D.4.1.2 Analysis of potential market flows of the Port of Ancona

Document Control Sheet

Project number:	10041221
Project acronym	CHARGE
Project Title	Capitalization and Harmonization of the Adriatic Region Gate of Europe
Start of the project	January 2018
Duration	18 months

Related activity:	D 4.1. – Joint market analysis to assess traffic potential market between Adriatic ports
Deliverable name:	D 4.1.1 Common methodology for potential traffic flow analysis
Type of deliverable	Report
Language	English
Work Package Title	Enhancing freight traffic flows and connections between the Adriatic ports
Work Package number	4
Work Package Leader	SPA – Split Port Authority

Status	Final
Author (s)	ASPMAC
Version	1
Due date of deliverable	November 2018
Delivery date	30 September 2019

Contents

1. INTRODUCTION

This analysis of potential market flows of the Port of Ancona is part of the project CHARGE (Capitalization and Harmonization of the Adriatic Region Gate of Europe) which capitalizes the collected results of IPA CBC Programme 2007-2013 CARICA project and other projects like ADRIATICMOS, INTERMODADRIA and EASYCONNECTING from IPA and ADB Multiplatform from South-East Europe having the objective the development of freight transports in the Adriatic area and connectivity to the other EU member states. The research document relates to Work Package (WP) 4 – Enhancing freight traffic flows and connections between the Adriatic ports, of the project CHARGE.

The overall objective of project CHARGE is to foster traffic flows and sustainable connection between Adriatic ports involved, to contribute to competitiveness of territories served by the existing maritime links with a common approach while simultaneously increase the perceived value of shared intermodal solutions. CHARGE fosters the connectivity between the Adriatic regions and improves decision-making process coordination at CB level in maritime transport for joint strategies implementation and infrastructural investments, with specific attention to Adriatic Motorways of the Sea improvement between Italy and Croatia. CHARGE aims to upgrade intermodal services on existing maritime links between the two shores of the Adriatic Sea to improve traffic flows efficiency and environmental sustainability and resolve critical bottlenecks.

The common approach should lead to the enhancement of Adriatic freight transport, taking into consideration the lessons learned within the 2007-2013 CARICA project. Within the project CHARGE a common methodology for potential traffic flow analysis will be used by all partners for the analysis and definition of the respective outputs. The common methodology has already been developed by FMS and approved by the PAS, and based on this methodology, an Analysis of the potential market flows of the Port of Ancona is being developed.

CHARGE project activity 4.1 Joint market analysis to assess traffic potential market between Adriatic Ports includes the following segments:

- Elaborating and proposing the common methodology for potential traffic flow analysis for the collection and elaboration of ferry and containers traffic data including areas of origins and destinations of the traffic and typology of the freight;
- Analysis on potential market flows of involved ports, where each involved port collects data and elaborates the analysis on the basis of the agreed methodology.

2. METHODOLOGY

Methods to be used for the traffic flow analysis are:

- Method of compilation: researchers can use strategic documents on national, regional and local level of governance, action plans, legal and other planning tools, scientific papers and studies, predictions and recommendations;
- Method of description: in order to define the main characteristics of the port and port area, traffic (maritime, rail and road) flows, intermodal (maritime, road, railway) infrastructure and operation;
- Method of comparison: in order to make certain conclusions and estimations;
- Statistical method: to give insights in certain operation and facts the interpretation of statistical data;
- Inductive method: in order to give certain conclusions from the given facts, figures and predictions.

The statistics for this report have been collected from the following sources:

- Central Adriatic Ports statistics;
- Ancona Harbour Office statistics;
- Italian Bureau of Statistics (ISTAT);
- Other relevant studies, scientific papers, analysis, etc.

This analysis includes several chapters:

- Introduction;
- Defining the main characteristics of the port and port area;
- Port traffic statistics:
    - Freight traffic statistics;
    - Vessel traffic statistics;
    - Other related data;

- Overview and analysis of the existing traffic flows between Italian-Croatian ports;
- Analysis on potential market flows and projection of future traffic flows between Italian-Croatian ports;
- Potential undesirable effects and points of congestion;
- Conclusion.

3. DEFINING THE MAIN CHARACTERISTICS OF THE PORT AND PORT AREA

This chapter aims to give an overview of the Port of Ancona and its main characteristics. Therefore, after information about geographical position of port of Ancona and its surroundings, current markets and the port hinterland are discussed. Afterwards, port infrastructures and terminals are presented as well as the intermodal nodes and the relative characteristics. Finally, port governance models are discussed and port concessionaires as well as stakeholders listed.

3.1 Geographical location

The Port of Ancona is located in the middle of the Italian Adriatic coast, precisely in the Gulf of Ancona, between two hills. Its natural position allowed since roman period to be a strategical point of reference and a natural safe shelter for navigators and sailors. The city is situated between the slopes of the two extremities of the promontory of Monte Conero, Monte Astagno and Monte Guasco and it represents the main economic and demographic center of Marche Region. Ancona area is characterized by a hilly landscape with numerous valleys and by the presence of several beaches, both rocky and sandy. Ancona area is classified as medium-high seismicity zone (level 2) by the Italian civil defense.

Figure 1: the map of the Port of Ancona and the historical city center (SOURCE: www.aeroportodiancona.net)

The distances between Ancona area and the main Italian metropolitan areas are listed in the table below according to the typology. It is evident that, because of the distance, the ports which are easier to interact with for the Port of Ancona are the Adriatic ones (Trieste, Venezia, Ravenna, Bari).

DISTANCE FROM ANCONA AREA	DISTANCE (AS THE CROW FLIES)	DISTANCE (BY ROAD)	DISTANCE (MARITIME)
ROMA	206 km	300 km	/
MILANO	400 km	428 km	/

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DISTANCE FROM ANCONA AREA	DISTANCE (AS THE CROW FLIES)	DISTANCE (BY ROAD)	DISTANCE (MARITIME)
TORINO	491 km	545 km	/
FIRENZE	183 km	321 km	/
NAPOLI	311 km	417 km	700 NM
VENEZIA	225 km	362 km	125 NM
TRIESTE	230 km	509 km	128 NM
RAVENNA	138 km	163 km	71 NM
BARI	390 km	461 km	209 NM
GIOIA TAURO	609 km	845 km	519 NM
GENOVA	376 km	506 km	1010 NM

Table 1: distance (as the crow flies, by road, maritime) between Ancona area and the main Italian metropolitan areas (SOURCE: www.distance.to, www.sea-distance.org)

Ancona area is connected to the A14 highway, while the provincial road SS16 links the highway to the Port of Ancona. The city of Ancona is connected to the national railway network, precisely to the Adriatic railway line, through the central station situated near the port along via Flaminia. Another station, called Ancona Marittima, was situated inside the port area and it was a useful connection with the central station. However, on 13th December 2015 the station was closed.

Figure 2: the road network of Ancona Area (SOURCE: www.viamichelin.it)

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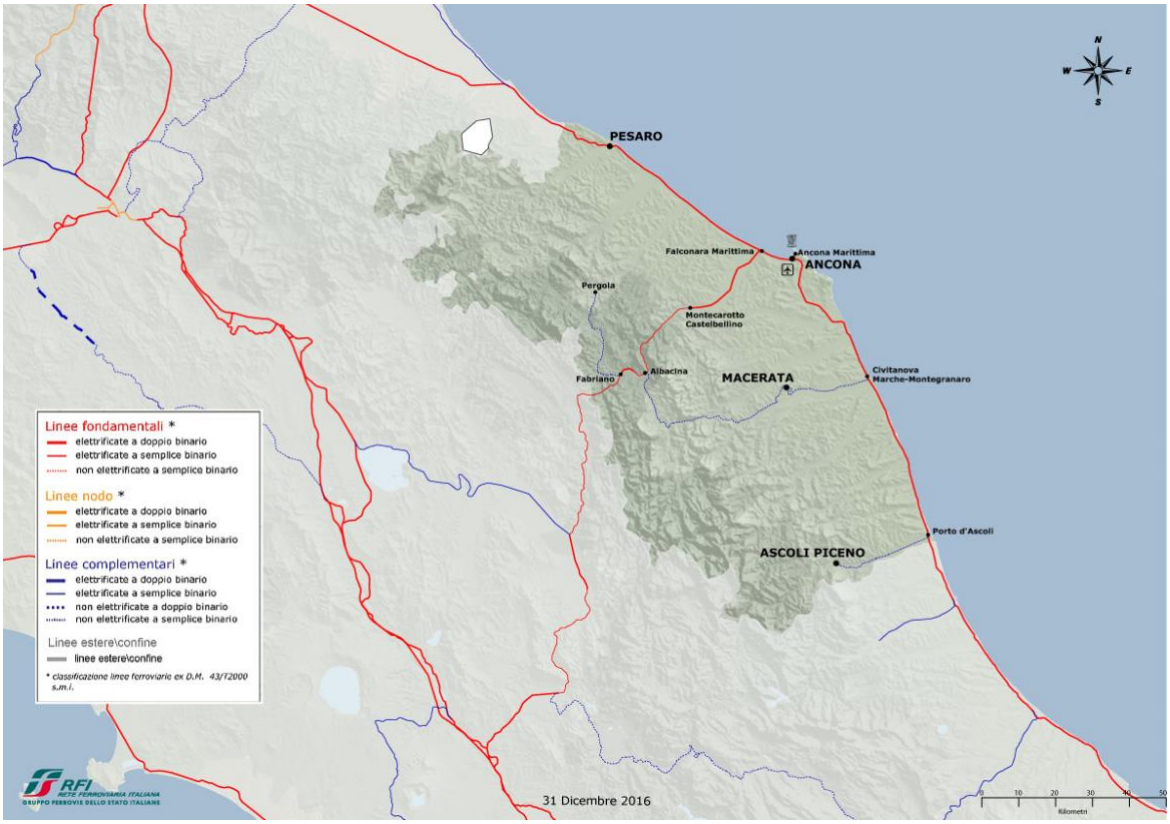

Figure 3: railway network of Marche Region (SOURCE: Rete Ferroviaria Italiana)

Ancona area is served by Ancona-Falconara airport, situated at 18 km west from the city of Ancona, with which is connected through a bus service and an airbus service. Moreover, the Castelferretti-Falconara Aeroporto station links the airport and the city of Ancona through the railway network, while by road there is a connection between the airport with the A14 highway through the State Road 76.

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Figure 4: geographical position of Ancona-Falconara Airport (SOURCE: www.weather-forecast.com)

3.2 Current markets and port hinterland

The current markets of the Port of Ancona are mainly related with passenger transport and cargo transport. Indeed, the port is the main logistic hub of central Adriatic coast and it is the main Italian port for international passenger traffic by ferries. The main market is represented by Ro-Ro traffic, with intense traffic flows of trucks and therefore Ro-Ro freight. The main routes involve the Adriatic Sea and the Adriatic ports. Precisely, intense relations are entertained with the Italian ports of Trieste, Venezia and Ravenna, especially for cargo transport and container traffic, while, for international routes, intense traffic flows are recorded with Greece (Igoumenitsa and Patras), Croatia (Split) and Albania (Durres), especially regarding passenger transport and Ro-Ro freight transport. To summarize, Port of Ancona current markets mainly include:

- Passenger traffic (ferry and cruise);
- Freight traffic (bulk, general cargo, container);
- Fishing;
- Shipbuilding;
- Pleasure boating.

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The following picture shows the areas in which the traffic flows of current markets are more intense, both for national (red) and international (blue) routes.

Figure 5: current market areas of the Port of Ancona, both national (red) and international (blue) (SOURCE: elaboration on the imagine from Wikipedia)

The Port of Ancona, beyond the maritime routes, has intense freight traffic flows towards the hinterland, especially in Marche region and central Italy (Abruzzo, Umbria, Romagna).

Figure 6: geographical area of freight traffic flows of the Port of Ancona (SOURCE: ISFORT-Intermodadria Project)

3.3 Port infrastructure, facilities and related terminals

The Port of Ancona is one of the most vital and active harbors in the Mediterranean area and plays a primary role in trade. Moreover, it is classified as an international port by the European Union.

The following table gathers all the port quays, indicating the activities to which they are addressed and the main technical characteristics. The Port of Ancona has 27 quays, including wharfs, piers, docks, layovers and a first inner harbor.

QUAYS				
INTENDED USE	PIER	REFERENCE NUMBER	LENGHT (ml)	SEABEAD (b.s.l.)
RO-PAX	Clementino	1	30	10,00
	Wojtyla	8	110	9,00
	Wojtyla	9	120	6,50
	Santa Maria	11	130	9,00
	Santa Maria	12	75	8,50
	Santa Maria	13	155	9,50
	Calata della Repubblica	14	190	10,00
	XXIX Settembre	16	118	9,00
CRUISE	XXIX Settembre	15	206	8,50
FREIGHT	Clementino	1	210	10,00
	Rizzo	2	190	9,50
	Rizzo	4	200	10,00
	XXIX Settembre	15	206	8,50
	Sud	19	145	11,00
	Sud	20	145	11,00
	Sud	21	145	11,00
	Sud	22	195	10,00
	Darsena Marche	23	260	11,00
	Darsena Marche	24	150	11,00
	Darsena Marche	25	260	11,00
OTHER SERVICES	Lanterna	/	90	4,00
	Clementino	1	45	4,00
	Rizzo	3	110	8,50
	Darsena San Primiano	5	50	5,00
	Darsena San Primiano	6	102	6,00
	Calata Guasco	7	170	8,00
	Calata Nazario Sauro	10	130	7,00
	Calata DA Chio	17	210	4,00/6,00
FISHING	Sud	18	123	4,00
	Mandracchio		1.100	2,00/4,00

Table 2: list of quays of the Port of Ancona (SOURCE: Central Adriatic ports authority)

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It is evident that the most part of the quays is used for passenger traffic and freight traffic. The seabed depth in average is low and it is a hamper for the anchorage of biggest vessels, which need at least of 14/16 meters below the sea level in order to pass in the port area.

The following figure shows the terminals according to the activities. In the north part of the port there is the terminal in which shipbuilding activities are in operation (light blue) and next there is the terminal aimed to host Ro-Ro and passenger traffic (red). Below the Ro-Ro/passenger area there is the terminal dedicated to activities connected with urban and port functions (green), while just above there is the terminal for fishing activities (orange). The biggest terminal is related with freight activities, regarding the merchant port and logistic area, and it is situated at the center of the port (blue). On the west part of port area, there is the terminal for pleasure boating (yellow). Another part of the port to mention is called Marina Dorica, which is the touristic port inside the area of Port of Ancona (purple). Lastly, the part regarding the new seafront is present towards west direction.

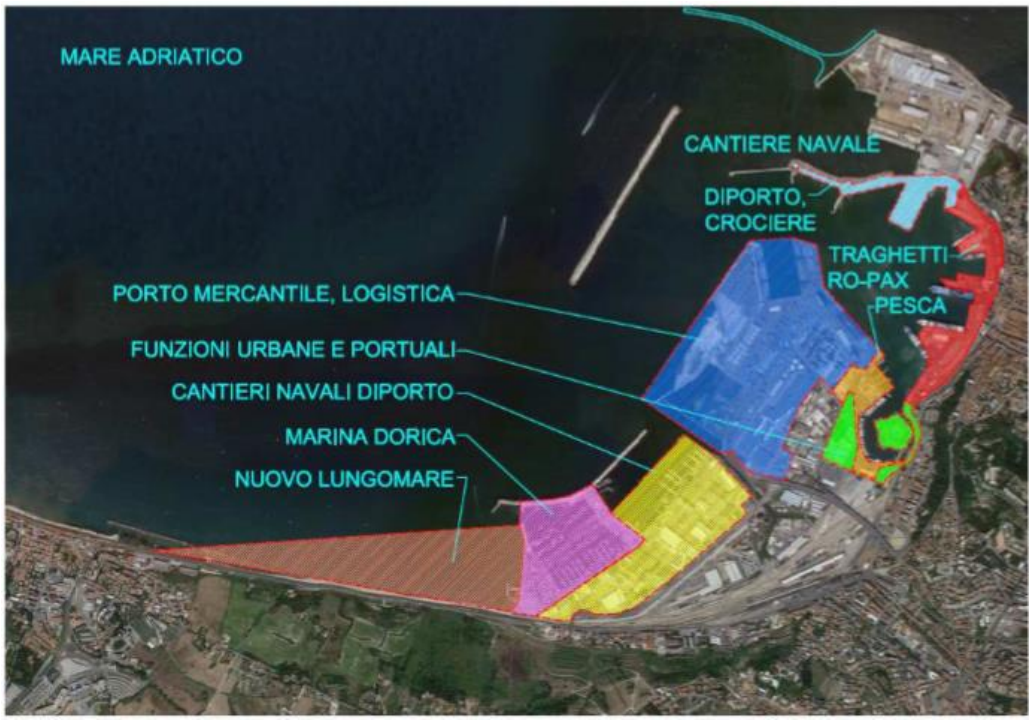

Figure 7: port areas split according to the use destination (SOURCE: Central Adriatic Ports Authority)

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The Port of Ancona is considered a small harbor with an average draft of 7,5/12,5 meters. The seabed is mainly muddy, while the allowed maximum length of the ships is about 150 meters.

The quays are equipped with stationary cranes, unloading cranes, electric mobile cranes, hydraulic mobile cranes, pneumatic grain elevators.

The shipyards involve more than 1.000 workers which are operative in activities with over 700 units mainly deal with the building of chemical and gas carriers, oceanographic research ships, ferries, tugboats, supply vessels, fast luxury yachts and coastal fishing vessels.

The fishing sector involves 130 motor fishing-boats for trawling, 50 fishing-boats for clam fishery, 30 boats for inshore fishery and about 800 seamen. Moreover, good facilities ashore like a fish market can be used by the fishing fleet. Other available facilities are equipment storerooms, repair, ice production, ship stores and fuel supply.

The Port of Ancona is equipped with medical facilities and ICT tools like a VTMIS system, a port community system, an app for the passengers in transit, free wi-fi for port users, a monitoring system for customs activities and the check of sediments and excavations in the port area, and a tracking system for boarding and disembarking of ferries.

3.4 Intermodal nodes

Intermodal nodes regard the possibility of combining two different means of transport. The Port of Ancona has a high intermodality level between maritime traffic and road traffic, while between maritime traffic and railway traffic there is a moderate intermodality.

The intermodality between maritime and road transport is intense thanks to the high traffic flows of Ro-Ro traffic, which allows to transport trucks and trailers as well as other vehicles, and the connection of Ancona Area with the TEN-T network, specifically in the Scandinavian-Mediterranean (ScanMed) Corridor. Moreover, the requalification of Italian Motorways of the Sea (*Autostrade del Mare*) has allowed to consider the Port of Ancona as a strategic point for the trade between South West Europe and West Mediterranean countries, of which imports and exports are foreseen to increase, and Italy, Central and North West Europe. Therefore, Port of Ancona has to find out a sustainable solution in order to allow trucks and other commercial

vehicles to faster their way to their destinations, without negative impacts in urban area, mainly related to congestion and pollution. This means that the building of a direct connection between the port and the A14 highway becomes a pivotal intervention in order to put Ancona area in this favorable position. The aim is to double by 2030 the traffic flows of trucks and trailers registered during 2013.

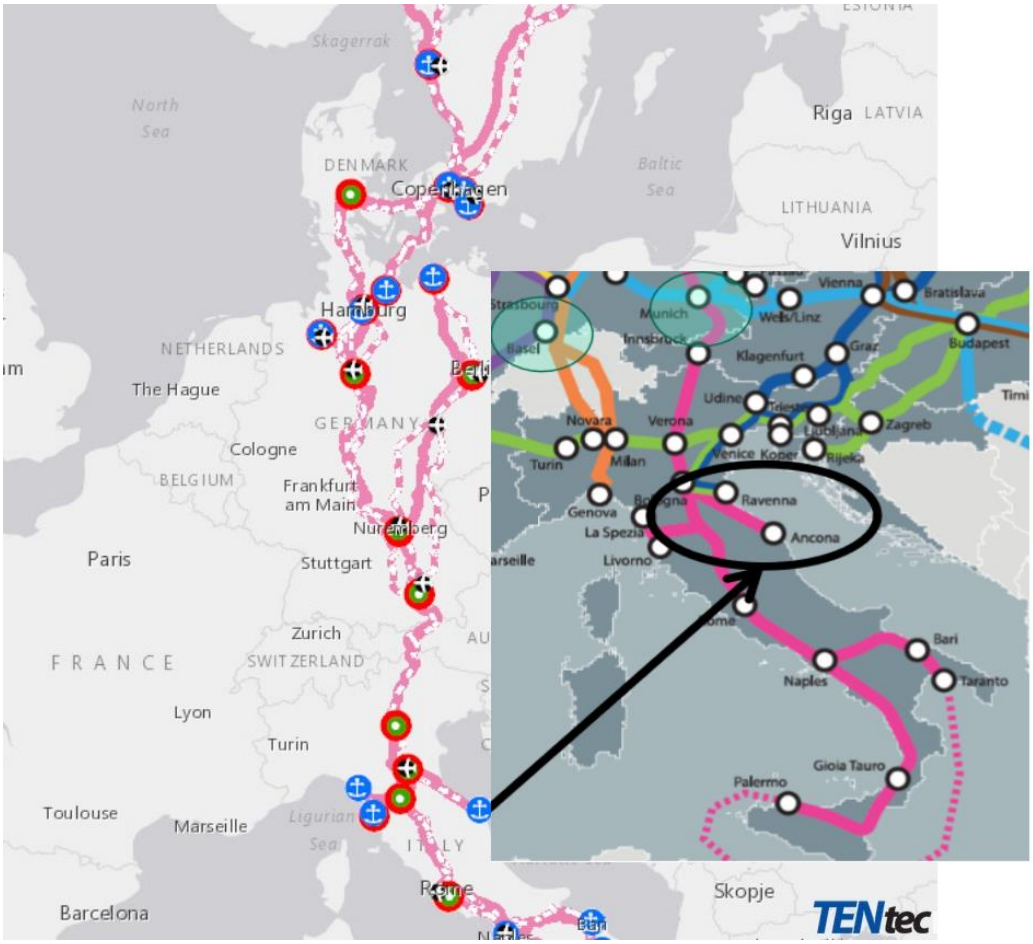

Figure 8: position of Ancona in the Scandinavian-Mediterranean (ScanMed) Corridor (SOURCE: TENtec, European Commission)

Regarding the intermodality between maritime and railway transport, the central station of Ancona is situated in front of the Port area and it allows to easily shift the transport from ships to

trains. After the completion of Cattolica Tunnel in 2015 and other interventions which have allowed to avoid technical impediments (e.g. limited train length, height limitations for trucks and trailers) it is possible to use railways from Ancona to the north of Italy, with potential traffic flows going to Germany and Switzerland. The shift from ships to trains of trucks and trailers is possible through a short path (about 2 km) from the docks to the railway area passing inside the port area. In order to avoid congestion because of overlapping with other port activities (particularly passenger traffic) usually the vehicles which need the railway transportation are the last ones to be unloaded from ferries. Once on the railway Adriatic line, the trains arrive to Bologna where they can head towards north of Italy and northern Europe.

Figure 9: intermodality between maritime and railway transport in the Port of Ancona (SOURCE: IFSORT elaboration on RFI and Ancona Port Authority Data)

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3.5 Models of port governance

The Port of Ancona is part of the Central Adriatic Ports Authority (*Autorità di Sistema Portuale del Mar Adriatico Centrale*) which also includes the ports of Pesaro, Falconara Marittima, Ortona, San Benedetto del Tronto and Pescara. The Authority has competence on a 215 km long shore. Central Adriatic Ports Authority has been instituted following the publication of the national legislative decree **D.Lgs.169/2016,** i.e. the reform of the national port systems. The national decree D.Lgs.169/2016 and the **National Strategic Plan for the Logistics Port 2015** (*Piano Strategico Nazionale della portualità e della logistica*) have defined the main objectives of Port Authorities mainly requesting:

- To guide, plan, coordinate, regulate, promote and control port services and operations as well as all the commercial and industrial activities carried out by the ports and their territorial districts;
- To manage the ordinary and extraordinary maintenance of common parts in the port areas, including the maintenance of seabed;
- Commitment and control of the activities aimed to give a supplying upon payment to port users of general interest services;
- Coordination of administrative activities carried out by public bodies and organizations within the ports and in the public maritime areas included in the territorial district;
- Exclusive administration of areas and assets of the maritime state property under his own responsibility;
- To promote forms of connection with the different types of logistics systems in the port areas.

Central Adriatic Ports Authority is formed by different bodies, namely:

- President;
- General Secretary:
- Port Committee;
- College of Auditors;

- Partnership Bodies for Sea Resource.

The **President** is nominated by a decree of Ministry of Infrastructure and Transport in agreement with Marche Region. He remains in charge for four years and he can be re-elected only one time. The President presides the Port Committee, to which submits the Three-year Operational Plan and the Port Regulatory Plan as well as the deliberation schemes of budget, final statement and concessions for maintenance, assignment and control of activities carried out in the port area. Moreover, the President manages the areas and assets of the maritime domain, illustrates the propositions about the field of delimitation of the free zones and promotes the establishment of port work association.

The **General Secretary** is appointed by the Port Committee on the proposal of the President, including experts with proven qualifications in the sector. It has a private law contract duration of four years renewable only once. He is in charge of the technical-operational secretariat and takes care of the preliminary investigation of the deeds of competence of the President and of the Port Committee, elaborates the harbour city development plan, reports on the state of implementation of the intervention plans and ensures the keeping of the registers.

The **Port Committee** is a collegiate body with political functions whose members usually meet once a month. It is composed by the President of the Central Adriatic Ports Authority, representatives of Marche Region, Abruzzo Region and by components appointed by the Mayors of Ancona, Pesaro and Pescara. Moreover, the Maritime Authority nominees the representatives for each Coast guard of Central Adriatic Ports Authority (Ancona, Pescara, Ortona, San Benedetto del Tronto), which participate at the meetings voting exclusively for subjects of competence. The Port Committee deals with deliberative functions and it is responsible for the approbation of the Three-year Operative Plan, the budget, the final statement and the annual report on the promotional, organizational and operational activity of the port. Moreover, it gives opinions regarding the functions of the president about the administration of state-owned areas and the release of authorizations and concessions.

The **College of Auditors** is responsible for checking the management documents, verifying the regular keeping of the accounting books and drawing up a report on the final statement. According to the law in force, the College of Auditors is composed by three members and two

alternates designated by the Minister of Infrastructures and Transport, selected from the list of Legal auditors, or between people with specific professional skills. The President of the College and an alternate member are appointed by the Minister of Economy and Finance. The members of the College remain in charge for four years and can be reconfirmed for additional four years.

The **Partnership Bodies for Sea Resource** has functions of partnership comparison, as well as consultative functions of economic social partnership. It is responsible for the adoption of the Port Regulatory Plan, the Three-year operative plan as well as of the determination of the levels of services rendered within the port system which could affect the overall functionality. Moreover, it is responsible for port operations, budget drafting and the final balance sheet. The Partnership Bodies for Sea Resource is formed by the President of Central Adriatic Ports Authority, the Commander of Port of Ancona and one representative for each of different categories of workers (shipowners, manufacturers, forwarders, intermodal logistics operators, railway operators, maritime agents, hauliers, companies' workers, tourism and trade operators).

3.6 Port concessionaries and stakeholders

Port of Ancona stakeholders are all subjects, entities, companies and parties which have an interest in the numerous activities performed in the port area.

In order to acquire a port concession, a stakeholder must follow a certain procedure:

- Submission of an application for the granting of a maritime state property concession which can last at most four years. The submission requires the fulfilment of mandatory documents regarding both legal and financial situation of the stakeholder. In case of concession longer than four years the procedure is stricter, with further documents required;
- The evaluation of the application submitted to the Central Adriatic Ports Authority according to the compatibility of implementation programs and the port development programs as well as in relation to the provisions of the Port Regulatory Plan;

- A public request lasting at least 30 days made by the Central Adriatic Ports Authority in order to allow visioning the documents to everyone who is interested and can make observations, oppositions and frequently asked questions;
- The determination, once the positive outcome of the correctness of the request is confirmed, by the Central Adriatic Ports Authority of the amount of the concession fee to be communicated to the involved stakeholder.
- Payment by the stakeholder of the concession fee and provision of all the cautions and insurances needed;
- Reception by the Stakeholder of the Maritime State License, that is the port concession to operate in the port area.

There are different types of port concession:

- **Primary concession**: it is the concession for the use of maritime land zones or territorial sea or state-owned maritime assets in ports falling within the competence of Central Adriatic Ports Authority;
- **Concession for the performance of port operations**: it is a concession in order to obtain the reserve of operational spaces for port companies and the possibility to handle all types of goods;
- **Concession for the takeover**: it is a concession with which the applicant requires the substitution of the original concessionaire (which gives up) in the fruition of the port concession;
- **Request to variations in the port concession**: it is the possibility to require variations of the original port concession, like the extension of the zone granted or changes in the conditions to operate.
- **Assignment to other subjects of the activities covered by the concession:** it is the concession in which the applicant asks to entrust the activities to other subjects.

The following figure shows the property limit of the port within which port concessions can be granted.

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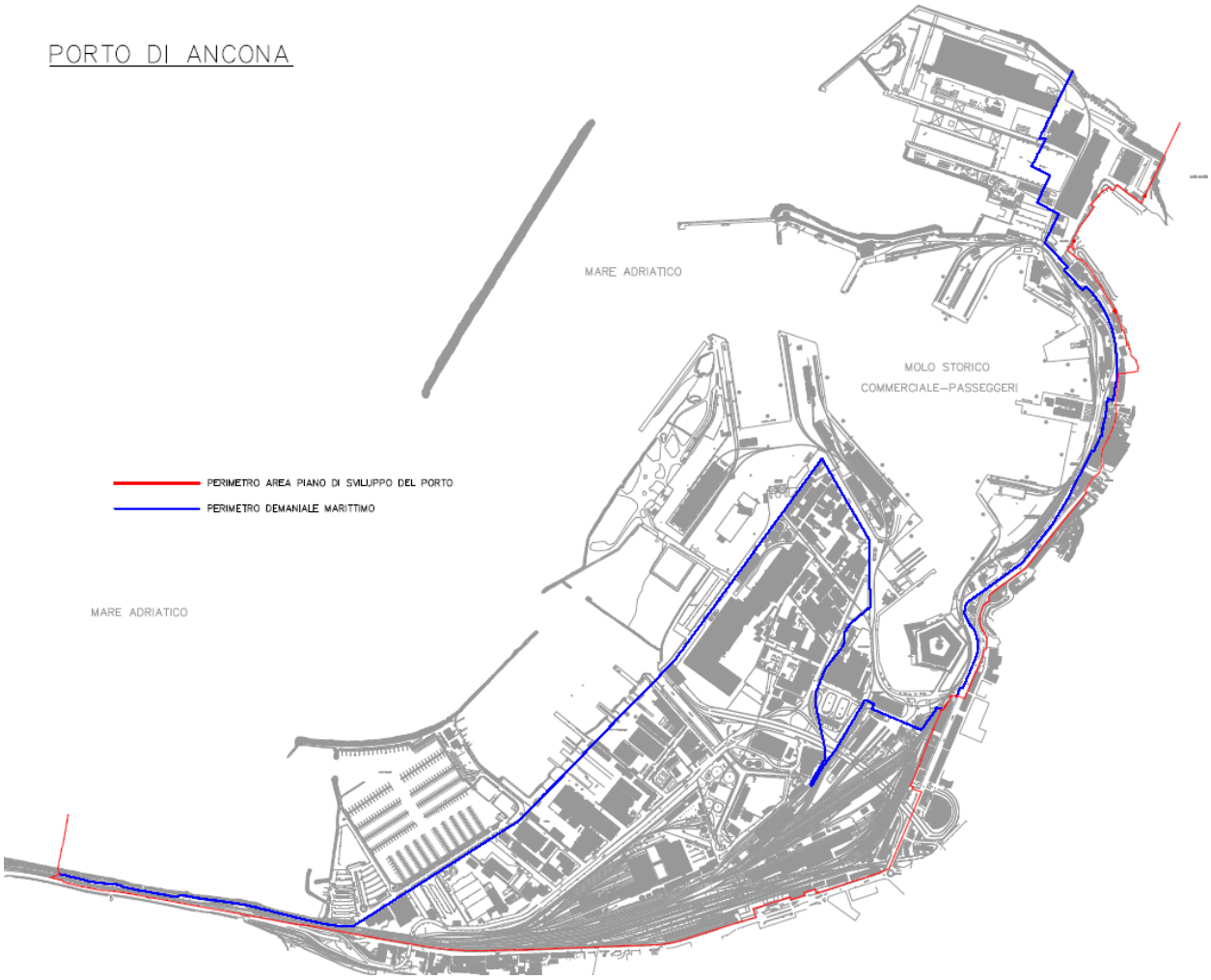

Figure 10: property limit (current property limit perimeter in blue, port development plan area perimeter in red) in the Port of Ancona (SOURCE: Central Adriatic Ports Authority)

In the following table are lists all the port concessions of 2018 and 2017 of the Port of Ancona.

NAME OF THE CONCESSIONARIE	CONCESSION AREA	ACTIVITY
GIOMMI ENNIO	TORRETTE ZONE	MANAGEMENT OF A FISHING SYSTEM AND RELATIVE EQUIPMENT
ANCONA MUNICIPALITY	MANDRACCHIO ZONE	MANAGEMENT OF ROAD CONNECTION BETWEEN VIA ENAUDI AND VIA MATTEI

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NAME OF THE CONCESSIONARIE	CONCESSION AREA	ACTIVITY
ANCONA MUNICIPALITY	PALOMBINA NUOVA BEACH	MANAGEMENT OF BUILDINGS FOR SPORT ACTIVITIES FOR YOUNG SUMMER CENTERS
ANCONA MUNICIPALITY	NORTH RAILWAY OVERLOOK	MANAGEMENT OF AN ELEVATOR FOR HANDICAP PEOPLE SITUATED AT THE ENTRANCE OF THE BEACH
MANDRACCHIO S.R.L.	MANDRACCHIO ZONE	MANAGEMENT OF A BUILDING USED AS RESTAURANT AND BAR
BAR MANDRACCHIO	MANDRACCHIO ZONE	MANAGEMENT OF A BUILDING USED AS BAR
C.R.N S.P.A.	ZIPA ZONE	MANAGEMENT OF A SLIPWAY, AN EQUIPPING QUAY, A STORAGE PREFABRICATED AREA AND THE BUILDING MO5 USED AS AN OFFICINE
O.MEC. S.R.L.	EX TUBIMAR ZONE	MANAGEMENT OF A BUILDING FOR MAINTENANCE OF CRANE/OTHER PORT EQUIPMENT AND INTERVENTIONS NEEDED FOR SHIPS/INFRASTRUCTURES
CONSOMINIO EX PALAZZO TRIONFI	PROXIMITY TO ANCORA MARITTIMA STATION	MANAGEMENT OF DRAINS AND SEWERS OF THE BUILDING TRIONFI
FRITTELLI MARITIME GROUP S.P.A.	QUAY N. 17	MANAGEMENT OF A PORT AREA FOR SHIP ANCHORAGE AND LOADING/UNLOADING OF RESEARCH MATERIAL
COLLETTA ANTONIO	PROXIMITY OF THE RAILWAY LINE BOLOGNA-LECCE (KM 202)	MANAGEMENT OF A FISHING SYSTEM AND RELATIVE EQUIPMENT
MOTORBOAT AND SAIL S.R.L.	NEW TOURISTIC PORT	MANAGEMENT OF A PORT AREA WITH THE AIM TO GIVE AN ASSISTANCE SERVICE FOR PLEASURE BOATING SHIPS
LA MARINA DORICA S.P.A.	NEW TOURISTIC PORT (EAST QUAY)	MANAGEMENT OF A PORT AREA USED FOR YOUTH SPORT ACTIVITIES, TO HOST SHIPS FOR HANDICAP PEOPLE AND AS TRANSIT FOR TOURISM AND SPORT MANIFESTATIONS
LA MARINA DORICA S.P.A.	NEW TOURISTIC PORT	MANAGEMENT OF A PORT AREA FOR THE ANCHORAGE OF PLEASURE BOATING SHIPS, TO HOST BIG SHIPS AND TO HOST SPORT MANIFESTATIONS
CANTIERE DELLE MARCHE S.R.L.	NEW TOURISTIC PORT (EAST QUAY)	MANAGEMENT OF A PORT AREA FOR A CONSTRUCTION OF A QUAY AND FOR THE CHECK AND TESTING OF YATCHS
FASTWEB S.P.A.	PORT AREA	MANAGEMENT OF THE INFRASTRUCTURE RELATED TO THE CONNECTION OF FINANCIAL POLICE TO THE F.O. WEB OF FASTWEB
BAR LA ROTONDA	NORD PIER	MANAGEMENT OF A BUILDING USE AS A STORAGE FOR CHAIRS AND TABLES OF THE BAR
FINCANTIERI S.PA.	EX TUBIMAR ZONE	MANAGEMENT OF A BUILDING USED AS OFFICE FOR THE COMPANY VIKING OCEAN CRUISE
CARBONARI G. & C. S.A.S.	PORT AREA	MANAGEMENT OF A BUILDING USED AS STORAGE FOR THE EQUIPMENT NEEDED FOR THE SHIPS WATER SUPPLY SERVICE
FA.VI. S.R.L.	TORRETTE ZONE	MANAGEMENT OF A FISHING SYSTEM AND RELATIVE EQUIPMENT
FRITTELLI MARITIME	EX TUBIMAR ZONE	MANAGEMENT OF A WEIGHT SCALE

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NAME OF THE CONCESSIONARIE	CONCESSION AREA	ACTIVITY
GROUP S.P.A.		
BAR A ONDA S.A.S.	PROXIMITY OF VARCO DELLA REPUBBLICA	OCCUPATION OF THE SIDEWALK IN VIA DA CHIO, NEAR THE BAR TABACCHI
LA DITTA GABRIELLONI F. E C. S.N.C.	VIA DA CHIO N. 11 (NAZARIO SAURO QUAY)	MANAGEMENT OF A BUILDING USED AS STORAGE
UNICREDIT BUSINESS INTEGRADED SOLUTIONS S.C.P.A.	MANDRACCHIO ZONE	MANAGEMENT OF A BUILDING USES AS AGENCY BY UNICREDIT
API RAFFINERIA DI ANCONA S.P.A.	PROXIMITY OF THE EX SANITARY MARITTIMA STATION	MANAGEMENT OF A BULDING USED AS STORAGE
BONTÀ DELLE MARCHE S.A.S.	QUAY N.2	MANAGEMENT OF A PORT AREA WITH REMOVABLE STRUCTURES AND DELIMITATION SYSTEM
I.CO.P. S.R.L. – IMPRESA COMPAGNIA PORTUALI	QUAYS N. 22 AND 23	MANAGEMENT OF A PORT AREA WITH CHARGING POINTS AND ELECTRIC LINES AND A BUILDING USED AS STORAGE
I.CO.P. S.R.L. – IMPRESA COMPAGNIA PORTUALI	QUAYS N. 4, 22 AND 23	MANAGEMENT OF TWO WEIGHT SCALES AND A BUILDING USED AS OFFICE
S.E.F STAMURA	PROXIMITY OF MOLE VANVITELLIANA	MANAGEMENT OF A PORT AREA WITH GANGWAY AND BERTHS FOR PLEASURE BOATING SHIPS
BANCA D'ITALIA	VIA DA CHIO	MANAGEMENT OF A DRAINAGE OF CLEAR WATER OF THE BUILDING USED AS AGENCY
ACCADEMIA DI BABELE	MANDRACCHIO ZONE	MANAGEMENT OF THE AUDITORIUM AND RELATED SERVICES
ANCONA MUNICIPALITY	ALONG THE COAST COLLEMARINO PALOMBINA NUOVA	MANAGEMENT OF PUBLIC LIGHTING SYSTEM
FINCANTIERI S.PA. – C.N.I – STABILIMENTO DI ANCONA	MAIN ESTABLISHMENT OF PORT AREA	MANAGEMENT OF A PORT AREA INCLUDING SAFETY STAIRS, RAILWAY JUNCTION, METAL PIPES, SEWER CONNECTION AND PIPES FOR CABLES
ARCHIBUGI ALESSANDRO E FIGLIO S.R.L.	VIA DA CHIO N. 6	MANAGEMENT OF A BUILDING USED AS STORAGE
ASSOCIAZIONE PESCATORI SPORTIVI	PROXIMITY OF MOLE VANVITELLIANA	MANAGEMENT OF THE EQUIPMENT NEEDED FOR THE ANCHORAGE OF THE SHIPS
ANGUI' S.R.L.	PROXIMITY OF VARCO DELLA REPUBBLICA	OCCUPATION OF THE SIDEWALK IN VIA DA CHIO, NEAR THE HEAD OFFICE OF ARGUI'
BALEANI CESARE	PALOMBINA NUOVA BEACH	MANAGEMENT OF A BATHING ESTABLISHMENT AND RELATED SERVICES
MULTISERVIZI S.P.A.	PALOMBINA NUOVA BEACH	MANAGEMENT OF A SEWER COLLECTOR, AN INSPECTION COCKPIT, A PIPELINE FOR DRINKING WATER SERVICE AND A BUILDING USED AS PUMPS ROOM
MULTISERVIZI S.P.A.	PORT AREA	MANAGEMENT OF PIPES FOR DRINKING WATER SERVICE AND PIPES FOR SEWER SERVICE
ASSOCIAZIONE PESCA	PROXIMITY OF MOLE	MANAGEMENT OF THE EQUIPMENT NEEDED FOR THE

D.4.1.2 Analysis of potential market flows of the Port of Ancona

NAME OF THE CONCESSIONARIE	CONCESSION AREA	ACTIVITY
SPORTIVA LAZZARETTO	VANVITELLIANA	ANCHORAGE OF THE SHIPS AND MOORING WALKWAYS
LAUSDEI LORENZO	SAN PRIMIANO QUAY	MANAGEMENT OF A BUILDING USED AS BAR/RESTAURANT AND A STORAGE
G.M.G VITALI CARLO	NEW TOURISTIC PORT	MANAGEMENT OF A PORT AREA WITH TWO WHARFS AND A WALKWAY IN ORDER TO PERFORM ASSISTANCE, REPAIRING SERVICE AND ANCHORAGE FOR SHIPS OF CUSTOMERS
GURDIA AI FUOCHI SOC. COOP. COOPER. G.A.F.	VIA DA CHIO N. 3	MANAGEMENT OF A BUILDING USED AS STORAGE, OFFICE AND HEADQUARTER
ENEL DISTRIBUZIONE S.P.A.	PALOMBINA NUOVA BEACH	MANAGEMENT OF TRIPOLAR ELECTRIC CABLES
E-DISTRIBUZIONE S.P.A.	PALOMBINA VECCHIA COAST	MANAGEMENT OF SUPPORTS FOR ELECTRIC CABLES
CO.RI.MA COMPAGNIA RIMORCHIATORI ANCONA S.R.L.	QUAY N.3	MANAGEMENT OF TWO CHARGING COLUMNS FOR MOORED TUGS
CCIAA	VIA DA CHIO N. 18 AND LOGGIA DEI MERCANTI	MANAGEMENT OF TWO BUILDINGS, ONE USED AS STORAGE AND ONE USED AS TECHNICAL ROOM
CCIAA	LOGGIA DEI MERCANTI – VICOLO DELLA FONTE	MANAGEMENT OF TWO BUILDINGS, ONE USED AS THERMAL POWER STATION AND ONE USED AS AIR-CONDITIONING SYSTEM
LA BITTA GABRIELLONI F. E C. S.N.C.	PROXIMITY OF MARITIME STATION (NAZARIO SAURO QUAY)	MANAGEMENT OF A BRICKWORK BUILDING USED AS BAR AND THREE AREAS COVERED BY SUNSHADE TENTS
VROON OFFSHORE SERVICE S.R.L.	VIA DA CHIO N. 19-20	MANAGEMENT OF A PDM BUILDING USED AS STORAGE
PETROLIFERA ADRIATICA S.P.A.	MANDRACCHIO ZONE	MANAGEMENT OF THREE FUEL DISTRIBUTION SYSTEMS
COOP. PESCA SPORTIVA A R.L. IL FOSSO	FOSSO CONOCCHIO	MANAGEMENT OF AN AREA USED AS WAREHOUSE FOR BOATS AND CARRIAGES
BAR LA ROTONDA	NORTH PIER	MANAGEMENT OF A BUILDING USED AS BAR AND A BUILDING USED AS STORAGE
C.P.N. S.R.L.	EX TUBIMAR ZONE	MANAGEMENT OF A SHED
BAR GIORDANO	MANDRACCHIO ZONE	MANAGEMENT OF A BRICKWORK BUILDING USED AS BAR AND A GAZEBO
LAMI S.R.L.	EX TUBIMAR ZONE	MANAGEMENT OF A WEIGHT SCALE
BAR MANGANELLI	PORTELLA SANTA MARIA	MANAGEMENT OF A BUILDING USED AS BAR/PIZZERIA/FAST FOOD AND AN AREA WITH CHAIRS, TABLES AND UMBRELLAS
PUBLI CITTA' S.P.A.	VARCO DOGANALE DELLA REPUBBLICA	INSTALLATION AND MANAGEMENT OF AN INFORMATION MULTIMEDIAL TOUCHSCREEN TOTEM
E-DISTRIBUZIONE S.P.A.	PORT AREA	MANAGEMENT OF FIVE ELECTRICAL CABINETS AND POWER LINES
MORELLI ENZO	PALOMBELLA ZONE	MANAGEMENT OF A SCALE FISHING SYSTEM

D.4.1.2 Analysis of potential market flows of the Port of Ancona

NAME OF THE CONCESSIONARIE	CONCESSION AREA	ACTIVITY
ORMEGGIATORI "A.ELIA" SOC. A R.L.	VIA DA CHIO N. 13	MANAGEMENT OF A PDM BUILDING USED AS STORAGE
TELECOM ITALIA S.P.A.	PORT AREA	MANAGEMENT OF THREE PUBLIC TELEPHONE SYSTEM ALONG THE PORT ROADS
ASSOCIAZIONE PRODUTTORI PESCA SCO. COOP. P.A.	MANDRACCHIO ZONE	MANAGEMENT OF A BUILDING OF TWO FLOORS USED AS FISH MARKET AND RELATED SERVICES
ASE S.R.L.	EX TUBIMAR ZONE	MANAGEMENT OF SEVERAL SHEDS USED AS STORAGE AND VARIOUS GOODS TRANSHIPMEN
INWIT S.P.A.	SOUTH PIER	MANAGEMENT OF A RADIO STATION FOR MOBILE VIDEO TELEPHONE SYSTEMS, WITH NINE ANTENNAS AND A SHELTER

Table 3: list of port concessions granted in 2017 and 2018 in the Port of Ancona (SOURCE: Central Adriatic Ports Authority)

The following table gathers all the stakeholders of the Port of Ancona.

NAME OF THE STAKEHOLDER	TYPE OF STAKEHOLDER/ACTIVITY
Impresa Ancona Merci scpa	COMPANY art. 16, 17, 18 and L. 84/94
Impresa ACT srl	COMPANY art. 16, 17, 18 and L. 84/94
Impresa ASE srl	COMPANY art. 16, 17, 18 and L. 84/94
Impresa COMMPA	COMPANY art. 16, 17, 18 and L. 84/94
Impresa CPS Soc. Coop. Arl	COMPANY art. 16, 17, 18 and L. 84/94 AND RAILWAY SERVICE
Impresa Isidori srls	COMPANY art. 16, 17, 18 and L. 84/94
Impresa AMATORI INTERESTATE Srl	COMPANY art. 16, 17, 18 and L. 84/94
Impresa I.CO.P.	COMPANY art. 16, 17, 18 and L. 84/94
Impresa S.A.I. SRL	COMPANY art. 16, 17, 18 and L. 84/94
Impresa S.I.A.P S.P.A.	COMPANY art. 16, 17, 18 and L. 84/94
Impresa Silos granari Sicilia	COMPANY art. 16, 17, 18 and L. 84/94
Impresa VIOLINI RIPARAZIONI Srl	COMPANY art. 16, 17, 18 and L. 84/94
Impresa VIOLINI Srl	COMPANY art. 16, 17, 18 and L. 84/94
Impresa CLP Srl	PROVISION OF TEMPORARY WORK art. 16, 17, 18 and L. 84/94
SOVIT S.R.L.	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
F.LLI PENNA E ANDREUCCI SNC	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
AUGUSTO DELLA MONACA INGEGNERE NAVALE E MECCANICO	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
COMAS PAOLO QUERCETTI SRL UNIPERSONALE	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
ADRIA SAIL S.R.L.	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
FERRARA COSTRUZIONI MARITTIME E	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

NAME OF THE STAKEHOLDER	TYPE OF STAKEHOLDER/ACTIVITY
TERRESTRI SRL	
ISTITUTO DI VIGILANZA LA VEDETTA SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
ANTICIMEX SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
TRIVENETA DISINFESTAZIONI SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
NUOVA CLAR S.R.L.	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
API RAFFINERIA DI ANCONA SPA	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
TRADEM SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
LAMI S.R.L.	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
PEPA TRASPORTI S.R.L.	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
RISMA SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
WORLD PAINTING SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
TAV	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
MEDITERRANEA SERVICE SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
SUNSHINE SAIL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
SORCINELLI SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
PALUMBO ANCONA SHIPYARD ISA SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
2G SYSTEM S.R.L.	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
C.I.T. SOCIETA' COOPERATIVA INTERREGIONALE TRASPORTI	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
MECNA CANTIERE MECCANICO NAVALE DI GIOMMI & C. SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
GHETTI MAURIZIO S.A.S. DI GHETTI MAURIZIO & C.	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
ELETTRONAUTICA SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
SAIM SPA	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
ST TRASPORTI SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
CONSAR SCC	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
CEMI METALMECCANICA SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
C.P.N. S.R.L.	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
CTF SOC COOP CONS	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
ADRIATICA DIESEL DI CIRIONI DENIS	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
CARBONAFTA & CARBOMETALLI SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
BESENZONI S.P.A	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
DORICA PORT SERVICES SOC.COOP.A.R.L.	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
TECNIMPIANTI SPA	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
O.MEC. SRL UNIPERSONALE	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
GIVI SERVICE SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
AXITEA SPA	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

NAME OF THE STAKEHOLDER	TYPE OF STAKEHOLDER/ACTIVITY
GARBAGE SERVICE SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N. / WASTE COLLECTION/WATER CLEANING
ITALIANA IMPIANTI S.R.L.	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
TEKNOSHIP S.R.L.	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
DOTT. EMILIO BENETTI	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
D.I.O.C.A. SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
CAM DI ZAMPOLINI F.	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
M.T.O. DI OTTAVIANI E TONTI SNC	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
TELENAUTICA SERVICE SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
SALVARAT SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
C.A.F. AUTOTRASPORTI	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
SE.CO.MAR. DI GUGLIELMINO MARCO	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
ALESSANDRONI TRASPORTI	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
MARINELLI SANDRO	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
VEDETTA 2 MONDIALPOL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
ATS ANCONA TRASPORTI SERVIZI	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
OFFICINA MECCANICA NAVALE PAOLUCCI FRANCESCO	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
NOVA IDRO DIESEL SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
PELLICCIA SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
PROVVEDINAVI SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
NAUTIC STORE SNC	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
ELECTRO IMPIANTI SAS	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
MTU ITALIA SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
GUGLIELMINO GIOVANNI	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
GUARDIA AI FUOCHI SOC. COOP	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
CANT. NAV. SANTINI DI SANTINI GERARDO & C.SNC	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
STAR DIESEL 2001 S.R.L.	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
C.A.R.P. SOC.COOP. A R.L.	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
SOL SPA	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
SURETE' S.R.L.	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
FRITTELLI MARITIME GROUP SPA	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N. / COMPANY art. 16, 17, 18 and L. 84/94 / MARITIME AGENCY
F.LLI ZALLOCCO SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
CARMAR SUB S.R.L.	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
PELLINI S.P.A.	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
ELISA BALDASSARI	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

NAME OF THE STAKEHOLDER	TYPE OF STAKEHOLDER/ACTIVITY
EFFEPI SRL	COMPANY/PRIVATE REGISTERED IN THE LIST ART 68 C.N.
Adriatic Shipping Lines	MARITIME AGENCY
Amatori Cap. Primo	MARITIME AGENCY
Archibugi Alessandro & F.	MARITIME AGENCY
CSD Talevi	MARITIME AGENCY
F.lli Morandi & C. S.r.l.	MARITIME AGENCY
Humbert Kane	MARITIME AGENCY
Le Navi Ancona Srl	MARITIME AGENCY
Maritransport S.r.l.	MARITIME AGENCY
Marittima Ravennate	MARITIME AGENCY
Montevecchi A&A	MARITIME AGENCY
Novelli Arrigo & F.	MARITIME AGENCY
Belligoni Pier Paolo	REFUELLING
SAVINI FABIO SAVINI LUCA & C. snc	LIGHTING
FULMAR BARCAIOLI Ancona Srl	NAUTICAL TECHNICAL
Soggetto Corpo dei Piloti	NAUTICAL TECHNICAL
Gruppo Ormeggiatori del Porto di Ancona Società Cooperativa Via Molo Nord Snc	NAUTICAL TECHNICAL
Soggetto CO.RI.MA Soc. a r.l.	NAUTICAL TECHNICAL

Table 4: list of the stakeholders of the Port of Ancona (SOURCE: Central Adriatic Ports Authority)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

4. PORT TRAFFIC STATISTICS

This chapter presents the main traffic statistics of the Port of Ancona from 2013 to 2018 (according to the availability of the data) in order to make an analysis of the traffic flows. The data mainly regard freight traffic statistics, particularly about vehicles, containers, cargo and passengers. Moreover, the vessel statistics are discussed as well according to the type. An overview of the main statistics of the Port of Ancona is given by the table below.

PORT TRAFFIC STATISTICS	2013	2014	2015	2016	2017	2018
PRIVATE VEHICLES	213.588	208.506	195.110	209.359	230.463	249.671
TRUCK/TRAILER TRAFFIC	132.284	126.610	136.581	141.761	148.660	147.650
TRUCK/TRAILER FREIGHT TRAFFIC (tonnes)	2.050.561	2.018.055	2.175.673	2.236.938	2.344.572	2.391.576
NUMBER OF CONTAINERS	91.982	99.839	106.923	110.841	101.815	97.117
CONTAINERS FREIGHT TRAFFIC (tonnes)	1.055.811	1.133.898	1.195.989	1.240.347	1.106.423	1.135.549
CONTAINERS (TEU)	152.394	164.882	178.476	185.846	168.372	159.061
TOTAL LIQUID FREIGHT (tonnes)	3.282.372	4.779.460	4.724.195	5.025.241	4.643.313	4.607.454
DRY FREIGHT TRAFFIC (tonnes)	3.692.161	3.789.496	3.868.867	3.942.451	4.032.805	3.832.744
TOTAL BULK FREIGHT (tonnes)	585.789	637.543	497.205	465.166	581.810	305.619
TOTAL FERRY PASSENGERS TRAFFIC	1.064.562	1.042.896	970.867	950.985	1.038.553	1.084.235
TOTAL CRUISE PASSENGERS TRAFFIC	109.492	37.220	39.277	54.901	52.086	67.031
VESSELS TRAFFIC	4.382	4.496	4.482	4.570	4.089	3.977

Table 5: main traffic statistics of the Port of Ancona in the period 2013-2018 (SOURCE: Central Adriatic Ports Authority)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

In the period 2013-2018 the number of private vehicles increased from 213.588 vehicles to 249.671 vehicles (+16,9%). The traffic of truck and trailers raised as well, from an amount of 132.284 vehicles in 2013 to 147.650 vehicles in 2018 (+11,6%). Consequently, the freight traffic related to truck and trailers increased from 2.050.561 tonnes in 2013 to 2.391.576 tonnes in 2018 (+16,6%). Regarding the container traffic, the total amount increased from 91.182 containers in 2013 to 97.117 containers in 2018 (+5,6%). Also container freight traffic and the containers in TEU increased respectively from 1.055.811 tonnes in 2013 to 1.135.549 in 2018 (+7,5%) and from 152.391 TEU in 2013 to 159.061 TEU in 2018 (+4,8%).

Focusing on cargo traffic, liquid freight traffic increased from 3.282.372 tonnes in 2013 to 4.607.454 tonnes in 2018 (+40,4%), while dry freight traffic increased from 3.692.161 tonnes in 2013 to 3.832.744 tonnes in 2018 (+3,8%). Conversely, an opposite trend characterized the bulk freight traffic, which decreased from 585.789 tonnes in 2013 to 305.619 tonnes in 2018 (-47,8%).

For what concerns passengers, ferry traffic increased from 1.064.562 passengers in 2013 to 1.084.235 passengers in 2018 (+1,8%), while cruise traffic decreased from 109.492 passengers in 2013 to 67.031 passengers in 2018 (-38,8%).

Lastly, vessel traffic recorded a general decrease from an amount of 4.382 vessels in 2013 to 3977 vessels in 2018 (-9,2%).

The general overview shows that almost all statistics have improved during the period 2013-2018, except bulk freight traffic, cruise traffic and vessel traffic. The most important variations regard the increase of the liquid freight traffic (+40,4%) and the decrease of bulk freight traffic (-47,8%) and cruise traffic (-38,8%). Other relevant changes are the rise of private vehicles (+16,9%), truck and trailers traffic (+11,1%), truck and trailer freight traffic (+16,6%) and containers traffic in TEU (+7,5%). Moreover, also the decrease of vessel traffic (-9,2%) is a relevant variation. All other statistics have remained quite stable, with a range variation between 1% and 6%.

Each statistic will be showed and analyzed more in detail in the following paragraphs.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

4.1 Freight traffic statistics

This paragraph focuses on freight traffic statistics, particularly on vehicles traffic, container traffic, cargo traffic and passenger traffic.

4.1.1 Vehicle traffic

The total vehicle traffic of Port of Ancona in 2013-2018 period is represented in the table below.

TOTAL VEHICLES TRAFFIC	PRIVATE	TRUCK/TRAILERS	TOT
2013	213.588	132.284	345.872
2014	208.506	126.610	335.116
2015	195.110	136.581	331.691
2016	209.359	141.761	351.120
2017	230.463	148.660	379.123
2018	249.671	147.650	397.321

Table 6: total vehicle traffic of Port of Ancona in the period 2013-2018 (SOURCE: Central Adriatic Ports Authority)

The traffic of private vehicles is higher than truck and trailer traffic (about +60-70%) and during the period 2013-2018 there was an increase of the total vehicles traffic, despite a slight decrease (-4,1%) between 2013 (345.872 vehicles) and 2015 (331.691 vehicles). Looking at the last three years, the total amount raised by about 8% in 2017 (379.123 vehicles) and about 4,7% in 2018 (397.321 vehicles). Therefore, currently the Port of Ancona is recording an increase in vehicles traffic flows.

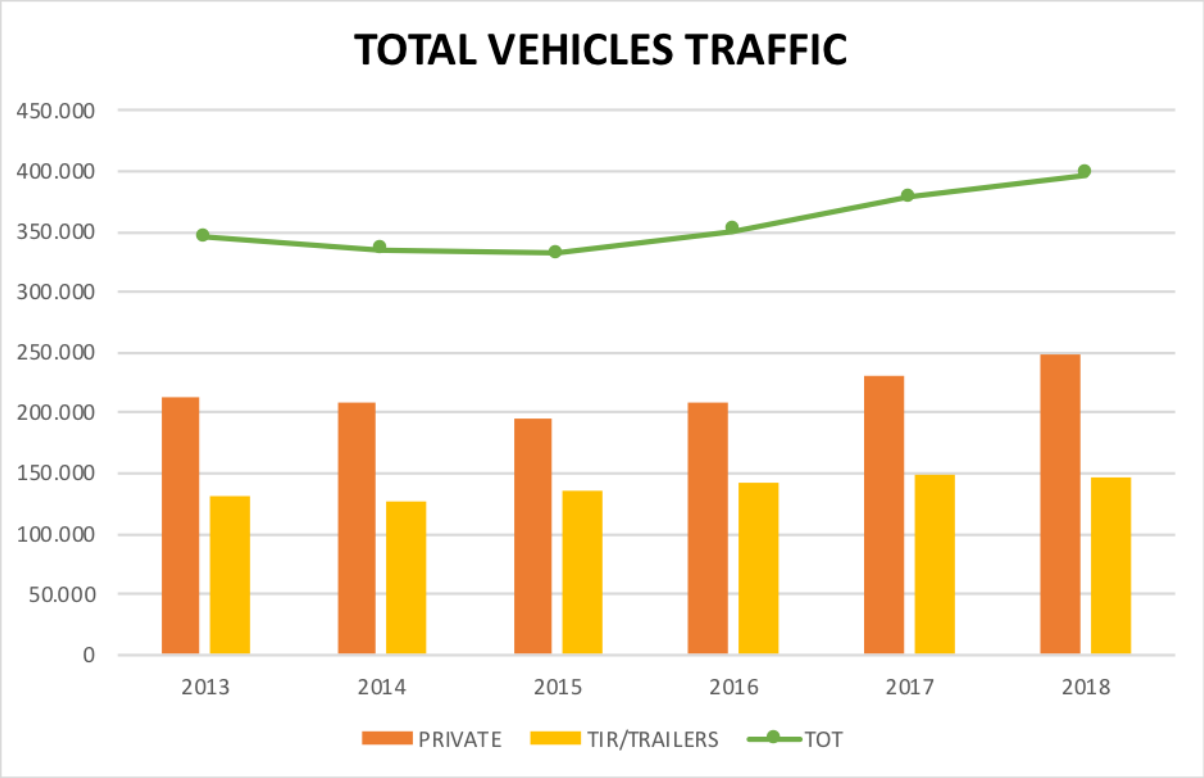

Figure 11: trend of total vehicle traffic of Port of Ancona in the period 2013-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

In detail, the following table shows the data regard the private vehicles.

PRIVATE VEHICLES	Loaded	Unloaded	TOT
2013	113.976	99.612	213.588
2014	108.831	99.675	208.506
2015	101.038	94.072	195.110
2016	111.254	98.105	209.359
2017	119.531	110.932	230.463
2018	130.048	119.623	249.671

Table 7: private vehicles traffic of Port of Ancona in the period 2013-2018 (SOURCE: Central Adriatic Ports Authority)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

The private vehicles traffic increased during the period 2013-2018. Particularly, a decrease (-8,6%) has been recorded between 2013 (213.588 vehicles) and 2015 (195.110 vehicles). However, from 2016 (209.359 vehicles) until 2018 (249.671 vehicles) an annual growth of 7-10% characterized this statistic data. The vehicles loaded are always higher than the vehicles unloaded, therefore the traffic flows are more intense for departures from the Port of Ancona towards other Adriatic ports respect to the arrivals.

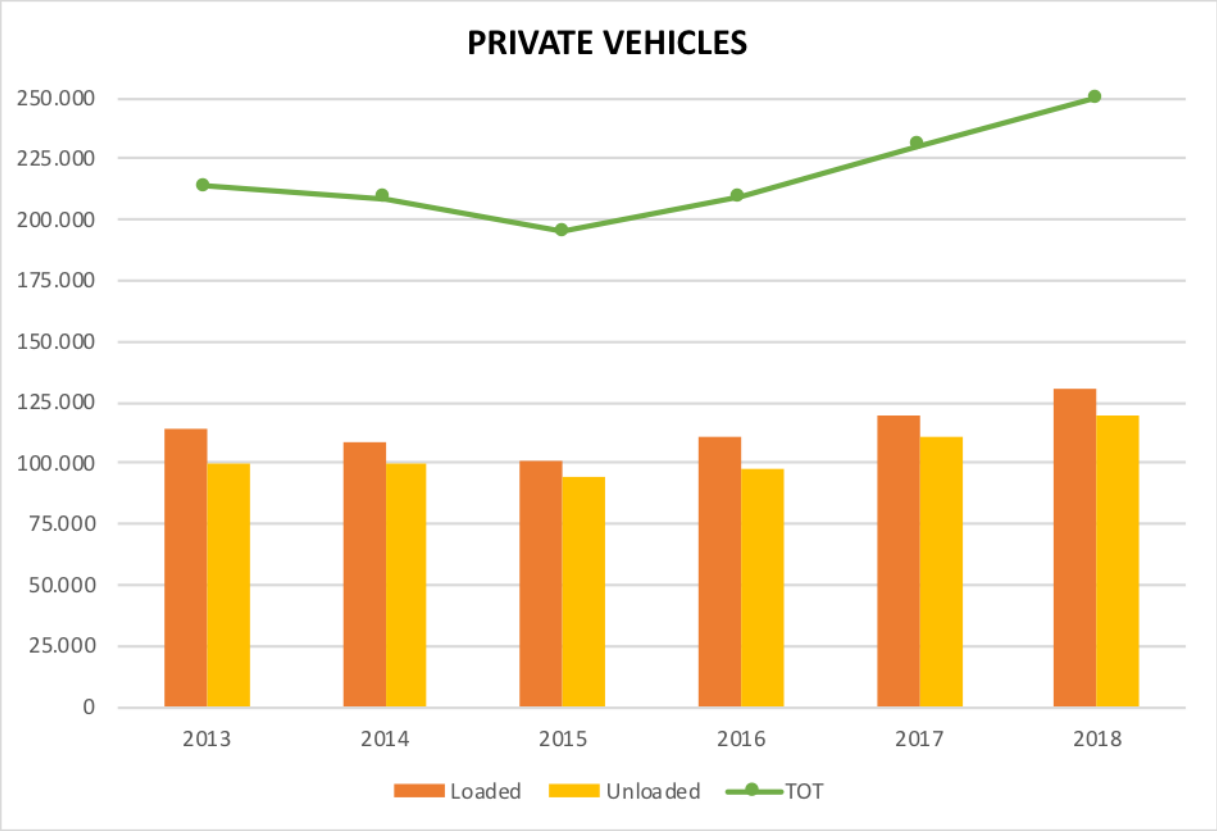

Figure 12: trend of private vehicles traffic of Port of Ancona in the period 2013-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

The monthly data for 2017 and 2018 are shown in the following table.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

PRIVATE VEHICLES (monthly)	2017			2018		
	Loaded	Unloaded	TOT	Loaded	Unloaded	TOT
January	2.642	3.740	6.382	3.018	3.781	6.799
February	2.640	1.638	4.278	2.851	1.747	4.598
March	3.856	2.117	5.973	5.197	2.245	7.442
April	7.655	4.020	11.675	7.567	4.042	11.609
May	7.505	3.814	11.319	9.248	5.122	14.370
June	11.294	6.411	17.705	13.520	8.271	21.791
July	31.403	13.755	45.158	32.867	14.663	47.530
August	30.249	39.368	69.617	31.478	42.426	73.904
September	8.953	20.561	29.514	9.684	20.698	30.382
October	4.915	8.505	13.420	5.151	9.219	14.370
November	3.066	4.064	7.130	3.600	4.120	7.720
December	5.266	2.896	8.162	5.867	3.294	9.161

Table 8: monthly data of private vehicles traffic of Port of Ancona in 2017 and 2018 (SOURCE: Central Adriatic Ports Authority)

In the span of a year the pivotal period is recorded in the summer, from June to September. The following figure graphically shows the period of the year in which traffic flows of private vehicles are more intense.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

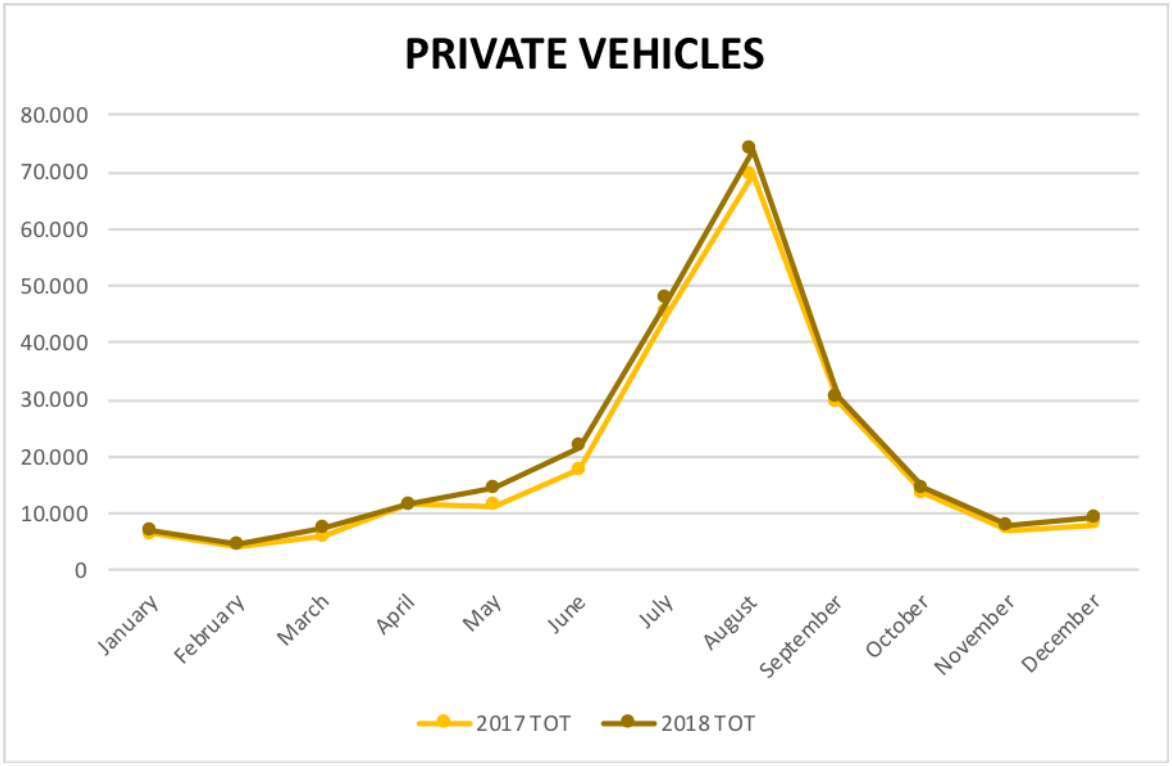

Figure 13: monthly trend of private vehicles traffic of Port of Ancona in 2017 and 2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

Regarding Truck and Trailer traffic, the table below shows the specific data about the number of vehicles.

TRUCK/TRAILER TRAFFIC	Loaded	Unloaded	TOT
2013	67.271	65.013	132.284
2014	64.101	62.509	126.610
2015	67.190	69.391	136.581
2016	69.176	72.585	141.761
2017	72.918	75.742	148.660
2018	73.504	74.146	147.650

Table 9: truck/trailer traffic of Port of Ancona in the period 2013-2018 (SOURCE: Central Adriatic Ports Authority)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

The variations during the period 2013-2018 have been rather positive, except from 2013 (132.284 vehicles) to 2014 (126.610 vehicles), with -4,3%, as well as from 2017 (148.660 vehicles) to 2018 (147.650 vehicles), with -0,7%. Instead, from 2014 to 2015 (136.581 vehicles) there was a variation of +7,9%, then a variation of +3,8% in 2016 (141.761 vehicles) and a variation of +4,9% 2017 (148.660 vehicles). The number of vehicles loaded and unloaded have been almost at the same levels, with the vehicles unloaded slightly higher than the vehicles loaded. The trend of Truck and Trailer traffic, despite the modest change, recorded a positive variation of the numbers of vehicles during the period 2013-2018.

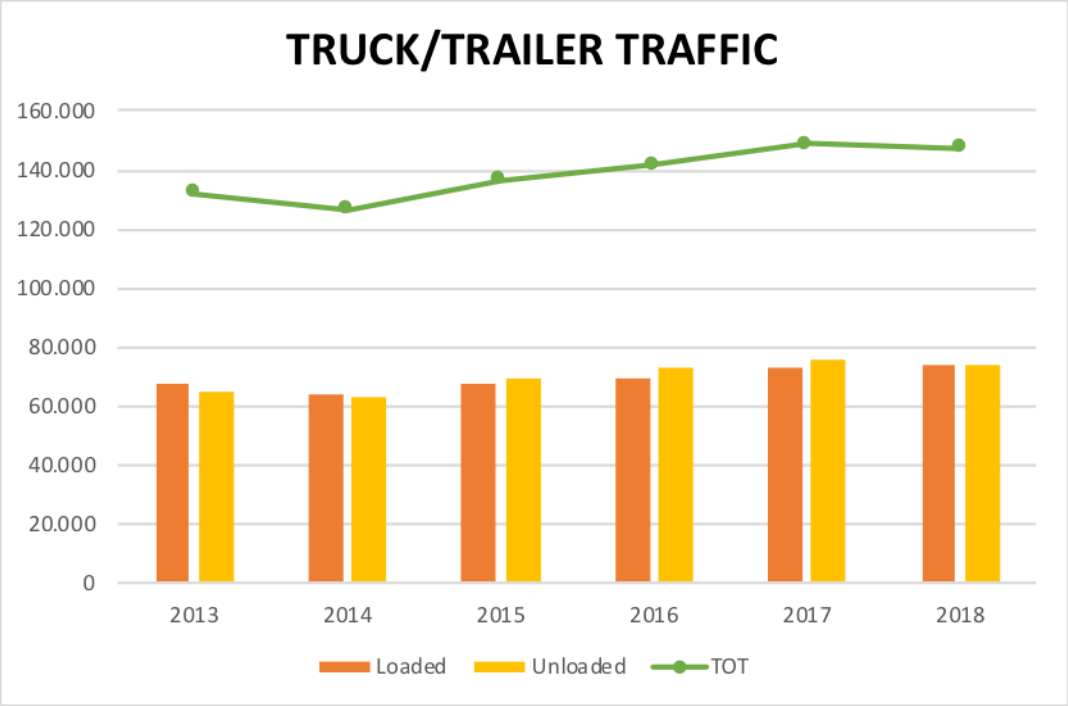

Figure 14: trend of truck/trailer traffic of Port of Ancona in the period 2013-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

Focusing on Truck and Trailer freight traffic, the specific data are shown in the following table.

TRUCK/TRAILER FREIGHT TRAFFIC Tonnes	Loaded	Unloaded	TOT
2013	1.046.450	1.004.111	2.050.561

D.4.1.2 Analysis of potential market flows of the Port of Ancona

TRUCK/TRAILER FREIGHT TRAFFIC Tonnes	Loaded	Unloaded	TOT
2014	1.031.420	986.635	2.018.055
2015	1.089.549	1.086.124	2.175.673
2016	1.129.753	1.107.185	2.236.938
2017	1.192.002	1.152.570	2.344.572
2018	1.214.004	1.177.572	2.391.576

Table 10: truck/trailer freight traffic of Port of Ancona in the period 2013-2018 (SOURCE: Central Adriatic Ports Authority)

The trend has been always positive, except from 2013 (2.050.561 tonnes) to 2014 (2.018.055 tonnes) with a variation of -1,6%. In the remaining years the variation has been between +2% and +8%, with a significant increase of the freight transported. The reason for this growth can be explained by the higher efficiency of port procedures achieved by the Port of Ancona. The positive trend highlights the important role of the Port of Ancona in the freight traffic on "Autostrada del mare", the highway mainly used for this type of traffic flows.

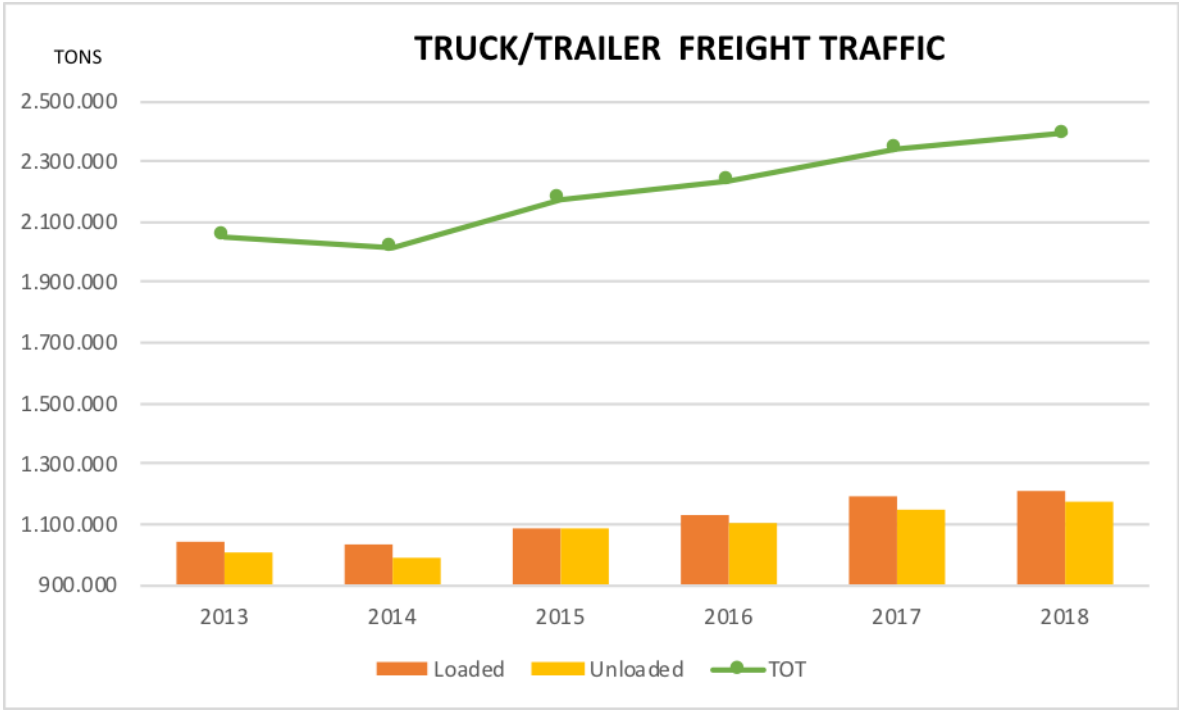

Figure 15: trend of truck/trailer freight traffic of Port of Ancona in the period 2013-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

To figure out the level of the traffic flows during the year, it is useful to analyze the monthly data for Truck and Trailer freight traffic for 2017 and 2018.

TRUCK/TRAILER FREIGHT TRAFFIC Tonnes (monthly)	2017			2018		
	Loaded	Unloaded	TOT	Loaded	Unloaded	TOT
January	82.352	92.315	174.667	88.081	92.353	180.434
February	89.953	86.767	176.720	90.237	88.035	178.272
March	99.236	93.769	193.005	109.885	100.628	210.513
April	93.543	87.100	180.643	93.114	96.312	189.426
May	100.291	97.333	197.624	107.631	104.081	211.712
June	103.320	101.638	204.958	119.131	115.894	235.025
July	108.002	121.008	229.010	105.821	116.752	222.573
August	90.143	86.518	176.661	87.759	82.509	170.268
September	104.060	92.992	197.052	108.443	92.770	201.213
October	105.235	102.296	207.531	104.597	104.668	209.265
November	105.493	94.386	199.879	100.556	94.327	194.883
December	108.839	94.413	203.252	98.749	89.243	187.992

Table 11: monthly data of truck/trailer freight traffic of Port of Ancona in 2017 and 2018 (SOURCE: Central Adriatic Ports Authority)

Despite a slight increase from April to June, figures point out that during the year traffic flows are almost intense, with the lowest level recorded in August. Therefore, it is evident the importance of the freight traffic for the Port of Ancona.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

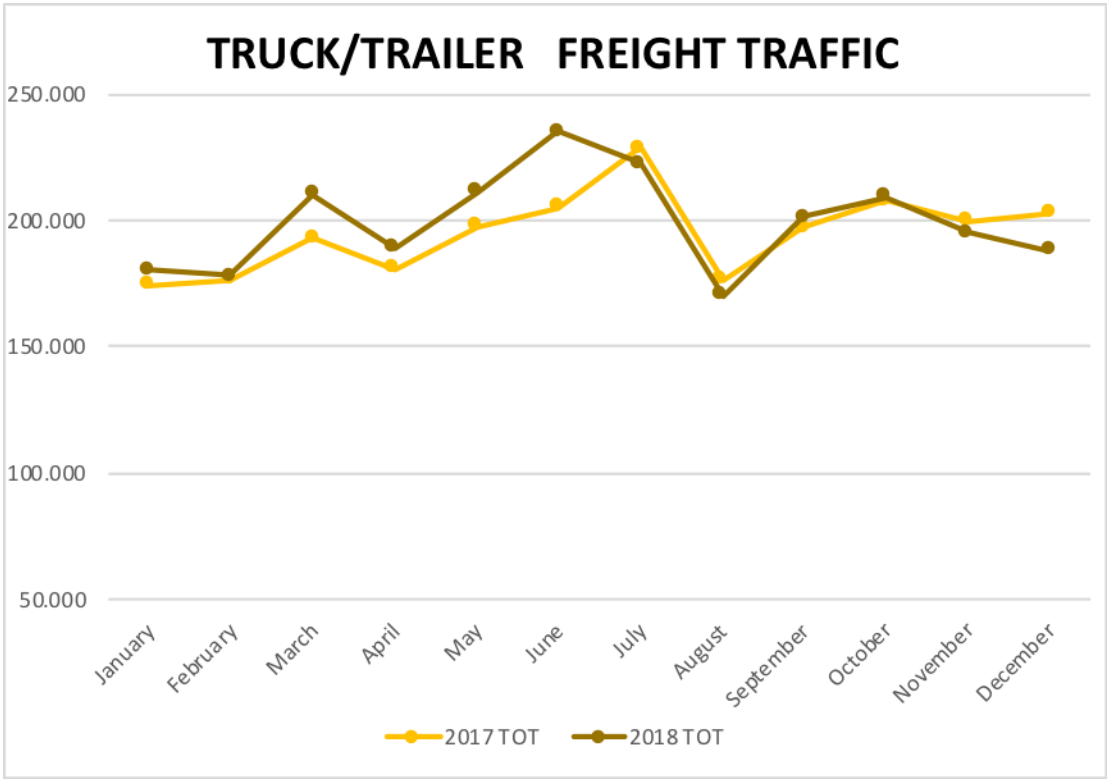

Figure 16: monthly trend of truck/trailer freight traffic of Port of Ancona in 2017 and 2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

4.1.2 Container Traffic

Container traffic can be analyzed by different statistical data. Firstly, the number of containers transiting via the port of Ancona between 2013 and 2018 is shown in the table below.

NUMBER OF CONTAINERS	EMPTY			FULL			TOT		
	Loaded	Unloaded	EMPTY	Loaded	Unloaded	FULL	Loaded	Unloaded	TOT
2013	3.334	21.075	24.409	42.683	24.890	67.573	46.017	45.965	91.982
2014	4.929	20.372	25.301	44.603	29.935	74.538	49.532	50.307	99.839
2015	5.642	23.060	28.702	48.177	30.044	78.221	53.819	53.104	106.923
2016	5.981	22.798	28.779	48.999	33.063	82.062	54.980	55.861	110.841
2017	6.443	16.460	22.903	44.539	34.373	78.912	50.982	50.833	101.815
2018	8.474	11.535	20.009	40.095	37.013	77.108	48.569	48.548	97.117

Table 12: number of containers of Port of Ancona in the period 2013-2018 (SOURCE: Central Adriatic Ports Authority)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

The containers are split between empty and full; traffic flows of full containers are higher respect to empty ones. However, the level of empty containers is significant and it affects the efficiency of port operations because of the handling needed in the port area. The trend is positive from 2013 to 2016. Starting from 91.982 containers in 2013, the containers recorded were 99.839 in 2014 (+8,5%), 106.923 in 2015 (+7,1%) and 110.841 in 2016 (+3,7%). However, from 2016 to 2018 the trend became negative. The traffic flows decreased to 101.815 containers in 2017 (-8,1%) and then to 97.117 containers in 2018 (-4,6%). Therefore, by considering the period 2013-2018. the trend was initially positive and then negative.

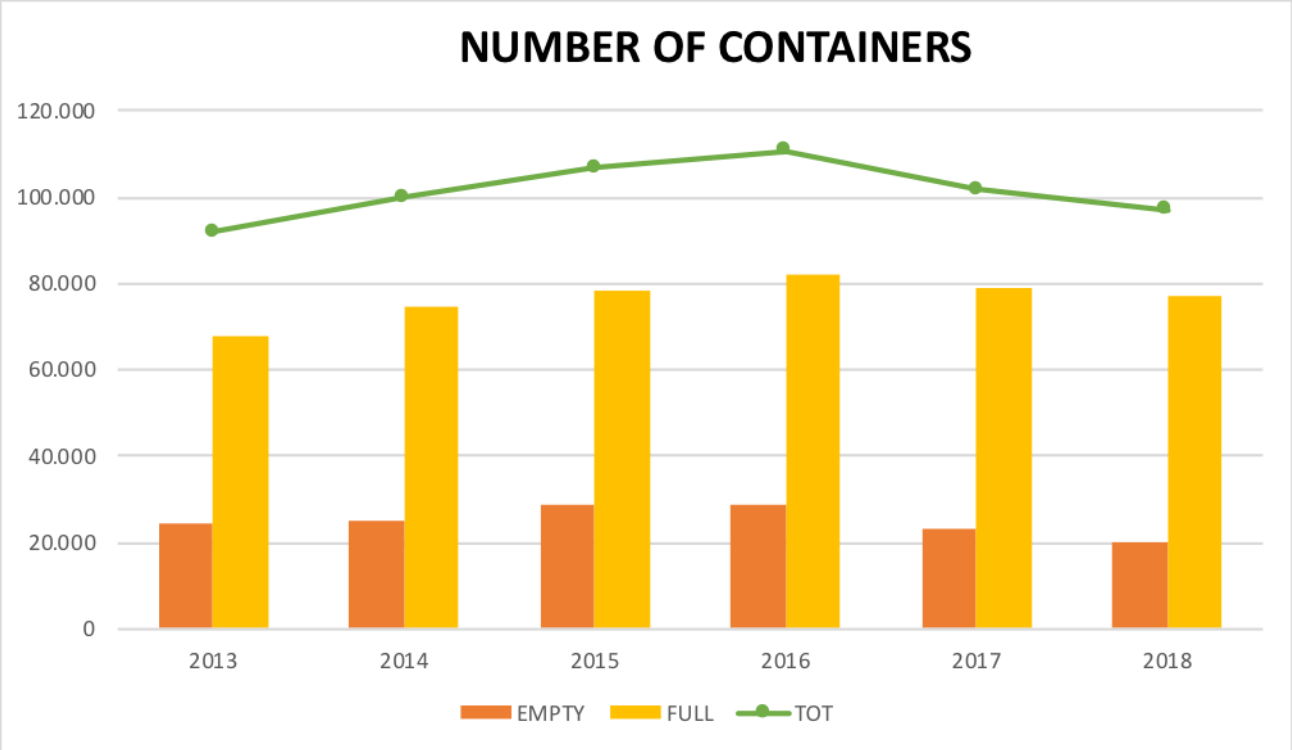

Figure 17: trend of number of containers of Port of Ancona in the period 2013-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

Focusing on monthly data, the following table gathers the number of containers for 2017 and 2018.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

NUMBER OF CONTAINERS (monthly)	2017			2018		
	Loaded	Unloaded	TOT	Loaded	Unloaded	TOT
January	3.017	4.195	7.212	2.632	3.730	6.362
February	3.484	3.653	7.137	3.367	2.610	5.977
March	4.109	3.720	7.829	3.948	3.897	7.845
April	4.151	4.437	8.588	4.338	4.648	8.986
May	3.805	3.902	7.707	3.989	4.200	8.189
June	4.332	4.650	8.982	4.379	4.670	9.049
July	5.113	5.517	10.630	4.987	4.621	9.608
August	3.908	3.997	7.905	4.176	4.027	8.203
September	6.064	4.507	10.571	4.046	3.968	8.014
October	4.622	4.098	8.720	4.194	4.637	8.831
November	3.915	3.808	7.723	4.327	3.984	8.311
December	4.462	4.349	8.811	4.186	3.556	7.742

Table 13: monthly data of number of containers of Port of Ancona in 2017 and 2018 (SOURCE: Central Adriatic Ports Authority)

Despite a non-regular trend, similar in the two years, the peak of the traffic flows is recorded between June and October. This is more accentuate in 2017, while in 2018 a slight decrease is registered between July and September. The lower level of traffic flows is during the winter, especially in January and February.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

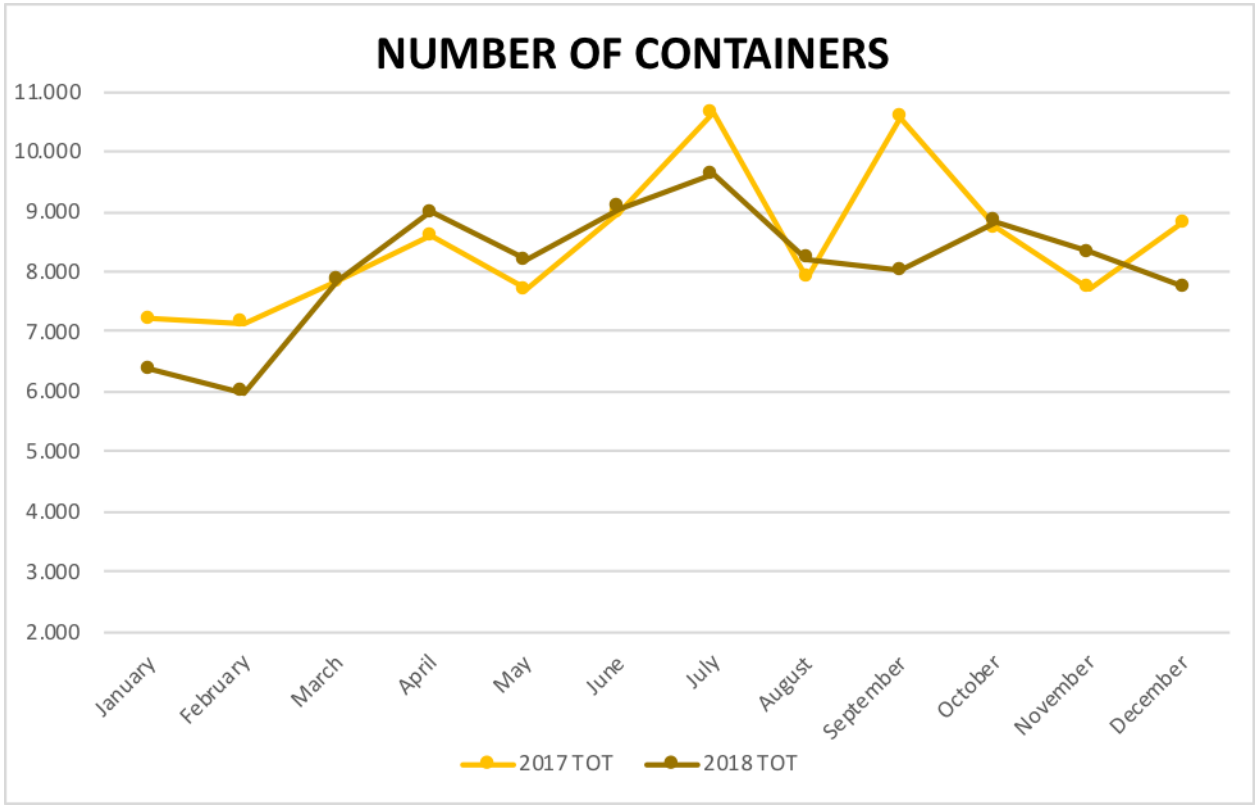

Figure 18: monthly trend of number of containers of Port of Ancona in 2017 and 2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

Another statistic data to take in account regard the container freight traffic.

CONTAINERS FREIGHT TRAFFIC Tonnes	Loaded	Unloaded	TOT
2013	715.747	340.064	1.055.811
2014	722.501	411.397	1.133.898
2015	782.050	413.939	1.195.989
2016	786.964	453.383	1.240.347
2017	641.031	465.392	1.106.423
2018	628.140	507.409	1.135.549

Table 14: container freight traffic of Port of Ancona in the period 2013-2018 (SOURCE: Central Adriatic Ports Authority)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

The trend of the freight container traffic was positive between 2013 and 2016. Starting from an amount of 1.055.811 tonnes in 2013, then 1.133.898 tonnes on 2014 (+7,4%), 1.195.989 tonnes in 2015 (+5,8%) and 1.240.347 tonnes in 2016 (+3,7%). However, in 2017 the freight container traffic recorded a relevant decrease of -10,8% with an amount of 1.106.423 tonnes. In 2018 the variation returned to be slightly positive (1.135.549 tonnes with a variation of +2,6%). The freight loaded is always higher than the freight unloaded, meaning that exportations exceed the importations.

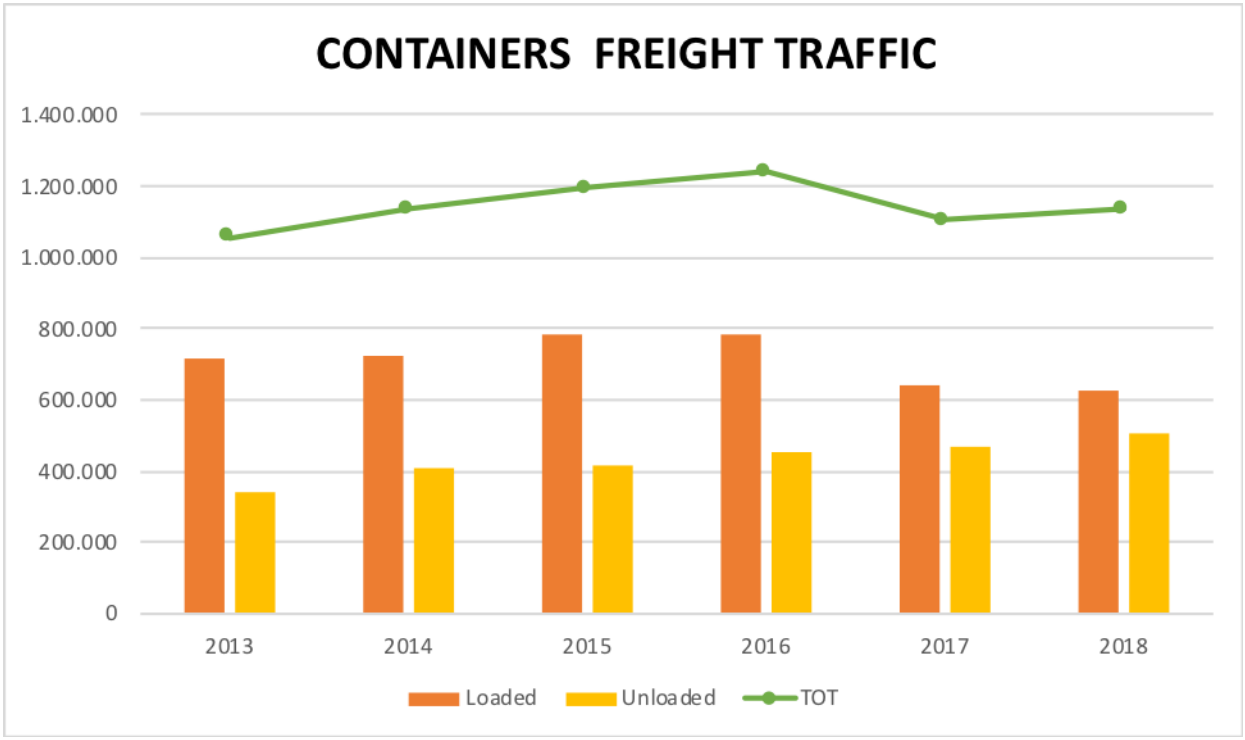

Figure 19: trend of container freight traffic of Port of Ancona in the period 2013-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

The table below gathers the monthly data for the same statistic for 2017 and 2018 in order to analyze the traffic flows of container freight during the year.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

CONTAINERS FREIGHT TRAFFIC Tonnes (monthly)	2017			2018		
	Loaded	Unloaded	TOT	Loaded	Unloaded	TOT
January	41.257	43.916	85.173	35.406	46.803	82.209
February	49.728	33.875	83.603	38.384	31.163	69.547
March	55.517	33.550	89.067	44.483	40.836	85.319
April	55.733	41.666	97.399	50.209	43.634	93.843
May	48.386	35.753	84.139	44.620	39.825	84.445
June	55.696	42.938	98.634	69.076	46.656	115.732
July	66.147	46.548	112.695	69.349	46.119	115.468
August	51.448	36.982	88.430	52.025	43.188	95.213
September	50.256	43.871	94.127	50.269	41.056	91.325
October	61.127	39.787	100.914	55.591	50.142	105.733
November	49.057	34.074	83.131	58.364	43.401	101.765
December	56.679	32.432	89.111	60.364	34.586	94.950

Table 15: monthly data of container freight traffic of Port of Ancona in 2017 and 2018 (SOURCE: Central Adriatic Ports Authority)

The monthly data show as traffic flows are constant during all the year and there are not significant increases, despite summer period (June and July) and October are the peak for both 2017 and 2018.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

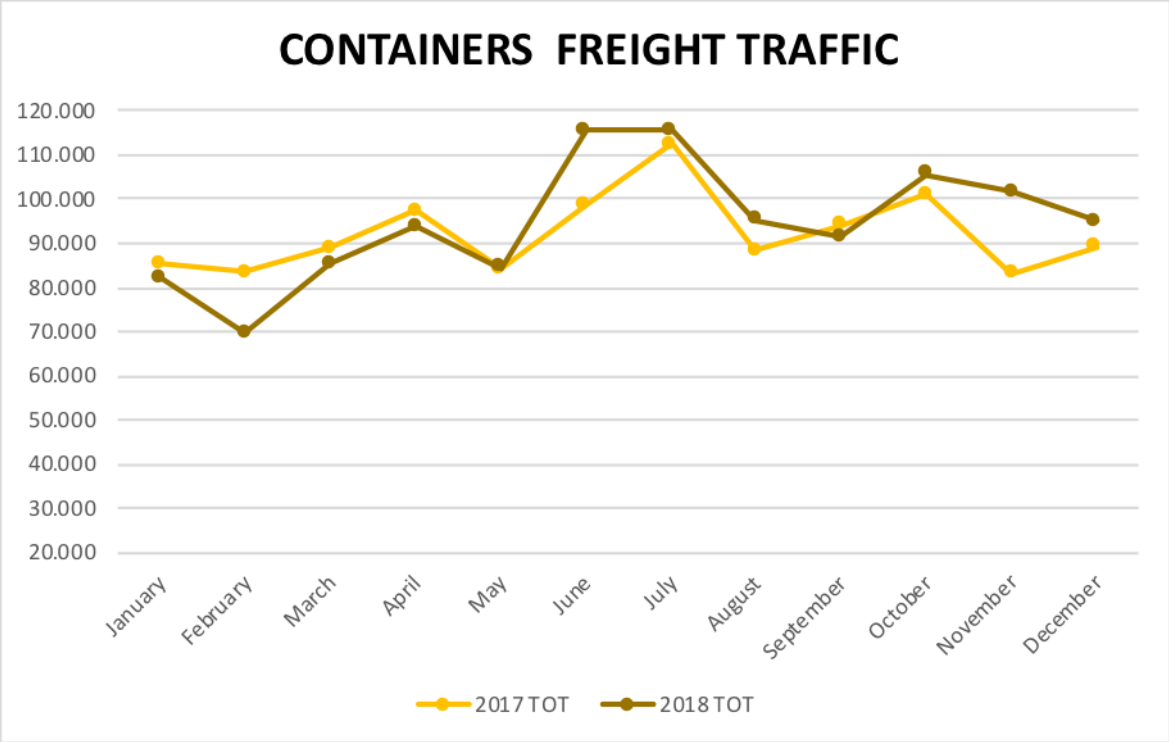

Figure 20: monthly trend of container freight traffic of Port of Ancona in 2017 and 2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

Another important statistical data to consider is the container TEU traffic (Twenty-foot Equivalent Unit), which is a type of unit of cargo capacity often used to describe the capacity of container ships and container terminals. The figure below shows the historic series of containers TEU during the last 20 years. The trend has been really positive, highlighting the growth of containers traffic in the Port of Ancona. However, during the last two years the trend became negative.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

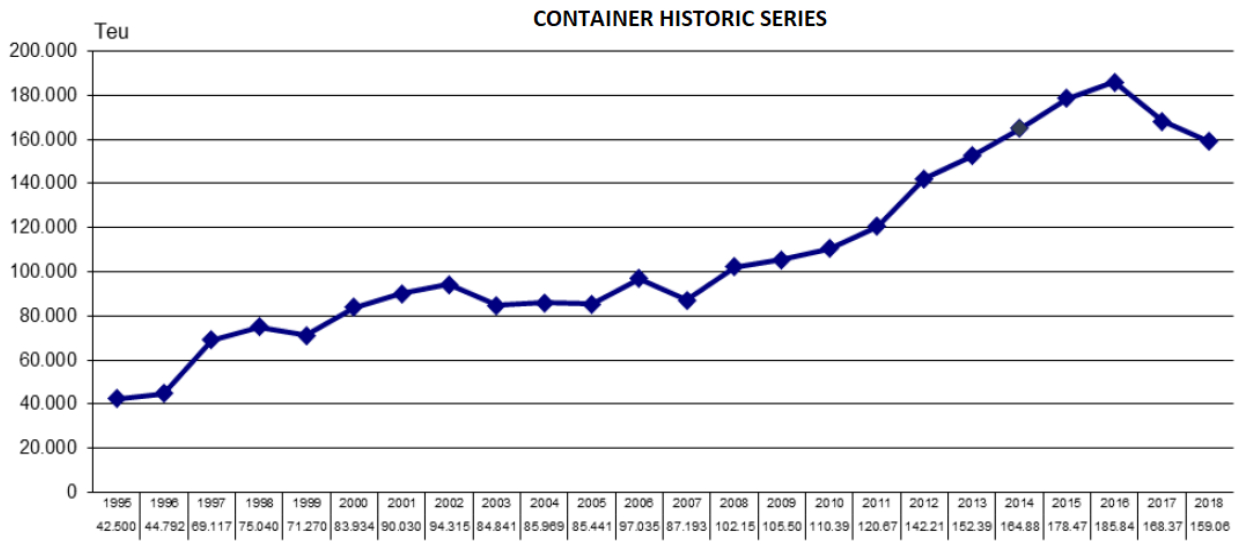

Figure 21: historic series of containers TEU in the period 1995-2018 (SOURCE: Central Adriatic ports authority)

The following table shows this statistical data during the period 2013-2018.

CONTAINERS (TEU)	Loaded	Unloaded	TOT
2013	76.863	75.531	152.394
2014	81.738	83.144	164.882
2015	89.784	88.692	178.476
2016	92.507	93.339	185.846
2017	84.815	83.557	168.372
2018	79.645	79.416	159.061

Table 16: container TEU of Port of Ancona in the period 2013-2018 (SOURCE: Central Adriatic Ports Authority)

The trend is strictly correlated with the freight container traffic. Indeed, the traffic flows had a positive trend between 2013 and 2016, followed by a decrease in 2017 and 2018. Particularly, starting from an amount of 152.394 TEU in 2013, the totals recorded for each year have been 164.882 TEU in 2014 (+7%), 178.476 TEU in 2015 (+8%), 185.846 TEU in 2016 (+8%), 168.372 TEU in 2017 (-9%) and 159.061 TEU in 2018 (-6%). The total TEU loaded and unloaded is almost at the same levels during all the period 2013-2018.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

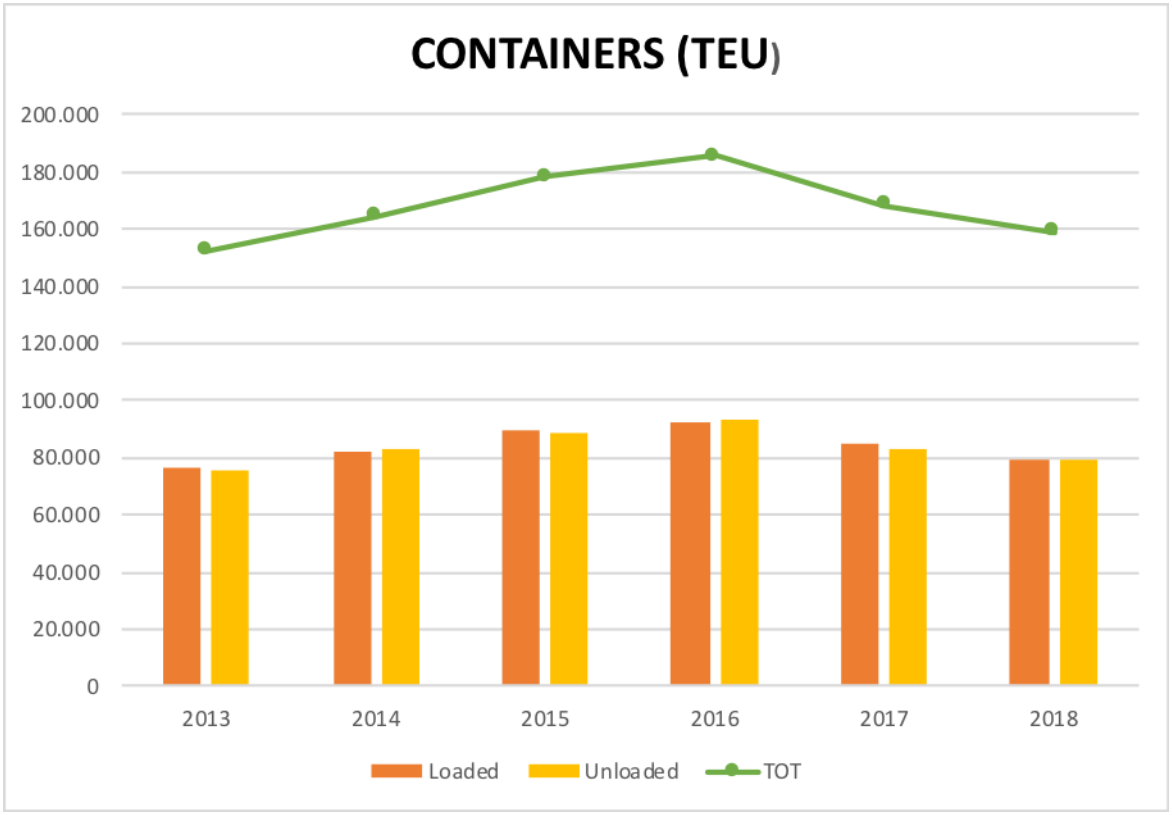

Figure 22: trend of container TEU of Port of Ancona in the period 2013-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

Looking at the monthly data in the table below, it is possible to figure out the seasonal intensity of the traffic flows.

CONTAINERS (TEU) (monthly)	2017			2018		
	Loaded	Unloaded	TOT	Loaded	Unloaded	TOT
January	4.879	6.771	11.650	4.317	5.843	10.160
February	5.757	6.052	11.809	5.208	3.986	9.194
March	6.831	5.974	12.805	6.420	6.322	12.742
April	6.890	7.283	14.173	7.078	7.696	14.774
May	6.274	6.558	12.832	6.399	7.003	13.402
June	7.208	7.688	14.896	7.243	7.778	15.021
July	8.624	9.171	17.795	8.527	7.716	16.243
August	6.468	6.551	13.019	6.719	6.459	13.178

D.4.1.2 Analysis of potential market flows of the Port of Ancona

CONTAINERS (TEU) (monthly)	2017			2018		
	Loaded	Unloaded	TOT	Loaded	Unloaded	TOT
September	10.627	7.355	17.982	6.531	6.528	13.059
October	7.455	6.566	14.021	6.936	7.534	14.470
November	6.431	6.386	12.817	7.203	6.569	13.772
December	7.371	7.202	14.573	7.064	5.982	13.046

Table 17: monthly data of container TEU of Port of Ancona in 2017 and 2018 (SOURCE: Central Adriatic Ports Authority)

Both the years start with modest levels, in January and February. Afterwards, from March starts a positive trend that, except between April and May, lasts until the end of the year, when the total amount decreases again, in November and December. Therefore, the peak of the year is between the summer and the autumn, from July to September for 2017 and from July to October or 2018.

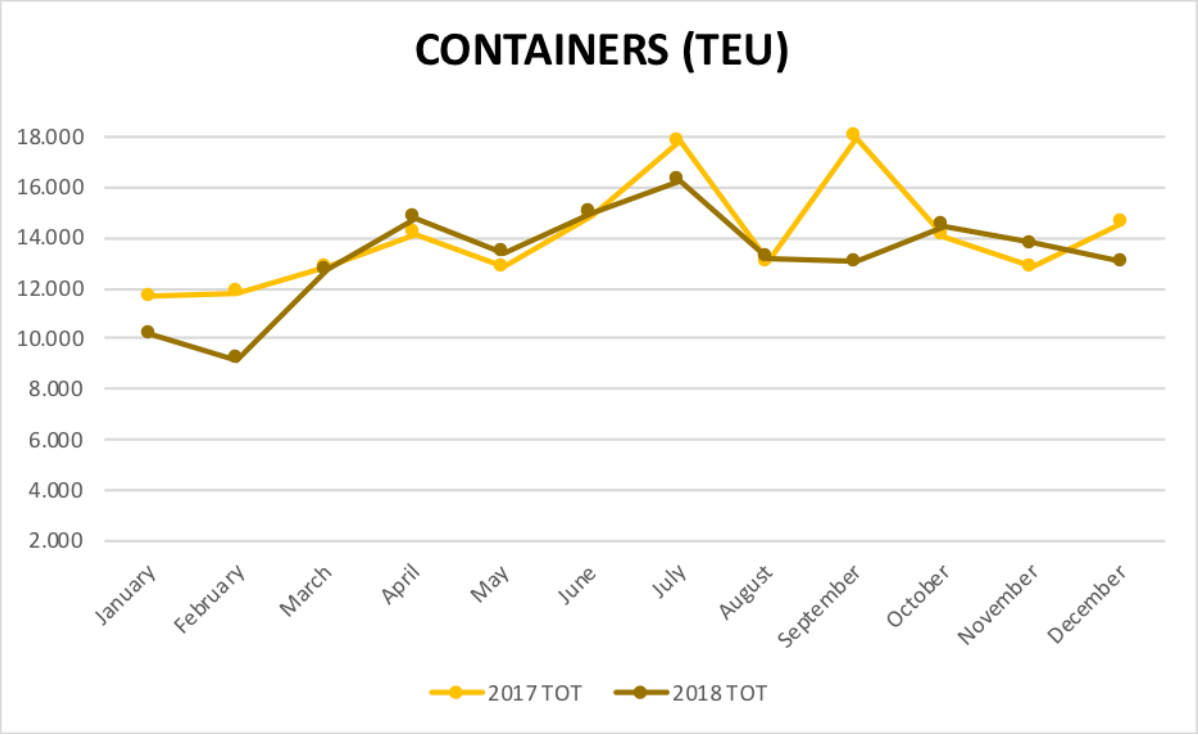

Figure 23: monthly trend of container TEU of Port of Ancona in 2017 and 2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

4.1.3 Total cargo traffic

The total freight traffic is shown in the table below.

TOTAL FREIGHT TRAFFIC Tonnes	Loaded	Unloaded	TOT
2013	2.386.580	4.587.953	6.974.533
2014	3.037.209	5.531.747	8.568.956
2015	3.234.313	5.358.749	8.593.062
2016	3.481.595	5.486.097	8.967.692
2017	3.353.088	5.323.030	8.676.118
2018	3.234.692	5.205.506	8.440.198

Table 18: total freight traffic of Port of Ancona in the period 2013-2018 (SOURCE: Central Adriatic Ports Authority)

The general trend has been slightly positive. Indeed, after a relevant positive variation of +22,9% between 2013 (6.974.533 tonnes) and 2014 (8.568.956 tonnes), there was an alternance of positive and negative variations, with 8.593.062 tonnes in 2015 (+0,3%), 8.967.692 tonnes in 2016 (+4,4%), 8.676.118 tonnes in 2017 (-3,3%) and 8.440.198 tonnes in 2018 (-2,7%). In all the years the freight unloaded is double than the freight loaded. Despite the negative trend of the last two years, the total freight has remained quite stable.

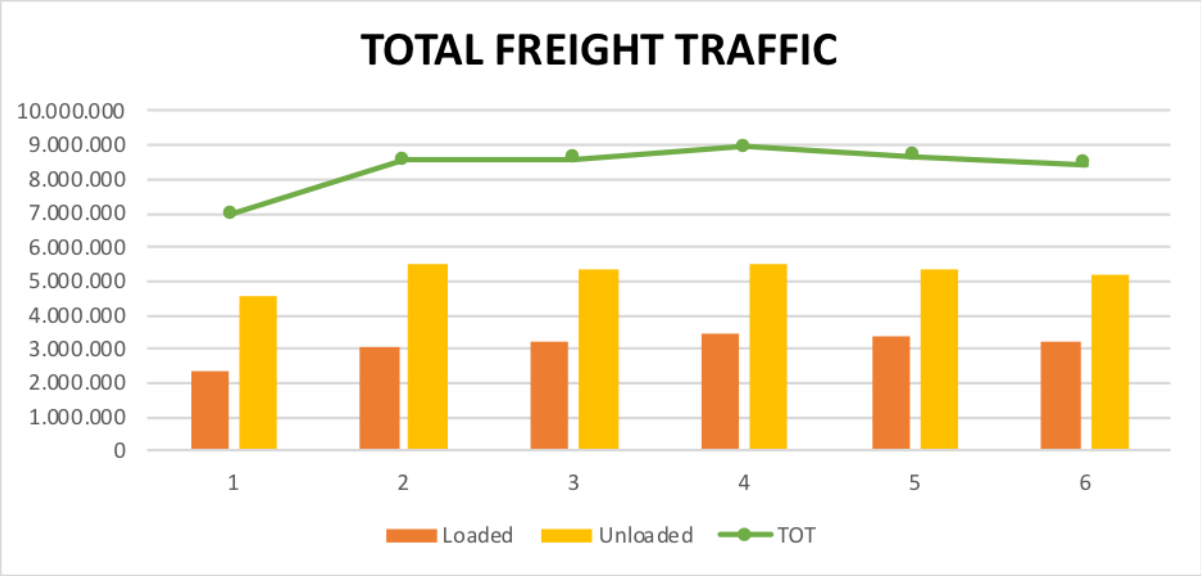

Figure 24: trend of total freight traffic of Port of Ancona in the period 2013-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

The following table reports the monthly data of the total freight traffic for 2017 and 2018.

TOTAL FREIGHT TRAFFIC Tonnes (monthly)	2017			2018		
	Loaded	Unloaded	TOT	Loaded	Unloaded	TOT
January	264.729	444.673	709.402	198.894	432.948	631.842
February	287.785	293.711	581.496	202.307	309.918	512.225
March	200.018	437.712	637.730	361.536	400.350	761.886
April	309.533	411.315	720.848	287.559	571.068	858.627
May	300.234	484.732	784.966	292.104	513.993	806.097
June	269.795	515.095	784.890	328.300	464.253	792.553
July	295.447	570.964	866.411	265.097	444.201	709.298
August	257.350	402.938	660.288	281.235	442.255	723.490
September	314.620	533.561	848.181	233.437	405.836	639.273
October	298.134	322.156	620.290	237.775	529.140	766.915
November	255.680	639.115	894.795	283.663	420.868	704.531
December	298.228	265.023	563.251	262.785	270.676	533.461

Table 19: monthly data of total freight traffic of Port of Ancona in 2017 and 2018 (SOURCE: Central Adriatic Ports Authority)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

Total freight traffic flows don't follow a regular trend and between the years there are few similarities. The reason could be found in the fact that this statistic data includes many different types of freight. It is worth to mention that while in the first part of the year both 2017 and 2018 follow a similar trend (from January to April), then they always differ except for final decrease in December.

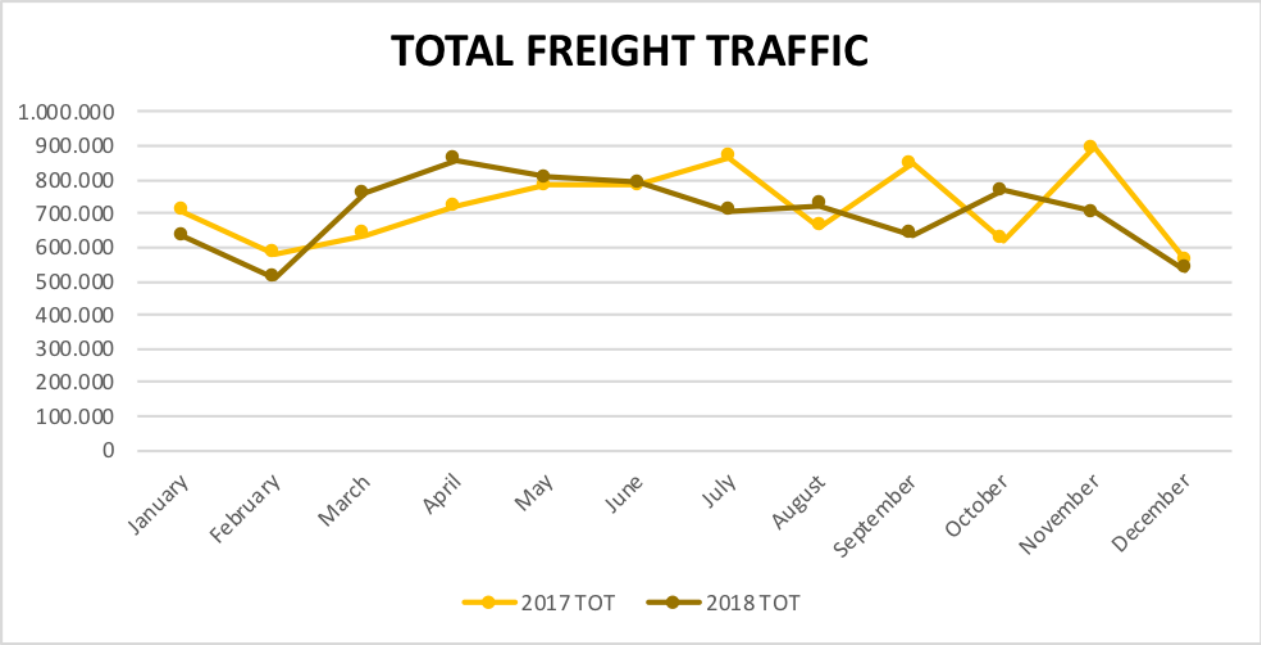

Figure 25: monthly trend of total freight traffic of Port of Ancona in 2017 and 2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

The liquid freight traffic, which in turn is divided in crude oil and oil derivatives, is reported in the table below.

LIQUID FREIGHT Tonnes	CRUDE OIL			OIL DERIVATIVES			TOTAL LIQUID FREIGHT		
	Loaded	Unloaded	TOT	Loaded	Unloaded	TOT	Loaded	Unloaded	TOT
2013	0	1.455.115	1.455.115	604.388	1.222.869	1.827.257	**604.388**	**2.677.984**	**3.282.372**
2014	0	2.627.108	2.627.108	1.265.730	886.622	2.152.352	**1.265.730**	**3.513.730**	**4.779.460**
2015	19.609	2.961.974	2.981.583	1.236.735	505.877	1.742.612	**1.256.344**	**3.467.851**	**4.724.195**
2016	0	3.314.273	3.314.273	1.417.550	293.418	1.710.968	**1.417.550**	**3.607.691**	**5.025.241**

D.4.1.2 Analysis of potential market flows of the Port of Ancona

LIQUID FREIGHT Tonnes	CRUDE OIL			OIL DERIVATIVES			TOTAL LIQUID FREIGHT		
	Loaded	Unloaded	TOT	Loaded	Unloaded	TOT	Loaded	Unloaded	TOT
2017	0	2.948.008	2.948.008	1.351.173	344.132	1.695.305	**1.351.173**	**3.292.140**	**4.643.313**
2018	0	2.807.608	2.807.608	1.338.459	461.387	1.799.846	**1.338.459**	**3.268.995**	**4.607.454**

Table 20: liquid freight traffic (crude oil and oil derivatives) of Port of Ancona in the period 2013-2018 (SOURCE: Central Adriatic Ports Authority)

About crude oil, there was a great increase of +80,5% between 2013 (1.455.115 tonnes) and 2014 (2.627.108 tonnes), from which started a positive trend until 2016 (2.981.583 tonnes in 2015, +13,5%; 3.314.273 tonnes in 2016, +11,2%). Conversely, in 2017 and 2018 the trend has inverted, respectively with 2.948.008 tonnes (-11,1%) and 2.807.608 tonnes (-4,8%). The total amounts are related almost exclusively with the unloaded crude oil, except for 2015. In the following figure the trend is graphically shown. It is evident the growth of traffic flows in the first years and the change of trend starting from 2016.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

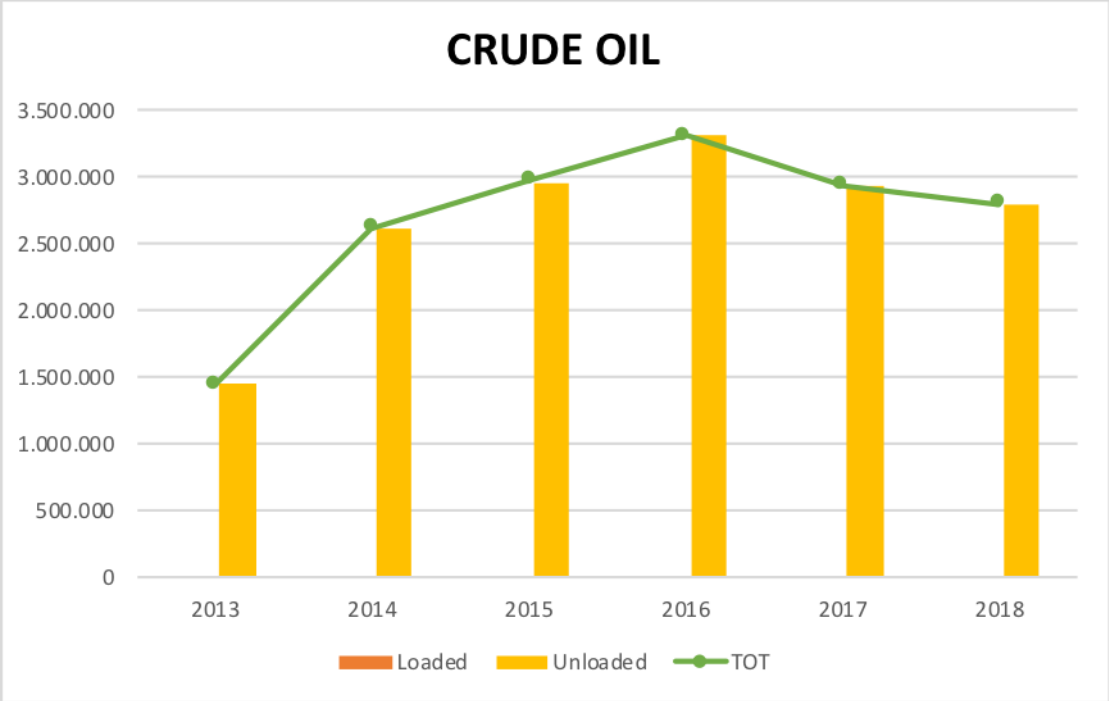

Figure 26: trend of crude oil traffic of Port of Ancona in the period 2013-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

For what concerns oil derivatives, the trend was positive at the beginning, between 2013 and 2014. However, from 2014 to 2017 negative variations characterized the trend, with a positive variation at the end, between 2017 and 2018. Particularly, the amounts were 1.827.257 tonnes in 2013, 2.152.352 tonnes in 2014 (+17,8%), 1.742.612 tonnes in 2015 (-19%), 1.710.968 tonnes in 2016 (-1,8%), 1.695.305 tonnes in 2017 (-0,9%) and 1.799.846 tonnes in 2018 (+6,2%). The figure below shows the trend of traffic flows. Relevant variations are reported between 2013 and 2014, while the following years the trend remains quite stable. In 2013 unloaded freight was higher than loaded freight, while starting from 2014 is the opposite, with growing differences each year.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

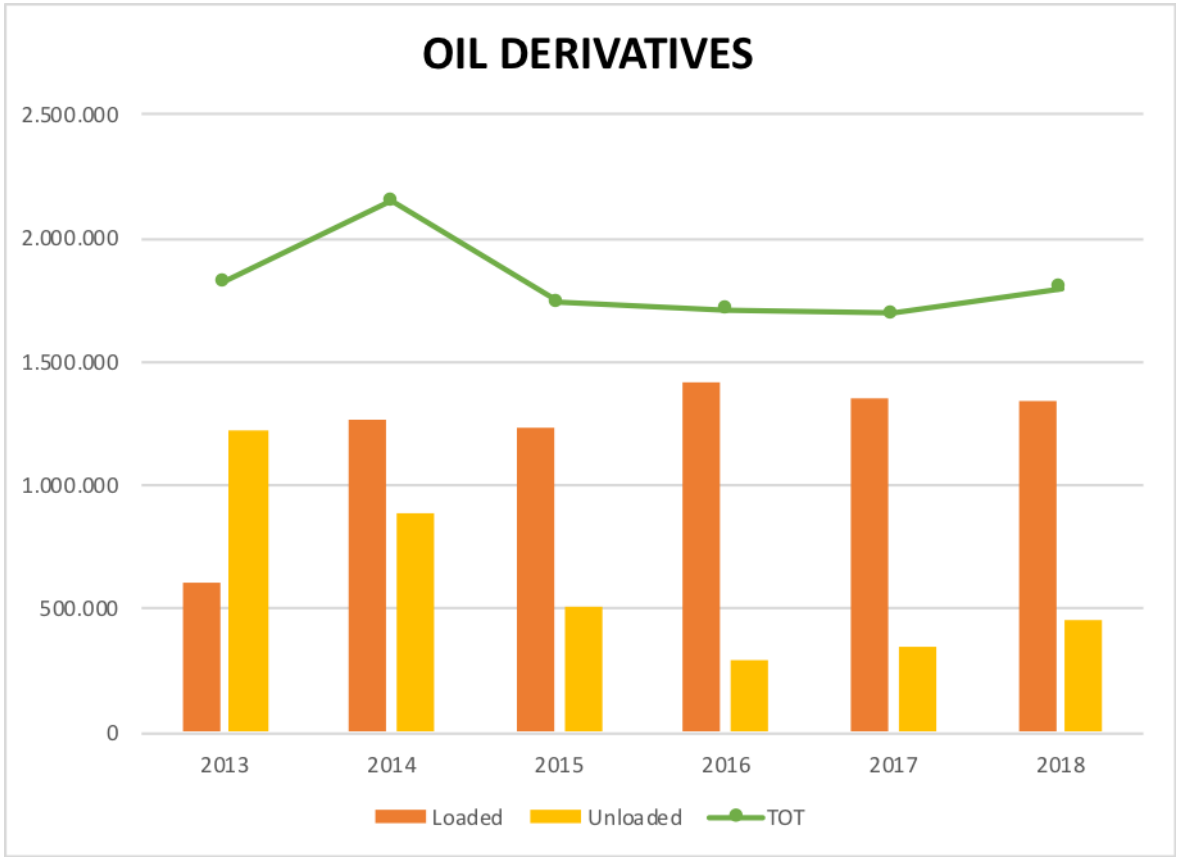

Figure 27: trend of oil derivatives traffic of Port of Ancona in the period 2013-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

Finally, total liquid freight includes the two previously analyzed statistics. After an initial growth from 3.282.372 tonnes in 2013 to 4.779.460 tonnes in 2014 (+45,6%), the trend has become slightly negative (4.724.195 tonnes in 2015, -1,2%; 4.643.313 tonnes in 2017, -7,6%; 4.607.454 tonnes in 2018, -0,8%) except for 2016 (5.025.241 tonnes), with a positive variation of +6,4% respect to 2015. About freight loaded and unloaded, total liquid freight traffic is influenced by crude oil variations, therefore unloaded freight is always higher than loaded freight.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

Figure 28: trend of liquid freight traffic of Port of Ancona in the period 2013-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

The monthly data of liquid freight traffic for 2017 and 2018 are reported in the following table.

LIQUID FREIGHT Tonnes (monthly)	2017			2018		
	Loaded	Unloaded	TOT	Loaded	Unloaded	TOT
January	111.119	271.552	382.671	69.091	273.426	342.517
February	116.128	150.321	266.449	73.677	168.900	242.577
March	34.093	286.749	320.842	206.846	242.030	448.876
April	140.639	262.111	402.750	144.159	416.716	560.875
May	141.007	290.156	431.163	122.168	329.752	451.920
June	110.748	319.519	430.267	135.575	287.474	423.049

D.4.1.2 Analysis of potential market flows of the Port of Ancona

LIQUID FREIGHT Tonnes (monthly)	2017			2018		
	Loaded	Unloaded	TOT	Loaded	Unloaded	TOT
July	121.277	348.687	469.964	85.550	259.325	344.875
August	92.492	253.096	345.588	136.300	297.829	434.129
September	152.385	370.574	522.959	70.400	236.572	306.972
October	120.676	155.569	276.245	77.550	353.620	431.170
November	77.912	484.830	562.742	120.250	265.322	385.572
December	132.697	98.976	231.673	96.893	138.029	234.922

Table 21: monthly data of liquid freight traffic of Port of Ancona in 2017 and 2018 (SOURCE: Central Adriatic Ports Authority)

The trend in both years is similar, with an initial decrease followed by a relevant increase. However, while the period from April to July recorded a slight positive trend in 2017, for 2018 it results negative. The following months are characterized by an alternance of positive and negative variations.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

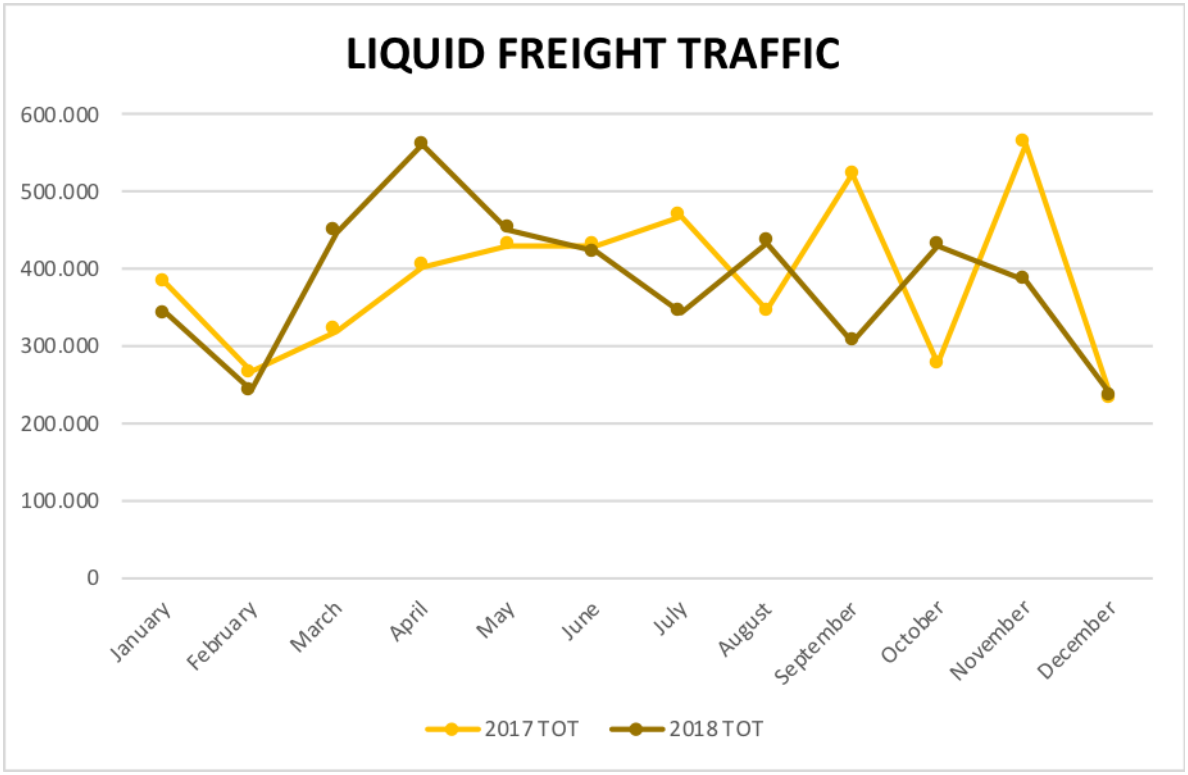

Figure 29: monthly trend of liquid freight traffic of Port of Ancona in 2017 and 2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

The other part of the freight traffic to analyze regards the bulk freight traffic, reported in the table below.

BULK FREIGHT TRAFFIC Tonnes	Loaded	Unloaded	TOT
2013	19.995	565.794	585.789
2014	17.558	619.985	637.543
2015	106.370	390.835	497.205
2016	147.328	317.838	465.166
2017	168.882	412.928	581.810
2018	54.089	251.530	305.619

Table 22: bulk freight traffic of Port of Ancona in the period 2013-2018 (SOURCE: Central Adriatic Ports Authority)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

From 2013 (585.789 tonnes) to 2014 (637.543 tonnes) there was a positive variation of +8,8%. Afterwards, there was a negative trend in 2016 and 2017, respectively with 497.205 tonnes (-22%) and 465.166 tonnes (-6,4%). After an increase in 2017 (581.810 tonnes, +25,1%) another relevant negative variation was recorded in 2018 (305.619 tonnes, +47,5%). Therefore, the trend of bulk freight traffic flows decreased during the period 2013-2018. Freight unloaded is always higher than freight loaded.

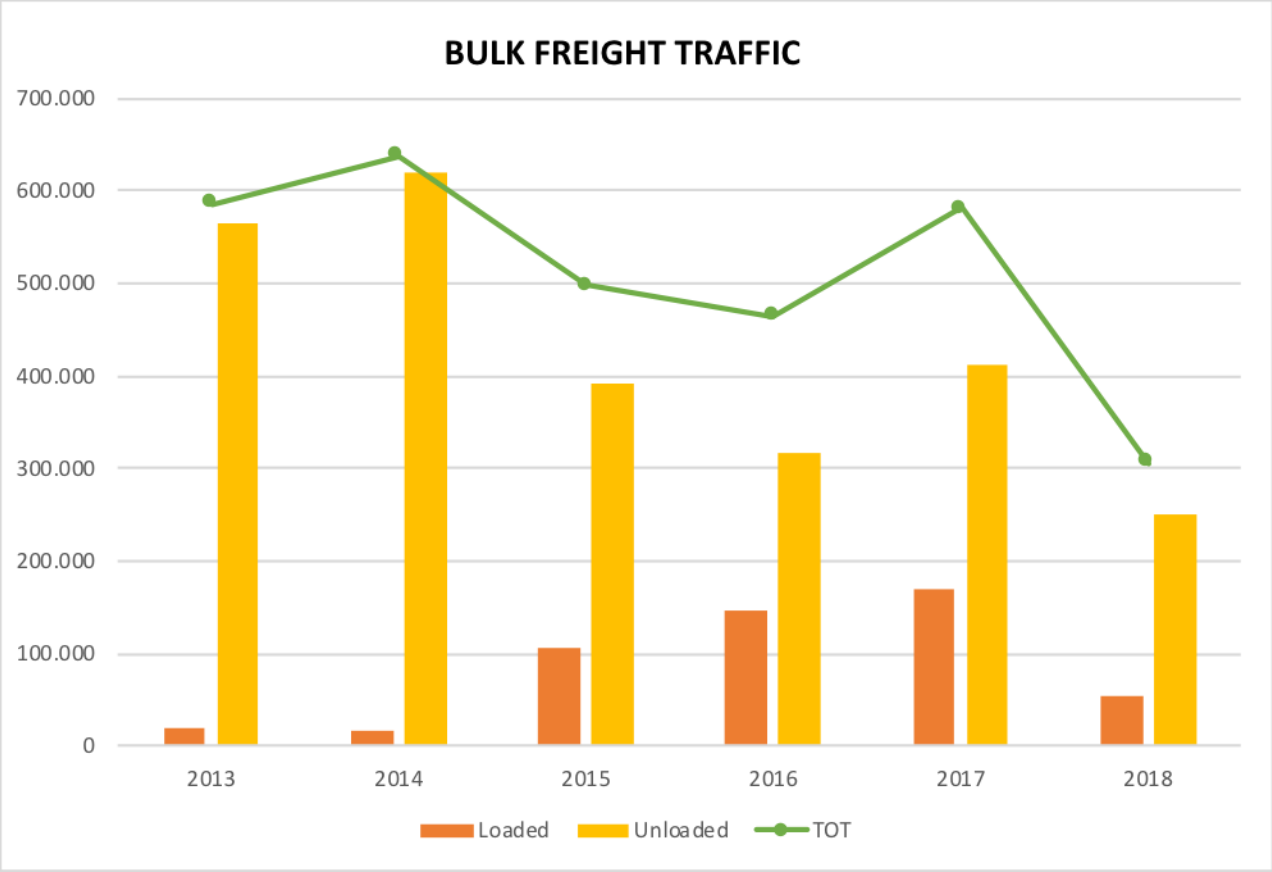

Figure 30: trend of bulk freight traffic of Port of Ancona in the period 2013-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

The monthly data of bulk freight traffic for 2017 and 2018 are presented in the table below.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

TOTAL BULK FREIGHT (monthly)	2017			2018		
	Loaded	Unloaded	TOT	Loaded	Unloaded	TOT
January	30.001	36.890	66.891	6.316	20.366	26.682
February	31.976	22.748	54.724	9	21.820	21.829
March	11.172	23.644	34.816	322	16.856	17.178
April	19.618	20.438	40.056	77	14.406	14.483
May	10.550	61.490	72.040	17.685	40.335	58.020
June	31	51.000	51.031	4.518	14.229	18.747
July	21	54.721	54.742	4.377	22.005	26.382
August	23.267	26.342	49.609	5.151	18.729	23.880
September	7.919	26.124	34.043	4.325	35.438	39.763
October	11.096	24.504	35.600	37	20.710	20.747
November	23.218	25.825	49.043	4.493	17.818	22.311
December	13	39.202	39.215	6.779	8.818	15.597

Table 23: monthly data of bulk freight traffic of Port of Ancona in 2017 and 2018 (SOURCE: Central Adriatic Ports Authority)

Both years have the same trend until August, with an initial decrease until March and then a relevant increase in May, where there is the peak of traffic flows. After another decrease, from September the two years follow opposite trend, positive for 2017 and negative for 2018.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

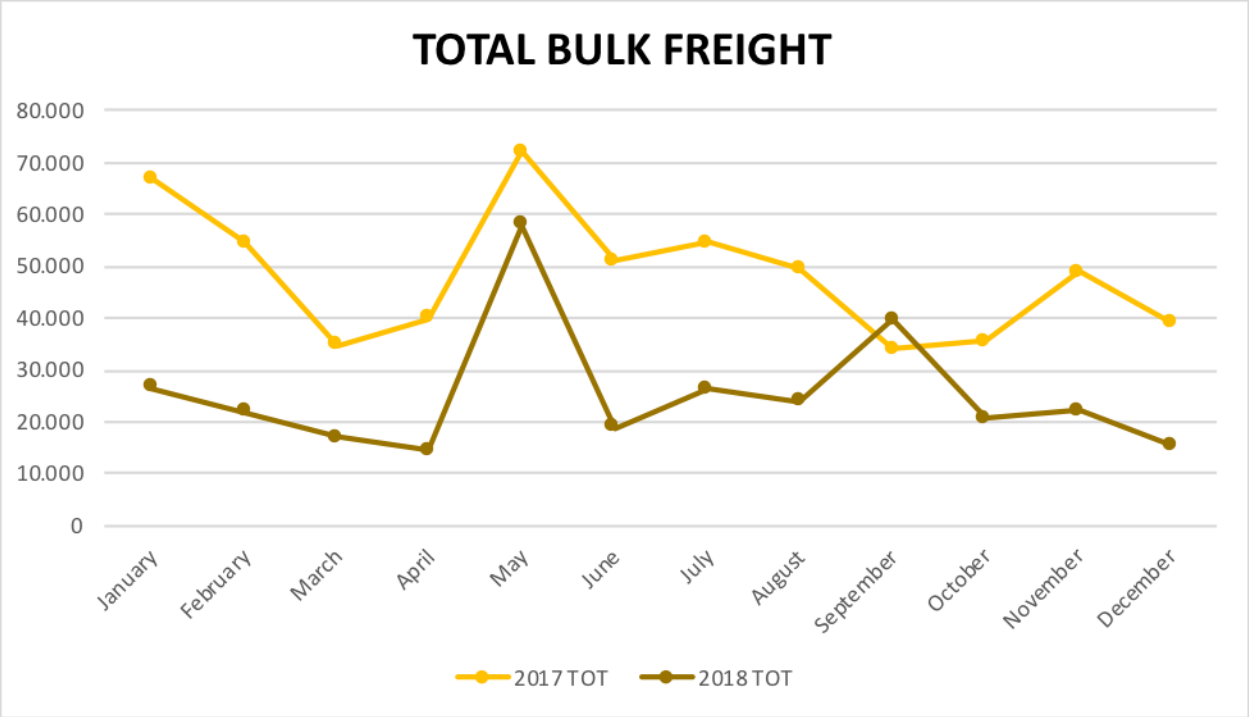

Figure 31: monthly trend of bulk freight traffic of Port of Ancona in 2017 and 2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

Finally, dry freight traffic (bulk freight + Truck freight + container freight) can be analyzed. The following table gathers these data.

DRY FREIGHT TRAFFIC Tonnes	Loaded	Unloaded	TOT
2013	1.782.192	1.909.969	3.692.161
2014	1.771.479	2.018.017	3.789.496
2015	1.977.969	1.890.898	3.868.867
2016	2.064.045	1.878.406	3.942.451
2017	2.001.915	2.030.890	4.032.805
2018	1.896.233	1.936.511	3.832.744

Table 24: dry freight traffic of Port of Ancona in the period 2013-2018 (SOURCE: Central Adriatic Ports Authority)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

The trend during the period 2013-2018 has been slightly positive except in 2018. Particularly, starting from 2013 with 3.692.161 tonnes, the variations led to 3.789.496 tonnes in 2014 (+2,6%), 3.868.867 tonnes in 2015 (+2,1%), 3.942.451 in 2016 (+1,9%) and 4.032.805 tonnes in 2017 (+2,3%). However, in 2018 there was a decrease to 3.832.744 tonnes, with a negative variation of -5%.

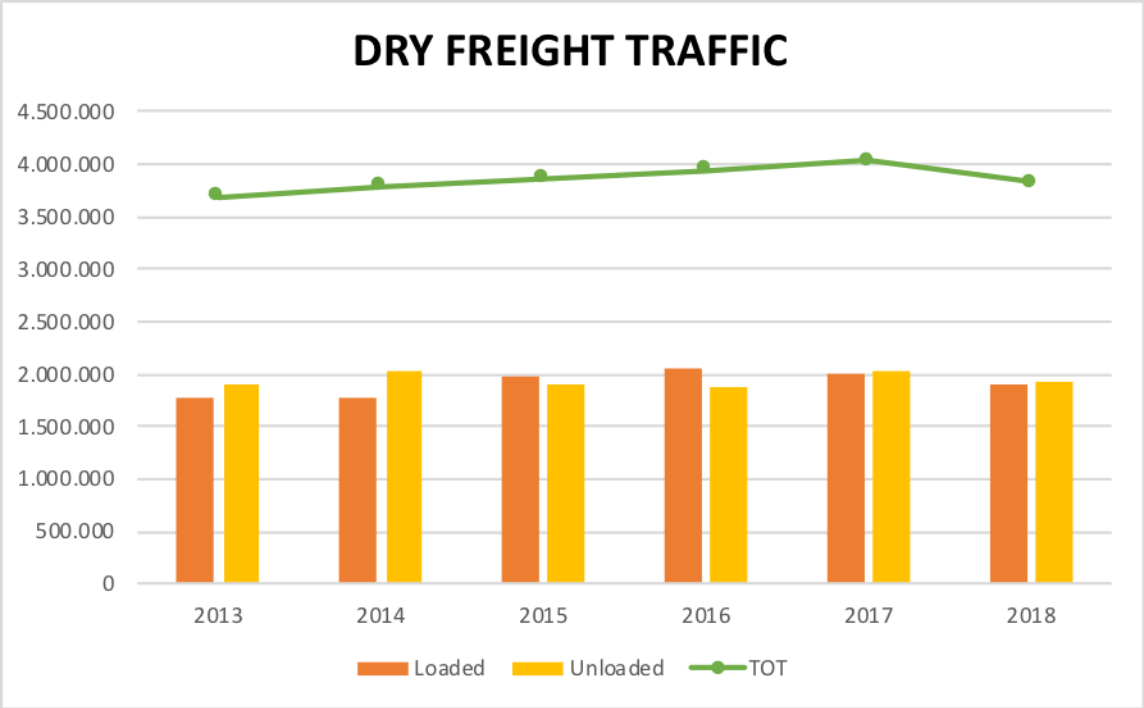

Figure 32: trend of dry freight traffic of Port of Ancona in the period 2013-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

4.1.4 Passenger traffic

Passenger traffic can be split in two categories: ferry passenger traffic and cruise passenger traffic. In the following table the total passenger traffic data are shown.

PASSENGER TRAFFIC	FERRY PASSENGER TRAFFIC			CRUISE PASSENGER TRAFFIC					TOTAL PASSENGER TRAFFIC
	Loaded	Unloaded	TOTAL FERRY	Loaded	Unloaded	TOTAL	IN TRANSIT	TOTAL CRUISE	
2013	541.630	522.932	1.064.562	21.702	20.426	42.128	67.364	109.492	1.174.054
2014	524.893	518.003	1.042.896	5.164	3.946	9.110	28.110	37.220	1.080.116
2015	480.870	489.997	970.867	3.185	3.491	6.676	32.601	39.277	1.010.144
2016	485.299	465.686	950.985	5.112	5.784	10.896	44.005	54.901	1.005.886
2017	523.911	514.642	1.038.553	5.566	5.552	11.118	40.968	52.086	1.090.639
2018	551.605	532.630	1.084.235	6.225	6.629	12.854	54.177	67.031	1.151.266

Table 25: passenger traffic (ferry and cruise) of Port of Ancona in the period 2013-2018 (SOURCE: Central Adriatic Ports Authority)

Ferry traffic flows slightly decreased from 2013 to 2016. Precisely, starting from 1.064.562 passengers in 2013, there was a negative variation of -2% in 2014 (1.042.896 passengers) followed by a variation of -6,9% in 2015 (970.867 passengers) and a variation of -2% in 2016 (950.985 passengers). Despite this negative trend, in 2017 and in 2018 there was a relevant improvement. Indeed, the number of passengers increased at 1.038.553 passengers in 2017 (+9,2%) and at 1.084.235 passengers in 2018 (+4,4%). Therefore, ferry traffic flows exceeded the initial levels of 2013. The passengers loaded and unloaded are always at similar levels, therefore passenger traffic flows of Port of Ancona are intense in both arrivals and departures.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

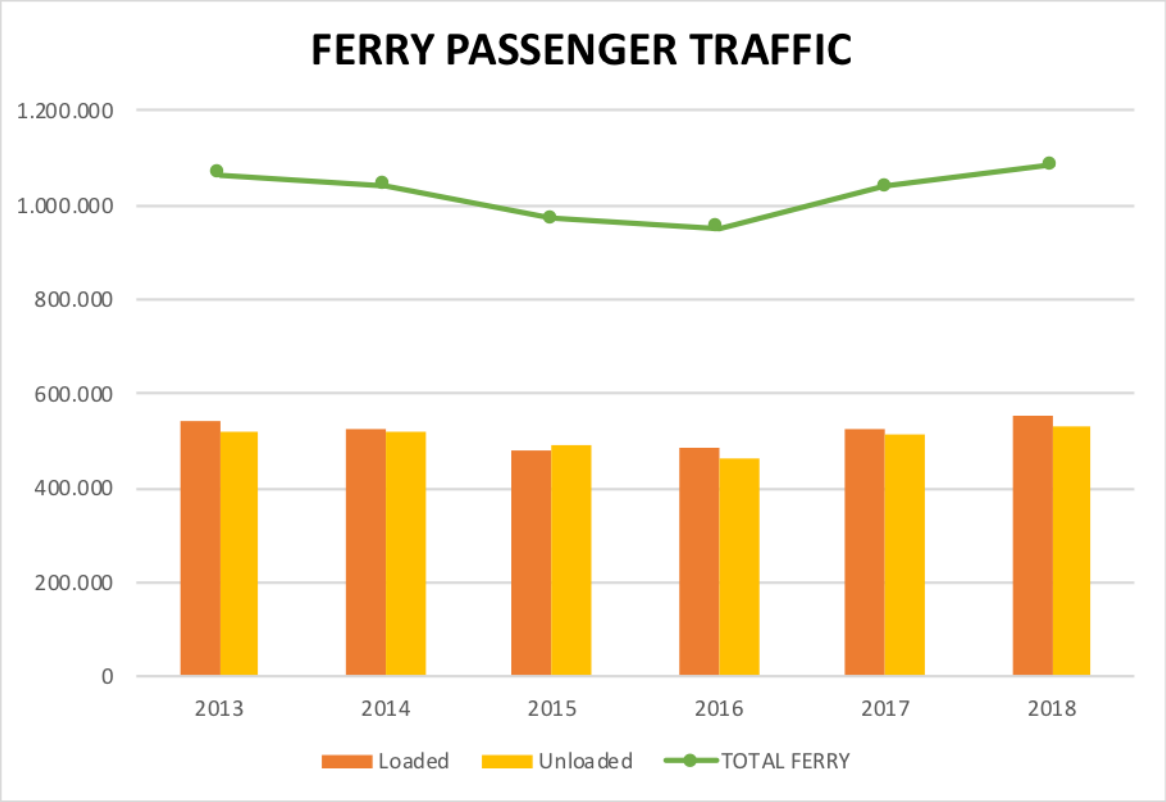

Figure 33: trend of ferry passenger traffic of Port of Ancona in the period 2013-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

Cruise traffic flows recorded a deep decrease from 2013 to 2014, from 42.128 passengers to 9.110 passengers (-78,4%). The negative trend continued in 2015, with 6.676 passengers (-26,7%). From 2015 to 2018, the trend become positive, with 10.896 passengers in 2016 (+63,2%), 11.118 passengers in 2017 (+2%), and 12.854 passengers in 2018 (+15,6%). Like ferry traffic, cruise traffic recorded similar levels of passengers loaded and unloaded. The most part of cruise traffic regards the passengers in transit, which recorded a deep decrease from 2013 to 2014 (from 67.364 passengers to 28.110 passengers with a negative variation of -58,3%). From 2015 to 2018 there was an alteration of positive and negative variations, starting with 32.601 passengers in 2015 (+16%), then 44.005 passengers in 2016 (+35%), 40.968 passengers in 2017 (-6,9%) and 54.177 passengers in 2018 (+32,2%). Total cruise traffic is a balance between cruise traffic and passengers in transit, with a high relevance for the last one. The figure below shows the trend of total cruise traffic. The trend is really negative at the

beginning, but since 2014 traffic flows started to increase. The level of 2018 is lower than 2013 because of a great decrease in passengers in transit, which has the biggest share on total cruise traffic.

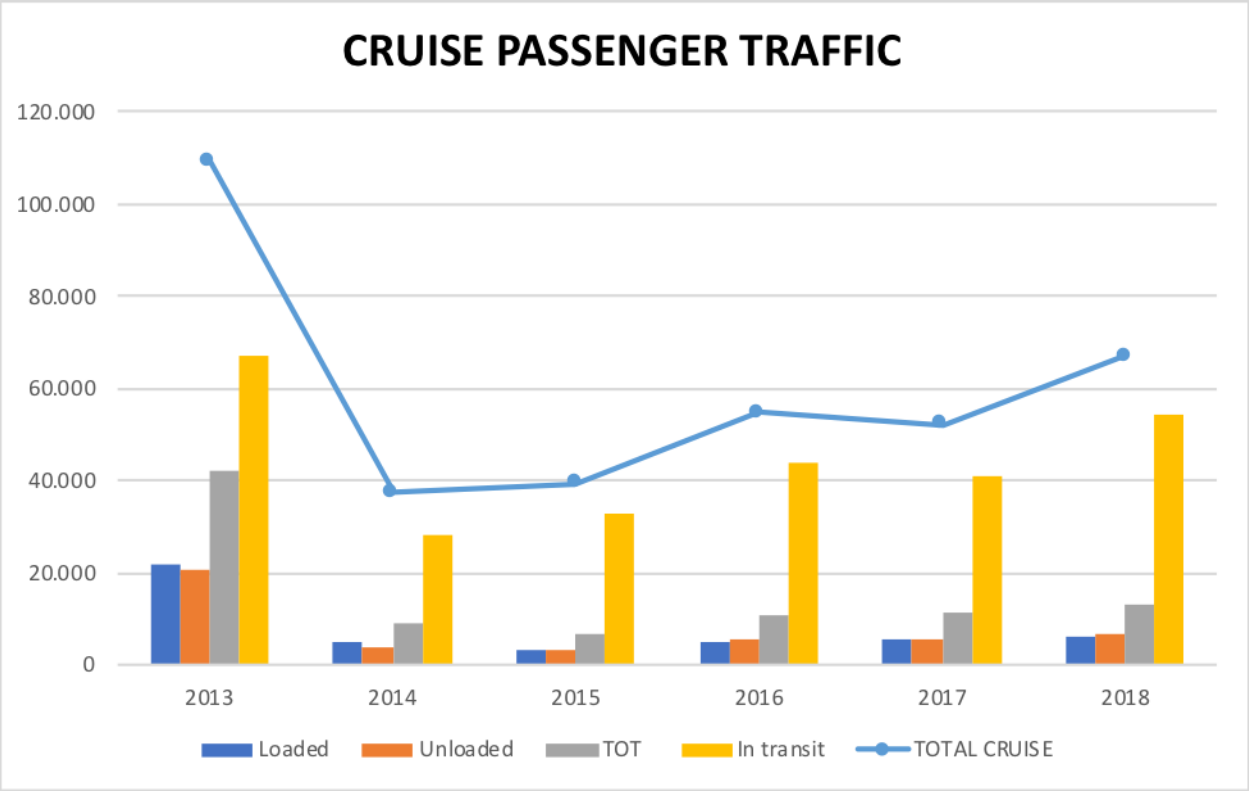

Figure 34: trend of cruise passenger traffic of Port of Ancona in the period 2013-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

Finally, the following figure shows the trend of total passenger traffic. It is clear that ferry traffic flows are more relevant than cruise traffic. Indeed, the trend of total passenger traffic and ferry traffic is the same: negative from 2013 to 2015, steady in 2016 and positive until 2018.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

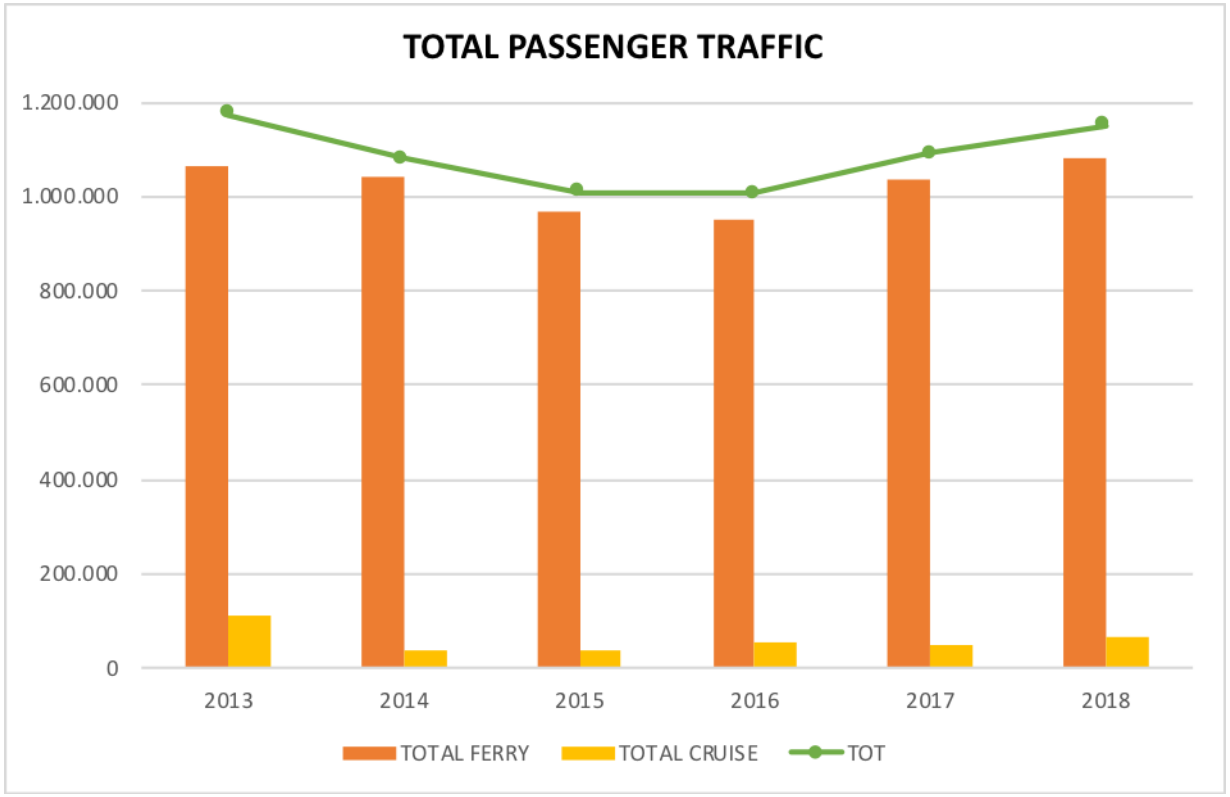

Figure 35: trend of total passenger traffic of Port of Ancona in the period 2013-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

In order to figure out the intensity of passenger traffic flows during the year, the monthly data for 2017 and 2018 are presented in the table below.

PASSENGER TRAFFIC (MONTHLY)	2017	2018
January	27.590	29.035
February	22.102	22.058
March	39.789	48.175
April	70.251	69.031
May	53.669	69.570
June	90.167	105.364
July	213.613	220.114

D.4.1.2 Analysis of potential market flows of the Port of Ancona

PASSENGER TRAFFIC (MONTHLY)	2017	2018
August	311.250	317.879
September	130.626	129.989
October	63.536	70.439
November	31.096	32.617
December	36.369	36.995

Table 26: monthly data of total passenger traffic of Port of Ancona in 2017 and 2018 (SOURCE: Central Adriatic Ports Authority)

It is evident the peak of traffic flows in the summer period. Indeed, the higher number of passengers is recorder between June and September.

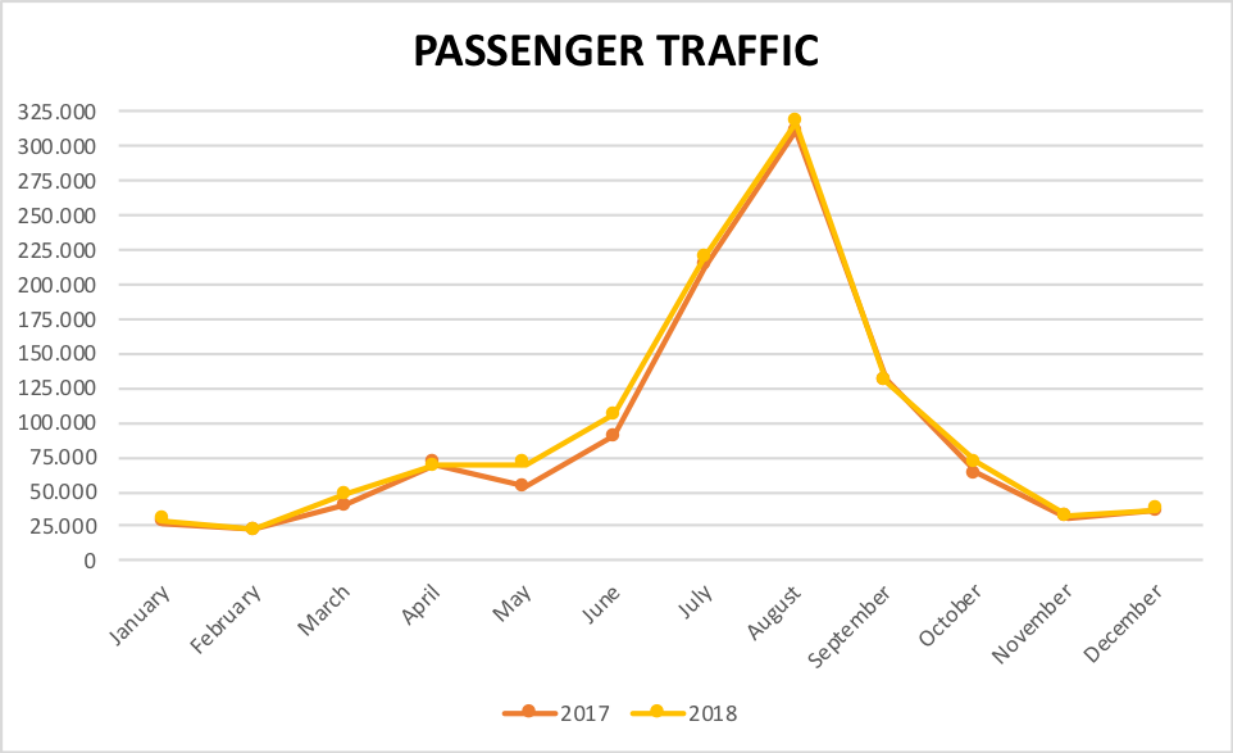

Figure 36: monthly trend of total passenger traffic of Port of Ancona in 2017 and 2018 ((SOURCE: elaboration on Central Adriatic Ports Authority data)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

The monthly data of cruise traffic for 2017 and 2018 are gathered in the following tables.

PASSENGER TRAFFIC (MONTHLY) 2017	CRUISE	CRUISE (in transit)	TOTAL CRUISE	TOTAL PASSENGERS
January	0	0	0	27.590
February	0	0	0	22.102
March	0	0	0	39.789
April	0	758	758	70.251
May	0	0	0	53.669
June	2.363	7.673	10.036	90.167
July	2.555	10.369	12.924	213.613
August	2.609	8.481	11.090	311.250
September	2.880	10.680	13.560	130.626
October	711	3.007	3.718	63.536
November	0	0	0	31.096
December	0	0	0	36.369

Table 27: monthly data of cruise passenger traffic of Port of Ancona in 2017 (SOURCE: Central Adriatic Ports Authority)

PASSENGER TRAFFIC (MONTHLY) 2018	CRUISE	CRUISE (in transit)	TOTAL CRUISE	TOTAL PASSENGERS
January	0	0	0	29.035
February	0	0	0	22.058
March	0	611	0	48.175
April	2.325	0	2.325	69.031
May	557	5.409	5.966	69.570
June	2.873	11.605	14.478	105.364
July	2.524	11.561	14.085	220.114
August	3.048	11.886	14.934	317.879
September	1.520	7.793	9.313	129.989
October	5	4.646	4.651	70.439
November	2	666	668	32.617
December	0	0	0	36.995

Table 28: monthly data of cruise passenger traffic of Port of Ancona in 2018 (SOURCE: Central Adriatic Ports Authority)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

Cruise traffic recorded a similar trend to ferry traffic. The peak of traffic flows is in the summer period. The main difference is that during the beginning and the end of the year the traffic flows are near to zero, since cruise traffic has a high seasonality during the summer. It is evident that cruise traffic is dragged by the passengers in transit.

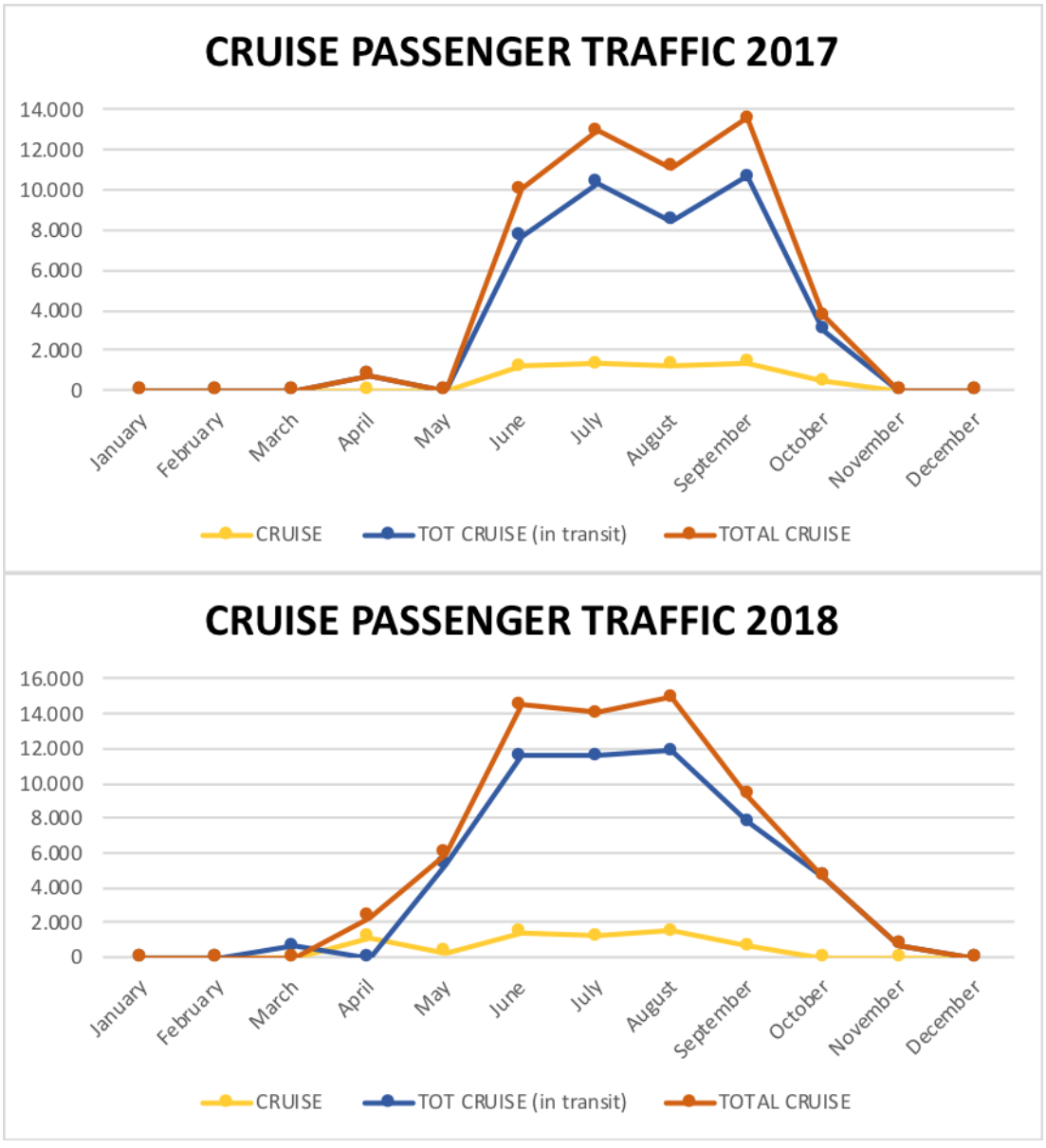

Figure 37: monthly trend of cruise passenger traffic of Port of Ancona in 2017 and 2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

4.2 Vessel traffic statistics

This paragraph focuses on vessel traffic statistics, particularly on Ferry vessel traffic, container ship traffic and general cargo vessel traffic.

4.2.1 All vessel traffic

In order to discuss about the vessel traffic statistics, an overview of all vessel traffic can be presented. In the table below are reported the data for the total vessel traffic.

ALL VESSEL TRAFFIC	Loaded	Unloaded	TOT
2013	2.188	2.194	4.382
2014	2.237	2.259	4.496
2015	2.239	2.243	4.482
2016	2.285	2.285	4.570
2017	2.045	2.044	4.089
2018	1.986	1.991	3.977

Table 29: total vessel traffic of Port of Ancona in the period 2013-2018 (SOURCE: Central Adriatic Ports Authority)

Starting from 4.382 vessels in 2013, there was a small increase in 2014 with 4.496 vessels (+2,6%). In 2015 the number of vessels was steady at 4.482 (-0,3%). In 2016 there was a small increase at 4.570 vessels (+2%), then a negative variation until 2018 (4.089 vessels in 2017, -10,5%; 3.977 vessels in 2018, -2,7%). The trend of total vessel traffic has been negative during period 2013-2018. The vessels loaded and unloaded had similar levels.

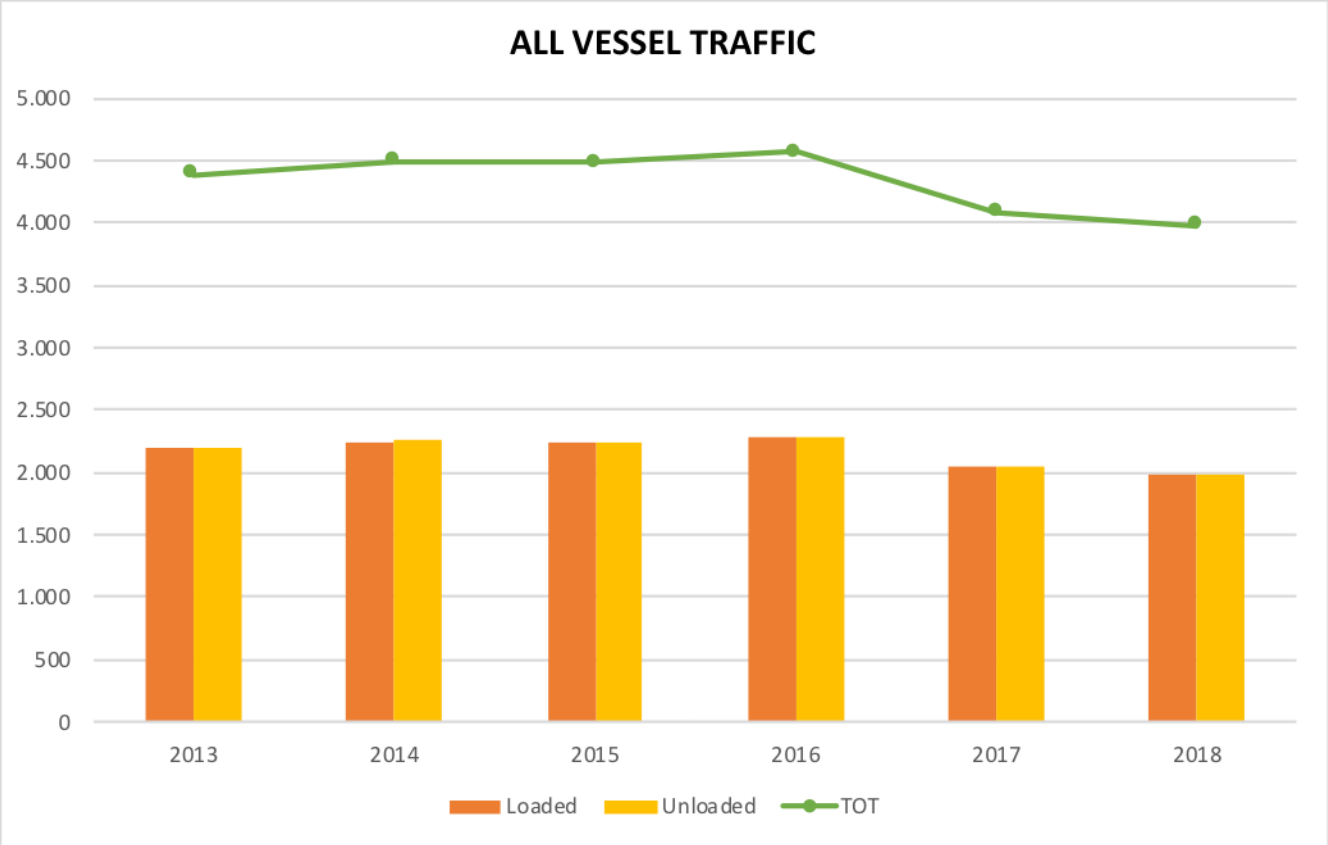

Figure 38: trend of total vessel traffic of Port of Ancona in the period 2013-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

The monthly data of all vessel traffic for 2017 and 2018 are gathered in the following table.

ALL VESSEL TRAFFIC (MONTHLY)	2017			2018		
	Loaded	Unloaded	TOT	Loaded	Unloaded	TOT
January	132	136	268	128	131	259
February	140	140	280	121	122	243
March	143	141	284	142	143	285
April	166	165	331	159	160	319
May	173	174	347	169	169	338
June	180	178	358	187	187	374
July	243	241	484	217	219	436
August	242	243	485	237	238	475

D.4.1.2 Analysis of potential market flows of the Port of Ancona

ALL VESSEL TRAFFIC (MONTHLY)	2017			2018		
	Loaded	Unloaded	TOT	Loaded	Unloaded	TOT
September	190	190	380	194	191	385
October	154	156	310	164	166	330
November	137	136	273	134	132	266
December	141	138	279	124	126	250

Table 30: monthly data of total vessel traffic of Port of Ancona in 2017 and 2018 (SOURCE: Central Adriatic Ports Authority)

Both the years have a similar trend. From January to August there is a positive trend, which became negative from September to December. The peak of the traffic flows is in July and August.

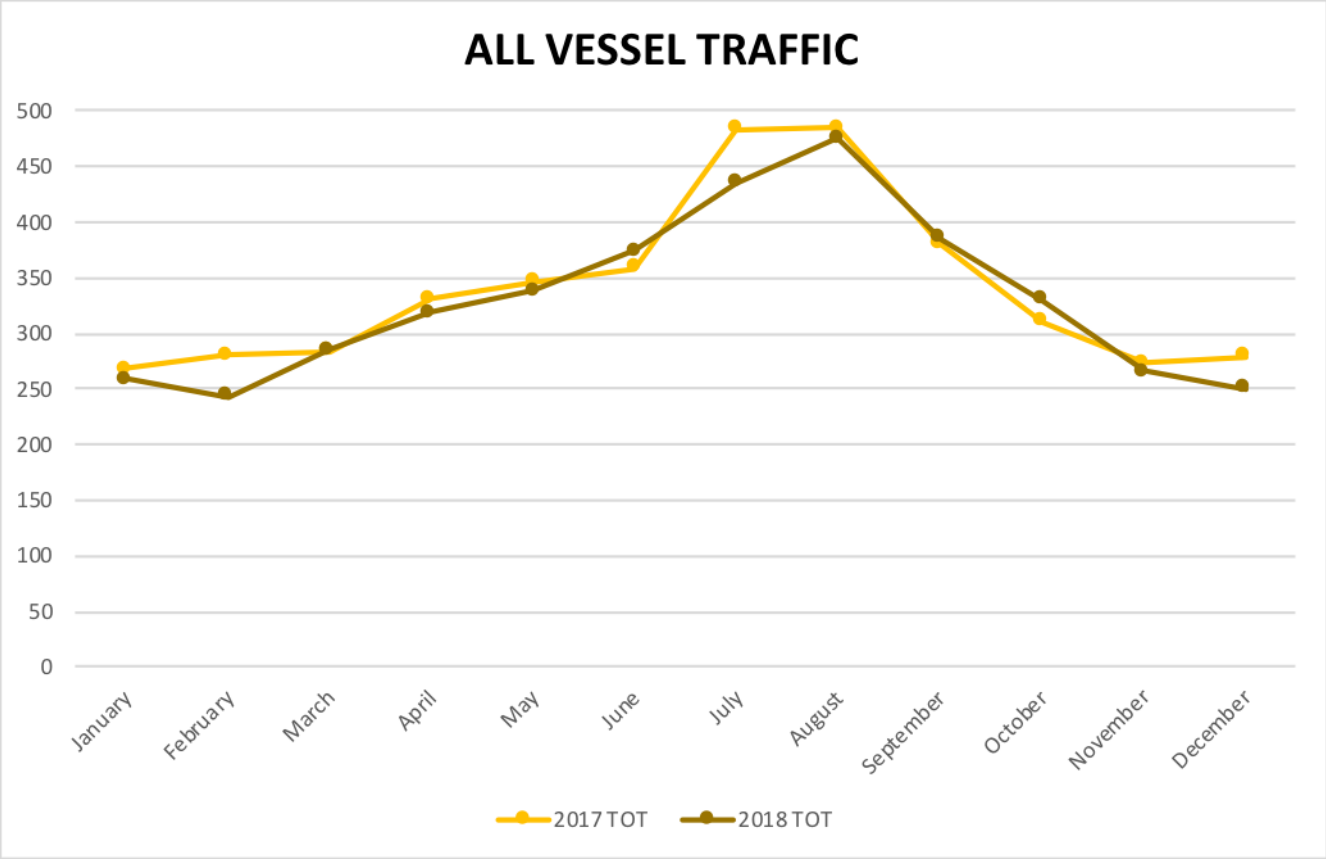

Figure 39: monthly trend of total vessel traffic of Port of Ancona in 2017 and 2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

4.2.2 Ferry (Passenger/RO-RO) vessel traffic

The following table gathers the data about the ferry traffic vessels in which both passengers and Ro-Ro are transported.

FERRY TRAFFIC (Passenger/Ro-Ro)	Loaded	Unloaded	TOT
2013	1.247	1.252	2.499
2014	1.206	1.226	2.432
2015	1.325	1.327	2.652
2016	1.347	1.348	2.695
2017	1.213	1.211	2.424
2018	1.235	1.238	2.473

Table 31: ferry vessel traffic (passenger/Ro-Ro) of Port of Ancona in the period 2013-2018 (SOURCE: Central Adriatic Ports Authority)

During the period 2013-2018 the trend has remained quite steady, with alternating variations. Particularly, starting from 2.499 vessels in 2013, there were 2.432 vessels in 2014 (-2,7%), 2.652 vessels in 2015 (+9%), 2.695 vessels in 2016 (+1,6%), 2.424 vessels in 2017 (-10,1%) and 2.473 vessels in 2018 (+2,0%). The intense traffic flows demonstrate the relevance of ferry traffic for the Port of Ancona. The number of vessels loaded and unloaded was at the same level, showing the intense traffic flows of both arrivals and departures.

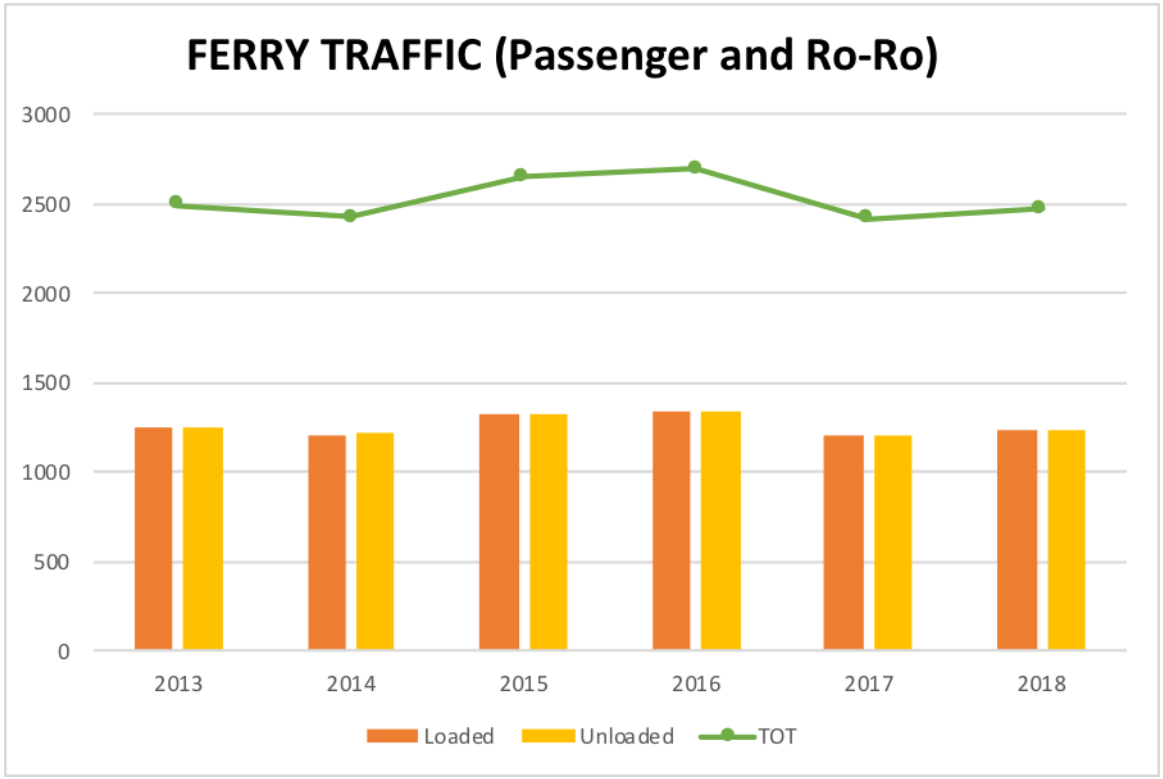

Figure 40: trend of ferry vessel traffic (passenger/Ro-Ro) of Port of Ancona in the period 2013-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

4.2.3 Container traffic

Container traffic has an important share in vessel traffic. The following table gathers the correspondent data.

CONTAINER	Loaded	Unloaded	TOT
2013	466	465	931
2014	515	516	1.031
2015	505	505	1.010
2016	462	462	924
2017	430	432	862
2018	423	424	847

Table 32: container vessel traffic of Port of Ancona in the period 2013-2018 (SOURCE: Central Adriatic Ports Authority)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

Traffic flows have been quite steady during the period 2013-2018, with an initial positive trend followed by a slight negative trend. Particularly, from 931 vessels in 2013, the vessels registered were 1.031 in 2014 (+10,7%), 1.010 in 2015 (-2%), 924 in 2016 (-8,5%), 862 in 2017 (-6,7%) and 847 in 2018 (-1,7%). Both vessels loaded and unloaded are always at the same levels.

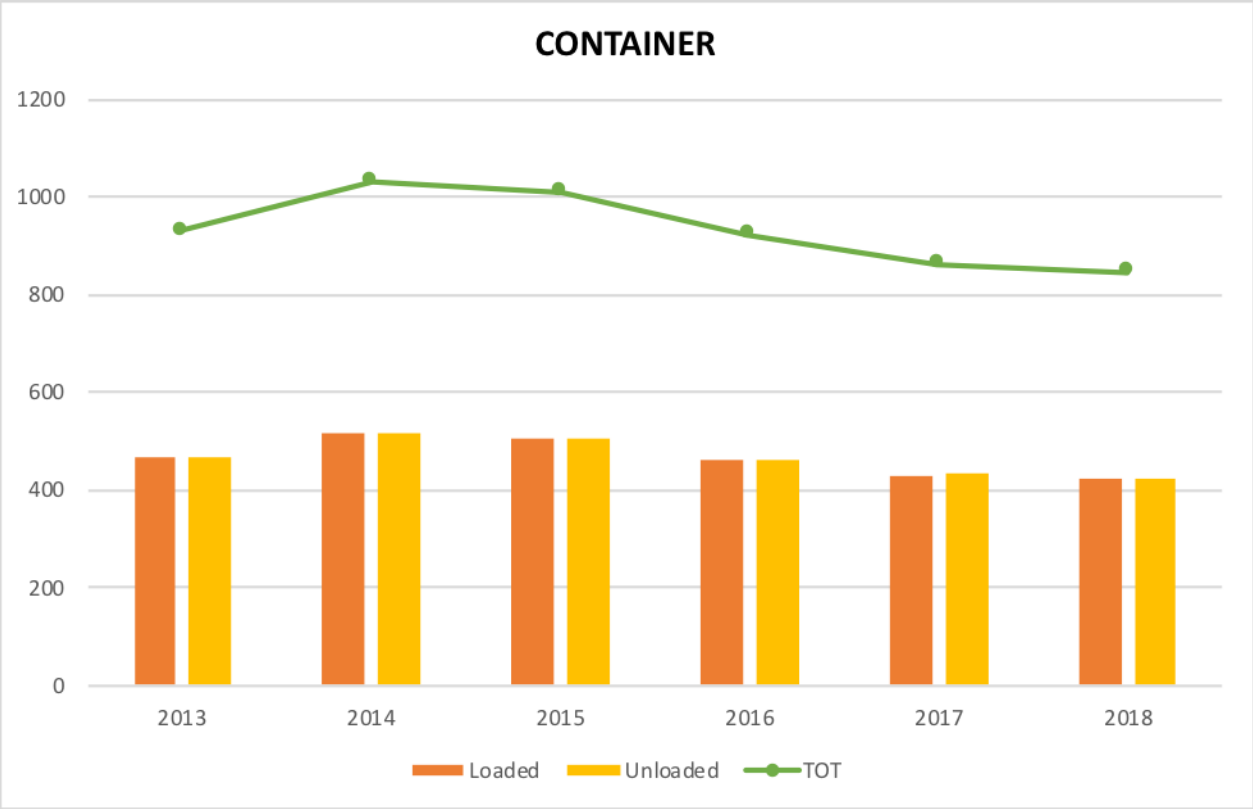

Figure 41: trend of container vessel traffic of Port of Ancona in the period 2013-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

4.2.4 Tanker traffic

The tanker traffic can be identified with the liquid bulk carrier traffic, since the liquid freight is related to oil and its derivatives. In the table below the liquid bulk carrier data are presented.

LIQUID BULK CARRIER	Loaded	Unloaded	TOT
2013	147	148	295
2014	221	221	442
2015	269	270	539
2016	266	267	533
2017	233	234	467
2018	213	214	427

Table 33: tanker vessel traffic (liquid bulk carrier) of Port of Ancona in the period 2013-2018 (SOURCE: Central Adriatic Ports Authority)

Traffic flows had a general positive trend during the period 2013-2018, with a positive trend at the beginning and a slightly negative trend during the last two years. There was a relevant positive variation of +49,8%, from 295 vessels in 2013 to 442 vessels in 2014. Afterwards, there was a positive trend in 2015 (+29,9% with 538 vessels) and a quite steady trend in 2016 (-1,1% with 533 vessels). Then, the vessels reported were 467 in 2017 (+12,4%) and 427 in 2018 (-8,6%), a slightly negative trend which brought to levels higher than 2013. The vessels loaded and unloaded were always at the same levels.

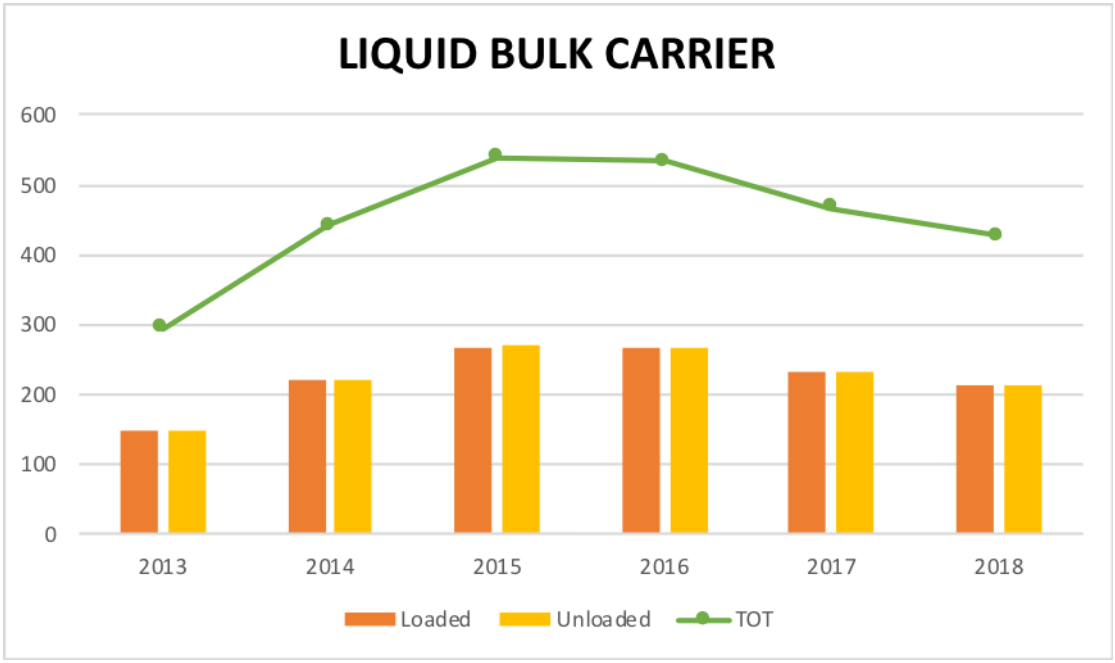

Figure 42: trend of tanker vessel traffic (liquid bulk carrier) of Port of Ancona in the period 2013-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

4.3 Additional data of Port of Ancona

In this paragraph are gathered all the available additional data and information that can be considered relevant in the Port of Ancona framework. General Data and information related to the Central Adriatic Ports Authority and Italian ports are included if pertinent.

4.3.1 Intensity of traffic flows

In order to give a general overview of the main routes of the Port of Ancona, the general density of traffic flows for all vessels in 2017 is shown in the figure below. Looking at the flows with high density (red lines) it is clear how the main routes for the port regard the traffic addressed towards the other Adriatic ports situated in northen Italy (especially Trieste), the Balkan countries (Slovenia, Croatia, Albania and Montenegro) and towards the south of Adriatic sea (especially Greece).

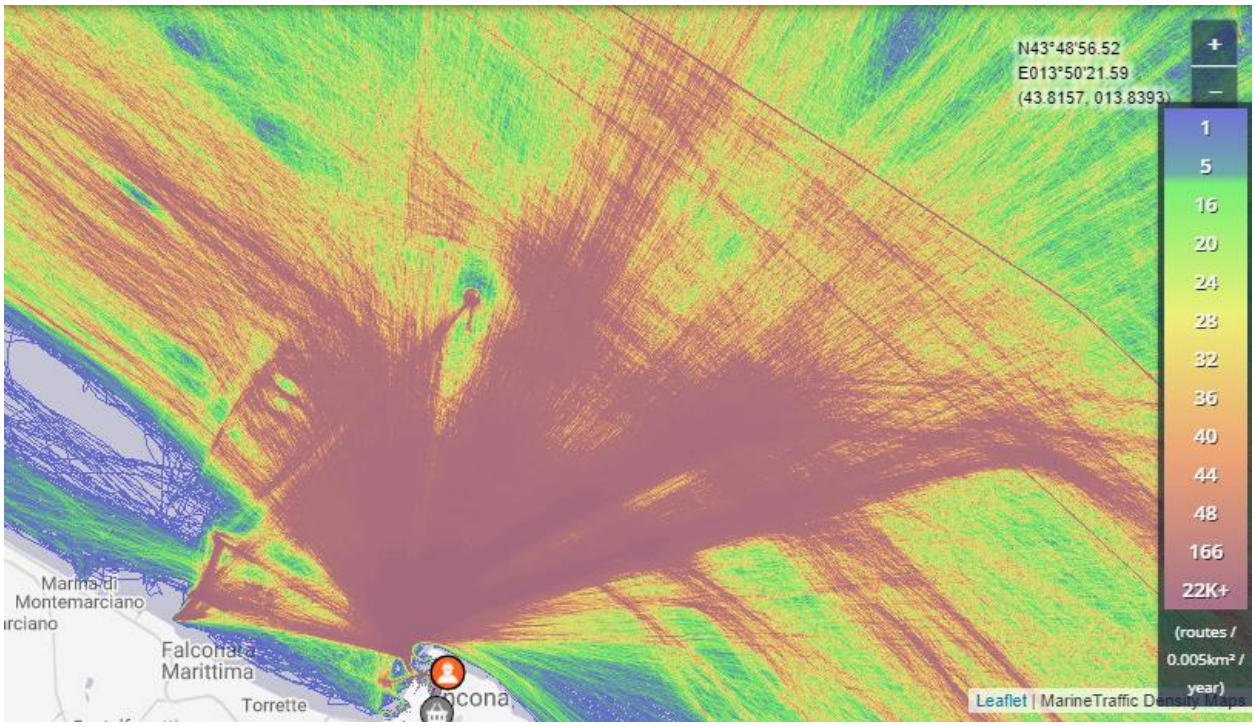

Figure 43: density of traffic flows for all the vessels in the Port of Ancona in 2017 (SOURCE: Marine Traffic)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

Particularly, analyzing the intensity of traffic flows in the Adriatic Sea, it is possible to individuate the main routes to Port of Ancona according to the vessel type. The following figures show the density of traffic flows for passengers (blue), container (grey), cargo (green), tanker (red), pleasure (purple), fishing (pink) and tugs/special (light blue) in 2017. Looking at the graphs, it can be concluded that the Port of Ancona has deep traffic flows with Croatia, Albania and Greece, particularly speaking about passengers and cargo traffic. For what concerns container traffic, Port of Ancona has a deep relation with the Adriatic ports of northern Italy (Ravenna, Venezia and Trieste) as intermediate step of the original routes started from these ports towards the Mediterranean Sea.

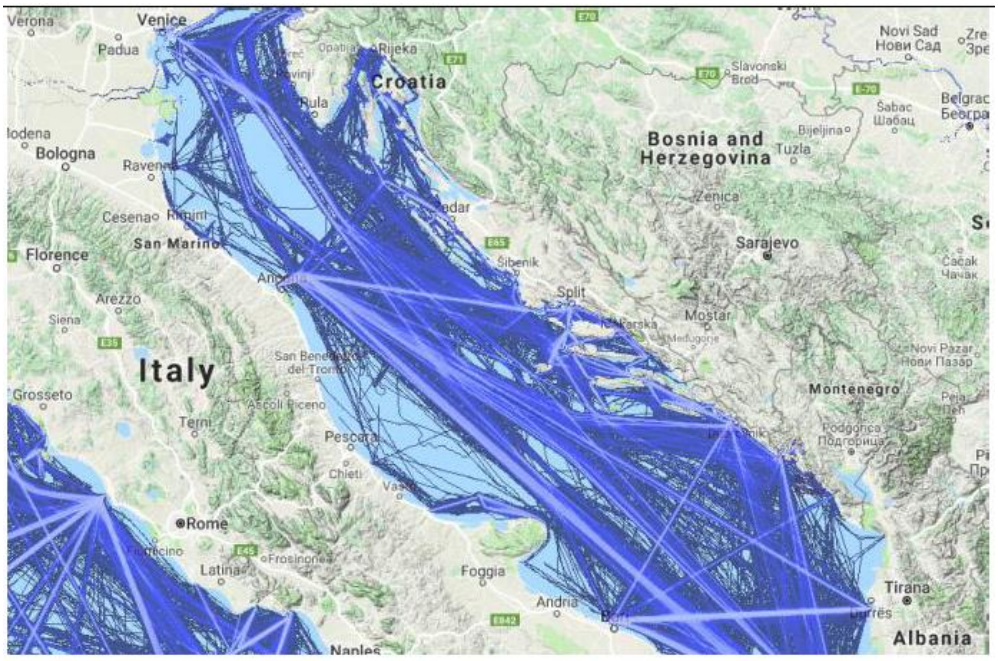

Figure 44: density of traffic flows for passenger vessels in the Port of Ancona in 2017 (SOURCE: Marine Traffic)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

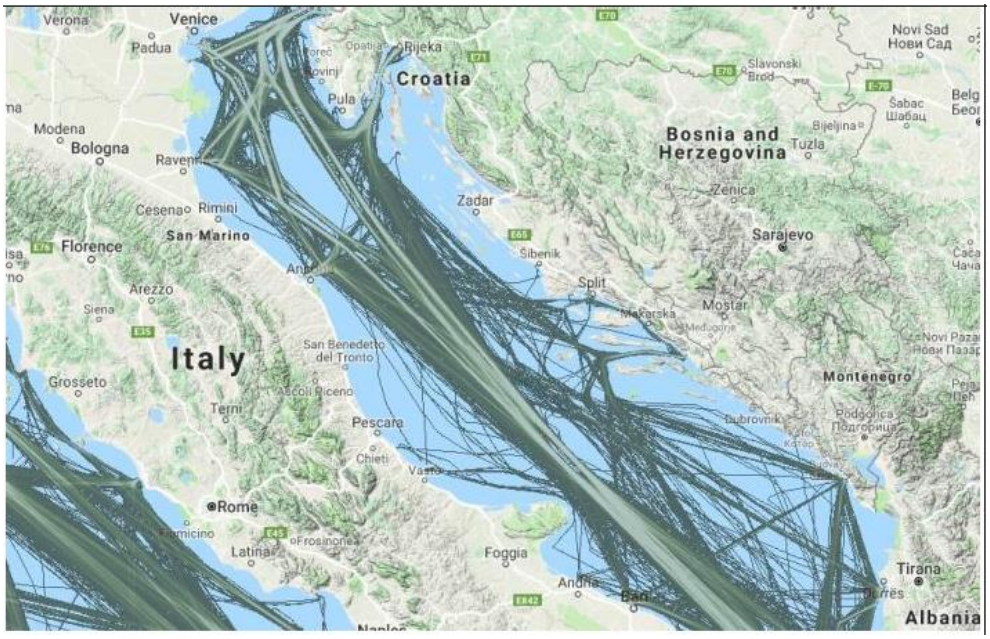

Figure 45: density of traffic flows for container vessels in the Port of Ancona in 2017 (SOURCE: Marine Traffic)

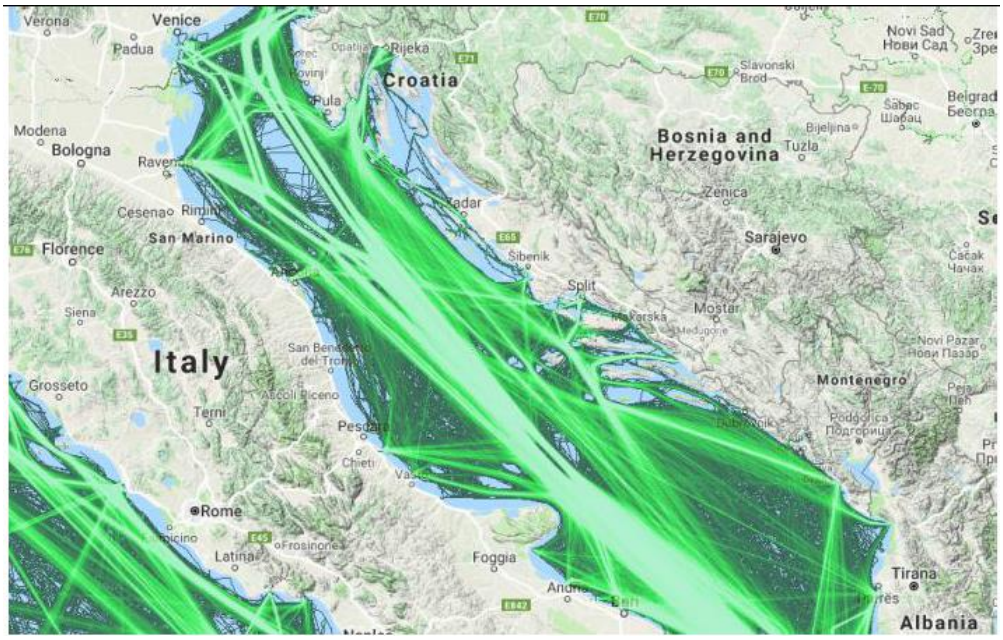

Figure 46: density of traffic flows for cargo vessels in the Port of Ancona in 2017 (SOURCE: Marine Traffic)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

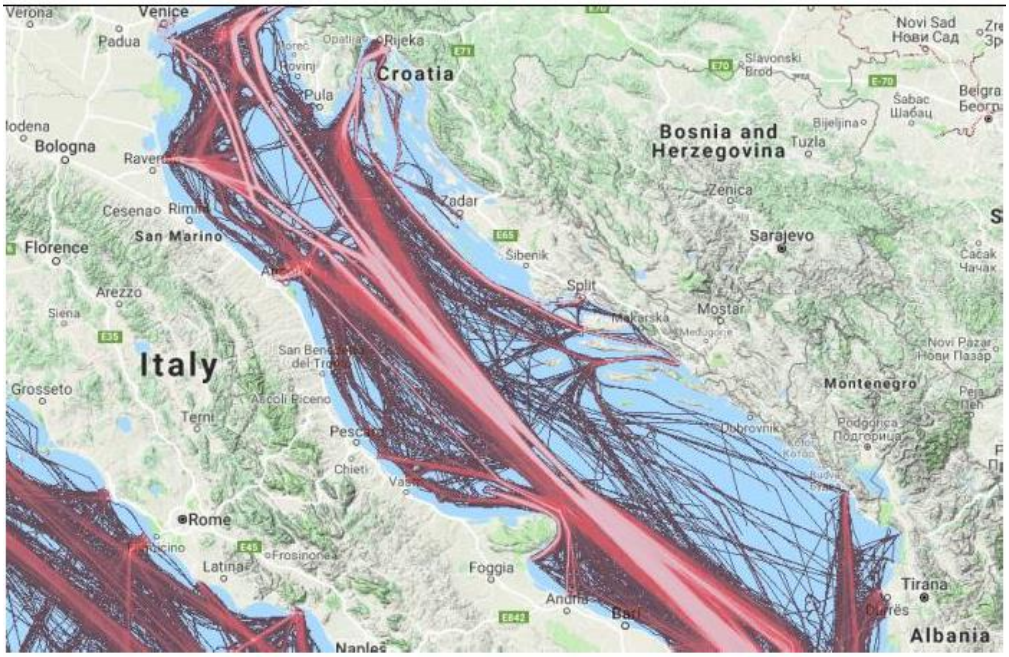

Figure 47: density of traffic flows for tanker vessels in the Port of Ancona in 2017 (SOURCE: Marine Traffic)

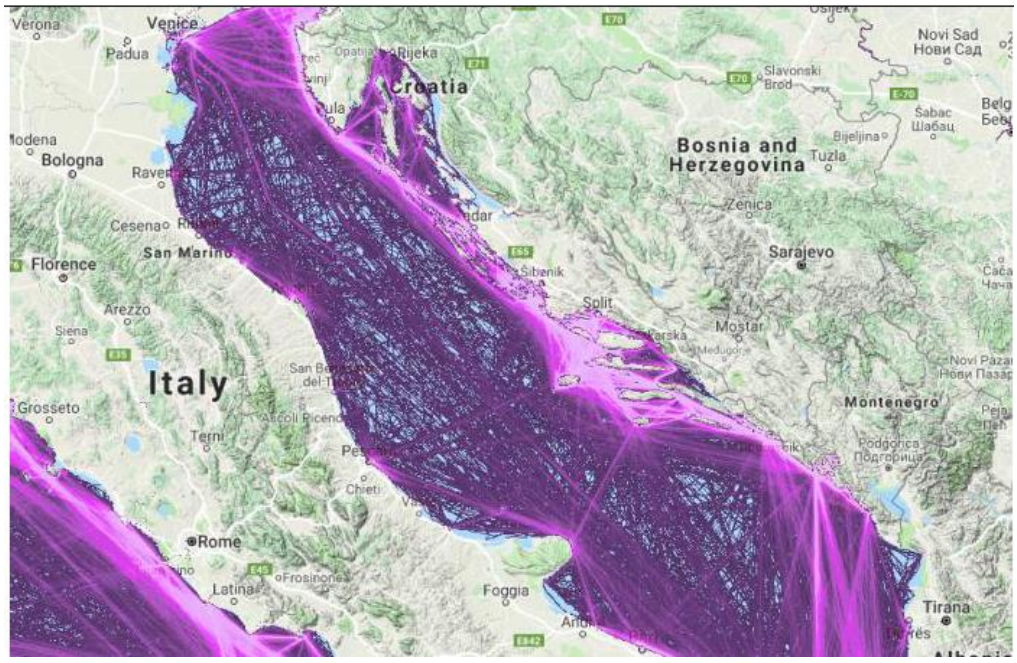

Figure 48: density of traffic flows for pleasure vessels in the Port of Ancona in 2017 (SOURCE: Marine Traffic)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

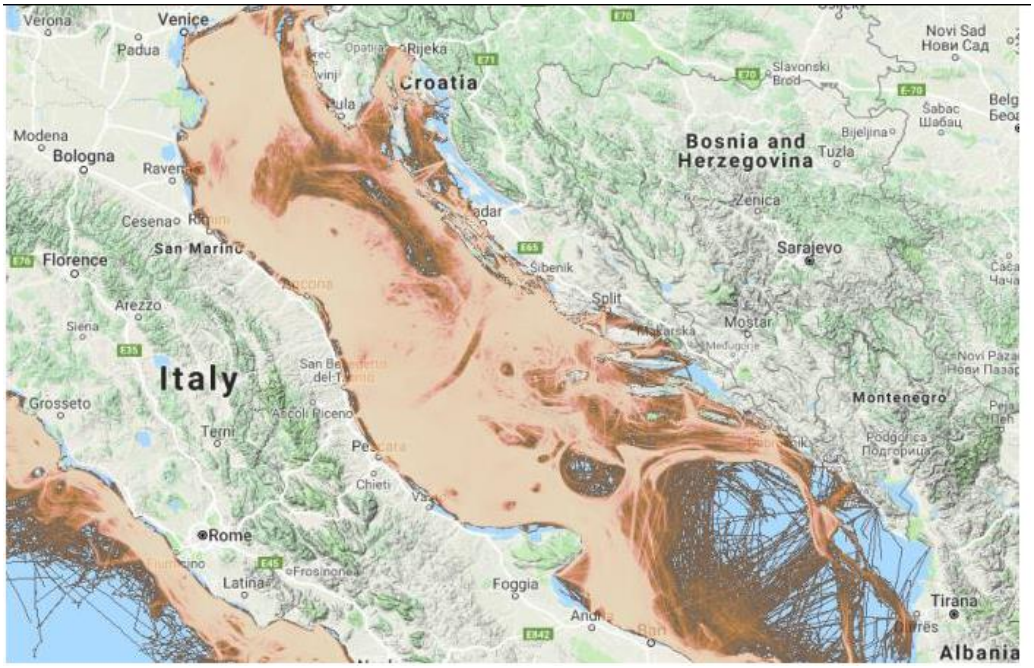

Figure 49: density of traffic flows for fishing vessels in the Port of Ancona in 2017 (SOURCE: Marine Traffic)

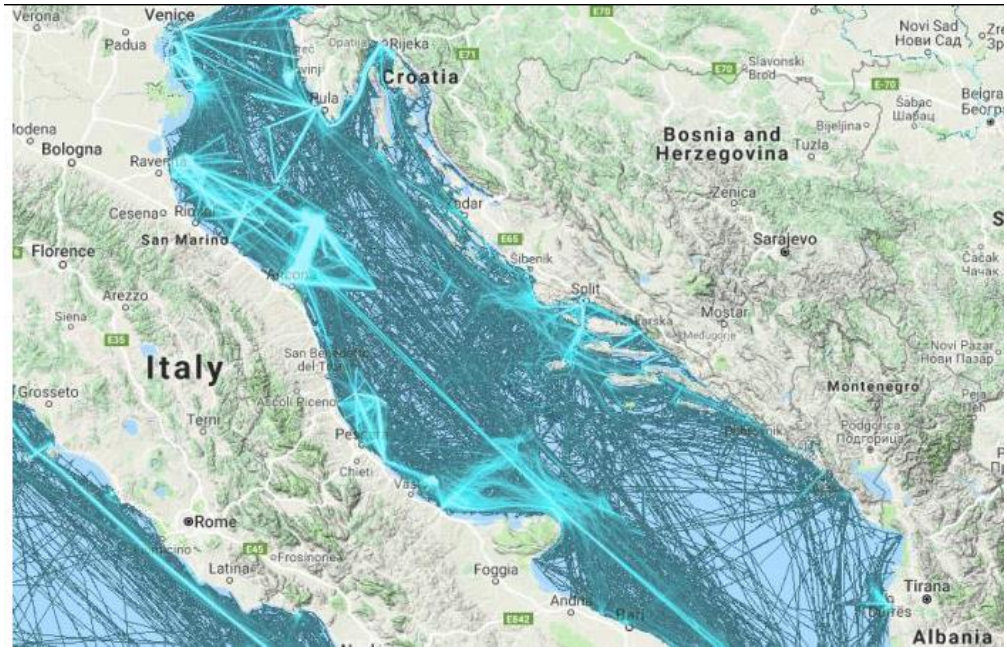

Figure 50: density of traffic flows for tugs/special vessel in the Port of Ancona in 2017 (SOURCE: Marine Traffic)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

4.3.2 VTMIS (Vessel Traffic Management Information System) in Italy

Vessel Traffic Service (VTS) is a set of services aimed to increase security and efficiency of maritime traffic. In Italy, the responsible for the development and management of VTS is the General Command of Coast Guards, which has the following tasks:

- To issue national directives about control and monitoring of maritime traffic;
- To assess the need of establish, strengthen, merge, retrain or maintain the VTS in the territory of the State, proposing to the Ministry of Infrastructure and Transport the necessary documents;
- To execute the control over VTS training centers, where the VTS and VTMIS personnel of the Body are qualified.

The main services offered by VTS are the following:

- Information Service;
- Navigational Assistance Service;
- Traffic Organization Service.

Vessel Traffic Management Information System (VTMIS) is an extension of the VTS. Specifically, VTMIS can be described as an Integrated Maritime Surveillance which allows to obtain a direct sharing of VTS data or access to certain subsystems with a principal objective: to increase the effectiveness of port or maritime activity operations without interfering with the purpose of VTS (monitoring of vessels, in real time, to enable safe and efficient traffic management). VTMIS incorporates other telematics resources and it can be used by allied services and other interested agencies.

The features of a VTMIS are:

- Port management systems;
- Systems dedicated to port security;
- Support systems and management of pilotage;

- Load management systems and overall property;
- Docking Planning;
- Systems for collecting port taxes;
- Quarantine control;
- Customs control;
- Support for Coast Guard operations.

The development of VTMIS in Italy has been fostered by different directives:

- **IMO Res 857(20) – 1997**: define the principles and general operational provisions for the operation of a Vessel Traffic Service (VTS) and participating vessels.
- **European Directive 2002/59/CE and amended:** define the obligations for state members and "SafeSeaNet" as the Community system for exchange of maritime data developed by the Commission in cooperation with Member States to ensure the implementation of Community legislation;
- **IMO Res 139(76) – 2002:** define the mandatory adoption in the Adriatic Sea, from the 1st July 2003, of a ship reporting system (ADRIREP);
- **European Directive 2010/65/CE:** Simplify and harmonize the administrative procedures applied to maritime transport by making electronic transmission of information standard and by rationalizing reporting formalities.

Afterwards, the Italian Adriatic ports which have implemented these directives and became VTS centers in Italy have been:

- Bari – D.M. 10/05/2011 publish on G.U. n° 118 of 23/05/2011;
- Brindisi – D.M. 10/05/2011 publish on G.U. n° 118 of 23/05/2011;
- Trieste – D.M. 22/05/2013 publish on G.U. n° 128 of 03/06/2013;
- Venezia – D.M. 23/03/2018 publish on G.U. n° 79 of 05/04/2018.

The following figure shows a scheme that summarizes the characteristics of the VTMIS system in the Italian framework.

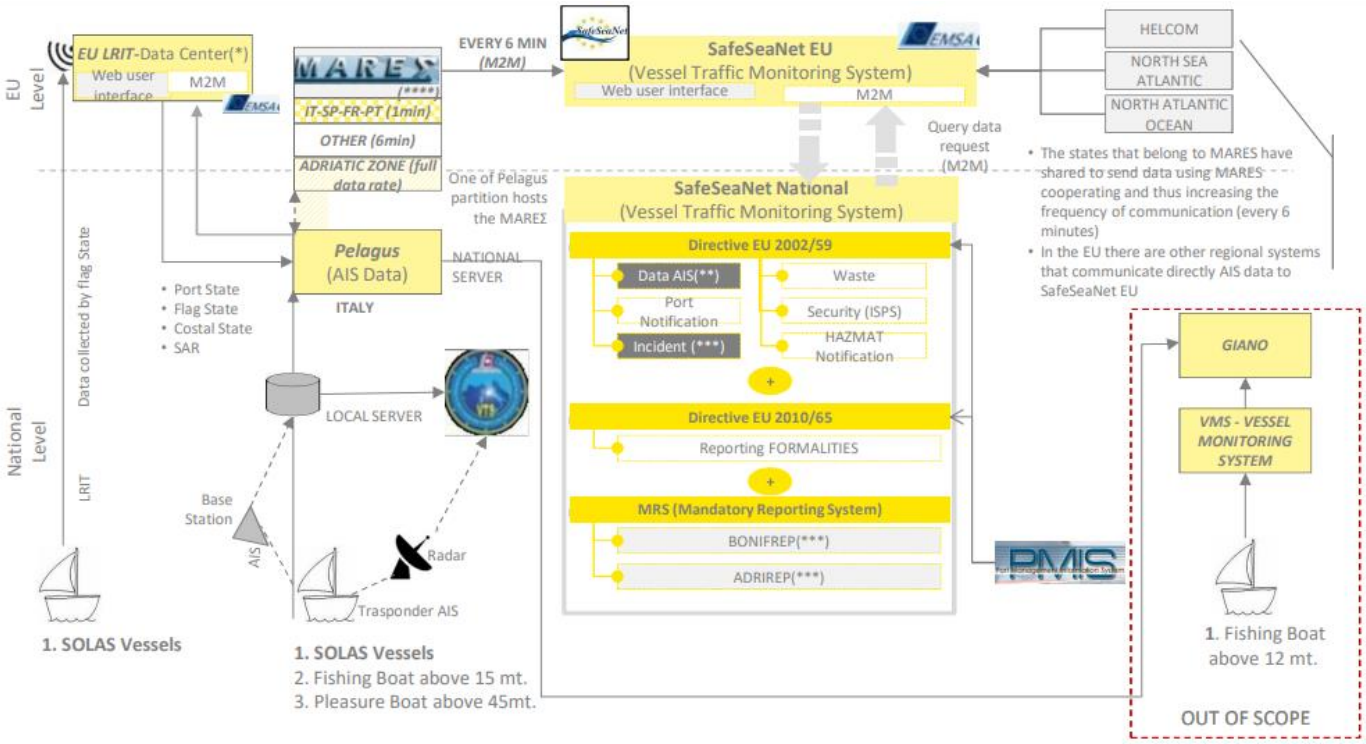

Figure 51: characteristics of VTMIS system in the Italian framework (SOURCE: Ernst & Young-Easyconnecting Project)

4.3.3 Average waiting time in port and anchorage

In the port of Ancona there are relevant traffic flows during all the year with a peak during the summer period, above all due to the great increase of passenger traffic. Although the high traffic flows of passengers and freight, the port is not affected by significant problems of congestion and it manages to bear during the weekends until 30.000-40.000 passengers and 15-20 vessels, without taking in account all the other small ships which transit every day in the port area.

To give an example of the average waiting time when the traffic flows are higher, the time in port and anchorage during June and July 2019 are shown in the figures below. Both the

average times demonstrate that vessels don't stop for a long time in the port area. Indeed, in average, each ship stays less than one day in the Port of Ancona. This continuous flow helps to avoid high level of port congestion and points out the high level of organization and efficiency of port management activities.

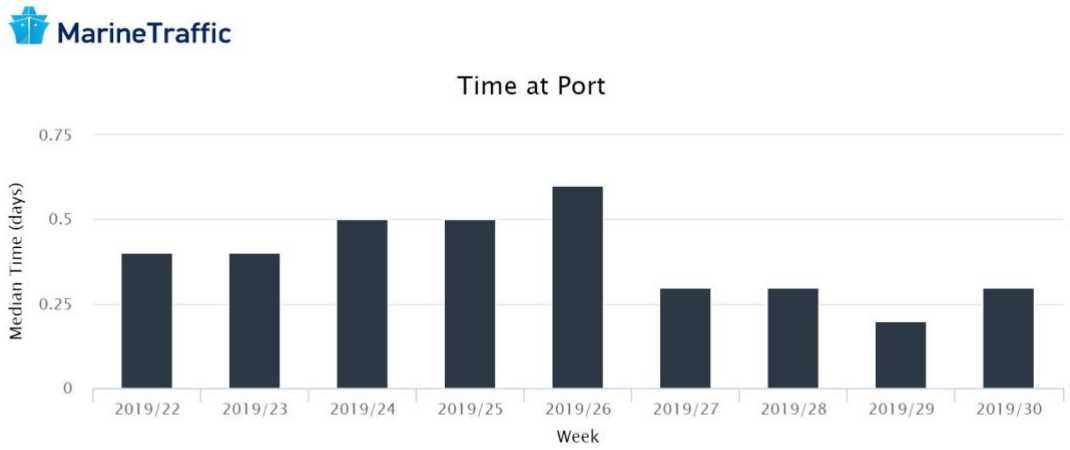

Figure 52: average time at port in the Port of Ancona in 2019 (June and July) (SOURCE: Marine Traffic)

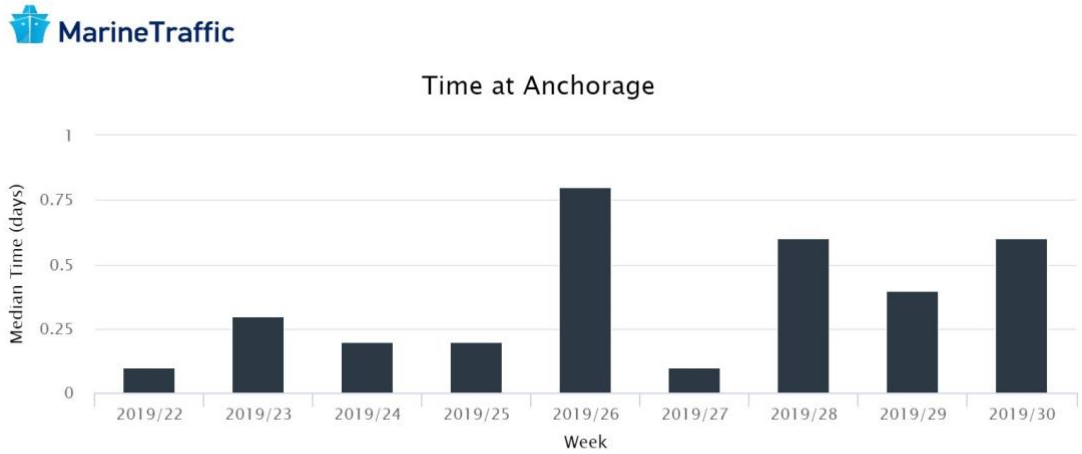

Figure 53: average time at anchorage in the Port of Ancona in 2019 (June and July) (SOURCE: Marine Traffic)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

4.3.4 Environmental incentivizes and initiatives

Three-year Operational Plan 2017-2020 (*Piano Operativo Triennale*), by Central Adriatic Ports Authority, mentions the National Strategic Plan for Ports and Logistic (*Piano Strategico nazionale della Portualità e della Logistica*)[1], as a relevant document related with the environmental measures in the Port of Ancona. The Plan lists the main objectives related to environmental conditions in ports of the Port System Authority which include:

- To improve the energetic infrastructures of the ports;
- To ensure the compliance of reduced emission levels compatible with fleet, engines and fuels;
- To equip the ports with the supply energy according with the emission targets;
- To implement infrastructures for storage and for distribution of Liquefied Natural Gas (LNG) meanwhile incentivising the revamping of onboard engines as an energy efficiency target;
- To equip the ports with efficient lighting infrastructures;
- To implement the infrastructures in order to obtain energy efficiency certificates (e.g. incinerators or port equipment for the import / export of waste).

Starting from these indications, the Port of Ancona has implemented the environmental conditions of the port area with different initiatives.

One of these initiatives is the **GREENPORT agreement**, signed by Central Adriatic Ports Authority and RAM (*Rete Autostrade Mediterranee*) in June 2016, which aims to improve the environmental performances of port activities. Among the actions foreseen to achieve this aim, the analysis of energy efficiency, above all related to the electric, assumes a relevant importance in order to achieve an integrated energetic management strategy. The integrated energetic management strategy will include an economic-financial plan and a cost-benefit analysis in order to improve the involvement of private stakeholder in the investment and management phases of the distribution infrastructures. Moreover, the integrated energetic

[1] Approved by the Italian Council of Ministers (6 August 2015).

management strategy will allow to attract public financing in the field of innovation, renewable energy and environmental sustainability.

The main sustainability initiatives foreseen in the Port of Ancona are related to electric energy. Indeed, e-charging stations for small ships have been installed, photovoltaic systems have been installed on warehouses related to port activities and public lighting interventions in the port area are foreseen in the framework of the project Waterfront 3.0, in which the Port of Ancona is partner.

Regarding air quality, several initiatives are foreseen, like the installation of fine dust samplers in Ancona area in order to assess the air pollution. Furthermore, the shift of freight vehicles waiting for custom controls and the obligation for all vehicles to keep the engine off during the stops in the port area are measures in force.

An important initiative to mention related to the air pollution is the **Ancona Blue Agreement**, a voluntary agreement proposed to shipowners, ferry navigation companies and maritime agencies by Central Adriatic Ports Authority and Ancona Coast Guard. The agreement regards the commitment of members in the use of a fuel with 0,1% of sulphur, instead of the 1,5% threshold allowed, during port stops and in the departure phase. The agreement has been signed by ferry companies Adria Ferries, Jadrolinija, Superfast Ferries, Blue Star Ferries and SNAV. In turn, Central Adriatic Ports Authority and Ancona Coast Guard are committed to optimize arrival and departure orders of vessels as well as loading and unloading procedures, in collaboration with maritime agencies and other institutions responsible for controls.

Regarding ship-generated waste and cargo residues, the Central Adriatic Ports Authority is studying new innovative systems procedures for waste disposal and new economically sustainable and efficient management models. Moreover, the use of sealed buckets in freight transportation is foreseen in order to reduce the dispersion of pollutants.

5. OVERVIEW AND ANALYSIS OF THE EXISTING TRAFFIC FLOWS BETWEEN ITALIAN-CROATIAN PORTS

This chapter presents a review and an analysis of the statistical data shown and discussed previously. The objective is to give an idea of existing maritime links in the Adriatic Sea in order to identify the main routes and the main markets of traffic flows of the Port of Ancona. A specific focus on the Italian-Croatian traffic flows for the Port of Ancona is presented, with an emphasis on ferry and container freight statistics.

5.1 Existing traffic flows of the Port of Ancona

In order to give an overview of the existing traffic flows of the Port of Ancona, an analysis based on data shown in the previous chapter is presented, with a focus on ferry passenger traffic and container traffic.

5.1.1 Ferry passenger traffic flows of the Port of Ancona

Ferry passenger traffic has already been discussed in the previous chapter. In order to focus on current traffic flows, the main features for 2017 and 2018 are summarized in the following table.

PASSENGER TRAFFIC	2017	2018	var%	%TOT 2017	%TOT 2018
FERRY PASSENGER TRAFFIC	1.038.553	1.084.235	4,4%	95,2%	94,2%
CRUISE PASSENGER TRAFFIC	11.118	12.854	15,6%	1,0%	1,1%

PASSENGER TRAFFIC	2017	2018	var%	%TOT 2017	%TOT 2018
CRUISE PASSENGER TRAFFIC (in transit)	40.968	54.177	32,2%	3,8%	4,7%
TOTAL CRUISE	52.086	67.031	28,7%	4,8%	5,8%
TOTAL PASSENGER TRAFFIC	1.090.639	1.151.266	5,6%	100,0%	100,0%

Table 34: comparison among the main features of passenger traffic of the Port of Ancona in 2017 and 2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

It is evident the positive trend of the last two years for all the statistical data, ferry passenger traffic included (+4,4%), which allows to hypothesize a growth in the future. The share of ferry traffic on total passenger traffic has been 95,2% in 2017 and 94,2% in 2018. Therefore, it is highlighted the pivotal role of ferry passenger traffic for the Port of Ancona.

Another statistical data to mention is the cruise traffic, which represents the 4,8% of total passenger traffic in 2017, while in 2018 the share was 5,8%. However, a relevant share of cruise traffic is due to the passengers in transit, who don't stop in Ancona but carry on towards other destinations. In order to incentivize the passengers to stop and visit the Ancona area, a project called "Welcome to Ancona" has been promoted by Ancona municipality, Ancona Chamber of Commerce and other associations of the territory. The project aims to foster the tourist reception through the promotion of all public exercises and cultural initiatives of the city. Therefore, for all the passengers in transit is possible to spend a day in Ancona and Marche Region in order to discover the city and the territory through the learning of culture, history, architecture, sea, environment, food and wine. The same services can be exploited by ferry passengers, particularly catering services and stores in the historical center. Therefore, this initiative is an additional service offered by the Port of Ancona which can foster the ferry passenger traffic and strength the forecast of a future growth.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

The following table compares ferry vessel traffic with total vessel traffic. The vessel traffic confirms the importance of ferry traffic for the Port of Ancona. Indeed, ferry vessel traffic represents the 59,3% of total vessel traffic in 2017, while in 2018 the share was 62,2%.

VESSEL TRAFFIC	2017	2018	var%	%TOT 2017	%TOT 2018
FERRY VESSEL TRAFFIC (Ro-Ro and passengers)	2.424	2.473	2,0%	59,3%	62,2%
TOTAL VESSEL TRAFFIC	4.089	3.977	-2,7%	100,0%	100,0%

Table 35: comparison between ferry vessel traffic and total vessel traffic of the Port of Ancona in 2017 and 2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

In order to identify the main routes and the main markets for the Port of Ancona, ferry traffic can be analyzed specifically considering the traffic per destination. In the table below are reported these specific data.

FERRY TRAFFIC PER DESTINATION		2013	2014	2015	2016	2017	2018
GREECE	Loaded	357.776	372.792	341.817	335.236	387.742	399.823
	Unloaded	332.541	353.768	340.337	311.977	373.882	372.051
	TOT	690.317	726.560	682.154	647.213	761.624	771.874
CROATIA	Loaded	161.284	123.814	123.126	112.490	101.682	106.927
	Unloaded	166.682	135.005	128.629	116.075	104.369	114.519
	TOT	327.966	258.819	251.755	228.565	206.051	221.446
ALBANIA	Loaded	22.544	27.999	15.588	36.568	34.112	44.855
	Unloaded	23.678	28.712	20.439	36.897	36.085	45.977
	TOT	46.222	56.711	36.027	73.465	70.197	90.832
ITALY	Loaded	26	288	339	1.005	375	0
	Unloaded	31	359	592	737	306	83
	TOT	57	647	931	1.742	681	83
TOTAL FERRY	Loaded	541.630	524.893	480.870	485.299	523.911	551.605

D.4.1.2 Analysis of potential market flows of the Port of Ancona

FERRY TRAFFIC PER DESTINATION		2013	2014	2015	2016	2017	2018
	Unloaded	522.932	518.003	489.997	465.686	514.642	532.630
	TOT	**1.064.562**	**1.042.896**	**970.867**	**950.985**	**1.038.553**	**1.084.235**

Table 36: ferry traffic per destination of Port of Ancona in the period 2013-2018 (SOURCE: Central Adriatic Ports Authority)

From the table is evident the key role of Greece, which recorded a positive variation of +11,8% between 2013 (690.317 passengers) and 2018 (771.874 passengers). Traffic flows with Croatia are relevant as well, despite the negative variation of -32,5% from 2013 (327.966 passengers) to 2018 (221.446 passengers). Albania is the third country with an intense traffic flows to the Port of Ancona. Indeed, the passengers increased from 46.222 in 2013 to 90.832 in 2018, with a high variation of +96,5%. Regarding the passengers loaded and unloaded, for each country there are similar levels, meaning intense traffic flows for both arrivals and departures. The trend of Greece, after the initial decrease which didn't affect its leader position in ferry passenger traffic, was quite steady and then slightly positive in the last two years. Croatia recorded a constant negative trend, decreasing significantly the passengers from 2013, but with a small positive trend starting from 2017. Lastly, Albania recorded a relevant positive trend, almost doubling the number of passengers in the period 2013-2018, despite still far from the numbers of Greece and Croatia.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

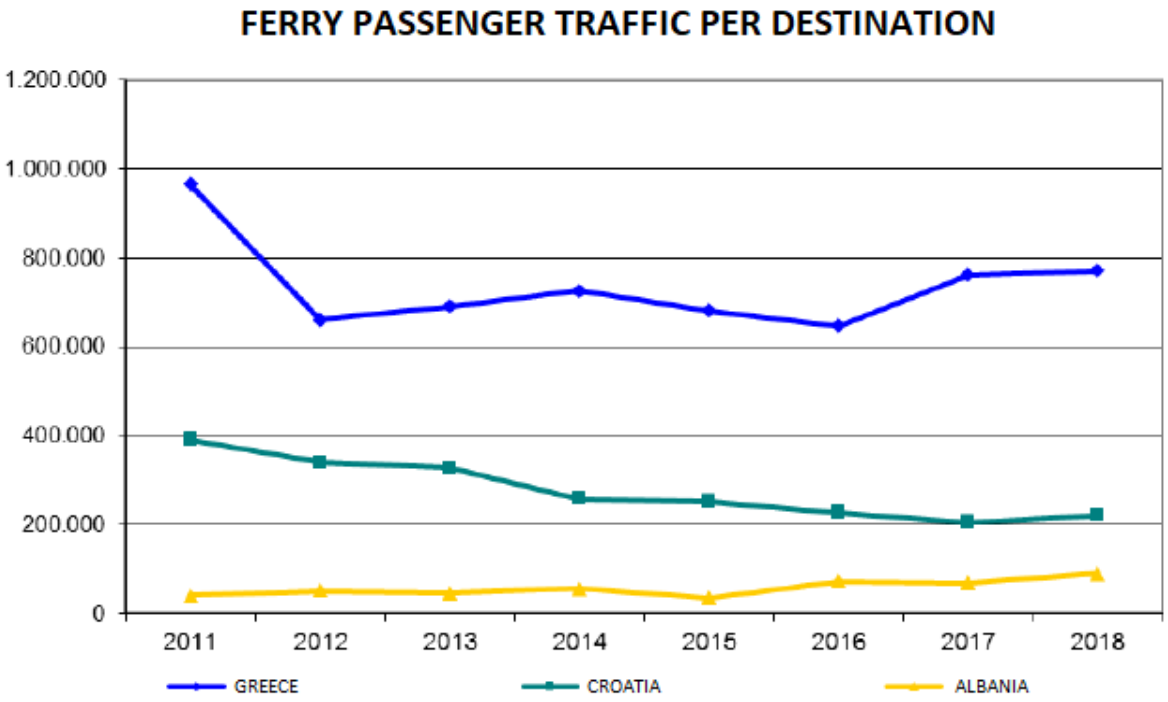

Figure 54: trend of ferry traffic per destination of Port of Ancona in the period 2011-2018 (SOURCE: Central Adriatic Ports Authority)

It is possible to analyze in a specific way the monthly data for the ferry passenger traffic. The tables below gather these data for 2017 and 2018.

PASSENGER TRAFFIC (MONTHLY) 2017	GREECE	CROATIA	ALBANIA	ITALY	TOTAL FERRY
January	22.266	2.564	2.749	11	27.590
February	18.453	1.753	3.569	32	22.102
March	34.687	2.854	2.243	5	39.789
April	54.799	11.838	2.856	0	69.493
May	38.284	12.936	2.449	0	53.669
June	56.771	19.418	3.942	0	80.131
July	148.806	38.912	12.971	0	200.689
August	197.954	77.918	24.011	277	300.160
September	87.430	22.420	6.860	356	117.066

D.4.1.2 Analysis of potential market flows of the Port of Ancona

PASSENGER TRAFFIC (MONTHLY) 2017	GREECE	CROATIA	ALBANIA	ITALY	TOTAL FERRY
October	47.202	9.732	2.884	0	59.818
November	25.212	2.626	3.258	0	31.096
December	29.179	3.080	4.110	0	36.369

Table 37: monthly data of ferry traffic per destination of Port of Ancona in 2017 (SOURCE: Central Adriatic Ports Authority)

PASSENGER TRAFFIC (MONTHLY) 2018	GREECE	CROATIA	ALBANIA	ITALY	TOTAL FERRY
January	22.349	2.521	4.165	0	29.035
February	18.072	1.601	2.385	0	22.058
March	41.133	3.060	3.371	0	47.564
April	52.537	10.236	3.933	0	66.706
May	47.081	12.042	4.398	83	63.604
June	63.485	21.348	6.053	0	90.886
July	148.946	42.538	14.545	0	206.029
August	191.894	85.083	25.968	0	302.945
September	85.002	24.433	11.241	0	120.676
October	48.820	11.590	5.378	0	65.788
November	24.736	3.381	3.832	0	31.949
December	27.819	3.613	5.563	0	36.995

Table 38: monthly data of ferry traffic per destination of Port of Ancona in 2018 (SOURCE: Central Adriatic Ports Authority)

It is evident that all the countries follow the same trend. The peak of the traffic flows is from June to September, while at the beginning (from January to May) and at the end of the year (from October to December) there are less intense traffic flows. The trend assumes a typical bell's shape. Despite the lower intensity, ferry traffic is always consistent even in the months with low intensity of traffic flows.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

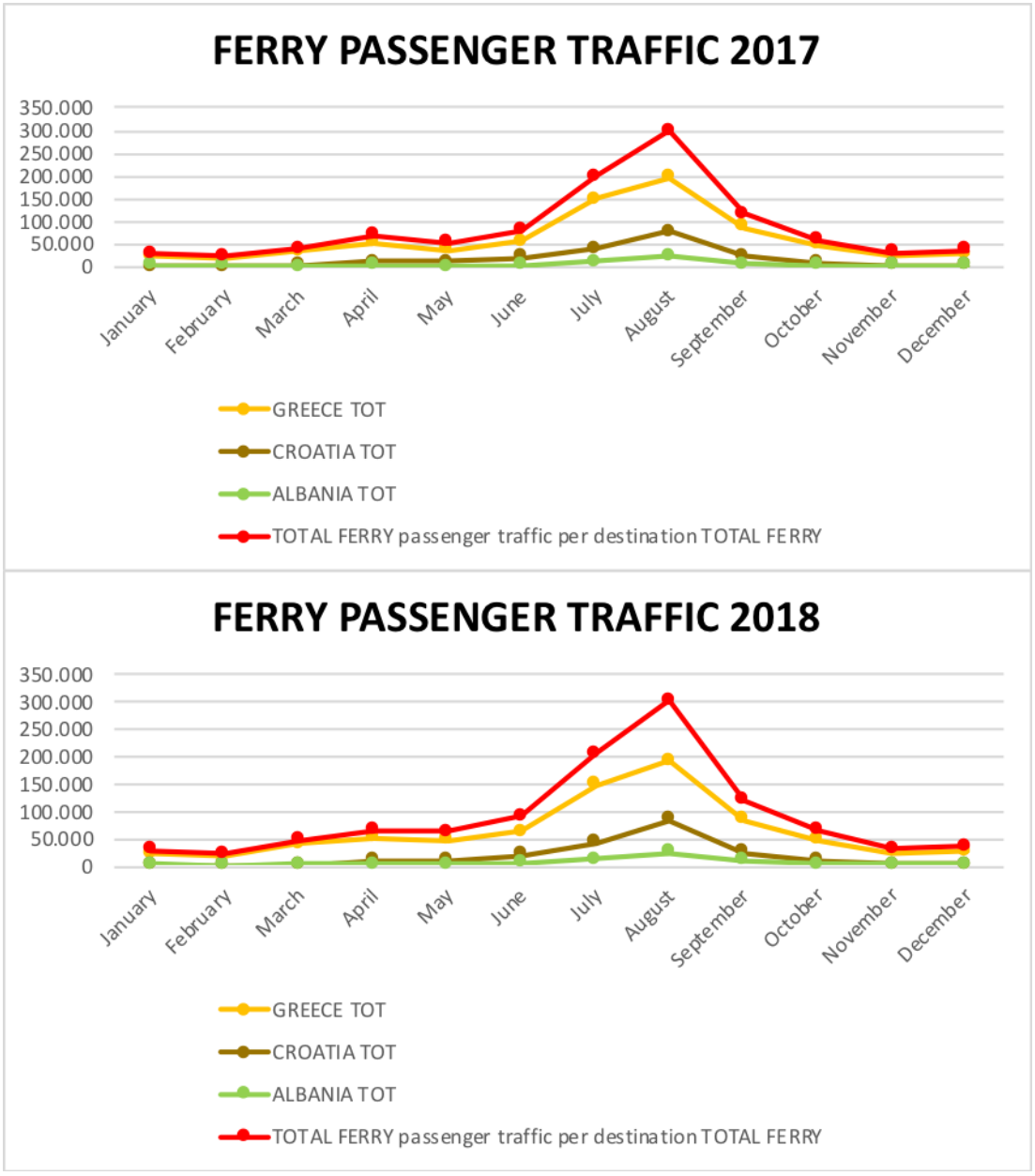

Figure 55: monthly trend of ferry passenger traffic per destination of Port of Ancona in 2017 and 2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

The main features of ferry traffic per destination are summarized in the table below. It is evident how the traffic flows are related to three countries: Greece, Croatia and Albania. Indeed, Greece has a share of 73,3% on total passenger traffic in 2017, while the share is 71,2% in 2018.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

Croatia has a share of 19,8% in 2017 and a share of 20,4% in 2018. Lastly. Albania has a share of 6,8% in 2017 and a share of 8,4% in 2018. Particularly, the destinations for each country are Igoumenitsa-Patras for Greece, Split for Croatia and Durres for Albania.

PASSENGER TRAFFIC PER DESTINATION	2017	2018	var%	%TOT 2017	%TOT 2018
GREECE	761.624	771.874	1,3%	73,3%	71,2%
CROATIA	206.051	221.446	7,5%	19,8%	20,4%
ALBANIA	70.197	90.832	29,4%	6,8%	8,4%
ITALY	681	83	-87,8%	0,1%	0,0%
TOTAL PASSENGER TRAFFIC	1.038.553	1.084.235	4,4%	100,0%	100,0%

Table 39: comparison among the destinations of passenger traffic of the Port of Ancona in 2017 and 2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

In conclusion, the passengers recorded in the port of Ancona in 2018 were 1.151.266, with a positive variation of +6% respect to 2017. Ferry passenger traffic increased as well, with 1.084.235 passengers in 2018 (+14%), which shows a positive variation on the three lines for Split (+7,5%), Durres (+29,4%) and Igoumenitsa-Patras (+1,3%). Despite the slight increase, Greece only at first glance may seem limited. In fact, in 2018 Greece remains the driving force behind the port, accounting for 71,2% of ferry traffic, with 771.874 passengers, staying well above the average of 701.500 passengers in the 2013-2017 period. Croatia recorded in 2018 the 20,4% of ferry traffic with 221.446 passengers, below the average of 254.600 of 2013-2017 period. Albania, instead, in 2018 has the 8,4% of ferry traffic with 90.832 passengers, strongly above the average of 54.600 passengers of 2013-2017 period.

Regarding the cruise traffic, in the port of Ancona in 2018 there were 40 vessels compared to 27 vessels in 2017, with an increase of +29% in the number of cruise passengers, 67.031 compared to 52.086 in 2017. MSC Cruises is the main partner of the port in this sector with 50% of the reached 2018, The company has already confirmed its presence in Ancona for the seasons 2019 and 2020 with an increase of visits compared to those of 2018.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

5.1.2 Container traffic flows of the Port of Ancona

Container traffic has already been discussed in the previous chapter. In order to focus on current traffic flows, the main features for 2017 and 2018 are summarized in the following table.

CONTAINER TRAFFIC	2017	2018	var%	%TOT 2017	%TOT 2018
NUMBER OF CONTAINERS	101.815	97.117	-4,6%	/	/
CONTAINER (TEU)	168.372	159.061	-5,5%	/	/
CONTAINER FREIGHT TRAFFIC	1.106.423	1.135.549	2,6%	12,8%	13,5%
Ro-Ro FREIGHT TRAFFIC	4.706.345	4.770.465	1,4%	54,2%	56,5%
TOTAL FREIGHT TRAFFIC	8.676.118	8.440.198	-2,7%	100,0%	100,0%

Table 40: comparison among the main features of container traffic of the Port of Ancona in 2017 and 2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

Container traffic of the Port of Ancona has both positive and genitive features. The number of containers transshipped decreased from 101.815 in 2017 to 97.117 in 2018 with a negative variation of -4,6%. Container freight traffic had a positive variation of +2,6% from 1.106.423 tonnes in 2017 to 1.135.549 tonnes in 2018. Exports reached the amount of 650.000 tonnes of goods shipped, mainly products from the Marche region and central Italy (Abruzzo, Umbria, Romagna) while imports had a positive variation of +9% in 2018, with 507.409 tonnes of goods unloaded. The container in TEU decreased in 2018 at 159.061 TEU corresponding to -5,5% over 2017 (168.372 TEU). The reason is the rationalization of the logistics chain, which aims to minimize the movement of empty containers (-13%). From the table is evident the marginal weight of container freight traffic for the Port of Ancona. Indeed, it has a share of 12,8% on total freight traffic in 2017, while in 2018 the share was 13,5%. The most relevant market is Ro-Ro

freight traffic[2], which had a share of 54,2% on total freight traffic in 2017 and a share of 56,2% in 2018. The reason of this relevance for Ro-Ro freight traffic is due to the convenience of this type of transportation, which allow to bring passengers as well. Moreover, the Port of Ancona is a strategic port for this type of freight traffic thanks to the link with the "*Autostrade del Mare*", the main highway in Ancona area directly connected with TEN-T network, specifically in the Scandinavian-Mediterranean (ScanMed) Corridor.

In the following table vessel traffic of containers is compared with total vessel traffic. Despite a slight decrease in the number of container vessel of -1,7%, the total share of container vessel traffic on total vessel traffic was 21,1% in 2017 and 21,3% in 2018.

VESSEL TRAFFIC	2017	2018	var%	%TOT 2017	%TOT 2018
CONTAINER VESSEL TRAFFIC	862	847	-1,7%	21,1%	21,3%
TOTAL VESSEL TRAFFIC	4.089	3.977	-2,7%	100,0%	100,0%

Table 41: comparison between container vessel traffic and total vessel traffic of the Port of Ancona in 2017 and 2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

In order to figure out the proportion of container traffic in the Port of Ancona, it could be useful a comparison between the Port of Ancona and the other Italian ports.

Container traffic in Italy is concentrated in the northern part, with intense traffic flows in the Tyrrhenian sea respect to Adriatic Sea. The following figure shows the proportion of container traffic in 2014. All the Adriatic ports represent the 16,8% of total container traffic, from which central and south Adriatic ports has the 5,1% (Ravenna, Ancona, Bari and Brindisi). It is evident the disproportion between the ports in the northern of Italy (79,2% of total container traffic) and the ports in the south of Italy (19,8% of total container traffic). To mention the fact that the

[2] Data include the tare of heavy vehicles (ESPO methodology)

67,5% of total container traffic is concentred in the North Tyrrhenian ports (Genova, Savona, La Spezia and Livorno), outlining the different weight of Adriatic and Tyrrhenian ports as well as the difference among ports of North and South of Italy.

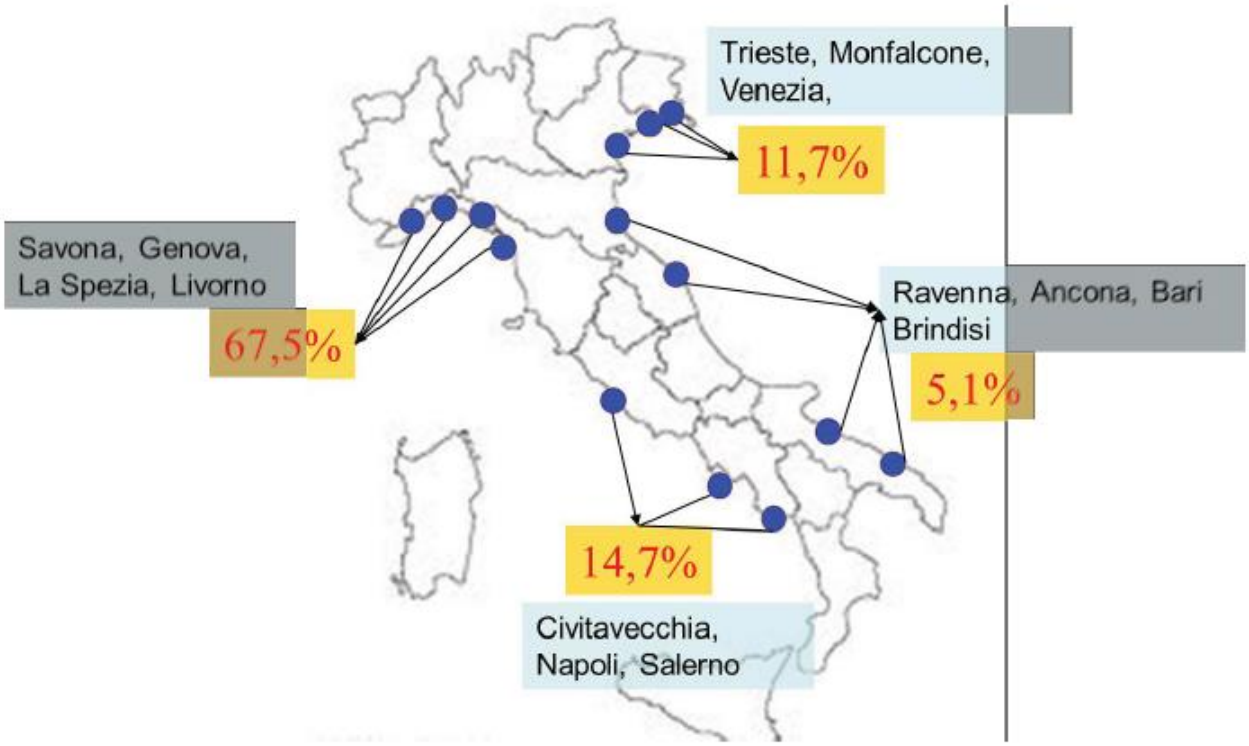

Figure 56: proportion of container traffic in Italy in 2014 (SOURCE: IFSORT elaboration on Assoporti and ISTAT Data)

A comparison of Italian ports in 2017 is shown in the following figure. Precisely, the ports are listed according to the TEU percentage. The most important ports for container traffic are Genova, Gioia Tauro and La Spezia. The Port of Ancona is the eleventh Italian port, with a percentage of 1,58% on total container traffic.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

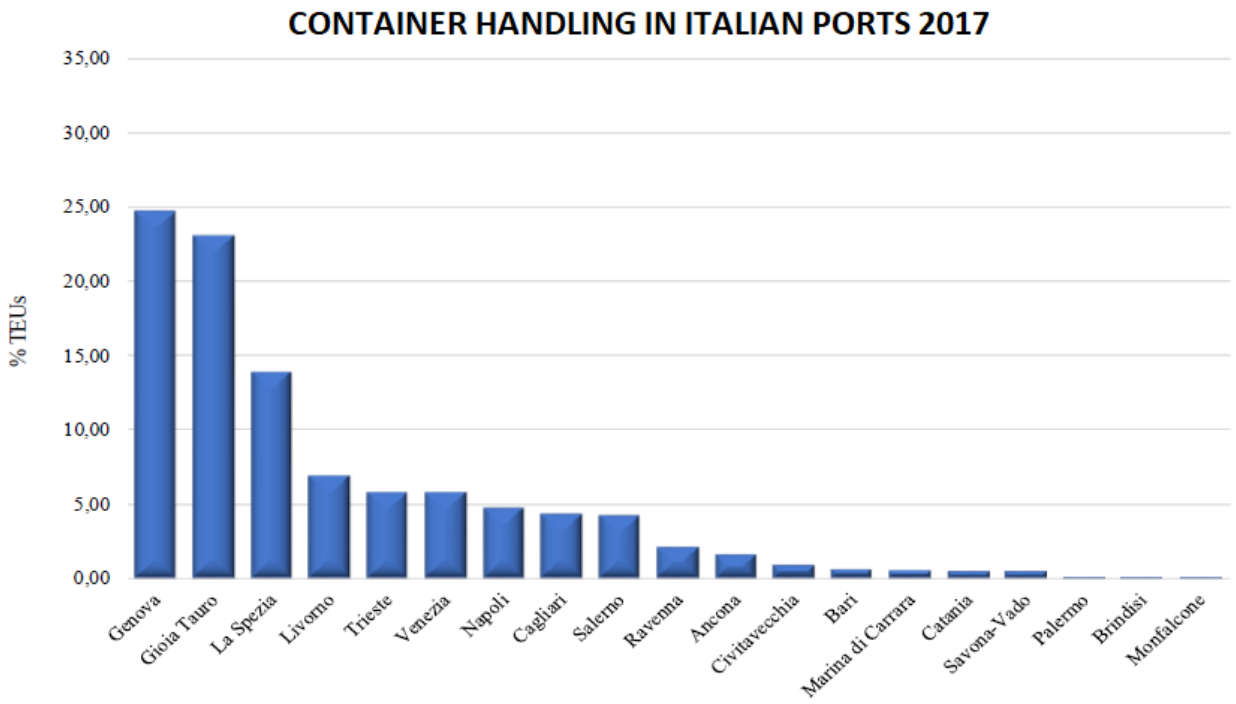

Figure 57: proportion of container handling in Italian ports in 2017 (SOURCE: Roma Tre University-Engineering Department)

The main reason for this low share is related to the big imbalance between empty and full containers, which implies wider spaces and higher time needed for port operations. Indeed, interventions for port infrastructures in order to improve the Ancona port offer are planned. These interventions (e.g. dredging of the seabed, extension of Marche quay), aim to increase container traffic particularly allowing the transit and the anchorage of biggest vessels.

Although the low share in the market, during the last ten years there has been a strong growth that, together with the interventions planned, is a positive index regarding the future importance of container traffic for the Port of Ancona. Moreover, in the last ten years the Adriatic ports recorded a higher growth respect to Tyrrhenian ports, even if west Adriatic ports, like Rijeka, recorded a higher growth than East Adriatic ports like Ancona and Venezia.

Container traffic flows of the Port of Ancona are directed mainly to the import-export of local enterprises as well as in the area borders of Marche Region. The main traffic routes are related with Italian container traffic, particularly with other Adriatic ports (Ravenna, Venezia and

Trieste). Moreover, big hubs like Verona and Napoli are relevant destination. About international traffic flows, the most important relationships are with China, Egypt and Arab Emirates.

In order to points out the lower traffic flows of container traffic in the Adriatic Sea respect to other international routes, a map of container vessel traffic flows in Europe in 2017 is shown in the figure below. It is evident that, respect to Tyrrhenian sea, container traffic market is lower in the Adriatic Sea.

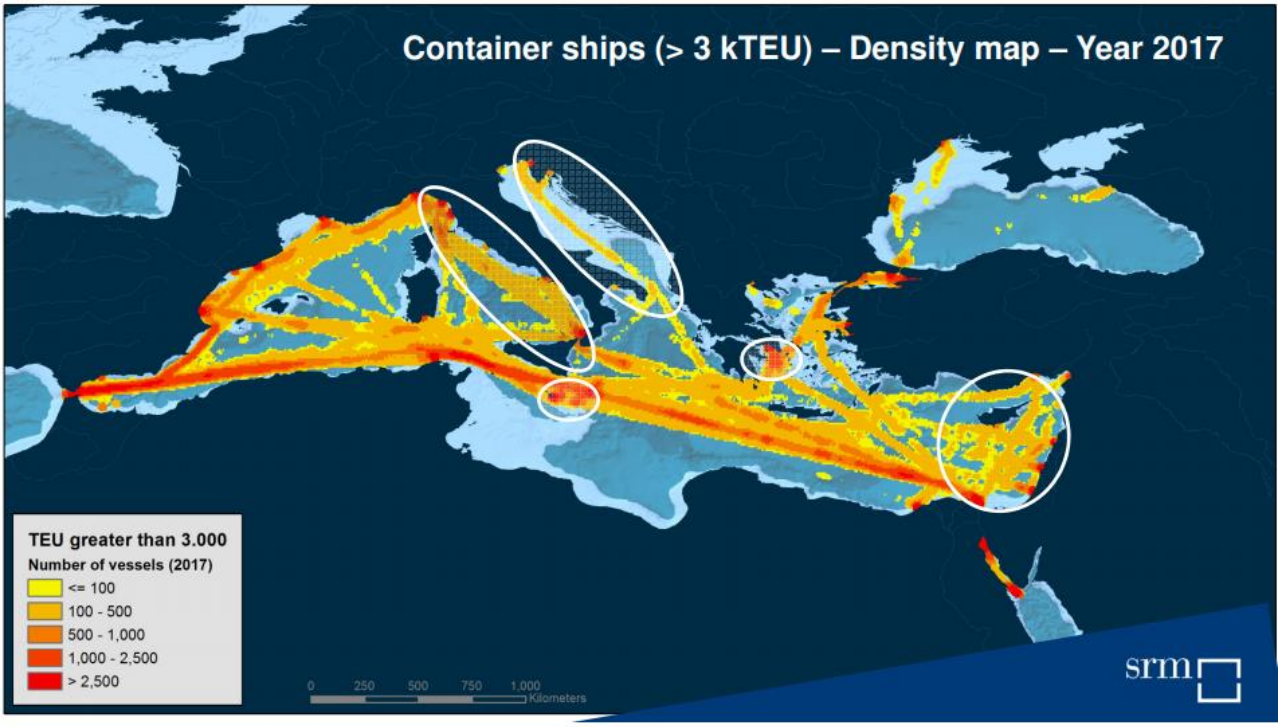

Figure 58: container vessel traffic flows in Europe in 2017 (SOURCE: SRM)

Since the importance of Ro-Ro freight traffic in the Port of Ancona framework, a specific analysis about truck and trailer per destination is presented.

Truck and trailer freight traffic in 2018 is related to the traffic flows with Greece by 78% (1.869.496 tonnes), while Croatia has a 4% on total amount (83.957 tonnes). A relevant increase during the years regards traffic flows with Albania, which achieved in 2018 the 16% of total amount of freight traffic (436.330 tonnes).

D.4.1.2 Analysis of potential market flows of the Port of Ancona

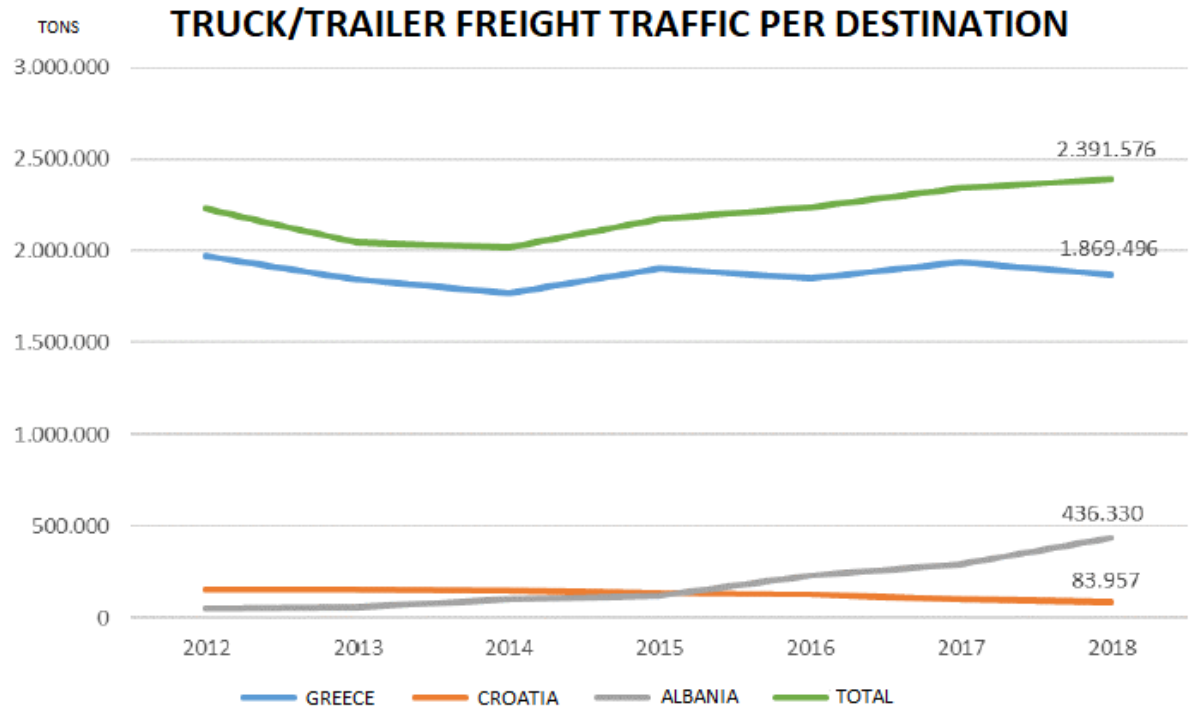

Figure 59: trend of truck/trailer freight traffic per destination in the Port of Ancona in the period 2012-2018 (SOURCE: Central Adriatic Ports Authority)

Splitting the truck traffic from trailer traffic, the data about traffic for destination can be analyzed. The tables below show this type of data respectively for truck and trailer.

TRUCK TRAFFIC PER DESTINATION		2013	2014	2015	2016	2017	2018
GREECE	Loaded	52.928	51.162	54.198	48.669	53.455	51.132
	Unloaded	51.064	49.964	56.060	52.349	57.375	54.797
	TOT	103.992	101.126	110.258	101.018	110.830	105.929
CROATIA	Loaded	7.209	5.942	4.362	4.656	3.788	3.381
	Unloaded	6.632	5.374	4.856	5.290	3.899	3.353
	TOT	13.841	11.316	9.218	9.946	7.687	6.734
ALBANIA	Loaded	1.496	3.010	4.093	7.928	7.798	11.448
	Unloaded	1.684	2.645	3.191	6.205	6.831	8.931
	TOT	3.180	5.655	7.284	14.133	14.629	20.379

D.4.1.2 Analysis of potential market flows of the Port of Ancona

TRUCK TRAFFIC PER DESTINATION		2013	2014	2015	2016	2017	2018
ITALY	Loaded	28	40	32	66	71	0
	Unloaded	2	22	4	150	49	0
	TOT	30	62	36	216	120	0
TURKEY	Loaded	0	0	0	57	0	0
	Unloaded	0	683	1.127	1.888	801	88
	TOT	0	683	1.127	1.945	801	88
TOTAL	Loaded	61.661	60.154	62.685	61.376	65.112	65.961
	Unloaded	59.382	58.688	65.238	65.882	68.955	67.169
	TOT	**121.043**	**118.842**	**127.923**	**127.258**	**134.067**	**133.130**

Table 42: truck traffic per destination of Port of Ancona in the period 2013-2018 (SOURCE: Central Adriatic Ports Authority)

TRAILER TRAFFIC PER DESTINATION		2013	2014	2015	2016	2017	2018
GREECE	Loaded	5.201	3.603	4.146	7.157	6.909	6.669
	Unloaded	5.259	3.494	3.823	6.056	5.719	5.989
	TOT	10.460	7.097	7.969	13.213	12.628	12.658
CROATIA	Loaded	/	/	7	2	0	0
	Unloaded	/	/	11	2	0	0
	TOT	/	/	18	4	0	0
ALBANIA	Loaded	386	340	340	622	885	874
	Unloaded	372	326	316	583	1.054	988
	TOT	758	666	656	1.205	1.939	1.862
ITALY	Loaded	2	4	12	19	12	0
	Unloaded	0	1	0	13	3	0
	TOT	2	5	12	32	15	0
TURKEY	Loaded	/	/	0	0	0	0
	Unloaded	/	/	3	49	11	0
	TOT	/	/	3	49	11	0
TOTAL	Loaded	5.589	3.947	4.505	7.800	7.806	7.543
	Unloaded	5.631	3.821	4.153	6.703	6.787	6.977
	TOT	**11.220**	**7.768**	**8.658**	**14.503**	**14.593**	**14.520**

Table 43: trailer traffic per destination of Port of Ancona in the period 2013-2018 (SOURCE: Central Adriatic Ports Authority)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

The two tables show that truck traffic is higher than trailer traffic. The countries with an intense traffic flows are Greece, Croatia and Albania. Indeed, in 2018 traffic flows with Greece recorded 118.587 transits (80% with a variation of -4% respect to 2017)), while Croatia recorded 6.734 transits (5% with a variation of -12% respect to 2017). A relevant variation regards traffic flows with Albania, which have increased of +34% between 2017 and 2018 achieving the 15% of the total with 22.241 transits. Traffic flows towards Greece have remained quite stable, while traffic flows towards Croatia and Albania are respectively slightly decrease and increase during the period 2013-2018.

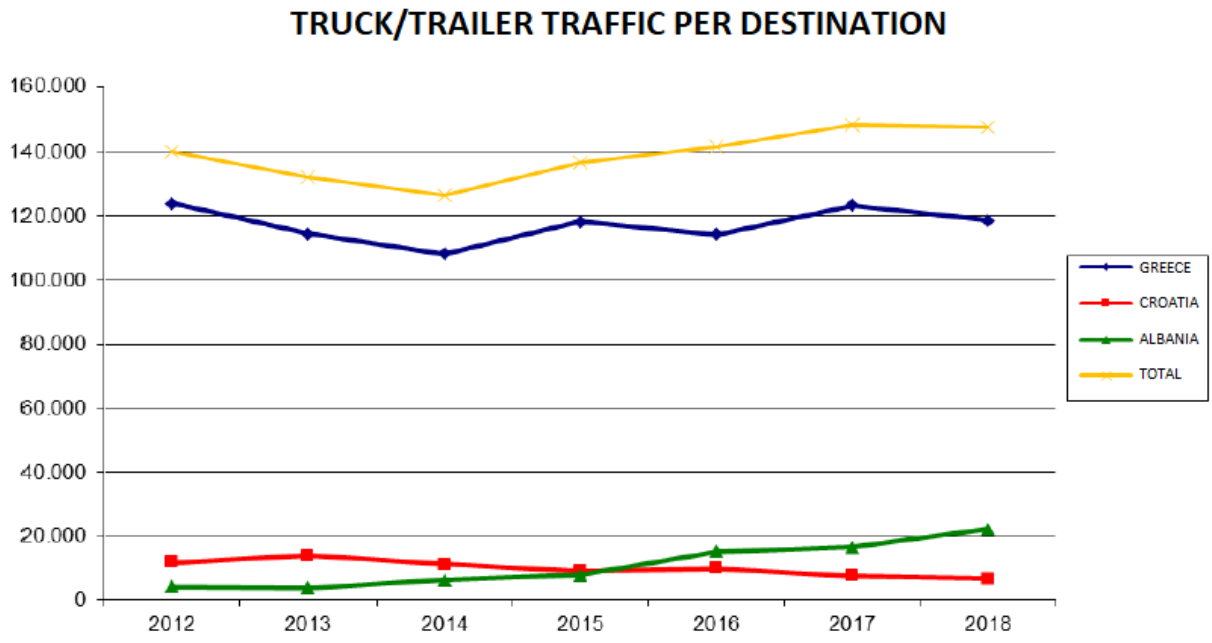

Figure 60: trend of truck/trailer traffic per destination in the Port of Ancona in the period 2012-2018 (SOURCE: Central Adriatic Ports Authority)

The following tables show the monthly data for Truck and Trailer Traffic per destination in 2017 and 2018.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

TRUCK TRAFFIC PER DESTINATION (monthly) 2017	GREECE	CROATIA	ALBANIA	ITALY	TURKEY	TOTAL
January	8.719	351	802	0	239	10.111
February	8.401	418	1.040	0	212	10.071
March	9.451	476	1.209	0	179	11.315
April	8.767	615	1.117	0	171	10.670
May	9.522	815	1.155	0	0	11.492
June	9.654	844	1.220	0	0	11.718
July	10.079	1.162	1.622	0	0	12.863
August	7.981	946	1.111	49	0	10.087
September	9.123	739	1.183	71	0	11.116
October	9.897	592	1.319	0	0	11.808
November	9.301	392	1.585	0	0	11.278
December	9.759	337	1.266	0	0	11.362

Table 44: monthly data of truck traffic per destination of Port of Ancona in 2017 (SOURCE: Central Adriatic Ports Authority)

TRUCK TRAFFIC PER DESTINATION (monthly) 2018	GREECE	CROATIA	ALBANIA	ITALY	TURKEY	TOTAL
January	8.426	340	1.284	0	0	10.050
February	8.179	349	1.309	0	0	9.837
March	9.591	459	1.675	0	0	11.725
April	8.551	562	1.635	0	0	10.748
May	9.322	703	1.726	0	0	11.751
June	10.335	1.009	1.787	0	0	13.131
July	9.474	814	2.066	0	0	12.354
August	7.255	880	1.621	0	0	9.756
September	8.448	553	2.154	0	0	11.155
October	9.137	442	1.830	0	88	11.497
November	8.657	344	1.798	0	0	10.799
December	8.554	279	1.494	0	0	10.327

Table 45: monthly data of truck traffic per destination of Port of Ancona in 2018 (SOURCE: Central Adriatic Ports Authority)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

TRAILER TRAFFIC PER DESTINATION (monthly) 2017	GREECE	CROATIA	ALBANIA	ITALY	TURKEY	TOTAL
January	854	0	83	0	0	937
February	974	0	104	0	0	1.078
March	1.078	0	147	0	0	1.225
April	832	0	180	0	11	1.023
May	1.130	0	172	1	0	1.303
June	1.303	0	191	0	0	1.494
July	1.129	0	215	0	0	1.344
August	933	0	140	2	0	1.075
September	1.001	0	131	12	0	1.144
October	1.056	0	165	0	0	1.221
November	976	0	221	0	0	1.197
December	1.333	0	190	0	0	1.523

Table 46: monthly data of trailer traffic per destination of Port of Ancona in 2017 (SOURCE: Central Adriatic Ports Authority)

TRAILER TRAFFIC PER DESTINATION (monthly) 2018	GREECE	CROATIA	ALBANIA	ITALY	TURKEY	TOTAL
January	1.355	0	167	0	0	1.522
February	1.159	0	184	0	0	1.343
March	1.084	0	210	0	0	1.294
April	869	0	168	0	0	1.037
May	1.031	0	191	0	0	1.222
June	1.165	0	217	0	0	1.382
July	994	0	209	0	0	1.203
August	856	0	107	0	0	963
September	1.132	0	159	0	0	1.291
October	1.060	0	86	0	0	1.146
November	1.015	0	82	0	0	1.097
December	938	0	82	0	0	1.020

Table 47: monthly data of trailer traffic per destination of Port of Ancona in 2018 (SOURCE: Central Adriatic Ports Authority)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

Truck traffic flows are intense during all the year. The figure below shows the stability during the two years, with a peak during the summer period, June and July, and a slight decrease in August. Comparing 2017 with 2018, there is a similar trend, with June and July stable as months with higher traffic flows. However, July is the peak of 2017, while for 2018 is June because of the negative trend from June to July.

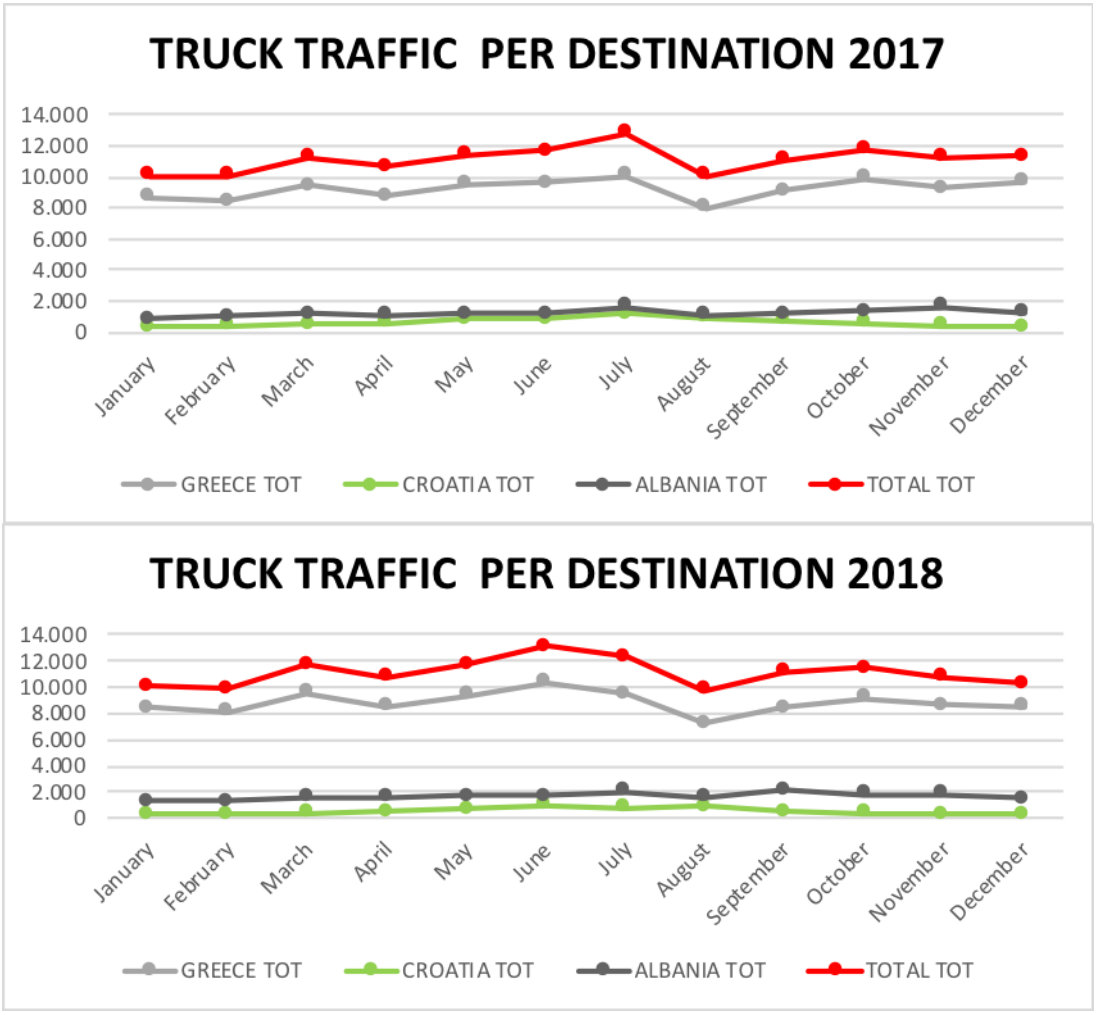

Figure 61: monthly trend of truck traffic per destination of Port of Ancona in 2017 and 2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

Trailer traffic is led by traffic flows with Greece and in a minor proportion by traffic flows with Albania. There has been a non-regular trend, which in 2017 has been positive and in 2018 has

been negative. It is pointed out the null amounts of trailers in Croatia, which has relevant traffic flows only for truck traffic. In 2017, starting from the lower level in January, the trend was positive until June, the peak of the year, with a small decrease in April. Subsequently, the trend was negative until august and then stable until a new positive variation in December. This positive variation allowed to start 2018 with a high amount of transits in January. Then, the trend has been negative until the end of the year, with a positive parenthesis in June, July and September.

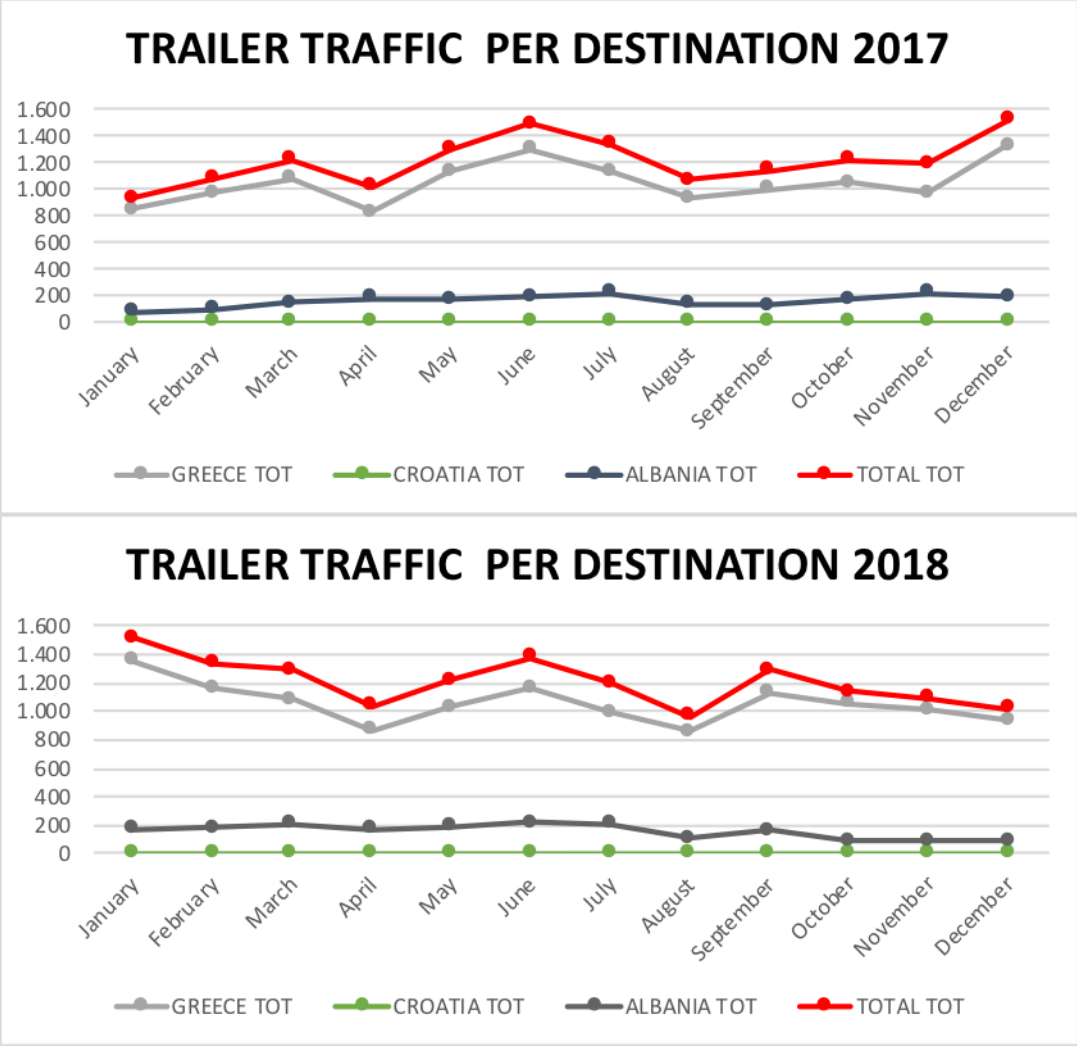

Figure 62: monthly trend of trailer traffic per destination of Port of Ancona in 2017 and 2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

To summarize, the Port of Ancona handled 2.391.576 tonnes of goods in 2018 (+2% respect to 2017). The number of trucks and trailers was 147.650 in 2018, about one thousand less than 2017 (-0.7%). 78% of this traffic is direct or coming from Greece (1.869.496 tonnes, 118.587 trucks and semi-trailers), from the ports of Igoumenitsa and Patras. About traffic direct and coming to Albania, particularly to Durres, there was an increased by 49% from 2017 to 2018 (436.330 tonnes in 2018, 22.241 trucks and trailers), thanks to a new ferry with a greater hold capacity, with a total share of 18% of total traffic in the Port of Ancona. Finally, about traffic direct and coming to Croatia, the lines with the port of Split in 2018 recorded 83.957 tonnes, a decrease of -16% which corresponds to the decline in transit of commercial vehicles to 6.734 (-12%). This decrease has been caused by infrastructural improvements in the Balkan peninsula, particularly the completion of highway network which allowed the interconnection with the East Europe countries and North Europe.

5.2 Current traffic flows between Port of Ancona and Croatian ports

In this paragraph are discussed and analysed the specific traffic flows between Port of Ancona and Croatian ports, with a focus on ferry traffic and container traffic.

5.2.1 Ferry traffic flows between Port of Ancona and Croatian ports

In order to focus on ferry traffic between the Port of Ancona and Croatian ports, all ferry routes and the respective ferry company which currently operate in the Port of Ancona are presented in the table below.

FERRY COMPANY / DESTINATION	GREECE	CROATIA	ALBANIA	ITALY
SUPERFAST FERRIES	Igoumenitsa, Patras			
MINOAN LINES	Corfù, Igoumenitsa, Patras			Venezia
ADRIA FERRIES			Durres	
ANEK LINES	Corfù, Igoumenitsa, Patras			
SNAV		Split		
JADROLINIJA		Split, Zara		

Table 48: list of ferry companies and main routes of Port of Ancona (SOURCE: Central Adriatic Ports Authority)

In order to figure out the framework of the routes from Port of Ancona to Croatia, the distance between ports and time travel are reported in the following table.

ANCONA – CROATIAN PORTS	DISTANCE IN NAUTICAL MILES	TIME (15 KNOTS SPEED)
ANCONA - SPLIT	139 NM	9 HOURS
ANCONA - ZADAR	84 NM	6 HOURS

Table 49: distance and time travel of the Ancona – Croatia routes (SOURCE: SEA-DISTANCES.ORG)

Ferry companies in the Port of Ancona – Croatia routes are SNAV and JADROLINIJA. Another ferry company to mention, which was operative until 2016 for the route Ancona – Split, is BLUE LINE. In the following table the characteristics of the vessels of each company are gathered. The biggest vessel is SNAV "Aurelia", in the route Ancona – Split, while the smallest vessel is JADROLINIJA "Zadar".

VESSEL NAME	COMPANY	ROUTE	MAXIMUM NUMBER OF PASSENGERS / VEHICLES	GROSS TONNAGE	DEADWEIGHT	MAXIMUM AVERAGE SPEED (knots)
Marco Polo	Jadrolinija	Ancona - Split	1,100 pax. / 270 private vehicles	10,154	1,132 t	14 / 12.8 kn
Dubrovnik	Jadrolinija	Ancona - Split	1,300 pax. / 300 private vehicles	9,795	1,310 t	17.1 / 10.5 kn
Zadar	Jadrolinija	Ancona - Zadar	1,053 pax. / 280 private vehicles	9,487	2,152 t	17.4 / 16 kn
SNAV Aurelia	SNAV	Ancona - Split	2,280 pax. / 645 private vehicles	21,518	3,250 t	8.3 / 7.2 kn
Regina della Pace	Blue Line	Ancona - Split	1,700 pax. / 554 private vehicles	16,405	3,100 t	15.4 / 13.7 kn

D.4.1.2 Analysis of potential market flows of the Port of Ancona

Table 50: characteristics of ferry company vessels operating in the Port of Ancona (SOURCE: Marine Traffic)

Therefore, it is possible to analyse the data in the period 2016-2018 according to the destination. In the following tables the data from 2016 to 2018 regarding the ferry destinations are gathered.

SPLIT	2016			2017			2018		
	Loaded	Unloaded	TOT	Loaded	Unloaded	TOT	Loaded	Unloaded	TOT
Passengers	95.535	97.699	193.234	83.524	86.242	169.766	88.438	94.956	183.394
new vehicles	94	15	109	10	0	10	34	0	34
bus	638	662	1.300	576	569	1.145	544	593	1.137
Truck/trailer	4.059	4.880	8.939	3.413	3.699	7.112	3.082	3.224	6.306
Private vehicles	15.467	15.059	30.526	14.954	15.212	30.166	17.681	18.689	36.370

Table 51: ferry traffic of Ancona – Split route in the period 2016-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

ZADAR	2016			2017			2018		
	Loaded	Unloaded	TOT	Loaded	Unloaded	TOT	Loaded	Unloaded	TOT
Passengers	16.955	18.376	35.331	18.158	18.127	36.285	18.489	19.563	38.052
new vehicles	39	0	39	0	0	0	0	0	0
bus	27	30	57	17	24	41	8	14	22
Truck/trailer	597	410	1.007	375	200	575	299	129	428
Private vehicles	2.671	2.876	5.547	3.298	3.918	7.216	3.628	4.463	8.091

Table 52: ferry traffic of Ancona – Zadar route in the period 2016-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

Looking these data, it is evident the most relevant traffic flows regard passengers, truck/trailer and private vehicles.

The route Ancona – Split recorded a negative trend between 2016 and 2018. The reason is the exit from the market by “BLUE LINE” ferry company, which caused a decrease in the totals from 2016 to 2017. However, from 2017 to 2018, the general trend was positive. Particularly, the

number of passengers decreased from 189.763 in 2016 to 162.840 in 2017 (-14,2%), then there was an increase to 177.080 passengers in 2018 (+8,7%). The number of trucks and trailers decrease from 8.788 in 2016 to 6.075 passengers in 2017 (-30,9%), followed by another decrease in 2018 (5.632 vehicles, -7,3%). The number of private vehicles slightly decrease from 30.205 in 2016 to 28.863 in 2017 (-4,4%), with a positive variation of +21,8% in 2018 (36.166 vehicles).

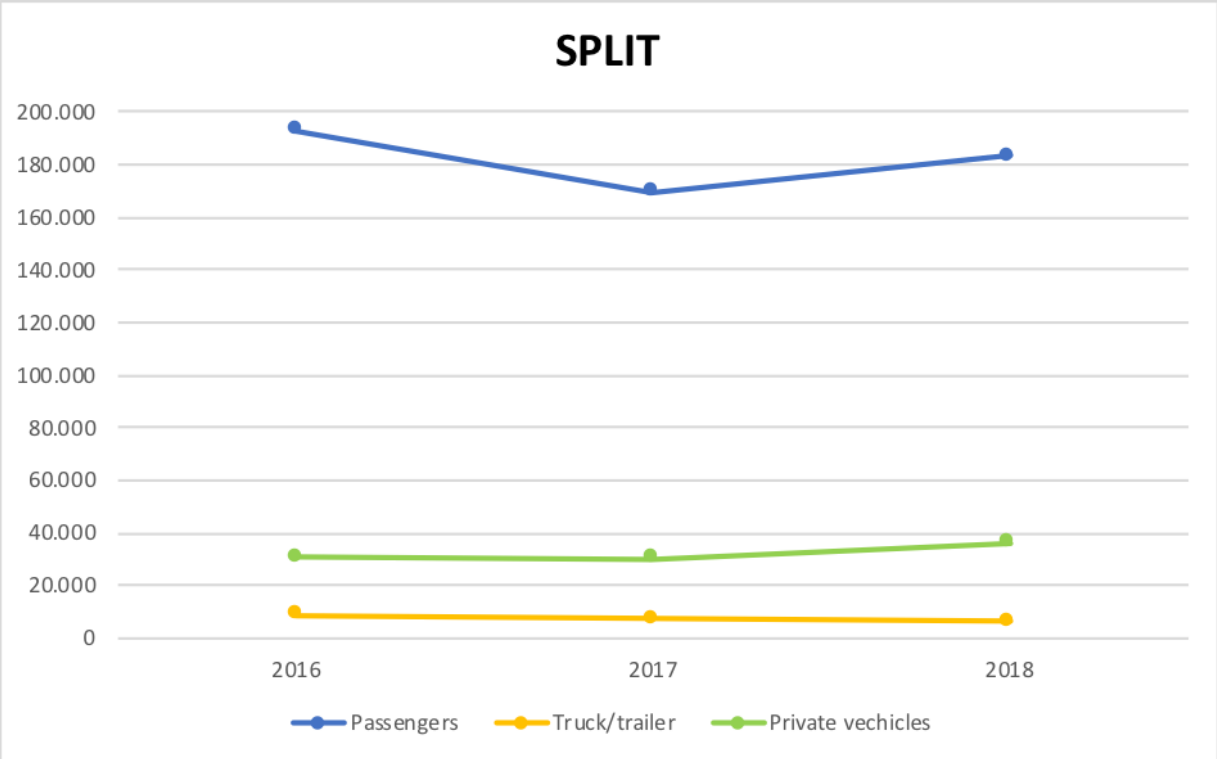

Figure 63: trend of ferry traffic of Ancona – Split route in the period 2016-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

The route Ancona – Zadar, recorded a positive trend, except for trucks and trailers. Particularly, the number of passengers increased from 35.331 in 2016 to 38.052 in 2018 (+7,7%). The number of trucks and trailers strongly decrease from 1.007 in 2016 to 428 in 2018 (-57,5%), while the number of private vehicles constantly increased from 5.547 in 2016 to 8.091 in 2018 (+45,9%).

D.4.1.2 Analysis of potential market flows of the Port of Ancona

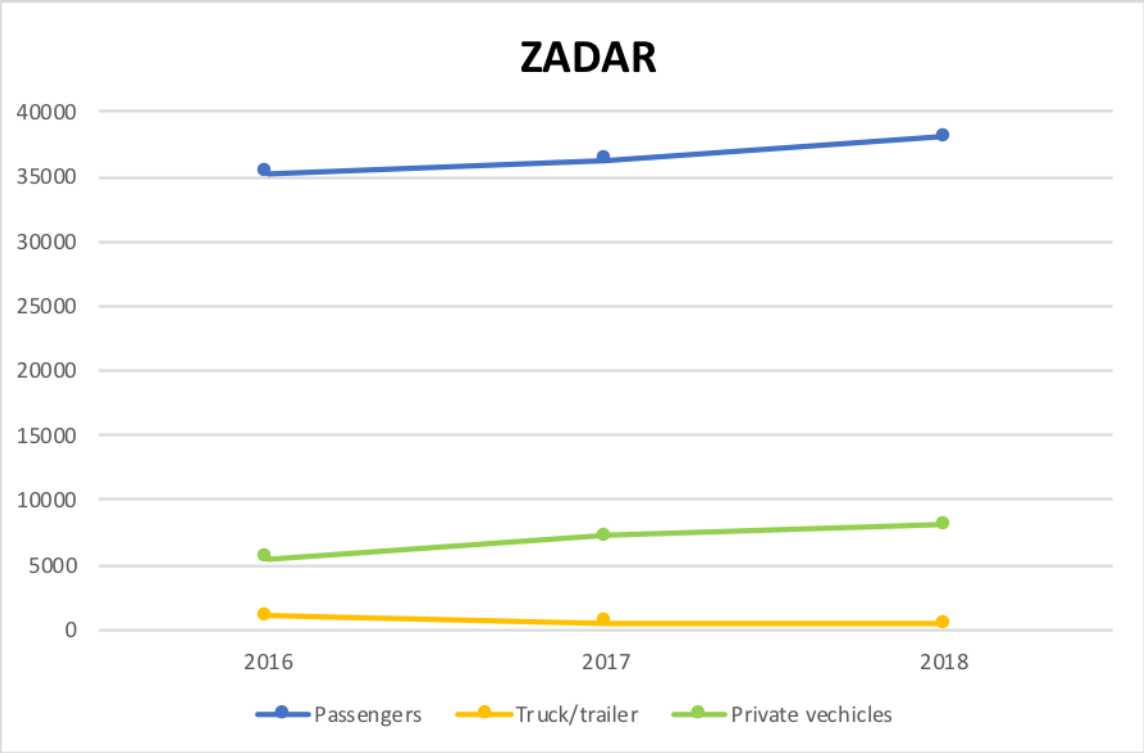

Figure 64: trend of ferry traffic of Ancona – Zadar route in the period 2016-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

From the analysis just presented, it is possible to conclude that the most relevant market is the ferry passenger traffic since the number of passengers is always strongly higher than the number of truck/trailer and private vehicles. Comparing ferry passengers per destination, it can be concluded that the route Ancona – Split has the most intense traffic flows in the Port of Ancona – Croatia framework.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

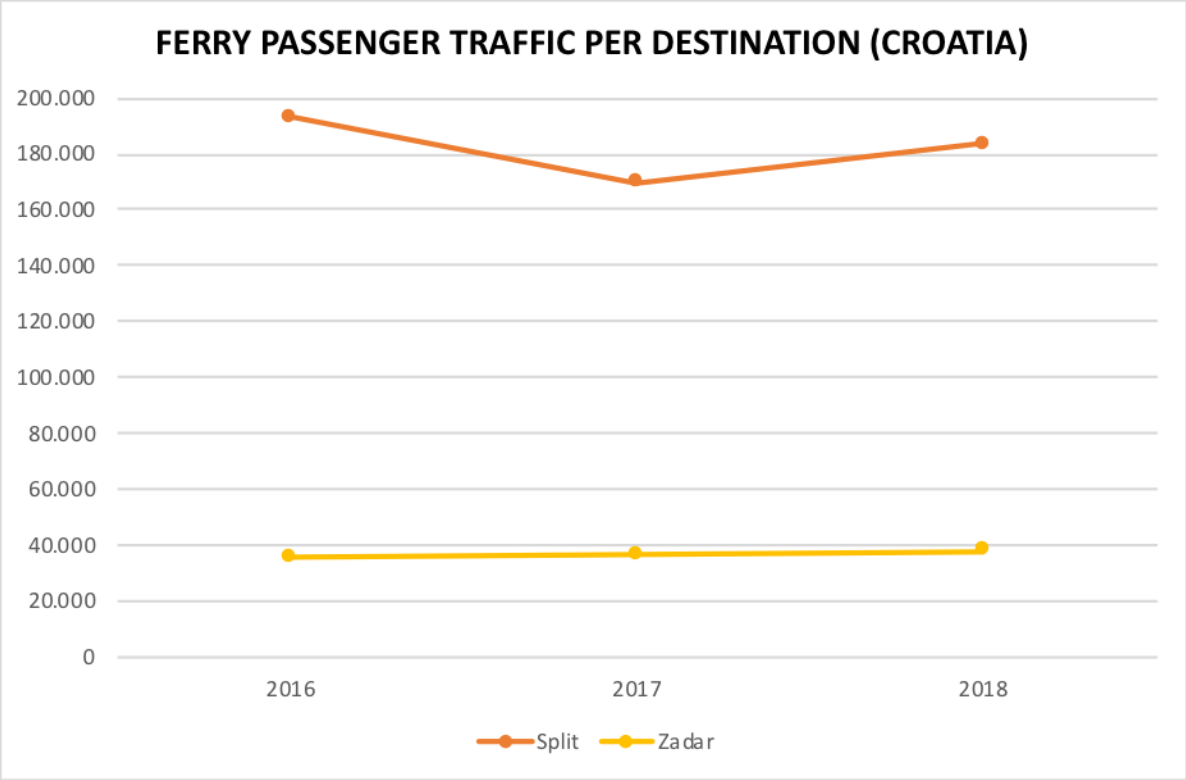

Figure 65: trend of ferry passenger traffic per Croatian destinations in the period 2016-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

5.2.2 Container traffic flows between Port of Ancona and Croatian ports

It has already been pointed out that container traffic flows from and to the Port of Ancona are not intense, especially with Croatian ports. Currently, the only mentionable relationship between Ancona and Croatian ports is with Port of Split, since container traffic flows are still modest respect to the rest of the Mediterranean Sea. Indeed, the most relevant relations in the Adriatic Sea are with the northern Italian ports, especially Trieste, from which the container traffic starts in order to head mainly towards the hubs of Gioia Tauro (tyrrhenian sea), of Pireus (Greece), Port Said or Damietta (Egypt) and Malta. Therefore, currently the Port of Ancona is one of the stops along the routes, not a hub specialized in containers like the ones above mentioned. In the following figure the main routes of container traffic flows in the Adriatic Sea are shown.

Figure 66: main routes of container traffic flows in the Adriatic Sea passing through the Port of Ancona (SOURCE: Central Adriatic Ports Authority)

In order to give an overview of freight traffic flows between the Port of Ancona and Croatian ports, the correspondent main data are reported in the table below.

Freight traffic Port of Ancona-Croatia (tonnes)	2013	2014	2015	2016	2017	2018
Agriculture, hunting and fishing	7.648	2.360	2.003	/	/	/
foodstuff, drinks and tobacco	1.700	/	/	/	/	/
Chemicals, synthetic and artificial fibers	/	/	/	/	/	50
machines and mechanical equipment	/	/	/	/	515	/
Other non-classified freight	/	/	/	/	1.564	800
Non-ferrous metals and related products	/	/	/	/	/	9.445
Ores, other mining and quarrying products	/	/	/	/	104.776	/
iron, cast iron and steel	/	/	92	/	/	/
Metal Constructions	/	/	/	/	/	137

D.4.1.2 Analysis of potential market flows of the Port of Ancona

Freight traffic Port of Ancona-Croatia (tonnes)	2013	2014	2015	2016	2017	2018
means of transport	1	/	/	/	/	/
Truck/trailer freight	153.076	148.686	131.964	124.473	99.881	83.957
container freight	18.567	40.055	66.660	55.204	20.055	49.158

Table 53: main features of freight traffic flows of Ancona – Croatia routes in the period 2013-2018 (SOURCE: Central Adriatic Ports Authority)

It is evident the general low level of traffic flows, except for the modest level of truck/trailer freight traffic and container freight traffic which, as said before, can be mainly related to the Ancona – Split route. However, while truck/trailer freight had a general negative trend, container freight traffic had an initial strongly increase from 2013 (18.567 tonnes) to 2015 (66.660 tonnes) by +259%, followed by a big decrease from 2015 to 2017 (20.055 tonnes) with a negative variation of -79,9% and then another strong positive variation of +145% from 2017 to 2018 (49.158 tonnes). The following figure summarize the trends of the two main features of Ancona – Croatia freight traffic.

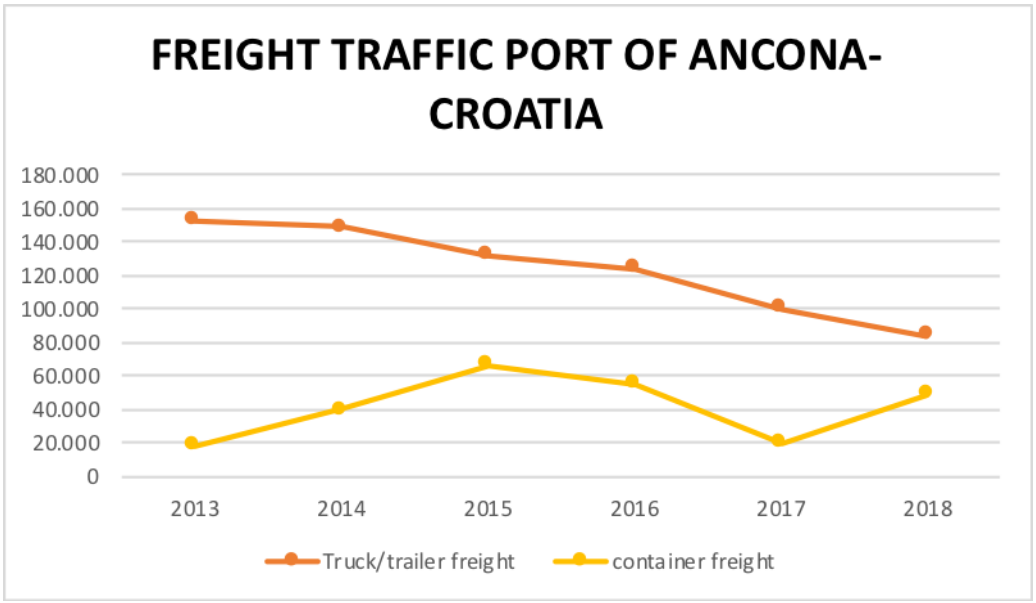

Figure 67: trend of main freight traffic flows of Ancona – Croatia routes in the period 2013-2018 (SOURCE: elaboration on Central Adriatic Ports Authority data)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

The low level of container traffic flows in the Ancona – Croatia routes is one of the reasons of poor availability of specific data. In order to give a better understanding of the framework, further data about the Ancona – Split route can be taken by the Split Port Authority report, which collected data from CIMIS application. Particularly, the port of calls to and from Port of Split on container traffic flows and the container volumes (TEUs loaded, unloaded and in transit) in the period 2014-2017 are gathered in the following table. The data confirmed that, despite low level of traffic flows, port of calls as well as TEU traffic increased in the period 2014-2017. Moreover, it is evident that the route from Ancona to Split has higher traffic flows than the Split – Ancona route.

CONTAINER TRAFFIC	2014	2015	2016	2017
ANCONA – SPLIT (TEU)	133	535	795	5.486
SPLIT - ANCONA (TEU)	32	544	/	702
ANCONA – SPLIT (port calls to Split)	7	3	47	68
ANCONA – SPLIT (port calls from Split)	6	16	/	2

Table 54: container TEU and port of calls of Ancona – Split route in the period 2014-2017 (SOURCE: Split Authority elaboration on CIMIS data)

In order to point out the weight of Ancona – Croatia container traffic, a comparison with total container traffic for 2016, 2017 and 2018 can be presented.

CONTAINER TRAFFIC	2016	2017	2018	var%	%TOT 2016	%TOT 2017	%TOT 2018
CONTAINER FREIGHT TRAFFIC Ancona – Croatia (tonnes)	55.204	20.055	49.158	-11,0%	4,5%	1,8%	4,3%
ANCONA – SPLIT (total TEU)	795	6.188	/	678,4%	0,4%	3,7%	/
ANCONA – SPLIT (Total port of calls)	47	70	/	48,9%	5,1%	8,1%	/
TOTAL CONTAINER FREIGHT TRAFFIC (tonnes)	1.240.347	1.106.423	1.135.549	-8,4%	100,0%	100,0%	100,0%
TOTAL CONTAINER TEU TRAFFIC	185.846	168.372	159.061	-14,4%	100,0%	100,0%	100,0%
TOTAL CONTAINER VESSEL TRAFFIC	924	862	847	-8,3%	100,0%	100,0%	100,0%

Table 55: comparison among the main features of container traffic of Ancona – Croatia routes in the period 2016-2018 (SOURCE: elaboration on Central Adriatic ports authority and Split Port Authority data)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

Container freight traffic in the Ancona – Croatia route decreased by -11% from 2016 to 2018, even if there was a big decrease from 2016 to 2017 followed by a big increase from 2017 to 2018. The share on total container freight traffic was 4,5% in 2016, 1,8% in 2017 and 4,3% in 2018. Therefore, the low relevance of Ancona – Croatia container freight traffic on total container freight traffic is confirmed.

Total container TEU in the Ancona – Split route had a huge increase from 795 TEU in 2016 to 6.188 TEU in 2017 (+678,4%). The share on total container TEU traffic increased from 0,4% in 2016 to 3,7% in 2017. Despite the very low share on total container traffic, it is clear the great improvement.

Lastly, the ports of calls from and to Split increased by +48,9% from 47 in 2016 to 70 in 2017. The share on total container vessel traffic passed from 5,1% in 2016 to 8,1% in 2017.

In conclusion, it can be affirmed that container traffic between Ancona and Croatia ports is related to the relationship between the Port of Ancona and the Port of Split. Despite the modest influence on Ancona traffic flows, container traffic, in comparison with the other Italian ports, is low, above all between Ancona and Croatia. However, it is evident the improvement of container traffic flows in the Port of Ancona along the years. The positive trend as well as the interventions planned in order to improve container traffic allow to predict a future growth of container traffic.

6 ANALYSIS ON POTENTIAL MARKET FLOWS AND PROJECTION OF FUTURE TRAFFIC FLOWS BETWEEN ITALIAN-CROATIAN PORTS

This chapter is focused on the analysis of future traffic flows of Italian ports, especially regarding the Adriatic ports. An overview of the potential market flows is given in order to figure out the possible relations among the Adriatic ports in the future, especially between Italian and Croatian ports.

6.1 Projection of future freight traffic flows

As described in the *"Italian Maritime Economy – 6th Report"*, shipping is part of the global supply chain and for this reason it can be considered a sort of "barometer" of economy at international level. There are many factors that can influence the trend from changes in the international supply and demand for goods and services to the processes of fragmentation of production, the development of global value chains, and also the characteristics of naval transport which include port infrastructure, ships and routes.

If focusing on SSS, Italy has a market share of 36% in the Mediterranean area. The Ro-Ro traffic in Italy is characterised by important volumes equal to about 100 million tons of which 50% managed in Southern Italy.

In this framework, a key concept is the so-called "Portualità 5.0", a new key concept in which modern ports have to stay in competitive scenarios a step ahead of industry as they should serve it adequately and efficiently by also contributing to the territory growth. Through efficiency it will then guarantee to speed up internationalization, allowing ships to reach destinations quickly by providing first-rate services and thus becoming the engine of a country's import-export.

Another key driver is intermodality, that Italy still has to improve for assuring a complete integration including port, freight village, road and railway networks. Today only 19% of manufacturing companies located in the three main Italian regions use intermodal transport

(road and rail) to carry goods to ports from their warehouses and viceversa[3].

Finally, it is worth mentioning the introduction of the so-called “Zone Economiche Speciali – ZES” (Special Economic Zones – SEZ), which are ‘free-trade zones’ within harbour areas designed to attract investors to the harbours of southern Italy and the logistic areas behind them.

Given that 80% of global freight commerce is managed by ports, maritime transport is becoming the expression of the supply chain at international level. The strategic importance of well-functioning and efficient ports for growth and economic development cannot be underestimated. Global ports serve ships and cargo through various handling operations, starting from the quay to the back areas to create the right connections with the global supply chain. Therefore, improving port efficiency through the different stages of cargo and ship movements is crucial for an overall efficiency as well as for ensuring that the gains achieved by a segment of the maritime logistics chain are not undermined by inefficiencies that occur elsewhere in the process.

What customers need now is an integrated logistics service that is no longer "port-to-port", but "door-to-door". Companies operating in the maritime logistics sector will be able to meet this need only by improving connections between ports, motorways, railways, airports and logistics hubs. Furthermore, with the continuous development of naval gigantism, commercial alliances and technologies for environmental protection, requirements to be met for the realization of integrated logistic infrastructures are growing faster.

The digitalisation – as a combination of technologies used to improve systems and processes – is a key factor able to transform the maritime transport business and it considers both ships and handling operations and port management. Carriers and shippers are taking measures to digitize internal processes, develop integrated IT infrastructures and offer transparency in real time about shipments.

These new technologies apply to the way ships move and operate, as well as to strategic decision making and day-to-day operations in offices and include automatic navigation and

[3] “Corridoi ed efficienza logistica dei territori (Corridors and efficiency of territories logistics) Report“, SRM – Studi e Ricerche per il Mezzogiorno in collaboration with Contship Italia.

cargo tracking systems and digital platforms that facilitate operations, trade and data exchange. These technologies can potentially reduce costs, facilitate interactions between different actors and generally improve the efficiency of maritime supply chain.

Automation and unmanned ships offer attractive options with regard to the ability to carry more cargo and reduce fuel consumption and operating expenses, such as crew costs. At the same time, however, when new technologies are incorporated into on-board operations, ships become more complex to manage.

Ship and cargo tracking systems are developing rapidly. Technological improvements can help generating business intelligence for asset management and operations optimization, for example in providing data on fuel consumption and engine performance. These systems also allow the identification and monitoring of the position of a ship, as well as the control of other aspects that could be important with regard to manoeuvrability and stabilization of the route, improving ship safety and ensuring crew security. The combination of on-board systems and digital platforms allows ships and goods to become part of the Internet of things. A key challenge is to establish interoperability, so that data can be exchanged without problems, while ensuring IT security and protection of sensitive and private business data. Hence to be competitive, also Italian ports have to deal with such technological enhancements also to maintain the important role of Ro-Ro for Italy.

Over the time, the Italian port system, also due to its central and strategic position, has in fact consolidated and developed its competitive positioning in the Ro-Ro sector by offering high quality and specialized services (especially with regard to general cargo) as well as terminals able to accommodate the increasing amounts of rolling stock from the Motorways of the Sea. Hence, excluding container traffic, Ro-Ro traffic is by far the main mode used for general cargo.

The maritime combined transport is not limited to cabotage, but it includes also the Short Sea Shipping between Mediterranean sides. For several years now, both European and extra-European trucking companies make use of Italian ports as access routes to south-east European markets, Middle Est, North Africa and European western end.

In this respect, both ports of call of the Adriatic – in particular Trieste, Ancona, Bari and Brindisi – and the ones of the Tyrrhenian – mainly Genova, Livorno, Civitavecchia, Napoli and Salerno – can rely upon significant shares of rolling stock from countries bordering the Mediterranean.

In 2018, Ro-Ro traffic recorded 109.1 million tons, with an increase of 3% compared with the already excellent results achieved during 2017.

For Italy, the liquid bulk cargo represents the most important commodity category in terms of volumes and therefore very strategic (high revenues for port activities). In 2018, with a clear prevalence of imports, about 184 million tons have been handled, mainly related to the request for refining oil products and energy demand.

In this framework, general cargo tends to become residual over time but remain vital for the supply chain of various industrial districts. This category includes for example the so-called *project cargo*[4] in which Italy has a position of absolute importance in the international scene, with a strong evolution linked to the export of technology, know-how and specialization of operators.

The following figure represents traffic volumes managed by Port System Authorities, split by category.

[4] National or international transportation of large, heavy, high value or a critical (to the project they are intended for) pieces of equipment.

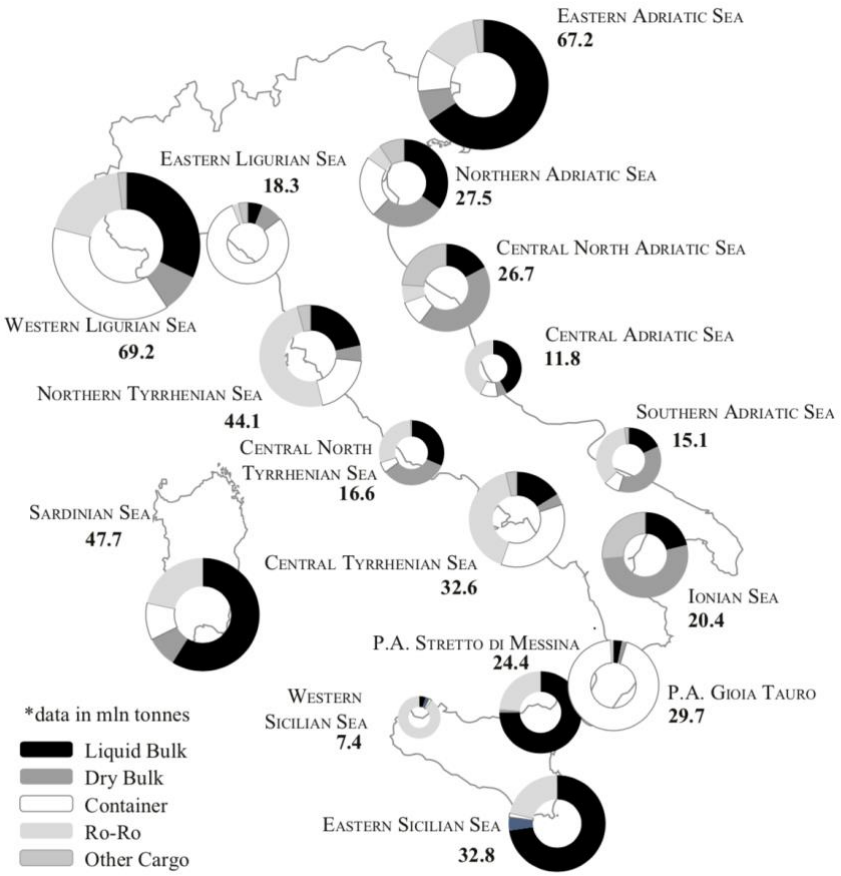

Figure 68: Traffic volumes managed by Port System Authorities, split by category, in 2018 (Source: SRM)

By focusing on Italian maritime import-export, from an analysis of data collected by ports, it is evident that the Italian ports of call are becoming even more important for both national economy and the internationalization of companies.

In 2018, Italian maritime trade value has been of 253.7 mld €, recording an increase of 6.3% with respect to the previous year.

Of these 132.5 mld € are of import (+8.6%) and 121.2 mld € of export (+3.8%); this means that sea absorbs 37% of Italian trade. More specifically, at territorial level, the weight that the maritime modality can assume in the various regions is different, as shown below in the graph where the relevance for export is made explicit.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

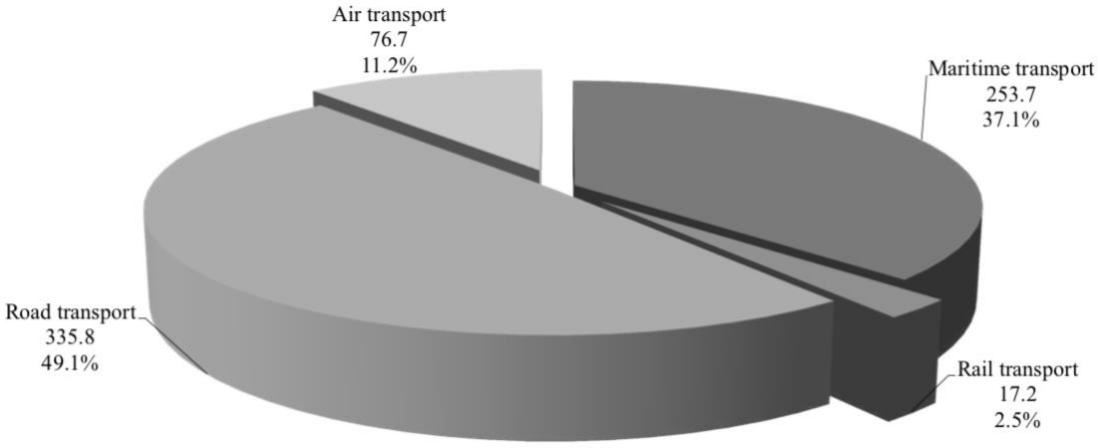

Figure 69: Import-export modes of transport (mld € and %) in 2018 (Source: SRM)

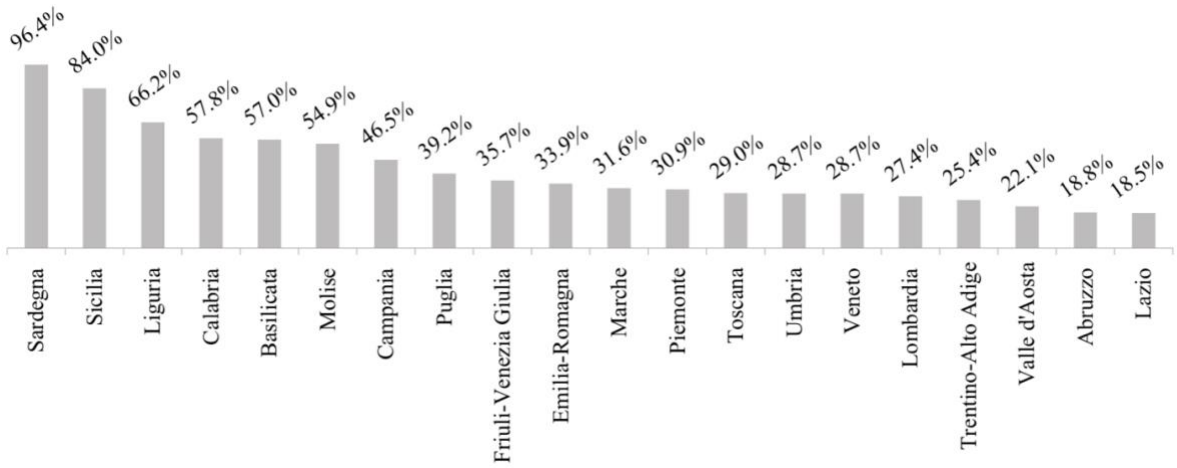

Figure 70: Maritime export by Italian region (% of the total) in 2018 (Source: SRM)

Regarding Italian areas mainly involved in sea trade, the following figure illustrates the import-export trend of Italian maritime transport split by area of reference and highlights the importance of Asia.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

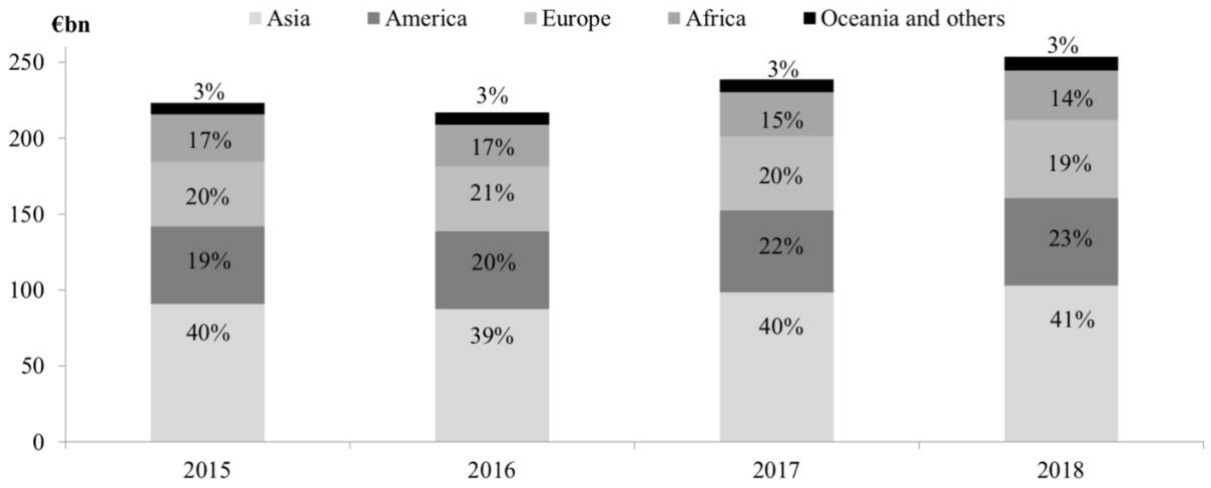

Figure 71: Italian maritime trade in 2018 (Source: SRM)

The top 10 countries from which Italy has imported and the first 10 countries to which it has exported by sea in 2018 shows the importance of China as the main supplier country, which represents with 22.4 billion € 17% of all Italian import by sea. On the other side, the United States are the Italian first customer for maritime with 23% of Italian exports corresponding to 27.7 billion €. Overall, top 10 suppliers represent 53% of Italian maritime imports and the top 10 customers 51% of exports.

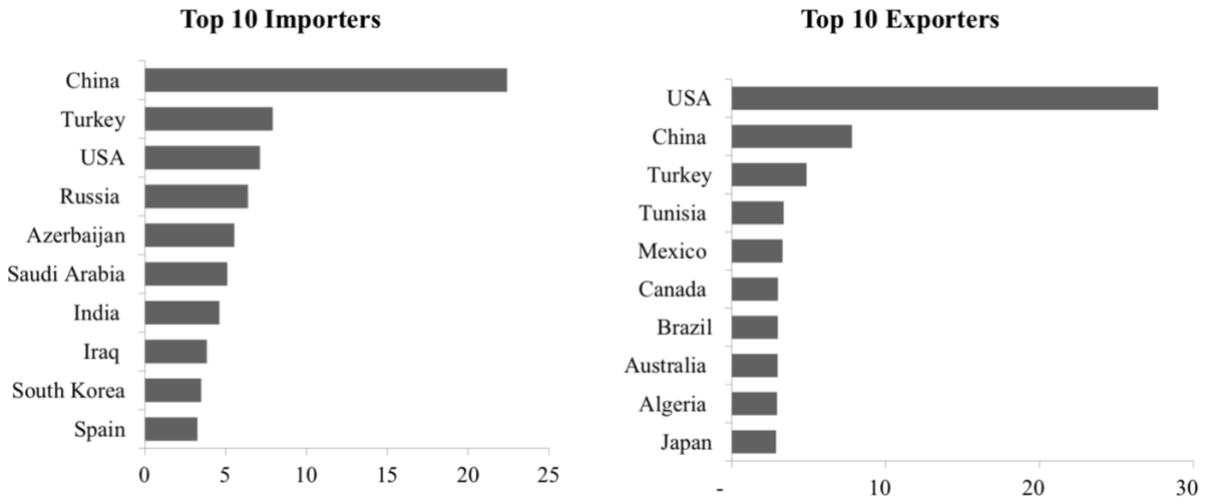

Figure 72: Main countries partners of Italy in sea trade (mld €) in 2018 (Source: SRM)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

As for goods traded by sea, the following graph shows the prevalence of machinery and mechanical equipment with 49 billion €, means of transport with 30 billion €, followed by metals, chemicals and oil.

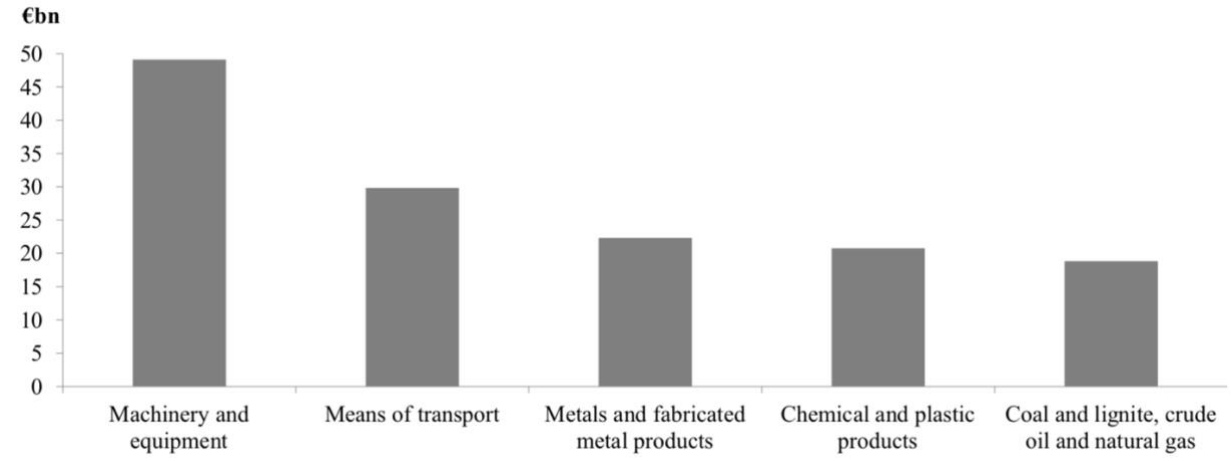

Figure 73: Italian sea trade worldwide split by goods categories in 2018 (Source: SRM)

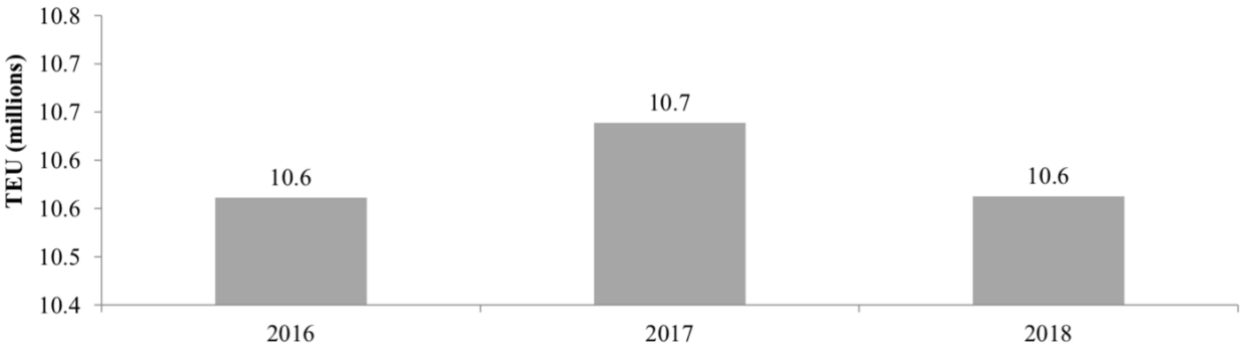

Figure 74: Containers totally delivered from Italian ports (TEU) in the period 2016-2018 (Source: SRM)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

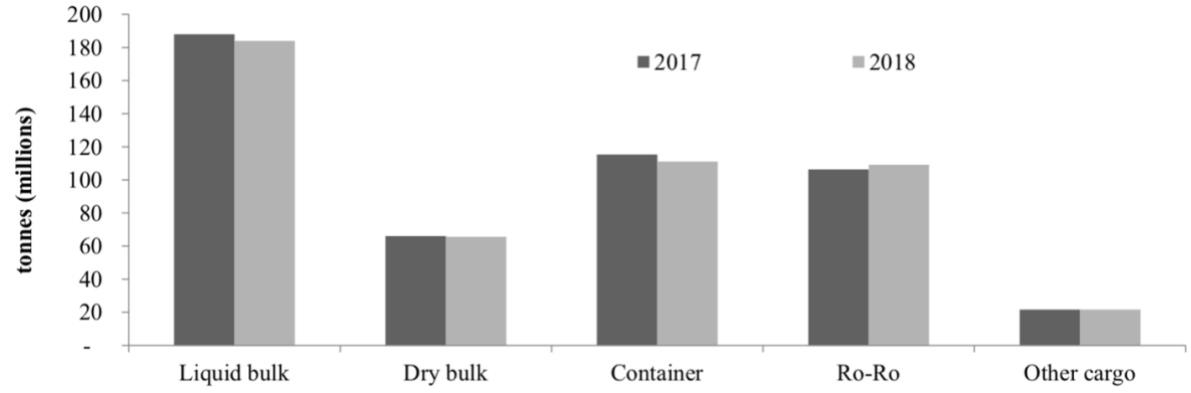

Figure 75: Type of goods handled by the Italian ports system in the period 2017-2018 (Source: SRM)

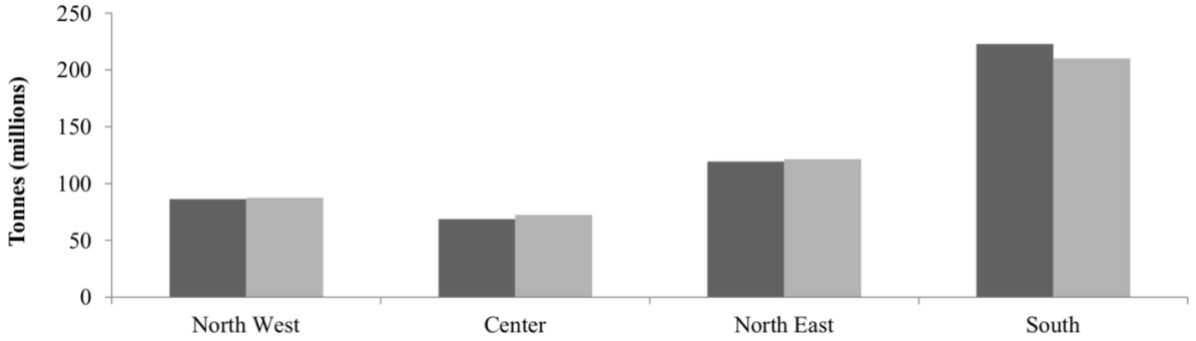

Figure 76: Total handling of goods by macro-area in the period 2017-2018 (Source: SRM)

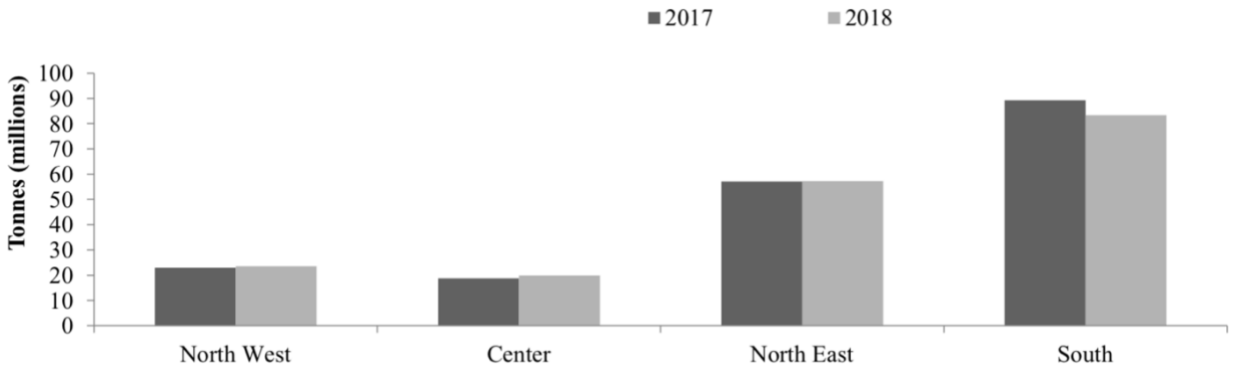

Figure 77: Handling of bulk liquid cargo by macro-area in the period 2017-2018 (Source: SRM)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

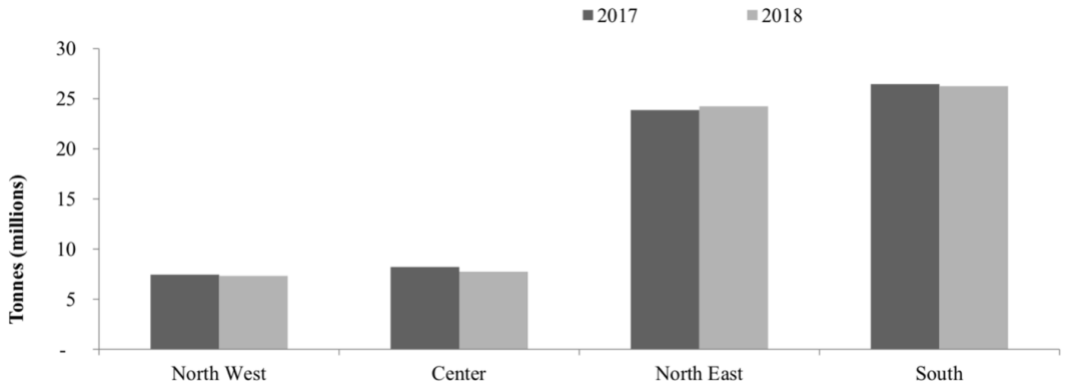

Figure 78: Handling of dry bulk cargo by macro-area in the period 2017-2018 (Source: SRM)

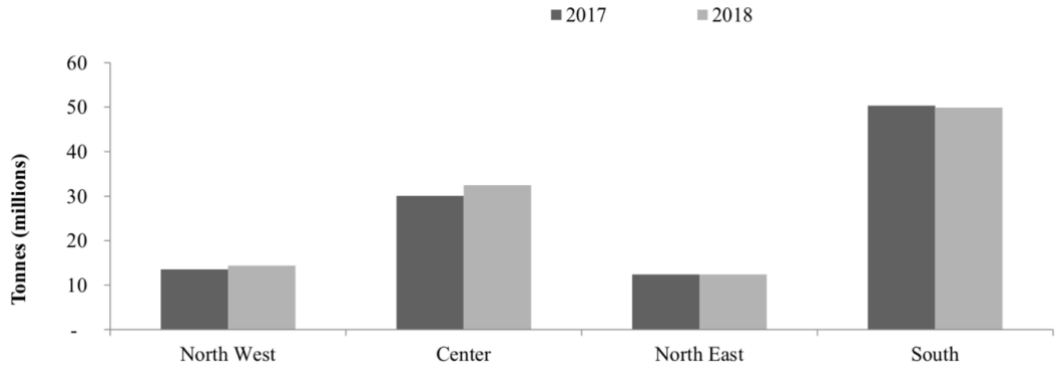

Figure 79: Ro-Ro traffic handling by macro-area in the period 2017-2018 (Source: SRM)

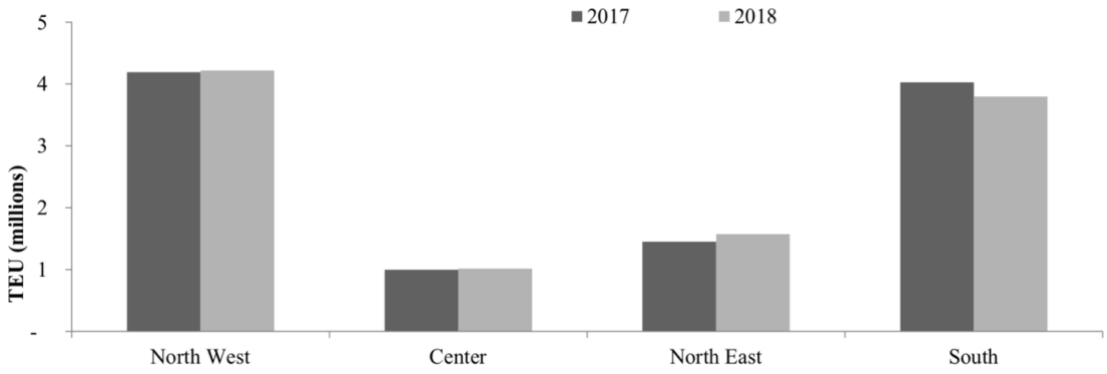

Figure 80: Handling of TEU by macro-area in the period 2017-2018 (Source: SRM)

D.4.1.2 Analysis of potential market flows of the Port of Ancona

Port Network Authority/Port	2016	2017	2018	Var 2018-2017
Western Ligurian Sea	**62.573.799**	**68.052.439**	**69.155.456**	**1,6%**
Genoa	49.829.585	54.185.150	54.264.054	0,1%
Savona - Vado	12.744.214	13.867.289	14.891.402	7,4%
Eastern Ligurian Sea	**17.499.186**	**18.260.066**	**18.276.676**	**0,1%**
La Spezia	13.315.806	15.980.341	15.780.540	-1,3%
Marina di Carrara	4.183.380	2.279.725	2.496.136	9,5%
Northern Tyrrhenian Sea	**32.066.494**	**41.070.163**	**44.081.063**	**7,3%**
Leghorn	32.066.494	33.702.171	36.558.305	8,5%
Piombino	--	4.787.206	4.759.912	-0,6%
Portoferraio-Rio Marina-Cavo	15.238.399	2.580.786	2.762.846	7,1%
C.N. Tyrrhenian Sea	**16.706.230**	**16.690.280**	**16.605.819**	**-0,5%**
Civitavecchia, Fiumicino, Gaeta	16.706.230	16.690.280	16.605.819	-0,5%
Central Tyrrhenian Sea	**34.150.782**	**32.497.196**	**32.597.901**	**0,3%**
Naples	20.992.466	17.297.554	17.680.576	2,2%
Salerno	13.158.316	15.199.642	14.917.325	-1,9%
Sea of Sardinia	**59.150.328**	**49.705.169**	**47.666.955**	**-4,1%**
Cagliari	46.165.381	37.900.249	35.922.468	-5,2%
Olbia	5.524.839	5.558.355	5.558.355	0,0%
Porto Torres	5.663.511	3.632.356	3.524.789	-3,0%
Golfo Aranci	198.286	127.678	125.330	-1,8%
Oristano	1.419.791	1.532.854	1.571.355	2,5%
Portovesme	178.520	953.677	964.658	1,2%
A.P Gioia Tauro	**38.079.539**	**32.826.810**	**29.662.813**	1,2%
Gioia Tauro	38.079.539	32.290.933	29.169.464	**-9,6%**
Crotone	--	320.237	228.754	-9,7%
Conigliano	--	215.640	264.595	-28,6%
Messina-Milazzo	**22.816.131**	**26.087.041**	**24.431.458**	22,7%
Eastern Sea of Sicily	**38.702.470**	**36.112.274**	**32.810.274**	**-6,3%**
Augusta	30.818.808	27.394.177	24.192.868	**-9,1%**
Catania	7.883.662	8.718.097	8.617.406	-11,7%
Western Sea of Sicily	**6.725.833**	**6.980.467**	**7.377.290**	-1,2%
Palermo - Termini Imerese	6.725.833	6.980.467	7.377.290	**5,7%**
Eastern Adriatic Sea	**69.767.615**	**66.580.865**	**67.213.780**	5,7%
Trieste	63.119.416	61.947.454	62.676.502	**1,0%**
Monfalcone	6.648.199	4.633.411	4.537.278	1,2%

D.4.1.2 Analysis of potential market flows of the Port of Ancona

Port Network Authority/Port	2016	2017	2018	Var 2018-2017
Northern Adriatic Sea	**20.702.885**	**26.274.624**	**27.510.278**	-2,1%
Venice	18.766.839	25.134.624	26.495.278	**4,7%**
Chioggia	1.936.046	1.140.000	1.015.000	5,4%
Central North Adriatic Sea	**17.655.758**	**26.513.570**	**26.684.341**	**-11,0%**
Ravenna	17.655.758	26.513.570	26.684.341	0,6%
Central Adriatic Sea	**15.212.806**	**11.038.100**	**11.832.439**	0,6%
Ancona	15.212.806	11.038.100	10.819.087	7,2%
Ortona Pesaro	--	--	1.013.352	-2,0%
Southern Adriatic Sea	**21.007.120**	**17.026.208**	**15.050.362**	**-11,6%**
Bari	8.038.597	5.664.136	5.489.085	-3,1%
Barletta	1.127.644	912.023	876.425	-3,9%
Brindisi	8.760.728	9.507.508	7.859.503	-17,3%
Manfredonia	2.876.230	569.329	439.650	-22,8%
Monopoli	203.921	373.212	385.699	3,3%
Ionian Sea	**24.668.850**	**21.648.288**	**20.433.435**	**-5,6%**
Taranto	24.668.850	21.648.288	20.433.435	-5,6%
ITALY	**488.517.369**	**497.363.560**	**491.390.340**	**-1,2%**

Table 56: Dynamic of Italian ports of total cargo (tons) during the last three-year period (2016-2018) and % variation 2017-2018 (Source: SRM)

6.2 Projection of future passenger traffic flows

If considering the maritime tourism in the Adriatic Sea during 2019, the estimations that can be found in the Adriatic Sea Tourism Report, show:

- more than 30 cruise ports with 5,16 million passenger movements and 3.127 cruise calls;
- more than 40 ferry ports with over 19 million passengers, 6 of them travelling the international routes;
- 332 structures for boat tourism with more than 75,000 moorings.

Figure 81: Maritime tourism in the Adriatic Sea in 2019 at a glance: Adriatic gates and routes (SOURCE: Adriatic Sea Forum)

According to the 2019 edition of the Adriatic Sea Tourism Report, cruise passengers and tourists traveling on ferries, hydrofoils and catamarans spent over 420 million € on their visits to Adriatic Sea destinations. The report provides data on Adriatic Sea cruise, ferry and sail and yachting tourism and in its last edition illustrates how the number of cruise passenger movements in 2019 is expected to rise by +7,3% to a record of 5.52 million against 2018.

It is also reported a positive forecast for passenger movement on ferries, hydrofoils and catamarans, which grew in 2018 by +2,4% to 19,74 million compared to 2017.

in terms of spending, the report estimates that cruise travellers – including 1,78 million cruise tourists who embarked or disembarked at one of the ports in the region as well as 3.356 million passengers who visited other ports along their itineraries – spent in 2018 more than 362 million € at Adriatic destinations.

It is worth noting that ferry traffic is highly dependent on external factors, such as weather, petrol costs and travel alternatives. Anyway, with the variations recorded, and with several ports

that foresee a certain stability, it is reasonable to expect that this sector won't register relevant variation.

Figure 82: 2019 ferries forecasts (SOURCE: Adriatic Sea Forum)

In this framework, in terms of maritime tourism, Italy is in the lead with 186 marinas and over 26.000 berths.

With regard to cruise traffic in 2018, Italy holds the top position with 2,42 million passenger movements achieving a +12% rise from 46,9% overall in Adriatic region in 2017.

Croatia follows with 1,3 million passenger movements, up by +25,2%, while holding the leading rank in term of ship approaches (i.e. 1.180, with a share of 37,7% of the total).

With regard to ferry transport, the port of Ancona rises to second place in the ranking of Adriatic ports of call for international traffic of passengers with 1.084.235 people handled in 2018.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

	Port	Country	Passenger movements			
			International	Domestic	Total	International % share on total
1	Bari	ITA	1,180,169	0	1,180,169	100.0%
2	**Ancona**	**ITA**	**1,084,235**	**83**	**1,084,318**	**100.0%**
3	Igoumenitsa	GRE	953,203	1,889,426	2,842,629	33.5%
4	Durres	ALB	854,637	0	854,637	100.0%
5	Brindisi	ITA	532,872	0	532,872	100.0%
6	Patras	GRE	486,163	156,868	643,031	75.6%
7	Venice	ITA	210,120	0	210,120	100.0%
8	Corfu	GRE	350,443	1,557,925	1,908,368	18.4%
9	Split	HR	180,907	4,705,756	4,886,663	3.7%
10	Vlore	ALB	150,715	0	150,715	100.0%
TOTAL 10 PORTS			**5,983,464**	**8,310,058**	**14,293,522**	**41.9%**

Table 57: Main Adriatic ports for international traffic, 2018 (SOURCE: Central Adriatic Ports Authority)

Hence, compared to 2017, Ancona recorded an increase of +4,5% in the number of passengers handled in 2018; while, at Adriatic level, this variation has been equal to +2,4%.

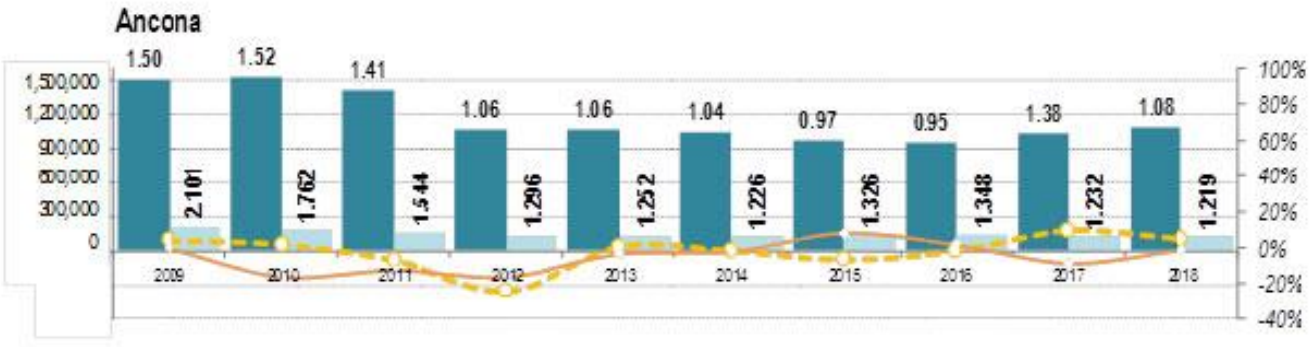

Figure 83: Ferry traffic trend in the port of Ancona, 2009-2018 (millions of passengers and port calls) (SOURCE: Adriatic Sea Forum)

At regional level, Marche region has handled 1.095.126 passengers with 1.298 port of calls. The increase compared to 2017 is of +4,7% in terms of number of passengers and +2,5% in terms of port of calls.

The seven main companies operating in the Marche region during 2018 (i.e. Righetti Navi srl, ANEK, Superfast, Minoan Lines, Jadrolinija, SNAV e Adria Ferries) have been reaffirmed.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

In 2019, the main routes are going to be those connecting Ancona to Igoumenitsa, Patras and Split: these lines will then provide more than 250 annual routes each.

Additionally, for the current year the ferry traffic planned in the port of Ancona indicates values in line with those of 2018.

Concerning cruise traffic, Ancona is currently in 12th position in the Adriatic for the number of passengers handled in 2018 (more than 67 thousand). Within the Adriatic, the port is connected with Dubrovnik, Split, Hvar, Durres, Bari and Kotor.

In comparison with 2017 values for traffic, Ancona faced an increase of +28,7% of number of passengers and of +42,9% in terms of port of calls.

Moreover, 80,8% of passengers approaching Ancona are in transit (54.177 units), compared to 12.854 passengers embark/disembark. In the Adriatic, the percentage of passengers in transit has dropped to 64,3% of the total, due to the performance of Venice and Trieste, in where passengers in transit count for 15,4% and 23,9% respectively.

Pesaro in 2018 welcomed 20 cruise ships for a total of 827 passengers handled, while during 2017 there were only 10 port of calls.

Concerning Ortona, in 2018 it registered 19 cruise ships with 917 passengers, while in 2017, only 10 ships were accepted.

Port	Cruise traffic		Type of traffic		% total Adriatic	
	Passengers	Port of calls	Embark/ disembark	Transits	passenger movements	calls
ANCONA	67.031	40	19.2%	80,8%	1,3%	1,3%
PESARO	827	20	0.0%	100%	0,1%	0,1%
ORTONA	917	19	0.0%	100%	0,1%	0,1%

Table 58: Cruise traffic in Marche and Abruzzo regions, 2018 (SOURCE: Central Adriatic Ports Authority)

As for 2019 forecast, Ancona would face an increase of +37,4% in number of passengers and of +15% in terms of port of calls (more significant than the 7,3% expected at Adriatic level). Additionally, ports of Marche region would handle by the end of 201 93.000 passengers overall, with an increase of +37% compared with 2017.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

7 POTENTIAL UNDESIRABLE EFFECTS AND POINTS OF CONGESTION

The Port of Ancona is located in a strategical position for freight traffic flows in the Adriatic Sea thanks to the direct link to the TEN-T network, specifically in the Scandinavian-Mediterranean (ScanMed) Corridor. For this reason, the intensity of traffic flows grew up in the period 2013-2018 and it is likely to expect the growth will continue in the next future. However, the current conditions of port infrastructures as well as the efficiency of connections could become a reason for undesirable effects and point of congestion.

Indeed, although the Port area is connected with A14 Highway, also renamed "*Autostrada del mare*", **there is not a direct connection between the highway and the port** and **the road passes through urban and inhabited areas**. Moreover**, the capacity of road infrastructure as well as the number of lanes in terminal roads and connections with highway network are considered insufficient** by Central Adriatic Ports Authority to bear the potential road traffic flows generated by the increase of freight and passenger traffic.

With regard to the railway network, **the actual infrastructure is not suitable to dispatch maximum allowed quantities of the train at once**. Moreover, **a ramp for the loading/unloading of trucks on the railway is absent**.

These problems could cause traffic congestion in case of higher traffic flows in the future.

A further problem related to the port infrastructure is the **insufficient sea depth/draft berths**, which hamper the entrance in the port area of the biggest vessels and limit the increase of traffic flows.

In order to implement the port infrastructures, different interventions have been planned. The **Three-year Operational Plan 2017-2020** (*Piano Operativo Triennale*), by Central Adriatic Ports Authority, lists the solutions presented in the Ancona Port Regulatory Plan, originally approved with the **decree. n. 1604 on 14/07/1988** and afterwards updated several times. The main aim of the Plan is to adapt port infrastructures and capacities to the growing traffic flows through the extension of port areas, improvement of land and sea accessibility, optimization as well as requalification and specialization of existent spaces.

The interventions planned are the following:

- **Realization of a sediment tank and interventions of dredging**: in order to extent the port area, a sediment tank was constructed to allow the dredging of the seabed of the harbor basin within 2020. A unique intervention has been foreseen for the seabed maintenance and for the storage of materials in the sediment tank in order to gain further spaces in the port area (about 90.000 square meters) to use for the freight in transit.

Figure 84: map of Port areas affected by the intervention called "Realization of a sediment tank and interventions of dredging" (SOURCE: Central Adriatic Ports System)

- **Extension of the new quay Rettilinea**: the intervention regards the construction of a new mooring quay for modern merchant ships (273 meters) and the extension of the quay in the commercial port, with the realization of a port square (about 35.1000 square

meters) and the relative technological systems. These interventions are planned to be finished within 2021.

Figure 85: map of Port areas affected by the intervention called "Extension of the new quay Rettilinea" (SOURCE: Central Adriatic Ports System)

- **Partial demolition of the old breakwater pier (North pier)**: the intervention regards the demolition of 100 meters of the breakwater pier in order to improve the naval maneuverability within the port basin. The intervention is foreseen to be completed within 2019.

Figure 86: map of Port areas affected by the intervention called "Partial demolition of the old breakwater pier (North pier)" (SOURCE: Central Adriatic Ports System)

- **Excavation in the Mercantile port**: the intervention regards the excavation of the seabed (about 90.000 square meters until 14 meters below sea level) in front of the mooring quay n. 26 in order to allow the docking of modern naval units in the merchant harbor. The intervention has been completed in 2018.

Figure 87: map of Port areas affected by the intervention called "Excavation in the Mercantile port" (SOURCE: Central Adriatic Ports System)

- **Structural modernization of the mooring quay n. 22**: the intervention regards the adjustment of the mooring quay n. 22 in order to keep the quay suitable for merchant docking thanks to improvement of technical requirements (mobile cranes of new generation). The intervention has been completed in 2018.

Figure 88: map of Port areas affected by the intervention called "Structural modernization of the mooring quay n. 22" (SOURCE: Central Adriatic Ports System)

- **Realization of a new parking for customs services in the railway area called "Scalo Marotti":** the intervention regards the construction of new parking in the railway area of First inner harbour (*Mandracchio*) in which heavy vehicles can stop during the customs controls. The aim is to optimize the viability in the area for Ro-Ro and passenger traffic in order to improve the environmental conditions as well as the security for people. The realization of the parking has been completed in 2018.

Figure 89: map of Port areas affected by the intervention called "Realization of a new parking for customs services in the railway area called 'Scalo Marotti'" (SOURCE: Central Adriatic Ports System)

- **Realization of a new passenger terminal**: the intervention regards the construction of infrastructures for passengers in transit and a terminal for passenger services. The intervention is currently in a planning stage.

Figure 90: map of Port areas affected by the intervention called "Realization of a new passenger terminal" (SOURCE: Central Adriatic Ports System)

- **Realization of new garrisons for border health checks**: the intervention regards the construction of new garrisons for sanitary checks of the animals, food and freight imported (P.I.F., U.S.M.A.F.). The aim is to achieve the compliance of the requirements of European directives in order to keep this type of traffic flows operative. The intervention is planned to be completed within 2019.

Figure 91: map of Port areas affected by the intervention called "Realization of new garrisons for border health checks" (SOURCE: Central Adriatic Ports System)

- **Infrastructural implementations to support intermodal transport**: the intervention regards the extension of railway tracks (from the actual 260-300 meters to 550-600 meters) for loading/unloading of the trains. The aim is to improve the competitiveness in transport sector thanks to a better railway receptivity. Moreover, a reorganization of road viability and the extension of customs town-walls are foreseen in order to improve the efficiency of intermodality between railway and road transport. The intervention is in a planning phase.

Figure 92: map of Port areas affected by the intervention called "Infrastructural implementations to support intermodal transport" (SOURCE: Central Adriatic Ports System)

Beyond the infrastructural interventions described in the Ancona Port Regulatory Plan, another pivotal intervention regards the **direct connection between the A14 highway and the Port Ancona area**. However, despite several propositions during the last ten years, this intervention has faced various difficulties because of the orography of Ancona area as well as the lack of the high financing needed. For this reason, it is still in a planning phase.

D.4.1.2 Analysis of potential market flows of the Port of Ancona

8 CONCLUSION

The Port of Ancona is located in the central part of the Adriatic Sea, in Marche Region. Connected to the TEN-T network, specifically in the Scandinavian-Mediterranean (ScanMed), the Port of Ancona is part of Central Adriatic Ports Authority and it is one of the most relevant Italian port in the Adriatic Sea, especially regarding passenger traffic.

The analysis of the port traffic statistics in the period 2013-2018 has pointed out the positive trend and the high intensity of passenger traffic flows, particularly on ferry passenger traffic, which is the main market of the port. Another market to consider is the cruise passenger traffic in transit, which recorded a positive trend in the considered period, despite the minor relevance respect to ferry traffic due to the seasonality in the summer period. Regarding the freight traffic, the ferry Ro-Ro traffic is the main market, with a positive trend recorded in the considered period. Ferry traffic, which allows to transport both passengers and vehicles, is the mean of transport more convenient and used in the Port of Ancona. Therefore, the intensity of traffic flows of private vehicles and truck/trailer has been high, with a positive trend in the considered period, and Ro-Ro freight traffic is the more relevant in the total freight traffic, with tonnes transshipped doubled in the period considered. The ferry traffic is mainly directed to international Adriatic routes, particularly to Greece (Igoumenitsa and Patras) Croatia (Split) and Albania (Durres). Container traffic, instead, is characterized by less intense traffic flows, mainly with the north Adriatic Italian ports (Trieste, Venezia, Ravenna). However, in the period considered, it is clear the positive trend and the possible growth in the next years of container traffic market.

The focus on of the existing traffic flows between Port of Ancona and Croatian ports revealed that the main route for passengers and freight traffic is Ancona – Split. Particularly, passengers and private vehicles increased between 2017 and 2018, while trucks/trailers recorded a slight decrease. Regarding the freight traffic, particularly container traffic, during the period 2016-2018 there was a negative trend of container freight traffic, with a decrease between 2016 and 2017 and then an increase in 2018. Container TEU, instead, had a huge increase between 2016 and 2017. However, container traffic flows are low and the two ports are not the final destinations but intermediate steps along the Adriatic routes of container traffic which start in the north

Adriatic ports and which are direct towards the Mediterranean Sea. Therefore, traffic flows mainly depend on the regular feeder container service in Adriatic and rotation between ports.

The projections of future traffic flows between Italian and Croatian ports allow to assume a consolidation of Port of Ancona position in ferry traffic, both Ro-Ro and passengers. Indeed, specifically about passenger traffic, the forecasts provide an improvement of passenger traffic and call of ports, especially in the routes to Igoumenitsa, Patras and Split, which are the three most important destinations.

Despite the positive forecasts for the growth of traffic flows in the future, the Port of Ancona could suffer from undesirable effects caused by infrastructural problems, particularly the absence of a direct connection between the highway and the port area and the insufficient sea depth/draft berths. For this reason, various interventions are planned in the Port area, including interventions of dredging, quays extension, realization of a new terminal and parking areas and excavation in the mercantile port.

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