

Greece - International Freight Center



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The Transport & Logistics Industry is one of the most important sectors of the national economy and a major source of income, wealth and prestige for Greece, as it reaches 10.85% of GDP and €19.8 bln. (according to Hellenic Logistics Association's [EEL] 2014 study). In a challenging global environment, the Greek Transport & Logistics community is heavily investing and expanding its footprint. In this report, we examine the role of Greece as a competitive intermodal corridor for the European seaborne trade with Asia.

In addition, we present all recent developments in:

- ▶ Greek shipping & maritime logistics industry
- ▶ Greek hinterland logistics industry
- ▶ Road freight transport
- ▶ Rail freight transport
- ▶ Air freight transport
- ▶ Public sector support & trade facilitation in Greece

At EY, we are proud that we have succeeded over the years in standing at the forefront of the Global, Regional and Greek Transport & Logistics Industry. This report is part of our contribution to exploring ways to address the challenges facing the industry in a continuously changing global environment.

In this enhancement of the Transport & Logistics Industry, we had o.mind Creatives on our side, one of the leading marketing companies of the industry, as they share the same concerns, aspirations and expectations as EY about an industry, which can become the locomotive of the Greek economy and play a significant role in Europe.

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At a time when Greece regains a national development plan for the Supply Chain sector, connected with port infrastructures, modernization of the railway network, and completion of highway works, the leading communications medium of the Supply Chain sector, "Supply Chain & Logistics" magazine, and its publishing company, o.mind Creatives, contribute to the common, national effort, collaborating with a globally respected business advisory company, EY.

The present study captures, in the most scientific way, up-to-date developments in the Logistics, Freight Transportation, and Supply Chain Industry, describing the framework in which a holistic National Development Plan for Greece can now rely on.

o.mind Creatives and the magazine "Supply Chain & Logistics" consider a great honor, the collaboration with EY towards the conformation of a clear framework regarding the market's development and the relevant national targets of Greece becoming an International Freight Center.

The study, both at the beginning of its "journey", in the context of the national Logistics mission in Germany, in spring 2017, as well as in this publication, is reaching the offices of all the appointed institutional authorities and the leading businesses in Greece and across the Greek borders, informing them of the development prospects of our country.

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The Greek shipping and maritime logistics industry

Greece as the southeastern logistics gateway to Europe

Greece's central location in the eastern mediterranean provides a competitive intermodal corridor for the european seaborne trade with Asia.

Maritime transport plays a key role both in the international trade and the development of the global economy, with more than 80% of the global trade by volume to be carried by sea. In 2015, the value of EU trade in goods with non-EU countries carried by sea accounted for about 51% of total EU trade. Being located in the southernmost point of Europe and standing on the crossroad of three continents, that is Europe, Asia and Africa, Greece holds a unique geographical position in the international maritime routes. It is of no surprise, thereof, that Greece has traditionally been an important maritime nation.

The Greek-owned merchant fleet is the largest in the world, accounting for more than 16% of the world total tonnage capacity. Shipping is the country's most important industry and Greek ports are vital hubs for the East-West international trade.

As maritime transport remains the backbone of globalization and trade flows between Asia and Europe are growing year after year, traffic through the Mediterranean ports is increasing and Greece's role as a major maritime interface for Europe is becoming more apparent.

In this respect, the Greek ports and other major transportation

infrastructure facilities and logistics operations in Greece are widely considered as attractive investment opportunities for some of the most important international organizations.

Indeed, the significance of the country's main port that is the port of Piraeus, as a major maritime gateway in the East-West maritime route was recognized by COSCO approximately 8 years ago. In 2009, this international shipping liner and port operator was awarded the concession agreement to operate Pier II of the Piraeus port container terminal and began investing considerably on developing Piraeus as a major European transshipment port.

Consequently, between 2008 and 2016, Piraeus became the most developing port in the Mediterranean; the port increased its annual container throughput more than 7.5 times, it became the 8th largest port in Europe and reached the 4th place among the major Mediterranean ports.

In addition, the port operator has invested in transforming the port into an important inland gateway to Europe as well, by expanding the port's hinterland towards central Europe and improving its railway and road connections. In 2013, the Piraeus port was connected with the main national railway network via a new high-speed electrified line. Additionally, COSCO cooperated with the national railway undertaking (TRAINOSE) in developing reliable and competitive freight railway services towards the major logistics centres in Central Europe.

As a result, Piraeus offers a highly competitive end-to-end alternative connection to Far East ports, when compared to the North European ports, in terms of transport duration, frequency of service and cost.

In this respect, Piraeus links Asia

to the major Central European logistics centres in significantly less time when compared to the large North European ports. It is estimated that a trip to Czech Republic is 8-9 days shorter, when compared to the same trip to Rotterdam or Hamburg.

The opportunities for logistics operators and traders are enormous. In particular, freight rail transportation services to the major logistics centres in Central Europe (e.g. Czech Republic) are performed in approximately 4 days by dedicated block trains, whereas the maritime trip from China to Piraeus is shorter by 8-9 days when compared to the North European. However, the Southeast European intermodal corridor via Piraeus port is not only a faster and a more financially advantageous alternative supply chain route for shippers and traders, but also a more reliable one.

In current global and demanding supply chains, logistics services' reliability is a major concern among traders and logistics providers and, in most cases, much more important than speed. As shippers require quality deliveries and certainty on when their delivery takes place, the Greek South Gate to Europe has been highly modernized in the provision of reliable railway and road freight services.

Real world cases, like these of HP, Sony and Huawei, which use dedicated block trains departing from Piraeus port to transport their products to Central European markets, have proved that the Greek hinterland can become a strategic alternative for the major multinational manufacturers, shipping liners and international logistics providers.

Moreover, the recent privatizations and concession agreements are shaping a more competitive and

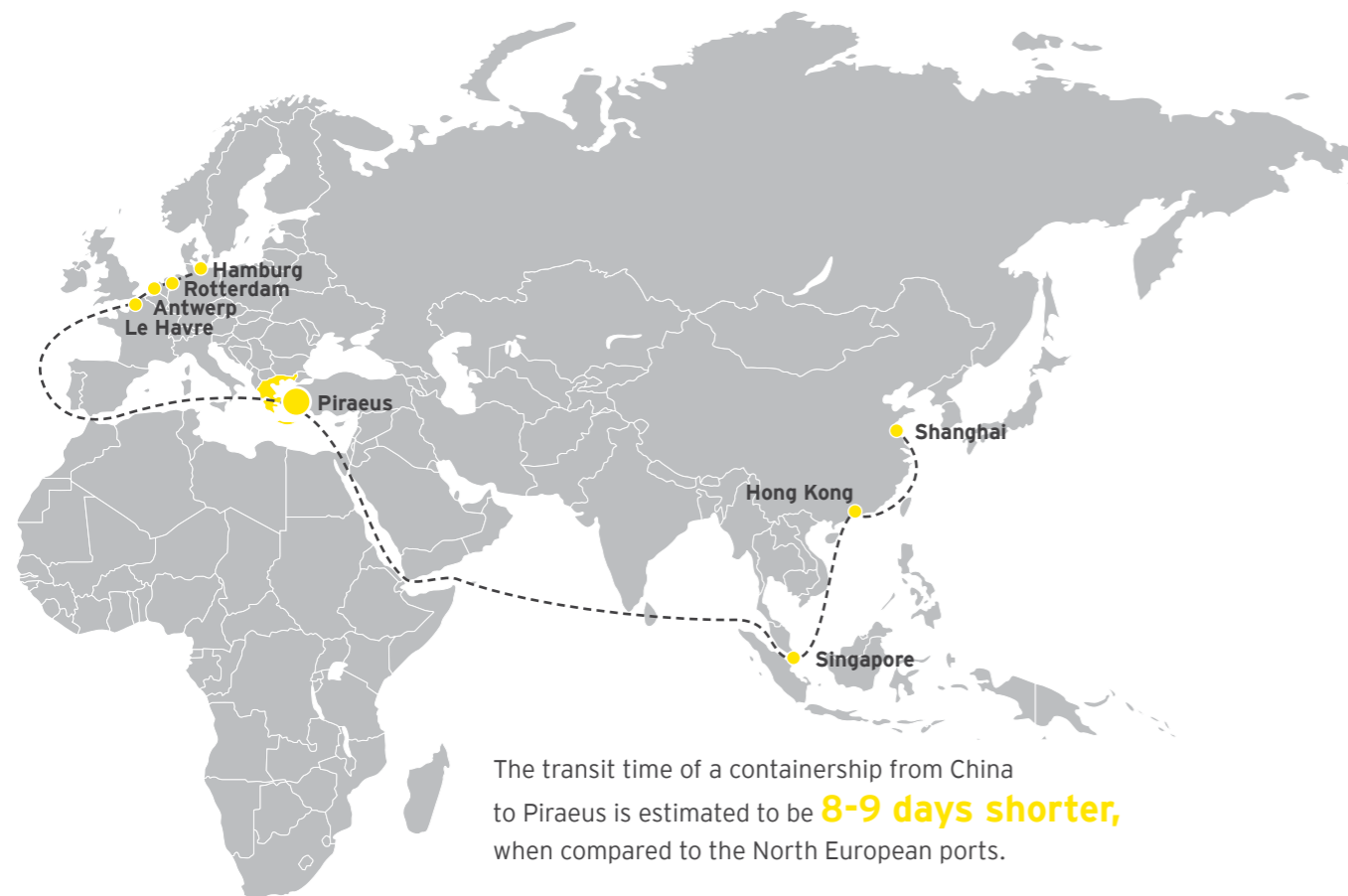
reliable hinterland for Piraeus and the other important Greek ports.

The privatization of the National Greek Railway Operator (TRAINOSE), which was acquired by Ferrovie Dello Stato Italiane S.p.A. in early 2017, is estimated to strengthen and further improve the provision of international railway logistics services in Greece.

Moreover, the construction of the new intermodal freight and logistics park in "Thriassio Pedio", near Piraeus, is the cornerstone that will significantly enhance the Piraeus port hinterland and facilitate the development of new operations and added-value logistics services.

The expected privatization of the port of Thessaloniki will improve the international competitiveness of Greece's second largest port. Additionally, the development of Gonou Logistics Centre in a plot of 672,000 m² near the Thessaloniki port will also support the Greek hinterland through the Balkan Countries in the Greece's northern borders.

The most commonly used railway corridor from the Piraeus port to the Central European economic and logistics centres is the Pan-European Corridor X, which passes from FYROM, Serbia, Hungary, Slovakia, Czech Republic, etc.



The transit time of a containership from China to Piraeus is estimated to be **8-9 days shorter**, when compared to the North European ports.



Greece is strengthening its position as the largest ship-owning nation and one of the most important shipping centres worldwide.

Greek ship-owners control the largest merchant fleet in the world

Being the largest ship-owning nation in the world, with more than 16% of the global fleet tonnage capacity to be owned by Greek nationals, the shipping industry is by far the most dynamic, extrovert and largest 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.

Greece has always been considered as one of the five most important traditional shipping centres in the world, with its main advantage being its large ship-owning community. The country's geographic location and its human capital are also important factors in the success of Greece as a global shipping centre.

Despite the negative impact of the recent global economy downturn, as well as the severe competition by countries and cities in the developing world – primarily in Asia – Greece has managed to maintain

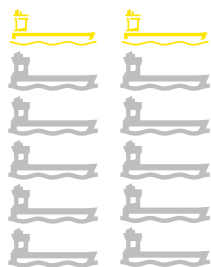
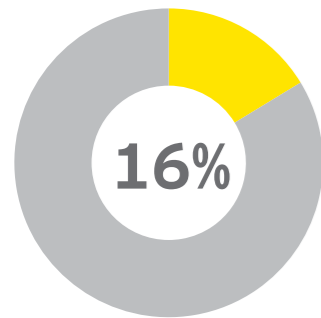
its high position among the top countries.

The Greek shipping industry has weathered the storm and strengthened its position as the largest ship-owning nation, in terms of tonnage capacity and value, with over 5,266 vessels and a value approaching US\$ 90 bn.

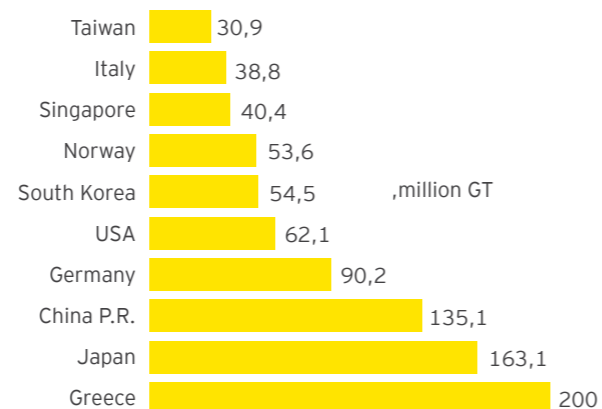
Despite the domestic and global challenges that the Greek ship-owning community has to face, Greece continues to lead the table of ship-owning nations with 200m GT, accounting for ca. 16,3% of the global market share, followed by Japan (13%), China (11%) and Germany (7%). The majority of the Greek-owned fleet consists of oil tankers and dry bulk carriers followed by gas carriers and containerships. In fact, Greek owners lead the table of the world's largest merchant fleet in the categories of both tankers and bulk-carriers. Lastly, it is worth noticing that the Greek merchant fleet is expanding to rapidly growing markets such as LNG (Liquefied Natural Gas) carriers and containerships.

Greece is home to the largest ship-owning community in the world

More than **16%** of the global fleet in terms of tonnage and more than **12%** of the total number of vessels are owned by Greek nationals.

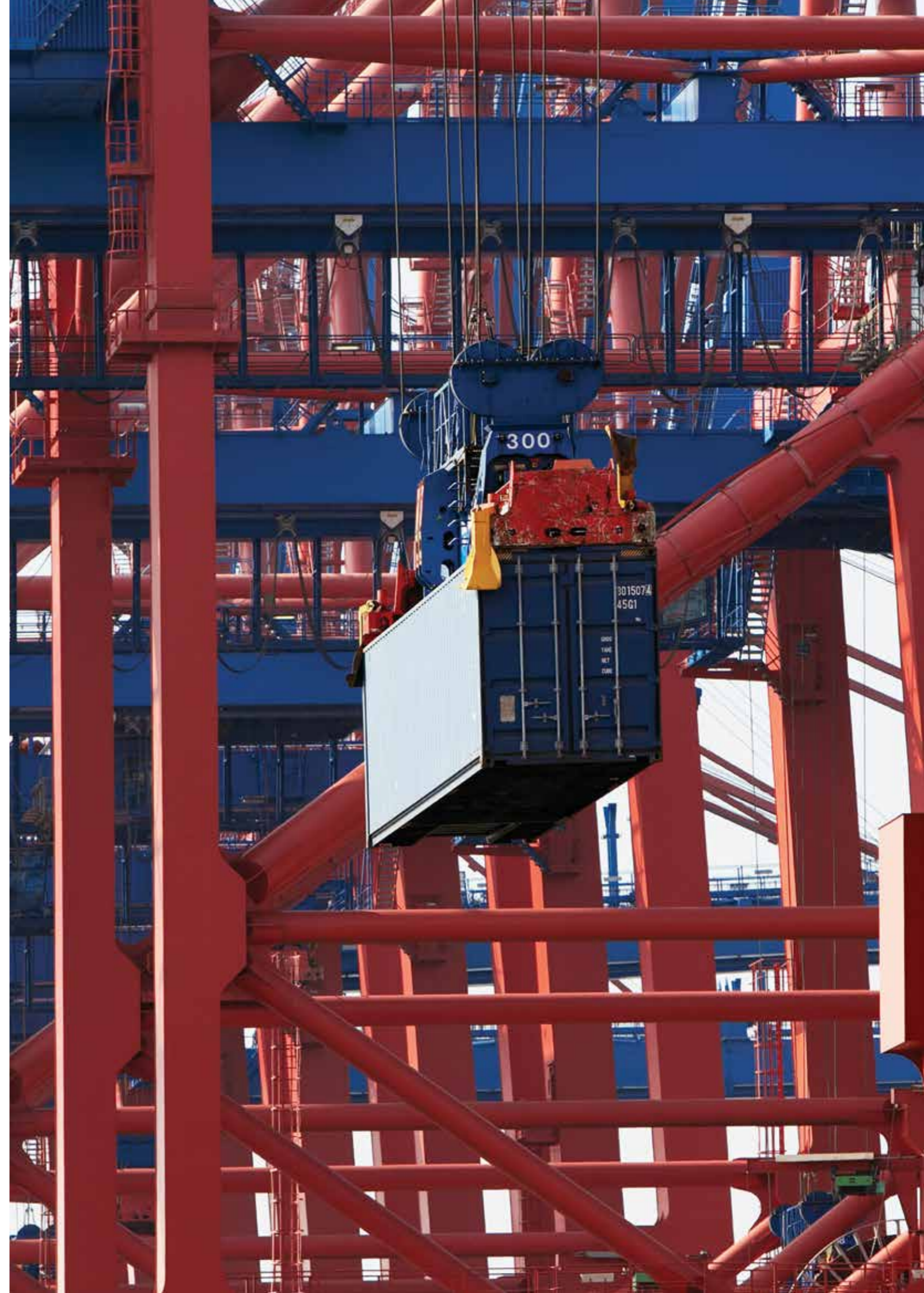


Top 10 owned fleets in terms of vessel tonnage by owner nationality



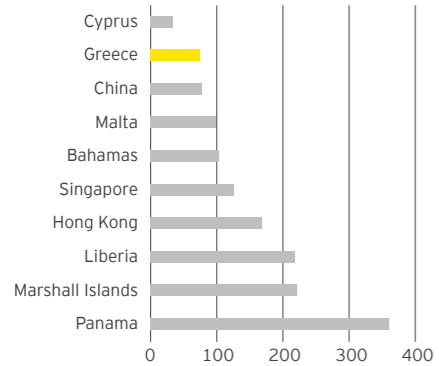
In terms of GT

Source: Clarksons World Fleet Monitor, September 2016, analysis by EY

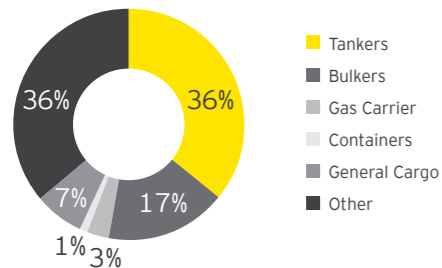


The world-famous global shipping cluster developed in Greece offers a diverse portfolio of maritime-related services.

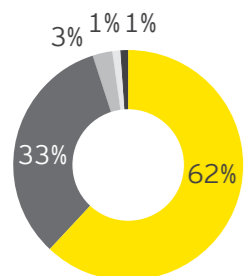
The 10 most important national fleet registries in terms of total DWT capacity



Greek flag fleet per type of vessel, based on the number of vessels



Greek flag fleet per type of vessel, based on ship size



Source: Clarksons Global Shipping, September 2016, analysis by EY

The majority of the Greek shipping community operates from Greece

The strong presence of shipping companies and the leading positioning of Greek-owned fleet in the global maritime world, have been the major drivers that have led to the development of the Greek shipping cluster as one of the most significant and competitive maritime centres in the world. Although a significant part of Greek-owned vessels does not fly the national flag, Greek ship owners are more than keen on having a ship-management office and operating their business in Greece.

In a recent survey, EY interviewed leading members of the Greek shipping community in order to shed light on the industry's perceptions of the comparative advantages and disadvantages of Greece as a shipping cluster. Based on the results of the survey, 97% of the respondents reported that they perform at least some of their ship-management functions in Greece, whereas 56% perform all such functions in Greece.

While almost one in four respondents found no competitive advantage in flying the Greek flag, 73% agreed or strongly agreed that having a ship-management office in Greece provides them with significant competitive advantages. Even though there is growing competition, mainly from the emerging maritime centres in Asia, the majority of the survey participants still consider Greece as the single most attractive and complete maritime environment for locating their ship-management offices.

The Greek flag registry

The Greek registry continues to be one of the strongest fleet registries in the world based on the total

number of registered vessels, as well as on the fleet capacity. The total number of vessels registered under the Greek flag were more than 1,270 in 2016 with a total capacity of more than 76.3 million tonnes. In terms of DWT capacity, the Greek registered fleet ranked 9th on a global scale in 2016, while it ranked in the 20th place based on its total number of vessels.

The Greek fleet is dominated by tankers of all types making up 36% of Greek vessel flags and 62% of the total DWT, followed by bulkers which amount to 17% and 33% respectively. It should be noted, however, that the percentage of dry bulk ships registered under the Greek flag account merely for around 11% of the total bulker fleet owned by Greek ship owners. The oil tankers category performs significantly better, with 35% of the Greek-owned vessels flying the Greek flag as well. Based on the results of the EY survey with leading members of the Greek shipping community, a large proportion of Greek owners have a relatively positive (38%) or positive (42%) perception of the quality of the Greek flag. However, they do not attribute great value to the advantages of the Greek flag, since only 13% believes that it provides them with significant competitive advantages.

The survey revealed that, among the most important perceived advantages of the Greek flag, were the high standards of compliance with the Paris MoU (38%), as well as the existence of marine engineers (33%) and offshore personnel (27%).

Piraeus port concentrates the majority of the Greek shipping cluster activities



The most globally well-known shipping companies of Greek interests have established their core businesses in Piraeus.

16.8 million passengers
More than 16.8 million passengers used the coastal terminal of the Piraeus port in 2015.

3.3 million TEUs
More than 3.3 million TEUs were handled at the port's container terminals.

1 million cruise passengers
More than 1 m. cruise passengers movements were recorded at the cruise port in 2015.

974
Ship-managers and operators

600
Spare parts & marine equipment companies

Key service offering include also legal, insurance, financing and brokering.

An outline of the Greek shipping cluster

Owing to the fact that the clear advantages of Greece as a maritime cluster are recognized by the majority of the Greek shipping community, they have opted to establish the center of their fleet management activities in Greece.

Athens and the Piraeus port in particular, constitute the core of the Greek cluster. Besides being the traditional home-city of the Greek shipping industry, the Piraeus port is also a major international transshipment hub and the 8th most popular Mediterranean cruise port. Only in 2015, the port of Piraeus handled more than 3.3 m TEUs at the port's container terminals, more than 16.8 m passengers used the coastal terminal of the port, and more than 1 m cruise passengers movements were recorded at the port's cruise terminals.

Piraeus and the broader Attica region, have attracted the most important shipping activities, including, among others, ship-management companies, shipyards and shipyard subcontractors, port operators, freight forwarders and 3rd party logistics providers (3PLPs). The most globally well-known and strongest ship-management and operators of Greek interests hold their premises in Piraeus. This fact, along with the high number of participants, contribute to the cluster's strength.

A total of 3,391 maritime and shipping-related companies, grouped in 28 main categories of economic activities, were identified as being part of one of the two aforementioned shipping clusters. Ship-managers & operators, which count 998 companies, followed by the Spare parts & marine equipment, with 624 companies, constitute the most important activities.

Technical functions, accounting, commercial, crewing and

chartering are the most frequent activities performed in Piraeus by the shipping companies that participated in the EY survey.

By leveraging on its current strength and its afore mentioned core advantages, the Greek shipping cluster has the potential to maintain its leading position for the years to come. However, as a response to the global competition, several initiatives have already been implemented or planned by the Greek shipping community, aiming to attract more shipping companies in the Piraeus cluster and more vessels and ship owners in the Greek registry.

The establishment of a more attractive and business-friendly regulatory environment, supported by a more favorable national tax framework, have been promoted as the two most important areas on which the public sector interventions should focus in the coming years. The further enrichment of the Greek shipping cluster with new services and capabilities is the second focus area concerning the improvement of the competitiveness of the Greek maritime cluster. To this end, efforts should concentrate on the two aspects that the Greek maritime cluster mainly lags from its competitors: ship financing and research and technology aspects.

Therefore, short and medium-term measures should concentrate both on securing a more adequate access to funding for shipping-related facilities and on improving maritime education and training. The existence of several shipping associations, organizations, as well as education institutes in Greece, provide a good mixed foundation which can enhance the cluster's role as a knowledge (R&D) hub too.

1. "Repositioning Greece as a global maritime capital", EY Greece, July 2017

Being the natural maritime interfaces of Europe with Asia, the greek seaports are key drivers for growth for both the Greek and the European economy.

Greece, having the longest coastline in Europe, with an approximate length of 13,676 km, and an advantageous geographical position in the center of the Eastern Mediterranean, is Europe's natural maritime interface with Far East via the Suez Canal.

Seaports are also the lifeblood of the EU economy, since the Union is highly dependent on its Member States' seaports for trade with the rest of the world and within its internal market. According to Eurostat data, 75% of the EU external trade and 33% of the intra-EU trade is conducted via sea.

More than 25 important commercial seaports are currently operating in Greece, five out of which have been identified by EU as ports of strategic interest ("core ports") and have been included into the Trans-European Network of Transport (TEN-T), as key maritime interfaces of the Orient / East-Med (OEM) corridor.

These five Greek OEM ports are the ports of Piraeus, Heraklion, Thessaloniki, Igoumenitsa, and Patras.

Supported by other regional seaports, the five Greek core ports serve the trade and the economy not only of Greece, but of several other Member States and the European Union as a whole; moreover, 75% of vessels calling at Greek ports are carrying out intra-EU trip.

Of equal importance for the national and European economy is the short-sea shipping of goods to several non-EU countries in the Black and the Mediterranean Seas.

Having an annual utilization rate which ranges between 70-85%, Greek OEM ports do not experience major capacity bottlenecks. All Greek OEM ports have in place appropriate transshipment facilities and related equipment, facilitating their connection with the national road network.

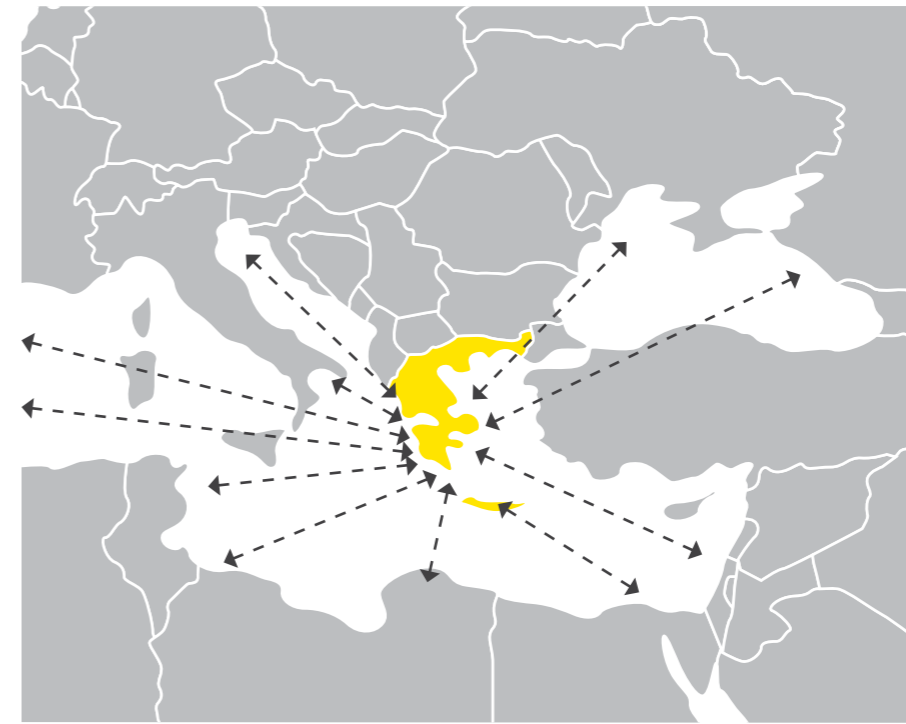
In addition, the two largest and busiest ports, these of Piraeus and Thessaloniki, have state-of-the-art railway connections, supporting the seamless intermodal transportation by all means of transport (road, rail and maritime), along the supply chain of the OEM corridor towards the major economic centres in Central Europe.

Due to the fact, however, that the Greek ports have recorded significant growth in cargo throughput within the last five years, important investments have been planned in order to further

adapt the port infrastructure and facilities to meet new transport and logistics requirements and absorb the expected growth of cargo for the next decade.

In a time of scarce public funding, funds from EU, like the Common European Facility and the Cohesion Fund, as well as the support of private sector through Public Private Partnerships (PPPs) and Concession Agreements are critical. More than €580 m have been allocated only by the Common European Facility - Cohesion Fund to support studies or works, which contribute to the development of the necessary infrastructures in the Greek transportation network. A significant part of these funds will be allocated to studies and works in relation to the expansion and upgrade of the Greek ports, as well as the improvement of their integration with the OEM rail/road corridor.

Additionally, €350 m will be invested by COSCO within the next 10 years in the Piraeus port, under the terms of the port's privatization agreement, that was signed in 2016. Moreover, €180 m will be invested on development and expansion works in the Thessaloniki port by the winning bidder of the relevant privatization tendering process which is currently in the final stage of completion. Last but not least, the Hellenic Republic holds a portfolio of 10 additional ports which are also candidates for privatization. Currently, the Greek State is in the process of evaluating the most appropriate approach for the reform and development of these ports.



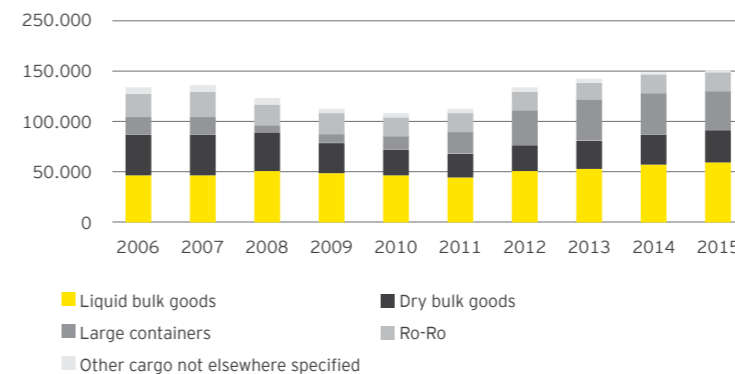
Greece is the natural maritime hub in the Eastern Mediterranean.

Greek ports are vital for the development of the EU Motorways of the Sea:

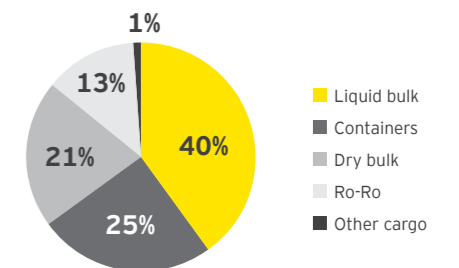
- ▶ With 75% of the EU external trade and 33% of the intra-EU trade going by ship, EU ports are the lifeblood of the Union's economy.
- ▶ Maritime intermodal transportation solutions are highly favored by the EU transport policies, via the initiatives to establish a trans-European network of "Motorways of the Sea" (MoS).
- ▶ The Greek ports of Piraeus, Thessaloniki, Patras and Igoumenitsa have been established as critical interfaces of the Southeast Europe, since they link Greece with Cyprus in the east (Limassol), with Italy in the Adriatic Sea and with other non-European countries in the East Mediterranean and in the Black Sea.

All Greek ports have achieved radical growth, with container goods presenting the largest growth in terms of total tonnage

Gross weight of goods handled in the Greek ports



Gross weight of goods handled in Greek ports per type of cargo (2015)



- ▶ Port activity in Greek ports increased by 34% between 2009 and 2015, mainly due to the outstanding growth of containerized traffic, which increased by more than 4.5 times in terms of total tonnes of goods handled.
- ▶ Liquid bulk goods continue to have the largest share in total throughput accounting for 40% of the total tonnage handled in the main Greek ports in 2015. From 2011 onwards, containerized cargo outperformed dry bulk goods, reaching a share of 25% of the total tonnage, whereas dry bulk goods correspond to a share of 21%, followed by goods transported on Ro-Ro mobile units with 12%.

The core Greek ports are key maritime interfaces of the Trans-European Orient / East Mediterranean Corridor

Thessaloniki port

- ▶ The port of Thessaloniki is the second largest Greek port, specialized mainly in dry and liquid bulk cargo.
- ▶ Thessaloniki constitutes the primary entry port for Northern Greece and acts as an international logistics hub for all the Balkan States.
- ▶ The port's annual handling container traffic is in the range of 0.35 m TEUs, with a port utilization rate of 70-75%.
- ▶ A recently updated master plan, which has also been approved by the European Commission, sets clear short and medium-term priorities for the development and upgrade of the port as a middle category European port; the main development actions aim at raising the capacity of cargo terminals, as well as upgrading sea cruise facilities and transit services capability of handling 150,000 passengers annually.

Igoumenitsa port

- ▶ The port of Igoumenitsa is one of the largest Ro-Ro ports of international transport both in Greece and in the Eastern Mediterranean.
- ▶ Million tons of goods are transported annually through the port by trucks of international transport, serving Northern Greece, Southern Balkans (mostly Bulgaria and Turkey), as well as some Middle East countries.
- ▶ It is located in an important road junction, where "Egnatia Odos" and "Ionia Odos" motorways converge.



Patras port

- ▶ The port of Patras plays an all-important role in the economic life of Patras and Western Greece in general.
- ▶ It is mainly a passengers port, which handles a significant part of the total passengers' sea traffic between Greece and other countries.
- ▶ As a commercial port, it links Greece with the Italian ports in the Adriatic Sea via Ro-Ro services, which then continue up to Central Europe.

Piraeus port

- ▶ Piraeus is the largest Greek seaport and the country's main international commercial port.
- ▶ Piraeus is the natural gateway to Europe in the Eastern Mediterranean region and has emerged as a major maritime hub for Europe, linking Greece and EU with the Far East and Middle East markets.
- ▶ The Piraeus port is specialized in container traffic; having an annual handling capacity of over 3.6 m TEUs, the port of Piraeus is ranked in the 8th place among all European ports, in terms of total container throughput, and is the 4th largest container port in the Mediterranean Sea.
- ▶ With the port's current capacity utilization exceeding 80% and following the port's privatization in 2016, new investments in infrastructure are in place, which are expected to increase port capacity to more than 7 m TEUs.

Following the privatization of the Piraeus port, Greece recorded substantial growth in container traffic, attracting significant shares in the West-East seaborne trade.

Containerized traffic in Greek ports increased by more than 4.5 times, in terms of total tonnes of goods handled between 2009 and 2015. This growth is attributed to the outstanding growth of containers throughput in the Piraeus port, following the beginning of the concession agreement with COSCO in 2009.

In fact, the port of Piraeus dominates the Greek container market serving a share of 90% of the total containers throughput in Greek ports, followed by the port of Thessaloniki. Three other Greek ports also handled a small number of containers.

The port of Piraeus is the largest Greek seaport and in the last five years, it has emerged as the 4th largest port in the Mediterranean Sea, in terms of container throughput, following only Valencia, Algeciras and Port Said.

With close to 3.4 m twenty-foot equivalent units (TEUs) handled

New growth potential after the recent privatization of the Piraeus port

in 2015, Piraeus was Europe's 8th largest port, in terms of container throughput – from the 9th place in 2014 and 10th in 2013.

Piraeus' growth in container throughput has been outstanding in the last 10 years. After COSCO having started operating and managing Pier II in 2008 – and later constructing and operating Pier III – of the Piraeus container terminal, the port has achieved radical growth.

Between 2008, when the port marked its history lowest performance record, and 2015, Piraeus increased its container traffic more than 7.5 times. When compared with 2006, the Piraeus port more than doubled its container throughput in 2015, showing an impressive 10% CAGR increase.

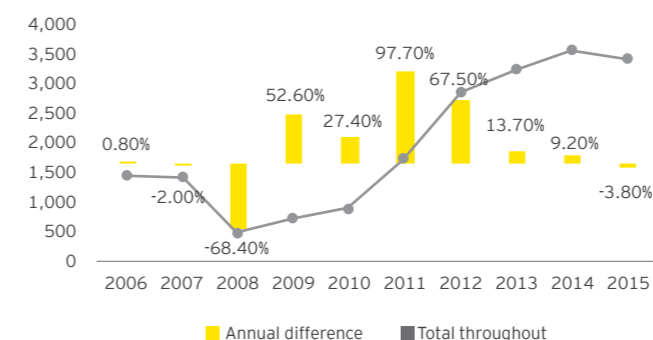
In 2015, the rail connection of the port to the Thriassio Pedio freight centre & the TEN-T European Orient East Mediterranean Corridor was completed, increasing the port's intermodal capacity. COSCO took advantage of this opportunity by developing competitive and reliable end-to-end intermodal transportation solutions for Central Europe. In cooperation with the Greek railway undertaking (TRAINOSE), HP, Sony and Huawei are currently using approximately 15-20 block trains per month, in direct connection with the Piraeus port, to transport their products to

Central Europe.

Piraeus' performance is expected to further improve in the immediate future, as a result of the privatization of the port that took place in 2016. COSCO, which is now the owner of the port, will put in place more than €350 m investments within the next 10 years, targeting to increase the port capacity to more than 7 m TEUs per year.

In addition, COSCO is investing in new logistics facilities within the port and in better integration with railway and road network, aiming to remove any existing bottlenecks and transform the port of Piraeus to a state-of-the-art logistics hub, connecting Asian and European trade. The owner of Piraeus port promotes new synergies with railway undertakings, major shipping lines and leading logistics providers in Greece and abroad in order to improve the Greek hinterland and develop new and reliable intermodal logistics solutions towards Central Europe. To this end, COSCO is in close cooperation with the Greek State and the relevant stakeholders, in order to support the alleviation of intermodal bottlenecks across the entire national railway network and aiming, in particular, at enhancing interoperability among the different modes of transport, improving cross-border railway links, and increasing the reliability of the railway system.

Evolution of container throughput in the Piraeus port (1,000 TEUs, 2006-2015)



- ▶ Piraeus lost half of its traffic in the period 2008-2010, mainly due to purely operating conditions and business management inefficiencies.
- ▶ The consensus agreement with COSCO for the operation of Pier II has changed the picture; from 2011 onwards, Piraeus throughput has doubled, compared to its historical average levels.
- ▶ In 2008, COSCO was awarded the concession agreement to manage and operate Pier II and Pier III of Piraeus the Container Terminal for 35 years. On the other hand, Pier I remained under the management of Piraeus Port Authority.

COSCO's vision to turn Piraeus into the South gate of Europe is transforming Greece into a leading international transit hub for products and services in the East-West trade route.

The 21st Maritime Silk Road project brings new investment plans and growth opportunities for Piraeus

Less than 10 years ago COSCO – China's shipping giant, which is currently the 4th largest container shipping line and the 2nd largest port operator in the world – realized the benefits of Greece as a maritime and logistics centre by investing in the Piraeus Port. In 2008, COSCO was awarded the concession agreement to start managing and operating Piers II and III of the Piraeus container terminal. From this year onwards, port growth in container traffic has been impressive, being the most rapid growing port in Europe within the entire period between 2008-2015 and becoming the 4th largest port in the Mediterranean and the 8th among all European ports.

This growth has been mainly the result of COSCO's investments in either developing new infrastructure, machinery and equipment, or upgrading existing ones, as well as in improving port operations and securing maritime freight in the East-West trade corridor.

The provision of the port's terminal services was reorganized in line with the new standards and significant investments have been implemented in upgrading the Pier II terminal and constructing a new Pier III at the Piraeus container terminal.

However, this has only been the first step in the port development. There are new planned and on-going investment projects in Piraeus in place that will further boost the port's role as the major seaport hub in the Mediterranean. The recent resolution of China's 21st Maritime Silk Road initiative, which is part of the larger "China's One Belt, One Road" plan, will highly influence the global containerized trade market.

More than \$250 bln. have been allocated to "China's One Belt, One Road" project, out of which €40 bln. are for developing and securing maritime hubs, inter-oceanic canals and trading links for the 21st Maritime Silk Road initiative.

Although the impact of the new silk road project cannot be realized thoroughly, the scale of the initiative and the economic figures involved are expected to reshape the Asia-Europe trade, creating new opportunities for Greece and the Piraeus port, has been recognized early in the process as a major maritime link in the East-West inter-oceanic corridor and COSCO has already invested heavily in developing Piraeus as a major European transshipment port.

Since Piraeus constitutes a key maritime interface in the 21st Maritime Silk Corridor, COSCO is increasing its investments in the port, aiming to secure the port's role as the South gate to Europe by enhancing port capacity, optimizing performance and improving the ports physical links with railways, highways, Athens International Airport and other regional ports.

Important investments for the port expansion and development of new facilities have been planned by COSCO and are to be initiated soon, in order to increase the port's capacity and improve performance. A €350 m investment project within the next 10 years has been agreed with the Greek State, following the privatization of the port of Piraeus.

The expansion works in Pier III are in progress, in order to expand port capacity to 6.2 m TEUs per year by 2020, making Piraeus the largest port in terminal capacity in the Mediterranean.

Major privatization projects and PPPs are key drivers in improving the competitiveness of Greece as the South logistics gateway for Europe.

The Greek port's industry has undergone important structural changes within the last 10 years, as a result of a continuous port privatization reform process that was initiated by the Greek State in the early 2000s.

The role of the Greek State in the operation and arrangement of the ports is gradually being reduced as a means to attract private investments, improve port competitiveness and optimize their commercial activities. This reform process has highly transformed the organization structure and operational model of the major Greek port of Piraeus and significantly affected the second largest port of Thessaloniki.

An important milestone was reached in 2009, when the concession agreement for the operations of Pier II at the Piraeus port was awarded to COSCO.

As a consequence of the structural adjustment program for the Greek economy that were agreed with Troika (European Commission, International Monetary Fund and European Central Bank) and the Hellenic Republic Asset Development Fund (HRADF), which owns the share of the Greek ports, proceeded in 2014 with the tendering process for the sale of 67% of the shares of the Piraeus port Authority (PPA) SA.

Moreover, a similar tendering process for the sale of the 67% of the shares of the Thessaloniki port Authority has been completed. Additionally, the Hellenic Republic holds a portfolio of 10 additional ports, with the Greek State being in the process of evaluating the most appropriate approach for the reform and development of these ports.

It should be noted, however, that the privatization program are not limited to the ports themselves.

Several state-owned assets concerning rail, road transport and logistics have attracted global investment interest through the public assets privatization and development program run by HRADF.

The most important privatizations and PPPs in the logistics sector in Greece are as follows:

- ▶ The 50-year concession agreement for the development of the Thriassio Pedio Freight Centre, in a plot of 58.8 ha, near the port of Piraeus, was awarded in 2016 to the winning venture of "ETVA VIPE" and "Goldair".
- ▶ The process for the international call for tenders concerning the development of the Gonou Logistics Centre in an area of 672,000 m², near the Thessaloniki port, has been initiated.
- ▶ The Greek railway undertaking (TRAINOSE SA) has recently been privatized, after the sale of the company's 100% stake to Ferrovie Dello Stato SpA, for a total consideration of €45 m.
- ▶ The binding process for the sale of 100% of the EESSTY (ROSCO) SA – the Greek entity that provides rolling stock maintenance and availability services to train operating companies is in progress.
- ▶ The concession agreement of the right to operate, maintain and commercially exploit the fully constructed Egnatia Motorway and its three vertical axes has been initiated and it is in the stage of submitting expression of interest.

When Thriassio Pedio is developed, it will become one of the largest dry-ports in Southeast Europe.

Intermodal logistics centre
An area of 58.8 ha, suitable for the construction of 235,000 m² of logistics buildings



58.8 ha
land plot
logistics buildings
235,000m²

Intermodal Terminal
Railway yard area of 145 hectares with intermodal and cross-docking facilities



145 ha
terminal station,
railheads and
intermodal yard

Privatization of the two Greek largest ports reinforces their international status

The privatization process for the sale of the 67% shareholding in Piraeus port Authority (PPA) was completed in January 2017 with COSCO Group Ltd as the preferred investor.

- ▶ Cosco Group (Hong Kong) Limited is nominated in January 2016 as the preferred investor with the total value of the agreement estimated at €6,5 bln., including €368.5 m for the 67% majority stake in the port and a mandatory investment amounting to €350 m over the next decade.
- ▶ The privatization concerned the sale of 67% of the share capital of Piraeus Port Authority S.A., whereas 51% of the stake is settled at closing, and additional 16% is settled within five years following closing date.
- ▶ Chinese investors will pay €280.5 m (\$319.79 m) to the Greek State for the initial acquisition of the 51% stake, while they will pay another €88 m within five years for the remaining 16%, subject to the implementation by COSCO of the agreed mandatory investments in the port.
- ▶ HRADF and COSCO signed the agreement on 8/4/2016 and the Concession Agreement was ratified by the Greek Parliament in July 2016. The acquisition of the 51% share capital in PPA was formally completed in August 2016.

Privatization of the Thessaloniki port, Greece's second largest port, is in the final stage of completion.

- ▶ The international competitive tender process for the sale of 67% of the shares of the Thessaloniki Port Authority was launched in 2014 and was recently completed, with the selection of the Deutsche Invest Equity Partners GmbH, Belterra Investments Ltd and Terminal Link SAS consortium. The consortium was selected between three interested bidders, who submitted their binding financial and technical offers in March 2017. In total, eight interested investors were qualified for participation in the final phase of the tender process. The privatization of the Thessaloniki Port Authority is expected to be completed during the next months, following the request of the awarded bidder for postponing the process, due to red tape.
- ▶ The selected consortium will be granted the exclusive right of use and exploitation of land, buildings and infrastructure of the port land zone of the Thessaloniki port for the next 40 years, as well as the right to grant sub-concessions in respect of the operation of parts thereof to third parties. The consortium will also be obliged to invest €180m for port development and expansion works by 2021.

Eight bidders had been qualified to participate in the final stage of the tender process

- 1 APM Terminals, B.V.
- 2 Deutsche Invest Equity Partners, GmbH
- 3 Duferco Participations Holding S.A.
- 4 International Container Terminal Services, Inc.
- 5 Mitsui & Co., Ltd.
- 6 P&O Steam Navigation Company (DP World)
- 7 Russian Railways JSC / GEK TERNA S.A.
- 8 Yilport Holding, Inc.

3 companies or consortiums submitted their binding bids in March 24, 2017

- 1 Deutsche Invest Equity Partners GmbH, Belterra Investments LTD και Terminal Link SAS
- 2 International Container Terminal Services, Inc.
- 3 Peninsular and Oriental Steam Navigation Company (DP World)





Economic performance of the Greek logistics market

3PL market in Greece managed to withstand the domestic economic recession and the slow growth in international trade through the provision of warehousing and other added-value services.

The performance of the logistics sector is inextricably linked with the external environment that shapes the needs and patterns for production and consumption of goods. Therefore, it is of no surprise that the logistics providers in Greece have been facing significant challenges as a direct result of the global financial crisis of 2008 and the severe downturn of the Greek economy from 2010 onwards.

Despite the distressed external environment, several studies within the last five years have presented a growing Greek logistics market, with 3PLPs performing better than they used to before 2009.

Based on the turnover results of the Greek 3PLPs, the logistics industry has not only managed to sustain the pressure and the reduced trade volumes, but, after a negative peak in 2009, the total revenues have also exceeded the pre-crisis levels, with an impressive CAGR of 4.5% from 2009 onwards. This positive trend can partly be explained by the indirect effects of this specific external environment.

The severe reduction of domestic consumption and industrial production, along with the slow growth patterns in international trade have put a lot of pressure on Greek manufacturers, producers and traders to lower their costs without reducing performance and service levels.

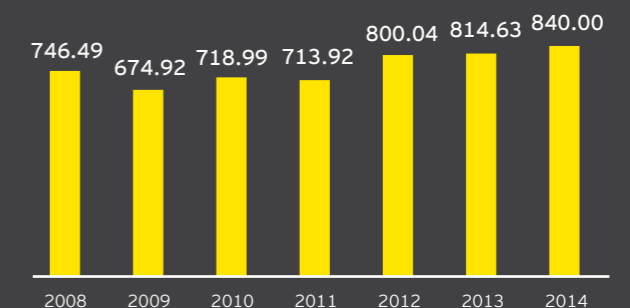
To this end, they have become more positive towards outsourcing their basic logistics operations to reliable 3PLPs, by focusing on their core business. As a result, the logistics companies in Greece have taken advantage of this opportunity to expand their market share and improve their performance; the 3PLPs who have invested on service quality and innovation.

Recent industry studies emphasize to the steady growth of the 3PL market, despite the country's ongoing sovereign debt crisis.

In 2014, the turnover of the 163 largest 3PL companies in Greece reached €840 m, recording a significant increase of 3.1% compared to the results of 2013, when total revenues were €814,63m.

In addition, the sector EBITDA has increased by 16% and reached €53.54m as a result of operational cost cuttings of more than 5,8%. Seventy percent of the 3PLPs were profitable in 2014. In an environment of economic turmoil and relentless reduction of domestic trade volumes, **7 out of 10** logistics providers managed to be profitable in 2014 and half of them improved their profit margins compared to their 2013 performance.

Total 3PL providers market size in Greece (million €)



Source: "Transport & Logistics Industry Outlook", Infobank Hellastat S.A., 2016

Note for the study: Figures depicted above are derived from the 2016 study of the Infobank Hellastat S.A., in which the economic performance of the Greek logistics industry is analyzed, based on survey data from a sample of 163 3PL companies in Greece.

Warehousing-related logistics services supported 3PLPs in sustaining or even improving their turnover

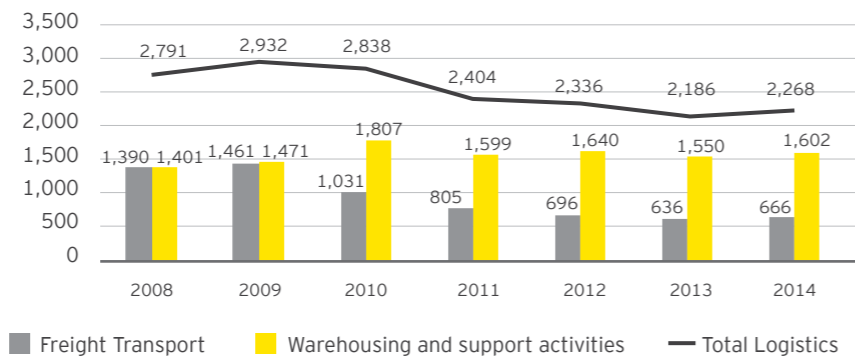
By analyzing available statistical data concerning the added value of different logistics activities, it becomes clear that the 3PL providers who improved their non-transportation service offerings, like warehousing, invoicing and information sharing, managed not only to resist the rapid decline in transported goods volumes, but even to increase their income and expand their market share.

Warehousing and other non-transportation activities mitigated the adverse effects of the national economic recession and the rapid decline in transported goods. Contrary to freight transport activities, the added value of which reduced by 54% between 2009 and 2014, warehousing and other warehousing-related logistics services (e.g. packaging, labelling, invoicing, order management) expanded by 6%. In particular, within the period of the Greek economic recession between 2008 and 2014, the added value of non-transportation logistics activities grew by more than 14%, marking a record high of 23% in 2010 and a record low of -11.5% in 2011.

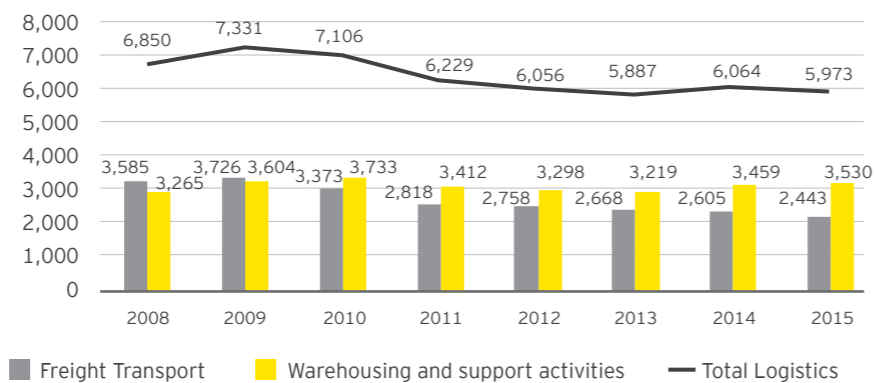
Similar results can be observed by analysing the sector turnover, for which Eurostat data is available until 2015. It is clearly depicted that the growth of warehousing and other transportation-supporting services (NACE 52) continued in 2015, further extending the share of warehouse-related activities in the market turnover.

In total, within the period 2008-2015, the turnover from the transportation services reduced by 32%, while the turnover from warehouse-related activities increased by 8%.

Value added in the Greek logistics sector (million €)

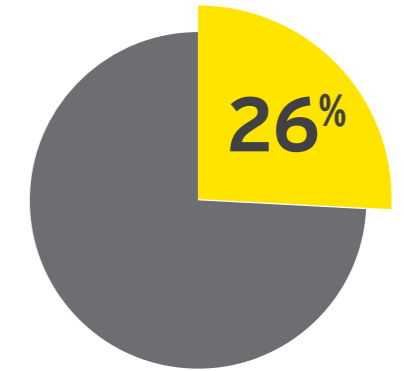


Inland logistics market size (turnover in million €)



Source: Eurostat data, 2017, analysis by EY
Series data concern Economic Activities 1. Freight transport by road (NACE 49.41) & 2. Warehousing and support activities for transportation (NACE 49.5)

5 out of the 163 largest 3PLPs share 26% of market revenues, while sharing 29% of market profits.



This concentration, when compared to other sectors of the Greek economy, should be considered as medium to low. However, when compared to studies from previous years, there is a clear trend towards increasing market concentration, which is expected to further increase as the economic recession continues in Greece.

Based on 2014 figures
Source: Transport & Logistics Industry Outlook Infobank Hellastat S.A. 2016

Another study estimates a significant decline in turnover from the core logistics services.

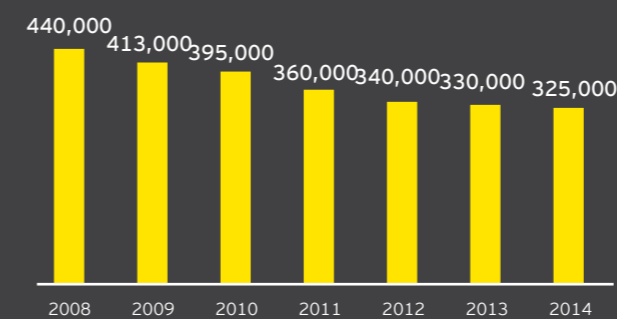
According to ICAP's economic analysis of the Greek logistics industry, when only the basic logistics activities are taken into account, the market of 3PL services in 2014 declined by 1.5% and reached €325 m, when compared to the corresponding €330 m in 2013.

The study also estimates a further downturn of 2.2% in 2015, for which the total logistics services revenues are calculated in the range of € 318 m. However, the rate of market downturn has been reduced within the last three years

and, in 2017, market size seems to have been stabilized on 2015 levels.

The aforementioned revenues from the core 3PL services are calculated at approximately 38% of total turnover. Taking also into account the non-logistics services, the total turnover of the 3PLPs that were surveyed in the study reached €777,9 m in 2014.

Estimation of 3PL services market size in Greece (million €)



Source: 3rd Partly Logistics Industry Outlook, 2015, ICAP Group

Note for the study:
The study analyzes third-party logistics market economic performance based on the 3PLP's revenues that derived explicitly from the provision of logistics services, excluding other sources of income. Revenues that were excluded from the calculations concern services like freight forwarding, ship brokerage, customs clearances and other non-logistics commercial activities.

Overview of 3PL industry

The Greek 3PL companies have a strong presence in Greece, providing a full range of supply chain services. The most significant part of their income originates from warehousing and distribution activities, as well as from the organization and management of road transportation. Depending on their target market many providers specialize in the international movement of goods, while others only in domestic transportation and warehousing.

A significant percentage of 3PL providers offer more specialised added value services, like packaging, repackaging and labelling, whereas leading companies offer innovative solutions by expanding their portfolio of services in the fields of reverse logistics, procurement, supplier management and ICT.

The industry comprises a large number of medium and small-sized companies that operate in a highly competitive environment. However, in recent years, we have witnessed the rise in size and importance of the largest national and

multinational 3PLPs in Greece. Business relationships between 3PL providers and their clients are generally based on medium to long-term contracts, which help the logistics providers in designing their logistics network, operations and investment plans more efficiently.

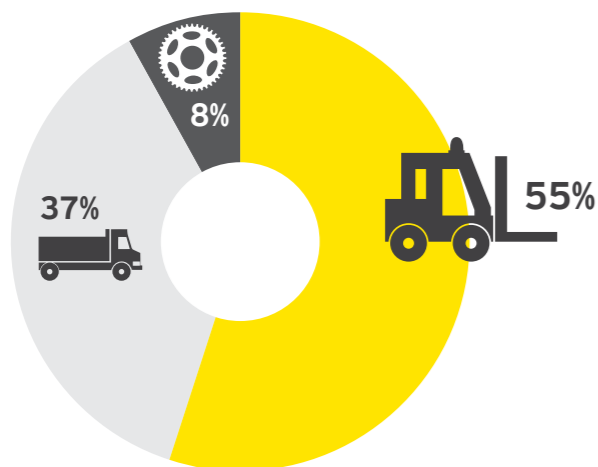
Specialized freight forwarding companies operate in organizing and managing the international transport of LTL, FTL and containers for multinational shippers, traders and manufacturers. These companies may own smaller or larger warehouses, as well as outdoor storage facilities and, therefore, their distinction from 3PL providers is not always clear.

With regard to the physical distribution and transportation of goods, the majority of the 3PL providers rely heavily on subcontracting work to smaller entities and owner-drivers, who provide low-margin, road-traction-only services. A smaller minority of 3PLPs operate their own fleet, consisting merely of small vans for the distribution of goods in large

cities, as well as of few medium or larger trucks that support the trans-regional movement of goods from the clients to their distribution centres and warehouses.

The majority of transportation companies that carry out the physical transportation and distribution of goods are small enterprises of 2-5 employees or owner-drivers with an average fleet of 1.5 heavy goods vehicles per company. Road operators that operate in similar geographical regions tend to collaborate by forming special purpose alliances, while by joining their forces and assets they are also able to collectively organize and provide road traction to regional shippers, as well as to 3PLPs. Additionally, around 1,500 haulers established in Greece are currently operating in cross-border international road haulage operations, between Greece and other EU and non-EU countries.

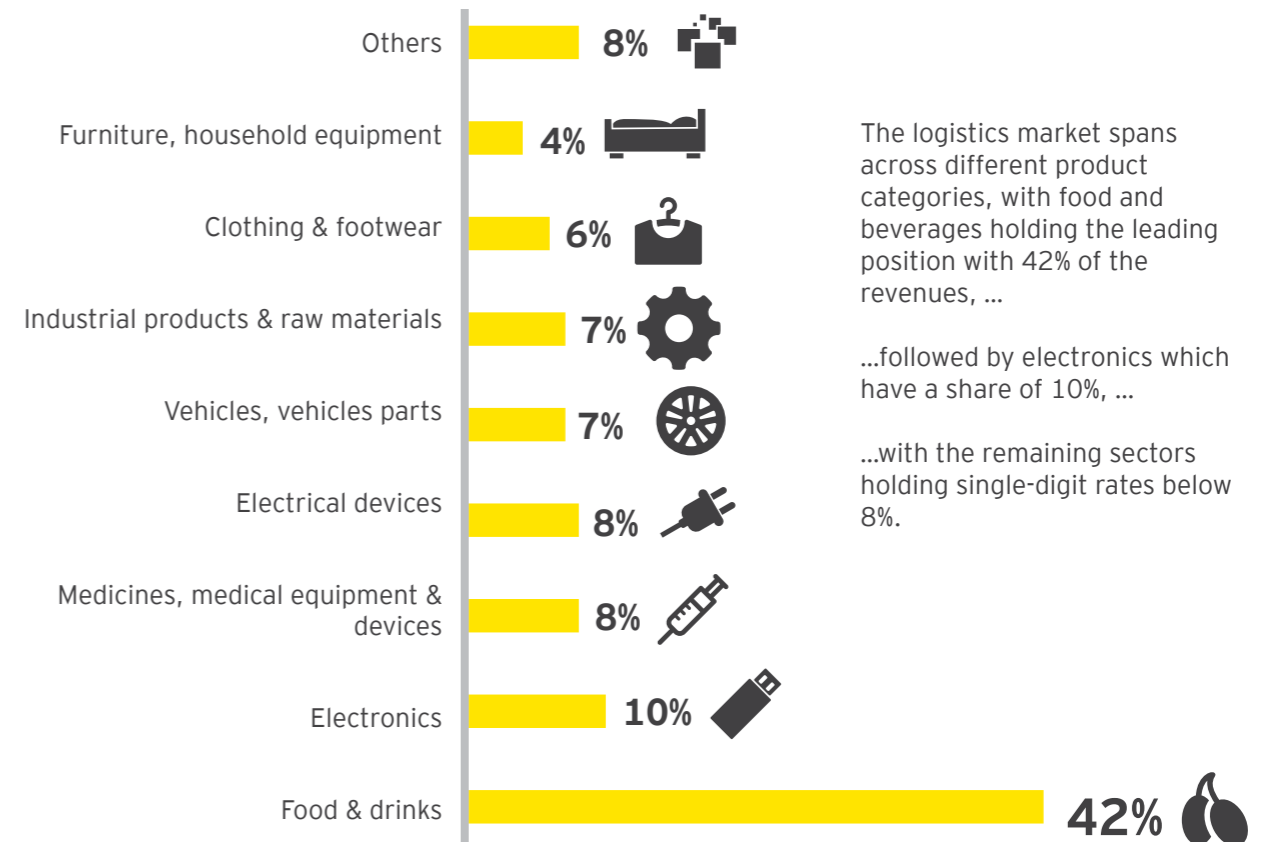
Warehousing and distribution are estimated to correspond to about 92% of the total value of 3PL services in 2014



Warehousing and distribution are estimated to correspond to about 92% of the total value of 3PL services in 2014.

- ▶ Warehousing services are responsible for 55% of 3PLPs turnover; refrigerated goods warehousing services are estimated at 15% of total 3PL income whereas non-refrigerated warehousing services at 40%.
- ▶ 37% of revenues correspond to the provision of distribution services.
- ▶ 8% correspond to other services including mainly packaging, labelling and repackaging.

Source: 3rd Partly Logistics Industry Outlook, 2015, ICAP Group



The logistics market spans across different product categories, with food and beverages holding the leading position with 42% of the revenues, ...

...followed by electronics which have a share of 10%, ...

...with the remaining sectors holding single-digit rates below 8%.

Source: 3rd Party Logistics Industry Outlook, 2015, ICAP Group

Logistics facilities in Greece were modernized and concentrated within regional logistics markets, with improved access to the country's engines of growth, i.e. the country's ports.

Warehousing facilities and distribution centres were modernized and became bigger,...

The quality of storage areas and distribution infrastructure facilities in Greece has considerably improved within the last ten years, mainly due to the fact that the major 3PL providers have invested in bigger, automated and better technologically equipped warehouses and distribution centres.

The available storage size of the logistics facilities in Greece more than doubled in the period 2003-2009, preceding the economic crisis. Additionally, this expansion was framed by investments in new or upgraded building materials, warehouse equipment & machinery, management systems, safety and automation. Despite these developments, the average area size of the warehouses that have been built or upgraded has not increased.

The existing logistics infrastructure still consists primarily of small-sized warehouses and cross-docking facilities, which are located somehow dispersed and fragmented across the country. Based on a recent study of the University of Aegean, only 14% of the warehouses have an indoor storage area that is larger than 45,000 m², whereas more than 62% are smaller than 10,000 m².

If we take into account only the medium-sized companies, the average size of a warehouse facility would be less than 7,000 m².

However, the market concentration that took place in Greece as an indirect effect of the global

economy crisis and the continuous national sovereign debt crisis, has been reshaping the Greek logistics infrastructure footprint towards larger and more efficient warehouses.

...,and are being gathered in distinct regional logistics clusters

Besides its negative effect on the domestic market and the volume of goods imported and exported, the Greek economic crisis has led to the significant concentration of the logistics market and the empowerment of the largest 3PL providers. In order to accommodate their growth in market share, these leading 3PL companies have invested in new and larger warehouses, as well as in innovative technologies and systems.

Concurrently, the development of the port of Piraeus as a major Mediterranean container port, the expansion and integration of the national road network and the modernization of the railway system, which also took place in the last five years, are reshaping the country's logistics infrastructure footprint.

Logistics operations have been gathered in three distinct, but interconnected logistics centers in the broader regions of Athens and Thessaloniki, which are in close proximity to the major Greek ports and have direct access to the country's core international road and railway network.

Main concentrations of logistics facilities in Greece

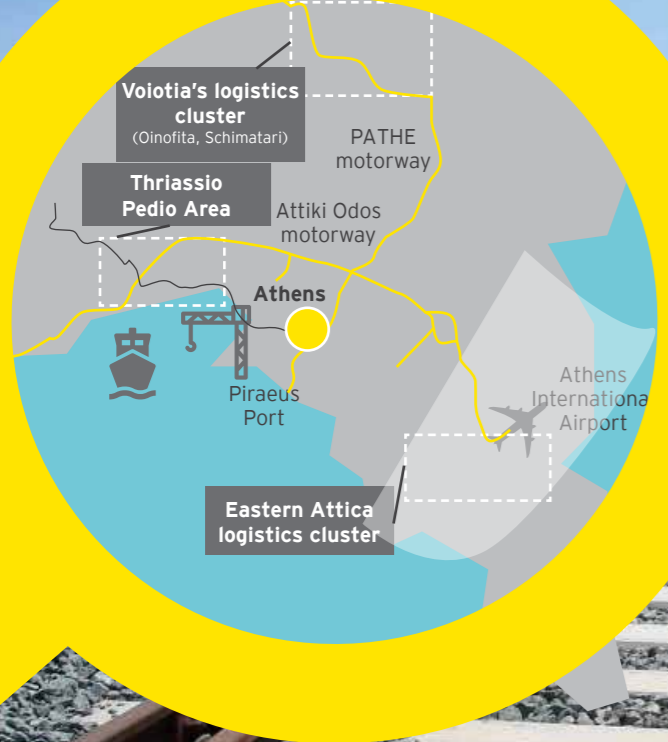
Altogether, the logistics network in Greece has been developed around seven regional logistics clusters as depicted in the map below, with each center covering the supply chain requirements of a specific geographical area. The most important logistics markets have been developed around Athens and Thessaloniki, which are country's two largest cities. At the same time, they are closely linked with the port of Piraeus and the port of Thessaloniki, which are the country's two main international maritime interfaces.

In Athens, the major logistics facilities are concentrated in either the Thriassio Pedio region at western Attica or in Oinofita in the Voiotia county, at Attica's northern borders.

As a common practice, 3PL providers have developed and currently operate their warehouses and distribution centers primarily in the aforementioned major logistics centres of Attica/Voiotia and Thessaloniki. Similarly, big retailers and manufacturers mainly operate their logistics facilities and warehouses in the same regions.

- ▶ Besides Attica and Thessaloniki, 3PLs usually opt not to develop and operate their own facilities in other geographical regions preferring to develop the rest of their network through collaborations with agencies or by subcontracting smaller logistics providers, who already operate in the corresponding regions.
- ▶ In order to serve the remote areas or/and the Greek islands, the majority of the 3PL providers subcontract their transportation and distribution activities to regional agencies or/and transportation companies.





Thriassio Pedio logistics market

Undeniably, the most important concentration of logistics facilities has been developed around the metropolitan area of Athens: the first, one in West Attica, and the second one, in Attica's northern borders in the industrial zone of Oinofita in Voiotia. These two regions surround the capital city of Athens and serve as the city's main supply centres for all types of goods.

It is estimated that the existing logistics facilities, only in these two regional areas, have an indoor storage capacity of more than 2 million m².

The first one is the so-called Thriassio Pedio Area (TPA) which is located in West Attica, 10 km northwest from the centre of Athens, and expands across the

cities of Aspropyrgos, Magoula, Mandra and Elefsina.

All the major 3PL providers have developed and operate their warehouses and distribution centers in this region, in order to be in close proximity to the greater area of Athens and its suburbs, to be connected with the Piraeus port container terminal, and to have full access to the core cross-national road and railway network.

A Freight Village on a land of 58.8 ha is under construction in Thriassio Pedio

Currently, the whole logistics area in Thriassio Pedio consists of a total indoor storage capacity that exceeds 80 ha. In addition to these privately-owned logistics properties, an area of 58.8 ha, which is presently owned by GAIAOSE, is

to be constructed and operated for the next 50 years by the winning venture of ETVA VIPE and Goldair, as a result of the recently completed concession agreement.

Under the terms of the concession agreement, 235,000 m² of new logistics buildings will be constructed in the aforementioned area within the next ten years, rendering the whole region as one of the most important and most modern intermodal freight and logistics parks in Southeast Europe.

Voiotia's logistics facilities concentration

Moreover, the operation of these logistics facilities is supported by the nearby intermodal terminal station of 145 ha, which is owned by the national railway infrastructure manager (OSE). The relevant call for the concession agreement, with regards to the operation of the already-constructed terminal station, railway yard and cross-docking facilities, is expected to take place in the immediate future.

The second largest concentration of logistics facilities can be traced in the northern borders of Attica, in the county of Voiotia and, more specifically, around the city of Oinofita, which is located 50 km north of Athens. The area also accommodates some of the largest and most important industrial installations of the country and is crossed through by the main national motorway (PATHE) and railway line, which both connect Athens with Thessaloniki and the Greek northern European borders.

This concentration of logistics facilities in Voiotia expands to the north and along with the national motorway in two sub-regions, with the first one having been developed around the city of Schimatari and the second on the outskirts of Theves.

Besides serving the city of Athens, the above mentioned logistics centers have turned out to become all-important supply chain nodes for the national manufacturing industry, due to the fact that they connect the industrial zone in the northern borders of Athens at Voiotia, with the port of Piraeus, as well as with the rest of the country's main cross-border links and maritime multimodal interfaces, via the core national road and railway network.

Eastern Attica Logistics Cluster

Last but not least, another recently developed centre of logistics facilities in the suburbs of Athens has been established in Eastern Attica, adjacent to the Attiki Odos motorway in the cities of Paiania, Koropi and Markopoulo.

The aforementioned logistics facilities are at a short distance from the main retail centres of the greater Athens area, as well as in close proximity to the Athens International Airport "Eleftherios Venizelos". Therefore, the concentration of 3PL providers in this area is limited and the majority of the established warehouses belong to wholesalers and retail companies.



Thriassio Pedio Logistics Park

Besides having been established as the country's major logistics market, Thriassio Pedio will soon accommodate the largest multi-modal logistics park and most developed intermodal freight centre in Southeast Europe.

Having a direct railway connection with the Piraeus port (Ikonio),

Thriassio Pedio Logistics Park will become a physical expansion of the Piraeus container terminal.

Thriassio Pedio Logistics Park is also connected with the Greek core and comprehensive TEN_T road network, via the modern 3-lane highway of Attiki Odos and it has direct access to the city of Athens and the Athens International Airport.

Sindos logistics and industrial zone

In addition to the logistics centres located in the wider region of Athens, a large majority of the Greek 3PL companies, particularly those with strong presence in international freight forwarding activities, also operate warehouse facilities in two main regions on the outskirts of Thessaloniki, namely Sindos and Kalochori.

The strongest concentration of warehouses and distribution centres may be traced in Sindos which is located in the western side of Thessaloniki. Sindos has been developed as an organized industrial zone that actually covers an area of 1,000 ha, and, it can be stated, that it is primarily for this reason it originally attracted the most important logistics facilities in the northern part of Greece.

Having two adjacent railway connections in its northern and southern borders, direct and immediate access to the core national road network and being within a 15 km distance from the port of Thessaloniki, Sindos constitutes an advantageous area and has, therefore, been the favorable location of the major 3PL companies, which, in the last five years, have invested on modern warehouses, each of which exceeded 18,000 m² in indoor storage capacity.

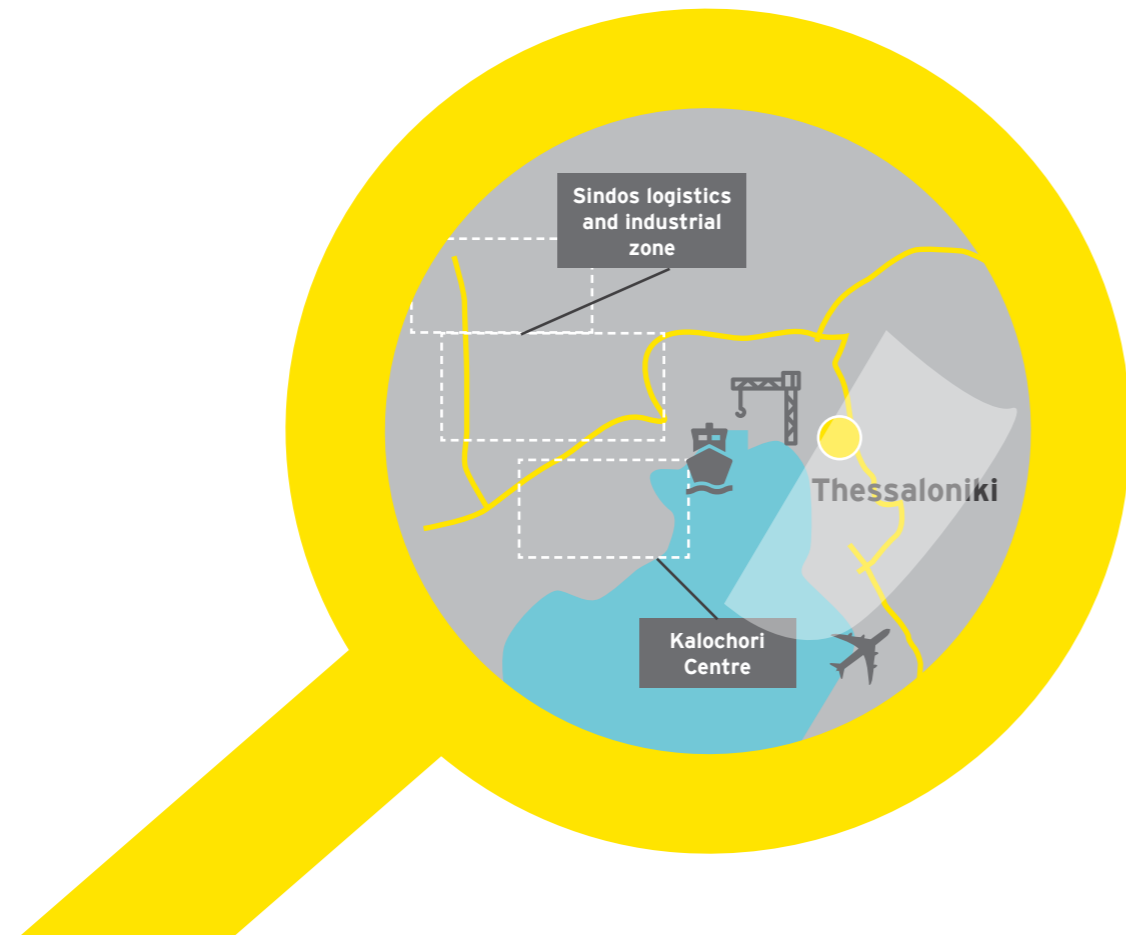
Located at this unique and advantageous geographical position in the northern part of Greece, Sindos is widely considered as an important logistics gateway for the Balkan countries. Once the planned privatization of the port of Thessaloniki takes place within 2017, the area is expected not

only to strengthen and boost its international role but also to further extend its catchment area towards the southeast and central regions of Europe and Turkey.

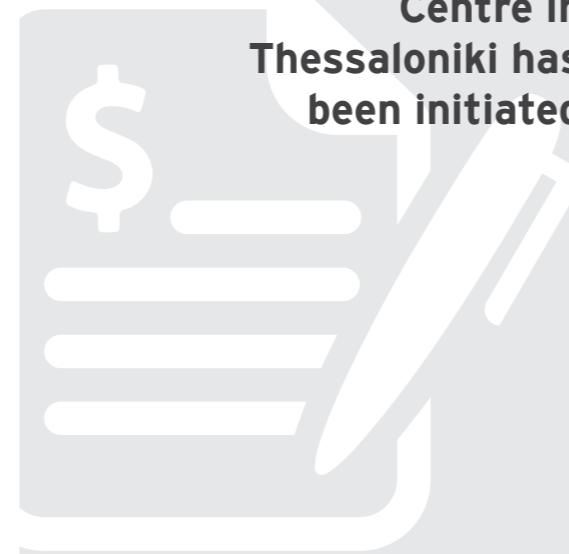
Kalochori Centre

On the other hand, Kalochori constitutes the second largest concentration of logistics facilities in the wider area of Thessaloniki. Due to the fact that it is in very close proximity to the port, it functions mainly as the regional logistics centre for several companies in the retail sector.

Finally, the domestic market is also supported and served via a third smaller concentration of logistics facilities in Eastern Thessaloniki, near the city's international airport.



The process for the international call for tenders concerning the development of Gonou Logistics Centre in Thessaloniki has been initiated



- ▶ Following the completion of the concession agreement for the Thriassio Pedio Logistics Centre in Athens, a similar freight centre has been planned for development in Thessaloniki, in a plot of land also owned by GAIAOSE.
- ▶ The freight centre is to be constructed on an area of 672,000 m² at the former Gonou military camp, which is located near both the port of Thessaloniki, as well as Sindos logistics and industrial area.
- ▶ Taking into account the privatization of the port of Thessaloniki, as well as the port's potential to become a significant maritime interface, the significance of a logistics centre in Gonou becomes even more apparent.
- ▶ At present, the majority of cargo handled in Thessaloniki's port are bulk goods, raw materials or general cargo, that is designated for the Balkan countries. A large area like Gonou plot, which has a direct rail link with the port, will provide additional capacity to the port terminal for the temporary storage or/and processing of these goods.
- ▶ It is reported that there has been significant interest from several domestic and international investors, given the strategic location of Thessaloniki on the Balkan Peninsula and the close proximity of Gonou camp with the port of Thessaloniki.

Competitive warehouse rents facilitate industry growth

Warehouse rents in Greece are among the most competitive ones in the region, since they have been reduced significantly during the last 8 years as a result of the financial crisis. The average rental cost for storage facilities in Thriassio Pedio in West Attica, which has not stopped being the most attractive logistics market in Greece for more than 15 years now, ranges between €3-€3.5 per m², depending on the type and size of the facility.

Prior to the Greek sovereign debt crisis and in close alignment with the continuous growth of the Greek economy, warehouse rents in Thriassio Pedio reached in 2008 their peak values that exceeded even the value of €5.5 per m². Rents of more than €6 were also reported in some cases.

However, as a result of the Greek recession, prices have rapidly declined within the last five years and, from 2015 onwards, they remain relative stable in the range of €3 per m².

In other regions, where availability of construction land is greater, or the distance from the city of Athens or/and Piraeus port is longer, like, for example, in Voiotia region, rent values are even more competitive, since they are 40% lower than the ones in Thriassio Pedio. Concerning Thessaloniki's renting prices of logistics facilities, they are currently in the range of €3 per m² in Sindos and around €2-2.5 per m² in Kalochori.

Construction of new warehouse facilities, especially in the Thriassio Pedio region, has been reduced in

recent years, since the supply of storage space exceeds the demand.

Responding to the Greek economy downturn, manufacturers and traders opt to outsource their logistics operations more often than in the past, leaving some of their warehouse facilities empty. Meanwhile, some smaller 3PL companies have exited the market, emptying more storage space.

These available logistics facilities have been a great opportunity for the larger 3PL providers to acquire or rent highly needed storage space in extremely competitive rent costs, in order to improve their network and reduce their operating costs through scale economies.

Road freight transport

State-of-play with regards to the road freight sector in Greece.

Reduced volumes in goods transported in Greece puts pressure on road freight transportation

There was a dramatic reduction in total road transport performance between 2009 and 2015, which originated from the outburst of the Greek financial crisis in 2009, as well as the subsequent continuous recession of the Greek economy. Within the period 2009-2015, the road freight sector experienced a sharp fall in both tonnes transported (-35% with a -6.89% CAGR) and tonne-km (-31% with a -5.97% CAGR).

The first signs of this dramatic downturn in the performance of the road freight market had been observed in 2010, when, for the first time, the market recorded a

significant reduction of 10% in total volumes transported. However, the impact of the economic crisis was more apparent in 2011, the next year, when the total tonne-km recorded a sharp drop of 31% in just one year and the total volumes in tonnes were reduced by 12% for a second consecutive year in succession.

National transport, as the major component, which has a share of 99% in total road freight volumes and 77% in total road freight tonne-km, suffered the most severe consequences of the global financial crisis and the Greek economic recession. Within the period 2009-2015, the domestic road freight market performance reduced by more than 38% in terms of tonne-km (-8.3% CAGR), in comparison to the total road freight reduction of 31%.

Focusing, specifically, on the most recent years, road freight volumes seem to have stabilised from 2012 onwards, even though some noticeable fluctuations can be observed as a result of the political and economic uncertainties in Greece. These year-on-year performance fluctuations are more noticeable in tonnes-transported-related figures, since the volumes of goods transported are more prone

to the uncertainties of the domestic market.

International road freight has recovered as international trade through Greek ports is expanding rapidly

However, signs of slow recovery in the sector can also be noticed from 2012 onwards: Road freight transport, in terms of tonne-km, increased by 3% in 2015, following a slight increase of 1% in 2014. This slight year-on-year increase in road freight performance is mainly the result of the slow sector recovery, with regards to the international road freight activities.

In spite of the fact that there have been some ups and downs, international road freight transport reached its record low in 2011 and, from that year onwards, it recorded a significant increase of 25% by 2015. Therefore, the international freight component of the road freight market in Greece addressed the decrease of the first years of the Greek recession by exceeding its pre-crisis performance levels and reaching in 2015 a new record high at 230 m tonne-km.

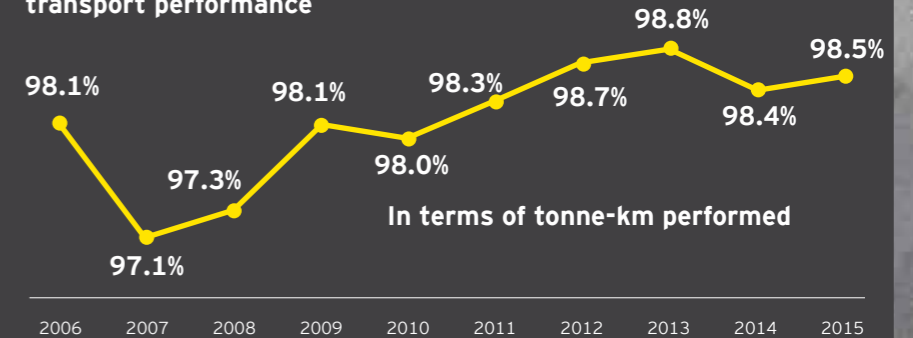
The recovery is largely due to the increase of international trade volumes transhipped via Greece, with the port of Piraeus being at the heart of this activity. Between 2011 and 2015, the Piraeus port emerged as a major European port, by increasing its container traffic more than 7.5 times.

Such a large-scale expansion supported the recovery of almost all the relevant industries, transforming Piraeus to a real engine of growth for the Greek economy. Since new investments for the expansion of Piraeus have already been planned for the next years, the opportunities for the Greek road freight have never appeared more promising.

Moreover, as the domestic logistics market is expected to grow in the immediate future, in line with the recovery of the national economy, the sector can expect a significant increase in freight volumes and tonne-km for the national transport sector as well, rendering the sector attractive for new investments.

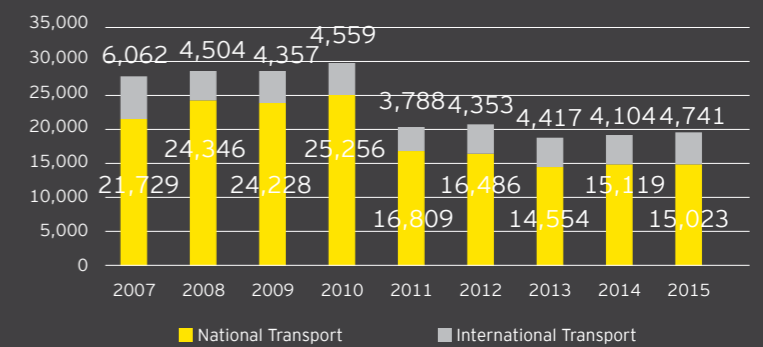
Freight transport by road continued to dominate in 2015, accounting for more than 98.5% of the total inland tonne-km performed in Greece.

Evolution of road share in total inland freight transport performance



Source: Eurostat data, 2017, analysis by EY

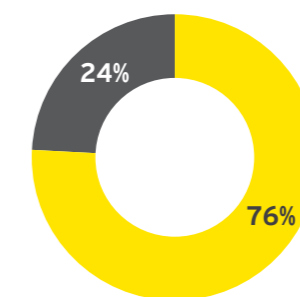
National and International road freight transport (million tonne-km)



National transport is the predominant component of the road freight transportation market, especially in terms of tonnes loaded; in 2015, its share in the total road freight volumes reached 99% and, in total, road freight tonne-km was 76% (see figure below).

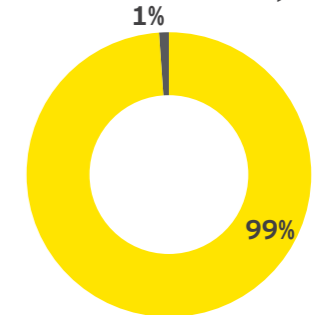
Split of road freight performance in 2015 per type of activity

In terms of tonne-km



National Transport

In terms of tonnes transported



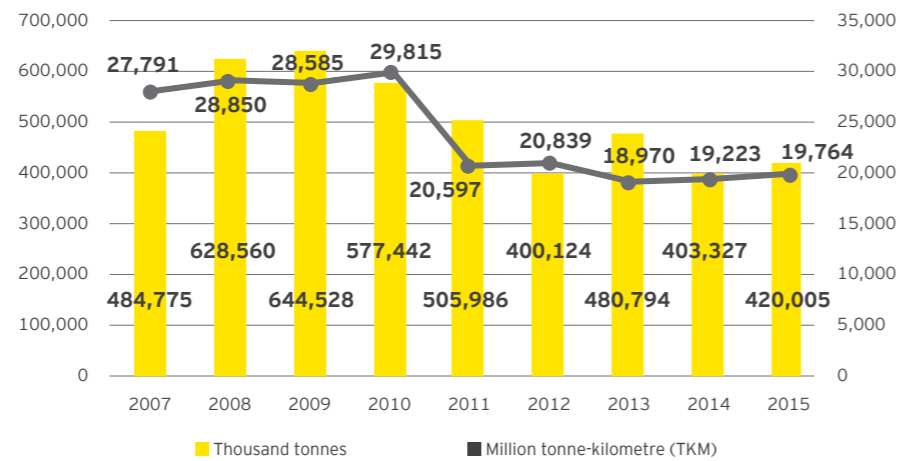
International Transport

Road freight transport

Road freight transport has suffered a severe downturn as a result of the continuous recession of the Greek economy and, although it is still under pressure, there are some signs of recovery from 2012 onwards:

- ▶ The growth of freight volumes (in tonnes) transported via road reached its limit in 2009, when more than 644 m tonnes were transported.
- ▶ After a strong recovery of 20% in 2013, the road freight performance worsened in 2014, with a fall of -16% in total tonnes transported and then partly recovered in 2015 by 4% to reach 420m tonnes.

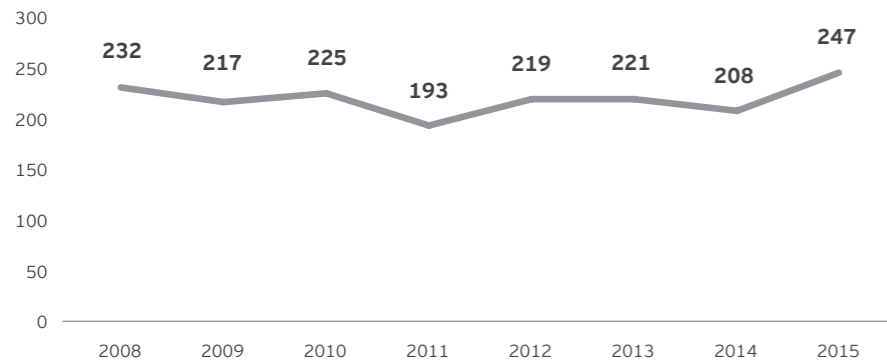
Evolution of total road freight transport performance in Greece



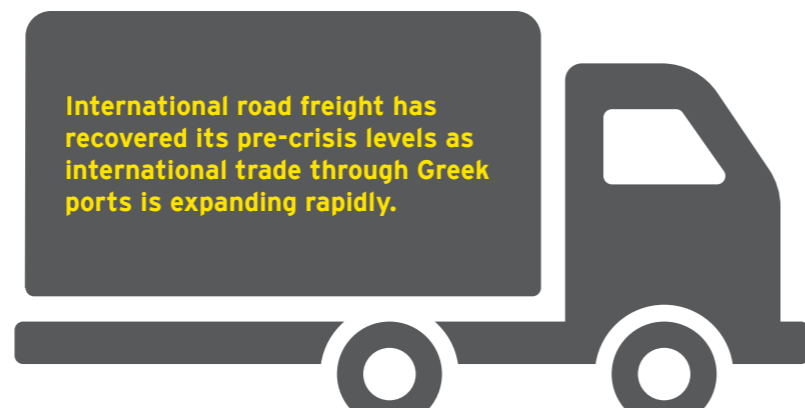
Source: Eurostat data, 2017, analysis by EY

Evolution of international road freight performance within the Greek recession

Values in million tonne-km



Source: Eurostat data, 2017, analysis by EY



Structural analysis of the Greek road freight sector

The Greek road transportation industry primarily consists of small companies and owner-driver hauliers who provide low margin traction services, to medium or large national and pan-European logistics providers.

Therefore, a large part of the Greek hauliers rely heavily on providing outsourced traction to 3PLPs, whilst others are able to win their own work directly from shippers and carry out the work with their own vehicles and drivers.

The hire and reward transportation sector in Greece had a share of 66% of the total road freight transportation activities in 2014 (in terms of tonnes-km), which is significantly below the EU average. If the share of outsourced transportation activities is calculated based on the tonnes of goods transported, then the provision of hire and reward services has a very small share in the range of 21%.

The fragmentation of the transport market in small providers (1.5 truck on average) explains the existing low margins in the transportation sector. On the main line-hauls, where the supply of transportation services usually exceeds the demand, the pricing of transportation services is in the range of €1 per km on average.

Whilst extensive road haulage subcontracting practices provide a responsive resource to the Greek logistics industry, this level of fragmentation in the road transportation market can lead to an imbalance in the ability of the small operators to fully recover their costs. Any increase in costs (such as fuel or driver wage increases) affects directly the profits and many hauliers simply struggle to pass on these cost increases to the client.

Fuel and tolls surcharge agreements are levied on some contracts, but sometimes they can be difficult to put into action. Moreover, in payment terms, when the buyer takes longer to pay the carrier, there has been a main feature of the industry in the last decade and this situation has been exacerbated by the economic recession.

There is a steady increase in the development of strategic alliances and synergies among the Greek road hauliers. Traditionally, these synergies are mainly achieved through the formation of the so-called "transportation agencies", as a result of the collaboration of several owner-drivers or/and small road transport companies in regional networks.

These agencies provide road transportation services within the regional boundaries of one or more counties, by consolidating goods (groupage), that either originate from, or are designated to the county's shippers or consignees, respectively.

This type of cooperation allows the small transport operators to increase their vehicle's load factor and reduce empty running, especially in backloads and, therefore, to improve vehicle productivity and optimize operational costs. Despite this organization, however, 3PLs, freight integrators and forwarding "agents" continue to play the most important role in the organization of the domestic, as well as the international road freight movements.

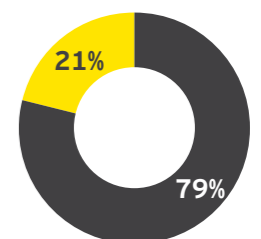
While driver shortage in the road haulage sector is a fundamental challenge for the majority of EU countries, the relentless economic recession in Greece has developed a surplus of qualified and experienced truck drivers or truck owners that are currently either unemployed

or struggling to win on-the-spot work contracts. As more and more international cargo is arriving in Greek ports and as the economy is showing promising signs of recovery, such a surplus of qualified professionals is an important asset for the logistics industry in Greece.

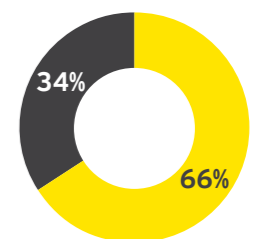
A large percentage of these drivers have compulsory driver qualifications as a result of taking tests, which allow them to drive different classes of vehicles. Apart from holding an EU professional driver license, they have also been certified and hold the European Certificate of Professional Competence (Driver CPC) in compliance with the EU Directive 2003/59/EC.

Share of 3rd party road freight transportation services vs own-account in 2015

In terms of tonnes transported



In terms of tonne-km



■ Hire or reward
■ Own account

Subcontracting of road freight transport in Greece

Subcontracting levels in road freight transport in Greece are significantly lower than those achieved in other European Member States. In 2015, approximately 66% of road freight tonnes-km were outsourced, which corresponds to 21% of total volumes of goods transported via road.

Subcontracting in transport is due to different reasons including: cost saving, covering a peak in demand, addressing a particular service not suited to the main operation, involving/meeting specialised cargo requirements, and, last but not least, serving a particular destination or region, especially

where there is little prospect of a backload.

The majority of the 3PL providers rely considerably on subcontracting work to smaller entities and owner-drivers, who provide low margin, road-traction-only services. There are several types of relationships and dependencies among 3PL and these road hauliers, including: **a.** small hauliers that work exclusively for large 3PL companies, **b.** those that do a significant amount, and **c.** those that do an occasional load "on the spot" market.

Brief structural and economic profile of the Road freight transportation sector in Greece

There were more than 19.000 enterprises in the Greek road freight transportation sector in 2013, equivalent to 30% of the entire transportation and storage services sector enterprise population.

These enterprises employed 35,192 people and recorded value added of €665.7 m, which represented 20% of those working in the transportation and storage services sector and 13% of the wealth generated in the transportation and storage services sector.

The relatively high share of road freight in the transportation and storage services sector's enterprise population, combined with the corresponding lower share in value added, indicate that the average size of enterprises (in value added or employment terms) was below average. Indeed, the

road freight transportation sub-sector is dominated by very small enterprises, when compared to those that operate in other sub-

sectors, especially the very large enterprises at postal services, as well as air, water and rail transport ones.

Key economy indicators in the road freight transportation sector

Sector indicator	Road freight services sector	Transportation & Storage services sector*
Number of enterprises	19,250	54,378
Turnover	2,585.6	4,983.8
Production value	2,038.1	4,347.0
Value added at factor cost	665.7	2,080.1
Personnel costs	188.5	773.8
Wages and Salaries	148.9	607.2
Number of persons employed	35,192	105,285
Turnover per person employed	18.9	47.3
Apparent labour productivity (Gross value added per person employed)	55.9	19.8
Number of persons employed per enterprise	1.8	1.9

Analysis performed in accordance with NACE Rev. 2 classification of Economic activities. NACE provides the framework for collecting and presenting a large range of statistical data according to economic activity in the fields of economic statistics (e.g. production, employment) and in other statistical domains.

* Transportation & Storage Services economic activity NACE 2 category H: "Transportation and Storage Services" includes the following economic activities, in addition to road freight transportation sector, passenger transport, rail transport, water transport, air transport, transport via pipelines, warehousing and support activities for transportation, postal and courier activities

Source: Eurostat data, 2017, analysis by EY

The Orient/East Med Corridor interconnecting Greek ports with Central Europe

Source: Map is extracted from: "CoreNetwork Corridor Study", Final Report, 2014, European Commission

Orient/East-Med Corridor is part of the "Core network corridors" of the European Union.

As depicted on the side map, the Corridor connects the German ports Bremen, Hamburg and Rostock via Czech Republic and Slovakia, with a branch through Austria, further via Hungary to the Romanian port of Constanta, the Bulgarian port of Burgas, with a link to Turkey, to the Greek ports of Thessaloniki and Piraeus and a "Motorway of the Sea" link to Cyprus. It comprises rail, road, airports, ports, RRT's and the Elbe river inland waterway.



The Greek TEN-T road network

► Orient/East-Med Corridor is one of the most important EU corridors, since it connects critical European maritime interfaces in the North and, mainly, in Southeast Europe to the major Central European industrial centres and logistics markets.

► The biggest part of the corridor's road infrastructure is allotted to Greece (1,245 km or 26%). The country's two largest ports of Piraeus and Thessaloniki are the two main maritime interfaces of the OEM corridor, connecting Asia and Middle East ports to the economic and logistics centres in Central Europe.

► The corridor also extends across the Ionian-Adriatic Sea to the Italian ports via the two Greek ports of Patras and Igoumenitsa in Western Greece. This Motorway of the Sea interconnects Orient/East-Med Corridor with the "Scandinavian - Mediterranean EU Corridor", which links Italy with Central European countries.

► Another EU "Motorway of the Sea" interconnects Cyprus with Greece and, consequently, with the European core network.

► Some important projects are currently funded by EU under the CEF (Common Europe Facility) program, in order to upgrade critical multimodal links and cross-border connections.



Following the recent developments, Greece has one of the most developed road networks in its region.

Several development programs have been implemented over the last decade in Greece, that resulted in the significant expansion and modernisation of the national motorway network. Unsurprisingly, the most important networks are located around the key economic logistics hubs of Athens and Thessaloniki, interconnecting these two large cities with the country's main seaports in Piraeus, Thessaloniki, Patras and Igoumenitsa, as well as Greece's northern borders.

The core Greek network consists of more than 1,700 km of motorways, the majority of which were recently expanded or upgraded in conformity to the strictest European motorway standards.

Furthermore, an additional of 370km are under construction, whereas approximately 100km of existing road infrastructure are currently being upgraded to the latest motorway standards and are expected to enter into operation within 2017.



Greek tolled motorways	Final km
Egnatia Odos	658
Kentriki Odos	235
Aegean Motorway	231
Moreas	205
Olympia Odos	202
Ionia Odos	196
Nea Odos	181
Attiki Odos	70
Total Length	1,978

Notes:

1. PATHE consists of two interconnected motorways: Nea Odos & Aegean Motorway
2. Attiki Odos is not depicted in the map, since it is the urban motorway of the greater metropolitan area of Athens

PATHE Motorway

- ▶ The oldest motorway of the country, PATHE (E75) motorway, is the main road corridor of the Greek network, interconnecting vertically the two largest cities of Greece: Athens in the south, and Thessaloniki in the north.
- ▶ The PATHE motorway also constitutes the backbone of the Greek part of the Trans - European Transport (TEN-T) Network. This north-south road axis runs along the east coast of the Greek mainland and also links the two main Greek ports of Piraeus and Thessaloniki and the national borders in Northern Greece, especially with FYROM at the city of Evzoni.
- ▶ Several parts of the motorway have been largely upgraded to the most modern highway standards and new sections have been constructed within the last 10 years, totaling in 553 of high-end motorway sections.

Egnatia Odos

- ▶ Motorway "Egnatia Odos" crosses Northern Greece linking Greek eastern borders in Turkey with the country's western borders in the Adriatic Sea. The motorway constitutes a vital road freight intermodal corridor that interconnects Greece and Turkey with Europe via the sea leg to Italy.
- ▶ Egnatia motorway also interconnects Thessaloniki and Igoumenitsa port with the regional ports of Kavala and Alexandroupoli, which are located near the eastern borders of Greece with Turkey.
- ▶ Constructions began in 1994 and the motorway was completed in 2014. The whole project is considered as one of the largest and most demanding infrastructure developments in Greece. The motorway has a length of 670 km, which fully complies with the latest European

quality and safety standards.

- ▶ Several high-quality auxiliary routes connect "Egnatia Odos" with important logistics locations and ports in Northern Greece, as well as with the Albanian and Bulgarian borders.
- ▶ The concession tender for the operation, maintenance and utilization of Egnatia has not yet been officially launched, due to delays in the tender procedure.

Ionia Odos

- ▶ "Ionia Odos" motorway, having an approximate length of 196 km, runs across the west part of Greece from North to South, interconnecting the ports of Patras, Astakos and Igoumenitsa.
- ▶ Passing through all the major urban and rural centres of Western Greece, such as Ioannina, Arta, Agrinio and Patras, the motorway contributes to the wider development of the area, by improving the access to major tourist and archaeological sites.

Kentriki Odos

- ▶ "Kentriki Odos" (e.g. Central Greece Motorway) is a modern 2-lane motorway in each direction, which, upon completion, will have a total length of 174 km and will connect the eastern and western part of Greece, which are currently separated by Pindos mountain.
- ▶ By connecting the two main Greek corridors of PATHE and "Egnatia Odos" via central Greece, the new road will reduce the current travel time from Athens and the Piraeus port to the Igoumenitsa Port by more than 40%, providing a new and modern trans-regional and international road freight corridor.

Olympia Odos

- ▶ "Olympia Odos" is a strategic motorway with a total length of 201.5 km, which connects Athens and Piraeus port with Western

Greece and, most importantly, with the port of Patras at the Ionian Sea. The motorway accommodates the majority of the international road freight movements towards central European countries via the Ro-Ro services that take place between the port of Patras in Greece and the Italian ports (e.g. Brindisi, Bari, Ancona, Ravenna and Venice).

- ▶ Within the last five years, several new motorway sections and upgrades of the existing ones were constructed while the motorway is in operation, in order to modernize the network, reduce travel time and improve comfort and safety.





Air freight transport

The ever-increasing passengers' traffic drives the air freight volumes' recovery in Greek airports.

Greece has 45 airports, 15 of which are international, 26 domestic and 4 municipal ones.

The Athens International Airport (AIA) "Eleftherios Venizelos" is by far the most predominant Greek airport, in terms of both freight volumes and passenger traffic. AIA serves not only the Greek capital, but also the whole Attica region. Moreover, "Eleftherios Venizelos" is emerging as an important passenger and logistics hub for Southeast Europe, being the central transfer point for connecting Europe with Middle and Far East.

Besides AIA, a number of Greece's airports are undergoing significant infrastructure upgrades, while, at the same time, based on the national transportation master plan, there are provisions for the

construction of new ones.

Currently, investment plans of €330 m are in place for the upgrade of 14 Greek Regional Airports, following the completion of their privatization process in December 2015, when the Fraport AG - Slentel Ltd. consortium was awarded the 40-year concession agreement for the airports' maintenance, management and operation.

The planned investments provide tremendous potential for both the facilities' growth, as well as the Greek tourism and the local development of the respective islands and cities throughout Greece.

Greece as a logistics hub in Southeast Europe for air freight transportation

It is a well-known fact that the role of air transport in freight transport is less pronounced, when compared to the other means of transport, since it constitutes an expensive transport mode in terms of tonne-km. For this reason, air freight is considered to be highly competitive for the long-distance transport of relatively lightweight, valuable goods or for the immediate and fast transport of delicate/fragile goods. As a result, air freight transport in Greece has a share of ca. 35% of international trade in terms of value, but only 1% in terms of weight. However, air cargo transportation is rapidly expanding, especially in Europe.

Based on Eurostat data, growths of 7.2% and 1.3% were recorded in 2015, compared to 2014, for international intra-EU and extra-EU, respectively.

As the importance of international air transport is growing, there are significant opportunities for Greece to serve as Europe's Southeast gateway for air cargo traffic and provide a real alternative to congested hubs worldwide.

Initiatives like the recent cooperation between the Athens International Airport and the port of Piraeus - which is owned, operated and managed by COSCO - the so-called "Seairgy Project" - contribute to the development of Greece as a major regional logistics hub that interconnects Europe with Middle East, Africa and East Mediterranean.

The rapid growth of passenger traffic through Greek airports and the establishment of new international air connections via the Athens International Airport "Eleftherios Venizelos" create promising opportunities for air cargo services, as well.



Development of the air freight transportation in Greece

About 62,000 tonnes of air freight were carried through Greek airports in 2015, marking a slight increase of 3% when compared to 2014. 2015 was the first year that an increase in freight volumes was observed, following the onset of the financial crisis in 2008. In fact, between 2008 and 2015, the quantity of goods transported via air in Greece (both nationally and internationally) reduced dramatically by 44%, as a result of the Greek sovereign debt crisis.

There is still a long way to go before air freight transport in Greece recovers its pre-crisis levels; however, based on the preliminary results of 2016, it seems that the slow recovery of 2015 could be permanent.

Concerning the type of air freight traffic, international air freight transport has by far the largest share in total quantities of goods transported through the Greek airports, in the range of 90%. Intra-EU air traffic is the most important component of air freight transportation in Greece.

The proportion of air freight that was transported to or from other EU airports within the reference period of 2008-2015, was in the range of 62-70%.

The split between national and international air freight transport did not vary considerably within the period of the Greek recession.

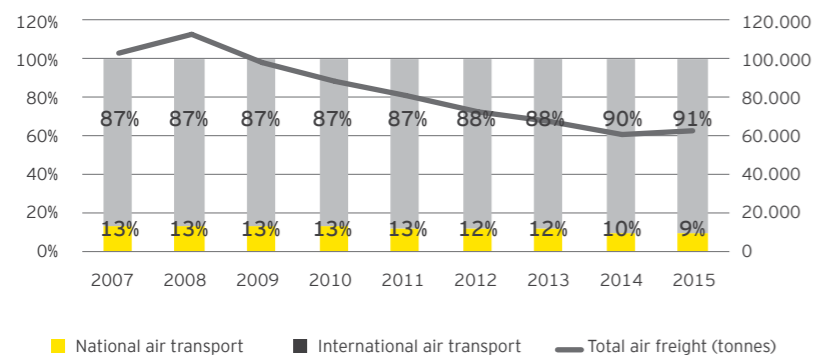
Nevertheless, a slow year-on-year increase in the share of international air cargo can be clearly observed; from 87% in 2008, when the Greek financial crisis began, international air freight reached 91% of the total air freight traffic in 2015.

On the other hand, within the same reference period 2008-2015, there was a remarkable shift in the split of air freight that arrives in the Greek airports, compared to the freight that departs from them.

From only 47% in 2008, the share of air freight that departs from the Greek airports – in international or national flights – reached the value of 55% in 2015, recording a significant increase of 21%.



Development of air freight transport in Greece (tonnes)



Source: Eurostat data, 2017, analysis by EY

The Athens International Airport is the largest air freight transporter among all Greek airports

The Athens International Airport (AIA) is the international airport for Greece's capital and the wider Attica region. The airport, which officially opened in March 2001, is a modern facility with a state-of-the-art cargo infrastructure and quality services, and has earned numerous international awards and distinctions in recognition of the high quality of services offered.

Also known as "Eleftherios Venizelos" named after the distinguished Greek statesman, the AIA has two terminals and is a growing hub for travels to Asia and the Middle East. AIA serves not only the Greek capital, but also the whole Attica region, which is the most densely populated and economically strongest region in Greece. Having immediate access to railway and to the core national road network via a modern three-lane motorway (Attiki Odos motorway) the airport functions as an important hub for Southeast Europe and is the central transfer point for people travelling to Europe from the Middle East.

"Eleftherios Venizelos" registered the highest growth among the

largest airports in 2015, with an impressive increase of 19% in passenger transportation, followed by London/Luton and Dublin with increases of 17% and 15% respectively.

With more than 20 m passengers per year, AIA ranked in the 23rd position (2015) of the top 30 airports in Europe, demonstrating significant year-on-year growth.

In 2016, AIA achieved a new record high in passenger traffic, reaching 20.02 m passengers. Compared to the previous year of 2015, 1.9 m more passengers used the airport, which marked a growth of 10.7%.

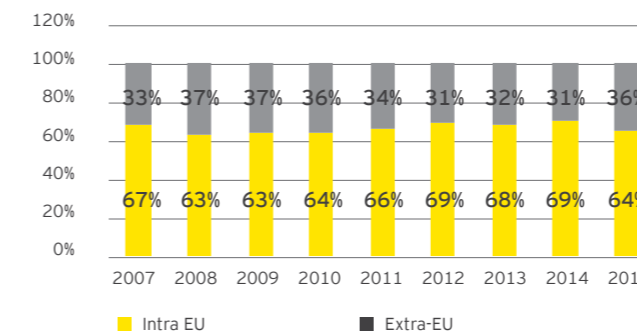
The role of the airport as an air-cargo logistics hub is also emerging in recent years. Located at the crossroads of three continents in the southeast entry to Europe, AIA aims to establish itself as a major European air-cargo hub, by providing connection and feeder traffic from the East Mediterranean, Middle East, Africa and Greece to Europe and overseas destinations.

Main types of air-cargo handled at Athens International Airport

- ▶ Ship spares
- ▶ Pharmaceuticals
- ▶ Fresh fish
- ▶ Foodstuff
- ▶ Perishables
- ▶ Electricals / Electronics / Machinery / Parts
- ▶ Jewellery
- ▶ High-tech products
- ▶ Aluminum
- ▶ Special cargo (live animals, dangerous goods, radioactive materials, etc.)
- ▶ New premium products, such as bio products

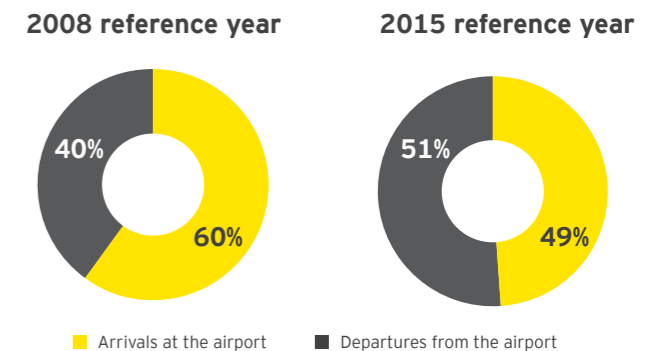


Intra-EU vs Extra-EU air freight transport in Greek airports (in terms of tonnes)



Source: Eurostat data, 2017, analysis by EY

Split of air freight volumes per direction of shipment



Air freight transport

More than 80% of the total air freight in 2015 passed through the Athens International Airport "Eleftherios Venizelos".

The airport recorded an increase of 10% in 2016 in the total national and international air cargo transport, reaching a total tonnage of 88.6 thousand tonnes.

Before the beginning of the economic crisis, "Eleftherios Venizelos" reached its peak in total air freight transport in 2008, with 122,000 tonnes. A severe and sharp drop of -38.7% in freight volumes occurred within the first years of the Greek economic recession, between 2009 and 2013. However, the air freight volumes in Athens International Airport are recovering strongly year after year. In 2014, the air freight transport in AIA increased by 3.3% and a further recovery of 4.1% was recorded in 2015. If we also take into account the 10% increase of 2016, the total growth in air freight traffic between 2014 and 2016 amounts to an impressive 29%.

Several initiatives and incentives have already been implemented towards this end. Firstly, from 2016, the AIA joined forces with the Piraeus port (Piraeus Container Terminal) to provide integrated intermodal services for international cargo transit via Athens; the so-called "Seairgy" project signifies the joint undertaking and the dual mode of transport, i.e. the sea and the air.

The AIA also aims to bring all stakeholders under one roof, by establishing a local cargo community through an efficient communication platform, the Airport Cargo Community Committee (ACCC). The ACCC was established in 2003 and aims at strengthening and enhancing the communication among all members of the cargo community, promoting the synergies inside and outside the airport fence and reaching joint decisions on new projects and developments.

Moreover, new international flights have re-established previously lost

routes, such as the daily flight of Dubai-Athens-New York by Emirates Airlines, that was established in March 2017, or the flight to Singapore of Scoot - the low-cost airline of the Singapore Airlines Group - which began in June 2017, as well as the flight to Beijing of Air China, which was established in September 2017.

Fraport AG - Slentel Ltd. Consortium was awarded the concession agreement for 14 Greek regional airports in 2015



Athens International Airport

A T H E N S

The Athens International Airport, having a total operational floor area of 30,000 m², can handle annually 275,000 tonnes of general and special cargo.

More specifically, the existing cargo infrastructure consists of:

- ▶ 3 independent 'front-line' cargo terminals and 1 distribution centre with a total operational area of 30,000 m² and a total mezzanine office area of approximately 7,000 m².
- ▶ 1 'front-line' air mail centre.
- ▶ 1 'front-line' station for veterinary and phyto-sanitary inspections.
- ▶ 1 'second-line' cargo community administration building.

The most important destinations for Greek exports

USA & Canada 30%
Middle East 16%
Europe 10%
Far East 9%
Africa 1%
Oceania 1%
Other 33%

Top 10 export destinations (51% of the market)

1. New York
2. Dubai
3. Larnaca
4. Toronto
5. Montreal
6. Singapore
7. Miami
8. Los Angeles
9. Doha
10. Hong Kong

▶ On December 14th 2015, the Fraport AG - Slentel Ltd. Consortium signed the concession agreement concerning the upgrade, maintenance, management and operation of 14 Greek regional airports.

▶ The consortium offer consists of an upfront payment of €1,234 bln. and an annual payment of €22.9 m during the lifetime of the concession, annually adjusted according to the CPI. The predominant objective of the transaction is the upgrade of the airports in need of significant investments, a development which is followed by particularly important benefits for the Greek tourism and the local development of the respective islands and cities throughout Greece.

▶ The Fraport-led consortium has committed itself to investing at least €330 m during the first four years of the concession, on top of the up-front payment of €1.2 bln. to the Greek State. These planned investments aim to upgrade the 14 regional airports in conformance to the most recent IATA standards (Level C), as well as to maintain them for the 40-year duration of the concession.

Greece marked the largest growth in air passenger transportation among all European countries in 2015 and 2016, showing a significant potential for all types of air-transportation services.

There has been a clear and significant upward trend in the numbers of passengers that travel by air in the Greek airports within the last five years. In 2015, the air traffic in Greek airports increased by 8% compared to 2014, following an even more significant 15% growth that was recorded between 2013 and 2014.

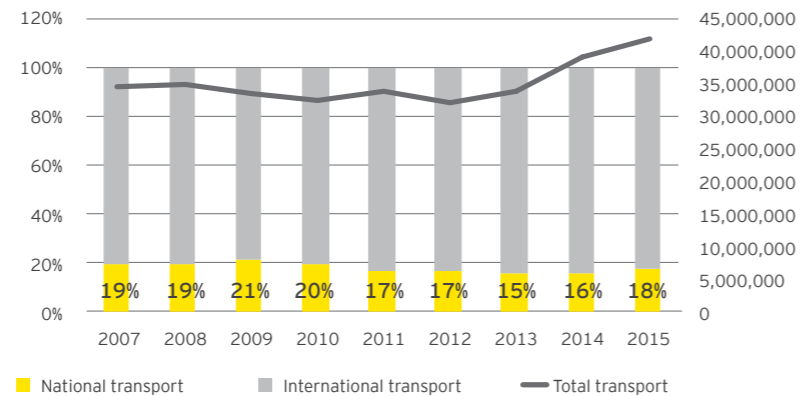
Greek airports not only managed to withstand the consequences of the global and national financial crisis, but they also substantially improved their performance with an impressive growth of 26%, within the entire period of the Greek economic recession between 2009 and 2015. In 2016, the Athens International Airport recorded the highest passenger traffic in its history, reaching 20.02 m passengers, marking an increase

of +1.9 m passengers compared to 2015.

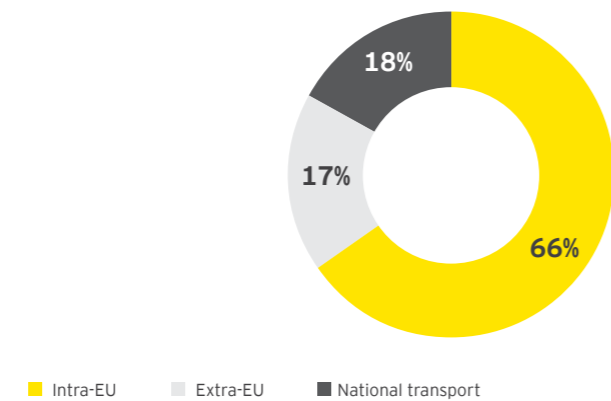
Intra-EU is the major component in total air traffic in Greece, representing more than 66% of passengers travelling to/from Greece, without large fluctuations throughout the years. Intra-EU is followed by national and extra-EU transport, which present similar shares ranging between 15-18% in the period 2009-2015.

Although national transport declined sharply by 26% in the period 2009-2013, it recovered with an impressive growth of 44% between 2013 and 2015, exceeding its pre-crisis levels with more than 7.4 m passengers travelling from/to Greece.

Air passengers



Overview of air passenger transport in Greece in 2015



Public sector support



An investment-friendly and simplified administrative framework for the development of intermodal logistics hubs in Greece.

A comprehensive national framework as a result of the ongoing dialogue between Public and Private sector

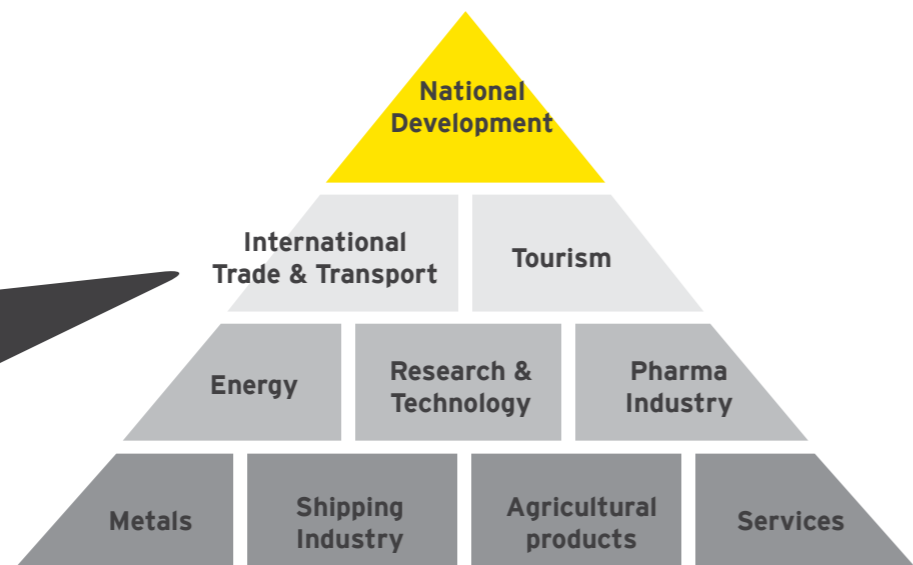
In recent years, the Public Sector in Greece has been in close collaboration with the industry in developing a long-lasting transformational plan that supports the sustainable development of the logistics market and international trade. The final outcome is highly promising, since it combines investment planning and incentives for operators, with a comprehensive legislation reform and long-term

commitments by policy makers, industry associations and private stakeholders.

The Law 4302/2014 ("setting logistics issues and other provisions"), which was published in the official journal of the Government of Greece in 2014, constitutes the most important outcome of this approach. It has been the result of the coordinated efforts and



International Trade & Intermodal Transportation is one of the nine pillars supporting the new national development model in Greece.



lobbying of the Greek logistics industry, as well as of the technical support by the World Bank. Law 4302/2014 provides a holistic regulatory framework that explicitly defines the logistics sector and its operational aspects as a distinct and independent economic activity, different from the industrial or commercial ones. Since there is still limited international experience in this specific field of regulatory interventions, the complexity and importance of the task has been highly acknowledged by all the national stakeholders and international organizations.

Reducing red tape in logistics installations permits

The Law 4302/2014 constitutes the main national instrument regulating the logistics operations in Greece in an integrating approach (transport, warehouses, urban logistics and intermodal freight centres).

The major advantage of the new law is the removal of a series of red tape requirements and administrative barriers concerning the establishment and operation of logistics installations and, in particular, with regard to freight centres and intermodal villages. Provided that the land use is appropriate and that the logistics installation is constructed and operated in conformity with the applicable national legislation, there is no need for a specific permit to be granted by the competent authority.

Previously, the licensing of logistics installations used to be a very time-consuming and costly administrative process, as well as a source of uncertainty in planning and developing large logistics projects. These administrative barriers and risks have reportedly led to the

withdrawal of foreign or national investors from important development plans in the area of logistics.

After the entry into force of the new law, the owner or the operator of a logistics installation is only required to submit to the competent authority a notification, in which it is verified that the installation conforms to the applicable national legislation.

Moreover, the provisions of the new law explicitly regulate the facilitation of investments concerning the development and operation of the two major intermodal logistics parks of national importance, that are:

- ▶ Thriassio Pedio.
- ▶ Former Gonou military camp.

Taking into consideration the aforementioned legislative innovations, the new framework is considered by the Greek logistics community to be a breakthrough that has transformed entirely the administrative procedures and established a transparent, efficient and modern framework for interested investors and logistics operators.

The Logistics Performance Index and its Indicators, The World Bank, 2016

According to World Bank's 2016 Logistics Performance Index (LPI), Greece ranked 47th among 160 countries, while ranking 69th in 2012 and 44th in 2014.

LPI is an interactive benchmarking tool, created to help countries identify the challenges and opportunities they face in their performance on trade logistics and what they can do to improve their performance. The LPI is based on

expert assessments of logistics professionals and are perception-based and contain a subjective / voluntary role.

Law 4302/2014 establishes a modern and integrated legislation framework for the logistics industry in Greece. To this end, the law integrates, amends, repeals or/and replaces a series of relevant acts like:

- ▶ Law 3333/2005, with regards to the terms and conditions for the establishment of freight villages.
- ▶ Law 3892/2011, with regards to the licensing of manufacturing activities, including business parks and warehouses
- ▶ Law 4014/2011 and Ministerial Decision 1958/2012, with regards to the environmental licensing of works and activities.



Several administrative burdens and market inefficiencies are being constantly removed, in order to facilitate external trade and international logistics operations in Greece.

Being able to trade easily across the Greek borders via streamlined, efficient and digital procedures is of major importance for companies that are willing to either use Greece as their strategic logistics hub in Europe, or get involved in trade with Greek organizations.

Facilitating trade and customs operations at the borders, and, in particular, at Greek ports, can considerably improve customer service for both export or import activities. Efficient pre-customs and customs clearance procedures can have a great impact on eliminating delays, reducing administrative costs and improving supply chain predictability. Following the economic crisis as well as the consequent downturn of the Greek economy, Greek authorities have committed themselves to implement a simple, but comprehensive National Trade Facilitation Strategy.

In a very short time, Greece has made important progress in the implementation of trade facilitation strategy, especially towards the simplification of customs and pre-customs procedures. By 2014, a significant percentage of the

regulatory requirements were analysed and simplified and concrete steps were implemented towards the integration of information flows within a paperless customs system.

This progress has been recognized by all stakeholders and it has been evidenced by several international studies (see the World Bank 2015 reports regarding “Doing Business in Greece” and “Logistics Performance Index”). Trade facilitation is a continuous improvement process. Taking into consideration the new developments in the international trade and the steady growth of goods transshipped to and from other EU countries through Greece, the Greek Customs Administration has updated the Trade Facilitation Roadmap for the period 2016-2020, aiming to improve performance and further support and facilitate the international trade processes.

To this end, the next big step in trade simplification and modernization is the development and implementation of a National Single Window, that will support the

integration of information from all stakeholders into one system.

The National Single Window is envisaged to become the integrated platform that will allow all parties involved in trade and transport to be able to lodge standardized information and documents with a single entry point, fulfilling, in this respect, all import, export, and transit-related regulatory requirements.

Trading across borders emerges as a major competitive advantage for Greece

In fact, several trade facilitation initiatives have been implemented in Greece within the last five years with great emphasis placed on the simplification of customs operations, coordination among government control agencies, as well as on the digitization and automation of information exchange.

One major breakthrough was the implementation of the new

Integrated Customs Information System (ICISnet) in 2013, which has largely facilitated the electronic submission of customs declarations, as well as the integration of relevant stakeholders.

Other similarly important initiatives are as follow:

- ▶ Incentives for the establishment of AEOs (Authorized Economic Operators); from six AEOs in 2010 and 37 in 2013, to 114 AEOs certified until the end of 2016.
- ▶ Development of suitable processes and capabilities to effectively implement the VAT relaxation regime, according to customs procedure of Article 42.
- ▶ Integration of ICISnet with other sources of information.
- ▶ Implementation of the UCC (Union Customs Code) until 2020.
- ▶ Design and implementation of the National Single Window.

Greek Trade Facilitation Strategy and Roadmap

The “Greek Trade Facilitation Strategy and Roadmap”* was completed in November 2012, through the collaborative efforts of a multi-disciplinary team from four ministries, with support from UNECE, the TFGR (Task Force for Greece) and select EU countries. The “Greek Trade Facilitation Roadmap” lists 25 actions under five headings, namely:

- ▶ Simplification of export procedures.
- ▶ Re-organization of customs, automation of procedures and implementation of paperless trade.
- ▶ Steering of the reform/operational project management.
- ▶ Communication and training.

The Roadmap for the period 2016-2020 has recently been updated by the Greek Customs Administration. The updated strategy focuses on the development and implementation of the Single Window for trade facilitation.

* Joint document of the Ministry of Finance; Ministry of Foreign Affairs; Ministry of Development, Competitiveness, Infrastructure, Transport and Networks; Ministry of Rural Development and Food; in cooperation with several other Ministries

Within the last five years, Greece has significantly improved its international ranking in trade facilitation and trade competitiveness.

The tables below represent the selected rankings of the “Doing Business” and the “Logistics Performance Index (LPI)” of the World Bank, where the positive and enhanced results over the past years are clearly depicted.

Logistics Performance Index	2016	2014	2012
Overall rank	47	44	69
Customs rank	55	42	94
Logistics rank	60	40	73

Source: “The Logistics Performance Index and its Indicators”, The World Bank, 2016

Focus indicator set: Customs World Bank, Logistics Performance Index:

From 2012 to 2014, Greece’s competitive position in the Logistics Performance Index has improved by 25 positions. Moreover, the robust results for customs were overwhelming with an improvement of 52 positions (from 94 to 42), evidencing the extensive improvement in customs operations.

Focus indicator set: Trading Across Borders, World Bank, “Doing Business” in Greece:

Since 2012, Greece has improved its ranking in the World Bank “Doing Business” study by 39 positions, from position 100 to 61. Indeed, the improvement in the specific indicator set “Trading Across Borders” is

very impressive. In 2016, the organization substantially revised the methodology for the indicator set “Trading Across Borders”, and, therefore, it is not feasible to have a direct comparison with the previous years’ rankings. However, it is clearly portrayed that the position of Greece has stabilized in the top performers.

Doing Business in Greece	2017	2016	2015* revised	2015	2014	2013	2012
Trading Across Borders (score)	93.72	93.72	93.72	80.8	80.3	N/A	N/A
Trading Across Borders (rank)	29	27	27	48	50	60	84

Source: “Doing Business 2017”, The World Bank, <http://www.doingbusiness.org/>



Five Free Trade Zones (FTZ) and several custom warehouses have been established in Greece where foreign-origin goods are free of import duties, VAT and other import charges.

Five Free Trade Zones provide clear benefits to importers and shippers

Four trade zones have been organized in the major Greek ports of Piraeus (1), Thessaloniki (2), Heraklio (3) in Crete and Astakos (4) in western Greece, while the fifth one is located in Central Greece, in the industrial and logistics centre of Voiotia (5).

Non-community goods may be brought into these free zones without payment of import duties, VAT or other import charges. Non-community goods stored in the free zone are considered as not yet imported to the Customs territory of the Community, until they are released for free circulation and, therefore, no import declaration has to be lodged, as long as the goods are stored in the FTZ.

Import and export declarations need to be lodged only when the goods are released into free circulation, used or consumed within the free zone.



In addition, if the foreign merchandise is exported or transshipped from the free zone, no customs duty is ever due.

In addition to FTZs, customs warehousing services are provided by the majority of the Greek logistics providers.

In addition to FTZ, a large percentage of the 3PL providers and freight forwarders have been authorized to operate customs warehouses.

These customs warehouses have been organized either adjacent to the major international Greek ports or in the main logistics centres of Thriassio Pedio (1) and Oinofyta (5) around Athens, as well as at Sindos and Kalochori (2) in Thessaloniki. These types of warehouses can also support traders in case when, for example:

- ▶ Goods imported from outside the EU are liable to customs duties or import VAT.
- ▶ Goods are moved from another EU country in duty suspension.
- ▶ The final destination of the goods when they arrive in Greece is not known in advance.
- ▶ Import licenses or paperwork have been delayed, or a duty-relief quota to become available is being expected (for example, for agricultural goods).
- ▶ Another customs procedure is more favorable.

1. Piraeus port - Thriassio Pedio
2. Thessaloniki port - Sindos and Kalochori
3. Heraklion Port
4. Astakos Port
5. Voiotia Logistics Region

Free Trade Zone's Advantages

There are many advantages and incentives to companies operating on FTZ, which can be summarized as follows:

- ▶ Improved cash-flow, since no duty payment is required on merchandise brought into the FTZ, unless and until the goods are entered into Greek territory or are removed.
- ▶ Ability to re-export the goods from the FTZ, without paying customs duties.
- ▶ Transit goods may be held in the FTZ free of bond.
- ▶ Ability to track and monitor inventory more closely also leading to the improvement of compliance and quality control.

- ▶ If goods are defective or damaged, no duty payment is owed, while they are being tested, repaired, or stored in the FTZ.
- ▶ Repackaging, sorting, and re-labeling operations may be carried out, while the goods are in the FTZ.
- ▶ Documents related to the storage or transfer of goods within the zones are also free from stamp taxes.
- ▶ Complete VAT-free importation of foreign-origin goods, which are designated for another EU Member State.

The reformed national legislation ensures the harmonized implementation of VAT exemption provisions under the Customs procedure 42.

The legislative framework that regulates the application and control of the customs procedure 42 concerning the VAT relaxation regime has recently been adapted. The new framework has put in place clear rules and procedures for the efficient and harmonized application of the VAT relaxation regime by Customs Offices and relevant stakeholders across the country. The recently updated legislation framework is also supported by a set of documented guidelines and detailed description of the VAT relaxation process, including, but not limited to, analysis of the new legislation provisions, control activities and procedures, documentation requirements infringements, etc.

Customs procedure 42 is the regime an importer uses in order to obtain a VAT exemption, when the imported goods will be transported to another Member State. The VAT is not paid anywhere in Greece, but is due to the Member State of destination.

The same applies to non-community goods that are imported from outside the EU and which will be processed before they are re-exported outside the EU.

Customs warehouse

A customs warehouse allows traders to store goods with duty or import VAT payments suspended. Goods that are moved from another EU country in duty suspension can also be stored in this type of warehouse.

Once goods leave the warehouse, duty must be paid, unless they are re-exported or moved to another customs procedure.

The amount of working or processing allowed on goods held in warehouses is limited, essentially to keeping them preserved with a view to subsequent distribution. However, it is possible to process goods under inward processing or processing under customs control on the premises of a customs warehouse.



International trade and customs operation are largely simplified with the appointment of reliable and experienced authorized economic operators.

3PL providers and freight forwarders take advantage of AEOs privileges in customs facilitation

In recent years, a significant percentage of 3PLs, airlines and shipping companies are certified as Authorized Economic Operators (AEOs) in Greece. AEOs benefit both from simplifications provided by the customs rules and/or facilitation, with regards to customs controls related to security and safety, according to the type of certificate they obtain.

A critical mass of more than 115 AEOs operate actively in Greece (January 2017), the majority of which are 3PL companies or freight forwarders that were certified more than three years ago. These economic operators have proved that they implement satisfactory management systems and that they follow appropriate safety and security standards, in relation to customs controls.

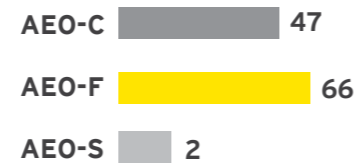
Therefore, more than six years after the certification of the first AEO in Greece, the Greek 3PL providers and freight forwarders have established themselves as reliable logistics and trade-facilitation partners for the major international shippers, manufacturers, exporters and freight forwarders.

This trend constitutes a major improvement in the simplification of international trade in Greece, and, in particular, in the port of Piraeus, since it has helped companies to considerably reduce the required paperwork and the number of actual inspections in their customs clearance procedures. Apart from this, the role of AEOs is a core element in enhancing the security of the supply chain and in minimizing customs penalties and risk exposure.

However, the current number of existing AEOs can be considered insufficient, if we take into account both the estimated growth of container throughput in Piraeus and Thessaloniki, as well as the anticipated increase in transit flows towards Eastern and Central Europe.

Therefore, several initiatives have been designed by the Greek Public Government for the next 2-3 years (funds, simplification of audit procedures, etc.), in order to encourage more 3PL and trade companies to become AEO certified.

Status of AEO certificates in Greece (Jan 2017)



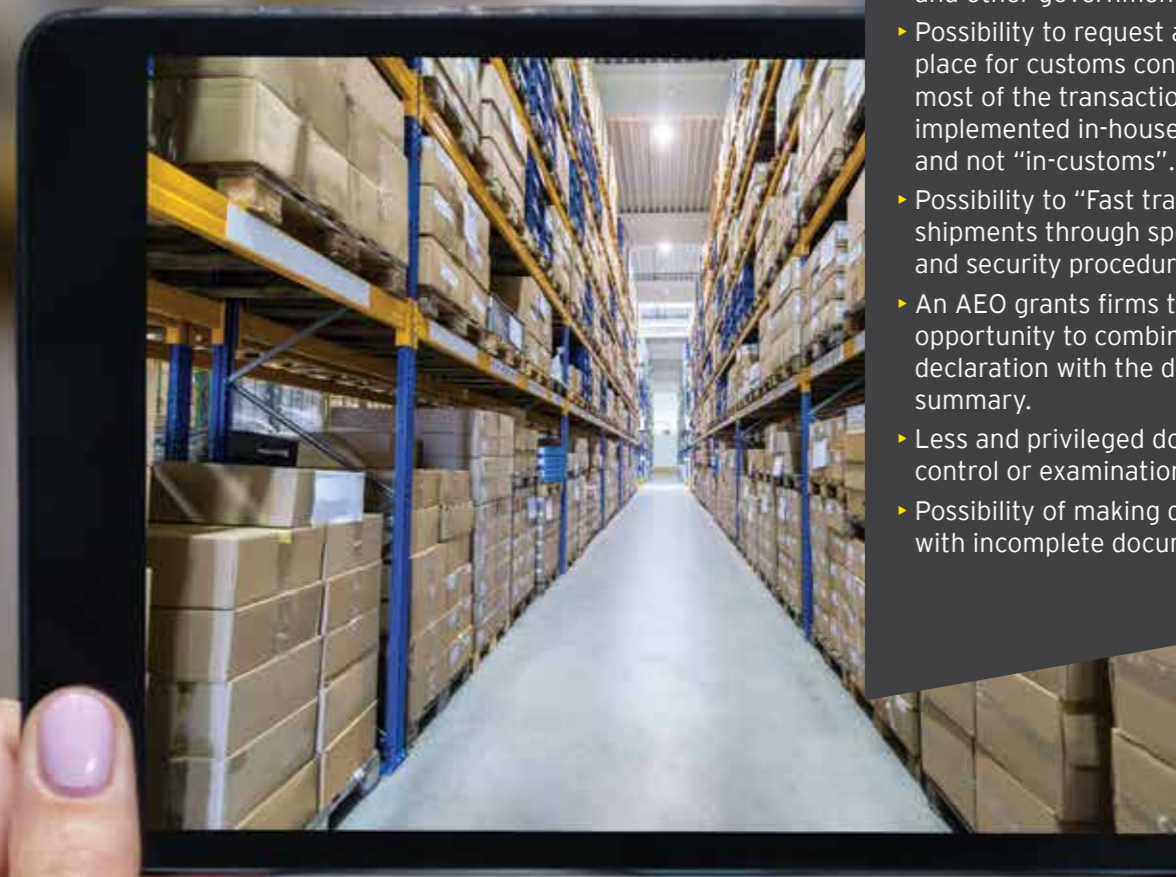
In January 2017, 115 economic operators were certified as AEOs:

- ▶ The majority of them (66 AEO-F) opted to be authorized only for various customs simplifications.
- ▶ Two other AEO-S opted to benefit from particular facilitations related only to security and safety.
- ▶ Whereas 47 AEO-C benefited from the various simplifications specifically provided for under the customs legislation and from particular facilitations related to customs controls on security and safety.

Source: Customs Service - General Directorate of Customs and Excise Duty, ICIS NET portal, January 2017

Advantages of the AEO Certificate

- ▶ Easier admittance to customs simplifications.
- ▶ Fewer physical and document-based controls, leading to reduced time and lower inspection costs.
- ▶ Prior notification in case of selection for physical or customs control.
- ▶ Priority treatment at customs clearance.
- ▶ Fewer delayed shipments, improved planning and reduced theft and losses.
- ▶ Improved relations with customs and other government authorities.
- ▶ Possibility to request a specific place for customs controls; most of the transactions may be implemented in-house by the AEO and not "in-customs".
- ▶ Possibility to "Fast track" shipments through special safety and security procedures.
- ▶ An AEO grants firms the opportunity to combine the import declaration with the declaration summary.
- ▶ Less and privileged document control or examination.
- ▶ Possibility of making declarations with incomplete documents.



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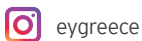
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o.mind Creatives

o.mindCreatives, a publishing and advertising company, consists of executives having over 20 years of experience in the fields of Marketing, PR, and Managing activities in the Supply Chain industry.

Being pioneers in the field, in 1999 we published the first magazine in Greece for the Logistics Sector and organized the first sectoral exhibition. Our company is engaged in B2B communication in the fields of Logistics and Freight Transport, using the following means:

1. We publish "Supply Chain & Logistics" magazine, the most recognizable B2B magazine for the sector in Greece. "SC&L" magazine is released 8 times a year (every 45 days) and is sent to over 9,000 recipients, mostly decision makers, in the Supply Chain and Transport market.
2. We operate the web site www.supply-chain.gr, the leading portal in Greece for Supply Chain, Transport and Logistics with an average of 15,000 visitors and 450,000 hits per month.
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