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SIROCCO Project

Sustainable InteRegional cOastal & Cruise maritime tourism through COoperation and joint planning

MED/1425

WP 3 – Studying

Activity 3.5 – Cruise value chain operational analysis

DELIVERABLE D3.5.5:

DEMAND SEASONALITY & INFRASTRUCTURAL IMPACTS ON VC

Project title	*Sustainable InterRegional cOastal & Cruise maritime tourism though COoperation and joint planning*
Acronym	SIROCCO
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Short description of the project	With €40 billion economic impact and 6 mil. passengers, cruise tourism plays a key role in Europe and especially in the MED, being the top cruise market and amidst strong socio-economic pressures. As cruise tourism grows, the challenge for the Mediterranean is to exploit its full potential in a sustainable way. SIROCCO has the ambition to provide: 1. An integrated view of the current state of Mediterranean cruise tourism and its impacts 2. A foresight of Mediterranean cruise tourism for the following decades 3. Evidence-based, transferable recommendations on developing sustainable & responsible Cruise Value Chains in the MED 4. Coordinated strategies & policies at regional and transnational level regarding the development of a sustainable and responsible cruise maritime/coastal tourism SIROCCO employs a transnational approach, reflected both in its content and its partnership.
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Table of Contents

1 Scope of the document

This report includes final results for the Deliverable D3.5.5 of the SIROCCO project.

The deliverable aims to evaluate the seasonality and infrastructural impacts on cruise value chain using as example five ports: Civitavecchia, Rhodes, Split, Limassol and Valencia.

All the values and data used in this document are taken from the reports provided by all the port authorities involved in the project.

2 The European Cruise Tourism sector

2.1 Quick Facts

In 2015 the cruise industry in Europe generated a total expenditures value of 16.89 billion of euro. The 64% of this value were concentrated in three countries: Italy, UK and Germany. This is due mainly to the fact that these countries are at the same time:

- Source and destination for cruises and their passengers;
- Location of shipping companies headquarters and crew facilities;
- Location of shipbuilding and repair service facilities;
- Location for provisioning and fuelling of cruise ships.

In Europe are located around 30% of all world cruise passengers. In 2015 around 6.59 million European citizens booked a cruise.

The passengers embarked on their cruises from a European port are 6.12 million and around 5.0 million of these were from European countries, the rest are from outside Europe.

The totality of passengers and crews produces an economic spending impact of around 3.83 billion of euro.

Each passenger spends an average of 61.82 euro at each port visited, while a crew member around 22.99 euro.

In Europe 39 cruise companies are domiciled and they operate 123 cruise ships with a total capacity of around 149,000 lower berths.

The non-European companies that operate in the continent are 23, with 73 vessels and around 100,000 lower berths.

The vast majority of these cruises visits Mediterranean and Baltic regions, and all together touch around 250 European port cities.

In Europe, 4.60 million of euro is the value in spending for the construction, maintenance and refurbishment of cruise vessels in 2016.

European shipbuilding companies have contracts for building around 48 cruise ships.

Cruise lines in 2015 spent around 6.90 billion of euro in European ports for goods and services necessary as supports for their cruise operations.

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All these expenditures generate employment and employee compensation across a wide range of industries and in every country that hosts a cruise ship call port.

The total number of direct job employees in Europe is around 185,476 people (the 37,85% of the global value), while considering also the indirect ones, the total number reaches a value of 360,571 employees.

2.2 Cruise ship traffic in Europe

The European cruise market saw a general growth in the six-years period 2012-2017.
The total passengers' embarkation value is constantly increasing and, in 2017, it reached the value of more than 6.9 million people.

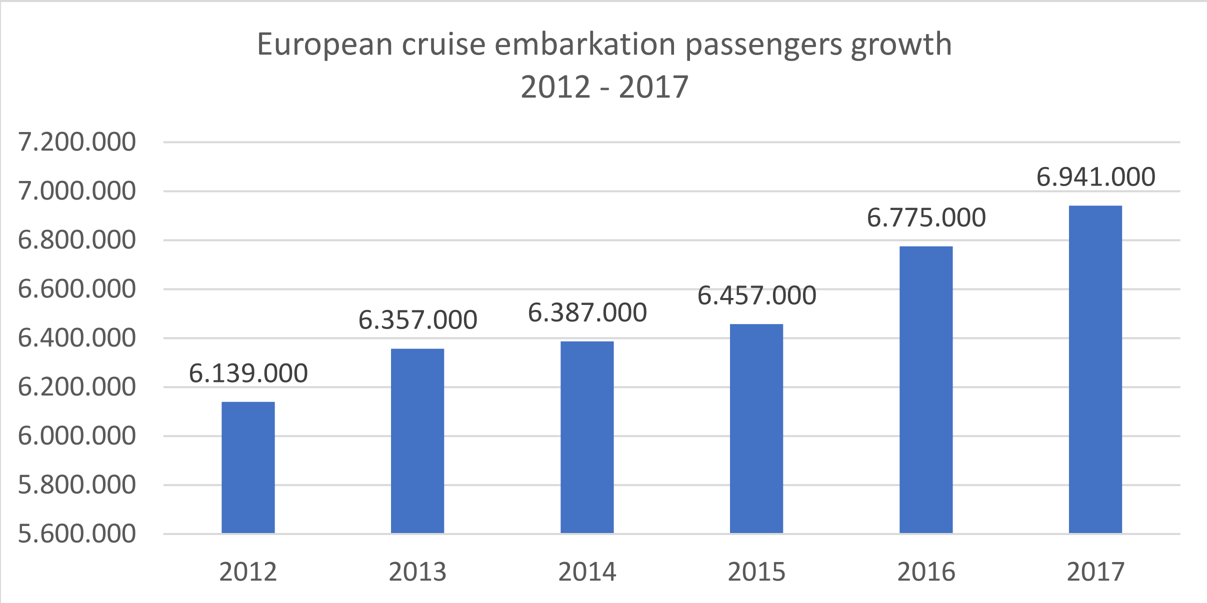

Figure 1: Cruise passengers embarkation growth in Europe

This value represents around 26% of all global value and, combined with the total transit passengers value and the total crew members value, it reaches the final value of 45.88 million of passengers.

It means also a +3.1% compared to the same value of previous year.

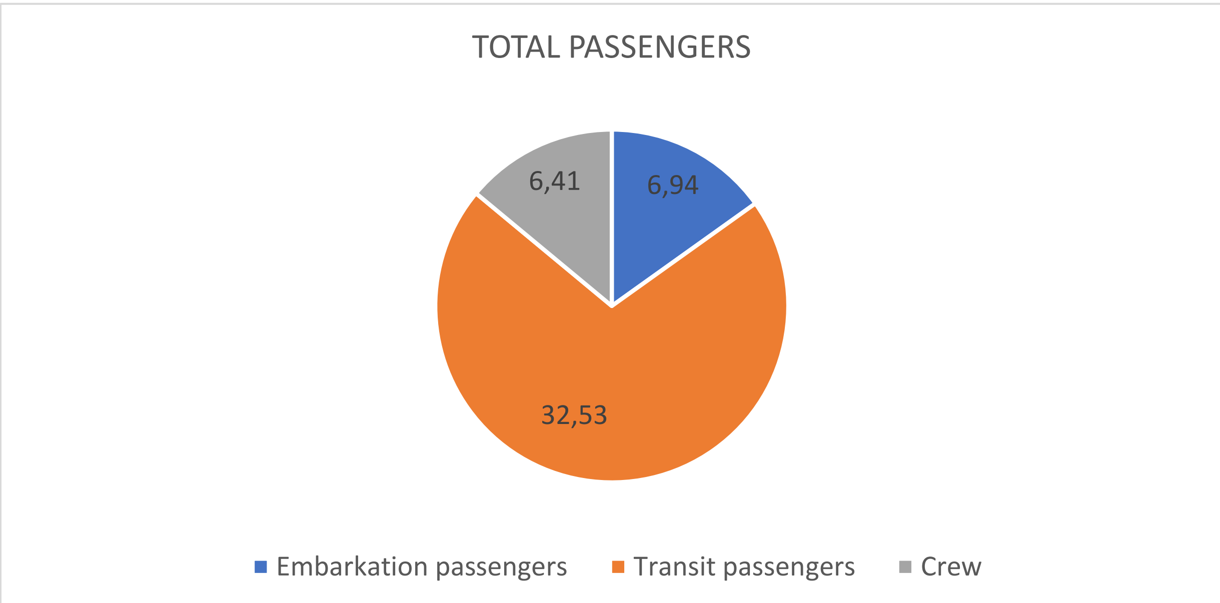

Figure 2: Percentages of embarkation, transit and crew

The Mediterranean cruise area is a fairly self-contained business with 61% of its market directly produced and consumed inside its borders.

Most of the itineraries originate and end within the region.

The Mediterranean area alone produces around 30.5 million of bed days, while the rest of Europe produces 19.2 million of bed days.

The major cruise home ports are:

- In the Mediterranean: Barcelona, Civitavechia, Genoa, Venice and Savona;
- In the rest of Europe: Copenhagen, Hamburg and Southampton.
- The major destination or transit ports are:
- In the Mediterranean: Naples, Marseille, Tenerife, Dubrovnik and Piraeus;
- In the rest of Europe: Bergen, Cadiz, Helsinki, Lisbon and Rostock.

With a total global quantity of 24.4 million crew visits in both home and transit ports, the European harbours alone represent the 26.12% of this traffic, with a value of 6.4 million.

2.3 Economic contribution generated by Cruise Tourism in Europe

Talking about total expenditures generated by cruise tourism sector, this value is composed by the union of three different components: cruise passengers' expenditures, crew members' expenditures and cruise companies' expenditures.

In Europe, passengers spend annually around 4.31 billion of dollars, which represents the 26% of the total global value (16.39 billion of dollars).

Analysing more in deep in this value, it is possible to see that home port passengers represents the 54% of the total expenditures (1.62 billion), while transit passengers represent the remaining 46% (1.98 billion).

Expenditures by crew members account a total annual value of 0.16 billion dollars, that means the 11,42% of the global value.

Expenditures by cruise companies consist of purchases of goods consumed and used on ships, port charges and fees, travel agent commissions, administrative expenses and wages paid to shore side employees and crew among others.

In Europe, its value accounts around 16.22 billion of dollars and it consists of the 40.39% of the total global value.

Summing up all the expenditures in Europe, the total European value runs around 20.69 billion dollars.

The direct cruise tourism expenditures in Europe amount to a value of 20.69 billion dollars, while the direct incomes value in Europe amounts to 5.99 billion dollars.

Compared to the relative global values, these amounts represent the 35.71% and the 33.71% of the total, respectively.

Beyond the direct expenditures, there are also indirect and induced contributions which are generated by the spending of the directly impacted businesses and their employees.

These values considered together generate in Europe a total output of 43.30 billion dollars and total income value of 27.12 billion.

Finally, combining the direct, indirect and induced contributions, cruise tourism in Europe generate an estimated 50.15 billion dollars in total output of goods and services while the total incomes value generated is 12.32 billion dollars.

The total amount of people involved in the sector (direct, indirect and induced) is of 381.426.

3 Cruise Destinations

3.1 The Civitavecchia Cruise Destination

Civitavecchia manages around the 20% of the total Italian cruise traffic and the 9% of all the European one.

In the Mediterranean area its market share is second only after Barcelona, despite its growth rate is greater, 3.5% vs 1.5%.

In the seven-years period 2010 - 2016, the yearly flow of passengers has seen a fluctuating trend with a total average value of 2,693,892.

Civitavecchia is not an important Mediterranean home port but it has an important transit traffic due to passengers interested to visit Rome and its regional cultural heritages.

The average year difference between transit passengers and home-porting passengers is around 41%.

The total number of port calls in 2017 was 693, with a reduction of 140 units compared to 2016.

In 2018 are planned to operate in Civitavecchia 43 cruise companies.

More than 50% of cruises in Civitavecchia are during the "summer" quarter, but in general the traffic is spread all year long:

- February – May: 34.10%;
- June September: 52.60%;
- October – January: 13.30%.

In 2016, the average length of stay for a cruise ship was around 10.34 hours, and the average annual crew members number was 711,382.00.

Regarding the passengers and crew members expenditures, the value for one person are 163 euro and 48 euro, respectively.

Regarding the infrastructures, Civitavecchia is one of the ports most developed for handling cruise traffic.

The harbour can manage simultaneously more than 5 ships together.

There are five quays for cruises and in each of them there is a specific passenger terminal.

Quays length varies from the 150 meters of the shortest one, for only one cruise ship, to the 795 meters of the longest, where can be accommodated more than one cruise ship.

The minimum draft is 7.70 meters, the maximum is 13.5 m, and there are not maximum width and beam limits.

The passengers terminals are five (min surface 800 sqm, max 13,000 sqm) and the maximum distance between one terminal and quay is 60 meters.

The maximum number of passengers that can be handled in one day is 40,000.

3.2 The Valencia Cruise Destination

The development of the cruise sector in Valencia has shown great promise over the past 10 years, passing from a value of 88,170 passengers in 2006 to a value of 403,264 passengers in 2016. In the same period the port calls rose from 98 to 181.

In 2016 each cruise ship carried an average of 2,200 passengers and the percentage division between transit passengers and embarking/disembarking passengers reached values of, respectively, 15% and 85%.

The growth of cruising sector has led to a clearer market segmentation in Valencia where, nowadays, 54% of cruise traffic is represented by Budget & Contemporary vessels while the remaining 46% are Luxury/Premium vessels.

This division is more net if the topic are passengers, where 71% of them are clients of a Budget & Contemporary cruise and only 29% of them come from a Luxury/Premium cruise.

The average docking time of Luxury/Premium ships is around 11 hours, while the average time for Budget & Contemporary cruises is around 9 hours.

In Valencia, currently, there is only one passenger terminal and its use is shared with ferry traffic.

The cruise quays are four with a minimum and maximum length of, respectively, 219 and 395 meters. Draft depth varies between 9 and 12 meters.

Valencia as tourist destination is endowed with important attractions, for example:

- The 39 different local beaches and bathing areas;
- The 5 natural interest protected areas;
- The more than 100 monuments and historic sites declared of cultural interest;
- And the more than 60 art galleries and museum present in the city and in the region.

3.3 The Split Cruise Destination

In 2016 there were 286 arrivals of cruise ships, the number of cruise ships which sailed into the Croatian port was 61 and they operated under 9 different shipping agents. The average number of ships per agent was 6.78.

The total number of embarkations was 367 and total number of disembarkation 512.

The total number of passengers in transit was 277,380 and the average time of stay of cruise ships was 17.5 hours.

The seasonality shows a prevalence of passengers in the three-months period between June and August where are focused the 45.44% of traffics.

Between March and May there is concentrated the 19.48% of passengers, between September and November the 34.34%, while between December and February the traffic is practically zero, with only the 0.63% of annual passengers.

Split is nowadays an important cruise destination thanks to its history as ancient Greek and roman city and, principally, as home region of the Roman Emperor Diocletian that here decided to build up its magnificent palace, nowadays integrated part of the city.

The harbour has only one terminal and its use is shared with ferry traffic.

Berths that can be used also by cruise ships are 10, with a length that varies between 63 and 173 meters. The maximum draft depth is 8.20 meters.

The maximum size allowable for a cruise ship is: 250 meters length, 8.20 meters draft, no air/hight limit.

3.4 The Rhodes Cruise Destination

In Rhodes the number of passengers in last years saw a fluctuating trend, with a final reduction in the years 2015 and 2016:

- 2015: 342,919
- 2016: 319,154
- Difference: -23,765 passengers (= -7.44%).

The same trend was followed also by the number of crew members with a final reduction in the two-years period 2015 and 2016:

- 2015: 147,757
- 2016: 140,380
- Difference: -7,377 crew members (= -4.99%).

The number of ship calls is passed from 388 to 300 (-11.24%) and the and the average staying time of cruises in the Greek port is between 12 and 13.5 hours.

In the last year the number of cruise companies operating in the port was around 40.

The seasonality trends are similar to ones of Split, with around 43% of total passengers concentrated in the period June-August and with the "winter season" (December-February) with practically no traffics (2.86%).

Between March and May it is possible to find the 20% of passengers traffic, while between September and November there is the remaining 34.5%.

The port of Rhodes can accommodate maximum five cruise ships simultaneously and there is only one passengers' terminal. The maximum number of daily passengers manageable is 10,000.

3.5 The Limassol Cruise Destination

During 2016, 98 cruise ship and passenger ship arrivals occurred at the port of Limassol.

According to statistical data the ships stayed at the port for a total of 113 days or 1,245 hours. Among the 78 arrivals, the 76 corresponded to an average stay of 11.82 hours at the port (with a minimum of 6 and a maximum of 40 hours per stay).

The number of ships visiting the port was 23 and they operated under 11 different agents.

As for previous ports, also Limassol has a greater tendency to be a transit port than a home port.

The total number of boardings at the port was 27,414, while the total number of landings at the port was 28,657.

The total number of transit passengers was 44,754.

Between 2015 and 2016 there was a reduction of 20 port calls in the Cypriot harbour, from 98 to 78.

Limassol, with its being a port city in Cyprus, nowadays is an attractive city where it is possible to find a mix of different cultures, attractions, traditions and architectures from Europe and Asia, that lures cruises and invites them to berth in the port for at least 17 hours.

The seasonality shows a concentration of passengers in the so called "winter season" (October - January) when there is focused 60% of total traffic.

The lowest traffic value is in the period June - September with the 5.72% of passengers.

The remaining 32% is spread the four-months period between February and May.

4 The Cruise Value Chain

4.1 Civitavecchia Cruise Value Chain

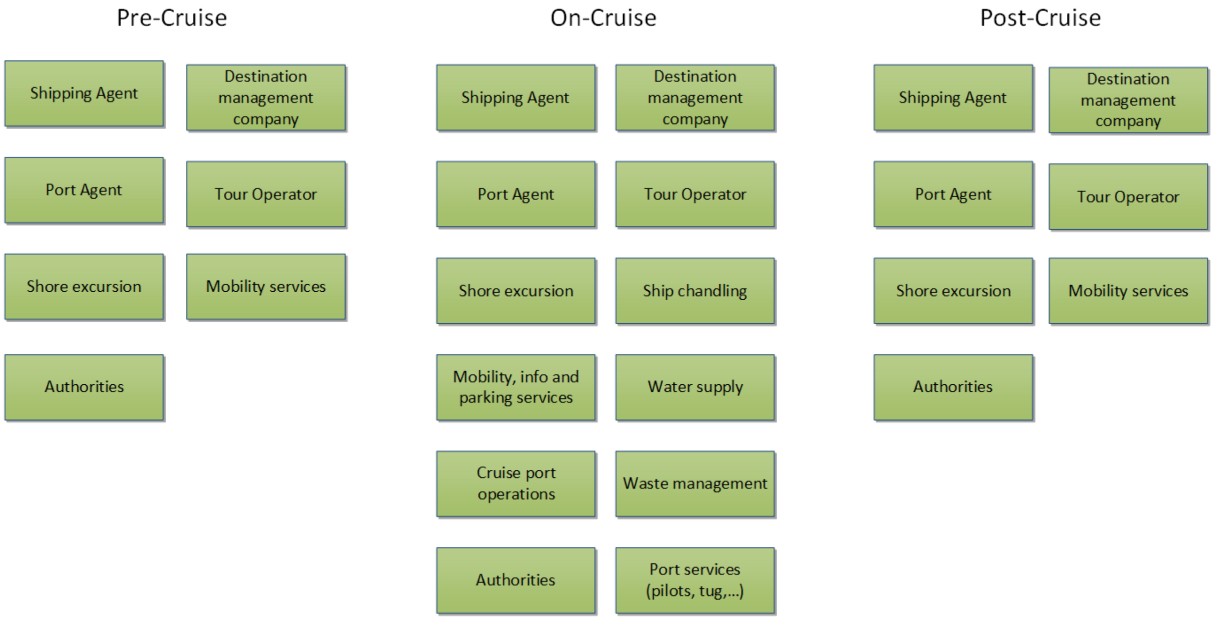

Figure 3: Cruise Value Chain in Civitavecchia

4.2 Valencia Cruise Value Chain

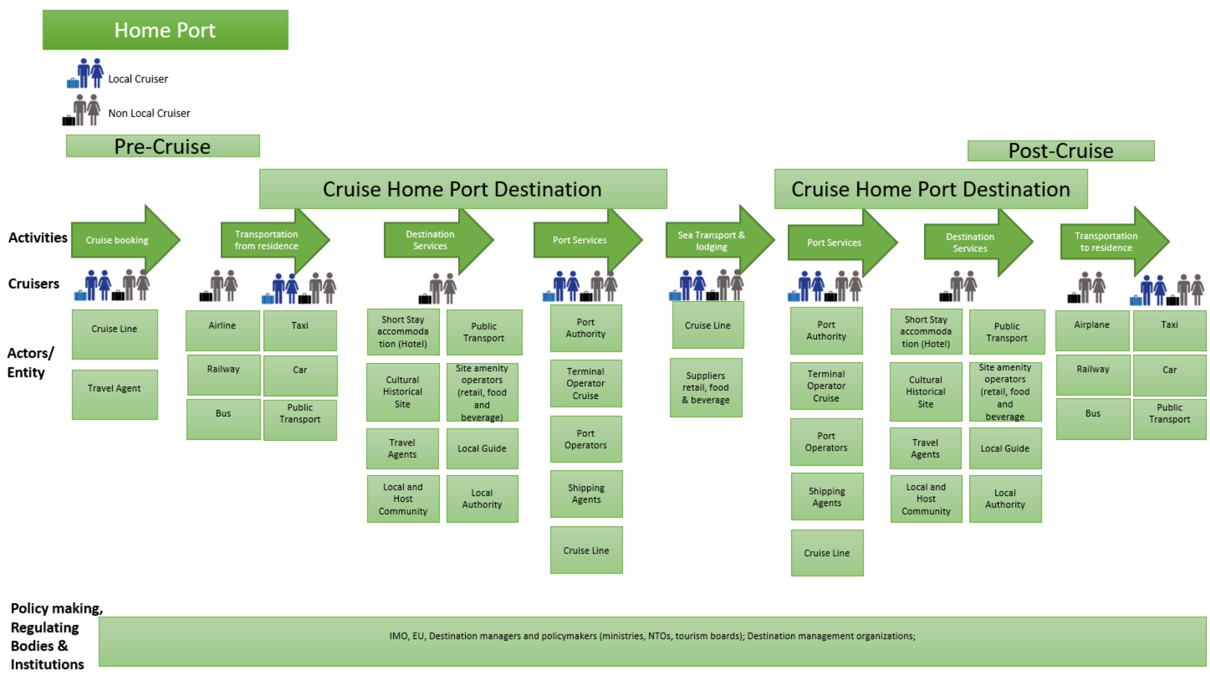

Figure 4: Cruise Value Chain in Valencia - home port

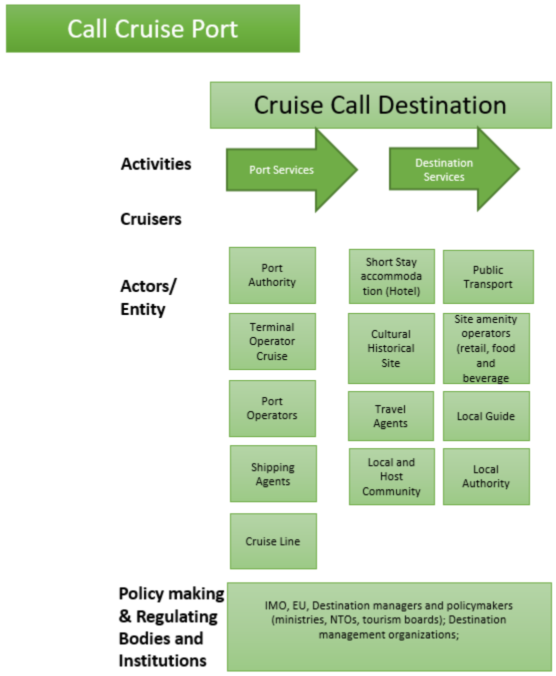

Figure 5: Cruise Value Chain in Valencia - call port

4.3 Split Cruise Value Chain

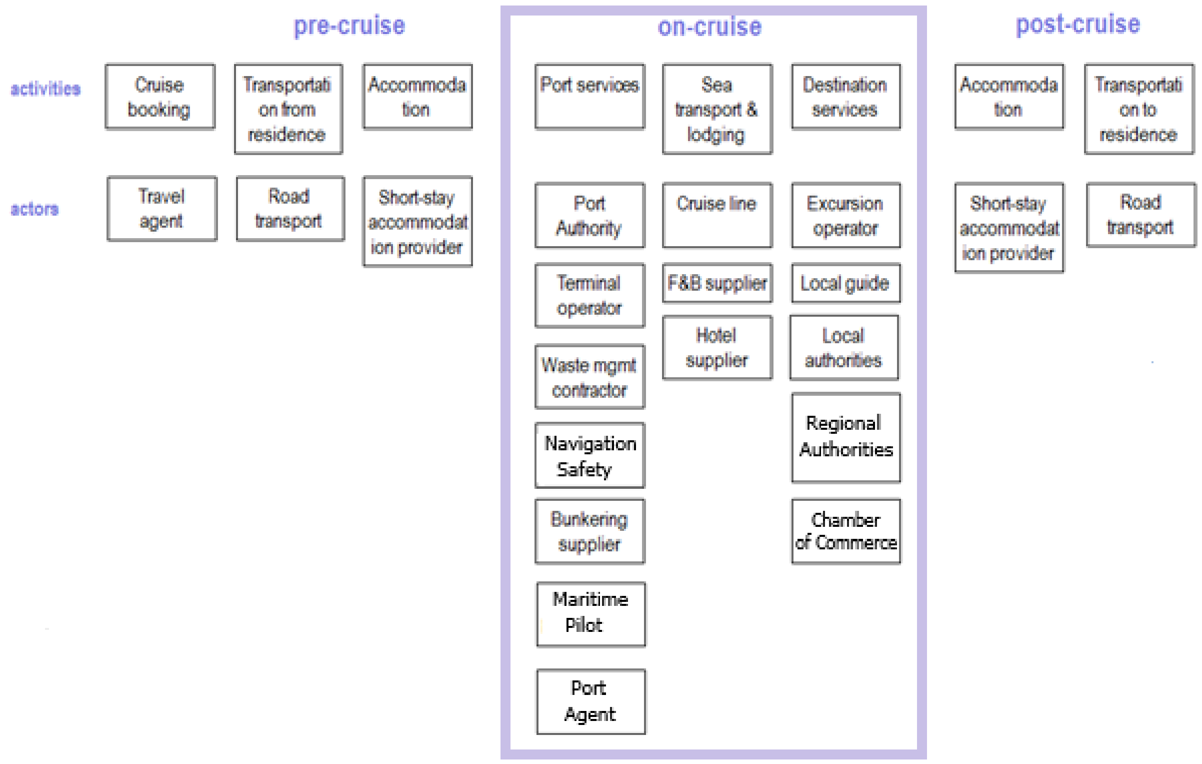

Figure 6: Cruise Value Chain in Split

4.4 Rhodes Cruise Value Chain

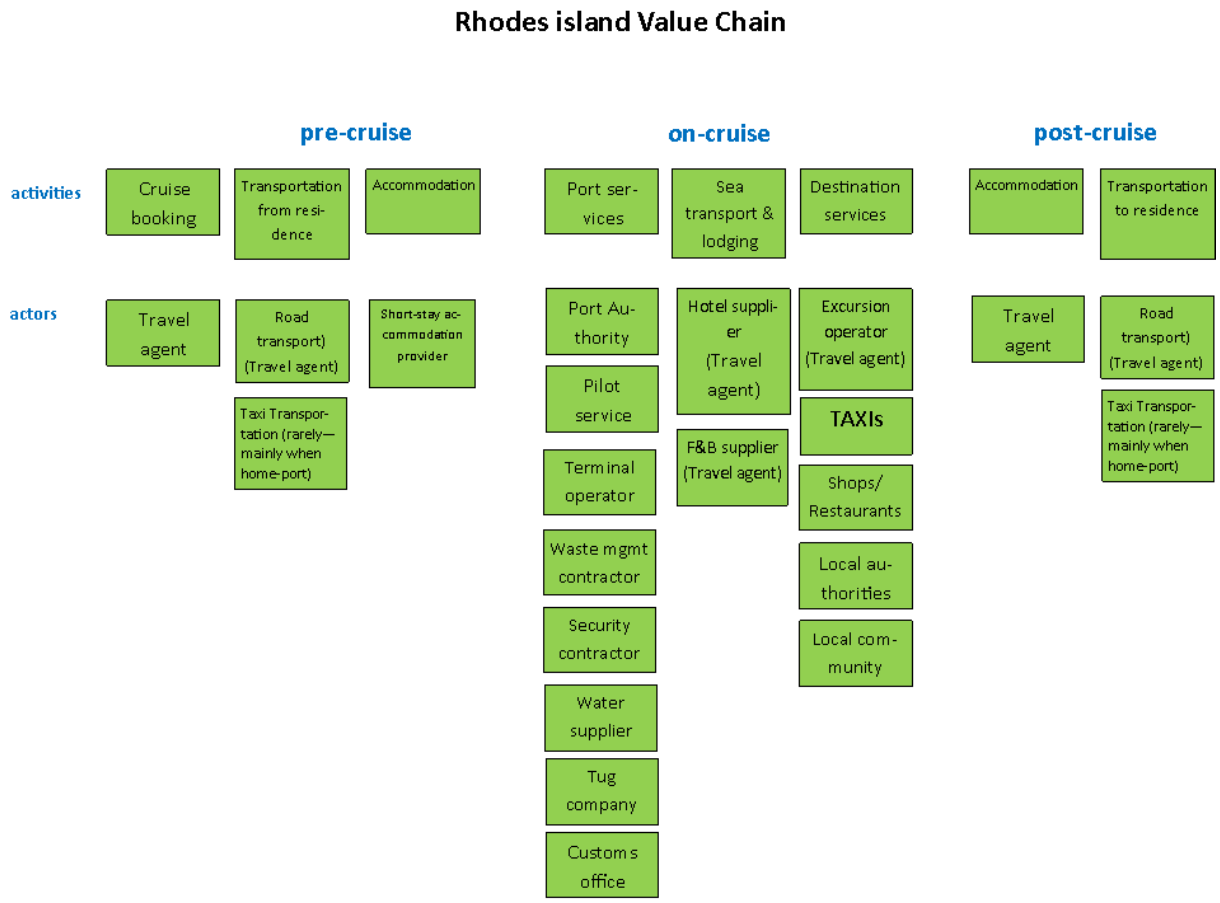

Figure 7: Cruise Value Chain in Rhodes

4.5 Limassol Cruise Value Chain

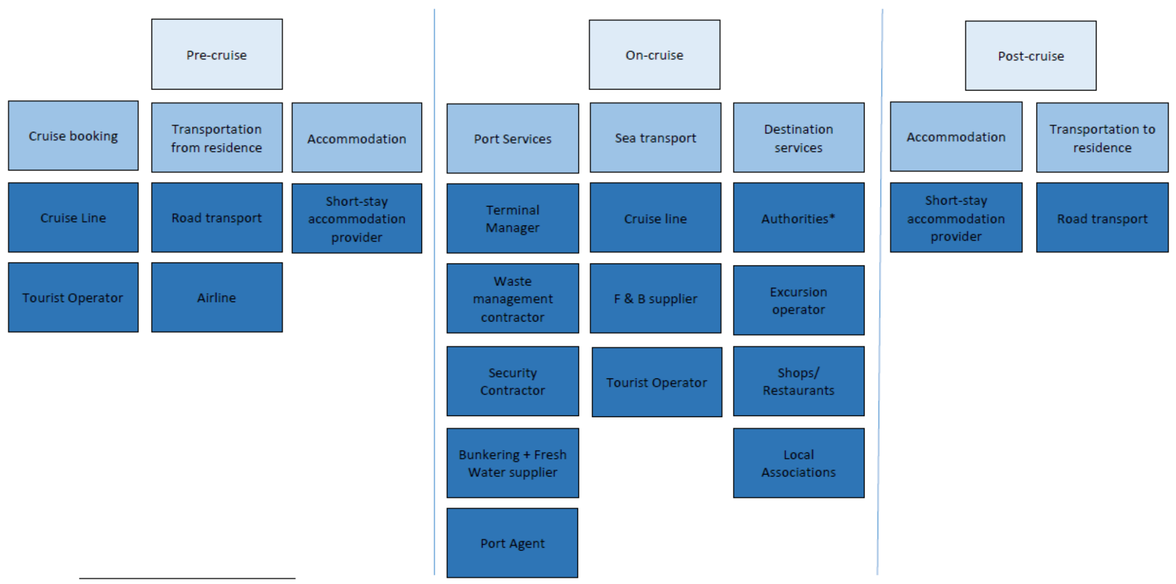

Figure 8: Cruise Value Chain in Limassol

5 Stakeholders involved

In the survey were involved 56 different companies operating in the Cruise Value Chains of the five ports considered for the project.

Stakeholders could operate in the three different phases in which the chain is divided.

5.1 Civitavecchia companies/organizations

Company	Role	Pre-Cruise	On-Cruise	Post-Cruise
ASC	Port Agent			
CAMBIASO E RISSO	Shipping Agent Shore Excursion			
DOCK&DISCOVER	Port Agent Shore Excursion			
FEPAG LA ROSA	DMC Shore Excursion			
BELLETTIERI & C.	Shipping Agent			
MEDITERRANEA	Ship Chandling			
PORT MOBILITY	Mobility, info and parking services			
PORT UTILITIES	Water Supply			
RTC	Cruise port operations			

Figure 9: Stakeholders in Civitavecchia

5.2 Valencia companies/organizations

Company	Role	Pre-Cruise	On-Cruise	Post-Cruise
AGOCV	Destination Services			
APV	Port Authority			
DoYouBike	Destination services			
Chamber of Commerce	Destination services			

Perez & Cia	Port and destination services			
Transmediterranea	Terminal operator			
Valencia Convention Bureau	Policy making			
Valencia Guìas	Destination services			

Figure 10: Stakeholders in Valencia

5.3 Split companies/organizations

Company	Role	Pre-Cruise	On-Cruise	Post-Cruise
MSC Krstarenja	Port agent			
ADRIATIC DMC	Port and destination services			
ATLAS	Destination servies			
CIAN	Waste management, Port services			
CISTOCA	Waste management			
Grad Split	Destination services			
Chamber of Economy	Destination services			
Jadroagent	Portservices			
Split Port Authority	Port services			
Plovput	Port services			
Pomorski peljar	Pilotage service			
SORDES	Waste management			
Split-Dalmatia County	Destination services			
TZ SDZ	Destination services			

Figure 11: Stakeholders in Split

5.4 Rhodes companies/organizations

Company	Role	Pre-Cruise	On-Cruise	Post-Cruise
Rhodes Port Authority	Port Authority			
Chamber of Commerce	Destination services			
Water supply company	Water supply			
Cooperative Radiotaxi	Destiantion services and transportation			
Medieval Rose	Destination services			
Union of Store Owners	Destination services			
Antipollution SA	Port Services			
GEM Travel	Destination services			
Custom office	Port Services			
Security Services MON. S.A.	Port Services			
Carayanides Travel	Shipping Agent and Destination services			
Municipal Port Fund	Port services			
Dodekanisiakai Rymoulkiseis Afoi Pipinou	Tug service			
Georgiadis	Destination services			

Figure 12: Stakeholders in Rhodes

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5.5 Limassol companies/organizations

Company	Role	Pre-Cruise	On-Cruise	Post-Cruise
World Cruises PLC	Cruise representant			
Cyprus Tourism Organization	Destination services			
Limassol Tourism Board	Destination services			

Lofou Association	Destination services			
Chamber of Commerce	Destination services			
Salamis Cruise Lines	Cruise representant			
Agios Tychonas	Destination services			
Cypromar Ltd	Tourist operator			
Celestyal Cruises	Cruise representant			
DP World Limassol	Terminal manager			

Figure 13: Stakeholders in Limassol

Combining, structuring and analysing data reported into surveys by companies, it was found:

- Companies operating (also or exclusively) into "Pre-Cruise" phase are 18;
- Companies operating (also or exclusively) into "On-Cruise" phase are 52;
- Companies operating (also or exclusively) into "Post-Cruise" phase are 14;
- The 22% of companies (12) operate in all three phases;
- The 4% of companies (2) operate both in phase "Pre-Cruise" and "Post-Cruise";
- The 5% of companies (3) operate both phases “Pre-Cruise” and “On-Cruise”;
- The 2% of companies (1) operate only in “Pre-Cruise” phase;
- The 67% of companies (37) operate only in “On-Cruise” phase;
- No one company operates in phases "On" and "Post" together and in phase "Post-" alone..

6 SEASONALITY

Seasonality is an endogenous element typical for different business fields. It originates from the environment in which the business is operated, and it is a limiting factor for every manager because it reduces the space where is possible to operate for reaching the objectives of a company.

For this purpose, many strategies, dominated by adverse seasonal impacts, have been developed.

But not always the seasonality is seen only as a negative element. For example, in a world where it is more and more imperative the realization of an environmental friendly kind of business, the seasonality is considered as a positive model of working. The seasonality can show the pro and contra aspects regarding the presence or less of cruises and their tourists in a certain destination.

However, it is undeniable that the development of a particular industry is extremely difficult and complex when seasonality is an integral part of a particular business.

Two examples that highly influence the seasonality are the tourists age and the cruise location.

Different researches show that the range of people which participates more frequently to cruises in Europe is the one between 30 and 55 years old. The idea is that these people, with a stable situation in their life, with a sure and constant income and a larger available holidays period, can take and enjoy their cruises without the problem of the season. They are the example of cruise tourists that progressively are widening the share of the uncommon cruise periods in the world cruise market.

The location means the kind of weather which is typical in that place and in that season. The climatic factor has a crucial role in determining the schedule of itineraries. Some areas are suitable for cruising throughout the year, while others have certain seasonality which could still be a strong limiting factor in the development of cruising in that area.

In any case, in recent period, new elements that are changing the typical seasonality conformation are the global warming and the improving weather conditions. They are extending the cruising season in many different regions, especially in the Mediterranean. This is a great advantage for this area where there has always been the rule of ships arriving and departing depending on warm temperatures: firstly coming from Northern Europe and then leaving for Caribbean or Sothern Africa.

In last years, more or less since the Mediterranean Sea reached a net and clear position as main character into the world cruise business, it is possible to follow a constant de-seasonality of the European cruise market. It began to circulate the idea of the Mediterranean as a sea where tourist ships could sail also during coldest seasons, also during periods less canonical for cruises.

The aim is to catch all the adding advantages deriving from the overcoming of ship stopping during winter seasons or of moving of these vessels where there are warmer seas.

Nowadays it is already possible to book a cruise during the "Mediterranean winter", and this is possible also thanks to operators that work with vessels designed since the origin for this purpose.

The first aim of companies is to increase profits, and for realizing this objective first of all there is the necessity to better match offers with customer requests.

For doing this, different ships transformed the navigation and the on-board time from a simple means to the main scope of the cruise. Now it is an integrated component of the holiday which is less dependent from both the weather environmental conditions and the destination attractions.

Even from the port companies side there have been and there will be competent and suitable answers and necessary changes. Modifications necessary for managing a complete and precise supply chain which operates around cruise ships operated during different and more difficult environmental conditions.

6.1 REPORT RESULTS

Reading and combining results reported in the different surveys, there were found some interesting and particular outcomes and values.

First of all, the seasonal tourist sharing between the four ports analysed. Values show a clear predominance of the summer quarter, June - August, where on average the 37.5% of all passengers is concentrated. This season is the most chosen because usually it matches with workers holidays period and because it perfectly fits with the Mediterranean environmental features and characteristics. It is the busiest period in three ports out of four.

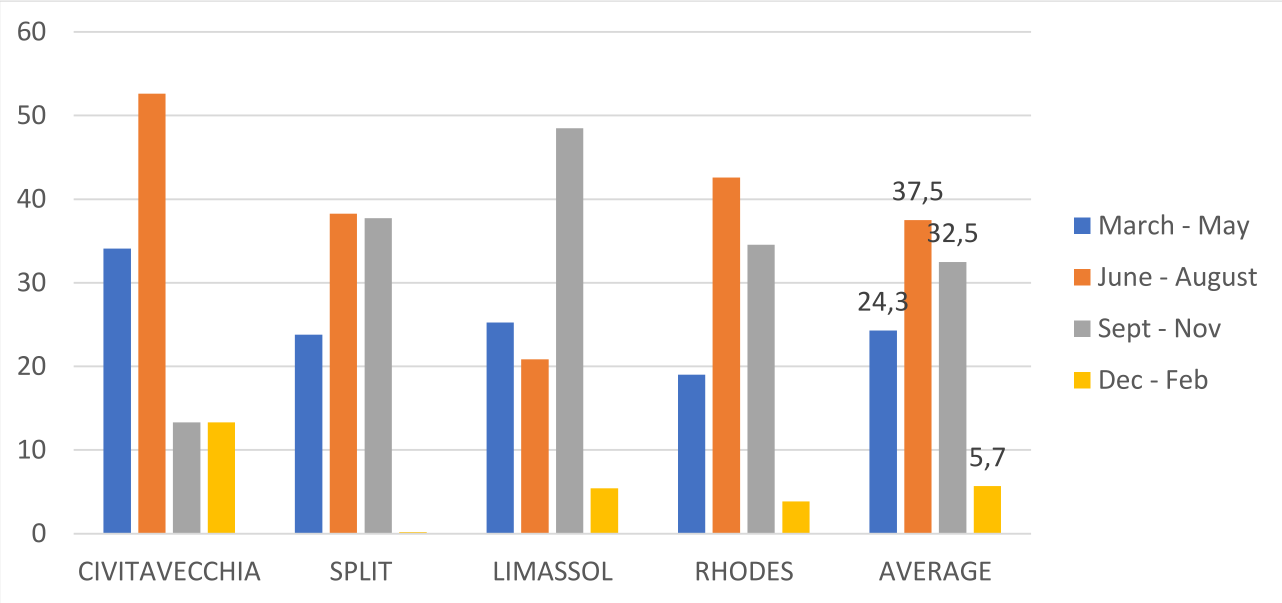

Figure 14: Seasonality in the four ports

Limassol is the only port where the busiest season is not the summer one. In the Cyprus port the quarter most trafficked it the one between the months September - November.

The "autumn season" is the second busiest in the ranking of average values, with the 32.5%, and in two ports out of four: Split and Rhodes.

Not considering again Limassol, the port "different" is Civitavecchia where the "autumn season" is only the third in the ranking overcome by the "spring one" March - May.

In all ports the less trafficked season is the winter one that coincides with months December - February. The average passengers' share value runs around the 5.7% and it is possible to read that in Split its value is close to zero.

In all ports, except Split, the passengers traffic is more or less present all year long even is the percentages are largely different between month periods. In fact, it is possible to see, in all ports, an abrupt percentage jump between the winter season and all other quarters. This shows how much the Mediterranean Sea is not considered an suitable area for cold months.

Split and Rhodes are the ports which show the longest summer season, where the six-months period between June and November has an average percentage value of the, respectively, 37,99% and 38,57%. Not by chance, these are the two ports with the lowest passenger traffic during the winter time.

Civitavecchia is the port with the longest winter season and with the greatest percentage. It runs from September to February and it has an average value of the 13.3%. The Italian port is also the one that, more than others, depends on the summer season in which there are more than the 50% of all year passengers.

7 INFRASTRUCTURES

The cruise industry is growing rapidly, adding new excursions with increasing frequency, building new ships with designs that make some terminals' existing infrastructure obsolete, and launching mega-ships with incredible capacity.

Its influence has the potential to provide economic benefits to a port city with a horizon that can cover the surrounding region or even the entire country.

However, accommodation of large cruise ships into port requires a great deal of initial capital investment in infrastructure as well as maintenance costs.

As cruise ships continue to grow larger, and the safety and environmental protection topics are getting every day more importance, further investment may be required in next years.

Under these types of tourism scenarios with high infrastructure or environmental costs, rapid growth of tourism may result in a stagnation, a growth or even a decline in GDP.

Without significant foreign and well-planned investments into infrastructures, it is questionable whether construction of large cruise ship terminals and plants could pass a cost-benefit analysis.

All over the world local governments are investing large amounts of money in infrastructures for the Cruise tourism. Infrastructures which expects to impact positively to local economy, society and to the natural environment.

Some governments are using cruise arrivals more as a marketing strategy than as an economic profit. While most would use the cruise market for encouraging local economy growth.

The challenge for cruise ports to become increasingly productive, in order to capture their share of this never ending expanding market, requiring constant upgrades to the infrastructure of their terminals and employing innovative methods of processing passengers.

With the term "infrastructure" is not meant only the single physical structure, but also all these facilities that can get an easier life to all cruise operations. This gives also an idea about how much important is the collaboration between cruise lines and local authorities.

The quality of logistics services in the port area, the continuous investments made to adapt the terminals and allow the berthing of very large vessels, and the security inside and outside harbour borders are some components noted by cruise companies for choosing their port routes.

Starting from the arrival of cruise ships in port, the number of them able to be docked at any one time is restricted by the number of berths. Scheduling cruise ships on different days within the season can alleviate this problem, to a point.

Other influencing factors for docking ships are the length and depth of available berths, with length usually more important factor than depth for cruise ships. When ships are not able to dock, tenders are used to transport passengers to the shore (though this is a less satisfactory experience for passengers).

Once ships are moored, it is the time to start operating for passenger processing facilities. Structures which, especially for very large cruises, must be capable of processing thousands of people in a short amount of time.

The real challenge is the maintaining a steady pace in all terminal phases and for all passenger port services. Nowadays port authorities could face with ships that can hold more than 4,000 passengers which means at least the same number in luggage controls, custom checks and security analysis.

Furthermore, a terminal fit-for-purpose must have also adequate architecture for avoiding congestion and for accommodating passengers in an appropriate way with shelter spaces and seating areas. Also the terminal itself may impact the overall visitor experience.

In addition to processing facilities, supply of accommodation and transportation are essential for passengers starting/finishing cruises or simply visiting a specific port-city.

Local plans for cruise market must include not just port-side infrastructures, but also tourism supporting systems and structures as hotel beds, transport, attractions and activities. A city with fantastic attractions and prestigious heritage sites is useless if appropriate transport systems (urban, and extra-urban) are not provided to tourists.

As already mentioned, with the term "Infrastructure" is not meant simply the physical structures but all the systems and services realized and available for improving cruise operations in port. They can be provided both by port authorities or by cruise line themselves.

Two examples of what different Port Authorities are providing in last years are: shoreside electricity power and direct collectors for ship sewage disposal. These two services do not influence directly the cruise tourists experience but their realization gives the possibility to get a better cruise supply chain system.

Another example is the result of positive collaboration between Port Authorities and Cruise Companies. The utilization on board ships and inside port borders of the lasts positioning systems have given the possibility of sailing to harbours in conditions of sea and weather that until not long ago could be considered impossible.

Regarding the attractivity of a specific port destination, cruise companies focus their attention surely and firstly to a more tourist point of view, but not only. They must consider also their point of view, which means a view more economic, operative and practical which has to fit with all the services that need a cruise ship at port.

A location can be the most attractive and beautiful for tourists, but if it is anti-economic, difficult and dangerous to reach, no one cruise company will never consider it in its ship routes.

Talking about the five ports under analysis and their accessibility for cruise passengers, reading the reports and their answers, it was possible to get the following information.

	RHODES	LIMASSOL	SPLIT	VALENCIA	CIVITAVECCHIA
TERMINAL	1	1	1	1	5
AIRPORT	20 km	60 km	20 km	20 km	60 km
TRAIN STATION	NO	NO	0,2 km	6 km	1 km
PUBLIC TRANSPORT	YES	YES	YES	YES	YES
METRO	NO	NO	NO	2 km	NO
BUS PARKING	YES	YES	YES	YES	YES
CAR PARKING	NO	YES	YES	YES	YES
TAXI	YES	YES	YES	YES	YES

Figure 15: Accessibility infrastructures for cruise passengers

The most accessible port looks to be Valencia where are available all the means of transport reported, even the metro that no one of other harbours have. Furthermore the metro line available in the Spanish port is also the one directly connected with the airport that is distant 20 km.

The second most accessible ports are Split and Civitavecchia which miss only the presence of a metro line connection. The Croatian port has in its favour the train station and the airport really close, 200 meters and 20 kilometres respectively.

But the Italian port have an airport and a train station that, although further (60 kilometres and 1 kilometre respectively), have available a wider range of destinations reachable.

The harbour less accessible looks to be Rhodes. Although it has a relatively close airport, only 20 kilometres, it does not look to have a properly car parking for cruise passengers. Like Limassol, also Rhodes do not have a train station since in the two island there is not a railway network.

CONCLUSIONS

- Seasonality is a limiting factor for managers because it reduces the operative space for organising cruise services.
- In recent years, due to global warming and to changing of tourism habits, it is possible to notice a extending of cruising season in different regions, especially in Mediterranean.
- New technologies and new cruise business strategies are facilitating these new trends of expanding cruising season.
- Data reported in surveys gave a ranking of passengers' percentage shares between seasons that shows as first, with the 37.5%, the summer quarter (June - August). The second in the ranking is the quarter September - November (Autumn) with the 32.5%. Third is the spring season (March - May) with the 24.3% and finally, with only the 5.7% of passengers, the quarter December - February.
- In the cruise business, with the term "infrastructure" is not meant only the single physical structure, but also all these facilities that can get an easier life to all cruise operations.
- The cruise industry is continuously growing and this is making obsolete different systems, infrastructures and plans until now used. Many ports, for still being competitive and for capturing new market shares, are planning and dealing new huge and well-planned investments.
- Logistic, accessibility, services to ships and to passengers, security systems, these are only some components noted by cruise companies for choosing their port routes.
- The passenger facilities inside ports have to face continuously with the challenge of handling cruise ships that can host more than 4,000 tourists all together. The real problem is to find the way for maintaining a steady pace in all terminal phases and for all passenger port services.
- Infrastructures available for cruise market do not have to include only port-side structures, but also tourism supporting systems as hotel beds, transport, attractions and activities.
- Some infrastructures and services recently developed for supporting and increasing cruise market and its land-side operations are: shoreside electricity power systems, direct collectors for ship sewage disposal and positioning systems for helping the ships docking phase inside ports.
- Analysing systems and infrastructures available to passengers for reaching the four ports under analysis, it was noticed that the most accessible is Valencia. In the Spanish port there are all the means of transport considered, even the metro that is not present in any other port. While the less accessible is Rhodes where there are not car parking areas and, as in Limassol, there is not a railway station.