

Report on small ports phenomenon in Emilia-Romagna

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1. Introduction

The document describes the context of small ports in the Emilia-Romagna region through information sources and data at different scales. Chapter 2 examines the regional context in which ports are located in its socio-economic, mobility and transport aspects and references to the governance and planning framework. The sources for this chapter are regional reports, spatial data and normative references collected in desk analysis. Chapter 3 is based on an ad-hoc collection of quantitative indicators useful to describe some specific aspects of regional small ports. These aspects focus on available infrastructure, active services and current traffic. In chapter 4, a SWOT analysis of the smaller ports is carried out to identify these contexts' strengths, weaknesses, opportunities, and threats. This analysis is based on the qualitative observations that emerged from interviews with local stakeholders, collecting their suggestions and opinions. Finally, chapter 5 brings together the aspects that emerged in the previous chapters and highlights some concluding aspects.

The activities carried out in support of this report are:

- Research, collection, cataloguing and processing of spatial data useful to describe the regional and local context in the form of thematic cartographies;
- Researching, reading, understanding and interpreting thematic reports at the regional level;
- Definition of sets of thematic questions to be submitted to the interviews described below, useful to collect opinions and suggestions from stakeholders linked to minor ports;
- Conducting in parallel a set of interviews / confronts with local institutions, municipalities, private companies, cooperatives and workers' associations operating in small ports;
- Collecting quantitative data useful to describe the actual state of the infrastructure equipment of small ports, services they offer to their customers and visitors and traffic data.

2. The region in a nutshell

This chapter presents some regional aspects useful to frame the phenomenon of minor ports in the Emilia-Romagna region. They will be dealt with in the following chapters: 2.1. Socio-economic description of the region/county; 2.2. Regional transport and mobility overview and main features; and 2.3. Overall governance and transport planning references.

2.1. Socio-economic description of the region/county

Economic status

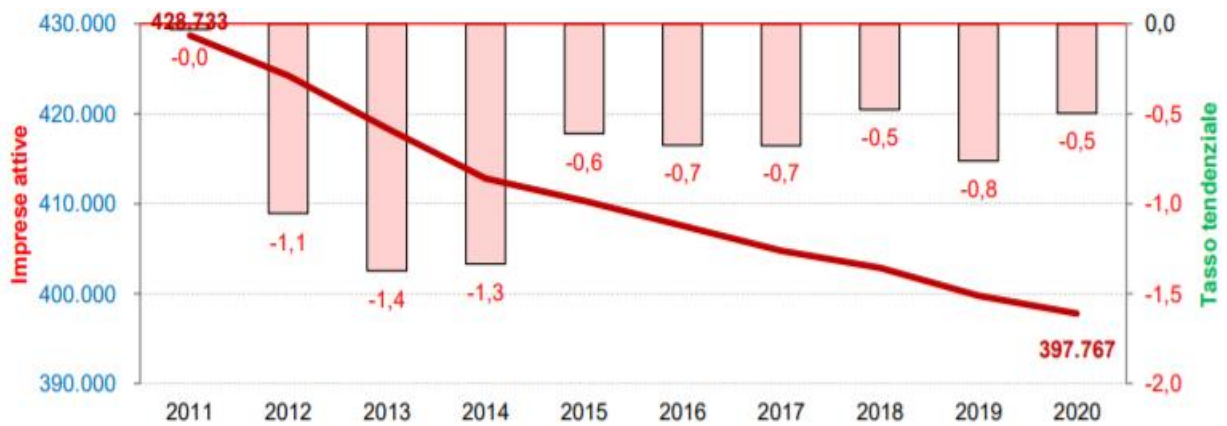
Emilia-Romagna is one of the leading regions in Italy and Europe in terms of enterprise and economic dynamism. In 2020, the labour market was strongly affected by the health emergency caused by COVID-19 and on average in 2020 compared to 2019, the ISTAT survey on labour forces showed a drop in the number of employed people in Emilia-Romagna estimated at around 1.989.8 thousand units (-42.8 thousand, -2.1 per cent), which mostly flowed into the ranks of the inactive, which grew in one year by 44.5 thousand units in the 15-64 age group (+6.3 per cent) (UnionCamere Emilia-Romagna, 2020).¹

The last decades have seen a sharp decrease in the number of active enterprises in the region (figure 1), from 428,733 in 2011 to 397,767 at the end of 2020 (Unioncamere data). In absolute terms, the loss suffered by the regional entrepreneurial base amounted to two-thirds of that reported for 2019 (-3,073 units, -0.8 per cent).

The sectors of economic activity that contributed most to the reduction in the number of active regional enterprises are wholesale and retail trade and agriculture, forestry and fishing.

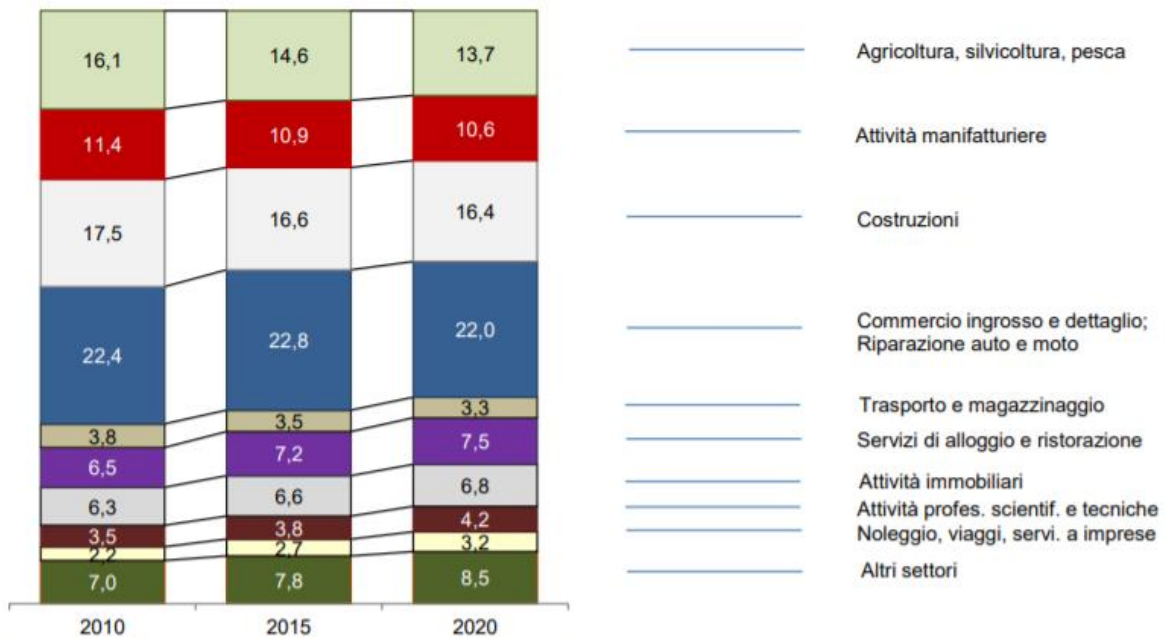
The main sectors of the regional economy, as can be seen in figure 2, are wholesale and retail trade (22 per cent), construction (16.4 per cent), agriculture, forestry and fishing (13.7 per cent) and manufacturing (UnionCamere Emilia-Romagna, 2020).

¹ Unioncamere Emilia-Romagna, 2020. Rapporto 2020 Sull'economia Regionale.



(1) Rispetto all'anno precedente
Elaborazioni Unioncamere Emilia-Romagna su dati InfoCamere Movimprese.

Figure 1 - Active enterprises: time series of stock and trend rate of change (1). Source: UnionCamere Emilia-Romagna, 2020.



Elaborazioni Unioncamere Emilia-Romagna su dati InfoCamere Movimprese.

Figure 2 - Composition by sector of economic activity of active enterprises (percentage shares). Source: UnionCamere Emilia-Romagna, 2020

What continues to characterise the regional economy is the weight of the industrial sector, typical to the Italian North-East; in Emilia-Romagna this sector accounts for one-third of the total added value and employment. However, it should be emphasised that the three provinces of Bologna, Modena and Reggio Emilia alone concentrate more than half of the industrial enterprises and half of the total enterprises.

Emilia-Romagna is also significantly affected by the intense and articulated development of the service sector, which accounts for 63 per cent of added value. Active companies operating in the advanced tertiary sectors constitute one of the peaks of excellence in the regional production system, contributing to raising the quality levels of production, encouraging technical, organisational/management improvements, in the promotion of companies and products and in research and development activities (Regione Emilia-Romagna, 2010)².

Exports are traditionally a strong point of Emilia-Romagna's economy. In 2017, export dynamics benefited from the strengthening of global demand, with the value of foreign sales reaching almost EUR 60 billion (Regione Emilia-Romagna, 2019)³. This indicates that the region is very healthy economically and that it is constantly growing technologically and industrially.

Demographic status

Until the beginning of the 2000s, the region was characterised by a stable demographic balance (in the period 1975-2000 the population grew by only 62,000), guaranteed by a positive balance of migratory movements able to balance the worrying negative balance of natural movements.

After a long period of stagnation, the regional population has recorded a sustained increase over the last decade, attributable in particular to the trend in immigration, both from other Italian regions

² Regione Emilia-Romagna, 2010. Quadro Conoscitivo Del Piano Territoriale Regionale Dell'emilia-romagna.

³ Regione Emilia-Romagna, 2019. DEFR 2019 - Documento di economia e finanza regionale.

and from abroad. From 2013 to the present, the region has seen a stabilisation of its population with positive percentage changes (+0.9 per cent) that are better than those in Italy (ISTAT data).

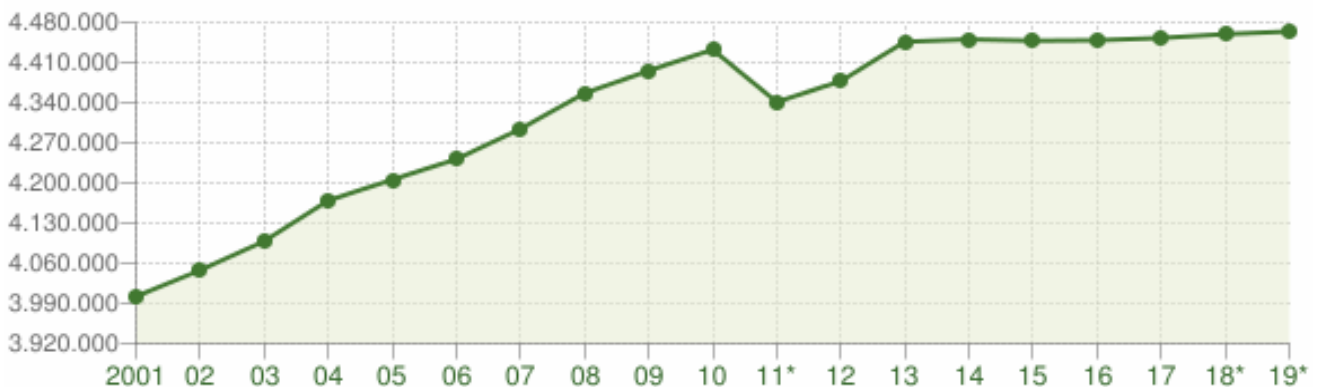


Figure 3 - Demographic trends in the population of Emilia-Romagna from 2001 to 2019. Graphs and statistics based on ISTAT data at 31 December of each year.

The decrease in the number of children and adolescents up to 14 years of age continues, mainly as a reflection of the reduction in the birth rate that has been affecting the region for a decade now and for which no reversal of the trend is foreseen.

The population of young people aged between 15 and 29 shows a slight increase as a result of different trends: while the number of young people aged between 15 and 24 is growing, the number of young people aged 25-29 has decreased by almost 1,500 units (Emilia-Romagna Region, 2021⁴).

On the other hand, the adult population (45-59 years old) and that of the young elderly (60-74) continue to increase, and even in these cases it is an expected trend driven mainly by the different consistency of the generations passing through these age groups.

During 2020, after many years of growth, there will be a decrease in the population of the elderly aged 75 and over, by more than 7,600 units; a more detailed analysis shows that the overall

⁴ Regione Emilia-Romagna, 2021. Popolazione residente in Emilia-Romagna.

reduction is to be attributed entirely to the decrease of more than 11,000 units in the stock of population in the 75-79 age group, while from 80 and over there will be an increase of almost 2,000 residents (Emilia-Romagna Region, 2021).

In Emilia-Romagna, international immigration is the element that in the eighties and nineties had a significant impact on the dynamics of the population, so much so as to reverse the negative trend, contributing to slowing down the ageing process differentiate it throughout the territory. In more recent years, immigration in Emilia-Romagna has therefore become a phenomenon of undoubted importance that now touches all aspects of civil society. In 2005 the foreign population represented 6% of the resident population, while in 2021 it will be 12.2% (Istat data).

The strong ageing of the local population and the consequent need to find the human resources needed to guarantee development and quality of life from outside the regional and national boundaries, pose a simultaneous problem concerning the definition of the social infrastructure needed to guarantee cohesion in a society that is now multi-ethnic and destined to become increasingly so.

2.2. Regional transport and mobility overview and main features

The transport sector in Emilia-Romagna is a fundamental sector for the region's economic development for both passenger and cargo transport, at local, national and international level.

The region has an organised urban and suburban public transport network at all levels, a developed road network and valid port and airport hubs spread throughout the region.

Concerning the road consistency detected by ARS as of 31 December 2019, the region has 9 motorways for a total of 593.830 kilometres (main are: A1, A13, A14, A15, A21 and A22), 35 state roads for a total of 1,212.871 kilometres, 846 provincial roads for a total of 9,060.618 kilometres, finally there are 74,350 municipal roads, proximal, private and state roads. These types of roads are divided by metropolitan city and province, as shown in table 1.

Table 1: The road stock registered in ARS in December 2021 in the region. The data reported refer to the number of existing roads (n) and their extension (km). Source: Regional Roads Archive (ARS) Emilia-Romagna Region, July 2021.

Network	n.	extension (Km)
Highway	9	593,83
State road	82	1.985,89
Provincial	818	8.231,87
Municipal	74.380	37.648,63
Vicinal		4.086,52
Private		2.394,43
State-owned		8,793
Not classified		107,395
Total	75.289	55.057,35

Below is a map illustrating the administrative classification of the provincial, state and motorway road network and demonstrating the infrastructural capillarity of the region.



Figure 4 - Provincial, national road and highway network in the Emilia Romagna region. Source: Regione Emilia-Romagna, 2020. Rapporto annuale di monitoraggio della mobilità e del trasporto in Emilia-Romagna

In the field of public transport and urban mobility, the region intends, through various lines of action, programme agreements and funds provided for by state and regional laws, to co-finance measures to improve and qualify the mobility system in the main cities, in line with the environmental sustainability objectives set out in the Regional Transport Plan.

Total investments in mobility and public transport over the last twenty years amount to approximately 460 million euros, which represents an average investment contribution of about 23 million per year (Emilia-Romagna, 2020).

The region has 112 million vehicles per kilometre, which is higher than the minimum threshold estimated for the three years period (Regional Council Resolution No. 693/2016) (Emilia-Romagna, 2020).

Public subsidies made available for local public transport services have been steadily increasing: from around €277 million in 2012 to over €288 million in 2018. As far as the number of employees in the local public transport sector is concerned, there have been no significant changes in recent years, maintaining a stable trend.

In terms of sustainable mobility, the region of Emilia-Romagna sees cycling as an opportunity to improve air quality and the lives of residents in urban areas, as it is a means of transport that can satisfy a large proportion of daily travel needs. For this reason, within the PRIT (Regional Integrated Transport Plan) 2025, the bicycle network (and that of the Regional Cycleways) assumes a primary and integral role in the regional infrastructure system.

Currently, trips on two wheels account for 9-10% of all transport modes, while this share is 5% at the national level. The network of urban and extra-urban cycle paths is 1,120 km (compared with 3,800 planned). In addition, the region is crossed by 3 national and European cycle routes.

As regards the railway sector in the Emilia-Romagna region, there are 258 stations served by regional trains. To these are added the stations of Poggio Rusco and Suzzara, terminals of these routes and point of interconnection with the National Network as well as Gonzaga-Reggiolo, of the National Network line Modena-Suzzara. These 258 stations serve an infrastructure network of approximately 1,400 km, 1,050 of which are state-owned, on which a total of 910 trains run every day on average. "The level of services provided in 2019 is around 19,000,000 trains*km for regional services, a 3% increase on the previous year, for a consideration of €144 million." (Emilia-Romagna, 2020).

The number of passengers using this regional service on a daily basis in 2019 was around 160,500 on the average weekday in winter. Over the year as a whole, the average is around 49,800,000 (Emilia-Romagna, 2020).

In the last year analysed by the "annual mobility and transport monitoring report", compared to previous years, there is an increase in the number of passengers in both the winter and, above all, summer periods. In fact, after a few years of stability in the data, 2018 shows a +8% compared to 2017 and 2019 a +2% compared to 2018.

The following lines of national importance cross the regional territory:

- Ferrovia Milano-Bologna (conventional)
- Ferrovia Milano-Bologna (high-speed rail)
- Ferrovia Bologna-Firenze (direct)
- Ferrovia Bologna-Firenze (high-speed rail)
- Ferrovia Verona-Bologna
- Ferrovia Padova-Bologna
- Ferrovia Bologna-Ancona

The role of Bologna station is fundamental for rail mobility not only in the region but also in the entire national system, fifth in Italy in terms of size and volume of traffic. The station has 26 tracks, allowing about 700 trains to pass through it every day, for a total of about 58,000,000 passengers a year.

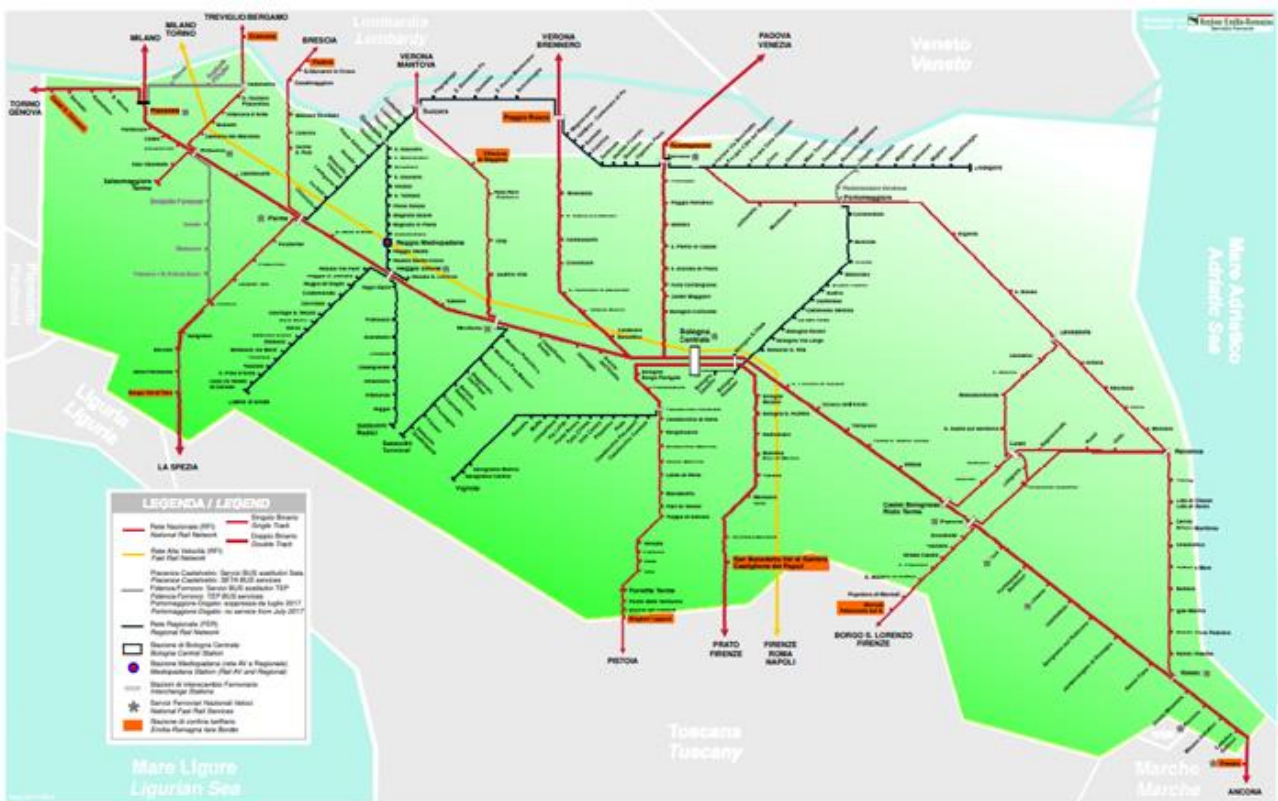


Figure 5 - Regional rail service of the region Emilia Romagna. Source: Emilia Romagna region website, reference context of the railway network. <https://mobilita.regione.emilia-romagna.it/ferrovie/sezioni/contexto-di-riferimento>.

The region's airport transport is mainly based on four airports, namely: Bologna airport, which currently ranks seventh among Italian airports; Parma airport, which ranks thirty-fourth; Rimini airport, which ranks twenty-seventh; and Forlì airport, which only resumed commercial service in 2021.

In terms of numbers, these four airports hosted around 10 million passengers in 2020, an increase of 11% compared to the previous year. Bologna airport contributes largely to the total number of passengers, registering around 9,400,000, while passengers registered in Rimini are around 400,000 and passengers at Parma airport reach 75,000 (Emilia-Romagna, 2020).

As far as airport freight transport is concerned, a total of 48,864 tons of freight transported was recorded in 2020, down 7.5% compared to the previous year. Bologna airport is essentially the only regional airport to carry out this service, recording a total of 48,833 tonnes (Emilia-Romagna, 2020).

Another important sector for the regional economy is waterway transport. In Emilia-Romagna, this mode of transport is mainly constituted by the Po river and the Ferrarese waterway. The Veneto Po Valley waterway system has an extension of 957 km, of which 564 km can be used for commercial purposes, consisting mainly of the Po river axis and the Ferrara waterway (see figure 6). There are 5 tourist operators on the regional territory that organise excursions, cruises, and boat hire on the waterway system.

As far as the transport of goods by river is concerned, an increasingly marked abandonment of this commercial means of transport can be noted, even though the data confirm its considerable advantages in economic and safety terms. The latest available data, as of 2018, confirm the difficulties in the Veneto's Po river transport, with values of less than 200,000 tonnes. A large part of the total share is accounted for by exceptional transport.

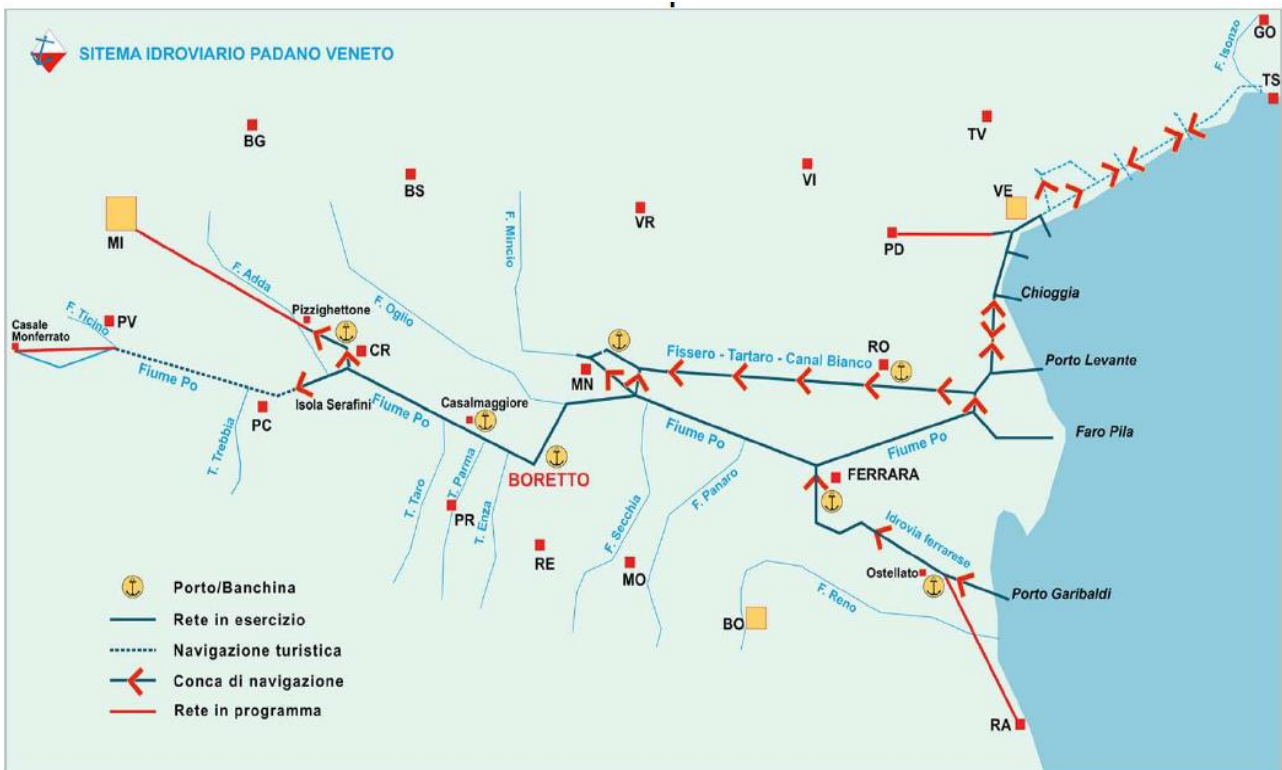


Figure 6 - Veneto's Po Valley waterway system. Source: Regione Emilia-Romagna, 2020. Rapporto annuale di monitoraggio della mobilità e del trasporto in Emilia-Romagna.

A final important issue for the Framesport project is the port infrastructure in the region. As far as the commercial transport of goods is concerned, the regional reference port on the Adriatic Sea is the Port of Ravenna (port of national interest), a consolidated port managed by the Port Authority of the Central-Northern Adriatic Sea. Over time, it has been transformed from an industrial port into a commercial port. It is a canal port with 22 private terminals and 14 km of operational quays with depths ranging from 10m to 11.5m. The port is equipped with warehouses for a total of about 600,000 square metres, yards for a total of 1,300,000 square metres, while the tanks/silos have a capacity of 1,200,000 cubic metres (Emilia-Romagna, 2020).

In 2019 in the Port of Ravenna, more than 26.2 million tons of goods were handled (26,256,248 tons) with a slight decrease compared to 2018 (-1.6%, or about 428 thousand tons less). The main

categories of goods handled were: metallurgical products, agri-food products and construction materials and raw minerals (Emilia-Romagna, 2020).

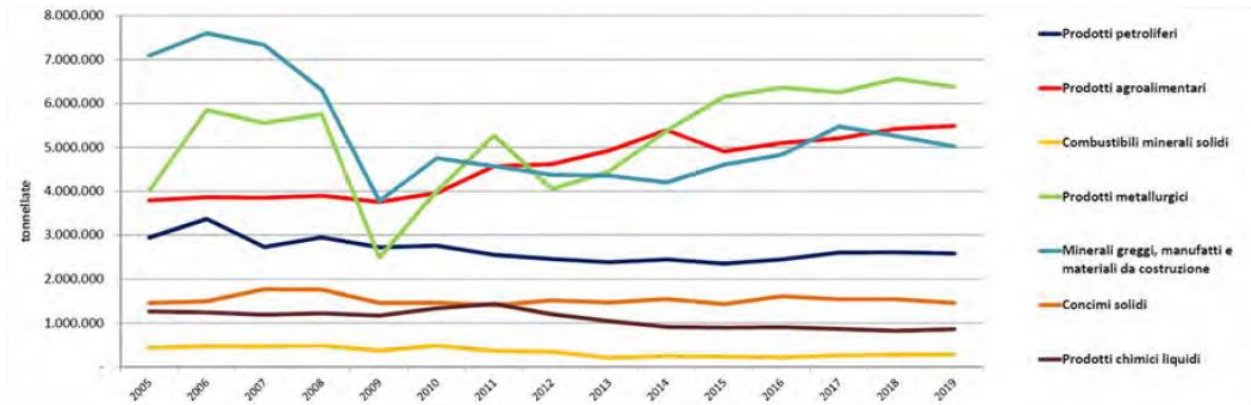


Figure 7 - Major categories of goods handled (t/year) (Years 2005-2019). Source: Rapporto annuale di monitoraggio della mobilità e del trasporto in Emilia-Romagna 2020.

The inclusion of the port of Ravenna among the core ports for the European TENT-T networks and being part of both the Baltic-Adriatic corridor 1 and the Mediterranean corridor 3 make it a node accessible from the main Italian and European markets.

It should be noted that the Port of Ravenna is connected to the national and international railway systems both through the line to Castel Bolognese-Bologna and through the alternative routes that connect to the Ravenna-Ferrara line. There is also an excellent connection with the road and motorway infrastructures through the Ravenna ring road that connects it to the A14 motorway.

As far as passenger transport is concerned, in recent years the Port of Ravenna has seen a sharp drop in the number of cruise passengers from 156,000 in 2011 to 17,000 in 2019 (Emilia-Romagna, 2020).

The Ferry Terminal of the Port of Ravenna occupies an area of 125,000 square metres and has two berths for ferries with a depth of 11.5 metres. The Terminal is currently served by the ferries of the Ravenna-Brindisi-Catania (Tirrenia-CIN) line, the leading Adriatic route on the national Motorways of the Sea, and Ravenna-Bari-Patrasso (Grimaldi), for a total of 34 calls in 2019 (Emilia-Romagna, 2020).

A second category of ports in the region is that of ports of regional and municipal importance, which perform a function mainly dedicated to pleasure boating and fishing activities. In general, ports of regional interest perform a complex range of functions: commercial, industrial, passenger, fishing, tourism and pleasure boating. There is no real functional specialisation, although the most important development factor is generally the pleasure boating activity. In all cases, the aspects more directly linked to passenger or freight transport are either residual or almost entirely absent, strongly conditioned by the physical structure of the port itself (Regione Emilia-Romagna, 2019)⁵.

The port system of regional interest is made up of all the individual physical port realities distributed along the Adriatic coast of the region. The regional ports or minor ports are: Cattolica, Cesenatico, Goro, Porto Garibaldi and Rimini. These ports will be analysed and described in more detail in Chapter 3. There are also four municipal ports: Bellaria, Cervia, Gorino, Riccione. In addition to these, there are maritime tourist ports and harbours and inland ports and harbours. The latter two categories include existing private marinas. The total number of berths foreseen by PRIT 2025 for ports of regional interest is 9.186.

⁵ Regione Emilia-Romagna, 2019. Piano Regionale Integrato dei Trasporti - PRIT 2025. Relazione Tecnica. Fase approvazione.



Figure 8 - Seaports in Emilia-Romagna. Source: Regione Emilia-Romagna, 2019. Piano Regionale Integrato dei Trasporti - PRIT 2025. Relazione Tecnica. Fase approvazione.

2.3. Overall governance and transport planning references

The governmental entity responsible for the organisation and governance of the regional transport infrastructure is the Emilia-Romagna Region. This body has long since made the choice of an integrated strategy for the government of mobility, capable of coordinating with other regional policies with the aim of guaranteeing social cohesion and quality of life, combining environment, economy and society. This strategy is not limited to providing infrastructural or service responses to the growth in transport flows. However, it aims, in general, to guarantee correct levels of

accessibility for people and goods, in a logic that reduces the need for travel, optimises it and directs it towards more sustainable modes, also acting on the behavioural level. Transport planning plays an important role in defining urban and territorial organisation, the infrastructure framework and services, their effectiveness and organisation, the promotion of better behaviour and, in general, "demand management".

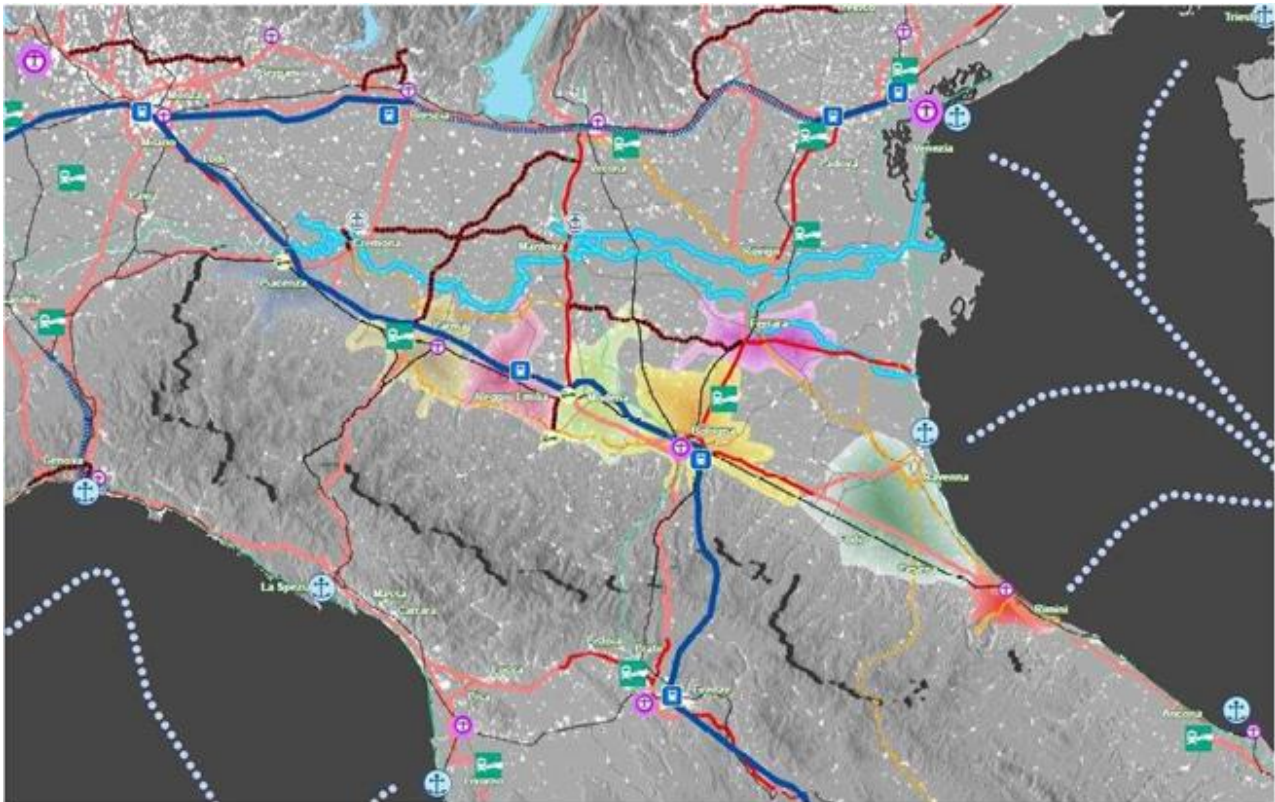


Figure 9 - Strategic Territorial Framework, Source: Regione Emilia-Romagna, 2019. Piano Regionale Integrato dei Trasporti - PRIT 2025. Relazione Tecnica. Fase approvazione.

The main instrument of regional action in this field is the Integrated Regional Transport Plan - PRIT, defined by Regional Law n°30/1998. The Region has started the process for elaborating the new PRIT 2025, which is following the procedure foreseen by art. 5 bis L.R. 30/1998 for its approval. For the PRIT 2025 the transport sector must contribute to the construction of a sustainable regional territorial model under the following different profiles:

1. the environment and quality of life, to reduce the negative impacts of mobility on the ecosystem and health (greenhouse gas emissions, pollution, energy and land consumption, degradation of the urban landscape, etc.);
2. the social profile, in order to improve accessibility to the area, the city and its functions (places of work, study and leisure; public and private services; etc.), by increasing the efficiency of the various modes of transport and their integration, reducing the need to travel (on-line services, teleworking, etc.), meeting the needs of all citizens and improving safety.
3. the economic profile, in order to support an offer of mobility networks and services able to increase the economic-productive competitiveness of the territory, reduce the unit costs of the sector, increase its efficiency and open it to the market where appropriate;
4. the participatory profile, in order to improve the governance and regulation of the sector's competencies on the territory, while ensuring processes of transparency and participation of all social actors.

PRIT 2025 considers it important to aim for maximum integration of the network and nodes within a functional hierarchy. It takes into account the need for different levels of accessibility and different territorial scales. In particular, it identifies the following levels

- The first level enables national and international relations, and directly includes the provisions (nodes and axes) of the Community framework (TEN-T networks) and national plans such as the National Airport Plan, the Ports and Logistics Plan, the national railway network as well as the cycle routes identified by the national system of Tourist Cycle Routes. Within this strategic level, three multimodal corridors are of particular importance. These corridors include as main nodes: the airport and the railway station of Bologna, the Medio Padana station of Reggio Emilia, the Port of Ravenna; for logistics: the freight villages of Bologna and Parma, the airports of Marzaglia-Dinazzano and Le Mose in Piacenza:
 - the "Dorsale centrale" corridor, consisting of the A1 motorway, the Bologna motorway-tangenziale (ring road) junction and the high-speed railway network alongside the historic one;
 - the "Adriatic" corridor, consisting of the A14, A14 Ravenna branch, the SS16 Adriatica, the Adriatic railway line and the Port of Ravenna;

- the 'Tyrrhenian-Brenner' corridor, consisting of the A22 Brenner and A15 Cisa motorways, the Brenner railway axis and the Parma-La Spezia railway line (Tibre ferroviario).
- The second level is that of regional relations, mainly aimed at the accessibility of large urban areas, industrial districts and in general the main attractive and generative poles. It is an integrated network, added to the previous one, capable of guaranteeing medium-distance travel by concentrating flows on a few main routes.
- The third level, closely related to the previous one, is that of the local mobility system, i.e. interprovincial and inter-municipal connections, which is closely related to the region's high settlement and production density.

PRIT2025 strongly emphasises both the relationship and integration with other planning instruments, and the delimitation of its scope of intervention for the sector's participation in achieving the objectives of sustainable regional development. The main plans and themes that the PRIT 2025 looks to in order to coordinate its actions are listed below.

- Regional Territorial Plan, PTR

The PRIT moves within a perimeter defined by the regional competencies in the transport sector and with a view to both vertical integration - i.e. in harmony with the framework of guidelines and regulations at a higher level (European Union, central government) and lower level (local authorities) - and horizontal integration, i.e. in harmony with the programmatic objectives and strategic options expressed by the PTR and the sectoral plans that closely interact with transport, such as those relating to energy and air quality.

- Regional Integrated Air Plan, PAIR2020

The Regional Integrated Air Plan, PAIR2020, recently approved by the Emilia-Romagna Region with resolution no. 115 of 11 April 2017, provides measures for the remediation of air quality in order to reduce the levels of pollutants on the regional territory and to fall within the limit values set by Directive 2008/50/EC and Legislative Decree 155/2010. The PAIR 2020 has a strategic reference time horizon of 2020 and the areas of intervention include sustainable management of cities, mobility of

people and goods, energy saving and energy requalification. Since these are issues of direct interest, PRIT2025 takes these actions into account, coordinating them with its own actions and considering them as an additional step with respect to its own objectives, defined for 2025.

- Regional energy plan, PER

The Regional Energy Plan, PER, approved by resolution no. 111 of 1 March 2017, sets the Emilia-Romagna Region's strategy and objectives for climate and energy up to 2030 in terms of strengthening the green economy, energy-saving and efficiency, development of renewable energies, research, innovation, training and transport interventions. The EPR defines a "target scenario" to 2030 that the Emilia-Romagna Region is committed to achieving by coordinating its policies and all regulatory and planning instruments, aware that the achievement of such objectives requires, however, joint action at national and regional level. PRIT2025, in order to be consistent with the strategy defined by the EPR, is part of this pathway by defining a series of guidelines and actions able to contribute to the achievement of the overall regional objectives, setting an intermediate step for transport in 2025.

- Unified mitigation and adaptation strategy for climate change

Awareness of climate change and its consequences requires, on the one hand, actions aimed at combating its evolution (mitigation actions now at the core of environmental policies in different European, national and local contexts and programmes), and on the other hand, the need to activate actions to mitigate the effects already present or expected in the short to medium term. By signing the "Subnational Global Climate Leadership Memorandum of Understanding Under2 MoU" in November 2015, the Emilia-Romagna Region committed to reducing its climate-changing emissions by 80% compared to the 1990 value, or under two tonnes per capita, by 2050. Consequently, it has recently approved a 'unitary strategy for the climate' able to implement mitigation policies leading to an effective reduction of greenhouse gas emissions and decisive and rational actions of adaptation to climate change, which are oriented to limit the potential 'damage' of the consequences of climate change and to exploit the opportunities. This Regional Adaptation and Mitigation Strategy aims first of all to provide an overall framework of reference, in order to assess the implications of climate change in the various sectors concerned, to coordinate and enhance the adaptation and mitigation measures provided for in current regional plans and programmes, and to encourage the adoption of new measures for those under review, identifying for each sector, including transport, the possible contribution.

Referring to the integration between the axes and the convergence with spatial planning tools, the PRIT 2025 assumes the objectives of:

- to ensure the sustainable development of transport by reducing energy consumption, polluting emissions and territorial impacts;
- ensure high levels of integrated accessibility for people and goods;
- contribute to governing and ordering territorial transformations according to the different levels of accessibility that must be guaranteed;
- ensure high reliability and security of the system;
- increasing the liveability of territories and cities, decongesting spaces from private traffic and recovering adequately equipped areas for non-motorised mobility;
- to ensure equal access to mobility for all, guaranteeing in particular the rights of the most vulnerable groups;
- promote participatory mechanisms for decision-making in mobility, transport and infrastructure;
- ensuring efficient and effective use of public resources for public mobility services and infrastructure investments;
- ensure the attractiveness of the area for external investment and thus improve the competitive environment in which businesses operate.

3. Analysis of regional small ports’ phenomenon (i.e.e resulting from the analysis of the result of the questionnaire)

This chapter will present the quantitative data collected to describe the current state of the regional small ports. The data collected are the result of eight questionnaires concerning the services provided within the tourist ports in table 2.

Table 2: Tourist ports analysed

Porto Canale di Rimini	Marina di Rimini	Porto Canale di Cesenatico	Onda Marina Porto Turistico di Cesenatico	Porto Canale di Porto Garibaldi	Marina degli Estensi	Marina di Goro	Marina di Cattolica
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The questionnaires are oriented to determine and analyse: the dimensional characteristics of the port facilities, the infrastructural connections, the tariffs, and the essential technical, accessory and environmental services offered to the users. These data are divided into the following sub-chapters:

- Overall description of available infrastructures (position, visualisation, berth details and capacities, hinterland connection)
- Overall description of available services for users (technical services, nautical services, touristic services)
- Overall information on annual traffic data

3.1. Overall description of available infrastructures (position, visualisation, berth details and capacities, hinterland connection)

Porto Canale di Rimini

The Porto Canale di Rimini consists of the original mouth of the Marecchia river, with banks on both sides and extensions on two piers. The stretch of the canal between the Ponte della Resistenza and the Ponte Romano is quayed and allows the mooring of numerous boats without masts and with superstructures with a waterline not exceeding 1.25 m. The wharf is also reachable through the cycle path network that connects the waterfront, including the new Parco del Mare, to the city's historical centre, next to the Sinistra del Porto street. There are activities closely linked to fishing on the Sinistra del Porto street, including shipyards, mechanical workshops, wholesale fish market, and nautical stores. On the right side of the Port stands the lighthouse, a symbol of the Marine Industry. It was erected on the foundations of the old lighthouse built in 1754 and destroyed during the Second World War. It is over 27 meters high and has a luminous range of 15 miles.



Figure 10: Porto Canale di Rimini territorial framework

Table 3: port specifics, Porto Canale di Rimini

	Total area (in square meters and including all services present) on which the port is developed:	Port mouth in meters:	Minimum bottom depth in meters:	Maximum draught for berth in meters:	Maximum boat height in meters:	Maximum boat length in meters:	Maximum vessel tonnage in metric tons (equivalent to 100 cubic feet or 2.83 cubic meters):
Porto Canale di Rimini	-	46	3,2	2,4	30	18	100

Marina di Rimini

Marina di Rimini is one of the most advanced marinas in the Adriatic Sea. It is accessed through the old canal port, which allows boats to enter during any sea conditions. The depth is 4 meters, which is suitable for large boats. There is also a large storage area and a 100-ton bridge crane for hauling and launching boats and for repairing hulls, sails and equipment on board.

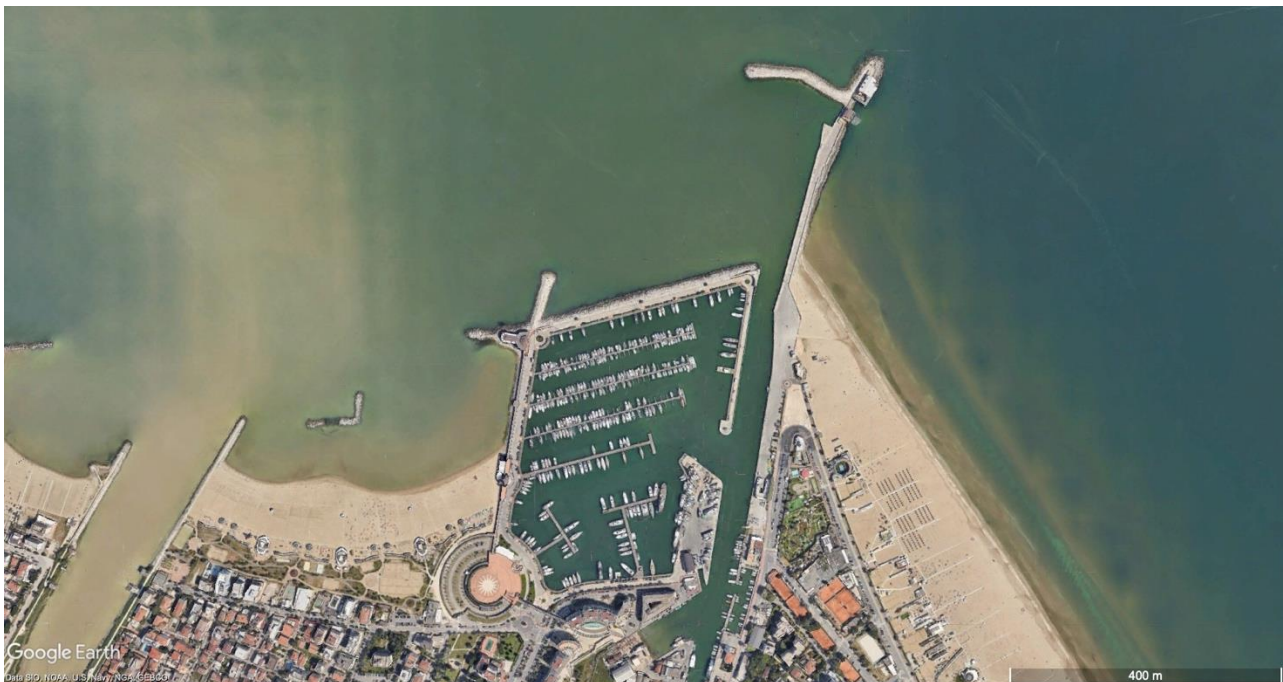


Figure 11: Marina di Rimini territorial framework

Table 4: port specifics, Marina di Rimini

	Total area (in square meters and including all services present) on which the port is developed:	Port mouth in meters:	Minimum bottom depth in meters:	Maximum draught for berth in meters:	Maximum boat height in meters:	Maximum boat length in meters:	Maximum vessel tonnage in metric tons (equivalent to 100 cubic feet or 2.83 cubic meters):
Marina di Rimini	103.000	46	3,5	4	30	45	150

Porto Canale di Cesenatico

The canal port runs through the centre and hosts, in suggestive cohabitation, historical and modern boats and fishermen's nets. It has a vital historical role, especially for the identity of the city of Cesenatico and for the entire Riviera. This is also connected to the fact that its project is attributed to the renowned renaissance architect Leonard. Even if this attribution is still a topic of discussion between historians, Leonardo's "passage" had a strong value for the local community. The naming of "Leonardesque" of the Canal Harbour evidences this local pride.



Figure 12: Porto Canale di Cesenatico territorial framework

Table 5: port specifics, Porto Canale di Cesenatico

	Total area (in square meters and including all services present) on which the port is developed:	Port mouth in meters:	Minimum bottom depth in meters:	Maximum draught for berth in meters:	Maximum boat height in meters:	Maximum boat length in meters:	Maximum vessel tonnage in metric tons (equivalent to 100 cubic feet or 2.83 cubic meters):
Porto Canale di Cesenatico	-	37	2	2	30	26	150

Onda Marina, Porto Turistico di Cesenatico

The tourist port of Cesenatico is situated in a short distance from both the old town centre of Cesenatico and the beaches. To access the tourist port, the canal port "Leonardesco" has to be followed for about 500 meters from the port mouth, which is 37 m long. The maximum boat height and lengths can get access is 30m.

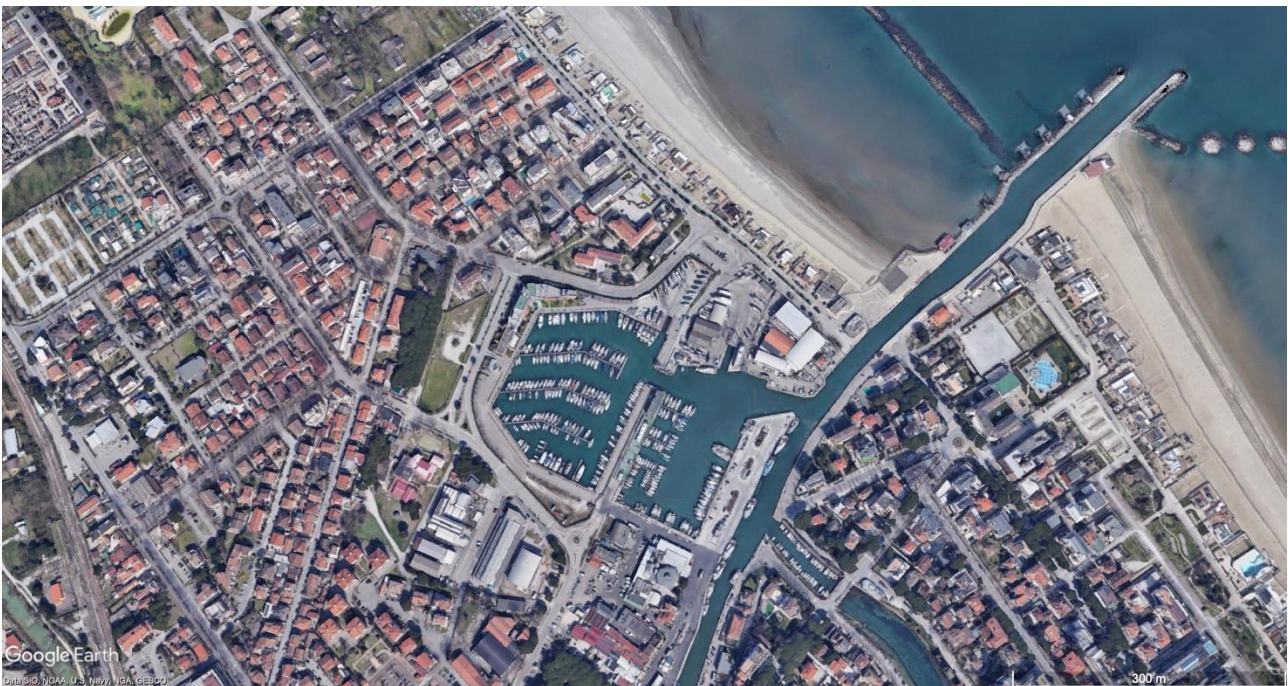


Figure 13: Onda Marina Porto Turistico di Cesenatico territorial framework

Table 6: port specifics, Onda Marina Porto Turistico di Cesenatico

	Total area (in square meters and including all services present) on which the port is developed:	Port mouth in meters:	Minimum bottom depth in meters:	Maximum draught for berth in meters:	Maximum boat height in meters:	Maximum boat length in meters:	Maximum vessel tonnage in metric tons (equivalent to 100 cubic feet or 2.83 cubic meters):
Onda Marina Porto Turistico di Cesenatico	-	37	3	3	30	30	150

Porto Canale di Porto Garibaldi

The Porto Canale di Porto Garibaldi is constituted by the terminal part of the Pallotta channel, and it is an important fishing and touristic port. Situated at about 30 km to the North of the Port of Ravenna, the Port is delimited by the town in its immediate North boundary, while to the South of the Port's border with the town of Lido degli Estensi. The port area is delimited to the North by Via Caduti del Mare and Via Matteotti and to the South by the end of Via Tasso in the direction of the bridge on the SS 309 Romea, which is the limit of the maritime waters.



Figure 14: Porto Canale di Porto Garibaldi territorial framework

Table 7: port specifics, Porto Canale di Porto Garibaldi

	Total area (in square meters and including all services present) on which the port is developed:	Port mouth in meters:	Minimum bottom depth in meters:	Maximum draught for berth in meters:	Maximum boat height in meters:	Maximum boat length in meters:	Maximum vessel tonnage in metric tons (equivalent to 100 cubic feet or 2.83 cubic meters):
Porto Canale di Porto Garibaldi		35	2,5	2,5	20	20	150

Marina degli Estensi

The Marina degli Estensi built in the southern part of the city of Comacchio is part of the port complex of Porto Garibaldi. The Marina covers an area of 41000 square meters and includes several floating docks and mooring docks. The port's access is continuous and can be accessed by crossing the port-channel for about half a mile and taking on the left the Canale delle Vene, 4 meters deep, marked by green and red lights.

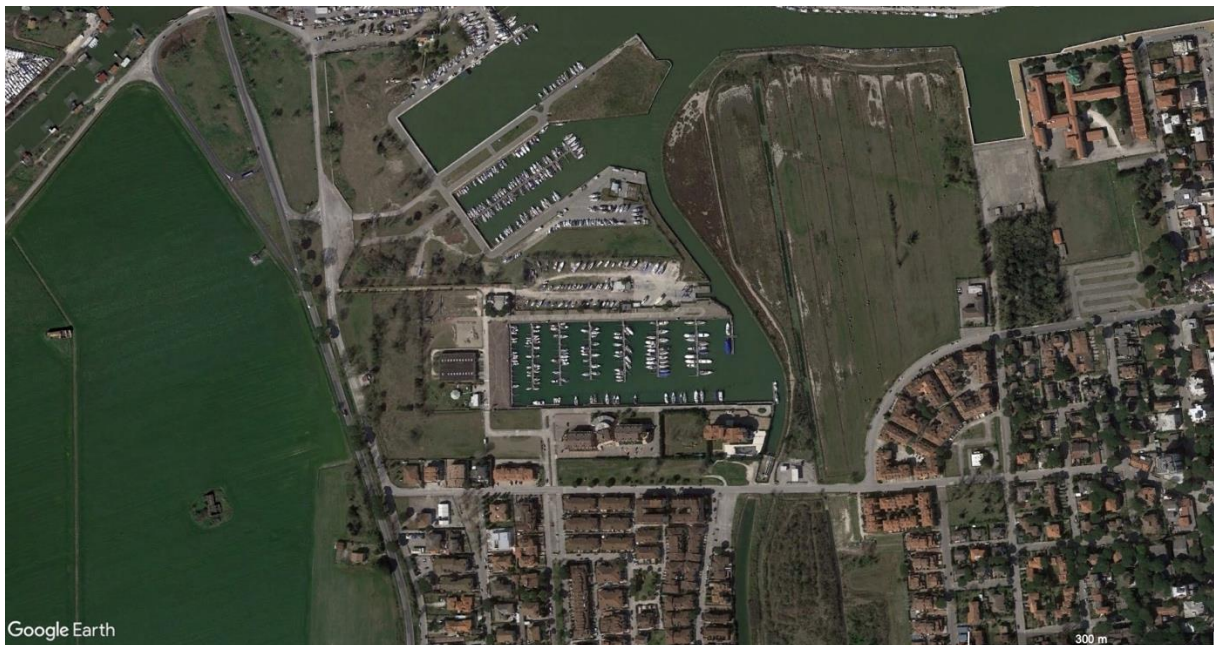


Figure 15: Marina degli Estensi territorial framework

Table 8: port specifics, Marina degli Estensi

	Total area (in square meters and including all services present) on which the port is developed:	Port mouth in meters:	Minimum bottom depth in meters:	Maximum draught for berth in meters:	Maximum boat height in meters:	Maximum boat length in meters:	Maximum vessel tonnage in metric tons (equivalent to 100 cubic feet or 2.83 cubic meters):
Marina degli Estensi	41.000	35	3	2,5	25	25	150

Marina di Goro

The Marina di Goro is located inside a lagoon called Sacca di Goro. It can host boats with a draught of up to 1.60 meters and a length of 15 meters. The port, which covers an area of 15 hectares, was expanded in 2009 to its current size. The port can be reached by sailing west along the Scannone di Goro and turning North half a mile from the beach of Volano to enter an access channel 2.50 - 3.00 meters deep. Two lighted elements signal the beginning of a row of wooden piles to be kept on the left to reach the port after about 3 miles.

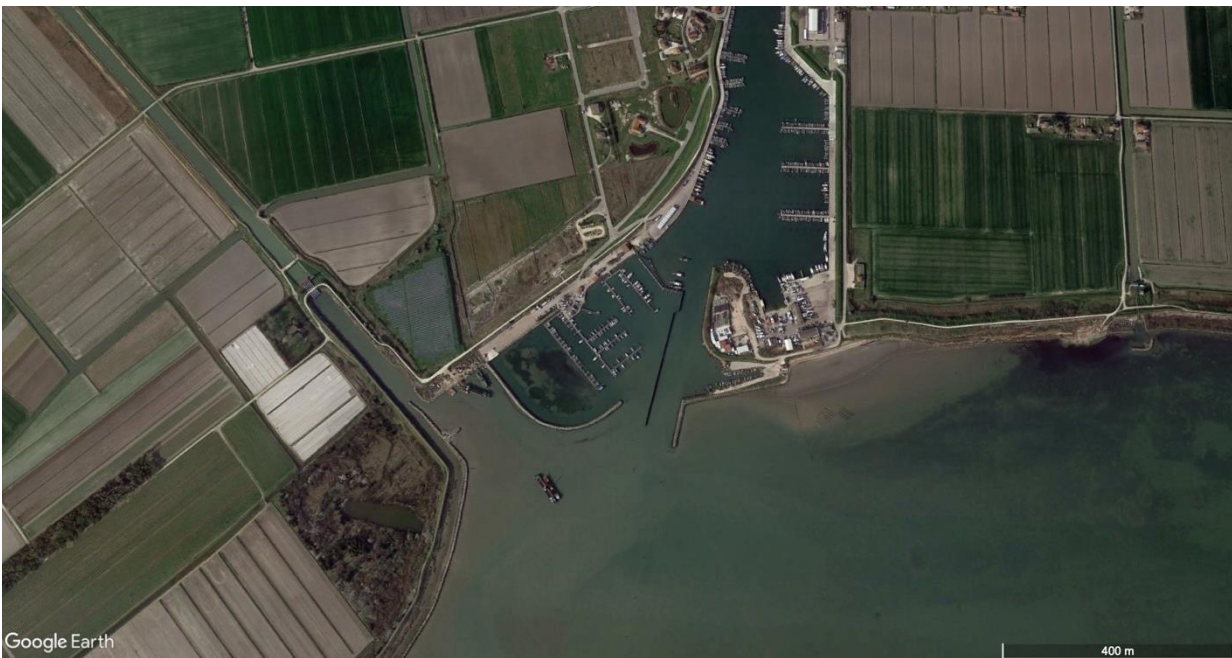


Figure 16: Marina di Goro territorial framework

Table 9: port specifics, Marina di Goro

	Total area (in square meters and including all services present) on which the port is developed:	Port mouth in meters:	Minimum bottom depth in meters:	Maximum draught for berth in meters:	Maximum boat height in meters:	Maximum boat length in meters:	Maximum vessel tonnage in metric tons (equivalent to 100 cubic feet or 2.83 cubic meters):
Marina di Goro	150.000	51	2,1	1,6	20	16	50

Marina di Cattolica

Marina di Cattolica is located in the centre of the city in the province of Rimini in Emilia-Romagna. The Marina has been recently transformed into a tourist and commercial pole, thanks to the fact that it is surrounded by a carriageable bank. In the port, there are fixed and mobile piers equipped with supply columns and complete with wooden piles, bollards and rings for anchoring.



Figure 17: Marina di Cattolica territorial framework

Table 10: port specifics, Marina di Cattolica

	Total area (in square meters and including all services present) on which the port is developed:	Port mouth in meters:	Minimum bottom depth in meters:	Maximum draught for berth in meters:	Maximum boat height in meters:	Maximum boat length in meters:	Maximum vessel tonnage in metric tons (equivalent to 100 cubic feet or 2.83 cubic meters):
Marina di Cattolica	-	31	4	3,5	30	35	150

Table 11: summary of ports

	Porto Canale di Rimini	Marina di Rimini	Porto Canale di Cesenatico	Onda Marina Porto Turistico di Cesenatico	Porto Canale di Porto Garibaldi	Marina degli Estensi	Marina di Goro	Marina di Cattolica
Total area (in square meters and including all services present) on which the port is developed:	-	103.000	-	-	-	41.000	150.000	-
Port mouth in meters:	46	46	37	37	35	35	51	31
Minimum bottom depth in meters:	3,2	3,5	2	3	2,5	3	2,1	4
Maximum draught for berth in meters:	2,4	4	2	3	2,5	2,5	1,6	3,5
Maximum boat height in meters:	30	30	30	30	20	25	20	30
Maximum boat length in meters:	18	45	26	30	20	25	16	35
Maximum vessel tonnage in metric tons (equivalent to 100 cubic feet or 2.83 cubic meters):	100	150	150	150	150	150	50	150

Berths

Marina di Rimini and Marina di Goro are the two ports with the highest number of berths, 466 and 352 respectively. On the other hand, Porto Canale di Cesenatico, Porto Canale di Porto Garibaldi and Marina di Cattolica have the lowest number of berths, respectively 136, 177 and 185. The total capacity of available moorings is 2048.

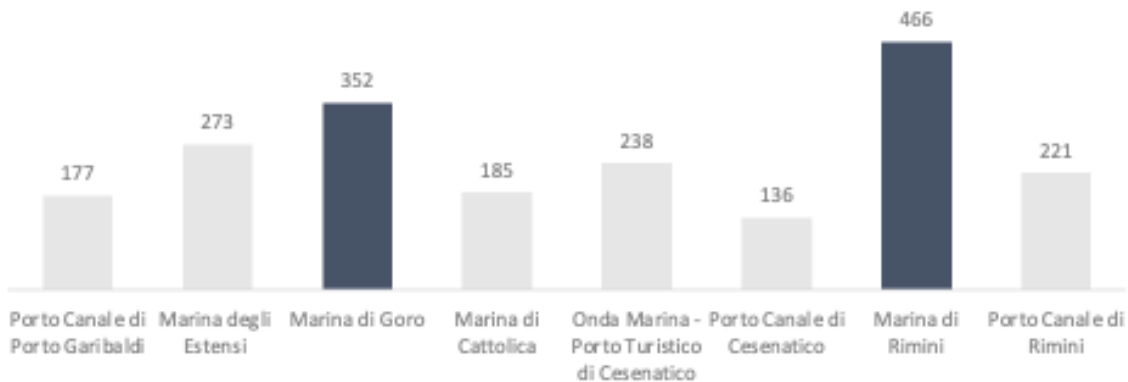


Figure 18: total number of berths per port

More in detail, the availability of berths in relation to boat size shows a high capacity for small boats, particularly 2.5 x 7.0 m (506 total) and 3.5 x 10 m (616 total). It also shows that moorings are greatly reduced with boat lengths greater than 18 m. There are 14 berths for boats over 21 m long, 12 of which are available in the Marina of Rimini and 2 in the tourist port of Cesenatico. The total of all berths with a boat length between 21 m and 36 m is 48 berths. Marina di Cattolica is the only Marina that can accommodate 9 boats up to 7.5 x 32 m and 1 boat up to 8 x 36 m.

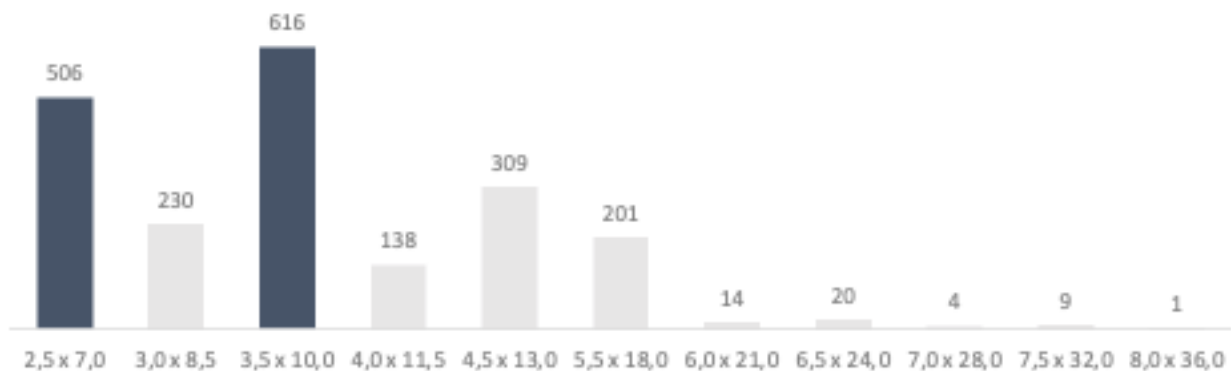


Figure 19: total number of berths per boat size

Table 12: total number of berths by boat size per each port

(m)	Porto Canale di Rimini	Marina di Rimini	Porto Canale di Cesenatico	Onda Marina Porto Turistico di Cesenatico	Porto Canale di Porto Garibaldi	Marina degli Estensi	Marina di Goro	Marina di Cattolica
2,5 x 7,0	100	96	29	9	20	67	180	5
3,0 x 8,5	15	100	52	8	43	-	-	12
3,5 x 10,0	70	110	35	88	50	106	120	37
4,0 x 11,5	12	7	12	-	54	19	-	34
4,5 x 13,0	22	94	-	58	10	35	52	38
5,5 x 18,0	2	35	8	73	-	46	-	37
6,0 x 21,0	-	12	-	2	-	-	-	-
6,5 x 24,0	-	8	-	-	-	-	-	12
7,0 x 28,0	-	4	-	-	-	-	-	-
7,5 x 32,0	-	-	-	-	-	-	-	9
8,0 x 36,0	-	-	-	-	-	-	-	1

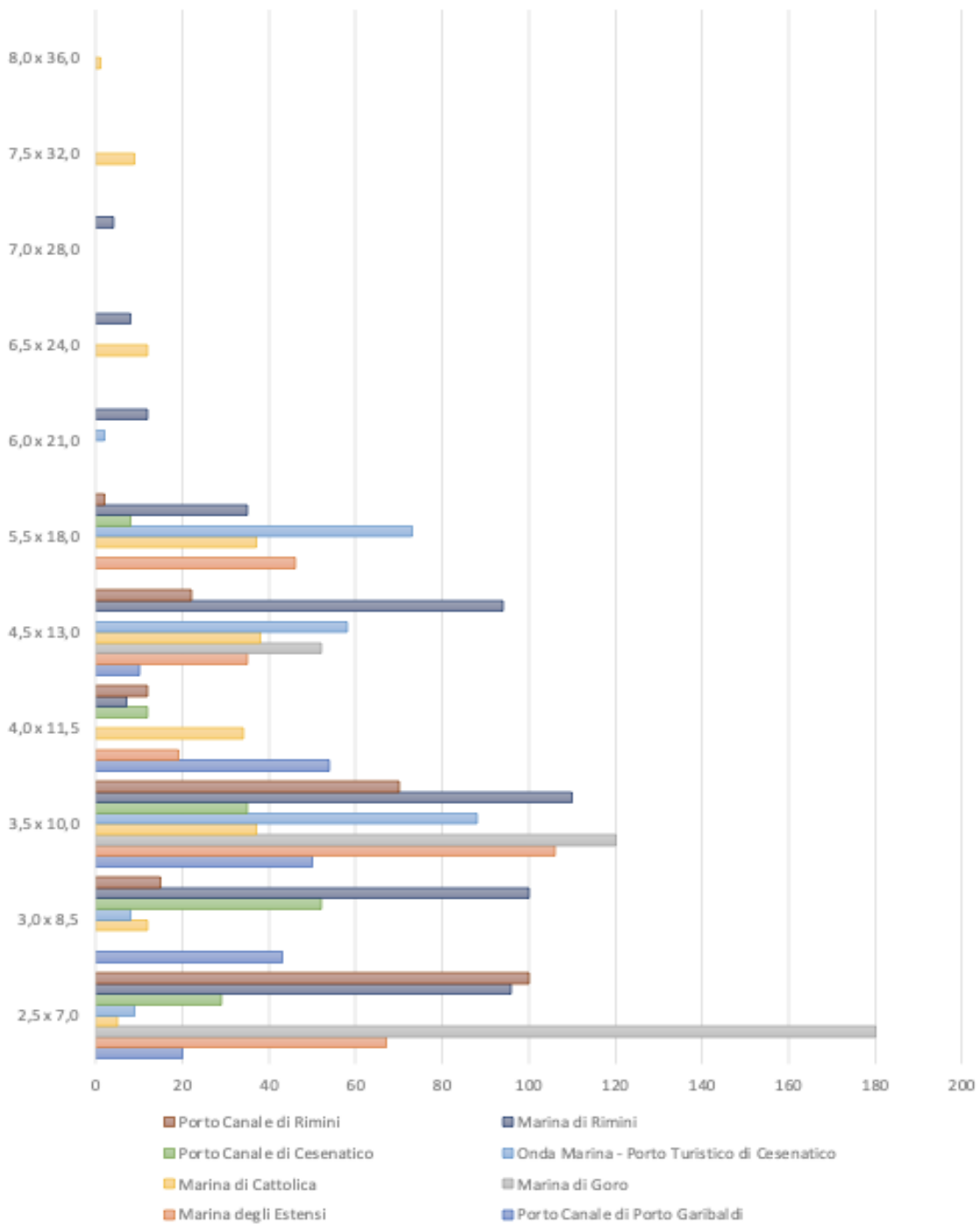


Figure 20: histogram on total number of berths by boat size in the analyzed ports

In all ports, access is allowed to both sail and motorboats. The tourist port of Cesenatico has 23 moorings available with a duration of up to 15 days and without a contract, followed by the Porto Canale of Rimini with 12 moorings and Marina di Cattolica with 10. It should be noted that none of the ports under examination allows seasonal contracts and that most of the moorings are for annual contracts.

Table 13: number of berths with contracts (15 days, seasonal, annual)

	Porto Canale di Rimini	Marina di Rimini	Porto Canale di Cesenatico	Onda Marina Porto Turistico di Cesenatico	Porto Canale di Porto Garibaldi	Marina degli Estensi	Marina di Goro	Marina di Cattolica
Berths with mooring duration up to 15 days (without contract)	5%	0	5	23	5	0	5	10
Seasonal contracts (from 15 days to 6 months)	0	0	0	0	0	0	0	0
Annual contracts	95%	0	95	300	95	100	95	185

Hinterland connection

In terms of connections to the main infrastructures and services related to public safety, there is low connectivity to local public transport stations (bus and tram). However, bus stops are present and within a short distance from the port. These can be reached by foot in most cases and their distance do not exceed 4.2 km from the port.

Public safety services (firemen, carabinieri and police station) are relatively close. In particular, the nearest carabinieri station varies from 350 m (Porto Canale di Porto Garibaldi) to a maximum of 11 km (Porto Canale di Rimini). In comparison, the firemen station is at a minimum of 1.5 km (Porto Canale and tourist port of Cesenatico) to a maximum of 20 km (Marina di Goro).

Compared to the different port realities, Marina di Goro appears to be the most infrastructurally disconnected. On the contrary, Marina di Cattolica and Marina di Rimini are the most connected and close to public safety services and stations.

Table 14: connection and distance (km) of public services nearby the ports

	Porto Canale di Rimini	Marina di Rimini	Porto Canale di Cesenatico	Onda Marina Porto Turistico di Cesenatico	Porto Canale di Porto Garibaldi	Marina degli Estensi	Marina di Goro	Marina di Cattolica
Train station	0,8	0,8	0,6	0,6	32	30	66	0,8
Airport	no	7	31	31	98	97	135	7
Bus station	no	0,8	0,8	"-"	1	0,8	"-"	"-"
Bus stop	4,2	0,1	0,1	0,5	1	"-"	2	0,1
Tram station	6	"-"	"-"	"-"	"-"	"-"	"-"	"-"
Tram stop	0,1	"-"	"-"	"-"	"-"	"-"	"-"	0,8
Highway	4,2	5,3	11,7	11,7	68	58	74	5,5
Firefighters	5,1	6	1,5	1,5	1,7	1,8	20	3,9
Carabinieri station	11	0,5	3,9	3,9	0,35	1,9	7,9	1,9
Police station	49	4,2	17	17	18	106	17	10,2

3.2. Overall description of available services for users (technical services, nautical services, touristic services)

Technical services and accessories

Within the ports there are several essential services for boats. In particular, it should be noted that all ports offer:

- Launching and hauling;
- Hull washing;

- Dry-docking;
- Boat storage areas

Moreover, except for Porto Canale di Porto Garibaldi and Marina di Goro, all of them are equipped with a wagon to move boats and crane service, self-propelled on land, except for Porto Canale di Cesenatico. Regarding the wagon for moving boats, the capacity in tons varies between 100 and 160 except in the case of Marina degli Estensi with 16 tons and 50 tons in the tourist port of Cesenatico. The crane service also presents similarities in terms of weight capacity, in fact, tons range goes from 60 to 100, except for Marina degli Estensi with a maximum lifting capacity of 3.5 T and Marina di Goro with 11 T.

Finally, only 3 out of 8 ports do not have a shipyard within the port: Marina degli Estensi, Cesenatico Tourist Port and Marina di Rimini.

Table 15: essential boat services

	Porto Canale di Rimini	Marina di Rimini	Porto Canale di Cesenatico	Onda Marina Porto Turistico di Cesenatico	Porto Canale di Porto Garibaldi	Marina degli Estensi	Marina di Goro	Marina di Cattolica
The wagon capacity in tons for the boats transportation:	100 T	100 T	160 T	50 T	-	16 T	-	150 T
The crane capacity in tons:	60 T	65 T	80 T	-	80 T	3,5 T	11 T	100 T
Is there a construction site present within the harbor?	Yes	No	Yes	No	Yes	No	Yes	Yes

Within the other ports where the shipyard is present, the following accessory technical services are offered:

- Sale of technical products for the boat at the stores and/or warehouses;
- Bodywork activities;
- Sailmaking and repair;

- Sale of technical products for the boat by order on commission;
- Upholstery activities;
- Rigging or rigging activities;
- Mechanical workshop;
- Electrotechnical;
- Shipyard Manager;
- Dry-docking activities;
- Electronics;
- Warehouseman;
- Resin activities;
- Nautical carpenter.

In all ports there is the figure of the OTS (Operatore Tecnico Subacqueo) and a fire extinguishing system on the docks.

Mooring attendants are present in all ports but the service is not available 24 hours a day. There is no emergency service for mooring and in three ports (Porto Canale di Porto Garibaldi, Porto turistico di Cesenatico and Porto Canale di Cesenatico) there are no night watchmen. The night watchman, where present, does not cover the function of the mooring attendant. All ports offer a secretarial service.

As far as primary personal services are concerned, they are present in all ports:

- Toilets;
- Showers;
- Parking for cars.

The Security service (security for the person, boat, car) is instead available within the Marinas: Estensi, Goro, Cattolica and Rimini. No Canal Port offers this service. On the other hand, the radio service is present in all marinas and is in operation 24 hours a day, as well as night lighting.

Only the Marina degli Estensi and the Porto Canale of Cesenatico are equipped with facilities and services for the disabled.

Activities and sports facilities

All ports have a sailing school; some, such as Porto Canale di Porto Garibaldi, Marina di Goro and Porto Canale di Porto Cesenatico, have associations and/or sports teams, while only Porto Canale di Cesenatico and Rimini offer the possibility to enrol in a surfing school. It should be noted that none of the ports have internal sports facilities, except for a gym facility offered by the Marina di Rimini. Despite this, the position of the ports allows for the attainment and proximity of some sports facilities and structures.

Except for Porto Canale in Porto Garibaldi and Marina di Goro, all other ports have a tennis court nearby. There is also some proximity to gyms, except for Porto Canale di Porto Garibaldi and Porto Canale di Rimini. No port is close to golf courses or equestrian centres.

Table 16: sports facilities, inside and nearby the ports

	Porto Canale di Rimini	Marina di Rimini	Porto Canale di Cesenatico	Onda Marina Porto Turistico di Cesenatico	Porto Canale di Porto Garibaldi	Marina degli Estensi	Marina di Goro	Marina di Cattolica
Are there organised sports activities that allow individuals with no/low boating experience to practice/qualify to increase their boating attitudes?	Surfing schools;Sailing school	Sailing school	Surfing schools;Associations and/or sports clubs;Sailing school	Sailing school	Associations and/or sports clubs; Sailing school	Sailing school	Associations and/or sports clubs;Sailing school	Sailing school
Tennis courts: Inside the port	no	no	no	no	no	no	no	no
Tennis courts: Nearby	Yes	Yes	Yes	Yes	no	Yes	no	Yes
Soccer field: Inside the port	no	no	no	no	no	no	no	no
Soccer field: Nearby	no	no	no	no	no	Yes	no	no

Swimming pool: Inside the port	no	no	no	no	no	no	no	no
Swimming pool: Nearby	no	no	no	no	no	Yes	no	Yes
Horse riding: Inside the port	no	no	no	no	no	no	no	no
Horse riding: Nearby	no	no	no	no	no	no	no	no
Golf course: Inside the port	no	no	no	no	no	no	no	no
Golf course: Nearby	no	no	no	no	no	no	no	no
Gym: Inside the port	no	Yes	no	no	no	no	no	no
Gym: Nearby	no	Yes	Yes	Yes	no	Yes	Yes	Yes

Personal Services

As far as personal services are concerned, it should be noted that in all ports there are catering activities, the Porto Canale of Cesenatico is the only one that records 20 restaurants, followed by the Porto Canale of Rimini with 12.

Only Marina degli Estensi offers SPA and thermal baths, while the other ports do not have either of these two facilities, either inside or nearby.

There are no beauty centres, hairdressers or barbers in any port except in or near the Canal Port of Rimini. All port facilities, except the Porto Canale of Porto Garibaldi, offer laundry services or areas equipped for washing clothes. In some cases there are clothes stores.

Marina di Cattolica, Marina di Cesenatico and Porto Canale di Cesenatico are the only ports that offer the possibility of renting bicycles or electric scooters.

Table 17: service person inside and nearby the port

	Porto Canale di Rimini	Marina di Rimini	Porto Canale di Cesenatico	Onda Marina Porto Turistico di Cesenatico	Porto Canale di Porto Garibaldi	Marina degli Estensi	Marina di Goro	Marina di Cattolica
Does the port have pet friendly facilities and services?	No	No	No	No	No	No	No	No
Are there restaurants (of one or more varied levels, i.e. offering a meat or fish menu or pizzeria etc.)?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Restaurant numbers present:	12	1	20	1	7	1	1	2
Are there bars and other places for adding drinks and food?	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Numbers of bar and other places for drinking and eating	7	1	16	1	-	1	1	7
SPA: Inside the port	no	no	no	no	no	Yes	no	no
SPA: Nearby	no	no	no	no	no	no	no	no
Thermal baths: Inside the port	no	no	no	no	no	Yes	no	no
Thermal baths: Nearby	no	no	no	no	no	no	no	no
Wellness center: Inside the port	no	Yes	no	no	no	Yes	no	no
Wellness center: Nearby	no	no	no	no	no	no	no	no
Beauty center: Inside the port	no	no	no	no	no	no	no	no
Beauty center: Nearby	Yes	no	no	no	no	no	no	no
Hairdresser: Inside the port	Yes	no	no	no	no	no	no	no

Hairdresser: Nearby	Yes	Yes	Yes	Yes	no	Yes	no	Yes
Barbershop: Inside the port	Yes	no	no	no	no	no	no	no
Barbershop: Nearby	Si	si	Yes	Yes	no	Yes	no	Yes
Is there a laundry facility or area where clothing can be washed?	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Are there technical and/or sports stores (selling boat equipment and technical clothing)?	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Are clothing stores present?	No	No	Yes	Yes	No	No	No	Yes
Are these designer clothing stores?			Yes	Yes				Yes
Are there any transportation rental services available?	No	No	Bicycles	Bicycles	No	No	No	Bicycles; Electric scooters

3.3. Overall information on annual traffic data

In order to obtain some information regarding port traffic and in the absence of data from the questionnaires, it was decided to use the service offered by EMSA (European Maritime Safety Agency) 2019 which concern passenger ship traffic in raster format classified by the degree of intensity and defined by "Route per square Km per month".

The following map shows a strong traffic intensity along the Emilian Riviera present from the ports of Cesenatico and extending to Marina di Cattolica. The red buffer widens towards the sea at the height of Porto Canale and Marina di Rimini. Traffic to the North, between Porto Garibaldi and Marina di Goro, is lighter and less intense. Finally, it should be noted that the Canal Port of Rimini does not have any connection of international routes and that the only port with this characteristic is the connection of the Canal Port of Cesenatico with Croatia.

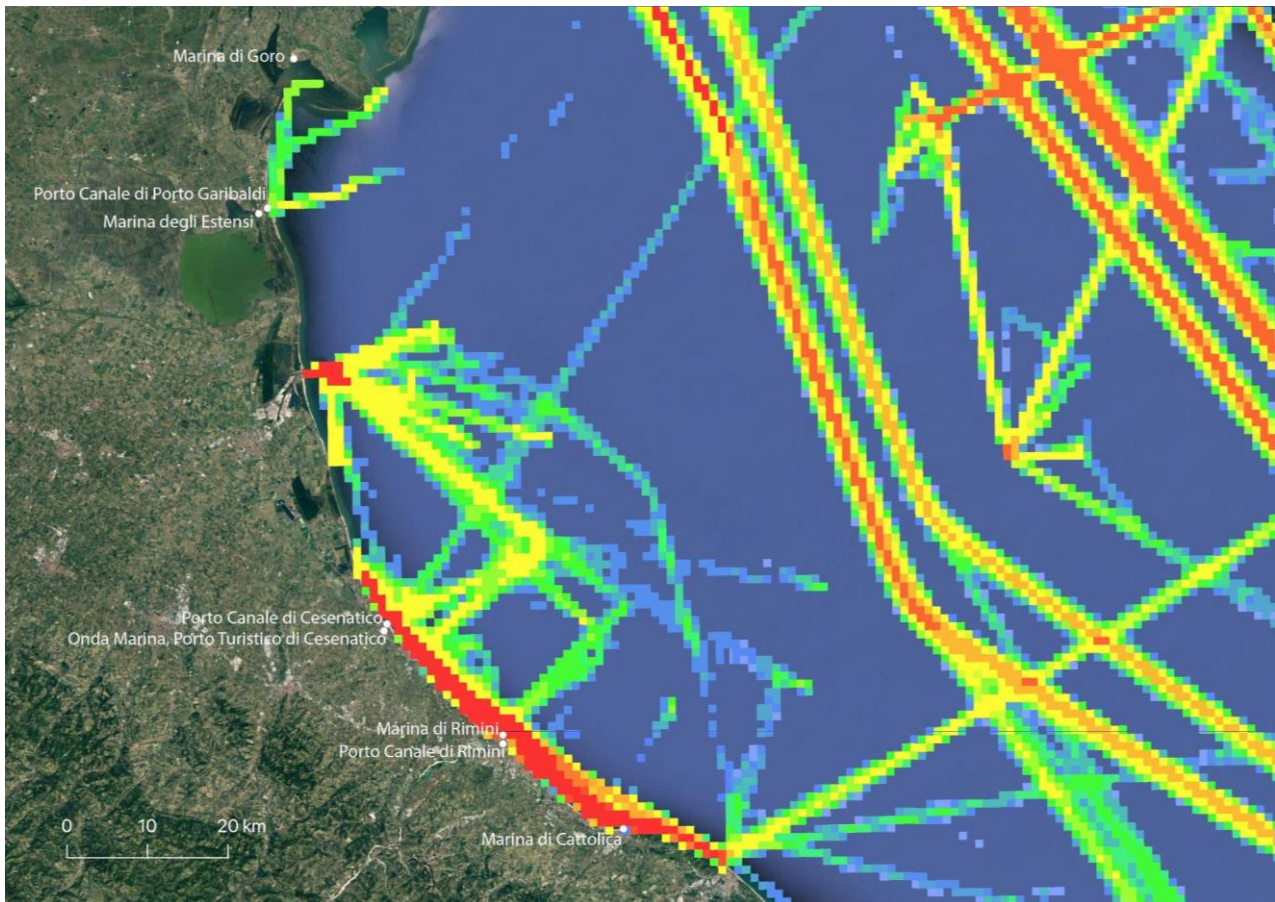


Figure 21: intensity of maritime passenger traffic, EMSA, 2019

Fishing traffic (fig. 22) is very high throughout the Adriatic area. Specifically, all of the ports under examination, from the north to the south of the regional coast, show a high intensity of vessels in the direction of the port entrances.

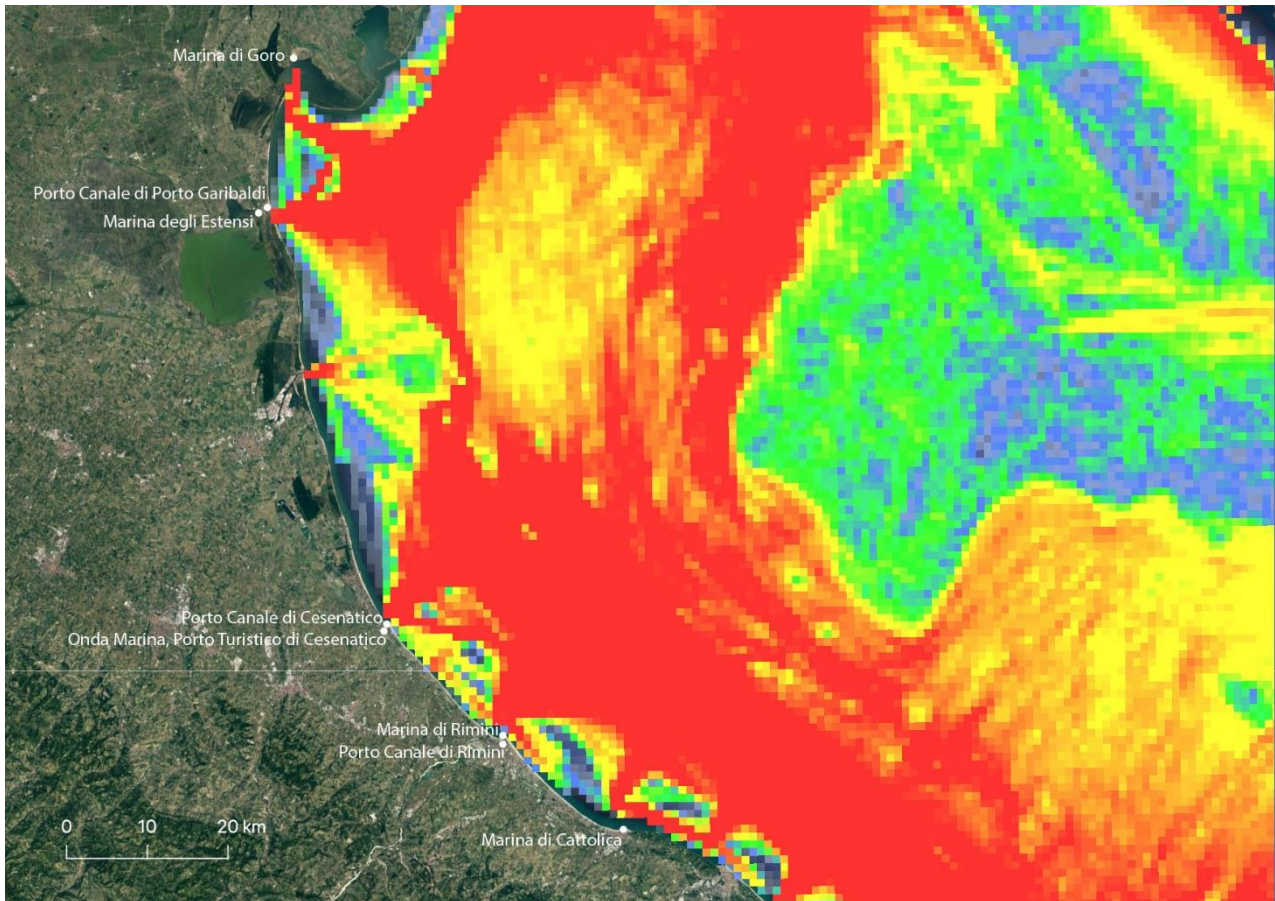


Figure 22: fishing vessel traffic intensity, EMSA, 2019

4. SWOT analysis on small port's phenomenon

This chapter describes the main strengths, weaknesses, opportunities, and threats of the regional small-ports contexts in a SWOT analysis format. This analysis is based on the qualitative observations that emerged from interviews with local stakeholders, collecting their suggestions and opinions.

4.1. Strengths

- Regional small ports generally have a good mix of vessel-related uses. Within these ports, there is a non-conflictual coexistence of recreational boating, fishing and cargo handling uses. The spaces, even when shared, are used organically and the users of these spaces manage to avoid conflicts with the different uses, seasons and schedules. The strength point is the balance and self-regulating capacity that the three different types of sectors have developed.
- Due to the small size of the ports, there is a constant dialogue between the various port users and the municipality. This makes it possible to find solutions to conflicts and to coordinate efforts and needs collectively.
- Regional small ports have a strong tourist attraction. They are well integrated with the urban context and with the coastal tourism activities. Small ports are attractive public spaces all year round also for the resident population.
- There is a good integration of the fishing sector with the local demand from the tourism and hospitality sector.
- The occupation of berths and the activities of the smaller ports do not particularly suffer from significant drops in demand in the low season. There is a continuous use over the seasons, although with different intensities.

4.2. Weaknesses

- Ports are generally not well connected to local public transport, and there are some barriers to urban and littoral pedestrian flow.
- In some areas of small ports, security problems may occur. Micro-crime, minor break-ins and vandalism can take place in less frequented corners, especially at night. Current surveillance systems do not provide a satisfactory level of perceived security.
- Water quality in the port areas is generally low, with floating waste.
- The number of berths currently available does not meet demand during the busiest periods. Situations where boats are moored in double rows are frequent, limiting accessibility and hampering navigation.
- There are non-compliant areas for mooring which are still used for mooring by some users. These moorings do not meet minimum safety standards and the boats moored there are considered illegal.
- The infrastructures for lifting vessels and the necessary maintenance work areas do not meet local demand.
- Not all ports have adequate infrastructure on land for storing fish. There is also a lack of facilities for the use of workers and visitors, such as toilets.
- Some of the port's banks suffer from problems due to temporary flooding during extreme events (wind, tides, etc.).

4.3. Opportunities

- The small ports of the Emilia Romagna region can be integrated with a good network of urban and interurban cycle paths through the construction of a few land and water crossings. They are also potentially well integrated with pedestrian areas of high urban quality.

- There is considerable scope for building new infrastructure and for making more efficient use of existing mooring space. There is also the possibility of extending port facilities into the sea, ensuring safety from storm surges and providing very accessible mooring spaces, useful for fast transport or law enforcement vehicles.
- Small ports have the opportunity to become part of a rapid transport network to other locations, including abroad, which would enable them to increase tourist flows and strengthen their role in the transport network.
- In addition to regional and national funds (PNRR), there are substantial E.U. funds that can finance the necessary infrastructure works. For example, the Connecting Europe Facility (CEF) programme for transport infrastructure, or the Horizon Europe framework programme for research and innovation in 3 of the 5 main axes: Climate Change Adaptation; Healthy Oceans, Seas, Coastal and Inland Waters; Climate Neutral and Smart Cities.
- There is an opportunity to provide smaller ports with services and infrastructure to collect and separate floating and submerged waste. The fishing fleet collects and transports a large amount of submerged waste to the quays. Greater integration with land-based waste collection would allow more effective management. There is also an opportunity to contract floating waste collection services in port waters to improve water quality.

4.4. Threats

- In the future, there may be threats from rising sea levels and storm surges. These can lead to damage to vessels, infrastructure, economic activities and people.
- In the future, silting up of harbour shores may intensify, causing disruption and risks to vessels. Frequent dredging may be necessary, resulting in high costs.
- High wind events may limit accessibility to the port and damage vessels and infrastructure.

- The current management models of some smaller port areas are highly precarious and administered by the common sense and intelligence of the port operators. This can be both a strength, as the flexibility of this management model can better adapt to unexpected future conditions, and at the same time represent a threat if the balance does not last or is jeopardised by unforeseen events.

5. Conclusions

From this report, the small ports of the Emilia-Romagna region emerge with great potential for development and systematisation for pleasure boating, fishing, tourism, transportation and vessel maintenance. The land connectivity of the Region is of excellent quality in terms of rail, road and bicycle accessibility. Flows of people, goods and vessels have easy access to smaller ports that can be further enhanced by taking advantage of the opportunities listed above. The typically urban connotation of minor ports allows for excellent integration with all urban and coastal services present in different contexts, interacting closely with recreational, tourist and economic attractions in the surrounding areas. The diversity of size, vocation and position of the various minor ports is to be read as an opportunity to develop local potential while maintaining an integrated approach between the different functions and souls of the specific contexts.

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