Cruise Industry

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This chapter had been included in the book:
Roger Vickerman (Ed.). International Encyclopedia of Transportation, Elsevier

Encyclopaedia of Transportation

10489: CRUISE INDUSTRY

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Abstract

This chapter details the key features of modern cruise shipping, a maritime activity of continuous growth for more than three decades. Following a definition of modern cruising and a presentation of the levels of its uninterrupted and, seemingly, unstoppable growth and globalisation, it analysis the most vital trends in cruise, including the modern geography of cruise shipping, the presence of economies of scale, the observed market segmentation market concentration, and the variety of source markets. Attention then turns to cruise ports and destinations that have strived to benefit by the financial benefits that cruise calls are associated with, and the recent reforms that they have applied and some key operational issues. The last part of the chapter discusses the inevitable sustainability challenges. Reversing social perceptions, and minimizing environmental and other externalities emerge as vital issues to be resolved in order to achieve sustainable growth of cruising around the globe.

Keywords
Cruise shipping, cruise ports, destinations, sustainability, globalisation, economies of scale, port operations, societal integration.

References
A list of 15 books, articles, reviews or seminal articles to which the reader can be directed for further information on the topic is provided at the end of the chapter.

Website

A list of relevant websites is provided at the end of the chapter

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Introduction

Cruise shipping has witnessed an uninterrupted growth and unstoppable globalisation trends over the last decades. The globalisation of cruise activities is highly supported by profitable cruise lines who have endorsed economies of scale and advanced segmentation, in order to offer innovation and schedule new types of itineraries, and not least, by the desires and strategies of cruise ports to host more cruise activities. It is also advanced by changes in the demand side, in particular the growing internationalisation of cruise passengers' source markets. With the positive direct and indirect impacts diffused to the port cities or nearby touristic destinations, cruise seaports are gaining importance. The interest in hosting more cruise calls and cruise passenger movements has been supported, in general, by broader communities and decision makers. Still growing cruise business, like any other economic activity, is also associated with externalities raising social, economic, and environmental questions and challenges for cruise port and the surrounding areas.

The reader is being introduced to the chapter with a short definition of the term 'cruising', followed by an analysis of the evolution of a globalized industry. Then the chapter reviews the key challenges and strategic issues of the cruise industry today: the geography of cruise shipping, market concentration, the presence of economies of scale; market segmentation; passengers source markets, and the cruise ports and the destinations that have developed an interest in advancing their cruise activities. Finally, it highlights the importance of sustainability, in particular the socially and environmentally responsible growth, as a strategic issue for the cruise world.

What is cruising?

Cruise is a mixture of maritime transport, travel and tourism services, facilitating the leisure activity of passengers paying for an itinerary and, potentially, other services on board, and including at least one night on board on a seagoing vessel having a capacity of at least 100 passengers. Transportation (the cruise ship) is the core element of the experience instead of a simple conveyance.

Cruise shipping has first established as the transportation of pleasure-seeking upper class travellers on seagoing vessels offering one or more ports of call in the United States and the Caribbean. Today this is a highly efficient global business. Modern specialised ships which are radically different from cargo vessels, the use of an increasing number of cruise ports of call and turnaround ports, so as to provide their customers excellent in-port and destination experiences, and convenient departures from proximal embarkation cities, are fundamental tenets of the modern cruise industry.

This is an activity taking place in specific markets, each having its own regional characteristics, with the Caribbean and the Mediterranean being the most important. As such, the cruise industry must address multiple considerations related to on-board amenities, itineraries, ports of call, and shore excursions.

Uninterrupted growth and globalisation

Since the late 1960s, when specialised vessels of speed and comfort replaced the last liners, cruise shipping has witnessed uninterrupted growth. This growth is the result of a remarkable resilience in the face of economic, social, political, or any other crises that regularly challenge both shipping and tourism sectors. While economic recessions had a major impact over maritime cargo shipping, cruise lines and cruise ports managed to 'cruise through the perfect storm' (Peisley, 2012), the global financial crisis of 2008-09 and the Costa Concordia loss. In 2018 a total of 28.2 million people took cruise vacations in one of the cruise regions of the world (North America, Caribbean, South America, Mediterranean, North

Europe, Australia, Asia, Africa). Ten years before the number of people that had embarked on a cruise were just 11.8 millions.

[Figure 1 near here]

[Source: Cruise Market Watch, CLIA]

This rise of cruising passengers has been the outcome of the renewals and rising capacity scale of cruise vessels, the improvements in shipbuilding, ports, and the growing interest of destinations that allow for planning of more complex itineraries, the sophistication and specialisation of the product offered. Thus, the 2019 cruise industry outlook of Cruise Lines International Association (CLIA, 2019), is projecting that more than 30 million single persons will cruise worldwide in 2019. Five years earlier, forecasts had projected this milestone to be reached in 2024.

The starting point of cruise geographical expansion dates back in the early 1970s; to a certain extent modern cruise shipping was invented in Greece by the pioneer cruise line Epirotiki Lines and the aggressive expansion strategy endorsed by its owner Mr. Potamianos who identified the limits of the East Med and decided to plan itineraries at the other side of the Atlantic. Proximity to the major passenger source market (USA) led rapidly to a focus on the United States and the Caribbean that was destined to provide the basis for a remarkable growth and expansion of cruising.

A seemingly unstoppable globalisation is highly supported by (i) the profitably of cruise lines; (ii) economies of scale; (iii) the growing segmentation of cruise shipping; and not least, (iv) the desires and strategies of cruise ports and destinations to host more cruise activities.

Globalisation of cruise shipping is based on three types of itineraries structured by cruise lines: (a) *perennial*, responding to a region that is served throughout the year due to the resilient demand (with high/low periods) and stable weather conditions; (b) *seasonal*, to serve periodical market potential in periods with good weather conditions; and (c) *repositioning*, between perennial or seasonal markets (Rodrigue and Notteboom, 2013). Deployed vessels are involved in these different types of itineraries, so as to allow maximum capacity utilisation in combination with the maximisation of earnings per passenger and lowering of expenses (mostly via lower fuel consumption). Beyond the geographical distribution of passenger source markets, the factors affecting the deployment patterns include the need to match brands and ships to source market demographics; the links with airlift, and landside transportation; the opportunity to balance marquee destinations with lesser known gems, or that of developing new routes and generating itineraries for new markets, the potential shore executions revenues comparing to on-board spending; fuel sourcing, availability and cost consideration. All these are examined in parallel with the time, speed and distance formula in order to decide where and how to deploy cruise ships.

The geography of cruise shipping

Cruise lines restructure their deployment strategies trying to better understand what fits best in each case, and what are the strategies responding to the global presence of cruising. Differences among the markets and regions exist, the most obvious being the variance of profitability. The emerging multi-region industry development is directly linked with a changing geography.

The deployment shares of each region are a combination of the existing demand, and the willingness of cruise lines to develop new markets. Looking at the capacity of the cruise vessels deployed in each region, Caribbean stands as the dominant, with 34% of the global capacity. The Mediterranean Sea is the second biggest region, with a share of 17%. The non-Mediterranean European market reaches 11%.

While it has been for long standing as the third major region of all, today it is the fourth in the respective ranking, given that in the very recent years the Asian market – in particular China – experienced a record breaking growth (11%). The deployment of increased capacity, combined with the opening of sales offices by many cruise lines in China, Hong Kong, Korea, Singapore, and Taiwan resulted in a growth of cruise activities in Asia from 1.3 million in 2012 to almost four million in 2020. The growth is mostly based on the number of Chinese cruise passengers, which is as big as all other Asian markets combined.

Market concentration

The three largest cruise lines, Carnival, Royal Caribbean and Norwegian represent 80% of a highly concentrated cruise shipping industry. Carnival Corporation, with its nine different brands controls 47% of the global cruise market, Royal Caribbean Cruise Line (RCCL) and its three different brands control approximately one quarter, Norwegian Cruise Line Holdings is the owner of three different brands representing 9.5%, while the MSC owned vessels represent a 7% market share. Approximately 30 more cruise lines are currently in operation.

The top two corporations consolidate different brands aiming to cover a variety of market segments. Beyond different and potentially more effective corporate entities, this allows for differentiated services to be offered and the marketing of each brand as a unique of its kind, captivating a larger part of the demand.

Cruise Fleet: Economies of scale

Economies of scale have been a key future of modern cruising. Today, the biggest cruise ships have a capacity of 6,687 passengers, with the capacity of each of the 50 biggest cruise vessels in operation having exceeding 3,000 passengers. The average dimension of a cruise ship is over 200 meters long, 26 meters beam, and 3,220 passengers capacity, though standard deviation is big and such numbers need to be treated with caution. The average capacity of cruise fleet exceeded 2,000 passengers for the first time in 2002, and 3,000 passengers in 2006. The current order book suggests a clear trend of stabilisation, though this does not include potential withdraws from the market: out of the 24 new vessels to be delivered in 2020, six will have a capacity that of more than 4,000 passengers and three of more than 2.000. Four of the 24 vessels to be delivered in 2021 have a capacity of more than 5,000 passengers. In 2019 the 407 ships provide 600,000 berths capacity, while in 2027 the number it is expected to increase to 472 ships and 785,000 berths.

Market segmentation

The growth of cruising has led to market segmentation. Different types of vessels, associated with different amenities offered on board and ashore, define types of cruises offered, in turn having as target different groups of potential cruisers. Attempting to further penetrate the market, cruise lines, or specific brands of the bigger corporations, are present in one or more, of the major segments, aiming to expand the social and age groups they target, but also to generate repeaters (past cruisers that decided to return).

Contemporary cruises are popular amenity-packed cruises for people looking for lots of activities and a great value. These mainstream cruises rival land based vacation by offering a comprehensive and amenity filled vacation, inclusive of accommodations, meals, and entertainment, in a casual environment, with newer (or extensively renovated) ships offer modern design and comforts, and many more activities. Premium cruises are more upscale cruises also offering many amenities, with increased focus on refined service and more space. Priced inclusive of accommodations, meals, and entertainment, premium cruising's value still exceeds or rivals the best packages offered by upscale hotels and resorts. Luxury cruises are defined by the highest levels of quality and personalized service offered on luxury cruise ships and ashore to exotic ports. Expensive when compared to the rest of the industry, luxury lines deliver value by offering more inclusive pricing than other cruise lines and opportunities to travel to exotic destinations. A fourth market segment is speciality cruises. These focus on a destination niche or a special style of cruising including expedition-style cruises, sailing ships and a growing number of river cruises. They visit some of the world's most remote and unspoiled places to offer a unique experience that guests find educational and adventurous (on the structures of the cruise industry: Pallis, 2015; also contributions in Pallis et al., 2014).

Source markets

The North American market has always been, and continues to be, the largest and most stable market since the beginning of modern cruise. The actual number of Americans that cruise per annum, mostly with American brands, is estimated to be 14 million passengers. There are also Americans who cruise on European brands in the Caribbean and Europe. Yet, while growth has slowed in recent years, the low levels of cruise penetration to the local market support projections for further expansion of cruise in the region.

Beyond North America demand for cruising is mostly expressed in Europe. According to 2018 data, about seven million European decided to cruise, with almost one out of four living in UK and Ireland. A total of five million of passengers came from Australasia, Asia, South America and Middle East and Africa. Even though these higher percentages are to a certain extend the result of the small penetration levels of cruising in the particular markets in past years, it is also indicative of the advancement of stakeholders' strategies aiming to expand cruising in the particular areas.

Cruise ports and destinations

In all regions, ports and destinations have developed an interest in advancing their cruise activities. This is not least to the association of cruising with considerable financial contribution to the port cities or nearby touristic destinations. With the significance of the societal integration of ports with the port-cities rising, cruise is part of respective agendas of port authorities and other port managing organisations. In several parts of the world they have moved from multi-purpose terminals or temporary docking facilities towards specialised terminals, in order to act as ports-of-call, and whenever possible as home-ports hosting the, financially profitable, departure and conclusion of a cruise (Niavis and Vaggelas, 2016). A growing interest by third parties, including cruise lines, to invest in port facilities has followed (Pallis et al, 2018).

Among the core issues to be addressed by cruise ports are the availability of adequate infrastructure and the organisation of the cruise terminal operations in an efficient way. Cruise ports need deeper and lengthier docks in order to facilitate the new generation of cruise ships efficiently. The necessity of new infrastructures poses significant challenges especially to those ports that are facing land scarcity or the need for regular dredging of their basin. In the latter case there is a need to minimise potential impact on the sea flora and fauna (through land reclamation) and find the best way for processing and use of the dredging operation products.

Beyond matters worth consideration in all ports, such as number of berths, water and sewage facilities, customs, agents, pilots, security and immigration processes, gangways usage etc., additional ones are present in the case of homeports. The development of transport and tourism capacities is also critical. These concerns need to be addressed following a better understanding of the exact implications that the enduring increase of the size and capacity of cruise vessels and the resulting scale of operations produce.

The optimal planning of cruise ports and their terminals enables the most sustainable operations possible. Inevitably this has brought in the agenda of cruise lines and port managers the issue of long-term arrangements. The parameters that would enable a location, or a port, to secure a long-term commitment of cruise lines that would provide the motive to proceed to product and process adjustments need to be defined. Destinations and ports seek ways to reach ways of collaboration with cruise lines towards this end and broader expertise on what needs to be done towards this direction is essential.

Berth allocation is a long-term planning issue for ports with key social implications. The practice refers to the advance planning of which cruise vessels will visit the given port a specific day for a specific timespan. Given the limitations imposed by the geographical distances between ports included in an itinerary and the lengths of cruises, the phenomenon of many operators berthing for the same hours is not rare. The problem of berth allocation is even more important in the case of smaller, secondary, cruise ports. In small picturesque destinations cruise calls might mean the relatively unpleasant situations of a crowded location at certain days or hours, even distortion of other tourist activities. In bigger ports this might take the form of congestion at the time of arrival of bigger ships on which thousands of people are cruising. The arrival of two average size cruise vessels at a given port means more than 6.000 passengers disembarking at the same time. Hosted passengers might increase without an increase of the number of cruise calls. Yet, congestion in small and medium destinations is in some cases produced simply because of small additional number of calls. Without effective planning, during some days these destinations are subject to the pressure and the negative effect of too many passengers that can hardly be accommodated in a way allowing for a positive experience. The fact that in several cases the presence of cruises is marked by seasonality deteriorates the problem that smaller tourist attractive destinations face.

Local communities also endorsed at large, if not universally, the idea of hosting more cruise activities. Admittedly, passenger and crew spending contribute significantly to the cruise hosting economies. Cruise lines expenditures for goods and services in support of their operations, along with a number of other indirect and/or induced positive effects, provide additional motives for hosting more cruise activities. According to the Cruise Lines International Association, in 2013, a total of 114.9 million onshore visits by passengers and crew generated $52.3 billion in direct expenditures at destinations and source markets around the world. These expenditures generated a total (direct, indirect, and induced) global output of $117.1 billion. The production of this output required the employment of 891,000 full-time equivalent employees who earned $38.5 billion in income. In the USA alone, the total impact of cruising grew by 26% since 2009, comparing to a rise of 14% of the GDP over the same period. In Europe, a number of economies (i.e. UK & Ireland, Germany, Italy, Spain, Scandinavian countries, and France) enjoyed cruise spending that in total (i.e. direct, indirect, plus induced) exceeds one billion Euros annually.

The sustainability challenge

The aspirations to host more cruise activities are increasingly combined with the strategic importance of sustainable growth; a combination that, ironically, is to a great extent founded on the achievement of the desirable growth.

The gigantism of cruise ships and the multiplication of cruise itineraries, implies a growing number of passengers arriving at a destination with one call alone, posing significant challenges on cruise ports and destinations hosting them. The 'contemporary cruise' segment of the sector, that represents more than 75% of cruises, is offered by vessels that exceed in capacity the 3,000 passengers/ 1,000 crew threshold. Beyond the need for further infrastructure, this implies mass arrivals of tourists at local destinations, concerns for overcrowding, congestion, but also needs for massive operations, considerable footprint, and needs for receiving quantities of waste (for the Mediterranean case: Pallis et al, 2017). As a result- justifiably or not- local communities have started questioning the unqualified growth of cruising, which had for long been taken as a beneficial development. While the benefits, in term of spending at destinations, are profound this growth might be associated with congestion and a number of related externalities to be addressed.

A condition to enable local communities to extract the most benefits from the rapid cruise market growth is the definition and endorsement of the best practices and policy options at the disposal of cities, ports and related stakeholders in order to mitigate the externalities produced by cruise shipping, such as traffic or environmental ones. The existing challenges to be addressed are of operational, social and environmental nature.

Overall, for the cruise world sustainability implies a holistic management addressing issues related to three main pillars: (a) the *economy, (b) the society, and (c) the environment*. Since many different stakeholders are involved in this process, a critical factor in supporting sustainable shipping is the understanding of all parties concerns, needs and expectations. It is increasingly acknowledged that a strategic approach - involving constructive dialogues, partnerships, synergies, even joint Research and Development (R&D) initiatives - are some of the key instruments towards this end.

Securing most of the potential local gains via an expansion of the cruise activities requests a consensus of how this might be done and how it might be integrated with the local economic development strategies. Destinations and cruise ports have no unlimited spaces for the development of all different activities that they might wish to advance. There is frequently a restriction of space, either at the city or its waterfront, or at the port. The antagonism of different actors and industries to maintain or increase the shares of the space they use is not rare.

The development of cruise activities, or just cruise terminals might be associated with restrictions to residents' access at the waterfront. On the one hand, the growth of the industry is based on the modernization of existing infrastructures, but also on the presence of new facilities and the spatial expansion of the terminals and the cruise related activities. On the other hand, waterfront development is appreciated in many cases as the way to preserve alternative uses and respect traditions of the cities. Given this appreciation, citizens' objections to develop tourist activities or related infrastructures (parking slots, restricted access zones etc.) are not rare. The definition of the principles to be adopted and the parameters to be examined would secure a balanced approach.

The same stands true for port development. The limited port zone marks imply choices as regards a wide spectrum of activities that might develop. As multi-purpose terminals are not anymore a viable option of cruise activities development, the growth of cruise sustaining results in a potential interference with other maritime transport markets. Cargo ports also seek to spatially and functionally expand so as to improve the level of their own integration in supply chains. Stakeholders involved in these markets would like to see biggest parts of the port devoted to their activities, rather than the expansion of cruise ports. A balanced port planning needs to take into account contradicting potentials of different segments development. How this might be done is a question deserving attention.

Cruise terminal site location is the question that follows. Which site, in which way should be planned cannot be decided apart from broader destination or regional planning. When several potential port sites can be considered, broader goals such as spreading tourism to new areas, help strengthening infrastructure, create tourism routes, provide investment for key facilities are all part of the equation. Plans for other sector development and for other forms of tourism create cumulative effects. The forms of involvement of stakeholders in location choice and, when essential, spatial and traffic planning, is increasingly important.

The planning of the port and the hosting of cruise activities does not, however, end at the gate of the terminal. The transfer of passengers from the terminal to city and transportations related to shore excursions are conversely important. Efficient location choices are conditioned by the efficiency of private, or public, transport strategies (i.e. services provision to the terminal but also avoid interference with urban road traffic when a cruise call arrives or departs). Location choices are also linked with the capacity of several tourism related industries to connect and the urban tourism strategies that tourism organisations and other relevant decision makers have underway.

Thus, resolving most of the above problems demands more that an agreement on some technical issues (i.e. berth allocation details). It also demands the development of two types of coordination. The first one is the coordination between cruise ports and cruise lines in order to synchronise the system at the port and the operations taking place at the port terminal. The second one is the coordination of tourist destinations, including local public authorities, museums, retailers and, foremost transport service providers (coaches, buses, taxis) and travel related industries, so as to create smooth embarkation and disembarkation processes and passengers flow in the destination. Even port arrangements such as the berthing planning cannot be efficiently implemented if there are no means to involve other actors at the visited destination so as to orchestrate the entire cruise supply chain.

Reversing social perceptions

The expansion of cruise activities has not left unaffected the image of cruising. The elite activity of some passengers per year has been replaced by the mass transportation of thousands of cruise passengers at once. A community's decision to seek cruise ship visits requires a number of industries to be involved but will also affect many, either directly or not. Besides, cruise is not dissimilar with the impacts generated by any other tourism development on the milieu and services of visited communities and sites. It might displace current activities by other tourists or by local residents, causing changes in costs, access and variety. These changes can be positive or negative, i.e. overloading dock facilities or causing improved ones to be built; creating new services, or pricing the locals out of existing ones. The same change may be viewed as positive by those who benefit and negative by those who may not benefit. All these lead to societal approaches that conceive cruise growth being associated with the deterioration of the quality of life.

Aesthetics have turn to a major issue, as did overcrowding of marquee destinations. A marquee destination that has experienced the negative effect of such approaches is Venice. A ban on large cruise ships passing through the centre of Venice was imposed in late 2014, preventing all ships over 96,000 gross tons from sailing to the city's main cruise terminal, and limit the number of bigger ships over doing so to five per day. The debate had gained momentum as citizens and local protest groups, were discontent with the presence of the bigger vessels, arguing that they produce pollution and result in substantial levels of emissions, with the acid nature of the pollution thought to be potentially speeding up the erosion of the city's medieval buildings, which are already sinking into the lagoon surrounding Venice, itself an UNESCO heritage site. Even with the real environmental assessment pending, the image of giant vessels next to traditional buildings led to an overheated reaction by local communities; aesthetics has come to play, and cruise liners had to limit number of big ships to Venice.

Other marquee destinations including Barcelona, Dubrovnik, Santorini, French Riviera, have experienced similar issues. Barcelona port authority had to substantiate the benefits of cruising via several studies in order to gain the 'justification' of its cruise operation, Dubrovnik decided to limit the number of arriving tourists (8,000 max) per day at the historical city, Santorini put the same threshold (8,000 max per day) to cruisers arriving per day, while French Riviera ports limit the arrivals to 5,000 cruisers per day.

Whether these challenges are unsubstantiated or not, these are conceptions and perceptions that have to be addressed in order to achieve sustainable growth. Cruise is inextricably linked with the carrying capacity of a destination, a concept applicable in tourism development strategies. i.e. the ability of the destination to absorb tourism before negative impacts are felt from host country, or the maximum number of people who can use a site without causing unacceptable changes to physical environment or affect negatively the quality of visitors' experience. Of course, answering how many cruise passengers can be hosted or how many can be wanted are questions associated with several parameters (i.e. who decides, which are the management objectives, which are the attributes and capabilities of the destination) all of them associated with what local communities perceive.

Limitation of environmental externalities

In recent times the emerging question is how cruise shipping, ports and the related economic chain can operate efficiently, within a socially responsible and acceptable framework (Pallis and Vaggelas 2018). The various environmental externalities refer to the handling of waste produced, water quality, air emissions, noise, and soil, whereas other issues (i.e. constructions that alters natural or build environment, fauna, energy resources etc.) are also part of the relevant agendas.

Addressing two key externalities produced by the provision of cruise shipping and the hosting of vessels and cruise passengers at cruise ports stand today as priorities. The same externalities are illustrative of the need for discussion and conclusions on measures to take place at international level. These externalities are waste management, and the various forms of emissions, including air and noise emissions.

Overall environmental issues with reference to cruise shipping and those with reference to cruise ports are strongly interconnected. Thus the tools, measures, and policies to combat the externalities caused by these two industries require a holistic study and approach developed internationally. Reports, studies and essential inventories of measures for internalizing external costs are another field, beyond regulations that the international level discussions might advance facilitating growth of cruise activities.

Conclusions

An uninterrupted growth of cruise activities has been recorded for every single year, for more than three decades, supported by an unstoppable globalisation trend. What started as a local industry, in the Caribbean and North America, has eventually turned to a global one. Today globalisation refers to both supply (offer of cruises) and demand (internationalisation of passenger source markets) sides of cruising.

Regional variants exist and the fundamentals of growth are not similar around the globe, these revealed when comparing the details of the trends in the traditional North American market, with the maturing

European market(s), or the booming Asian one. The latter stands currently as the major force towards further growth. The same details also reveal that intra-regional dynamics go hand-in-hand with substantial intra-regional shifts of cruise activities.

Specific business strategies work in support of growth and globalisation - such as taking advances of economies of scale in shipbuilding, modernisation of product and fleets, market segmentation, and innovative itinerary planning. The adjustment of ports to serve these strategies and the desires of port-cities and linked tourist destinations to enjoy the benefits produced work also in favour of these trends.

The abovementioned developments fuel a growing interest in further understanding the structures and implications of the tremendous growth of cruise activities, the sophistication and the geographical span of the sector is present. The externalities of cruise activity, in the light of the increased social awareness, are a field that the cruise port community needs to develop 'green' strategies in order to mitigate the key externalities produced in and outside the port area due to the continuous cruise activities growth. Such strategies are beneficial from an environmental, a social, but also from an economic perspective, improving the potential and sustainability of such development.

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