

# MIMOSA

## WP4 and WP5

### Pilot actions and Investments report

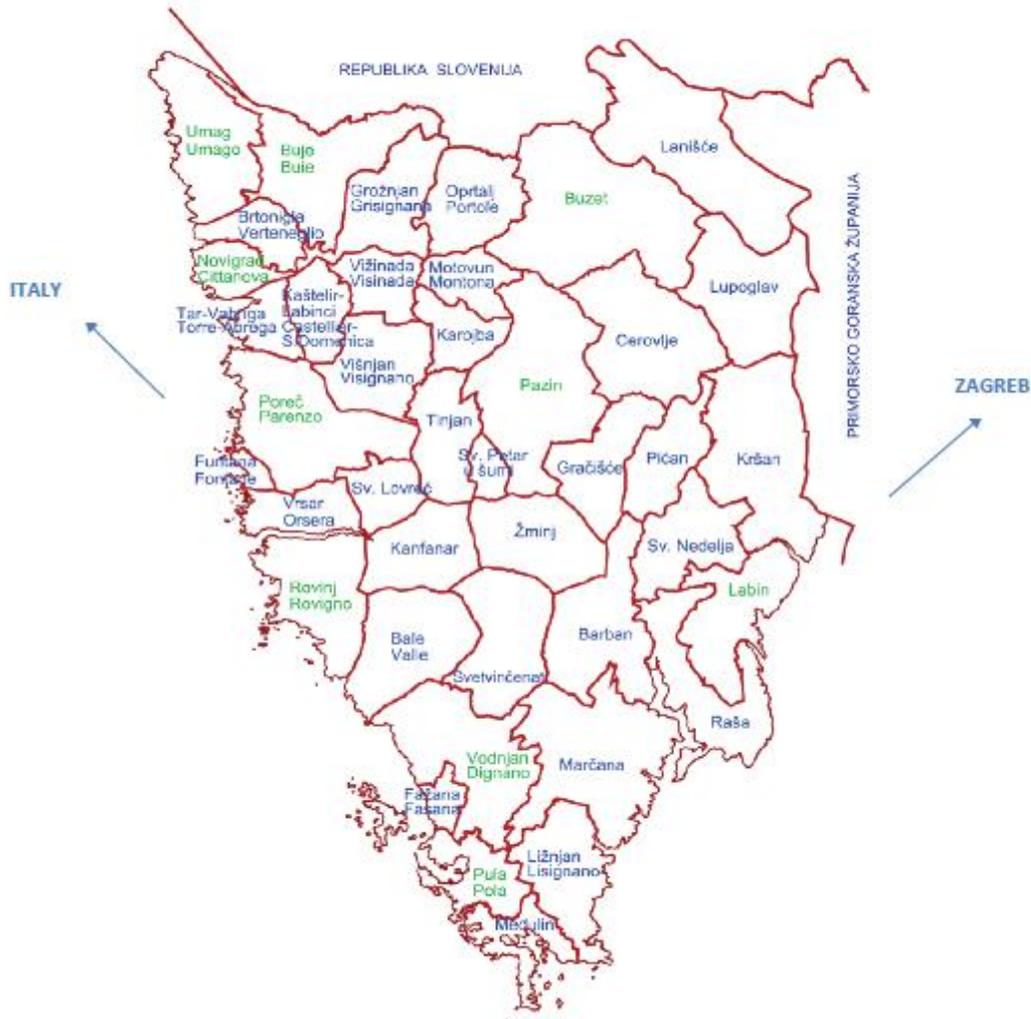
Report:           [.] interim           (DD/MM/YYYY)  
                  [X] final           (30/04/2022)

<b>Working Package n:</b>	4
<b>Activity (n. and description):</b>	4.3. - Piloting actions in connecting different transport nodes
<b>Deliverable (n. and description):</b>	D.4.3.1 (Via Istra)
<b>Responsible Partner:</b>	IDA Ltd. (PP9)
<b>Deadline (as from the original AF):</b>	02/2022
<b>Finalized on:</b>	04/2022

## 1. Background, scope and description of the pilot action

### Background

**State of the art:**



Connection between bussiness hubs in Europe, primarily in Italy, Austria, Germany, UK, Serbia, and BiH is weak because there is lack of frequent and accessible flights and train

Desk research about mobility needs and pilot action in programme area and Istria region: Studies state quite confidently that, globally, demand for mobility will continue to grow over the next three decades. We must therefore be able to respond to the increasing mobility needs of



people and goods and stay competitive, while answering to the emission reduction challenge in the transport sector.

There are three primary ways to go towards emissions reduction:

- Avoid (i.e. avoid travel, or avoid traveling alone in your car and thus inefficiently)
- Shift (i.e. shift to more environmentally friendly modes)
- Improve (i.e. improve energy efficiency of transport modes and vehicle technology)

State of the art:

The Istrian mobility system includes several transport modes, but rail and road public transport offer is limited across the region. The main mode used by tourists to travel to Istria is car (85% of arrivals). The average duration of stays is 6.5 days and it is stable in the last 3 years.

In 2018 the region had the highest bed place offer compared to the other counties in Croatia (25% of the total Croatian offer). The duration of stays is an important driver to define the App / Card offer e.g. duration of touristic and mobility packages.

The connection between main hubs in Europe, primarily in Italy, Austria, Germany, UK, Serbia, and BiH is weak because there is a lack of frequent and accessible flights and train connections. Reaching Zagreb from Pula remains a matter of almost 3 hours.

Airline transport supply to and from Pula airport is tailored to seasonal holiday travel, and not to the year-round regional and international business travel needed by many ICT companies. In winter, international flights to Pula airport are few or non-existent, so business travelers use Venice, Zagreb, Trieste or Ljubljana airports.

Regarding public transportation in Istrian towns does not exist outside of Pula.

### **Aviation**

Pula Airport registered 777,568 passengers in 2019 (+103% compared to 2014); flights are operated by legacy and low-cost carriers. In 2019 services covered 21 countries and 67 destinations across Europe. Traffics are seasonal and we understand that this due to the fact that the main travel purpose is leisure: in 2019 the Airport registered 916 passengers in January and 186,159 in July. The Airport is connected to the City of Pula by privately operated shuttle services (Brioni d.o.o. and Fils d.o.o.). One public transport service is available in summer. Other bus services connect the Airport and urban centres of the Istrian Peninsula. Taxi services operate from the Airport across the region. Based on the outcomes of the ICARUS stakeholder workshop we understand that hotels typically arrange guest transfers from/to the Airport.



### **Road**

The BINA Istra motorway (known as the Istrian “Y” Motorway) is the toll road connecting Pula with the town of Umag and the city of Rijeka. We understand this is a key transport axis to access Istria and travel across the county.

### **Maritime**

Istria has seasonal / summer ferry and catamaran domestic and cross-border services.

### **Coach & bus**

Coach services operate across the peninsula and connect the main Istrian cities to domestic and international destinations. Main operators include FlixBus (Brioni d.o.o. operates services to Munich, Slovakia, Budapest and Milan), Fils, Črnja Tours, Eurolines e Autotrans (Arriva Group). Road public transport services are only available in Pula and are operated by Pula Promet. An e-bus service is available in Poreč; this is run by the City and currently funded by a EU project.

### **Rail**

Istria has one north-south railway axis connecting Pula and Buzet via Lupoglav. This is a single track non-electrified line. On average there are about 5 services per direction between Pula and Buzet in a summer working day in 2020; the trip duration is two hours (90 km).

There is not a rail connection from Istria to the rest of Croatia, and in particular to Zagreb. A bus services connects Lupoglav and Rijeka; the latter city is on the main Croatian rail line. The railway line from Učka to Rasa in the south of Istria is not operational. 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 functional linking to the Slovenian, Italian and the European railway systems. All railway tracks are of normal width, 1.435 mm wide, except the narrow-gauge track Trieste-Poreč, with a width of 760 mm (which is no more used for railway traffic since, as also reported in the following table, it has been closed in 1935).



Railway track (route)	Length Km	Open	Closed
Pivka (SLO) - Rijeka (CRO)	55,4	25. VI. 1873.	
Divača (SLO) - Pula (CRO)	122,2	20. IX. 1876.	
Kanfanar - Rovinj (CRO)	21,0	20. IX. 1876.	20. X. 1966.
Hrpelje.Kozina (SLO) - Trst (IT)	19,6	5. VII. 1887.	1. I. 1935.
Trst (IT) - Poreč (CRO)	123,1	15. XII. 1902.	31. III. 1935.
Lupoglav - Staliže (CRO)	52,7	30. XII. 1951.	
Prešnica - Kopar (SLO)	31,4	16. XI. 1967.	

Table 1. Railway tracks through history

The number of trains was steadily decreasing on Istrian region, and in 2010 passenger cross-border traffic was completely abolished: December 10th, 2010 was a sad day for train passengers and rail enthusiasts. For the first time in its history, Istrian railways have remained isolated from the European railway system. With the introduction of the timetable, Croatian Railways abolished the Buzet-Rakitovec connection and trains on both sides of the border only drove to the border stations. This lasted until December 15th, 2013, when a symbolic connection was established on one afternoon train. This connection was weak, because the ride from Ljubljana to Pula takes 4 hours and 40 minutes and also includes transfers from one train to another in Divača and Buzet. Croatian railways have organized combined train/bus traffic for passengers to Rijeka and Zagreb with transfers in Lupoglav and Rijeka, but this is a very long and arduous journey. A slightly better situation is in the tourist season because Slovenian railways in cooperation with HŽPP managed to maintain one direct train from Ljubljana to Pula, thus making it easier for foreign tourists to get to Istria by train. It is difficult for foreigners to understand that the connections between Istria and the EU are as they are. The fleet of passenger trains is outdated and cannot provide quality services, which is the cause of few passengers taking the train.

Rail infrastructure is not on the satisfactory level. It's important to highlight that the railway network is not connected - the problem of the railway connection of the territory of Istria with the rest of the Republic of Croatia is due to fact that tracks are situated across the territory of the Republic of Slovenia.

**Other services Concerning shared mobility, bike sharing schemes are available in Poreč, Pula, Pazin and Umag.**

### Scope

(D.4.3.1) No. 1 Pilot Via Istra.

The pilot refers to the integration of previous e-solutions in a development of interactive map with the focus on harmonization of services put in one place.

Via Istra will be a starting point for the development and the improvement of multimodal passenger connections and green multimodal solutions.

### **Description of the pilot/investment**

Pilot actions will test new solutions such as timetable harmonization, car/bike sharing, ICT solutions for seamless information flow, intelligent and integrated multimodal payment systems, dynamic travel planning and cross-border intermodal services. All these actions call for behavioral changes and the application of new concepts, such as “Mobility as a Service”.

The user is placed at the very center of transport services. IDA jointly works with public authorities to help them nudge their citizens into adopting new sustainable behaviors and the new set of services as more efficient and beneficial for all. MaaS Platforms and Apps incorporate trip planning engines but add extra functions, which would not normally be available through a Travel planning App. These functions include booking and payment, ticketing and validation, mobility incentives and credits, and ability to nudge participants influencing their travel behavior (e.g. active travel nudges). A card is a pre-paid pass and discount card.

Typically, the cards provide free public transportation and discounts at museums and other tourist attractions for visitors. The cards can be purchased for different number of days and may be digitalized and accessed by users through their smart phones. A MaaS App is a sale channel for smart cards.



## 2. Implementation of the pilot action (including a description of the externalized services/supplies/works)

The pilot action is implementing from 07/2021. During this period, PP9 has finalized the procurement procedure for external service for the development of interactive map (Via Istra pilot activity 4.3., the procurement tender was published and contracted. During this period PP9 has analyzed existing, re-use and development of new smart technological tools and advanced solutions in order to get an overview on the state of play, time plan and risk assessment with reference to the developing tools and harmonizing services for sustainable intermodal mobility. During this period, PP9 has finalized the procurement procedure for thematic equipment related to activity 4.3. (AI tools) linked to the Via Istra platform, the procurement tenders were published and contracted. The equipment was delivered and the contract value has been paid.

As far as the promotion is concerned, IDA organized a series of activities aimed at advertising the launch of the service. Istrian Development Agency has promoted MIMOSA pilots Via Istra and Smart card in the events on October 7th and 28th 2021. Pilots were presented as new sustainable mobility solutions in the Region of Istria; thought enhancing the knowledge of sustainable mobility options and to raise awareness on the effects of reckless mobility choices from citizen and at the same time activating a behavioral change process.

<https://ida.hr/hr/tn/novosti-481/detail/2488/od-eu-projekta-do-ideje-za-obiteljski-izlet-od-ovog-vikenda-vlakom-po-istri-na-jedan-novi-nacin/>

<https://ida.hr/hr/tn/novosti-481/detail/2484/projekt-ida-e-i-hz-putnickog-prijevoza-omogucit-ce-bolju-povezanost-i-nove-turisticke-proizvode-u-istri/>, it was promoted at IDA website, through on-line newspaper articles.

Based on long-term cooperation with the Juraj Dobrila University in Pula, the Istrian Development Agencies held an online lecture for about 20 students of the Faculty of Economics and Tourism "Dr. Mijo Mirkovic "where MIMOSA project and its pilots were introduced to the students:

<https://ida.hr/hr/tn/novosti-481/detail/2394/ida-odrzala-line-predavanje-za-studente-fet-/>



(D.4.3.1) No. 1 Pilot Via Istra



Picture 1: homepage of the platform with slideshow of the pictures

#### SECTIONS:

1. HOMEPAGE - <https://via-istra-dev-web.infosit.com/>
2. WHAT IS VIA ISTRRA? – link leads to description of 3 cards with the explanation what’s included on the card (<https://via-istra-dev-web.infosit.com/en-gb/why-via-istra>)
3. BASIC PACKAGE – link leads to description of basic package which includes public transport, bike share points and historical monuments (<https://via-istra-dev-web.infosit.com/en-gb/basic-package>)
4. ADDITIONAL OFFER – link leads to description of all service providers which are included in our “Additional offer” – offer out of basic package (users can choose which option will they buy) - <https://via-istra-dev-web.infosit.com/en-gb/additional-offer>
5. DISCOUNTS – link leads to all other included service providers who will give discounts to the owners of VIA ISTRRA card. Discounts are between 5% - 25%. (<https://via-istra-dev-web.infosit.com/en-gb/discounts>) – *Plan is to include as much as possible services in this section in the future.*

VIA-ISTRA
Language: EN

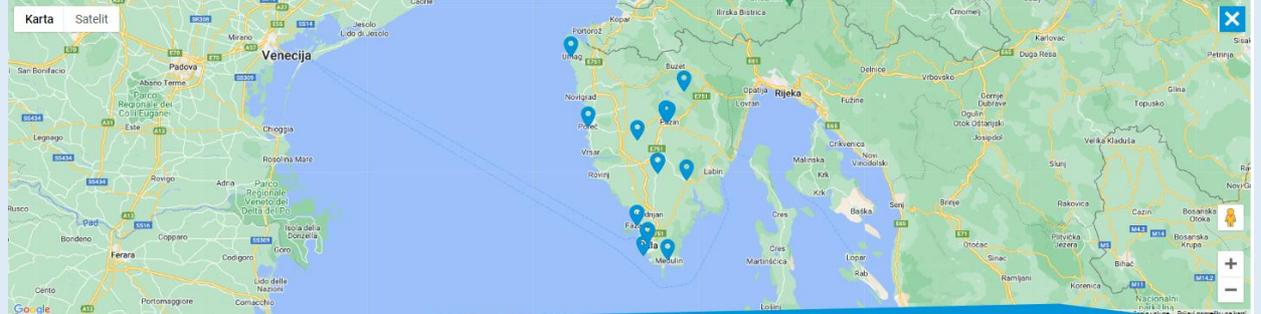
WHAT IS VIA ISTRIA?
BASIC PACKAGE
ADDITIONAL OFFER
DISCOUNTS
CONTACT



Move smarter, discover the local & enjoy Istria with 7, 3 or 1 day pass

By purchasing the card, you can use the services more cheaply and visit the cultural sights included in the **basic Via Istria package** free of charge, and you also receive numerous additional **discounts** on services and attractions from the Istrian tourist offer. In addition to the basic package, you can top up the card and use the service or visit one of the sights from our **additional offer**. You can buy the card online via the webshop, via the mobile application or physically at our **points of sale**.

SELECT CARD..



**Picture 2: map with included service providers**

Map on homepage shows the location of all service providers as well as the development of a network of different modes of transport (bicycle, train, bus, maritime). Where, thanks to IT solutions, travelers (tourists) would have the opportunity to increase their knowledge and available routes. As part of the pilot activity "Via Istra", we are going to open a Google account, where in cooperation with Google they would provide users with free information on travel opportunities through Istria shown on Google Maps as part of Google Maps Transit.

## What is VIA ISTRIA?



### VIA ISTRIA

*Tourist card with which all visitors to Istria can explore all its beauties with numerous discounts and benefits.*

The tourist card is available in 3 options:

- **ONE-DAY CARD** - valid for 1 day (24 hours) from the moment of activation when the card is first loaded,
- **THREE-DAY CARD** - valid for 3 days (72 hours) from the moment of activation when the card is first loaded,
- **SEVEN-DAY CARD** - valid for 7 days (168 hours) from the moment of activation when the card is loaded for the first time.

SELECT CARD...

Picture 3: Page "What is VIA ISTRIA?"

## BASIC PACKAGE



### PUBLIC TRANSPORT

*Save your money and explore the beauties of Istria with affordable transport services!*

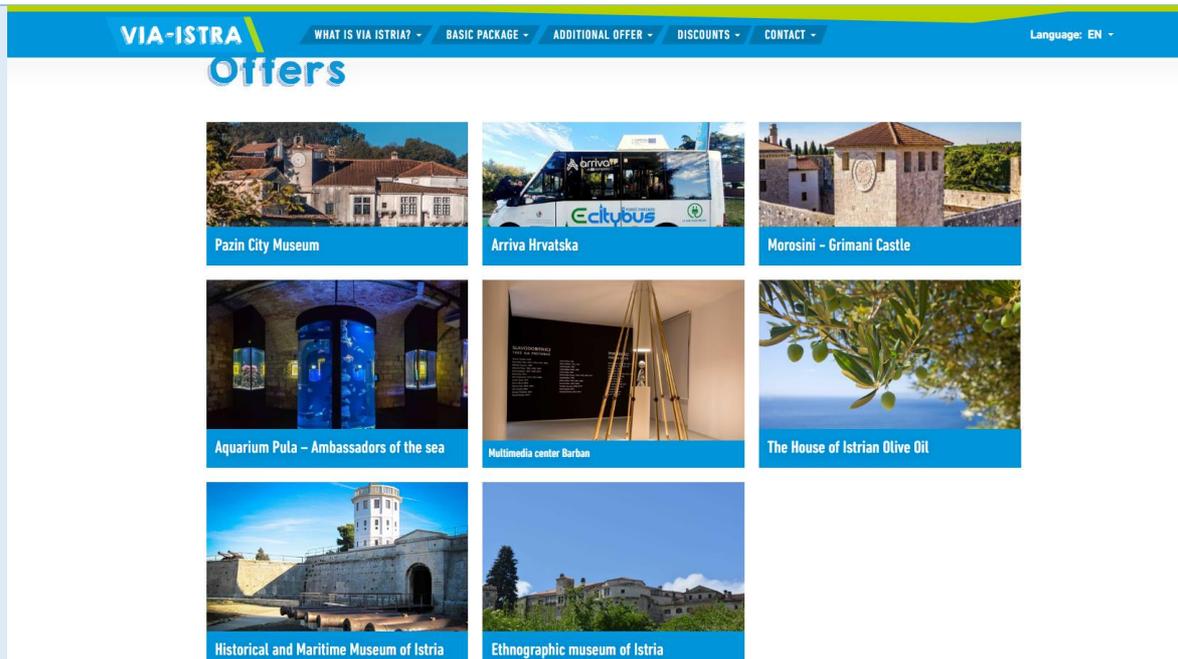
By purchasing a one-day, three-day or seven-day VIA ISTRIA card, you can make better use of the available public transport services in the Istria County.

**What is included?**

- **Pulapromet public city transport** on all city and suburban lines (zones 1, 2, 3 and 4),
- transport by bike & train by **Croatian Railways** on the Pula-Buzet route where you can take your bike!

SELECT CARD...

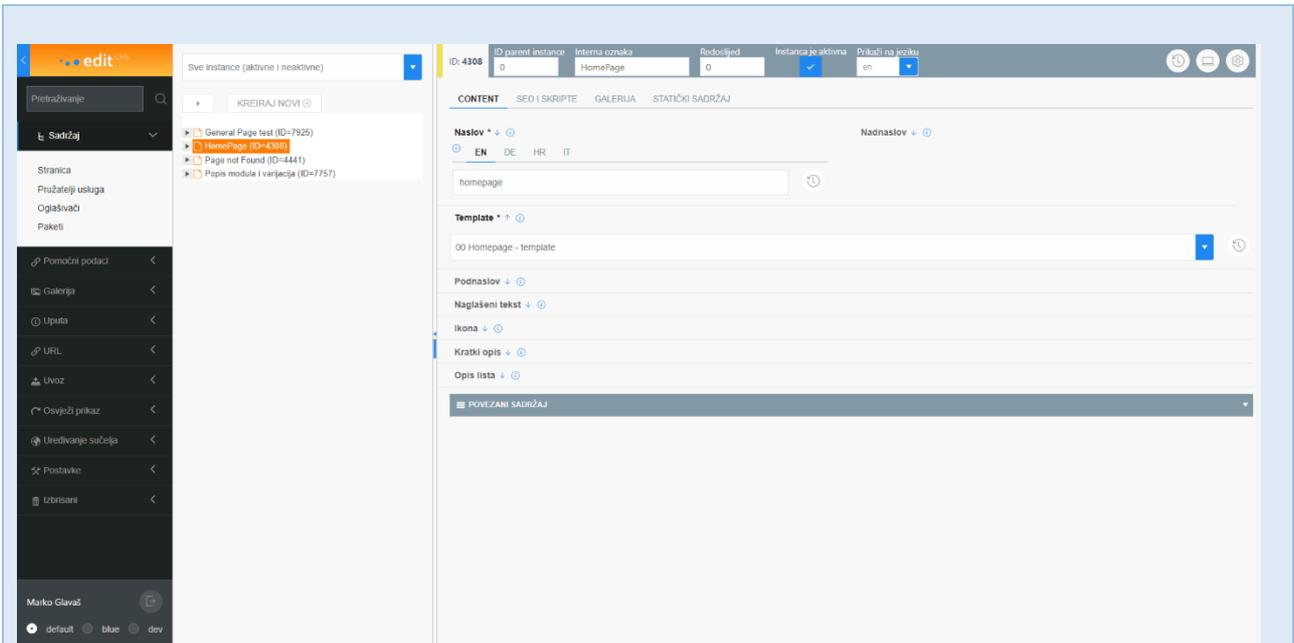
Picture 4: Page "Basic package"



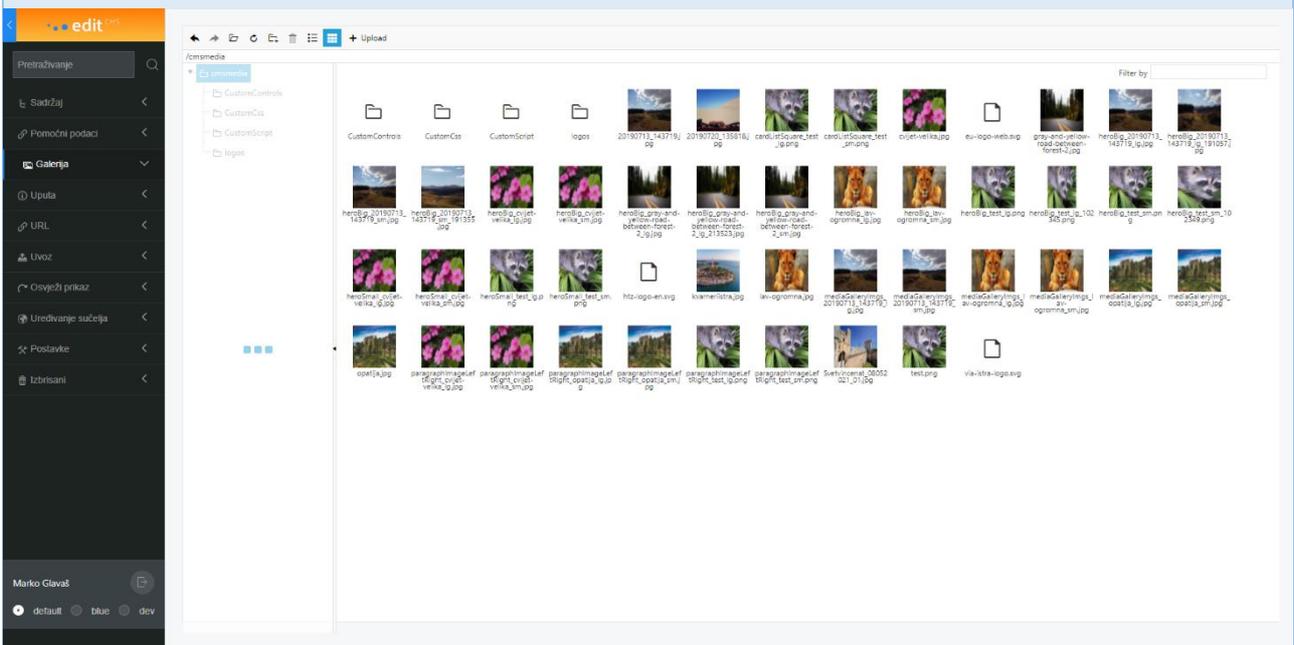
Picture 5: Page "Additional offer"



Picture 6: Page "Discounts"



Picture 6: CMS for editing web platform (1)



Picture 7: CMS for editing web platform (2)



Picture 7: Created VIA ISTRA cards/tickets – 1,3, & 7 days

### 3. Information about stakeholders' role/involvement

For the first step of project implementation, IDA organised meeting with potential stakeholders and big number of municipalities, cities and departments in the region expressed their interest. Roles and involved representatives are described in the table and general conclusion was that meetings like this need to be held on regular basis in order to gather relevant information, discuss current and potential needs and to identify potential actions and challenges.

Type of stakeholder	Stakeholders and brief description	Role in implementation plan
Public authority/ decision makers	<p><b><u>Regional authority</u></b>            Istrian region – Department for sustainable development            Istrian region – Department for tourism</p> <p><b><u>Local authority</u></b>            Barban municipality            Lupoglav municipality            Lanišće municipality            Poreč municipality            Rovinj and Kanfanar            Medulin            City of Pazin            Cerovlje municipality</p>	<p><b><u>Istrian region</u></b></p> <ul style="list-style-type: none"> <li>➤ contribution with relevant informations according to identified needs: modernisation of Istrian railways</li> <li>➤ integrated passenger transport</li> <li>➤ information for bike share systems</li> <li>➤ infrastructure investment</li> <li>➤ interes in train/bike connection</li> </ul> <p><b><u>Barban municipality</u></b></p> <ul style="list-style-type: none"> <li>➤ bike share development</li> <li>➤ cyclotouristic offer development</li> </ul> <p><b><u>Lupoglav</u></b></p> <ul style="list-style-type: none"> <li>➤ central Istria tourism development</li> <li>➤ important train station in Istria</li> </ul> <p><b><u>Lanišće</u></b></p> <ul style="list-style-type: none"> <li>➤ sustainable development of tourism and following activities</li> <li>➤ diversivication od cyclotouristic offer and investment in cycling infrastructure</li> </ul> <p><b><u>Poreč</u></b></p> <ul style="list-style-type: none"> <li>➤ SUMP and SEP development</li> <li>➤ contribution with new ideas based on mobility needs</li> </ul> <p><b><u>Rovinj and Kanfanar</u></b></p> <ul style="list-style-type: none"> <li>➤ high importance role according to development of new cycling route which will connect hinterland – coast area in Istria</li> </ul> <p><b><u>Medulin</u></b></p> <ul style="list-style-type: none"> <li>➤ interes in cycling infrastructure</li> </ul> <p><b><u>Pazin</u></b></p> <ul style="list-style-type: none"> <li>➤ contribution with measures identified with local strategies: intermodality increase</li> <li>➤ investment in cycling infrastructure</li> <li>➤ bike share development</li> </ul> <p><b><u>Cerovlje</u></b></p> <ul style="list-style-type: none"> <li>➤ investment in improvement or enlargement of local svrives for rural area which include free time (Cerovlje is one of the node of Istrian railway)</li> </ul>
Private operators	<ul style="list-style-type: none"> <li>● Pepeks d.o.o.</li> <li>● FILS d.o.o.</li> <li>● BRIONI d.o.o.</li> <li>● ARRIVA</li> <li>● FLIXBUS</li> <li>● Ati d.o.o.</li> <li>● Črnja tours d.o.o.</li> </ul>	<ul style="list-style-type: none"> <li>➤ to be established communication with private and public transport providers</li> </ul>

## Stakeholders involved

Type of stakeholder	Quantify	Level of involvement	Notes
EU, National or Regional Institution	2	Inform	<ul style="list-style-type: none"> <li>• contact with the office of EU parliament representative <u>Vlater Flego</u> as member of Committee on Transport and Tourism.</li> <li>• contact with Region of Istria: department for Tourism, department for Traffic and department for Economy</li> </ul>
Local Institution	13	Consult/collaborate	<ul style="list-style-type: none"> <li>• Municipalities: Buje, Buzet, Labin, Novigrad, Pazin, Poreč, Pula, Rovinj, Umag i Vodnjan.</li> <li>• Tourist boards: Pula, Raša, Središnja Istra (Central Istria)</li> </ul>
Trade association	2-5	Collaborate	Hotel associations, local commercial associations etc., in order to define commercial agreement and key features of the card that we would like to have.
General public		Inform	Tourists and regional population through questionnaires, media,..
Public transport operators	2-5	Consult/collaborate	Local public transport operator, National rail services provider and other public transport operators

MIMOSA pilots provided an opportunity to improve knowledge in topic related to the ICT/ITS applied to the public transport sector, as well as the regulatory issues of the passengers intramodality and the application of data collection and planning methods supporting action plans in strategic sectors of the mobility services. MIMOSA pilots enhance the capability of IDA in dealing with the sustainable mobility design.

### 4. Lessons learnt and conclusions

#### 1. Rank service importance

Services to consider are:

- transport - public transport
- discounts (or free entry) at museums;
- discounts at restaurants and other tourist attractions for visitors;
- information on the region touristic cycling offer.

We recommend raking services and include first services with higher demand based on a market analysis; transport services must be included and priority should be on public transport, airport transfers, bike sharing and bus services. The App / Card should be open to add new services.



We recommend focussing on the touristic experience that sustainable mobility brings, rather than selling transport services between touristic sites - poles. The App / Card must include payment functionalities to provide users added value.

## 2. Plan the sale network and marketing at key locations

Tourists arrive in Istria by car (85%) and by airplane (roughly 15%). We recommend the Card / App sale and marketing should focus on:

- the airport and eventually airlines;
- hotels, campsites and beach facilities;

Most tourists will probably buy the Card on-line (like in Valencia) and the development of an App is necessary to answer a rising demand for individualised information. Mobile phones support M-ticket solution with QR code and this can ease interoperability with the partners.

## 3. Secure resources and setting-up the team

The development costs can vary significantly based on several variables, such as:

- the services subcontracted;
- the type of fee charged by the App developers (based on users or fixed price);
- the duration of the contract.

Securing (public) funding and political - institutional support to the project is a must for the success of the initiative. The project may tentatively take 1 year to launch.

A dedicated project team is needed to plan and deliver the project. This should have a user centric and entrepreneurial attitude.

## Pilot experience in promoting new sustainable mobility solutions

To encourage the use of public transportation, incentives focus on offered to help reduce the cost to the user, including discounted bus, rail, or public transportation passes as well as integrating the public transport network and private transport services (bike, micro-mobility, scooter, car and on-demand minibus sharing). Its value proposition is providing a one-stop shop for mobility services, and a door-to-door and seamless travel experience based on user's preferences.

Our expectations were realistic due to the previous market research and stakeholder communication in project ICARUS.

The main challenge was collaboration and agreements with transport operators and tourism businesses.

Developing the Card was a complex process and it required extensive stakeholder engagement.

**Agreement is needed** on the following key elements:

- how the tickets are redeemed by the different service providers;
- who is managing payments;
- how much are the services that the Card includes;
- who is selling the card and providing customer support.

### **Technology integration**

Technology was not an issue and we note that providing the Card users with a QR code for transport services eases technology integration (it is sufficient that bus drivers or train staff have QR code reading software installed on their devices - e.g. mobile).

A product oriented and customer-centric mindset, as well as strict cooperation with the technology provider (workshops, frequent contracts and review meetings) are needed to develop the App / Card.

### **Political – institutional support**

Public support and leadership eased the Card development process and its further upgrades.

### **Enabling technologies**

The App provides users real time multimodal travel planning and payment. In particular it has NFC (Near Field Communication) technology to validate tickets directly from the mobile phone.

Key App data input data are:

- Static data on bus stops, lines, schedules;
- Real time data on delays; and
- Fares.

Technology was not an issue and we note that providing the Card users with a QR code for transport services eases technology integration (it is sufficient that bus drivers or train staff have QR code reading software installed on their devices - e.g. mobile).

In principle technology is not an issue but interoperability of ticketing / payment needs agreement with the App / Card partners.

Technology is not a major obstacle to the development of the initiative. Rising demand for individualized information suggests that the initiative should focus on an App; a physical card option can also be delivered to complement the App.

## 5. Problems found and adopted solutions

### COVID - 19 IMPACT ON MOBILITY

#### Covid impact on mobility in Istria Region

As in the rest of the world, the County of Istria has also experienced the effects of the Covid-19 virus, both negative in terms of economic crises and positive in terms of increasing use of alternative, eco-friendly transportation options such as bicycles, especially in the suburbs and cities. Another positive thing this virus has given us is that we have much cleaner and healthier air during lockdown.

When the virus hit Italy, the Region of Istria was most at risk of infection in Croatia because Italy is near the Region and there is a lot of people that daily crosses the border in order to go to work in Italy. As so, Istria County was among the first regions in Croatia to introduce virus protection measures. One of the measures was also the abolition of public transport which ultimately resulted in an increase in the use of bicycles as a major means of transportation in cities. As the most of County is currently working from home, we can see only a few cars in our cities through the day and all the roads are empty. There have been reports that more and more people are cycling and some bicycle shops, although closed, are seeing progress as more and more people are looking for alternatives to public transportation and are interested in buying a bike.

Although this virus will have many negative effects on economic indicators and society as a whole, it will still be possible to learn something from this situation - that we are not stronger than nature, that we have to protect the environment in which we live and cannot pollute it. Now people will certainly think more about this topic and hopefully there will be a change in behavior in terms of transportation.

## 6. Expected follow up (after project closure)

In the area of urban transport, the emphasis is placed on the problem of traffic jams on the roads in the centers of major cities and tourist destinations and on parking. Upgrading the network and increasing capacity should be accompanied by improvements to the public passenger transport (PPP) system, pedestrian and bicycle path systems, etc.

Keeping in mind the pilot action that will be performed by IDA, some of the interchange nodes will be more visible and what is more important it can be useful for better understanding and dealing with passenger needs.

The technological advancements and innovations thrown up a range of new mobility options within the 4th industrial revolution.

These major technological developments include big data, Artificial Intelligence (AI), the Internet of Things (IoT) and the emergence of new forms of energy sources. Internet of Things technologies are significantly influencing the future of mobility as they introduce a new, continuous communication channel between mobility stakeholders, increasing the ability to capture and share data. Also, the production on a massive scale of new, compact forms of energy supply, will allow for economies of scale and extended journey range, which will drive the adoption of electric mobility solutions.

This pilot action will be the first step for further promotion of Istrian railways and their high potential for modernization. It can enable gathering of all relevant stakeholders and dealing with existing needs and challenges in the region.

Also, it is in line with different plans and documents and its implementation will enable to reach MIMOSA goals and open new opportunities for follow up projects.