

# Studies to support the development of sea basin cooperation in the Mediterranean, Adriatic and Ionian, and Black Sea



#### **JANUARY 2014**





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## 1. Selection of the most important regions: breakdown of activities between Black Sea and Mediterranean Sea

Fu	nction/maritime economic activity	% Mediterranean	% Black Sea	GVA Mediterranean (EUR, billion)	GVA Black Sea (EUR, billion)
0. Ot	her sectors				
0.1	Shipbuilding (excl. leisure boats) and ship repair	82	18	0,402	0,088
0.2	Water projects	86	14	0,249	0,041
1. Ma	ritime transport and shipbuilding				
1.1	Deep-sea shipping	93	7	0,156	0,012
1.2	Short-sea shipping (incl. Ro-Ro)	93	7	0,538	0,040
2. Fo	od, nutrition, health and eco-system se	ervices			
2.1	Catching fish for human consumption	40	60	0,237	0,356
2.3	Marine aquaculture	90	10	0,113	0,013
4. Lei	sure, working and living				
4.1	Coastal tourism	93	7	1,487	0,112
4.3 Cruise tourism		99 1		0,088	0,001
TOT	AL			3,270	0,663
%				83%	17%

Source: elaboration EUNETMAR

This table shows the breakdown of activities between the Black Sea and the Mediterranean Sea for the major MEAs (the MEAs concerned represent 90% of the total GVA of all economic maritime activities).

#### 2. Indicative size of all marine and maritime activities

Function/activity		<b>GVA</b> (EUR, billion)	Employment (*1000)	Score	Source & Reference year
0. Ot	her sectors				
0.1	Shipbuilding and ship repair	0.490	34.491	19.70	EUROSTAT (2009)
0.2	Water projects	0.290	15.530	9.22	EUROSTAT (2009)
1. Ma	aritime transport				
1.1	Deep-sea shipping	0.168	8.919	5.30	EUROSTAT (2009)
1.2	Short-sea shipping (incl. Ro-Ro)	0.578	30.723	18.25	EUROSTAT (2009)
1.3	Passenger ferry services	0.377	11.210	7.49	EUROSTAT (2009)
1.4	Inland waterway transport	0	0	0	EUROSTAT (2009)
2. Fo	od, nutrition, health and eco-system services				
2.1	Fishing for human consumption	0.593	37.750	21.84	TUIK (2011)
2.2	Fishing for animal feeding		Not separately available		
2.3	Marine aquaculture	0.126	8.000	4.63	TUIK (2011)
2.4	Blue biotechnology	n.a.	n.a.	n.a.	
2.5	Agriculture on saline soils				
3. En	ergy and raw materials				
3.1	Offshore oil and gas	0	0	0	Testing phase
3.2	Offshore wind	0	0	0	Not applicable
3.3	Ocean renewable energy	0	0	0	Not applicable
3.4	Carbon capture and storage	0	0	0	Not applicable
3.5	Aggregates mining (sand, gravel, etc.)	n.a.	n.a.	n.a.	Not applicable
3.6	Marine minerals mining	n.a.	n.a.	n.a.	Not applicable
3.7	Securing fresh water supply (desalination)	n.a.	n.a.	n.a.	Not applicable
4. Lei	isure, working and living				
4.1	Coastal tourism	1.599	125.182	70.59	EUROSTAT (2009)
4.2	Yachting and marinas	n.a.	n.a.	n.a.	
4.3	Cruise tourism	0.089	2.647	1.77	EUROSTAT (2009)
5. Co	astal protection				
5.1	Protection against flooding and erosion	n.a	n.a	n.a	Not applicable
5.2	Preventing salt water intrusion	n.a	n.a	n.a	Not applicable
5.3	Protection of habitats	n.a.	n.a.	n.a.	
6. Ma	aritime monitoring and surveillance				
6.1	Traceability and security of goods supply chains	n.a.	n.a.	n.a.	
6.2	Prevent and protect against illegal movement of people and goods	0.080	5.000	2.90	
6.3	Environmental monitoring	n.a.	n.a.	n.a.	

#### 3. Relative growth of all marine and maritime activities

	Function/activity	Indicator 1	2008	2010	Indicator 2	2008	2010	Source	Score*
0. Other	sectors								
0.1	Shipbuilding and ship repair	Export (million \$)	2.647	1.109	Employment	26.910	21.449	GISBIR	-22.39
0.2	Water projects	Cargo handling (million t)	314.577	348.690	Number of ports	178	182	1: TCS 2 : TÜIK	3.20
1. Maritir	ne transport								
1.1	Deep-sea shipping	Import handling (million t)	151.531	162.626	Number of tankers passing through Istanbul Strait	9,303	9,273	TCS	1.72
1.2	Short-sea shipping (incl. Ro-Ro)	Cabotage handling (million t)	39.056	37.996	Ro-Ro lines transported vehicles (1000)	330.100	322.804	TCS	-1,24
1.3	Passenger ferry services	Passengers transported (cruise excl.) (million)	151.646	154.198	Passenger miles (international transport not included) (million)	848	848	TÜIK	0.42
1.4	Inland waterway transport								
2. Food, r	nutrition, health and eco-system services								
2.1	Fishing for human consumption	Value of catches (million TRY)	982.973	935.821	Fishery workers	45,872	46,361	TÜIK	-0,95
2.2	Fishing for animal feeding	included in 2.1			included in 2.1				
2.3	Marine aquaculture	Value of production (million TRY)	584.291	728.574	Volume of production (million t)	85.629	88.573	TÜIK	6.69
2.4	Blue biotechnology		0	0					
2.5	Agriculture on saline soils		0	0					
3. Energy	and raw materials								
3.1	Offshore oil and gas		0	0					
3.2	Offshore wind		0	0					

	Function/activity	Indicator 1	2008	2010	Indicator 2	2008	2010	Source	Score*
3.3	Ocean renewable energy		0	0					
3.4	Carbon capture and storage		0	0					
3.5	Aggregates mining (sand, gravel, etc.)		0	0					
3.6	Marine minerals mining		0	0					
3.7	Securing fresh water supply (desalination)		0	0					
4. Leisure,	working and living								
4.1	Coastal tourism	General tourism receipts (million \$)	21,950.8	20,806.8	Accomodation number of persons index	102.5	99.6	тüік	-2.03
4.2	Yachting and marinas	Exports of yachts and other vessels for pleasure or sports (million TRY)	324.2	315.4					-1.37
4.3	Cruise tourism	Number of cruise passengers	1,605,372	1,719,098	Number of cruise passengers	1,605,372	1,719,098	TCS	3.48
5. Coastal	protection								
5.1	Protection against flooding and erosion								
5.2	Preventing salt water intrusion								
5.3	Protection of habitats								
6. Maritim	6. Maritime monitoring and surveillance								
6.1	Traceability and security of goods supply chains								
6.2	Prevent and protect against illegal movement of people and goods								
6.3	Environmental monitoring								
* Score : a	rithmetic mean of CAGR for Indicator 1 and CAG	R for Indicator 2							

### 4. Assessment of future potential for all marine and maritime activities

Function	Activity	Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability	Overall score
0. Other sectors	0.1. Shipbuilding and ship repair	+	+	1	+	+	+	++++
0. Other sectors	0.2. Water projects	0	+	+	+	+	0	++++
	1.1 Deep-sea shipping	0	+	0	0	+	0	++
1 Maritima transpart	1.2 Short-sea shipping (incl. Ro-Ro)	0	+	-	0	+	0	+
Maritime transport	1.3 Passenger ferry services	0	+	0	0	0	0	+
	1.4 Inland waterway transport	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	2.1 Fishing for human consumption	0	+	0	0	+	0	++
2. Food, nutrition,	2.2 Fishing for animal feeding	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
health and eco-system	2.3 Marine aquaculture	0	+	+	+	+	+	+++++
services	2.4 Blue Biotechnology	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	2.5 Agriculture on saline soils	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	3.1 Offshore oil and gas	0	0	+	+	+	-	++
	3.2 Offshore wind	0	0	0	+	0	+	++
	3.3 Ocean renewable energy (wave, tidal, OTEC, thermal, biofuels, etc.)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3. Energy and raw materials	3.4 Carbon capture and storage	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Illaterials	3.5 Aggregates mining (sand, gravel, etc.)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	3.6 Marine minerals mining	0	0	0	0	0	0	0
	3.7 Securing fresh water supply (desalination)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	4.1 Coastal tourism	0	+	+	+	+	0	++++
4. Leisure, working and living	4.2 Yachting and marinas	+	+	+	0	+	0	++++
_	4.3 Cruise tourism	+	+	+	0	+	0	++++
	5.1 Protection against flooding and erosion	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5. Coastal protection	5.2 Preventing salt water intrusion	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	5.3 Protection of habitats	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	6.1 Traceability and security of goods supply chains	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6. Maritime monitoring and surveillance	6.2 Prevent and protect against illegal movement of people and goods	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	6.3 Environmental monitoring	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

#### 5. Growth drivers and barriers to growth

#### Results of the benchmark analysis 5.1

COASTAL TOURISM <sup>1</sup>	Growth drivers	Barriers to Growth
Maritime research	Some (limited) maritime research linked to Coastal tourism in universities  Specific focus of Tourism Strategy 2023 on R&D	Lack of data that can be used as input in the tourism policy making process
Development and innovation	Unutilised potential  R&D encouraged through Tourism Strategy 2023	Insufficient diversification of the tourist offer Environmental problems
Access to finance	Support of government to investments in terms of planning and land allocation  Investment incentives via the Law on Encouragement of Tourism	Low access to credit in some regions
Smart infrastructure	Effective port and airport system	Infrastructure problems in densely populated and fast growing tourism centers  Limited number of airport with developed international connections
Maritime clusters	Marine tourism represented in the Turkish Chamber of Shipping cluster	Coastal tourism actors poorly represented in the cluster
Education, needs in training and skills	Well-trained workforce Tourism and hotel management programmes in several universities	Institutions offering vocational education on tourism need capacity reinforcements with improvements in quality and content of their curricula  Need to raise awareness on existence and protection of national tourism assets and resources
Maritime spatial planning	No drivers identified	Holistic legal frameworks for ICZM and institutional mechanisms have not yet been established in Turkey  Lack of physical planning practice
Integrated local development	Decentralized approach to tourism development 9 thematic development zones and 10 new "tourism cities" have been described in the National Strategy	SMEs insufficiently involved in development projects  Tourism potential not used in a rational manner
Public engagement	Engagement of the government through Tourism Strategy 2023 which aims at boosting the cooperation between public and private sectors of tourism	Lack of technical support personnel  Insufficient international cooperation

MARINE AQUACULTURE <sup>2</sup>	Growth drivers	Barriers to Growth
Maritime research	Significant number of research programs focused on aquaculture Significant know-how and research capacity in aquaculture R&D facilities in private hatcheries	Research capacity not well organised
Development and innovation	Significant aquaculture support services (feed plants, equipment providers/distributors, technical consultants), especially in the West (seabream/seabass farming area)  The new "Renting Water and Water Areas for Aquaculture Production in Seas and Inland Water s Regulation" (2011) has shortened the duration of the bureaucratic process and allowed longer lease periods	Insufficient capacity of processing and producing value added products  Licensing process still needs to be simplified  Prejudiced approach to aquaculture products vs. catch products from domestic consumer
Access to finance	A few large companies, mainly producing	Characterization of industry as high risk making

<sup>&</sup>lt;sup>1</sup> The benchmark instance is "Coastal Tourism in Sardinia (Italy)".
<sup>2</sup> The benchmark instance is "Marine aquaculture in Greece".

MARINE AQUACULTURE <sup>2</sup>	Growth drivers	Barriers to Growth
	seabream/seabass, with investment capacity	insurance costs high
Smart infrastructure	High capacity modern hatcheries  Strong ancillary support services (cage, net, tanks,)	Adaptation to EU laws and standards not completed (traceability, water quality measures,)
Maritime clusters	Effective regional association (Muğla Fish Farmers' Association)	No related maritime cluster
Education, needs in training and skills	13 fisheries faculties and 5 departments at agriculture faculties providing undergraduate and graduate education in fisheries (including aquaculture)	Unavailability of experienced labour (cheap labour highly available when experience is unnecessary)
Maritime spatial planning	Implementation of coastal zone management is a priority FAO Project for developing a Roadmap for Turkish Marine Aquaculture Site Selection and Zoning Using an Ecosystem Approach to Management	Conflict of users with tourism, summer house owners and small-scale fishermen
Integrated local development	National Marine Aquaculture Development Plan (NMADP) set out to provide stable ground for the future growth of the aquaculture sector	Environmental monitoring of fish farms uncompleted
Public engagement	Government policy of support (export subsidies, free supply of turbot fry to farms,)	International cooperation limited

SHIPBUILDING AND SHIP REPAIR <sup>3</sup>	Growth drivers	Barriers to Growth
Maritime research	Ship model testing laboratory in the Faculty of Naval Architecture and Ocean Engineering (Istanbul Technical University)	Insufficient R&D  No direct R&D support to the shipbuilding industry
Development and innovation	Capacity increase in maintenance and repair Largest ship recycler outside Asia	Orderbook in decrease Impact of the 2008 financial crisis China's competition
Access to finance	Export credit assistance provided by the State	Long-term investments needed Some shipyards have suspended or cancelled their modernization or extension projects because of the sanctions applied by the banks
Smart infrastructure	Modern quality-certified shipyards Development in alignment with international rules (sustainability) Facilities of the ship dismantling industry in Aliağa have been named as the most environment-friendly facilities throughout the world Piri Reis University in Tuzla accredited by the BREEAM Certificate Leading position in Europe for ship breaking and recycling activities	Lack of references for offshore platforms, LPG and LNG carriers Insufficient rationalisation of the industry (economies of scale to be found)
Maritime clusters	Shipyards well represented in the Turkish Chamber of Shipping cluster Long-established Turkish Shipbuilders' Association (GISBIR) Ship Recyclers' Association (GEMISANDER) High concentration of shipyards in Tuzla Bay	Lack of international cooperation
Education, needs in training and skills	4 universities with shipbuilding departments Piri Reis University recently established in Tuzla 31 high schools operating ship construction departments	Not enough training vessels Apprenticeship schemes to develop
Maritime spatial planning		Holistic legal frameworks for ICZM and institutional mechanisms have not yet been established in Turkey
Integrated local development		Shipyards need vast coastal areas
Public engagement	Strategic sector for the government (security, defence, important generator of employment)  Investment Encouragement Program	No barriers identified

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 $<sup>\</sup>overline{\ \ }^3$  The benchmark instance is "Shipbuilding and Ship repair in Germany".

SHIPBUILDING AND SHIP REPAIR <sup>3</sup>	Growth drivers	Barriers to Growth
	Turkish Shipyards Master Plan	
	Orders of the Turkish government (military vessels)  Positive impact of EU LeaderSHIP 2020 on Turkey	

CRUISE TOURISM⁴	Growth drivers	Barriers to Growth
Maritime research	Participation to EU-funded projects: e.g. Marmara Research Center participated in MC WAP project, which aimed at the application of Molten Carbonate Fuel Cells (MCFC) technology on-board large ships such as cruise ships	Limited research on cruise tourism No assessment of cruise tourists' expenditures
Development and innovation	Great efforts being exerted to open Istanbul to cruise tourism services 7 new cruise ports are planned, out of which 3 as home ports	Some worries concerning security on cruise ships  Absence of marketing tools or know-how to develop cruise potential of the ports
Access to finance	No drivers identified	
Smart infrastructure	Suitable region for cruising Development of website to advertise Turkish Cruise Platform abroad and domestically	In Istanbul port quays have to be strengthened to become resistant to the potential earthquakes and in compliance with the current earthquake regulations
Maritime clusters	Turkish Cruise Platform brings together institutions and companies of 13 port cities interested in cruise tourism	Lack of coordination and cooperation between ports in coastal regions
Education, needs in training and skills	Vast network of faculties of maritime studies and maritime high schools	Limited dedicated cruise programs at higher level of education
Maritime spatial planning	No drivers identified	No spatial planning policies related to cruise activity
Integrated local development	The decision to implement the project Turkish Cruise Platform has been taken by the general managers of the ports, heads of chambers of commerce, municipality authorities and representatives of the governors' offices in the 13 cities of Turkey	No services to oversee the quality of services provided to cruise ships in the Turkish ports
Public engagement	Tourism Strategy 2023 will allow further strengthening of cruise ports infrastructures Involvement of Turkish Chamber of Shipping and public authorities in the development of the new cruise port in Istanbul	No barriers identified

SHORT-SEA SHIPPING⁵	Growth drivers	Barriers to Growth
Maritime research	Research in universities (e.g. Piri Reis University in Tuzla)  Active participation and contributions regarding shipping in EU-FP7 and Horizon 2020 projects  A Centre for Shipping Industry Technology Research & Development will be set up	
Development and innovation	Very dynamic port sector  Large projects launched to increase port capacity	Funds are decreasing due to the economic crisis.

<sup>&</sup>lt;sup>4</sup> The benchmark instance is "Cruise Tourism in Italy".
<sup>5</sup> The benchmark instance is "Short-Sea Shipping in the Netherlands".

SHORT-SEA SHIPPING⁵	Growth drivers	Barriers to Growth
	Turkish Maritime Centre of Excellence will be established to increase maritime safety	
Access to finance	No drivers identified	Ports are in a dynamic development, growth and renewing trend to cover expectations and demands of partners in the system bus this trend has come to a halt because of the economic crisis and led some port operators to suspend their investments
Smart infrastructure	50% of the Turkish ports open to international traffic are planned to have a "Green Port" certificate in 2023  Turkish Shipping Sector has established the Turkish Marine Environment Protection Association (TURMEPA) in 1994 in order to contribute to the cleanliness of Turkish seas and to the training of young generations in this field	Development of intermodal infrastructures is missing Rail connections are insufficient/inefficient  Turkish ports should go into an expertising process on certain types of cargoes and/or new port projects for container handling so as to become more competitive in the Mediterranean and Black Sea markets
Maritime clusters	Turkish Chamber of Shipping (TCS) is the main professional institution of the whole Turkish maritime sector TCS is member of the International Chamber of Shipping	
Education, needs in training and skills	Strong support of Turkish Chamber of Shipping to the maritime education (creation of Turkish Maritime Education Foundation in 1993)  Priority given to training of officers and maritime operators	Lack of officers
Maritime spatial planning	Turkey involved in PEGASO project  UNDP/GEF project to facilitate expansion of the national system of marine and coastal protected areas and to improve its management effectiveness	Legal frameworks for ICZM and institutional mechanisms have not yet been established in Turkey  There is no specific law to regulate MSP
Integrated local development	Turkish Chamber of Shipping has representations all over the Turkish cosat (Izmir, Bodrum, Marmaris, Antalya, Iskenderun, Fethiye, Karadeniz Ereğli,) and covers the Sea of Marmara as well as the Aegean Sea coast, the Mediterranean cosat and the Black Sea coast	Imbalance among the different transport modes
Public engagement	Strong engagement especially through the development of ports operated by the Turkish Maritime Administration	

YACHTING AND MARINAS <sup>6</sup>	Growth drivers	Barriers to Growth
Maritime research	R&D in some universities (e.g. Istanbul Technical University)	No barriers identified
Development and innovation	Closeness to international markets Appropriate climate	Long bureaucratic procedures during the registering operations
Access to finance	Compared to shipbuilding industry less investments are needed	High taxes collected from recreational boats
Smart infrastructure	Production quality in accordance with international standards Adequate sub-industry with quality Inclusion of mega-yacht mooring places in the projects	Some marinas need modernization of structures and services

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 $<sup>\</sup>overline{^{6}}$  The benchmark instance is "Yachting and marinas in Italy".

YACHTING AND MARINAS <sup>6</sup>	Growth drivers	Barriers to Growth
	planned (especially in Ataköy and Zeytinburnu)	
Maritime clusters	Marina operators, ship-yacht builders and ship-yacht equipment and repair service suppliers are members of the Turkish Chamber of Shipping (TCS)  TCS is member of TYHA (The Yacht Harbour Association) and ICOMIA (International Council of Marine Industry Associations)  DENTUR (Turkish Marine Industry Association) created in 2000  YATEF (Federation of Yacht and Boat Industries) created in 2004	No cluster related to yachting and marinas Projected "Muğla Yacht Building and Yacht Tourism Cluster" not yet in activity
Education, needs in training and skills	Educated and skilled labour	No barriers identified
Maritime spatial planning	Compared to shipbuilding industry less coastal areas are needed Marinas and berthing facilities in Turkey are mostly located in Aegean and Mediterranean regions, there are no marinas or related facilities in operation in Eastern Mediterranean and Black Sea Coasts, where potential exists	Underdevelopment of Yachting and marinas in the Black Sea
Integrated local development	DENTUR has taken an active part in the formation of five regional boat and yacht builders' associations in various parts of the country (Bodrum, Antalya, Izmir,)	No barriers identified
Public engagement	Tourism Strategy 2023	No barriers identified

#### 5.2 SWOT analysis

Coastal tourism		
	Strenghts	Weaknesses
	There is some maritime research linked to coastal tourism in	There is a lack of data that can be used as an input in the
Maritime Research	universities	tourism policy making process.
Wartime Research	Opportunities	Threats
	There is a specific focus of the national Tourism Strategy 2023 on research and development	No threats identified
	Strenghts	Weaknesses
Development and	No strengths identified	Insufficient diversification of the tourist offer
innovation	Opportunities	Threats
	There is unutilized development potential, especially on the Black Sea coast	Environmental problems in some areas could curb the development
	Strenghts	Weaknesses
Access to finance	Support of government to investments in terms of planning and allocation	Low access to credit in some regions
Access to finance	Opportunities	Threats
	No opportunities identified.	Investors may be tempted to invest in more profitable markets with a faster and higher return.
	Strenghts	Weaknesses
Smart infrastructure	There is a good port and airport infrastructure	Infrastructure problems in densely populated and fast growing tourism centers
	Opportunities	Threats
	Tourism Strategy 2023 can be an opportunity to modernise the existing infrastructure.	Limited number of airports with developed international connections
	Strenghts	Weaknesses
Maritime clusters	Marine tourism stakeholders and associations are represented in the Turkish Chamber of Shipping	There is no specific maritime cluster.

Coastal tourism		
	Opportunities	Threats
	There is the possibility to set up a cluster focusing on blue tourism (coastal tourism, cruise tourism, yachting tourism)	No threats identified
	Strenghts	Weaknesses
Education, training	There are tourism and hotel management programmes in several universities	Quality and content of curricula in institutions offering vocational education on tourism are sometimes insufficient
and skills	Opportunities	Threats
	Development of relations/exchanges with universities in other major tourism countries	Awareness on existence and necessary protection of national tourism assets is not shared by all people
	Strenghts	Weaknesses
Maritime spatial planning/Integrated	No strengths identified.	Lack of physical planning practice No specific law to regulate MSP Uncoordinated management as regards coastal planning
Coastal Zone	Opportunities	Threats
Management	Turkey has taken part in the development of and signing of several international agreements and conventions concerning ICZM.	Holistic legal frameworks for ICZM and institutional mechanisms have not yet been established
	Strenghts	Weaknesses
Integrated local	No strengths identified.	SMEs are insufficiently involved in development projects
development	Opportunities	Threats
development	Decentralized approach to tourism development is put forward in the National Tourism Strategy	Tourism potential is not used in a rational manner
	Strenghts	Weaknesses
Public engagement	Engagement of the government through Tourism Strategy 2023 which aims at boosting the cooperation between public and private sectors of tourism	There has been no resolution to the decades-old conflict over the partition of Cyprus
	Opportunities	Threats
	The government policy is likely to increase the opportunities for investment in privatized state firms	No threats identified

Marine aquaculture		
	Strenghts	Weaknesses
Maritime Research	R&S facilities in private hatcheries Significant know-how and research capacity	Research capacity not well organized
Wantine Research	Opportunities	Threats
	Significant number of research programs focused on aquaculture	No threats identified
	Strenghts	Weaknesses
Development and	Development of the offshore sector	The marine aquaculture industry focuses on two mass- produced species
innovation	Opportunities	Threats
	Initiatives towards product differentiation, improved packaging and branding might add value to the production	Fiercer international competition and price war could confine Turkey to the market of low-added-value products
	Strenghts	Weaknesses
	There are a few large companies, mainly producing seabass and seabream, with sustainable and durable financial performance and investment capacity	The aquaculture sector is characterized as a high risk industry, which makes insurance costs high
Access to finance	Opportunities	Threats
	Facilities offered by the government (export subsidies, free supply of turbot fry to farms) make financial equilibrium of companies easier to achieve	The discontinuation of export subsidies would weaken some companies on the international market
	Strenghts	Weaknesses
Smart infrastructure	High capacity modern hatcheries	Adaptation to EU laws and standards not completed, in particular as regards traceability and water quality measures
	Opportunities	Threats
	Growing international demand for sea-farmed products	Scarcity of experienced labour
Maritime clusters	Strenghts	Weaknesses
iviaritime ciusters	Effective regional association in the Aegean Sea (main sea fish	There is no specific maritime cluster focusing on

Marine aquaculture		
-		
	farming area)	aquaculture Threats
	Opportunities  Stronger involvement in international professional associations or clusters might make some improvements/diversifications easier	No threats identified
	Strenghts	Weaknesses
Education, training	Several fisheries faculties provide undergraduate and graduate education in aquaculture	Unavailability of experienced labour
and skills	Opportunities	Threats
	Companies now aware of the obligation of clean environment and sustainability	Unavailability of experienced labour
	Strenghts	Weaknesses
Maritime spatial planning/Integrated Coastal Zone	A spatial planning policy has been introduced with the development of a National Marine Aquaculture Development Plan in 2008	Some conflicts of users still exist with coastal tourism and small-scale fishermen
Management	Opportunities	Threats
Wanagement	Implementation of coastal zone management often presented as a priority	Holistic legal frameworks for ICZM and institutional mechanisms have not yet been established
	Strenghts	Weaknesses
Integrated local	To minimize conflicts integrated coastal zone management models have been developed and implemented and from 2009 inshore marine farms have been moved to new allocated offshore zones	Environmental monitoring of fish farms is not completed
development	Opportunities	Threats
	Stable grounds for future growth and integrated development have been provided by the National Marine Aquaculture Development Plan	No threats identified.
Public engagement	Strenghts	Weaknesses
	The government gives active support to the aquaculture, e.g. through export subsidies	International cooperation is limited
	Opportunities	Threats
	The new regulation "Renting water and water areas for aquaculture production in seas and inland waters" is likely to shorten the duration of bureaucratic processes and allow longer lease periods	No threats identified.

Shipbuilding and ship repair		
Snipbullaing and snip		repair
	Strenghts	Weaknesses
Maritime Research	Some good R&D facilities in universities (e.g. ship model testing laboratory in the Faculty of Naval Architecture and Ocean Engineering of Istanbul Technical University)	Insufficient R&D effort
	Opportunities	Threats
	More cooperation on maritime research could be searched at international level	No direct R&D support to the shipbuilding industry
	Strenghts	Weaknesses
Development and	Recent capacity increase in maintenance and repair	Order book in decrease following the 2008 financial crisis
innovation	Opportunities	Threats
ordioi.	Turkey is the largest ship recycler outside Asia, which is a comparative advantage in Europe	The economic crisis and its consequent reduction of shipping represent the major threat to shipbuilding
	Strenghts	Weaknesses
	Export credit assistance provided by the State	Some shipyards have suspended or cancelled their modernization or extension projects because of the sanctions applied by the banks
Access to finance	Opportunities	Threats
Access to imance	Some encouragement measures (exemption from customs duties, VAT exemption for imported and domestically purchased machinery and equipment, credit allocation for investments aiming at regional development) are available from the Investment Encouragement Programme	Long-term investments are needed in this sector. The general economic situation and the level of the order book do not encourage banks to lend
	Strenghts	Weaknesses
Smart infrastructure	Modern quality-certified shipyards Production and export of tugboats powered by LNG machinery to Norway	Insufficient rationalisation of the industry (economies of scale to be found)

Shipbuilding and ship repair		
	Opportunities	Threats
	Leading position in Europe for ship breaking and ship recycling activities	Turkish shipyards lack references in the growing segments of the sector (ships for offshore platforms, LPG and LNG carriers)
	Strenghts	Weaknesses
	Long-established Turkish Shipbuilders' Association High concentration of shipyards in Tuzla Bay	Lack of international cooperation
Maritime clusters	Opportunities	Threats
	The Shipbuilders' Association has established relations and cooperation protocols with several universities (Piri Reis University, Okan University,)	No threats identified
	Strenghts	Weaknesses
Education, training	4 universities with shipbuilding departments	Not enough training vessels
and skills	Opportunities	Threats
	A university (Piri Reis University) has recently settled in Tuzla, main shipyard complex in Turkey	Exchanges with universities of other major shipbuilding countries are limited
	Strenghts	Weaknesses
Maritime spatial planning/Integrated	No strengths identified	Shipyard areas have been established – until now – without ICZM plans
Coastal Zone	Opportunities	Threats
Management	Implementation of coastal zone management often presented as a priority	Holistic legal frameworks for ICZM and institutional mechanisms have not yet been established
	Strenghts	Weaknesses
Integrated local	Shipyards need an important subcontractors' industry and therefore enhance the development of other related activities	Shipyards need vast coastal areas
development	Opportunities	Threats
	Dynamic shipbuilding centres with high capacity (Tuzla, Yalova, Izmit)	Risk of hampering the development of other activities (marine aquaculture, coastal tourism, yachting)
	Strenghts	Weaknesses
	Regular Development Plans produced by the Government	No weakness identified.
B. L.P	Opportunities	Threats
Public engagement	The sector is strategic for the government (security, defence), which is likely to secure a certain amount of orders	A potential threat could be seen in the fact that policy makers could consider that a lot of public money has been invested in a declining industry and consequently decide to put effort on a most promising sector

	Cruise tourism	
	Strenghts	Weaknesses
	Participation in EU-funded projects: Marmara Research Center participated in MC WAP Project, which aimed at the application of MCFC (Molten Carbonate Fuel Cells) technology on-board large ships such as cruise ships	Research in the sector is very limited
Maritime Research	Opportunities	Threats
	Opportunities could be found in liaising with international universities, which have an established tradition in the field.  Turkish Cruise Platform aims at conducting research for development of cruise tourism activities.	Cruise tourism is more considered as a part of coastal/marine tourism than a sector in itself
	Strenghts	Weaknesses
	Turkey is ideally suited for cruise tourism (natural and cultural attractions of seashore and hinterland)	Absence of marketing tools or know-how to develop cruise potential of the ports
Development and	Opportunities	Threats
innovation	The Eastern Mediterranean is getting more and more attention from global cruise companies since it provides alternative itinerary combinations to meet the global cruise market demand and offers a competitive answer to currently West Med congested cruise destinations	Some worries concerning security on cruise ships
Access to finance	Strenghts	Weaknesses
	No strength identified	No specific public financial support
	Opportunities	Threats
	Turkish Cruise Platform aims (i.a.) at solving finance problems of the cruise sector	No threats identified.

	Cruise tourism	
	Strenghts	Weaknesses
Smart infrastructure	Big efforts have been made in the last years to transform cruise ports in recreation areas	Efforts are constantly being made on the boats and in the ports of call to reduce environmental impacts but the sector cannot be considered as sustainable yet
	Opportunities	Threats
	Great efforts are currently being made by Istanbul authorities to develop infrastructures and boost cruise tourism	Danube pollution jeopardizes development of cruise tourism in the Black Sea
	Strenghts	Weaknesses
Maritime clusters	A platform bringing together institutions and companies interested in cruise tourism (Turkish Cruise Platform) has been set up in July 2002 in an attempt to determine common strategies related to cruise tourism and to lead to the development of cruise tourism in Turkey	Lack of coordination and cooperation
	Opportunities	Threats
	There is the possibility to set up a cluster focusing on blue tourism (coastal tourism, cruise tourism, yachting tourism)	No threats identified
	Strenghts	Weaknesses
Education, training	Vast network of faculties of maritime studies and maritime high schools	Limited dedicated cruise programmes at higher level of education
and skills	Opportunities	Threats
	Development of relations/exchanges with universities in other major tourism countries	No threats identified
	Strenghts	Weaknesses
Maritime spatial planning/Integrated	No strengths identified.	Lack of physical planning practice  No specific law to regulate MSP  Uncoordinated management as regards coastal planning
Coastal Zone	Opportunities	Threats
Management	Turkey has taken part in the development of and signing of several international agreements and conventions concerning ICZM	Holistic legal frameworks for ICZM and institutional mechanisms have not yet been established
	Strenghts	Weaknesses
	No strengths identified	No services to oversee the quality of services provided to cruise ships in the Turkish ports
Integrated local development	Opportunities	Threats
	The decision to implement the projects Turkish Cruise Platform has been taken by the general managers of the ports, heads of chambers of commerce, municipality authorities and representatives of the governor's offices in 13 cities of Turkey	No threats identified
	Strenghts	Weaknesses
	Tourism Strategy 2023 will allow further strengthening of cruise port infrastructures	Cruise tourism is not specifically mentioned in strategy and policy documents
Public engagement	Opportunities	Threats
	Involvement of Turkish Chamber of Shipping and public authorities in the development of the new cruise port in Istanbul	No threats identified

Short-sea shipping					
	Strenghts	Weaknesses			
Maritime Research	Research activities on short-sea shipping in some universities	Lack of international cooperation with other universities			
	(e.g. Piri Reis University in Tuzla)	Threats			
	Opportunities  Benefits would certainly occur if more research could be				
	dedicated to intermodality-related issues	No threats identified			
Development and innovation	Strenghts	Weaknesses			
	Very dynamic port sector  Vast network of ports  World shipping demand	Insufficient intermodal infrastructures			
	Opportunities	Threats			
	Motorways of the Sea promotes the growth of maritime transport in the Eastern Med area and the Black Sea Large projects have been launched to increase port capacity, particularly in the Black Sea	Slowing down of investments			
	Strenghts	Weaknesses			
	Self-financing capacity of the sector	Increasing difficulties to raise capital because of the world financial crisis			
Access to finance	Opportunities	Threats			
Access to intunce	Engagement of the government through development and modernization of ports Discussions on financing with some governments (Norway, Netherlands, Japan)	Port development and world shipping demand are in a dynamic trend but the crisis has led some operators to suspend their investments			
	Strenghts	Weaknesses			
	As of 2009 Turkey has moved from Grey List to White List of Paris Memorandum of understanding on Port State Control; Several EU-financed projects have been implemented in the last years in the field of maritime safety, transportation of the	Container handling sometimes little competitive  Effects of traffic on Istanbul population (shipping emissions)			
Smart infrastructure	disabled, control of ship-based emissions and training of seafarers.				
	Opportunities	Threats  The development of intermodal infrastructures is missing			
	Important international maritime exhibition "Exposhipping Europort Istanbul" puts Turkey in the limelight	and can jeopardize the development of shipping in some areas  Overaged fleet			
	Strenghts	Weaknesses			
	Turkish Chamber of Shipping, which gathers most major stakeholders of the sector, is quite active	No weakness identified			
Maritime clusters	Opportunities	Threats			
	Active participation of TCS in international clusters	The main threat could come from EU ports which have been cooperating for a long time with maritime clusters in their countries of origin			
	Strenghts  CASSASS funded as below him for MCs at unline in INALL	Weaknesses			
	SAFEMED funded scholarships for MSc studies in IMLI (International Maritime Law Institute) and WMU (World Maritime University)	Insufficient number of officers			
Education, training and skills	413 staff attended EMSA training programme in the last 5 years	Further cooperation needed with EMSA			
	Opportunities	Threats			
	Strong support of the Turkish Chamber of Shipping to maritime education, through TUDEV (Turkish Maritime Foundation) and TURMEPA programme (Turkish Marine Environment Protection Association Association)	Shortage of officers			
	Strenghts	Weaknesses			
Maritime spatial planning/Integrated Coastal Zone Management	Turkey involved in some international initiatives related to ICZM and MSP, in particular in some EU-funded projects (PEGASO)	U-funded projects level			
	Opportunities	Threats			
	Implementation of coastal zone management often presented as a priority	Legal frameworks for ICZM and institutional mechanisms have not yet been established			
Integrated local development	Strenghts  Manufacts are involved in short are chipping and favour the	Weaknesses			
	Many ports are involved in short-sea shipping and favour the growth of other related maritime activities	SMEs are insufficiently involved in local development projects  Threats			
	Opportunities  Turkey has for objective to become a centre for transit cargoes	Risk of hampering the development of other activities			
	in the region	(marine aquaculture, coastal tourism, yachting)			

Short-sea shipping					
	Strenghts	Weaknesses			
Public engagement	Involvement of the State through the 9th Development Plan Strong engagement especially through the development of ports operated by the Turkish Maritime Administration	No weakness identified			
	Opportunities	Threats			
	As Turkey's strategic position at the intersection of East-West and North-South international transport corridors is increasing again with pipelines like Baku-Ceyhan and projects like Nabucco Gas Pipeline, the State will more than ever consider short-sea shipping as a strategic sector for Turkey's economy	Despite the use of latest technology to monitor ships, the passage of huge tankers through the Bosporus poses a risk to Istanbul 's safety, as the Montreux convention regarding the regime of straits makes the presence of a maritime pilot while navigating the channel optional			

Yachting and marinas					
	Strenghts	Weaknesses			
Maritime Research	There is some maritime R&D linked to yachting and marinas tourism in some universities (e.g. Istanbul Technical University)	There is a lack of data that can be used as an input in the			
	Opportunities	tourism policy making process  Threats			
	There is a specific focus of the national Tourism Strategy 2023 on research and development	No threat identified			
	Strenghts	Weaknesses			
Development and	Turkey is an ideal place for yachting tourism (climate,	Significance of Turkish sector far behind Western			
	protected bays, cultural and environmental resources)	Mediterranean countries (Italy, France, Spain)			
innovation	Opportunities	Threats			
	Growing international demand for yachting tourism	More considered as a part of costal/marine tourism than as			
	Significant investments and development plans for marinas	a sector in itself			
	Strenghts	Weaknesses			
Access to finance	Major operators of marina sector with self-financing capacity	Limited support from private banks			
Access to illumee	Opportunities	Threats			
	Build-Operate-Transfer system (already used for 11 marinas)	High taxes are collected from recreational boats			
	Strenghts	Weaknesses			
Smart infrastructure	Turkey has gained wide recognition for expertise in mega- yacht building	Some marinas need modernization of structures and services Limited number of berth places compared to West Med countries			
	Opportunities	Threats			
	Tourism Strategy 2023 can be an opportunity to modernise the existing infrastructure	Small-size yacht builders lack infrastructure and technology			
	Strenghts	Weaknesses			
	Marina operators, ship-yacht builders and ship-yacht equipment and repair service suppliers are all members of the Turkish Chamber of Shipping	There is no specific cluster for yachting and marinas			
Maritime clusters	Opportunities	Threats			
	There is the possibility to set up a cluster focusing on blue tourism (coastal tourism, cruise tourism, yachting tourism) A Yacht Building and Yacht Tourism Cluster is projected in the Muğla region	No threat identified			
	Strenghts	Weaknesses			
	There are tourism management programmes in several universities	No specific vocational programmes focusing on yachting and marinas			
Education, training	Opportunities	Threats			
and skills	Competitive labour force is available, for both blue collar technical personnel and engineers "Port and Marina Management" and "yacht Management" departments should open shortly in Piri Reis University	No threats identified			
Maritime spatial planning/Integrated Coastal Zone Management	Strenghts	Weaknesses			
	Good presence of marinas and berthing facilities in the Aegean and Mediterranean regions	There are currently no marinas or related facilities in operation in Eastern Mediterranean and Black Sea coasts			
	Opportunities	Threats			
	Existing potential in the Black Sea	Legal frameworks for MSP-ICZM and institutional mechanisms have not yet been established			
	Strenghts	Weaknesses			
Integrated local development	Development actions have engaged at regional level: DENTUR has supported the formation of regional yacht builders' associations	SMEs are insufficiently involved in development projects			

Yachting and marinas				
	Opportunities	Threats		
	Decentralized approach to tourism development is put forward in the National Tourism Strategy	Tourism potential is not used in a rational manner		
Public engagement	Strenghts	Weaknesses		
	Engagement of the government through Tourism Strategy 2023	Even if Turkish authorities consider the development of marinas as vital for ensuring that Turkey will be able to compete with other Mediterranean destinations such as Italy and France, there is no specific policy or strategy focusing on yachting and marinas		
	Opportunities	Threats		
	The government plans a large development of marinas and foresees a doubling of the number of mooring berths by 2023	No threats identified		

#### 6. Maritime strategies

Title of the official document	Level (regional, national, cross-national, EU level)	Responsible body	Maritime Strategy concerned	Kind of Strategy document and publishing date
Tourism Strategy of Turkey 2023	National	Ministry of Culture and Tourism	Coastal tourism Yachting and marinas Cruise tourism Passenger ferry services	Overarching strategy that includes 16 strategies for strengthening the tourism published on 02/03/2007
Turkish Industrial Strategy Document 2011-2014	National	Ministry of Industry and Trade	Shipbuilding Water projects Offshore wind Ocean renewable energy	Strategy paper published in 2010
Ninth Development Plan 2007-2013	National	State Planning Organisation (reorganized as the Ministry of Development in June 2011)	Shipbuilding Water projects Short-sea shipping	Strategic document published in 2006 (approved on 28/06/2006)
Transport Operational Programme 2007-2013	National	Ministry of Transport, Maritime Affairs and Communications	Water projects Short-sea shipping	Policy document under IPA