

Regional report on small ports phenomenon in the Istria County

Final version of 05/05/2021

D.4.2.1

Project Full Title	Framework initiative fostering the sustainable development of Adriatic small ports
Project Acronym	FRAMESPORT
Project ID	10253074
Project Website	https://www.italy-croatia.eu/web/framesport
Priority Axis	4 – Maritime Transport
Specific Objective	4.1
Work Package	4
Work Package title	CONVEYING KNOWLEDGE OF MACRO-THEMES INTO ACTIONS
Deliverable Nr.	4.2.1
Status	Draft/Revised /Final
Partner in charge	Port Authority of Umag - Novigrad
Dissemination Level	Public/ Partnership

ACKNOWLEDGEMENT

The work described in this document was supported by the INTERREG V-A IT-HR CBC Programme - “Strategic” Subsidy Contract - Project: “Framework initiative fostering the sustainable development of Adriatic small ports, FRAMESPORT” (Project ID: 10253074).

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1. Introduction

The FRAMESPORT project has the aim to create a coordinated initiative to support the sustainable development of the small ports of the Adriatic basin in a strategic perspective. Therefore, the objective is to turn small ports into a proactive driver of the socio-economic development of this coastal area. This strategic goal requires a multifaced and interdisciplinary approach, including both the adoption of concrete pilot projects as well as identification of priority themes to be promoted within the overall strategy. These actions are going to be performed by adopting a bottom-up approach, involving local and national stakeholders since the beginning of the project. Also, the various project partners have been selected to guarantee a wide territorial cover. Their aim is to address the planning and management topics, the business models implementation, the enhancement of training and competence, as well as the development of Information and Communication Technologies (ICT) tools and services. In addition, the project aims at developing an ICT platform that collects and systematizes the key data on small ports in order to use this information to drive sustainable development. The portal is going to work as a bridge between the two sides of the Adriatic basin, the Italian and Croatian one. In this way, it is possible to create a more consistent and united network of small ports, businesses and institutions, and promote their sustainable performance, infrastructure and policies in order to favor their development and growth.

The point was to extract the most valuable information regarding the ports and harbors that present a safe haven for many domestic and international passengers. Report has been split into several chapters, each of which had a mission to provide a summary keeping in mind few key points.

The beginning of the document starts with an introduction to the necessity of this report and a description of Istrian County in a nutshell.

Following chapter was based on listing all of the port areas under the management of county port authorities, current state of the art which was illustrated through tables and figures, showing percentage-wise how are Istrian ports comparing to other regions. The key take-away was to provide the reader with statistic data presenting the levels of adoption of certain trends, port infrastructure and superstructure, as well as an overall offer port has.

After that, a SWOT analysis was made in order to simplify the external and internal elements that most of Croatian ports have to face. Despite being an up-and-coming competitor on the Mediterranean, Istria is facing a lot of the opportunities to further develop this segment of business

and tourism. Nonetheless, there are also some threats, therefore during the decision-making process all of the elements have to be considered.

Final chapter focused on some of the key metrics that greatly impacted charts and thus should be considered to place county ports within the current timeframe and final remarks were made.

1.1. Purpose of the document

This document is region-based and has the aim to depict an overall picture of the current state of the ports and harbors within a given territory, by presenting relevant information on the existing facilities and single port characteristics and services, on the basis of the data collected through the questionnaire provided under WP5¹. Each document is regionally based so each individual region gets appropriate attention when describing their initial status. The content of this regional report is extracted and fragmented, so the partner is able to provide a document which consists of a full set of data on ports and harbors under the management of county port authorities inside of a region. The key is, after collecting the data from questionnaires present the baseline information on the existing facilities and individual port characteristics and services it provides.

Such information will then serve as to compose the overall puzzle drawing the detailed picture of the two coastlines of the Adriatic Sea, as well as representing a first source of information for ultimately filling the FRAMESPORT platform.

It has to be mentioned that this report in its statistics does not encompass privately held marinas (e.g., ACI Marina), but only ports of regional and local significance.

¹ https://ec.europa.eu/eusurvey/runner/IUAV_questionario_framesport_servizi_porti

2. The region in a nutshell


2.1. Geographical context and socio-economic description of the region/county

Istria County is situated in the north-west of the Adriatic Sea and includes a large part of the Istrian peninsula. The County is surrounded by the sea, except for its northern borders that are close to Trieste in Italy and Rijeka in Croatia. Running waters and underground waters represent significant water resources for Istria County: it has several rivers, with the most significant being Mirna, the Raša, the Boljunčica, the Dragonja Rivers, and the underground Pazinčica. One third of the Istrian peninsula is covered by woods. Protected areas in the County include the Brijuni national park, Učka Nature Park, protected landscape "Limski Bay", the Motovun Forest, Forest Park Zlatni Rt and the reservation area called Palud near Rovinj, Forest Park Šijana near Pula and the protected landscape "Kamenjak" in the extreme south of Istria.

Figure 1 Map of Istria County



Table 1 Istria - statistical data from 2019.

Flag	
Area	2 813 km ²
County seat:	Pazin
Settlements	10 towns and 31 municipalities
Population	209 955

Population density (per km²)	73.96
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Gender, percentage wise hasn't really changed in over a few decades, while the age factor threw in a lot of controversy how the population is aging rapidly, meaning that a lot of young and work-capable people are leaving the country in general, that the inflow rates are basically non-existent. The rapid aging of the population took a downward turn after the war on Independence took place. Multitude of social and psychological factors were said to be impacting on the current situation.

Figure 2 Gender and age diagrams for Croatia

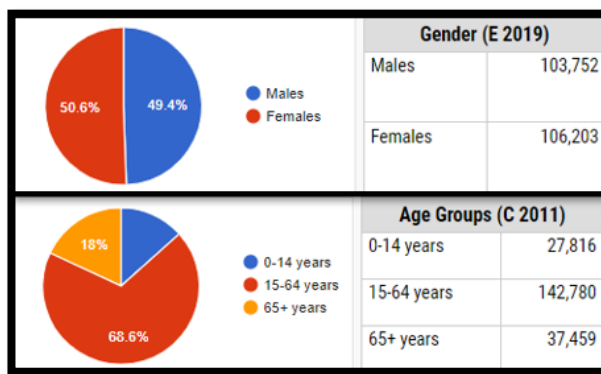
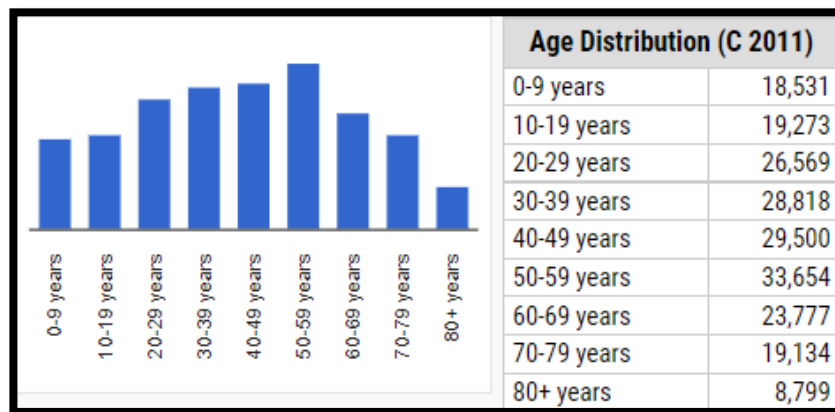


Figure 3 Age distribution in Croatia



The population of Istria shows great fluctuations: in the period 1948-2001 an increase of 11.3 % was registered, less than half of the overall increase on national level (26.6%). According to the results of the 2011 Census, Croats amounted only to 68.33 % of the population of the county. The biggest minorities are Italians (6.03 %), Serbs (3.46 %), Bosnians (2.95 %), Slovenians (1.793 %) and

Albanians (1.15 %). The biggest town is Pula with 57 460 inhabitants (Census 2011); half of the towns has less than 10 000 inhabitants and the smallest municipality in the county, Lanišće, counts only 329 people. The county can be described as a predominantly rural region. Nevertheless, recent years have seen a rapid growth of some of the urban areas that has increased differences between towns and the countryside; an element especially relevant in the relationship between coastal towns (such as Pula, Poreč, Rovinj, Umag) and the less developed inland Istria.

The Istrian economy is very diverse with the leading activities being manufacturing industry, tourism, and trade. As regards tourism, Istria is traditionally the most visited tourist area in the country, 29.4 % of total tourist nights in Croatia were spent in Istria in 2014 (23.3 % of arrivals). But the territorial distribution of revenues from tourism is not balanced, favouring coastal to inland territories. Other economic sectors of importance are construction, real estate and business services. The website of the County also highlights industrial activities such as "shipbuilding, production of construction material (lime, cement, brick, stone), tobacco products, furniture, electric machines and appliances, parts for the automobile industry, glass, processing metals, plastic, wood, textile, and the production of food"². Moreover, the importance of the revitalization of agriculture, including improvements in wine- and olive- growing, and ecologic food production are also underlined.

The data of the 2011 Census showed the following distribution of people in employment across the key sectors of the economy: 3.11 % of those in employment worked in agriculture/forestry/fishing, 28.64 % in industry-construction and energy/water related activities, 67.31 % was employed in the services sector. The unemployment rate was 12.9 % in 2014, the second lowest among counties after the City of Zagreb.

The GDP of Istria is 19 797 million kuna (2012 data, EUR 2 633 million), corresponding to 6 % of the country's GDP. The GDP per capita is the third highest among counties: 95 298 kuna (2012 data, EUR 12 677).

² <https://www.istra-istria.hr/hr/>

2.2. Regional transport and mobility overview and main features

The needs of the international community and a fast development of economy, especially of tourism, affect the need for a quality traffic infrastructure. For this reason, big efforts are being invested in interregional connection within Croatia as well as in its connection with a wider European area. With this regard, road traffic is witnessing the largest development by covering quite well the domestic needs and contributing to a more balanced development of the coastal area as well as the mainland. In the last few years, there have been increasing investments in the maintenance and the construction of port infrastructure, which contributes to an increase in maritime traffic and its safety. Air traffic also has all the necessary preconditions for a more significant share in the total traffic balance, especially in the field of passengers' transportation.

Importantly, the Istrian Region pays lots of attention to the construction of the traffic system, as long-term process, and to the safety of traffic, simultaneously taking care of environmental protection and the implementation of the principle of feasible development.

Road traffic

The first definition of the basic road network in Istria can be found in the Regional Physical Plan of Istria completed in 1968. The change in the Physical Plan from 1983 stated that the gravity traffic centre connecting the west and the east part of Istria should be moved down from the Baderna loop to the Kanfanar loop. The Physical Plan of the Istrian Region adopted in February 2002 confirmed the same concept.

Following the planned concept, the construction of the Istrian Y Highway was launched, and the first 26-kilometres-long section Matulji-Lupoglav, including the Tunnel Učka, opened for traffic in 1981. The later constructed sections were Lupoglav-Cerovlje, Cerovlje-Pazin (Rogovići), and the sections Dragonja-Pula: Buje Nova Vas and Medaki-Kanfanar (viaduct Limska Draga), with the total length of 36 km. The period between 1997-1999 witnessed the construction of the section Pazin-Vodnjan, so that the total length of 90 km is used for traffic. The works on the construction of the west end of the Istrian Y Highway are under way. The opening for traffic of the section from the loop Umag to the loop Medaki (Vrsar) is planned for May 2005.

There is a relatively dense network of public roads in the Istrian Region. However, when making an evaluation of the situation, we have to determine that the quality of the existing road traffic is unsatisfactory, and that the development of road infrastructure does not satisfy the increased necessities of road traffic.

We also need to point out that the care of the Istrian roads has been significantly improved following the establishment of the Region, towns, and municipalities. Many roadways were renovated, and numerous macadam roads were asphalted.

The total length of roads in the Istrian Region is 1.812,950 km:

- State roads - 380,200 km
- Regional roads - 698,950 km
- Local roads - 733,800 km

Maritime traffic

The Istrian Region has 445 km of seacoast. It passed through a significant development in maritime affairs in 1850 when the Austro-Hungarian Monarchy decided to construct its main port-the port of Pula. The entire construction of the port of Pula occurred in that period, as well as the construction of its coasts, shipyard, and the break-waters. Following the construction of the break-waters and due to its natural characteristics and geographic position (protected area and sufficiently deep sea), the port of Pula belongs among one of the best natural ports in the whole Adriatic.

According to the Decree on the Grouping of Ports Open for Public Traffic, the Istrian Region includes 7 ports with regional significance: Pula, Brijuni, Rovinj, Poreč, Novigrad, Umag, and Plomin.

Public traffic ports with regional and local significance (the total of 26) are administered by 5 regional port administrations founded by the Istrian Region (Port Administrations Pula, Rovinj, Poreč, Umag-Novigrad, and Rabac).

The port of Bršica situated in the area of the Istrian Region is administered by the Port Administration Rijeka founded by the Republic of Croatia.

The Istrian Region has a regular ferry connection with the island of Cres through the ferry port going from Brestova to Porozina. Regarding other passenger connections on the sea, there is the connection from Pula to Mali Lošinj functioning during the season, and several boat tourist connections during the season to Venice and Trieste with ports in tourist centers (Poreč, Rovinj, Umag, and Pula).

Rail-road traffic

The need of constructing a railroad in Istria was born at the time of the beginning of the development of various industrial activities; shipbuilding, construction material, machine and electric industries, and also at the time of strong Austrian military interests. The continuation of the railway Vienna-Trieste in 1876 was the officially opened railway Divača - Pula (122 km long) with the branch Kanfanar - Rovinj (21,0 km).

West part of Istria, despite numerous initiatives, was connected with Trieste only at the beginning of the 20th century (1902), which was the year of the construction and the opening of the narrow-gauge track Poreč - Trieste (123,1 km), the famous "Parenzana", or Parenzaner Bahn, which was cancelled in 1935.

Almost 50 years had to pass to the continuation of the construction of new railroads in Istria. Towards the end of 1951, the new railroad Lupoglav - Štalije was constructed and opened for traffic (52,4 km). Its primary purpose was the transportation of the very important fuel at the time, the Raša coal. The connection of this railroad with Rijeka and Zagreb was also planned, but it was never realized.

Istrian railroads, Pula's and Raša's railroad, were thoroughly renovated in the mid-1980s. The cargo port Bršica was linked up in 1979 as an important industrial destination.

The beginning of the 1990s witnessed significant changes in the role of the Istrian railroads, when they were taken over by the Croatian Railways in the Croatian part of Istria. With the total length of 152,5 km, including the 2,7 km of industrial gauges, railroads were practically "cut off" from Croatian railroads (except for the indirect connection through Slovenian railroads) and they became railroads with local significance. Passenger traffic and cargo traffic are minor in relation to the existing capacities and possibilities, and thus unprofitable. The future of the Istrian railroads, their survival and development, are conditioned by a direct connection with the Croatian railroads and their inclusion in the Slovenian and the European railway systems.

Air traffic

The Airport Pula opened for international and domestic air traffic in 1967. It relies on the development of tourism, and it is situated in the Istrian Region.

The capacity of the airport is 1.000.000 passengers annually, and the capacity of the new port facility built in 1989 is based on maximally expected traffic of 10 airplanes and 5.000 passengers at the same time. Due to well-known circumstances, the number of passengers significantly fell in 1990.

The airport can accept larger airplanes. Because of its suitable meteorological, technical, and technological conditions, it is the alternative airport for Croatia and for the airports of the neighboring countries.

In the area of the Istrian Region there is also a smaller airport Vrsar used for tourist traffic of small airplanes, sports and excursion flights and similar, and there are also some sports air-fields - landing fields: the most suitable in terms of space is the one in Medulin (Campanož). Locations in Karigador and Buzet are used for the needs of sport flying or paragliding.

2.3. Overall governance and transport planning references

Administratively, the Istrian County is divided into 41 territorial units of local self-government: 10 towns and 31 municipalities. Bodies of the county are the following: the Assembly (41 members including at least 4 of the Italian community, based in Pazin), the Government (up to 13 members, based in Pula) and the President. On solemn occasions the Assembly can use the title Istrian Parliament (Istarski sabor - Dieta Istriana). Members of the Assembly are called "councilors" and they are elected for four years. The President of the county convokes sessions of the Government and s/he is the holder of the executive power- the President (of the county) is also the President of the Government.

According to its Statute in Istria County Croatian and Italian language are officially used in an equal way in the work of all bodies in the self-governing domain and in procedures of administrative bodies. The work of the Assembly and the Government is carried out in the Croatian and the Italian language.

The Istrian Region has 445 km of seacoast; the County has 26 public ports of regional and local significance. The main port is the port of Pula, and the 7 ports of regional significance are in Pula, Brijuni, Rovinj, Poreč, Novigrad, Umag, and Plomin. Pula also has an airport hosting international and domestic air traffic since 1967; there is also a smaller airport in Vrsar used for tourist traffic of small airplanes, sports and excursion flights and alike. The railway system in Istria (152.5 km) is 'cut off' from the rest of Croatia (aside from the connecting routes through Slovenia). As regards road connections in the County, a particular situation can be observed along the European route E751, a section of which is located at the Croatia–Slovenia border at the Dragonja River, providing for connection to Koper (Slovenia) and Trieste (Italy). Especially in summer months, there is a strong increase in traffic volume that creates congestions, due to the fact that tourists tend to use this route.

3. Analysis of regional small ports phenomenon

This regional report reflects on County of Istria, a Croatian peninsula which has all of the predispositions for successful thriving in maritime business aspects. According to the Order on the classification of ports open to public traffic, the County of Istria includes 7 ports of county importance: Pula³, Brijuni, Rovinj⁴, Poreč⁵, Novigrad⁶, Umag and Plomin⁷.

Ports of public transport of county and local importance (26 in total) are managed by 5 county port authorities whose founder is the County of Istria (Port Authorities of Pula, Rovinj, Poreč, Umag-Novigrad and Rabac).

The Port of Bršica, located in the Istrian County, is managed by the Port of Rijeka Authority, the founder of which is the Republic of Croatia.

The County of Istria is connected to the island of Cres by a permanent ferry connection via a ferry port on the route Brestova-Porozina. Of the other passenger connections by sea, there is a seasonal connection from Pula to Mali Lošinj, and several seasonal tourist connections to Venice and Trieste whose ports are from tourist headquarters (Poreč, Rovinj, Umag and Pula).

³ Geographical overview of Pula ports can be seen on Figure 4.

⁴ Geographical overview of Rovinj ports can be seen on Figure 6.

⁵ Geographical overview of Poreč ports can be seen on Figure 7.

⁶ Geographical overview of Umag and Novigrad ports can be seen on Figure 5.

⁷ Geographical overview of Rabac ports can be seen on Figure 8.

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

3.1.1. Port Authority of Pula

Ports under management:



1. Port of Pula – 36 berths
2. Port of Brijuni – 22 berths
3. Bunarina Harbour – 170 berths
4. Vinkuranska vala Harbour – 70 berths
5. Fažana Harbour – 39 berths
6. Ribarska Koliba Harbour – 100 berths
7. Port of Medulin – 75 berths
8. Runke Harbour – 45 berths
9. Polje Harbour – 45 berths
10. Kuje Harbour – 65 berths
11. Krnica Harbour – 97 berths
12. Štinjan Port – 2 berths
13. Free Zone – 10 berths

Figure 4 Ports and harbors under Pula Port Authority

Port Authority Pula manages 13 ports and harbors all over the southern part of Istria. From further on, yellow dots on maps mark the coordinates of ports in this regional report. In the table listed below, general information on Pula's ports can be found. Port areas cover places deeply embedded in the land as well as areas that geographically belong to islands and peninsulas.

Table 2 Port Authority Pula - General information on port areas

Port Authority Pula	Maximum vessel length in meters	Minimal seabed depth in meters	Width of port entrance in meters	Total port area (including service activities) in square meters
1. Port of Pula	110	6	110	1608537
2. Port of Brijuni	30	8	30	-
3. Bunarina Harbour	20	3	20	-
4. Vinkuranska vala Harbour	15	12	15	-
5. Fažana Harbour	10	3	10	30500
6. Ribarska Koliba Harbour	15	3	15	23000
7. Port of Medulin	15	3	15	208000
8. Runke Harbour	15	5	15	37800
9. Polje Harbour	15	5	15	20000
10. Kuje Harbour	10	3	10	55000
11. Krnica Harbour	15	5	15	48300
12. Štinjan Port	120	5	120	8800
13. Free Zone	110	7	110	23000

Like pretty much all of the ports and harbors on the Croatian side of the Adriatic coast, ports of county importance hold most of the marine and nautical content such as shipyards and belonging services (crane lifting operations, hull cleaning, a place for temporary storage of vessels...). Port of Pula, Bunarina Harbor and Free Zone have the availability of service and overhaul shipyard meaning they can accommodate vessels in need of hull repair, manufacture and repair of sails and awnings, rope fitting and adjustment services, dry docking and plasticization of vessels / glass plastic. Pula is the biggest city and port in the Istria, thus deserves to be recognized as one of the driving forces all throughout the history leading to the point when today, Pula stands as a synonym for successful shipbuilding city which had its up and down moments, nonetheless establishing itself highly in the ranks among the Croatian shipbuilding sector.

Infrastructure of the ports and harbors varies from port to port. In some places firm structures are made, representing piers and solid points of berths while in some others, more temporarily structures dominate (less permanent material).

Ports and harbors are relatively safe due to the excellent geolocation of Istrian peninsula and due to the positioning while building the harbors. Pula's ports and harbors are strategically positioned, thus none of the ports is more than half hour from the Istria's biggest city and its surroundings. Pula is connected through Istrian highway "Istarski Y" with Učka tunnel which is a gateway with the rest of the Croatia. Pula is also an international airport.

3.1.2. Port Authority of Umag-Novigrad



Ports under Umag-Novigrad management:

1. Umag Port - berths
2. Novigrad Port – 114 berths
3. Antenal Port – 1 berth
4. Savudrija Port – 156 berths
5. Zambratija Harbour – 44 berths
6. Stella Maris Harbour – 100 berths
7. Katoro Harbour – 10 berths
8. Lovrečica Harbour – 59 berths
9. Karigador Harbour – 15 berths
10. Dajla-Belveder Harbour – 0 berths
11. Dajla Harbour – 11 berths
12. Kanegra Harbour – 0 berths

Figure 5 Ports and harbours under Umag-Novigrad Port Authority

Table 3 Port Authority Umag-Novigrad - General information on port areas

Port Authority Umag-Novigrad	Maximum vessel length in meters	Minimal seabed depth in meters	Width of port entrance in meters	Total port area (including service activities) in square meters
1. Umag Port				
2. Novigrad Port	24	2	50	216467
3. Antenal Port	80	4,5	-	14793
4. Savudrija Port	20	0,5	15	53432
5. Zambratija Harbour	10	0,5	25	9050
6. Stella Maris Harbour	8	0,5	7	17273
7. Katoro Harbour	8	0,5	100	5154
8. Lovrečica Harbour	10	0,5	200	134243
9. Karigador Harbour	15	0,5	250	46784
10. Dajla-Behveder Harbour	15	0,5	-	20976
11. Dajla Harbour	15	0,5	1000	15384
12. Kanegra Harbour	15	0,5	1000	7541

Umag is a town on the west coast of Istria, 10 km from the Slovenian border. Umag has a Mediterranean climate, and through 45 km of coastline and an interesting hinterland, it synthesizes the peculiarities of the entire region and gives the best introduction to a different experience of the Mediterranean. The history of the city is very interesting. It was discovered by Roman nobles that decided to make it a summer residence. The splendor of those times is still reflected today in the Venetian houses of the old town. Parts of the walls and towers have been preserved, as well as Renaissance and Baroque buildings and churches.

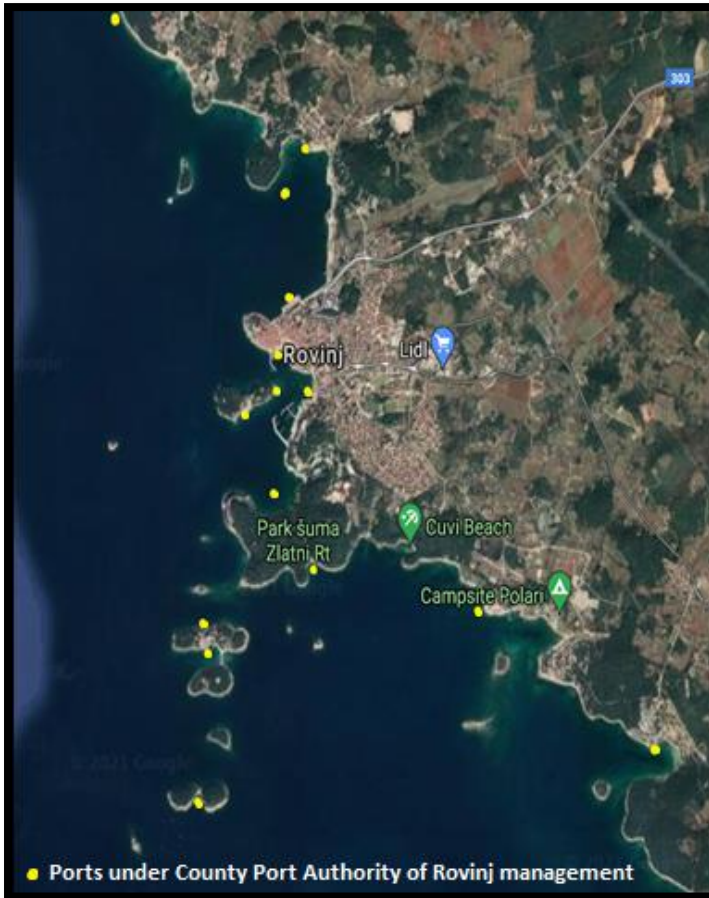
Umag and Novigrad ports are geographically well positioned compared to the rest of the Adriatic ports. Reason is very simple, vicinity of Slovenia and Italia. Slovenian border is only 10 kilometers away while the Italian border is approximately 30 kilometers away. This is really beneficial considering how little Italian and Slovenian passengers have to sail through before getting to Croatian ports and harbors. The ports are very diverse considering the facts that some of them are placed inside of city centers and some of them inside tourist camps. Infrastructurally most of them are fairly simply built with maximum utilization. Umag and Novigrad are the biggest ports of this area and when all of the aspects (infrastructural and superstructural) are taken into consideration, it is not odd considering they are the most urban ones. Stella Marris has to be mentioned since it is a camping village in the close vicinity of most famous events and manifestations that take place in Umag (ATP series, various concerts...). Similarly, to most Croatian regions, the concentration of most touristic offerings is located in the biggest cities (Umag, Novigrad) resulting in disproportionate quantity of services offered to customers. Visitors of Umag, Stella Maris, Katoro and Novigrad ports

are often able to experience a more colorful stay in that part of Istria considering that many services are offered only in these few ports, while if you need something such as boat parts, beauty parlors, sport facilities or anything that is not basic offer, you would need to go in other areas.

This is also not a major issue since all of these ports under Umag-Novigrad management are in a 15-30 km range.

3.1.3. Rovinj Port Authority

Ports under Rovinj management:



1. Southern Port – 250 berths
2. Valdibora - Northern Port – 25 berths
3. Lone Anchorage – 25 berths
4. Škver Anchorage – 10 berths
5. Valdibora Anchorage – 14 berths
6. AC Veštar Harbour – 90 berths
7. AC Rubini Harbour – 38 berths
8. Škaraba Harbour – 0 berths
9. Sveti Ivan Island – 3 berths
10. Saint Andrea Island (Red Island) - South – 18 berths
11. Saint Andrea Island (Red Island) - North – 2 berths
12. Sveta Katarina Island – East – 5 berths
13. Sveta Katarina Island – North – 4 berths
14. Bolničko naselje Harbour - 0 berths
15. AC Amarin Harbour – 15 berths

Figure 6 Ports and harbours under Rovinj Port Authority

Table 4 Port Authority Rovinj - General information on port areas

Rovinj Port Authority	Maximum vessel length in meters	Minimal seabed depth in meters	Width of port entrance in meters	Total number of berths in port
1. Southern Port	49	1,5	200	4
2. Valdibora - Northern Port	130	1,5	80	25
3. Lone Anchorage	30	1,5	500	25
4. Škver Anchorage	15	1,5	120	10
5. Valdibora Anchorage	250	1,5	300	14
6. AC Veštar Harbour	12	1,5	100	90
7. AC Rubini Harbour	10	1,5	250	38
8. Škaraba Harbour	10	1,5	100	0
9. Sveti Ivan Island	10	1,5	500	3
10. Saint Andrea Island (Red Island) - South	15	1,5	100	18
11. Saint Andrea Island (Red Island) - North	23	1,5	250	2
12. Sveta Katarina Island - East	10	1,5	1000	5
13. Sveta Katarina Island - North	10	1,5	100	4
14. Bolničko naselje Harbour	10	1,5	500	0
15. AC Amarin Harbour	10	1,5	15	15

The city of Rovinj, a Mediterranean town is located at 45 ° 04 'latitude and 13 ° 38' longitude. It abounds in a rich history dating back to the Byzantine Empire which makes the city an even more attractive destination, both for nautical tourists and for tourists from cruisers. Area of Rovinj region or Rovinj region is only 80 km². From a geographical point of view, Rovinj is located in area of red Istria, or red soil (crljenice). Very developed Rovinj archipelago consists of 14 islands and 6 cliffs, where the largest islands are Sv. Andrew (Red Island) and the island Sv. Catherine. The total length of the islands and cliffs is 20.5 km, and the area of all the islands together 652,614 m² or slightly more than 65 ha.

The port of Rovinj is divided into 4 main functional units: Southern port, Northern port (Valdibora), Anchorages (Valdibora, Squero and Lone Bay) and a separate port areas. These port areas can be further divided into 3 areas that are: part of auto-camping tourism (Amarin, Veštar and Rubini); the island of St. Andrew (Saint Andrea) with one of its ports on the north side, which is in the function of accepting ships of predominantly liner shipping traffic and the other part (southern port) of the island is intended for the needs of nautical tourism.

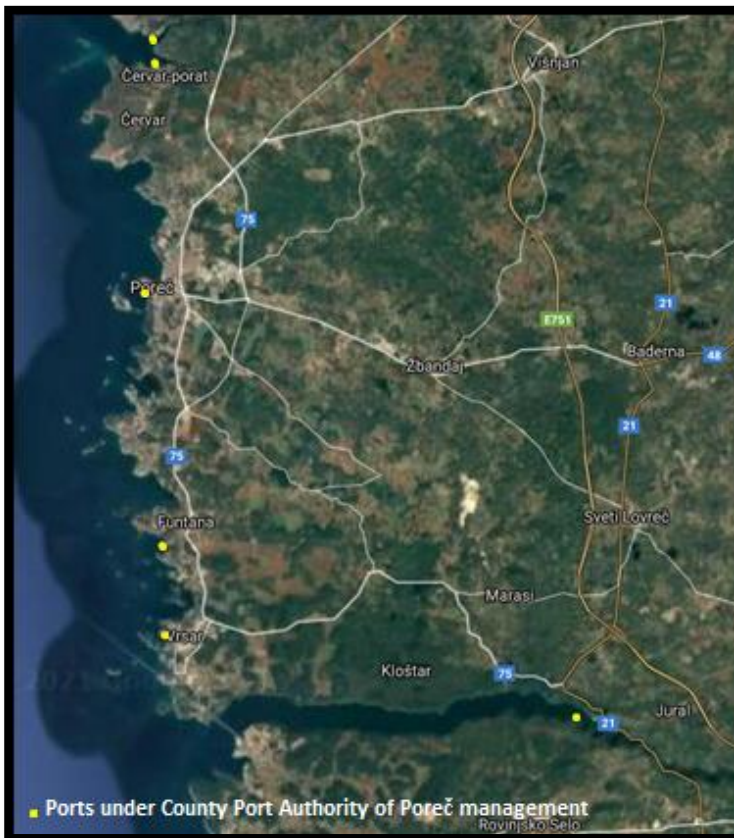
The islet of Sv. Katarina is very close to the city center and it is also divided into two parts: one part is intended for the docking of liner passenger ships (eastern part), while the northern part which does not contain an operational shoreline serves exclusively as an anchorage. When talking about anchorages, we can also mention a bay adjacent to the part of the city named Bolničko naselje - istok which got its symbolic name after a healthcare institution that has built its glorious reputation through a rich history of work where many celebrities have explicitly expressed a desire to stay there

because of the extraordinary beauty of the surroundings and the view of the city itself, and it is located in the immediate hinterland of the anchorage areas.

Berths in the port areas of the port of Rovinj are functionally divided into communal berths (intended for the domicile population of the city of Rovinj) and nautical berths that can be with access to land and without access to land (buoys and anchorages).

From the attached table we can see that the structure of port berths is primarily conceived in a way to take care of the needs of the domicile population of the city. Namely, with the successful initiative and implementation of the plans of the Port Authority of Rovinj, Rovinj has ensured areas and berths for the needs of nautical tourism, with the number of berths increasing year after year.

3.1.4. Port Authority of Poreč



Ports under Poreč management:

1. Poreč Port – 113 berths
2. Vrh Lima Harbour – 70 berths
3. Vrsar Port – 150 berths
4. Funtana Port – 140 berths
5. Červar Porat Port – 340 berths
6. Santa Marina Harbour – 5 berths

Figure 7 Ports and harbours under Poreč Port Authority

Table 5 Port Authority Poreč - General information on port areas

Port Authority Poreč	Maximum vessel length in meters	Minimal seabed depth in meters	Width of port entrance in meters	Total port area (including service activities) in square meters
1. Poreč Port	100	1,5	115	823636
2. Vrh Lima Harbour	30	1	150	11303
3. Vrsar Port	40	1	80	12402
4. Funtana Port	15	1	80	11328
5. Červar Porat Port	15	2	30	13044
6. Santa Marina Harbour	15	0,5	190	20669

In its present form, it was designed by the Romans two millennia ago, after they conquered the natives of Histria. The city was first a military camp, then a fortified city, to grow into a significant administrative and economic center, called Colonia Iulia Parentium. From 1267, and for the next half millennium, Poreč was ruled by Venice, which is followed by the most beautiful palaces in the

city, the city statute was created in 1363, and in the 15th century city walls have been erected. The most important cultural monument was left behind by Byzantium - the Euphrasian Basilica with a diocese from the 6th century.

Today Poreč has 16,696 inhabitants. Due to its extraordinary geographical position, and natural and cultural beauties, today it is one of the strongest tourist centers in Croatia. The main economic branch is tourism which is positively correlated with trade, construction and agriculture.

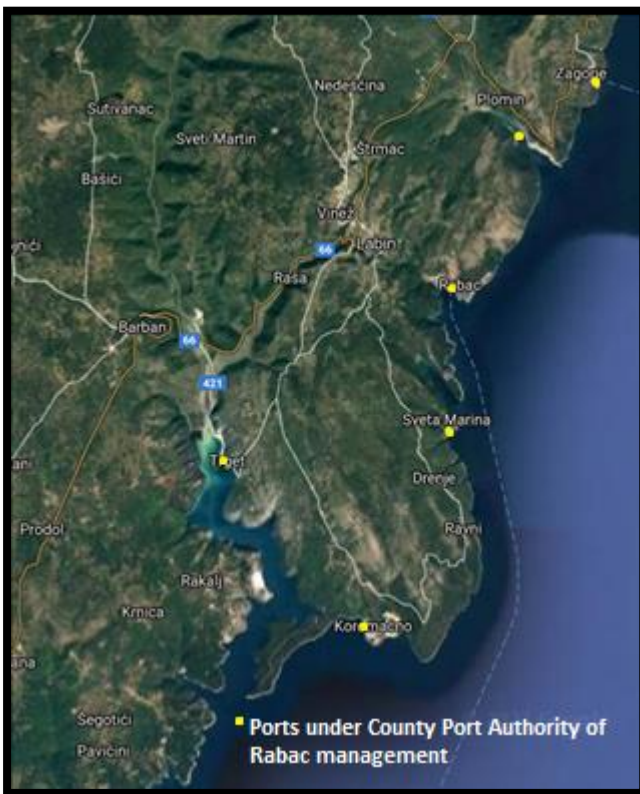
The City of Poreč-Parenzo sees potentials for future sustainable development in three points:

- Extending the duration of the tourist season through successful management of the tourist destination;
- Balancing the relationship between service and production activities, encouraging exports, which results in reduced dependence of the economy on one branch- tourism;
- Investment in infrastructure and environmental protection activities, which is one of the key attractions of this area.

Port of Poreč has become a solid competitor of Rovinj in the last decade proving that there is place for others and it's a fair game towards all of the participants if certain conditions are met. Ports and harbours under the management of Port Authority Poreč proved their worthiness with quite a big number of berths in just 6 ports. Ports under PA Poreč are pretty evenly developed in terms of equipment and distribution of services. The proximity of services is unparalleled resulting in overall satisfaction of end users.

Natural beauties and geolocation of ports opens a lot of opportunities for further development due to the fact that all ports are located in the vicinity of medium sized cities which in turn provide end users with a large amount of more touristic offerings, contrarily to other ports located in touristic camps where only basic needs are met.

3.1.5. Port Authority of Rabac



Ports under Rabac management:

1. Rabac Port - 150 berths
2. Plomin Port - 30 berths
3. Brestova Port - 1 berth
4. Tunarica Harbour - 10 berths
5. Sv. Marina Harbour - 60 berths
6. Trget Harbour - 290 berths
7. Prtlog Harbour - 70 berths

Figure 8 Ports and harbours under Rabac's Port Authority

Table 6 Port Authority Rabac - General information on port areas

Port Authority Rabac	Maximum vessel length in meters	Minimal seabed depth in meters	Width of port entrance in meters	Total port area (including service activities) in square meters
1. Rabac Port	70	1	500	116057
2. Plomin Port	30	1	100	32025
3. Brestova Port	100	4	300	7150
4. Tunarica Harbour	5	1	200	565
5. Saint Marina Harbour	12	4	500	2673
6. Trget Harbour	9,5	1	500	220634
7. Prtlog Harbour	10	2	400	37725

Rabac is located on the shores of the Kvarner Bay and is 3 km away from the inhabited part of Labin to which it administratively belongs. Most of the buildings until the first half of the 20th century were built around the waterfront and in distant Gornji Rabac. In the second half of the 20th century, the residential part of Rabac expanded from the waterfront all the way to Gornji Rabac, and hotels

were built in Maslinica and Girandella. The county road leading through Labin leads to Rabac, while the road of local importance connects Rabac with Ripend Kras (and Labin), from where panoramic views of the Kvarner Bay, the nearby islands, Rijeka, Učka and others can be seen. The nearest airport is Pula Airport, 40 km from the property. The nearest railway is Lupoglav-Pazin-Pula. One-day excursions to the island of Cres take place daily by sea from Rabac, and most places on the eastern coast of Istria are easily accessible. There is an educational trail between Labin and Rabac, where tourist trails 423 and 424 pass.

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

Port services are one of the essential mechanisms to ensure the proper execution of the different commercial activities taking place inside ports and harbors. Some of the main functions that will be covered in this paragraph include nautical and technical services, ecological aspect and touristic services.

As previously mentioned, services offered inside ports are mostly centralized, meaning that most services are being offered in the ports inside biggest cities, which is not odd as the most services require proximity of other related services.

The following paragraphs will consist of statistical information interpretation based on the data collected through dedicated FRAMESPORT questionnaires. Istria County consists of 53 ports of local and county significance ranging from ports in city centre, anchorage berths, buoys, berths in autocamps as well as ferry ports. Each port has a individual value which contributes the ultimate goal of providing and serving of nautical users while trying to maximize the offer and services.

3.2.1 Nautical technical services

The Port services are the provision activities needed to ensure the running of the Port, aimed at enabling the operations associated with maritime traffic to be carried out in conditions of safety, efficiency, regularity, continuity and non-discrimination.

Mooring and unmooring services - Its function is to pick up a vessel's mooring lines, take them and attach them to the elements arranged on the docks or moorings for this purpose, following the instructions of the vessel's captain, in the mooring sector designated by the Port Authority, and in the order and layout convenient for facilitating docking unmooring and undocking operations.

The unmooring service is understood as being the function whose aim is to detach the mooring lines of a vessel from the fixing elements to which it is moored, following the sequence and instructions provided by the captain and without affecting the conditions of the vessels moored next to it. Approximately **64,1%** of Istrian ports and harbours provide the service of mooring and unmooring of the incoming/departing vessels.

Given the fact that a fair amount of small harbours are located in remote places built solely of basic infrastructure needs and an economically tested thesis of more employees, it is physically not

possible to provide a 24/7 service of mooring activities (**71.7%** of ports does not provide a 24/7 mooring service). **68%** of ports will manage to provide a mooring service to a berthing need in case of an emergency.

Presence of basic services in the port:

Table 7 Statistic representation of basic services in ports

Lowering and lifting of the vessel into the sea – 39,6%	Vessel storage space – 5,7%
Hull washing – 13,2%	Trailer for moving the vessel – 7,5%
Temporary storage space – 11,3%	Cranes (self-propelled, land) – 11,3%

Availability of boat repairing service/overhaul shipyard falls under the segment of high-end port level of equipment due to the fact that port has to ensure a large enough area for vessel manipulations with all the appropriate infrastructures and superstructure elements.

Table 8 Statistical representation of boat services/maintenance offer in Istrian ports

Sales of technical products for vessels in shops and / or warehouses – 5,6%	Electrical services – 5,6%
Hull repair – 9,4%	Supervisor – 5,6%
Manufacture and repair of sails and awnings – 5,6%	Dry dock/Slipway – 13,2%
Sales of technical products for vessels (custom) – 3,7%	Electronic services – 3,7%
Upholstery services – 3,7%	Warehouse – 0%
Rope fitting and adjustment services – 11,3%	Plasticization of vessels / glass plastic – 9,4%
Marine engine service – 11,3%	Ship joinery – 3,7%

From the table above, it can be seen that the overall size and relatively small area on which the ports are built on are fairly constricting regarding the developmental needs. Weighted average corresponds to **6,56%** meaning that the aforementioned services are available only in 3,48 ports out of 53. Percentages are defeating but they were not unexpected taking into the consideration that most of these ports are improvised and were built in a way to ensure a safe haven for vessels without spending too much of resources on anything other than basic needs.

Technical diver service – service providing the expert in sub-aquatic work who is available when the emergency situation arises (slashed ropes/buoys, concrete weight at the bottom...) – **66%**.

Fire protection system on the berths – **15,1%**

3.2.2. Ecological aspect

The greatest environmental effects of the small ports, according to the boaters, concern fuel and different types of waste, such as litter, septic tanks emissions, toxic antifouling paints and grey waters from boats. Too few places to empty septic tanks, or tanks being out of order, increases the risk of boaters emptying tanks into the sea. Due to ongoing incremental of eco-friendly movements, ports should also be able to follow trends to improve their offer and business overall. Interesting idea suggests ports could use recyclable and environmentally friendly products and maybe even provide ideas on how boaters could act more environmentally friendly.

Overall ecological impact could be decreased in couple of different ways:

- Taking better care of the waste management infrastructure (emptying containers regularly, locating them close to the ports and enabling waste sorting),
- Better maintenance of shore pump-out stations (checking and repairing them regularly, providing proper instructions on how to use them and ensuring sufficient shore pump-out stations that are safe and easy to use),
- Generally increasing boaters’ environmental consciousness
- Limitation of single-use plastic items and favor the use of more sustainable materials
- Marking visitors’ berths better, to make them easier for boaters to find.

Table 9 Statistical representation of ecological aspect in Istrian ports and harbours

Presence of a port wastewater monitoring system – 0%	Presence of desalination equipment – 0%
Presence of a separate waste collection system in the port – 13,2%	Presence of air purification system in the shipyard (within the port) – 0%

Presence of a sewage treatment plant in the port – 0%	Presence of water purification plant inside the shipyard – 1,9%
Presence of ecological tanks for collecting waste oils and wastewater – 18,9%	Level of environmental education and activities promoted for users and staff – 32,1%
Presence of a proper battery disposal service – 3,8%	Level of promotion of sustainable modes of transport – 28,3%
Existence of Environmental Management System Certification (renewable annually) – 3,8%	Fuel distribution centers/Pump out stations – 9,43%

3.2.3. Touristic services

Touristic services can be defined as an overall offer to port's end users enriching the existing offer beyond basic needs. Tourist services encompass the whole array of fields in which costumers search for individual satisfaction which in turns affects the entire perception of available ports.

Welcoming tourists in their own language carries a certain dose of respect and welcoming feeling. Istria was throughout history under the Italian (Venetian) influence resulting in a above average presence of Italian speaking population and consequently a lot of Istrians who grew among them and learned the language and culture over the generations.

Knowledge of Italian and English is at **100%** in ports and harbors all over the Istrian peninsula. Slovenian and German are following with high **90-95%** because of the vicinity and overall presence of tourists from these countries.

Sport fields and facilities also play a huge role in enrichment of tourist offer. Cities from Lika – Senj county are fairly developed in terms of cultural events and infrastructural needs, but ports are mostly in secluded places, sometimes even a bit harder to reach for by land, thus, are consequently slightly “under-equipped”. By no means that alludes those ports are struggling to find customers but exactly opposite, people are running away from crowded places to those a bit more secluded.

In the category of sports activities (wind surfing, sport clubs, sailing schools and diving schools) 7 out of 53 ports in the whole Istria are in possession with at least one of these activities, meaning that **88,6%** of ports doesn't have any additional content regarding the sea-related sport activities.

Other sports and wellness facilities are similarly distributed (mostly ports in bigger cities are sufficiently equipped while the smaller harbors are often not). **20,8%** of ports have a tennis court in a close vicinity, while **22,6%** are within a 1 km from soccer fields. **25%** of ports are close to a pool facility while only **16,9%** of ports are in the kilometer range from gym and golfing facilities.

Wellness facilities are an essential accessory in modern day’s world with the ever-rising demand for various forms of SPA and beauty centers. Only **11,3%** of Istrian ports have at least one of the forms (SPA center, health resort, medical center, beauty center, hair saloon or barber shop) of wellness facilities in their near vicinity.

Availability of port facilities for people with limited movement abilities is a big advantage as the social inclusion does not represent an obstacle when it comes to visiting Istrian ports and harbors. Regarding the facilitation of accommodation to people with reduced mobility, **45,3%** of ports have at least some kinds of ramps, bridges or lifts to ease the movement of those whom it may concern.

To facilitate the movement on land, various modes vehicles for rent are available throughout ports and harbors. Quad vehicles are available in almost **17%** of ports, cars in **20.8%**, bikes in **39.6%** of ports and motor bikes and electric scooters in **33%** of ports.

The following table summarizes the average distance from ports to important facilities such as police station and fire department. Presumably, this has to be one the biggest factors while choosing the port. Vicinity of these institutions provide an end-user with valuable information regarding the first steps after some kind of emergency ensures. Proximity of other transport related facilities provide an average distance (from all of the ports -> institution/facility) to end users that might want to explore other options of travelling through Croatia while still being based in chosen port.

Table 10 Average distance (Istrian ports – transport and facilities)

Train station	20,3 km
Airport	41 km
Bus station	8,68 km
Freeway	14,3 km
Police station / Fire department	6,3 km
Hospital / Medical service	9,15 km

As for pet-friendly facilities, it should be noted that they're not guaranteed in the harbors and ports included in this survey. On the contrary, most of the marinas (privately held or managed are not included into this survey) do so, thus underlining the opportunity to further investigate such aspects for marinas due to ever-increasing demand from end users with facilitation of accommodating their pets.

Catering facilities such as restaurants and coffee shops are a necessity within any kind of touristic hotspot. Most of the ports and harbors are in a walking distance from facilities like such, even though they do not technically belong to the port areas (concessions).

3.3. Overall information on annual traffic data (cargo/ro-ro/passengers/locals)

Since the ports and harbors in Istria County are mostly built for accommodating smaller boats and sailing boats, it cannot be neglected that Istrian ports Pula, Rovinj, Poreč and Umag are also dots in connecting the Croatian, Italian and Slovenian ports through use of high-speed crafts. Pula and Rovinj have a connection with Brijuni island, while the port Brestova under management of Port Authority Rabac connects Istria with the Island of Cres. In the following paragraphs, accumulated charts (depending on the type of port and level of record keeping and provided data) will be explained through examples.

PA Rabac: Brestova – Porozina (Cres)

The ferry line Brestova - Porozina is the optimal option when you arrive from Italy, Slovenia or Istria and travel to the islands of Cres and Lošinj, and even the island of Krk, since the ferry ride takes only 20 minutes. The ferry port Porozina on Cres is 25 km away from the town of Cres and if you continue driving to the island of Krk to Merag you also have 25 km of drive. The distance of Mali Lošinj is about 80 km. If you travel to Cres from other parts of Croatia, the easiest way to reach the island is via Krk and the ferry connection Valbiska- Merag.

Figure 9 Ferry Brestova (Istria) - Porozina (Cres)



Source 1 mapio.net/pic/p-121829853/

In the first seven months of 2021., ferry line number 334 (Jadrolinija) transported approximately 116702 passengers and 49760 vehicles (personal vehicles and lorries mostly) with the average of 10 departures per day.

PA Pula

Port of Pula apart from being a one of the leading shipbuilding forces last couple of decades, is also a cargo port as well as a touristic hub for ferry transportation, yachts and cruisers.

Figure 10 Statistics from ship traffic in the Port Authority of Pula area

2015.	Number of dockings	Number of Passengers	Number of vehicles	Tons	2016.	Number of dockings	Number of Passengers	Number of vehicles	Tons	2017.	Number of dockings	Number of Passengers	Number of vehicles	Tons
January	4	0	0	10700	January	11	0	0	48100	January	9	0	0	12000
February	8	0	0	10238	February	4	0	0	19600	February	21	185	0	27000
March	3	0	0	10900	March	9	868	0	24500	March	20	143	0	27000
April	3	725	0	4000	April	8	1514	0	16926	April	4	0	0	7000
May	12	0	0	6035	May	21	511	0	26044	May	18	3572	0	4000
June	26	2628	0	0	June	53	4458	0	54290	June	47	7139	0	1190
July	77	9376	0	247	July	89	14147	0	18000	July	135	20765	0	0
August	89	13421	0	0	August	95	13484	0	9170	August	132	23510	0	0
September	29	3580	0	0	September	53	5435	0	25000	September	44	6001	0	0
October	9	443	0	4000	October	20	336	0	25500	October	13	3095	0	0
November	14	1728	0	55871	November	19	0	0	25950	November	13	387	0	264
December	6	0	0	29400	December	11	0	0	16050	December	9	264	0	0
Total	280	31901	0	131391	Total	393	40753	0	309130	Total	465	65061	0	78454
2018.	Number of dockings	Number of Passengers	Number of vehicles	Tons	2019.	Number of dockings	Number of Passengers	Number of vehicles	Tons	2020.	Number of dockings	Number of Passengers	Number of vehicles	Tons
January	2	14	0	0	January	7	81	0	264	January	17	56	0	18900
February	7	206	0	0	February	11	192	0	5250	February	11	175	0	8000
March	12	186	0	0	March	19	95	0	15250	March	5	16	0	4800
April	9	175	0	0	April	20	125	0	11200	April	1	0	0	19577
May	16	1212	0	113	May	20	391	0	10600	May	9	56	0	0
June	69	7327	0	154	June	72	10006	0	3800	June	25	450	0	0
July	139	19847	0	253	July	117	16107	0	0	July	61	1691	0	108
August	139	19663	0	0	August	113	16904	0	0	August	73	2560	0	0
September	57	8085	0	0	September	58	6662	0	1500	September	28	587	0	1027
October	11	674	0	0	October	15	155	0	11000	October	17	64	0	1385
November	11	204	0	0	November	13	197	0	3000	November	11	47	0	644
December	10	194	0	0	December	12	117	0	3500	December	12	33	0	1234
Total	482	57787	0	520	Total	477	51032	0	65364	Total	270	5735	0	55675

Source 2 Data obtained from Port Authority of Pula (August, 2021)

As it can be seen from the years 2015 – 2020., Pula’s port was in an general uptrend over the last years. Number of dockings and passengers was on a steady incline all the way towards 2020. The year 2020 was marked with one of the biggest modern day catastrophes that impacted the global market on yet unseen levels. Every mode of international travelling was halted in one or the other way. The cargo traffic didn’t suffer such a rapid downfall in the last year but has had a rough year in 2018.

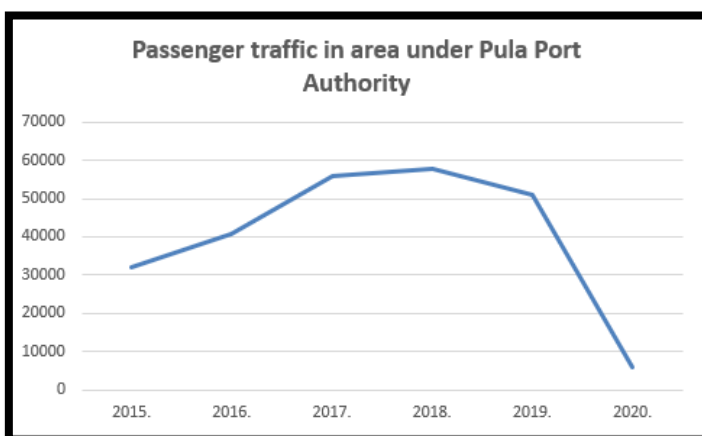


Figure 11 Passenger traffic in Pula Port Authority 2015 - 2019

This chart simplifies and emphasizes the impact of the pandemic on international travel. Pula port manages passengers on ferrys from Rijeka, Venezia and Brijuni as well all the other passengers from

smaller boats to yachts and cruisers. A sharp, almost 90% decrease can be seen in the year 2020. 2021 is generally going with an uptrend as oppose the previous year, but no official data is available at the moment of writing of tis regional repor

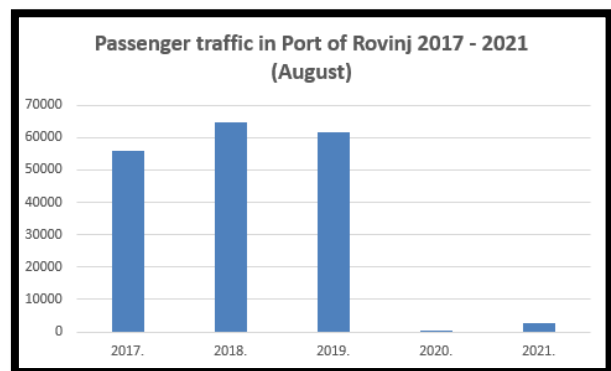
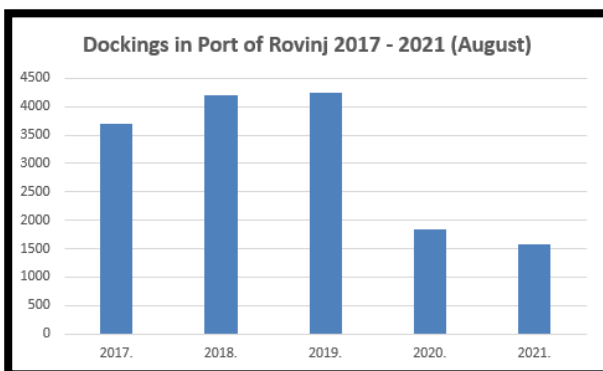
Rovinj PA

Rovinj is one of the most famous touristic destinations in the Europe at the moment. It is named one of the Adriatic's crown jewels. The Rovinj port area is capable of accommodating 250m+ cruisers on anchorages as well as 100m+ yachts on its berths. Apart from being a small town of less than 15000 inhabitants, it's appetite for nautical passengers is never ending.

Figure 12 Passenger traffic + dockings in Port of Rovinj 2017 - 2021

Type of transport	2017.		2018.		2019.		2020.		2021.	
	Dockings	Passengers	Dockings	Passengers	Dockings	Passengers	Dockings	Passengers	Dockings	Passengers
Ferry/Line traffic (ships sail according to the established sailing schedule)	265	23.054	387	26.208	429	27830	/	/	/	/
Ravenna	9	2.655	/	/	13	3548	/	/	7	1430
Triete	42	4.492	37	3706	62	6393	/	/	/	/
Venezia	214	15.907	350	22.502	354	17889	/	/	8	824
Cruisers - (ships on international cruises)	61	8.753	65	11.338	49	5.821	3	139	10	492
Cruisers in domestic traffic	25	/	38	/	53	/	14	/	11	/
Megayachts	314	1058	317	1103	316	190	197	/	186	/
Tourist boats	2451	/	2442	/	2409	/	1166	/	1251	/
Fishing boats	318	/	559	/	553	/	457	/	96	/
Total	3699	55919	4195	64857	4238	61671	1837	139	1569	2746

Source 3 Data obtained from Rovinj Port Authority (August, 2021)



As it can be seen from the charts, pandemic has massively affected the number of people (passengers) cutting it by over **90%**. Number of dockings in port of Rovinj was cut approximately by **60%** but the strict cross border rules showed its impact in the number of passengers. Rovinj is also

a port of call for a lot of fishing boats, which can be seen by a number of 553 dockings in 2019, while there is a downtrend in years 2020 (-17.4%) and 2021 (-82.7%).

Rovinj is a famous destination for daily touristic trips from other cities (Pula, Poreč, Umag, Vrsar...) resulting in a whopping 2442 dockings in 2018. while the number dropped by 52.2% in 2020.

International travel is also a major part of the Rovinj nautical offer. Rovinj is connected with Ravenna, Trieste (via Piran) and Venezia (via Poreč). Year 2020. presented a full stopping of any kind of international traffic from and to Rovinj port. This year, things are starting to look better, but port of Rovinj is only on 8% of 2019 international traffic passenger-wise.

PA Poreč

Poreč, similarly to Umag and Rovinj, found itself and established in the crossroads of Croatia, Italia and Slovenia. Geolocation is ideal, developed coast, plenty of touristic offer.

Poreč and harbors under its purview are positioned in a way to cover most diverse scenarios in the background. You can find yourself in the old city core port, inside of a canal or in a crowded port. Prevalent actors are touristic ships with their day or half-day long trips in nearby cities which use the port in the city center and ferry boats that connect Istrian coast with Italian.

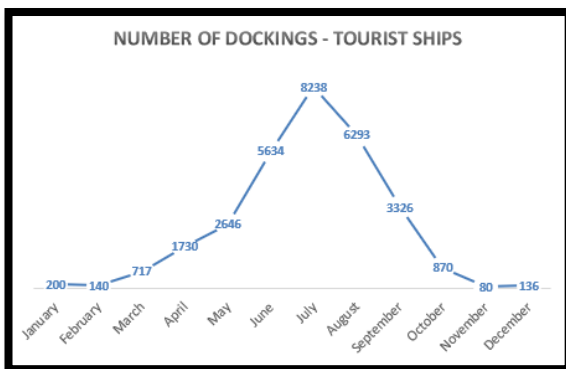


Figure 13 Number of docking - tourist ships - 2019.

The second graph shows that the impact resulted from the Pandemic year 2020 didn't affect the seasonality but has significantly reduced the number of passengers.

Tourist ships are a cyclical type of industry where they sail out with tourists in a similar timeframe, and they are all coming back approximately an hour apart. The graph shows the most vulnerable element of Mediterranean nautical sector – seasonality.

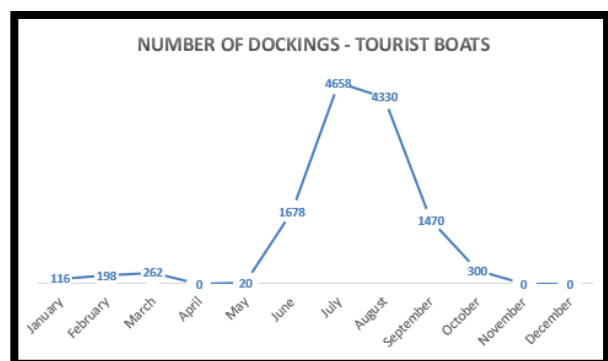


Figure 14 Number of dockings - tourist boats - 2020.

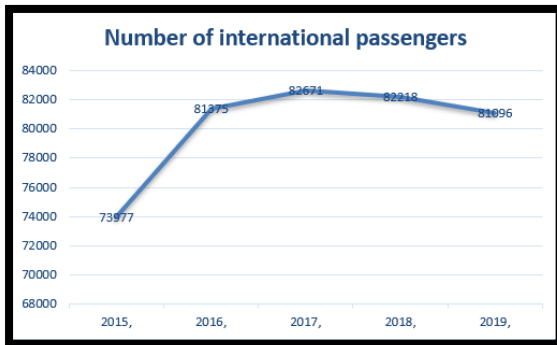


Figure 15 Number of international passengers - Poreč 2015 - 2019

The graph left of the text shows the clear uptrend and stabilization of number of international passengers (Venice, Trieste). The data from 2020 and 2021 couldn't be attained but the drop has to be significant

The graph on the right is tied to one above, suggesting that the number of dockings up until 2019 was in a constant uptrend, and if pandemic scenario didn't ensue, more dockings and more passengers would be expected.

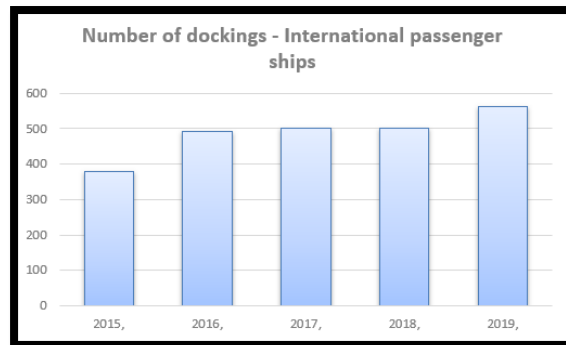


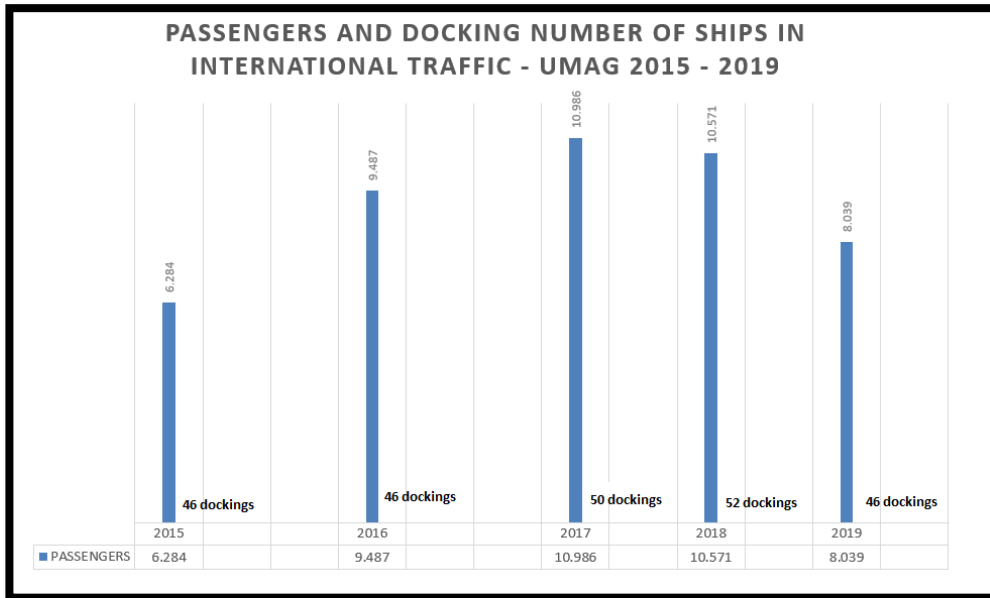
Figure 16 Number of dockings - international passenger ships

PA Umag-Novigrad

Despite being located not so far away, when looking from a geographical perspective, differences among places are existent especially for what concerns the past trends. The Poreč port had an uptrend until 2019, while the number of passengers and dockings inside Umag port peaked two years before, in 2017, and from there it started to decline the following two years.

Umag has a ferry connecting it with the city of Venice/Venezia serving the line with ships from two companies (Atlas and Venezia Lines).

Figure 17 Passengers and docking number of ships in international traffic - Port of Umag 2015 - 2019.



Source 4 Data obtained from Port Authority of Umag-Novigrad (August, 2021)

4. SWOT analysis on small ports phenomenon

Table 10: Dubrovnik-Neretva County ports SWOT analysis

<p>Strengths</p> <ul style="list-style-type: none"> • Natural beauty, clear sea, indented coast and numerous islands • Favorable climatic characteristics • Ecologically preserved landscape and underwater world • Strategic position • Traffic connection / accessibility • Supporting tourist infrastructure (service activities) • Hospitality • Educational structure of staff • Nautical infrastructure (nautical ports tourism) • Personal safety and safety of navigation • Possibility of expanding existing ports and harbors 	<p>Weaknesses</p> <ul style="list-style-type: none"> • Insufficient number of berths • Lack of berths for larger yachts • Content of the offer in marinas and level of service • Level of technical service in marinas • Seasonality of demand • Content of the destination offer and quality of services • Need for a more sustainable management and improvement of services for waste collection and water treatment • Inconsistency of legal regulations • Administrative barriers • Inadequate categorization of ports of nautical tourism • Lack of nautical development strategy
<p>Opportunities</p> <ul style="list-style-type: none"> • Opening new markets • Uptrends in tourism • Istria is becoming an increasingly popular tourist destination • Improving traffic accessibility • Adoption of a nautical development strategy tourism • Climatic conditions favorable for significant season extension • Increase in the quality of another tourist offer • Foreign investment 	<p>Threats</p> <ul style="list-style-type: none"> • Recession in the world market • Marine pollution • Reconstruction of the coast • Insufficient awareness of the need for protection of environment and biodiversity conservation • Inadequate legal and other regulations • World pandemic • Wide urbanization of natural beauty

For the purposes of analyzing the development of nautical tourism in Istria, a research tool known was used called SWOT analysis. SWOT analysis, also known as situational analysis,

it is an intuitive method of examining and evaluating the internal (strengths and weaknesses) and the external (opportunities and threats) of the environment or factors in the function of observing the condition and possible development of a particular phenomenon, in this case small port phenomenon.

The SWOT analysis presents a matrix of questions and answers related to factors that could affect the development and business result of ports. Such an analysis is carried out with a certain nautical tourism experts and managers, as well as coordinators and moderators. SWOT analysis is a tool that helps to identify, detect and identify key development factors, development potentials, and development constraints and as such is a key step from the analysis of the present status to think about the future, desired and possible, determining the development vision, strategic goals, measures and projects.

Competitive advantage can only be built on available potentials if these are rare and have no suitable substitutes among the competition. If the competitors they cannot imitate even if they take advantage of external opportunities and neutralize threats. Because of the above fact, nowadays more and more attention is paid to intangible assets (knowledge and skills, technologies, patents, organization, reputation, etc.).

Nautical tourism ports still do not provide the required level of structure and the quality of the offer that boaters expect, especially compared to natural and ambient characteristics and benefits we're gifted with. Due to the lack of additional content, from the accommodation facility in the ports and sports fields to restaurants, nautical equipment shops, supermarkets, boat services, cranes, slipways, etc., the income of the ports is significantly smaller than which is possible, and its structure is unfavorable.

The biggest advantages are favorable natural features, i.e., a high degree of indentation of the coast, connectivity and complementarity of the island and coastal belt, the existing tourist infrastructure and capacities from other activities, as well as the benefits of locations for the construction of various types tourist ports and other nautical - tourist capacities. However, with all the above-mentioned advantages that nautical tourism has, there are also some shortcomings that need to be minimized in order to successfully compete in the global nautical market.

Some negative factors, respectively the shortcomings of nautical tourism and the limiting factors of its development are: seasonal character activities in nautical tourism, occupation of the sea and the coast, usurpation of the coast, sea pollution with oil and its derivatives, bacteriological pollution of

the sea by wastewater and substances, devastation of biological resources of the sea, pollution of the sea with various wastes and impurities and the destruction of fish and water resources.

5. Summary and conclusions

The aim of this regional report was to provide an overview of the current state of the Istrian Port Authorities and port areas under their management thanks to the processing of data collected through the questionnaire filled by the county port authorities.

Though Istrian ports have one of the best predispositions for success due to favorable geolocation in the Mediterranean, as well as vicinity to neighboring states that share a similar view on the sector, even development is far out of the reach. Most of the small Adriatic ports belong to a category of “satellite ports”, meaning they serve a purpose as a temporary seclusion place, as some of the berths are improvised with homemade equipment. Some of them are illegally made and artificially prolonged so there isn’t any kind of structural cohesion between berthing piers.

It isn’t possible to make investments in all of the ports at once, thus, process of becoming sustainable and self-persevering is scheduled as a long-term goal.

As stated throughout the report, centralization seems to be the biggest obstacle that isn’t going away any time soon, as most of the content and tourist offer is concentrated in bigger cities (and ports). The natural flow of development would have to be in a form of an outflow when the levels of overcapacity hit in bigger ports. This has been proven as correct in the years before the COVID-19 pandemic. Istrian ports started to achieve peak numbers in docking and passengers, and in that point of culmination, every available place that remotely resembled a berth started to attract nautical clients.

Istrian ports are one of the greatest assets to the Croatian tourism which desperately needs to be properly addressed and valued. Following trends and socially acceptable movements are key to achieve a first step towards becoming a sustainable port.