maritime London is a not-for-profit promotional body for UK-based companies that provide professional services to the international shipping industry. It is funded and run by the industry.

In September 2019 Maritime London announced 6 initiatives to strengthen the UK's position in the maritime sector, in support of the UK Government's Maritime 2050 Strategy:

- 1. Strengthen the core of ship owners and charterers (campaign to attract more ship owners and charterers to the UK)
- Deepen the UK lead in specialist segments (maritime disputes and insurance, eg development of legal 2. frameworks for AI, autonomous vessels and carbon emissions)
- Rebuild the UK's position in ship finance (following the exit of RBS and Lloyds from the market, UK has a 3. marginal presence)
- **Extend the UK's lead in technology** (improve adoption of digital technologies by the maritime sector, 4. designation of maritime as a priority sector within existing government schemes).
- Increase the talent pool (ensure post-Brexit visa and immigration rules allow UK firms to recruit the best 5. international staff, measures to increase the number of merchant officers, further internationalize UK's maritime colleges)
- Enhance cluster effect benefits (working more closely with other European clusters, proactively 6. engaging with developing economies, virtual clustering initiatives)

Examples of good practices in Maritime Cluster organizations

Maritime Singapore



Maritime and Port Authority of Singapore> Maritime Singapore

Maritime Singapore

Maritime Singapore is a thriving ecosystem comprising our global hub port, shipping and maritime services, where the international community meets, and where ideas and opportunities abound.



Maritime Singapore is a thriving ecosystem comprising our global hub port, shipping and maritime services, where the international community meets, and where ideas and opportunities abound. And behind the driving force of this maritime ecosystem is the Maritime and Port Authority of Singapore.

Maritime Si

Facilitate the growth of Singapore's maritime industry through supporting the industry's manpower and business **Mission:** development efforts as well as its productivity improvements drive

Maritime Cluster Fund (MCF) introduced by the Maritime and Port Authority of Singapore

Three key components (all are co-funding grant schemes):

- **1.** Manpower Development supports development of manpower, training initiatives and capabilities within the maritime industry
 - Training@MaritimeSingapore (MPA-approved training programs)
 - Talent@MaritimeSingapore (industry attachments and career development programs)
 - InvestManpower@MaritimeSingapore (HR and training infrastructure, tools and processes)
- **Business Development** supports eligible expenses incurred in the setting up of new maritime operations 2. or expansion into new lines of maritime businesses in Singapore, and internationalization efforts by maritime companies
- **Productivity** supports initiatives by the maritime industry to elevate productivity by way of enhancing 3. business processes and workflow, or by developing and adopting technology solutions that will lead to productivity gains

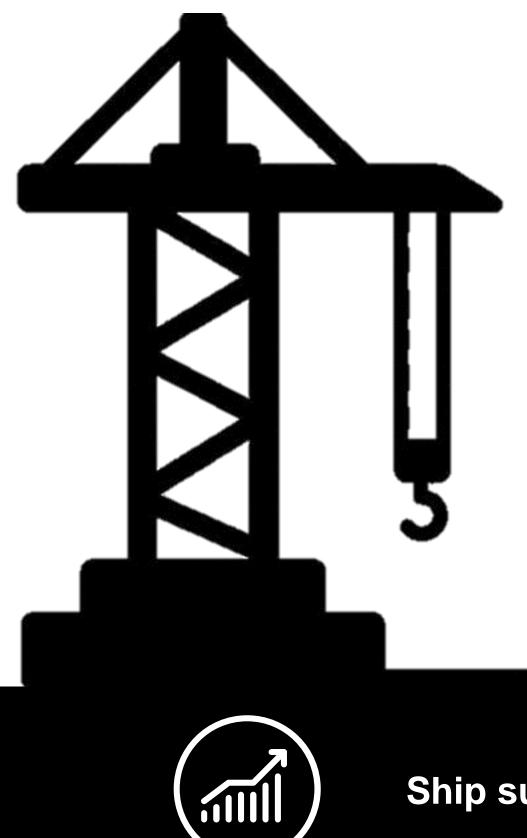






Case Study

Potential "Quick Win" in Logistics, Forwarding & Supplies



The provision of supplies and equipment to ocean going vessels is considered an export activity and is exempt from taxes. Greek Tax and Customs authorities adopted narrow interpretations of the EU Customs Code (Regulation 952/2013) that negatively impact ability to do business. Examples include:

- issued to the ship management company or charterer)
- The "60 hours hold in Customs consignment" rule
- Different treatment for goods originating from non-EU countries

These practices are inconsistent with the needs of the shipping industry and result in loss of business for Greek companies

Ship suppliers estimate that, if these obstacles are removed, an increase of 30% in revenues is possible

Tax exemption procedures are applied only to supplies that are invoiced to the ship owner (in practice invoices are



Case in point: The loss of Piraeus Homeporting Cruise *Liners supply business to non-Greek suppliers*

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Conclusion - Key Points

Greece remains a global shipping stronghold, while Greek ship-owners, as leaders in the sector control roughly 20% of the global fleet capacity.

Sea transport represents one of the largest components of the National Trade Balance, second only to the tourism sector

Greek Shipping contributes EUR 12.9 Bn on an annual basis to the Greek economy, almost 7% of the gross domestic product and sustains, directly or indirectly, more than 160 th. jobs.

The Greek Shipping industry has the potential to unlock additional value, however some key improvement opportunities (Ship Registry, Marine Training, Shipyards, Tax & Customs regulation) depend on the legal and regulatory environment and Greek State intervention

The strategic positioning of Greece vis-à-vis the Shipping industry should be reconsidered:

- > Need political willingness to simplify, digitize and automate
- > Need to do things in a radically different way
- > Need to enhance and take better advantage of the Greek Maritime Cluster



