D 5.1.1 – Business model creation and training

Activity 5.1 – Pilot implementation

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1. INTRODUCTION

This Deliverable address the creation of a Business Model for the E-Chain platform and the training activity involving transport operators, interfacing with different professional sectors (touristic, cultural and commercials) and the creation of new professional profiles, increasing the actual skills of people who operate in the commercial, mobility and touristic field.

This document includes two chapters (2 and 3) made by Central Marketing Intelligence (Analysis of the functional requirements for the E-Chain business model creation and Business Model creation), and the last chapter (Training session activity) made by University of Trieste.

The purpose of chapter 2 is to analyse the market situation, and understand the interest of the potential users, the competitive scenario in which the project is going to compete, and the best practices from other players in the International scenario. Moreover, this chapter allows us to deepen and quantify fundamental aspects such as the reference market, active demand and competition, or the already existing solutions that offer the functions outlined for E-Chain.

In fact, the analysis is propaedeutic to delineate the Business Model of the E-CHAIN platform in chapter 3. It is fundamental to define the E-Chain Business Model to better describe how the whole project would operate and create value in the future. More in detail, It defines how it creates value for all the stakeholders involved, through relationships, channels and activities. Then, it defines how the project can be sustainable after the first PILOT Phase, generating value over time and requiring costs that can be covered. Moreover, to create the Business Model it has been used a strategic management tool to quickly and easily define and communicate a business idea or concept. The Business Model Canvas (BMC) for not profit projects was chosen as the best way to represent the E-Chain Business Model.

The document last chapter regard the training session activity, with focus on Ancona, Venice and Split, the three pilot sites of the E-Chain platform. Firstly, is argued the structure of the

training activities, with the division between formative and informative training sessions. Secondly, the first training session is deeply described by illustrating the preparation phase, the actual realization and the feedback collected. Moreover, topics covered, teachers involved, audience are listed and described, together with the results of round table and the satisfaction questionnaires.

At the end of this document we consider all the evaluations and give an overall assessment and conclusions.

2. ANALYSIS OF THE FUNCTIONAL REQUIREMENTS FOR THE E-CHAIN BUSINESS MODEL CREATION

In order to delineate the Business Model of the E-CHAIN platform, validating the sustainability of the project, it is first necessary to **analyse the market situation**, to **understand the interest of the potential users**, **the competitive scenario** in which the project is going to compete and **the best practices from other players** in the International scenario that are offering similar services, from which it's possible to observe their revenue model and to evaluate their results as benchmark.

In fact, this preliminary research allows to deepen and quantify fundamental aspects such as the reference market, active demand and competition, or the already existing solutions that offer the functions outlined for E-CHAIN.

Therefore, the first part of this document will aim to obtain a better understanding of the users' interests regarding the services offered by the E-CHAIN platform, in particular:

- the information about travels between Croatia and the Adriatic coast of Italy
- the calculation of CO_2 emissions while traveling and other green and sustainable advices.

In fact, by studying Google searches it's possible to understand what interests people the most and how they approach their needs when they are in front of the search engine and need to find a service or solve a problem. In addition, quantifying the search intent on Google gives us a way to better intercept what users need and optimize the strategies to correctly address them.

In the second part of this document, in order to identify best practices and effective strategies, the analysis focuses on the different players on the market, divided by the different functions of the E-CHAIN platform. In this way it will be possible to investigate their characteristics and positioning, products and services offered. In addition, when necessary, the analysis deepens the traffic results of the sites identified, in Italy and around the world, to understand the audience reached, the interest that their services are able to get and the traffic sources from which they are obtaining new users. The competitive landscape analysis will be divided into the 3 phases of the project: before, during and after the trip.

Through this analysis, it will then be possible to identify the competitive advantages, risks and key success factors of the entire E-CHAIN project, and then proceed with the structuring of the business model in the next phase.

2.1. Market Interest Assessment

This first part of the analysis aims to better understand what people are looking for on Google about the topics of interest for the project and how their interests are changing over time.

The first way to analyze what people search on Google is through Google Trends, the largest database of Google searches from all over the world that starts from 2004. Data from Google Trends are normalized data in a range from 1 to 100, aimed to show the relative differences between different keywords' search level, visualizing the time trends through graphs over time. This means that if a keyword has the value of "100", it's the most searched for keyword in the time range, while the other keywords has a relative value: a keyword with "50" is searched with a volume half of the first one, a keyword with "10" is searched 1/10 of times, etc. (See more information here: https://support.google.com/trends/ or in the chapter 4.1 of the Methodology).

Then, to estimate the absolute volume of searches on Google, two different methods have been used:

1. The first method, through Google Ads Keyword Planner, finds the most important related keywords in a topic field (in this case, the "tourism" field) in a specific Country, and then calculates the estimated average search volume every month.

2. The second method, through Semrush, finds all the keywords with the same word root in a specific Country and then calculates the estimated average search volume every month and the SEO indexes.

The two methods are used according to the goal of the research: to quantify the overall interest for a macro-topic it is better to use Google Ads Keyword Planner, while to estimate the volume and competition for a specific topic it is advised to use Semrush or other SEO software (See more details in the chapter 4.2 of the Methodology).

2.1.1 Interest for the Destinations

The E-CHAIN project has the purpose of improving the link between Italy and Croatia, offering travelers information and advice about their trip and promoting sustainable behaviour. For this reason, it's important to understand what people are searching online about the other country, to discover the level of interest and the most relevant information for them.

2.1.1.1 Italian researches related to Croatia

In Italy, in the last year there have been 395K Google searches on average every month about Croatia, considering all the related keywords about the cities, counties, towns, that Italian users could search for to find information about the Croatian country and the specific cities. **In summer, the number has grown close to 800K searches,** while in autumn/winter the number was **lower than 150K searches per month** (data elaborated from Google Ads Keyword Planner, see Methodology chapter 4.1).

Then, to understand the trend of interest over time using Google Trends, in Figur*e 1* it's possible to outline the search trend over time from 2011 to 2021 for the topics "Croatia" and "Split" in Italy. To read the graph, the highest peak in summer 2018 for the "Croatia" topics has

been assigned the value of "100", while the other points of the graph have been calculated proportionally. In Figure 2 it is possible to better appreciate the trend for the topic "Split", normalized independently from the other topics.

Figure 1 Trend of searches on Google over time in Italy from 2011 to 2021 about the topic "Croatia" and "Split" (Data elaborated from Google Trends, see Methodology chapter 4.1)

Italian Research - Research trend over time about Split

Periodo: 2011 - 2021

Figure 2 - Trend of searches on Google over time in Italy from 2011 to 2021 about the topic "Split" (Data elaborated from Google Trends, see Methodology chapter 4.1)

The key learnings from these graphs are that:
- The interest for Croatia is characterized by a strong seasonality starting from June to August, with the highest peaks registered during August; this shows that most people who look for "Croatia" are tourists and they look for information about traveling there.
- In the last 10 years, the interest for Croatia shows a declining trend of research over time that started in 2019, before COVID-19 started; the highest peak in July 2018 is not significant, since it has been recorded due to the interest in the new President of Croatia.

- In comparison, the research about the city of Split is as expected significantly lower, showing the same seasonal trend and a tendency to decrease over time (better visualized in Graph 2, that focuses the research over time without comparison with those related to Croatia).

From this evidence, the conclusion is that Croatia is losing appeal for the Italian audience, and it could be necessary to revamp the interest through projects and marketing campaigns to promote the country as a travel destination. Besides, since in winter the interest goes down by 80%, it could be a good idea to also promote winter tourism in the country.

Where in Italy people are more interested about Croatia

Looking at the absolute values, the regions in Italy with the highest number of searches about Croatia are as expected the ones with the highest population density, such as Lombardia, Veneto and Lazio (see Figure 3 and Table 1, data from Google Ads Keyword Planner), from which more travelers could be intercepted.
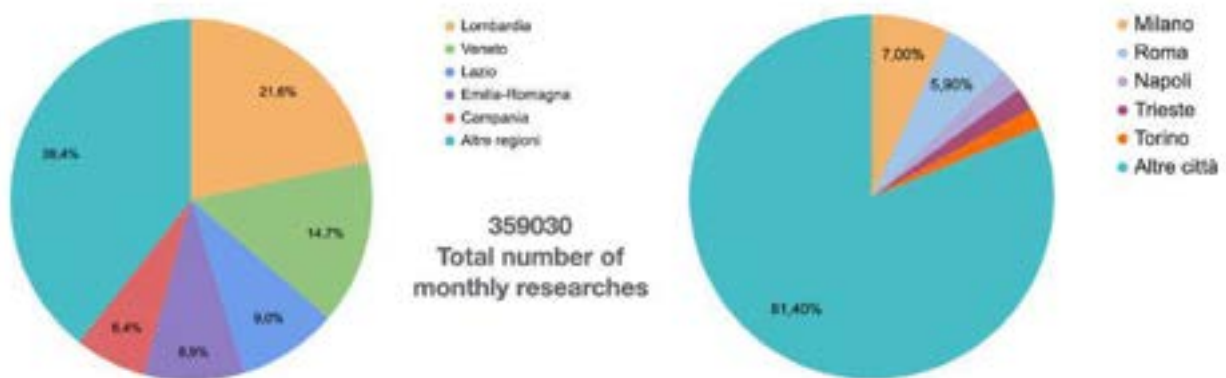
Figure 3 - Searches in absolute terms by Italian region and by city, in the last 12 months. (Data elaborated from Google Ads Keyword Planner, see Methodology chapter 4.2)

Locations	Percentage of total searches	Searches in absolute terms	Number of habitants (mln)	Relative interest
Milano	7,00%	25132	1394194	1,8%
Roma	5,90%	21182	2783809	0,76%
Napoli	2,10%	7539	3012243	0,25%

Trieste	2,00%	7180	204234	3,5%
Torino	1,80%	6462	886837	0,73%

Table 1 Relative and absolute interest of searches by number of inhabitants (Source: Data elaborated from Google Ads Keyword Planner, see Methodology chapter 4.2).

On the other hands, looking at data normalized by the total population in the area through Google Trends, in the last 3 years, the higher level of interest about Croatia has been registered by users from Friuli-Venezia Giulia region (see Figure 4), followed by Veneto and Trentino-Alto Adige. On the other hand, the users looking directly for information about Split are mainly located in the Marche region (Figure 5), from where the ferries depart to Split. Subsequently, research is identified from Friuli-Venezia Giulia and Valle d'Aosta. People living in the South of Italy are not very interested in the Croatia/Split topics, nor the North-West users, while the North-East and the East Coast are more used to travel to Croatia.

Figure 4 - Rank of Italian Regions by level of interest on Google for the searches about Croatia (Data from Google Trends between 2018 and 2021, see Methodology chapter 4.1)
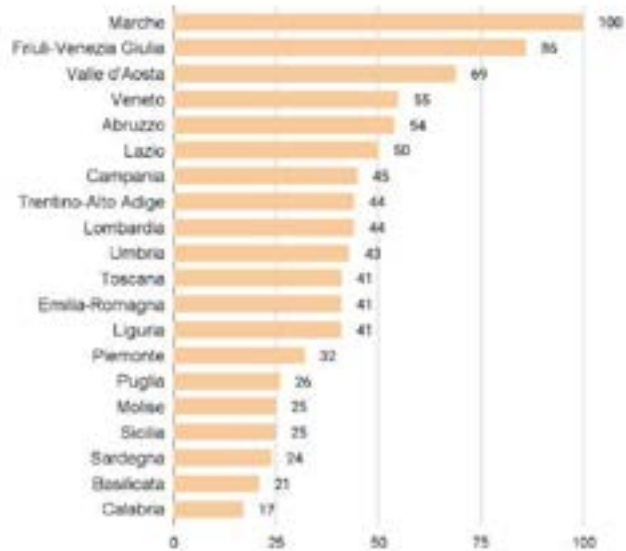
Figure 5 - Rank of Italian Regions by level of interest on Google for the searches about Split (Data from Google Trends between 2018 and 2021, see Methodology chapter 4.1)

This comparison between absolute and relative data shows that in the areas with higher population density the interest for Croatia is lower than in other less populated regions: this is a great opportunity for intercepting more travellers who at the moment are not thinking about Croatia as a destination for their holidays.

What Italian users are looking for about Croatia

Users located in Italy are very interested in touristic topics about Croatia, in fact from Google Trends the most important keywords are related to:

- accomodations information, about hotels and camping;
- the sea and beaches in Croatia;
- meteorological information;
- islands in Croatia (especially Pag and Krk).

These topics are constant over time, since the only increasing keywords are related to the Covid19 situation, as seen in the Figure 6 in the right graph. In fact the increase of 5000% means that the keywords had the highest possible increase from the previous period. Figure 6 shows that at the moment people are keen to be informed about the rules adopted by the Country for the tourists entry, what documents are needed to access, the trend of infections, the opening of borders and the return to Italy.
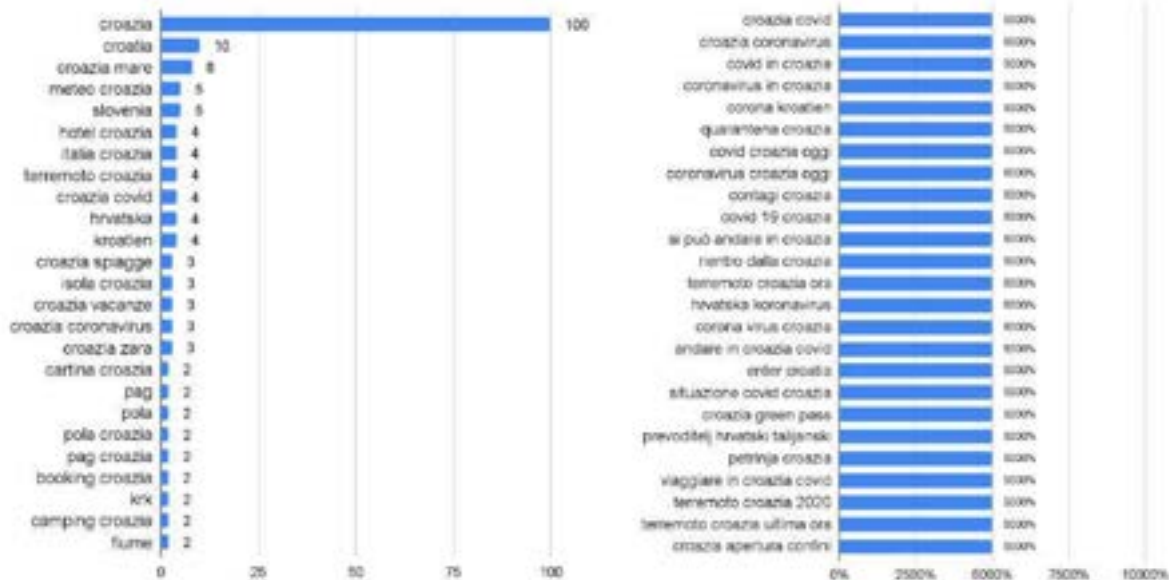
Figure 6- What Italian users are looking for about Croatia; rank of more important keywords (on the left) and increasing keywords (on the right). Data from Google Trends between 2018 and 2021, see Methodology chapter 4.1

Looking in depth at the Italian searches for Split, users are mainly interested in connections to arrive in the city; in fact there are researches related to ferries and flights, but also simply "Split Ancona" searches (see Figure 7). In addition there are searches related to the beaches, the sea and places to visit in Split.

Therefore, from this data we understand that people are already aware of the possible ways to travel from Italy to Split (by ferry from Ancona or by flight from Rome) and are looking for the websites where to buy the tickets, while they are not searching for information about how to travel in general or to find the best travel solution. On the other hand, information about what to do in the different locations is very useful for the average user interested in Croatia/Split.
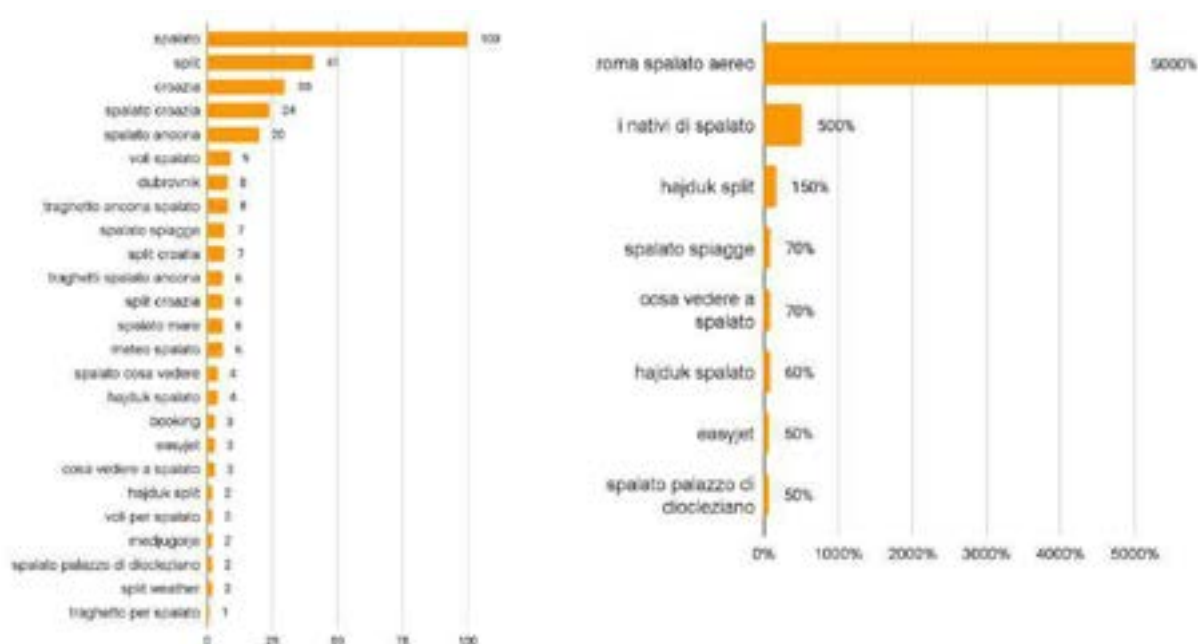
Figure 7- What Italian users are looking for about Croatia; rank of the most important keywords (on the left) and increasing keywords (on the right). Data from Google Trends between 2018 and 2021, see Methodology chapter 4.1

2.1.1.2 Searches of Croatian users related to Italy

In Croatia, in the last year there have been 17K Google searches on average every month about Italy for tourist interests, considering all the related keywords about the cities, counties, towns, that Croatian users could search for to find information about the Italian country and the specific cities. **In summer, the number has grown close to 30K searches,** while in autumn/winter the number was **lower than 15K searches per month** (data elaborated from Google Ads Keyword Planner, see Methodology chapter 4.1).

Then, to understand the trend of interest over time using Google Trends, in Graph 8 it's possible to outline the search trend over time from 2011 to 2021 for the topics "Italia" and "Venezia" and "Ancona" in Italy. Considering the Croatian users' research about Italy, it emerges a higher and more constant level of interest. In fact, the research trend relating to Italy is nearly double than the search trend about Croatia by Italians. Moreover, the search trend shows a less variable seasonality, with a more constant level of interest over time and just a 15% increase during summer. The highest peaks of interest have been in March 2020, in conjunction with the outbreak of the Covid 19 Pandemic (see Figure 8).

Comparing the research about Venice and Ancona, it emerges that users are more interested in Venice; in Ancona the interest is higher only during summer. The interest for the cities is decreasing due to the COVID-19 Pandemic from 2020 to 2021.
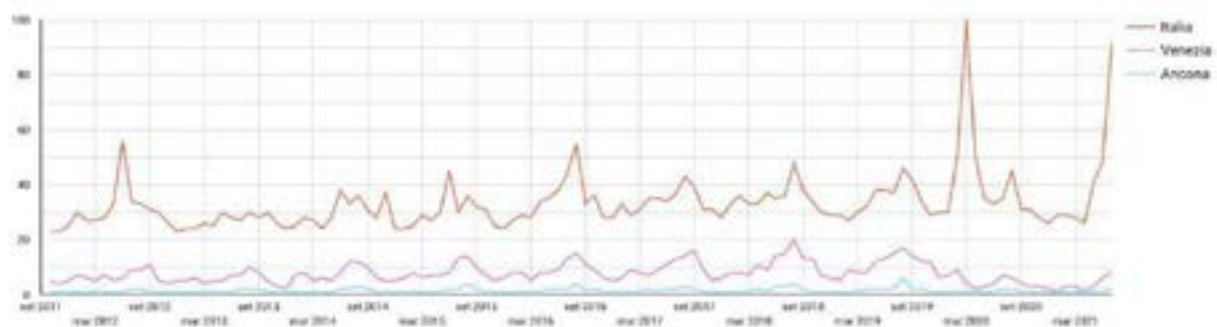
Figure 8 - Trend of searches on Google over time in Croatia from 2011 to 2021 about the topic "Italia", "Venezia" and "Ancona" (Data elaborated from Google Trends, see Methodology chapter 4.1)

Where and what Croatian users are looking for about Italy

Looking at the absolute values, the regions in Croatia with the highest number of searches about Italy are as expected the ones with the highest population density, such as Zagreb and Split (see Figure 9 and Table 2, data from Google Ads Keyword Planner), from which more travellers could be intercepted.

Looking deeper at the locations where the research about "Italy" comes from (see Figure 9), the highest level of interest comes mainly from the regions in the north of Croatia. In fact, the Istrian region is the Croatian region with the highest number of searches related to Italy, followed by the coastal-mountain region and Zarantina region.

Figure 9- Searches in absolute terms by Croatian region and by city, in the last 12 months. (Data elaborated from Google Ads Keyword Planner, see Methodology chapter 4.2)

Locations	Percentage of total searches	Searches in absolute terms	Number of habitants (mln)	Relative interest
Zagabria	25,80%	92629,74	806341	11,5%
Spalato	7,90%	28363,37	175262	16,2%
Fiume	5,40%	19387,62	128624	15,1%
Pola	3,10%	11129,93	57765	19,3%
Osijek	3,10%	11129,93	128095	8,7%

Table 2 - Relative and absolute interest of searches by number of inhabitants (Source: Data elaborated from Google Ads Keyword Planner, see Methodology chapter 4.2).

Analyzing, however, the research related to Ancona, Figure 11 shows that most of the research mainly comes from the central part of Croatia, in particular, the Zadar and Split-Dalmatian regions make the largest number of research. On the contrary, Venice has a higher appeal for people living in the northern regions of Croatia (Figure 12), especially the Istrian region, followed by the coastal-mountain region.

This difference shows that in the central areas of Croatia people know better the connection between Split and Ancona, so they look for the city, while on the contrary the Northern counties are more interested in Italy in general and in visiting Venice, going there by car. The

Southern regions of Croatia are not interested in Italy at all, so it could be necessary to launch promotional campaigns increasing the awareness of the country.
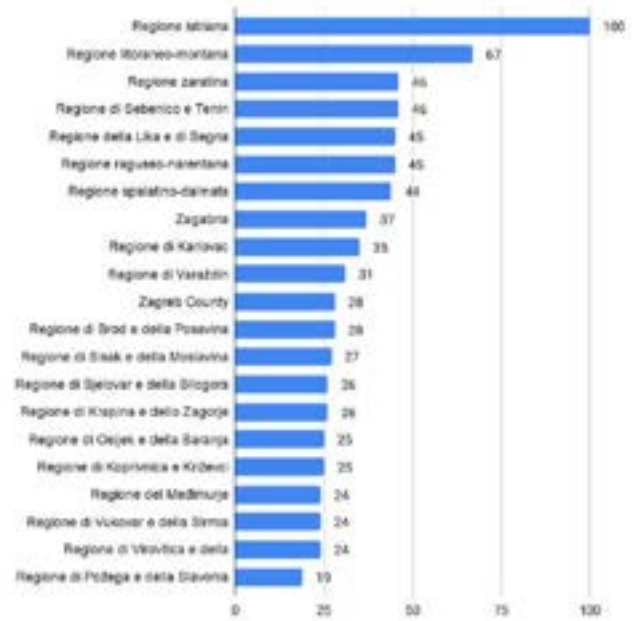
Figure 10 - Rank of Croatian Regions by level of interest on Google for the searches about Italy (Data from Google Trends between 2018 and 2021, see Methodology chapter 4.1)
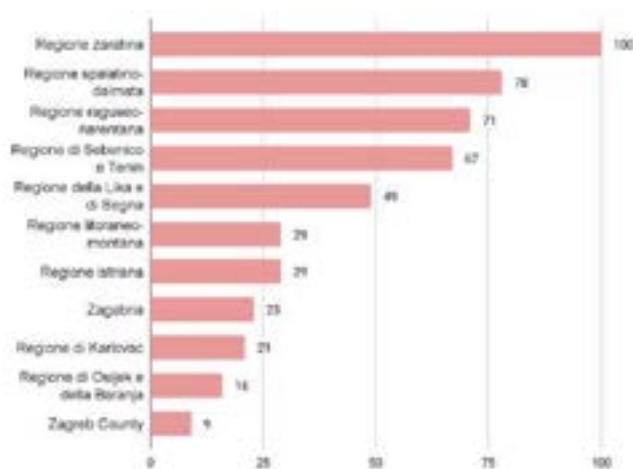
Figure 11 - Rank of Croatian Regions by level of interest on Google for the searches about Ancona (Data from Google Trends between 2018 and 2021, see Methodology chapter 4.1)
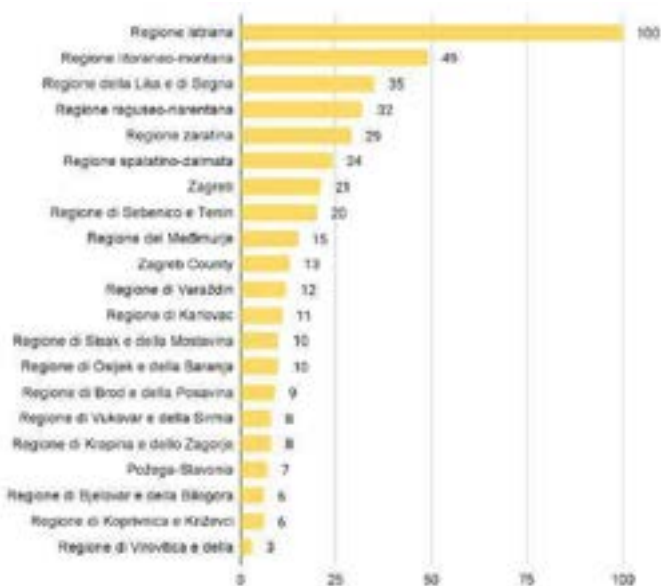
Figure 12 - Rank of Croatian Regions by level of interest on Google for the searches about Venice (Data from Google Trends between 2018 and 2021, see Methodology chapter 4.1)

What Croatian users are looking for about Italy

Looking at what people are searching for about Italy (Figure 13), the most important topics in the last 3 years have been:

- the Covid19 Pandemic
- football results (for instance the search "engleska italija" refers to the Football European Championship 2021 final soccer match).

So, the interest of Croatian people for "Italy" in general is not mainly related to tourism but to other topics.

When going deeper into the keywords related to tourism, the topics are:

- Italian cities, mostly the cultural cities (Venezia, Florence, Rome, etc.) and smaller towns;
- Meteorological conditions;
- Maps of Italy;
- Information about how to travel in Italy.
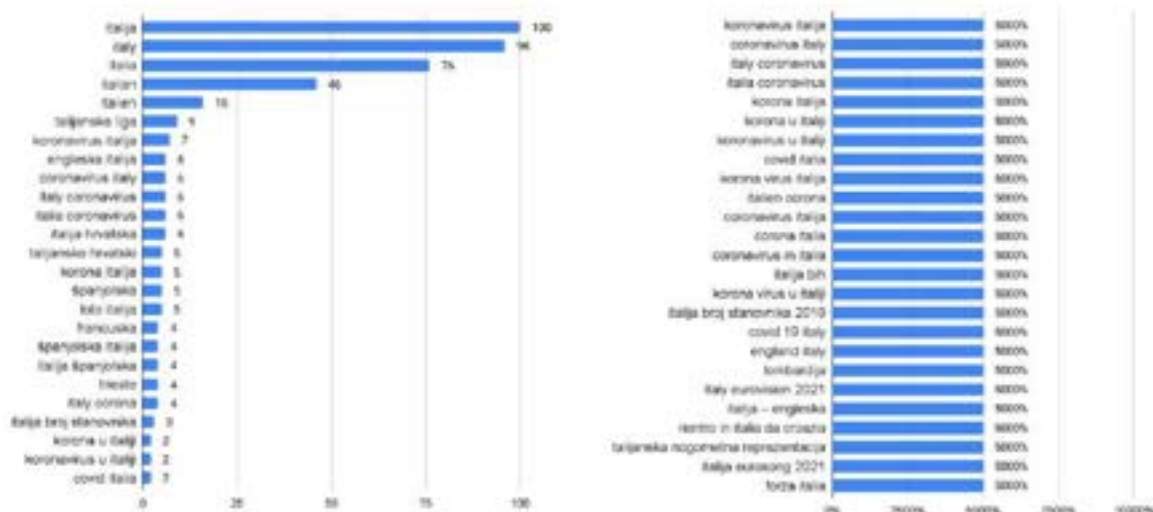
Figure 13- What Croatian users are looking for about Italy; rank of the most important keywords (on the left) and increasing keywords (on the right). (Data from Google Trends between 2018 and 2021, see Methodology chapter 4.1)

The situation changes when searching for these specific cities: regarding the searches for Ancona and Venice, the interest is evidently for touristic reasons. About Ancona, in fact, since most of the research comes from the central regions of Croatia, users are mainly interested in ferry connections from Split to Ancona and vice versa, as shown in Figure 14. There is also research on ferry connections to Zadar.

Regarding Venice, most searches are about the airport, possible flights and bus connections (mostly through the company Flixbus) between Venice and some cities in Croatia, such as Pula and Zagreb.
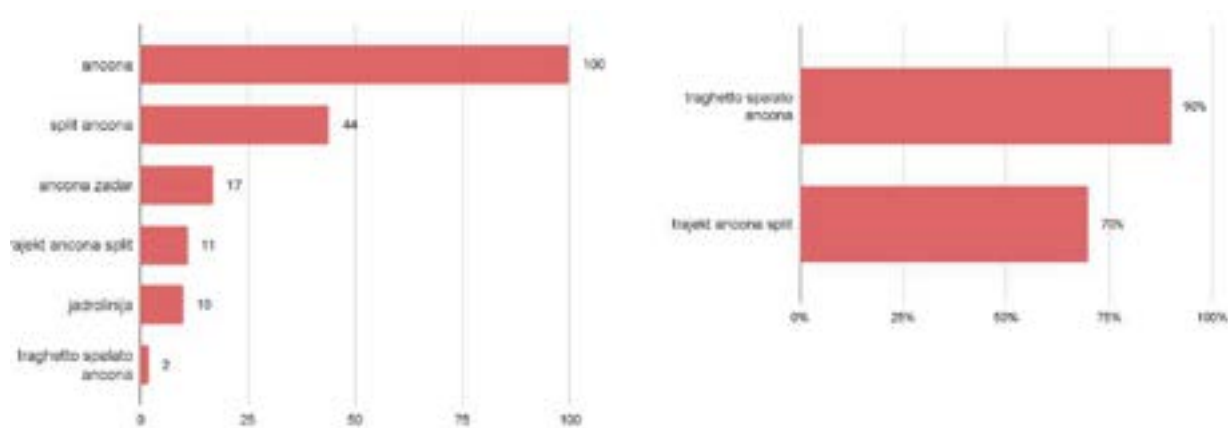
Figure 14- What Croatian users are looking for about Italy; rank of the most important keywords (on the left) and increasing keywords (on the right). (Data from Google Trends between 2018 and 2021, see Methodology chapter 4.1)
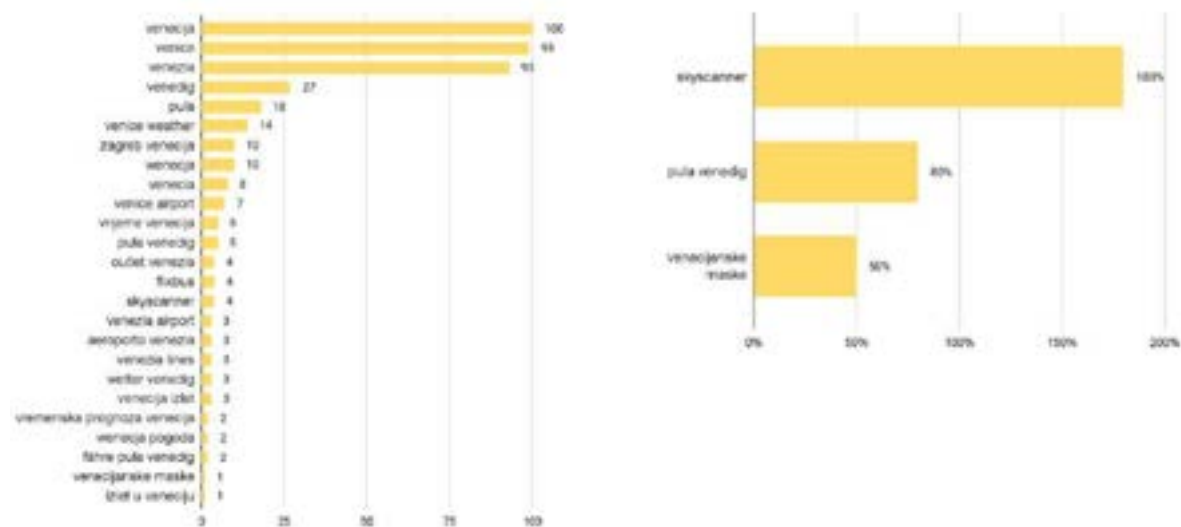
Figure 15- What Croatian users are looking for about Ancona; rank of the most important keywords (on the left) and increasing keywords (on the right). (Data from Google Trends between 2018 and 2021, see Methodology chapter 4.1)

In conclusion, the most relevant results from this analysis for the E-CHAIN project are:
- There is a mutual touristic demand between Italy and Croatia, in particular from the Italian side toward Croatia. This demandy has a strong seasonal trend which is characterised by an upper pick during the summer and a low plateau during the winter.
- Users are already aware of the different ways of transport to reach the countries, so they search on Google directly the ferries, flights and bus solutions instead of generically looking for advice.
- Some regions in Italy and in Croatia are not so aware of the other countries, so it's possible to increase the tourist demand by addressing those users.

2.1.2. Interest for green topics, Carbon footprint and Co2 savings

One of the main goals of the E-CHAIN platform is to reduce the environmental impact from transfers from Italy to Croatia and vice versa, promoting more sustainable intermodal transport ways. To do so, the platform is going to calculate the estimated CO_2 emissions from the starting point to the destination, considering the route both by car and by a sustainable alternative mode of transport, such as ferry, train or bus.

Therefore, this type of service to calculate CO_2 emissions will be of interest mainly to people who are sensitive about environmental problems and who are already looking for ways to reduce their impact.

In this part of the market analysis about the active demand, the goal is to understand how many people are interested in the calculation of its own CO_2 emissions (known as the "personal carbon footprint") and what arguments about environmental protection create more interest to Croatians and Italians.

Carbon footprint: Interest in the world

The interest for the "carbon footprint" topic (including all the synonymous and similar searches) in Italy and Croatia is very low if compared to the other countries of the world, normalized on the population to define the interest concentration.

Looking at the interest trend in the world (Figure 16), the interest has decreased between 2014 - 2018 and then has started to rise again from 2019 on, showing an increasing tendency.
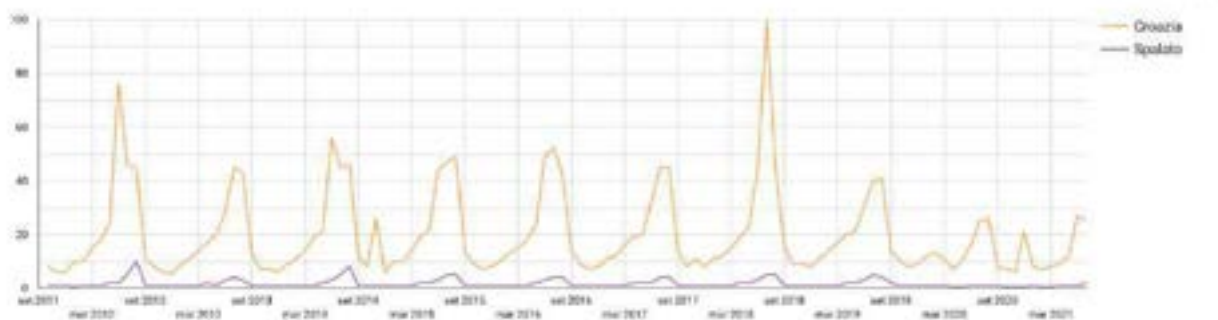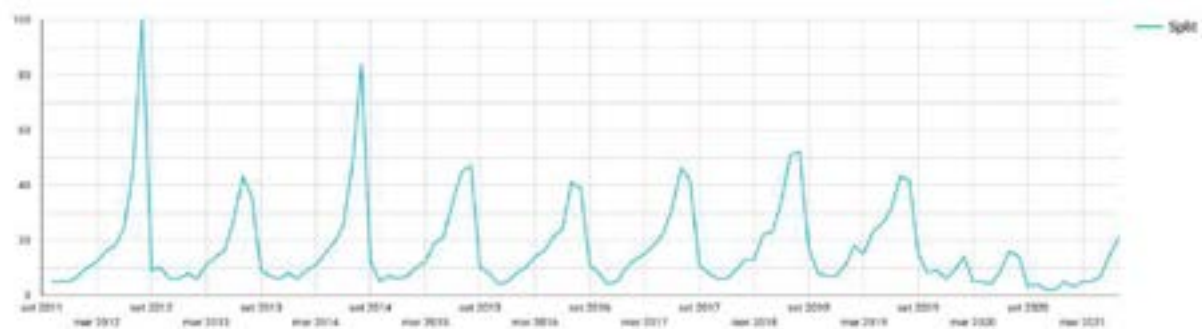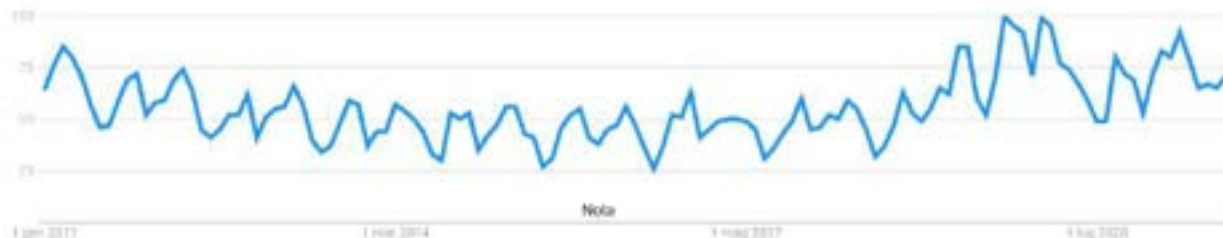
Figure 16- Trend of searches on Google over time in the world from 2011 to 2021 about the topic "Carbon footprint" (Data elaborated from Google Trends, see Methodology chapter 4.1)

Looking at the countries with a higher interest concentration, Italy is 49th and Croatia is lower than the 58th country (see Figure 17). The users most interested in the issue of carbon footprint are mainly in Finland, followed by Eastern countries such as Singapore, New Zealand and Australia.

Figure 17- Rank of Countries by level of interest on Google for the searches about Carbon Footprint (Data from Google Trends between 2018 and 2021, see Methodology chapter 4.1)

Carbon footprint: Interest in Italy

Looking specifically at Italy, the interest in the theme of "carbon footprint" is increasing in the last 10 years, with an intensification from 2018 to today. The peak of interest is recorded at the beginning of 2021, thus showing how today we are at the highest level of interest on the subject. The interest is not homogeneous: the regions with the highest interest are the Northern ones, especially Friuli Venezia Giulia, Veneto and Trentino Alto Adige, followed by some regions of central Italy, such as Emilia Romagna and Tuscany.
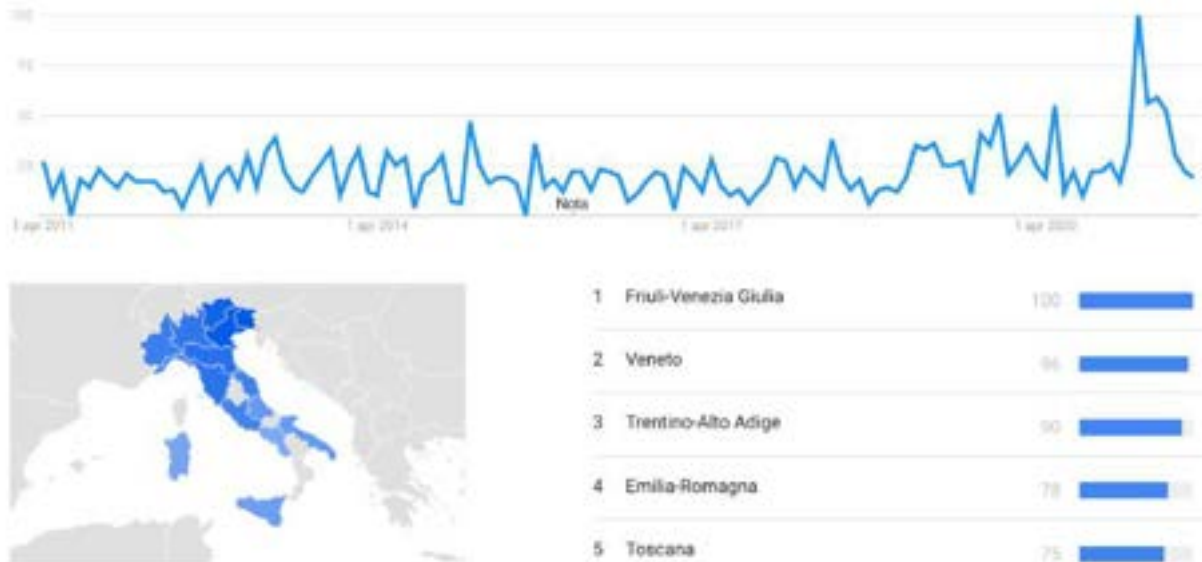
Figure 18 - Trend of searches on Google over time and Geographic rank in Italy from 2011 to 2021 about the topic "Carbon footprint" (Data elaborated from Google Trends, see Methodology chapter 4.1)

Looking at the absolute volume of searches through Semrush, a software that allows to evaluate, on average, how many times per month the indicated keyword combinations are searched on Google from the desktop in Italy.

In order to have a better understanding of absolute searches, some values are considered:

- **Volume**: shows an estimate of how many times on average a keyword variant is searched for on Google in a month.
- **Keyword Difficulty (KD)**: indicates the difficulty in improving the ranking of the site for that keyword.
- **Cost per Click (CPC)**: average price paid by advertisers for one click on an ad with the keyword in question.
- **Competitive Density**: is a value from 0 to 100 indicating how high the competition is for the given keyword; 0= no competition; 100= maximum competition.

(See more details in the chapter 4.2 of the Methodology)

Looking now at the exact research volume in Italy for the topic, there are more than 23 thousands searches on Google in Italy including the term "carbon footprint", of which only 1,5% referring to cars and automotive in general; most of them are looking for information about "what is carbon footprint", while only 3.140 are interested in a way to calculate it.

The CO2 emission calculation topic is really low, with only 1.200 Google searches per month; 37% of these searches are referring to cars and the automotive industry (See Table 1).

Topic	Total Monthly searches on Google in Italy	Monthly search on Google including Cars/Automotive
Carbon Footprint	23140	290
Carbon Footprint calculation	3140	0
Co2 calculation	1200	440

Table 3 - Monthly volume of searches on Google in Italy that refers to the specific topic (Source: Semrush, average monthly searches between October 2020 and Septembre 2021, see Methodology chapter 4.2).

Keyword	Monthly Search Volume	Keyword Difficulty	CPC (USD)	Competitive Density
calcolo co2	170	30	0,57	0,08
calcolo emissioni co2	140	32	0,63	0,04
calcolare emissioni co2	40		0	0,04
come si calcolano le emissioni di co2	40		0	0
emissioni co2 calcolo	40		0	0,02
calcolo risparmio co2	30		0	0
co2 equivalente calcolo	30		0	0,01
come calcolare emissioni co2	30		0	0,04
risparmio co2 calcolo	30		0	0
calcolatore di co2	20		0,62	0,08
calcolo delle emissioni di co2	20		0	0,09

Table 4 - Top keywords searched on Google in Italy that refers to the CO2 calculation in general (Source: Semrush, average monthly searches between October 2020 and Septembre 2021, see Methodology chapter 4.2).

Keyword	Monthly Search Volume	Keyword Difficulty	CPC (USD)	Competitive Density
calcolo emissioni co2 auto	170	27	0	0,01
calcolo co2 equivalente gasolio	90	25	0	0,08
emissioni co2 auto come calcolare	50	25	0	0
calcola emissioni co2 auto	30		0	0,11
calcolo emissioni co2 auto targa	30		0	0,02
calcolo emissioni co2 camion	20		0	0,17
calcola co2 auto	10		0	0
calcolo co2 auto	10		0	0,02
calcolo emissioni co2 trasporti	10		0	0,02
calcolo emissioni co2 trasporto merci	10		0	0,07
calcolo emissioni di co2 automobili	10		0	0

Table 5 - Top keywords searched on Google in Italy that refers to the CO2 calculation related to cars (Source: Semrush, average monthly searches between October 2020 and September 2021, see Methodology chapter 4.2).

Therefore, the potential audience who is actively interested in finding a calculator for the CO2 emissions of their car (see Table 3) is less than 1 thousand users, while a broader audience is interested in finding information about how to reduce their environmental impact.

Carbon footprint: Interest in Croatia
The search interest trend in Croatia for the topic "carbon footprint" is too low to generate a trend line over time, so it's not possible to create the graphs showing the tendency over time.
Looking directly at the search volume, the "carbon footprint" themes are searched around 1 thousand times in Croatia every month (see Table 4), with 12% related to cars. The calculators

of CO2 are searched around 540 times per month, with only one fifth of these users interested in a car calculator (see details in Table 5).

Topic	Total Monthly searches on Google in Italy	Monthly search on Google including Cars/Automotive
Carbon Footprint	1000	120
Carbon Footprint calculation	120	70
Co2 calculation	540	100

Table 6 - Monthly volume of searches on Google in Italy that refers to the specific topic (Source: Semrush, average monthly searches between October 2020 and Septembre 2021, see Methodology chapter 4.2).

Keyword	Volume	Keyword Difficulty	CPC (USD)	Competitive Density
co2 kalkulator	140	34	0	0,01
kalkulator co2 uvoz	90	29	0	0,03
kalkulator co2 rabljenih automobila	70	33	0	0
co2 emissions calculator	30	52	0	0,08
co2 g km calculator	20	41	0	0
how to calculate co2 emissions from electricity consumption	20	36	0	0
kalkulator co2	20	33	0	0,01
kalkulator davanja co2	20	33	0	0
car co2 emissions calculator	10	33	0	0
co2 calculator	10	58	0,12	0,09
co2 carbonation calculator	10	34	0	0

Table 7 - Keywords searched on Google in Croatia that refer to the CO2 calculation both generic and referred to cars (Source: Semrush, average monthly searches between October 2020 and September 2021, see Methodology chapter 4.2).

The data are then showing that **the active demand of people who are actually looking for calculators to estimate the CO2 and the carbon footprint is very low both in Italy and Croatia**.

Therefore, from Google searches the number of users that could discover and visit the E-CHAIN platform is likely to be low. Therefore:

1. It could be advisable, if possible, to take a broader approach in the E-CHAIN platform, offering content about environmental tips in general in Croatia/Italy to intercept users who are looking for more general information;

2. It's necessary to educate the potential users who are not looking for the calculators yet about the need to measure the emissions of their trips and making them aware of the possibility to do it through the E-CHAIN platform. Since the interest for these topics is rising, this education activities could be done through the help of partners, institutions and local newspapers who are keen to promote virtuous behaviours and sustainable projects.

2.2 Competitors and other alternatives

Several platforms and solutions that already exist on the market are currently working to offer services related to the three phases of the trip that E-CHAIN is going to work on, such as the phases before, during and after the trip. In fact, for each functionality that the project is proposing, it's possible to identify many companies and startups that are offering solutions to clients.

The second part of the analysis focuses on the study of the main platforms/companies on the market for each phase of the trip and for each different function that is relevant for E-CHAIN.

All these existing platforms are studied to understand:

- their value proposition and their strategic positioning,
- the functions offered and how they are realized
- their online results in terms of traffic and users
- their business revenue model, such as how they monetize.

The goal is to understand the competitive landscape, finding the best practices and defining the opportunities, risks and key success factors in the third part of the analysis.

2.2.1 Before the trip

The first phase "before the trip" is the one with more available solutions, created to help travellers define their route, buy tickets, hotels and organize their trip in a more general way. Among the existing platforms, however, it is necessary to make a first distinction:

- Some platforms created with the purpose of organizing trips around the world, regardless of the location (Chapter 2.1), that could be further segmented into platforms to calculate the best route, platforms to book flights, ferries, etc., and platforms to find information such as the weather information, excursions, etc.;

- Other platforms are focused with the purpose of promoting a specific location, city or country and therefore offer information only about that area. This second category had been analyzed separately, looking only at the platforms for the Adriatic Area, in the Chapter 2.2.
- Other platforms are dedicated to the CO2 calculators and the carbon footprint estimation, in the Chapter 2.3.

The services of all these types of platforms are discussed in the next part of the analysis.

2.2.1.1: Travel Planning Platforms

Helping people to organize a trip is an objective that a large number of platforms are trying to solve, that could be segmented into different groups according to their main feature.

Travel Maps platforms: platforms such as Google Maps, Waze, Herewego present themselves as interactive maps in which the user, choosing the destination, obtains information about the route to plan and the real-time direction tracking, with information such as traffic, travel time or any obstacles. In some cases, it is possible to book hotels, restaurants and activities near the location through links in the platform.

In details:

- Google Maps: https://maps.google.it/ (Figure 19)- The geographic internet service developed by Google that allows the research and visualization of maps. By searching for specific locations, it is possible to view nearby services and contact them.
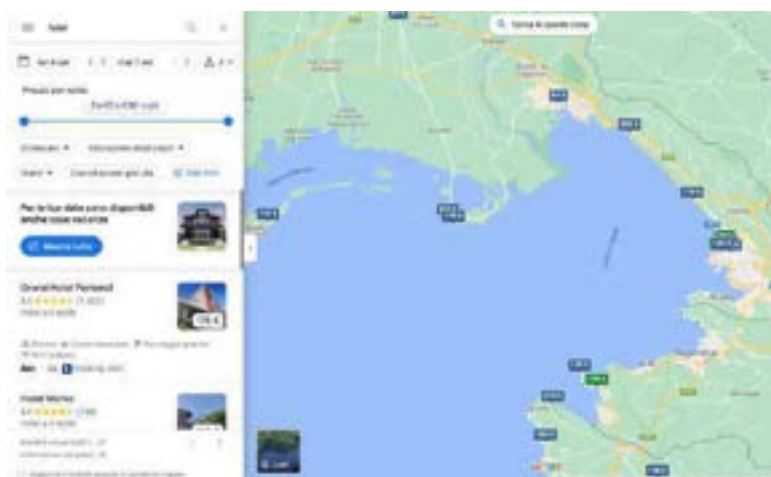
Figure 19- Google Maps interface.

- Waze: https://www.waze.com/it/ - Crowdsourced navigation application based on collaboration with cities, traffic regulators, broadcasters, companies and emergency responders to assure that community-based data helps as many people as possible, saving precious minutes and even lives every day

Figure 20 - Waze interface to start the trip

- Herewego: https://wego.here.com/ - A leading company in the field of location platforms: it can track and analyse changes in the world through location data, helping users to plan their trip
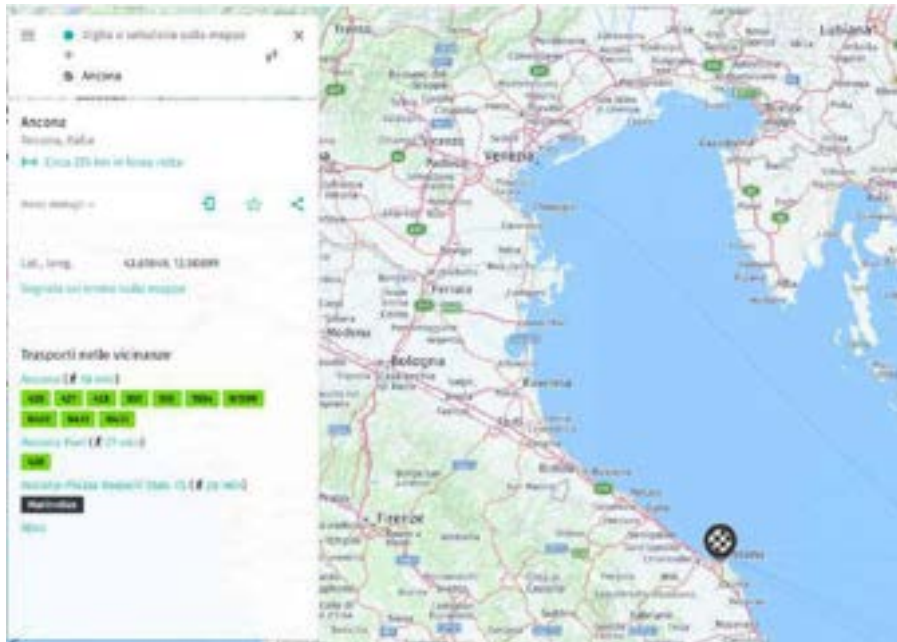
Figure 21 - Herewego interface

Travel Booking platforms: platforms as [Omio](), [Rome2Rio](), [Skyscanner](), [Idee Viaggio]() and [Logitravel]() allow the users to plan their trip through the booking of transportation (flights, ferries, buses, trains, etc.) and accommodation (hotels, campings, apartments, etc.), providing tips and contents to better organize their stay in the chosen destination.

In details:

- Omio: https://www.omio.it/ - Platform that combines more than 1,000 travel companies (trains, buses, flights, ferries, cars and airport transfers), so that users can more easily plan their trip.

Figure 22 - OMIO interface

- Rome2Rio: https://www.rome2rio.com/ - It is a booking and travel information platform that helps the user to get from any location to any other destination around the world, simplifying travel planning and with the objective to book all the needed tickets.
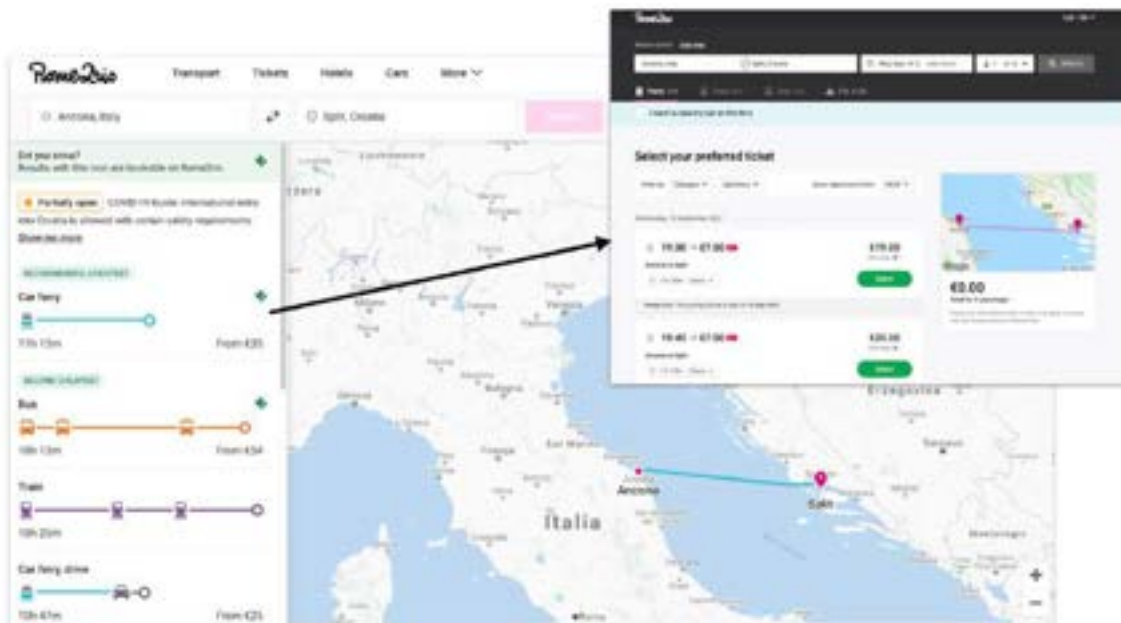
Figure 23 - Rome2Rio interface.

- Sky scanner: https://www.skyscanner.it/ - Flight search website with the aim of simplifying the way of traveling by helping the user to find the best options between flights, hotels and car rental, at affordable prices.
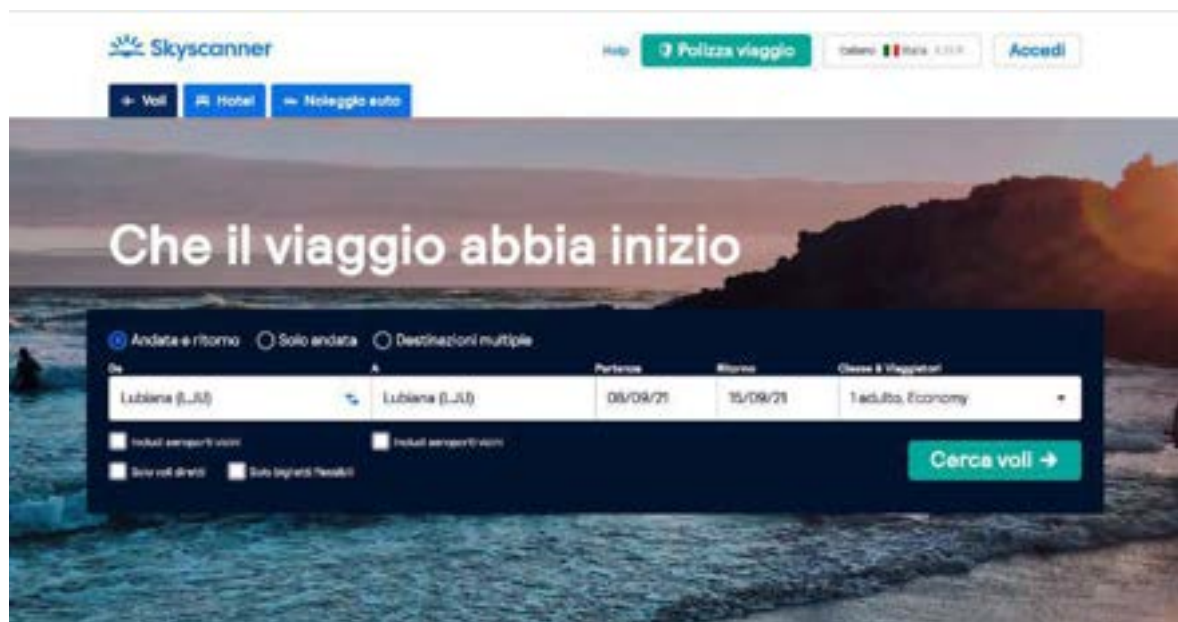
Figure 24 - Skyscanner interface.

- Logi Travel: https://www.logitravel.it/ - Platform that allows users to plan their trip, through booking of hotels, ferries, cruises, flights, exclusive tour packages and access to much information about the chosen destination.

Figure 25 - LogiTravel interface.

Travel guides platforms, such as Rough guides and Lonely planet, present themselves as real online travel guides. In fact, the users, by choosing the destinations of the trip, can access a lot of content, tips, and discover activities to do in the area. In addition, there is a reserved area where the logged-in user can access personalized services.
In details:

- **Rough guides:** https://www.roughguides.com/ - The platform helps people plan their "dream trip" by choosing destination, number of people and period of the year, suggesting what to do, where to stay, etc.

Figure 26 - Rough Guides interface.

- Lonely Planet: https://www.lonelyplanet.com/ - Tourist guide that offers in-depth information about destinations, inspiring ideas on what to see and do, the forum to get in touch with other travelers and guides.

Figure 27 - Lonely Planet interface.

- Idee Viaggio: https://www.ideeviaggio.it/

Blog with news and offers on travel and vacation plans. Information and travel guides on destinations in Italy, Europe and the World.
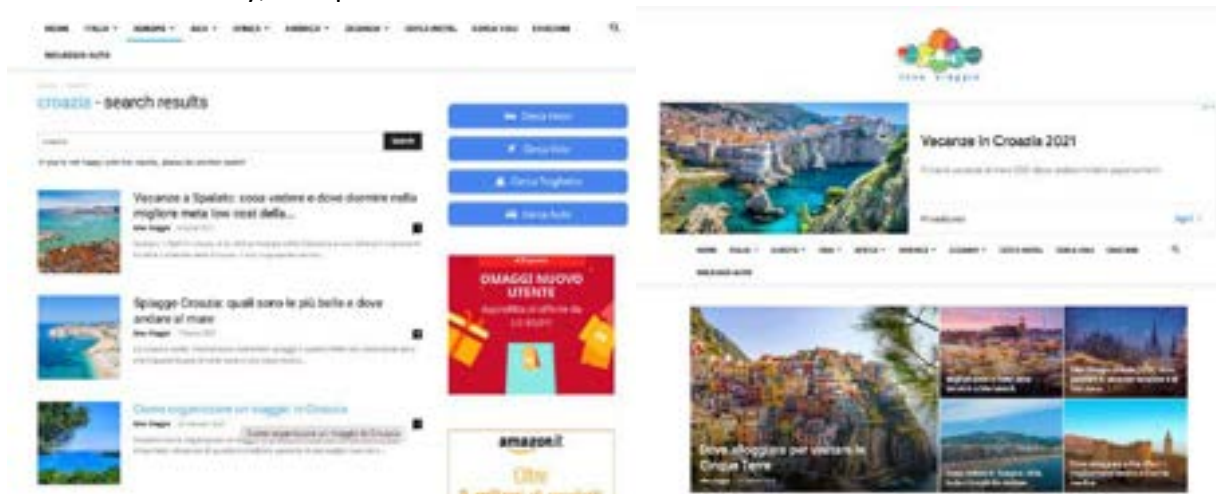
Figure 28 - Idee Viaggio interface.

Platform content: what they talk about and how they're organized

All these platforms categorize content by type and offer a number of common services: travel, accommodation, car rentals, and other ticket purchases.

Based on the selected destination, the user can access various travel options.

Specifically:

- **Route planning:** the platforms dedicated to Maps are offering a ruote calculator;
- **Transport tickets**: 90% of the platforms offer the user the possibility to book flights, trains and other means of transport. On sites where the trip is planned on the map, the user accesses information about traffic, obstacles, tolls, and travel time.
- **Hotel booking**: 80% of the sites considered (8/10) allow the user to book accommodation, directly within the platform or with a link to book on a partner's page;
- **Car Rental**: in the same way, 90% of sites allow the user to book other transfers in the destination by providing car rental service or alternative means to facilitate travel from one place to another.
- **On-site events and activities**: 70% of sites do not offer information regarding events, attractions, and activities to take place at the chosen location. This service is offered only by the "travel guides" platforms, while the others are more focused on planning the trip.

About the User Experience, all platforms present the same user's flow:
1. The navigation starts from a search bar in which the user chooses the point of departure and arrival, the period and the number of travelers.
2. The platform then suggests the results in different ways: some through maps, other by transportation suggestions (ferries, flights, etc) and ticket links, by lists of available hotels.
3. More information could be read In the "blog" area, if available;
4. Other needs to book accommodations, rent a car, etc. that are not supported by the platform are accessible through external links.

Users Reserved Area for more services
Another important element of these platforms is the presence of a reserved area for users who register to the website to receive more services. In fact, 80% of the analyzed sites offers a reserved area dedicated to logged-in users, in which they can access various services by registering:
- 3 out of 10 sites (Sky scanner, Rough Guides and Logi travel) allow the user to customize their trip, receive exclusive offers and monitor prices.
- In 2 out of 10 sites (Rome2Rio and Omio) the subscription to the reserved area is requested when the booking of the trip is completed.
- Only 1 platform (Idee viaggi) does not offer any login option.

Business Models of the Platforms: how they monetize

All these platforms have a revenue model to transform the users into paying clients or getting value from a high volume of visitors. The models are:

- **Affiliation/partnership**: in 40% of the platforms (4 sites of 10) it is possible to detect partnerships with various online booking platforms such as Booking.com, The Fork, Rentalcars.com, Skyscanner. It means that the platforms earn a commission when users who are coming from their site complete a purchase on the partner's website; another way could be to charge a click-based fee for the number of clicks they can generate to the outgoing website. This is made through affiliation links that track the user's source and can calculate the total fees to the partner. For example Ideeviaggio.it has many affiliate links to several sites for hotel booking, car rental, etc. and in the links it's easy to recognize the tracking codes of the affiliation programs proposed by the booking websites themselves.
- **Tickets sales**: some platforms (for example logitravel.it) work as brokers, offering the purchase of hotels and other services directly on their website through an internal ticketing system, keeping a commission from each purchase they complete on behalf of the service suppliers.
- **Advertising fee:** some platforms are offering paid ads to be "featured" in the platform, as for instance offered by Google Maps.
- **Co-marketing fees:** some platforms are proposing to companies that want to advertise to their registered users, to be featured in their newsletters, social posts and blog articles in exchange for a fee.

2.2.1.2 Platforms promoting specific locations in the Adriatic Area

When, on the other hand, the platforms are dedicated to tourism in specific locations, as will be the case of E-CHAIN for the Adriatic Area, the services offered are very different from the global platforms.

The platforms identified were: 7 platforms for the promotion of Croatia or Croatian cities and 4 platforms for the promotion of the Italian regions covered by the project, such as Marche and Veneto.

The following part of the analysis is dedicated to exploring these platforms, understanding their main features, the Revenue Model and their traffic results.

List of tourist promotion sites for Croatia and Croatian cities:

[Croazia.info](): Online travel guide that offers all the information needed to organize a trip in Croatia, connecting to affiliates as Booking.com and other travel companies to buy tickets.

Figure 29 - Croazia.info interface.

- [Croazia-adriatico.eu](): Site that offers much information about specific regions of Croatia allowing the user to send non-binding accommodation requests to some partner apartments or to contact them directly. The website is full of useful information, such as meteorological information, National parks costs, highway costs, etc.

Figure 30 - Croazia-adriatico.eu interface.

- Adriatic.hr: Platform that offers private accommodation, hotels, boats and exclusive experiences in Croatia. It's possible to purchase directly from the website or to send requests for the boats or other experiences.
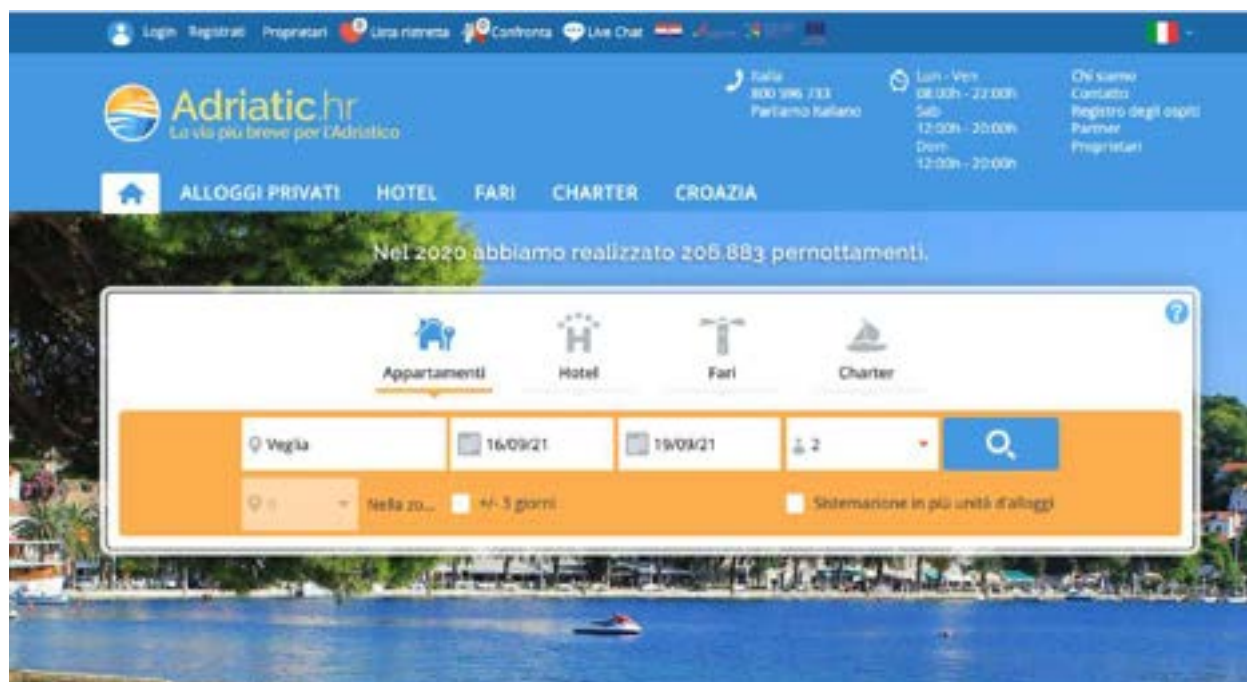
Figure 31 - Adriatic.hr interface.

- <u>Croatia.hr</u>: Croatia's tourism promotion website that offers users all the information, tips and services needed to plan a vacation in the Country. All the Croatian hotels, ferry providers, bus providers, etc. are included in the website, with contact data such as telephone numbers, websites and email details.
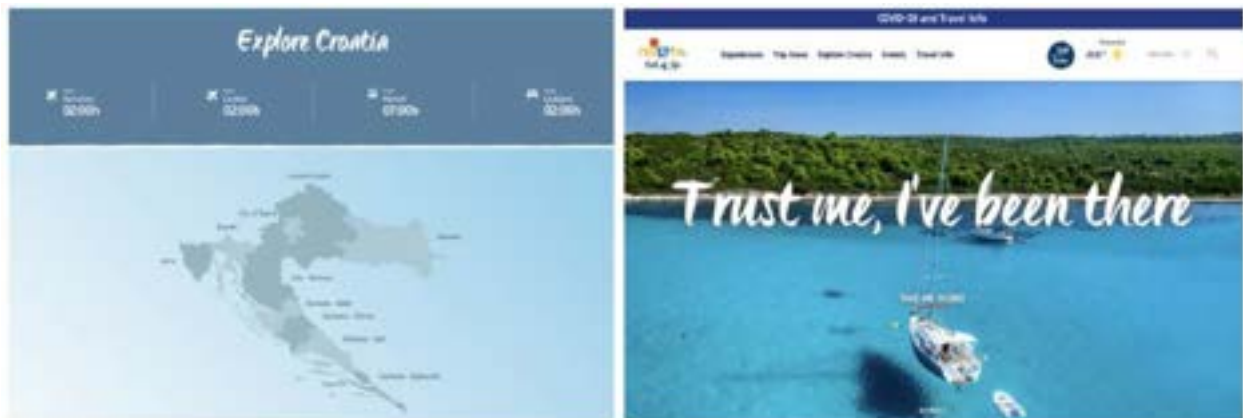
Figure 32 - Croatia.hr interface

- <u>Novalja.it</u>: Website aimed at the promotion of tourism on Pag: it allows users to find information about the island, to book Jadrolinija ferries, to require availability to accommodations through contact forms and to find information about local dance clubs.

Figure 33 - Novalja interface

- Visinfo.org: Site of tourist promotion of Vis made by a tourist agency. It offers many solutions for planning a trip, such as directly booking apartments, organizing the arrival thanks to external links to websites about means of transport and also to organize the vacation through contact information to rent a boat or book other experiences.

Figure 34 - Vis info interface.

- **aurea-krk.com**: Portal for the promotion of tourism in Krk created by a tourist agency on the island. It offers numerous solutions for planning a trip around the island: apartments to book directly on the website, links to flights, excursions to book by phone/email and the possibility of renting a car by sending emails to the agency.

Figure 35 - Aurea Krk interface.

In addition, **sites and platforms for promoting tourism in Italy**, more specifically in the Marche and Veneto regions, were analyzed. In details:

- **MareinItalia.it**: Online travel guide completely dedicated to the sea locations in Italy, that works as a showcase for the hotels that want to advertise themselves and increase

their visibility. The portal in fact allows the users to ask for availability by filling in a contact form and offers a blog-like area to discover the coastal destinations.

Figure 36 - Mare in Italia interface.

- **RivieradelConero.info**: This portal, created by a touristic association of 16 municipalities, aims to promote tourism in the Riviera del Conero. To this end, the platform offers suggestions and helpful content for the planning of the trip, such as accommodations that can be contacted from the platform, experiences and activities to be enjoyed in the cities.
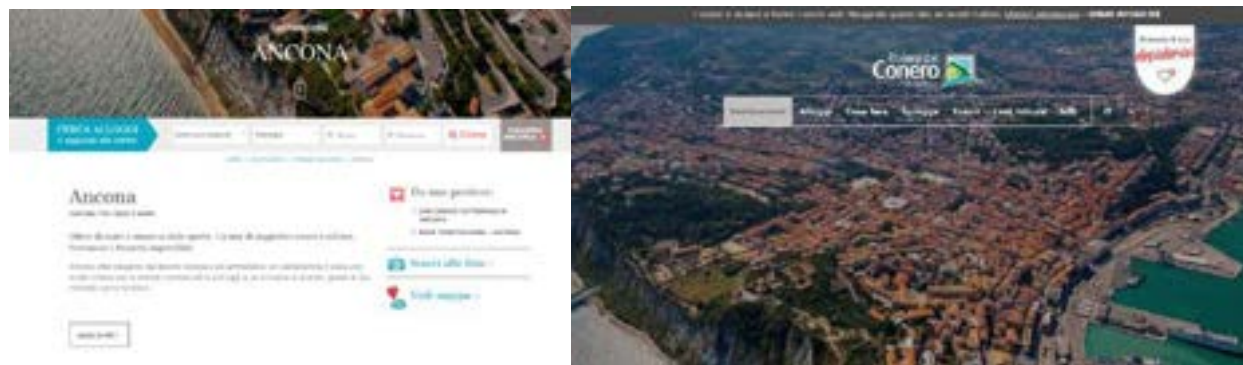
Figure 37 - Riviera del Conero interface

- **Turismo.Marche.it**: Tourist promotion website for the Marche region. It allows the planning of the trip through the discovery of many events and activities to be organized

on the place. Moreover, it offers the possibility to book means of transport and accommodation structures.

Figure 38 - Turismo Marche interface.

- VenetoInside.com: Travel planning site in Veneto, with the aim of promoting the territory and the region. In fact, thematic portals integrate the information of a tourist guide with the possibility to book a large number of services, such as tours and activities, transports, tickets for museums and other attractions, tickets without waiting in line and much more.

Figure 39 - Veneto Inside interface.

Platform content: what they talk about and how they're organized

The platforms analyzed, both for Croatia and for Italy, adopt the same methods of presentation of the content: in fact, all sites categorize the information related to the organization of trips in a very clear way, also through the use of photos and videos. Specifically, they use categories such as: "where to sleep", "how to reach us", "how to move", "what to do", "what to see", etc.

Moreover, going deeper into the types of services offered by the platforms:

- **Accommodations**: 100% of the sites analyzed offer users the possibility to book accommodation and hotels, in most cases through links to external sites to finalize the purchase, in others directly by purchasing on the platform and in others using an hybrid solutions, through contact forms that are sent directly to the hotel/apartment to ask for availability.
- **Transport**: 9 out of 11 platforms also help the users to find flights, rail transport, buses and ferries, almost always through links to external sites and not in the platform.
- **Activities**: most platforms (8 out of 11 sites) offer the possibility to book complete excursions, organized by themselves (for example Aurea Krk) or by third parties. In addition, it is possible to reserve routes, tour guides and find information about disco clubs (for example Novalija.it). All the sites considered also offer information and tips on the most important attractions in a blog-like style, presenting typical locations and museums to visit.
- **Rentals**: 80% of the websites also allow users to find how to book transfers in the chosen destination, thus offering car, bike and boat rental services (for example visinfo.org).

Other services offered by these platforms are:

- **weather information**; for example, some sites shows real-time information on the temperature and weather of the main cities (for example croazia-adriatico.it)
- **tolls**: information about costs of tolls is offered by sites promoting Croatia (for example croazia-adriatico.it)
- **currency exchange**, tips and data in real time (for example croazia-adriatico.it).

All the sites considered use mainly photos and videos:

- some sites, for example rivieradelconero.info and croazia.info, use 360° promotional videos for the territory
- other platforms, such as croazia-adriatico.eu and croazia.info present the contents through a map menu, in which the user can choose the region of interest and be redirected to the relevant page with useful information and advice for planning the trip
- most of the sites provide the classic mode of booking: through the search bar the user can choose the destinations and the period

Dalmatia

www.croatian-adriatic.eu

Accommodation Croatia - Dalmatia

- Accommodation by sort, location, price
- Catalogue of accommodation 2021
- Accommodation by digital map
- Last minute

Access routes

- Access routes to Dalmatia
- Motorway fees in Croatia
- Travel organizer 2021
- Slovenia - motorways

Guide

- Guide to the area of Dalmatia
- Photogallery
- Useful information
- Weather and online cameras

Dalmatia is divided into several regions. The Northern Dalmatia contains Zadar and Sibenik regions, Split region is called Middle Dalmatia and Dubrovnik region is called Southern Dalmatia.

Tourist sights

- Makarska	- Brela
- Split	- Omiš
- National Park Krka	- Šibenik
- Baška Voda	- Podgora
- Primošten	- Dubrovnik
- Zadar	- Island Vir

- More places in this area

Map of the area

Weather Croatia, online cameras

- Bol (Brač)
- Dubrovnik
- Jelsa (Hvar)
- Korčula (Korčula)
- Lumbarda (Korčula)
- Makarska
- Podgora
- Primošten
- Split
- Vela Luka (Korčula)
- Vodice
- Zadar

- Complete list of cameras and weather

Sea temperature

Zadar	20°C (08.04.)	Komiža	20°C (08.04.)
Šibenik	20°C (08.04.)	Lastovo	27°C (08.04.)
Dugi Otok	20°C (08.04.)	Dubrovnik	27°C (08.04.)
Hvar	20°C (08.04.)	Mljet	27°C (08.04.)
Split	27°C (08.05.)		

Useful information

- Information for drivers
- Prices of entry to National parks
- Blue Flag beaches and marines
- Ferry boats - Time tables and prices
- More useful information

Actual rate (datum: 4.8.21,source www.hnb.hr)
1 EUR - 7,49 kn
Currency calculator HERE

Other services

- Slovakian mountains	- Sitemap
- Czech mountains	- Catalogue of accommodation
- Croatian Adriatic	Dalmatia
- Contact	

Favourite sections

- Accommodation Dalmatia
  (page 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16)
- Apartments Dalmatia
  (page 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15)
- Accommodation Island Pag
- Accommodation Island Pag
- Accommodation Trogir

The Zadar region, the northernmost part of Dalmatia, is influenced primarily by the Velebit mountain range, the Split region by the Biokovo mountains. The entire coast of Dalmatia is lined by tourist resorts, the most important are for example Sibenik, Vodice, Primosten, Trogir, Omis, Makarska, Brela and Dubrovnik. Dalmatia has also many historical monuments, some of them are protected by UNESCO (Diocletian's Palace in Split, towns Trogir and Dubrovnik). An important and tourist attractive part of the Dalmatia are islands, such as Kornati, Hvar, Brac, Korcula and Mljet, which are connected with mainland by an extensive network of ferry and shipping lines. Natural beauty of Dalmatia are protected in several national and natural parks, such as Paklenica, Kornati, Telascica, Krka and Mljet.

Figure 40 - Example of the quantity of information from the site Croatia-adriatic.eu

Use of the platforms and Reserved Area

- Most websites (9 out of 11 sites) do not have a reserved area where the user can subscribe and have access to additional services, so the websites are not saving any data from the users.
- Two platforms, aruea-krk.com and adriatic.hr have a logged-in area (see an example) to retrieve the bookings and other vouchers purchased by the user.
- One platform, mareinitalia.it, has a reserved area for the accomodation structures/experience providers who pay to be on the platform. Through this back-office area, they can add their rooms, company details, special offers and other activities to promote.

Business Models of Platforms: how they monetize

These platforms have very different revenue models to create value from the traffic they generate:

- **Direct sale of their services**: some platforms directly sell tours or other experiences; for example aura-krk.com
- **Commission on sales:** some of them have an integrated booking system, so they offer booking of hotels/boats that are then supplied by other companies, probably earning a commission; for example adriatic.hr.
- **Booking requests:** thanks to contact forms, the users can ask for availability and the data are sent directly to the structures (see Figure 41). Then, the platform charges a fee for every lead or for the opportunity to be featured in the platform.
- **Affiliation marketing**: links to other sites for booking accommodation, transports, experiences, assurance etc, as croazia.info is doing with Booking.com and other booking websites.
- **Annual subscription**: some platforms offer a subscription to local companies who want to be on the platform, proposing a price list (see Figure 42) with different plans according to the level of promotion (from the simple presence in the companies list, to a featured place in homepage, to newsletter dedicated showcase, etc.)
- **Advertising banners:** placed around the website, both from Google or other publishers and from direct sale of advertising places.
- **Promotion of their company**: the platforms are created to help selling their own services; for instance: Amatori creates the site that promotes Novaljia to incentivize the sale of tickets for its partner's ferries.

Government or other types of sponsorships/grants. For example, Croatia.hr and Rivieradelconero.it are created by the local institutions, so they don't need a revenue model but are totally financed to promote the area.

Figure 41 - Booking requests

Principali servizi di visibilità sul portale e il network	Piano Start	Piano Premium	Piano Full
	Vetrina con servizi Standard	Vetrina con servizi Plus	Vetrina con servizi Top
Prezzo	120,00 €	220,00 €	380,00 €
Area Riservata per la gestione della vetrina	✔ sì	✔ sì	✔ sì
Contatti diretti dai clienti interessati	✔ sì	✔ sì	✔ sì
Link al proprio sito web	✔ sì	✔ sì	✔ sì
Mappa della struttura	✔ sì	✔ sì	✔ sì
Presenza nella regione,provincia e zona famosa di appartenenza	✔ sì	✔ sì	✔ sì
Foto della vetrina	5	15	30

Figure 42 - Price list for local companies who want to be present on the platform

Promotion platforms Croatia and Italy - results and visibility

Let's observe, now, the results in terms of traffic and engagement obtained by these platforms, to quantify how many visitors are interested in their services and how they are able to attract the users. In order to investigate this information, Similarweb software is used to estimate the number of visitors to the websites, access keywords and user behaviour. (See more information in the chapter 4.3 of the Methodology)

Since the level of interest changes according to the different areas, the analysis is divided into two parts: the first dedicated to the results of the 4 websites promoting Italy, the second about the 7 platforms focused on Croatia's destinations.

1 - Tourism promotion platforms about Italy

The foreseen websites about the promotion of tourism in Marche and Veneto received a total of 1.9M visits in the last year, of which nearly half in summer. In fact, the trend over time in the last year (Figure 43) shows a strong seasonality, with an increase in traffic from May to August. It is estimated that users spend more than 2 minutes exploring these sites, visiting an average of almost 3 pages per visit, with 57.8% of users who don't click on a second page but close the website after one page (bounce rate)

During the year the traffic is equally divided between desktop and mobile visits, while in summer most of the visits are from mobile (more than 80%): this means that users visit these sites mostly while in the locations to find more information via mobile phone and less while planning it during the year.
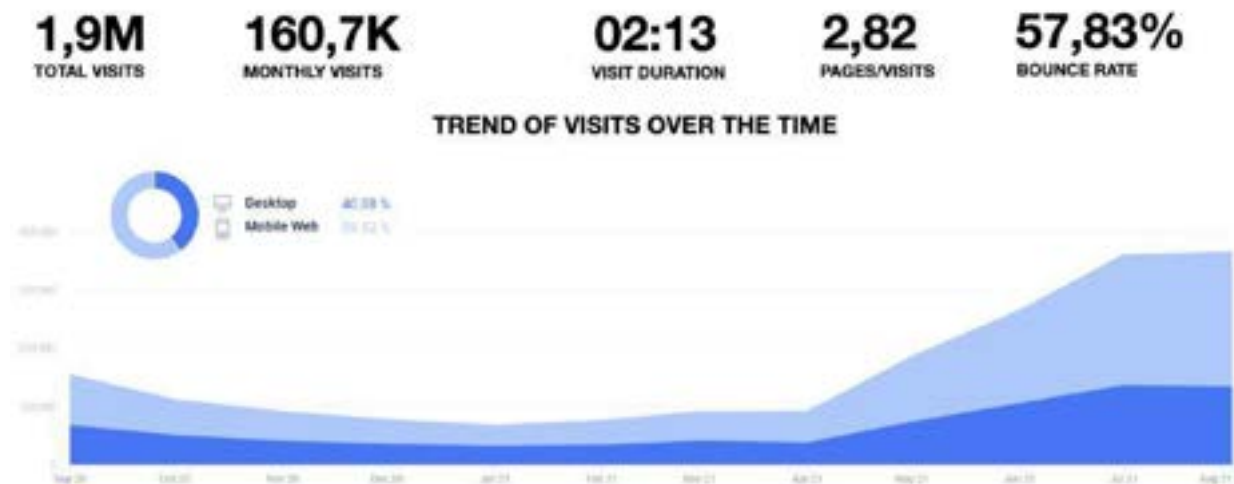
Figure 43 - Number and trend of visits over the time (Source: Similarweb, period Sept 2020 to Aug 2021. See Methodology chapter 4.3).

Traffic to the sites considered

The site that obtains more traffic is turismo.marche.it: it records, in fact, 71,9K visits per month on average (250K in summer) and users spend 3 minutes on the site, looking at almost 4 pages per visit. The site related to the tourism promotion of the Veneto region is in third place, registering the lowest values in terms of average duration of visits and pages visited. The platform mareinitalia.it that aims to promote accommodation companies, is the least visited with less than 1K visits/month.
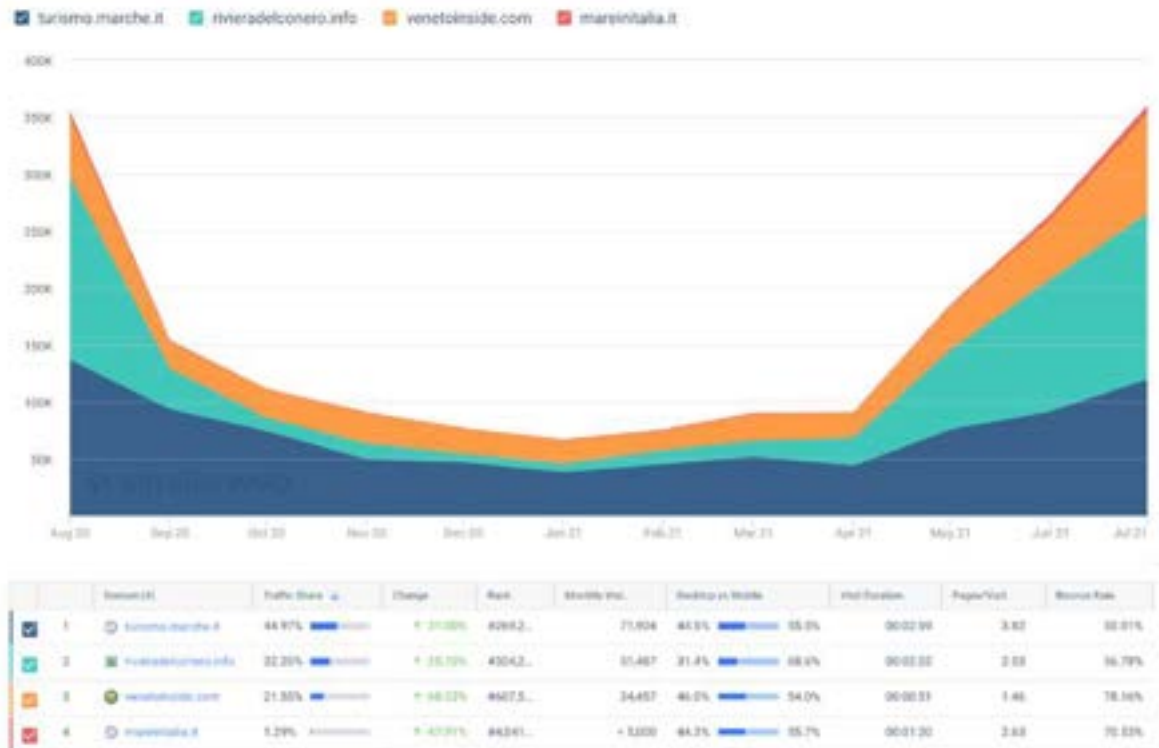
Figure 44 - Traffic trend by platform (Source: Similarweb, period Sept 2020 to Aug 2021. See Methodology chapter 4.3)

Sources of traffic to Italian tourism promotion sites

The most important source of traffic to the sites considered is Google, with 72.5% of the users coming from organic search, showing the importance of good SEO indexing of the site. Then,

24% of the visitors arrive from direct traffic, so they already know the site and are coming again on the platform to read more. These sources of traffic become even more important during the summer, when the users are increasing the Google searches and are coming back more often to these platforms. There is also a small percentage (1,08%) of traffic coming from social media, particularly from Facebook.

Figure 45 - Traffic sources (Source: Similarweb, period Sept 2020 to Aug 2021. See Methodology chapter 4.3)

From which countries does the traffic arrive
To understand who is visiting these websites, let's have a look at their geographical origin:
- Most users came from Italy; this could be due to the actual COVID-19 Pandemic, when travelling abroad is more difficult;
- Other users are coming from the United States, United Kingdom and Germany.

Users from Croatia are not detected: it could mean that Croatian tourists are not used to look for information on local platforms.
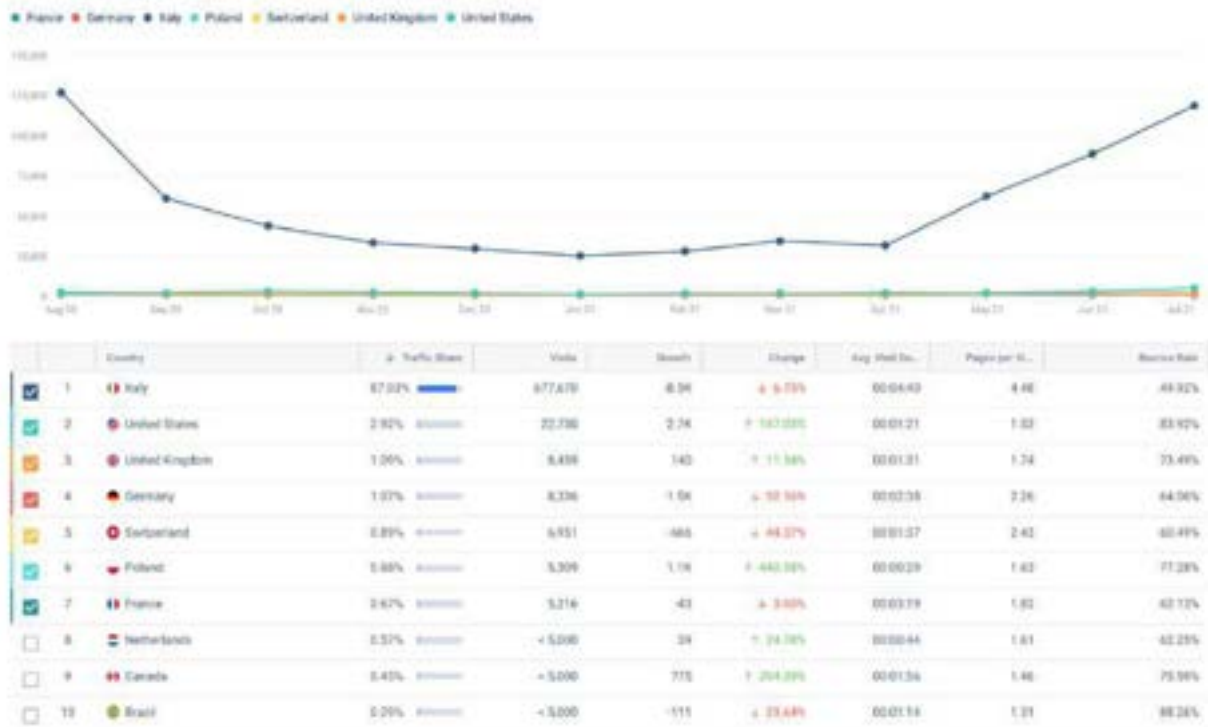
Figure 46 - Rank of Country from which traffic comes (Source: Similarweb, period Sept 2020 to Aug 2021. See Methodology chapter 4.3)

What are users looking for on Google

Users who arrive to the platforms from Google are mainly searching specific areas and cities, such as "Cupra Marittima", "Recanati" and "Porto Sant'Elpidio", and also specific beaches of Marche coast such as "spiaggia delle due sorelle", "spiagge del Conero". This shows that offering complete information about a specific area could be useful to meet travellers.

Figure 47 - What users are looking for when reaching the analyzed websites from Google (Source: Similarweb, period Sept 2020 to Aug 2021. See Methodology chapter 4.3)

2 - Tourism promotion platforms about Croatia

The situation is similar when looking at the results of the platforms about Croatia. The sites obtained an estimate of 5.4 million visits in total, most of which from May to August 2021. As for the Italian platforms, most visits arrivea from mobile devices only during summer, so

probably these platforms are used real time by people who are located in the area during the website visit. Users spent just under 2 minutes on the pages, viewing just under 4 pages per visit with a bounce rate of 55.66%.

5,43M TOTAL VISITS   **453K** MONTHLY VISITS   **01:54** VISIT DURATION   **3,77** PAGES/VISITS   **55,66%** BOUNCE RATE

TREND OF VISITS OVER THE TIME
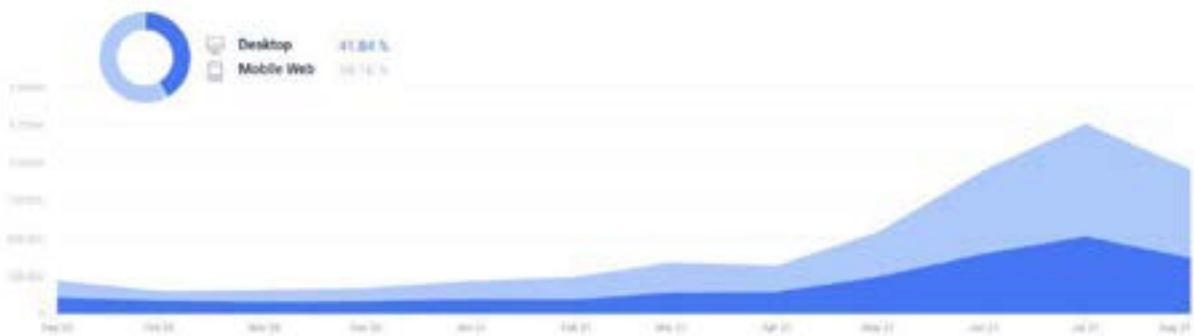
Figure 48 - Number and trend of visits over the time (Source: Similarweb, period Sept 2020 to Aug 2021. See Methodology chapter 4.3)

Traffic results divided by platform

In particular, the more visited websites are the ones dedicated to the whole country, while the promotion of the specific areas are far way less visited. In fact, croatia.hr covers a rate of 54.64% of the total traffic: users remain on the site for more than a minute viewing almost 3 pages and in summer it gets more than 600K visits. The second most visited website is adriatic.hr, that has the highest engagement and time on site.

Figure 49 - Traffic trend (Source: Similarweb, period Sept 2020 to Aug 2021. See Methodology chapter 4.3)

Sources of traffic to Croatia's tourist promotion sites

Even for sites related to the promotion of tourism in Croatia and its cities, the most important source of traffic is organic search on Google (63%). This is followed by direct traffic, meaning research made by users who already know the site, with a percentage of 19%. There is also a portion of traffic from paid searches (7.9%), that is resulting from investments in paid campaigns. Even for sites relating to Croatia, a small volume of traffic comes from social networks (3.4%), specifically Facebook.
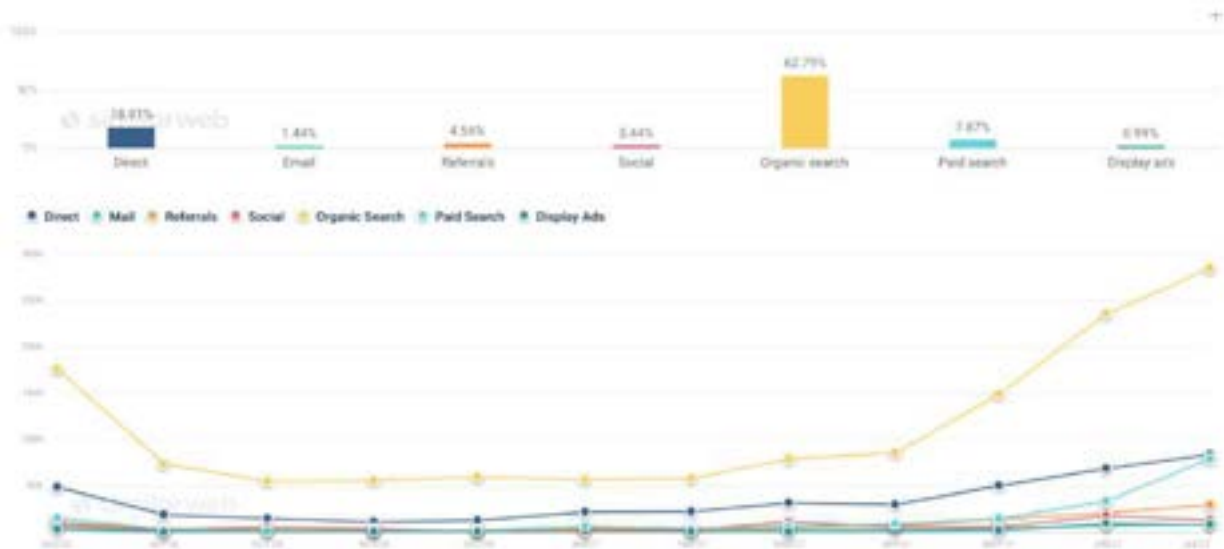
Figure 50 - Traffic sources (Source: Similarweb, period Sept 2020 to Aug 2021. See Methodology chapter 4.3)

From which countries arrives the traffic

Looking at the countries from which the traffic arrives:

- The highest number of visits comes from users who are located in Croatia, that could be tourists looking for information during the trip.
- Italy ranks third in terms of number of visits, with an average time spent on the sites of one minute and 40 seconds.
- Users from Slovenia are those who present the highest values in terms of average duration of visits and pages visited, showing more interest in the sites involved: in fact they stay on the sites for almost 5 minutes looking at 5 pages.

Figure 51 - Rank of Country from which traffic comes (Source: Similarweb, period Sept 2020 to Aug 2021. See Methodology chapter 4.3)

From which Google searches comes the traffic

Users arrive on these sites mostly searching for information related to entering Croatia and the required documents to enter safely due to the rules for limiting Covid19. In addition, most users search for specific cities in Croatia, also associated with apartment and house searches.

	Search Term (5,824)	Traffic		Change	Volume	Volume Trend	Traffic Leader
1	avvaraaa kroatien	7.4K	0.69%	↑ 54.12%	25.4K		auswaertiges-amt.de
2	kroatien	4.4K	0.41%	↑ 20.90%	158K		wikipedia.org
3	dubrovnik	4.3K	0.40%	↓ 6.51%	275.6K		wikipedia.org
4	kroatien einreise	4.2K	0.39%	↑ 234.41%	18.4K		auswaertiges-amt.de
5	horvatorszag beutazas	3.3K	0.31%	↓ 1.01%	8K		kormany.hu
6	krk	3.3K	0.31%	↓ 44.58%	298.5K		mra.gov.pl
7	chorvatsko	2.7K	0.25%	↑ 6.54%	29.5K		novinky.cz
8	kroatie	2.4K	0.22%	↓ 37.00%	107.4K		wikipedia.org
9	plato	2.1K	0.20%	↓ 100.00%	11.9K		croatia.hr
10	tranzit kroz hrvatsku	2.1K	0.19%	↓ 54.54%	< 5K		croatia.hr
11	makarska	2K	0.19%	↑ 133.61%	41.2K		booking.com
12	zadar	2K	0.18%	↑ 245.56%	144.6K		hostelforumzadar.com
13	trogir	1.9K	0.18%	↓ 55.11%	45.9K		wikipedia.org
14	nature	1.8K	0.19%	-	804.2K		nature.com
15	spacile	1.7K	0.16%	↑ 102.46%	34.4K		spanija.hr
16	novi vinodolski	1.6K	0.15%	↑ 92.94%	10K		novi-vinodolski.hr
17	smallest town in the world	1.6K	0.15%	↓ 100.00%	< 5K		croatia.hr
18	case a vrbnik	1.6K	0.15%	↑ 413.60%	< 5K		aurea-krk.com
19	krk chorwacja	1.5K	0.14%	↓ 83.33%	< 5K		zielonamapa.pl
20	peljesac	1.5K	0.14%	↓ 74.64%	8.3K		adriatic.hr
21	opatija	1.5K	0.14%	↓ 92.89%	14.3K		wikipedia.org
22	korcula	1.5K	0.14%	↓ 50.63%	24.5K		wikipedia.org
23	trocobra kuca uz more galiц	1.5K	0.14%	↓ 83.78%	< 5K		adriatic.hr
24	jezioro plitvickie	1.4K	0.13%	↓ 34.89%	11.5K		podrozepoeuropie.pl
25	brac	1.4K	0.13%	↓ 59.23%	51.5K		bcsc.net

Figure 52 - What users are looking for when reaching the analyzed websites from Google (Source: Similarweb, period Sept 2020 to Aug 2021. See Methodology chapter 4.3)

Other platforms for Best Practice

To offer more ideas about how to implement the service, other global territorial promotion platforms were analyzed to identify best practices adopted by other operators in the sector. In details:

- **VisitElba.com**: Website for the promotion of tourism on Isola d'Elba. It offers the possibility to book accomodation, means of transport such as ferries, cars and flights, and experiences to live on the place.
  This platform offers an interesting function: it's possible to save the activities in a wishlist and keep them at any time.
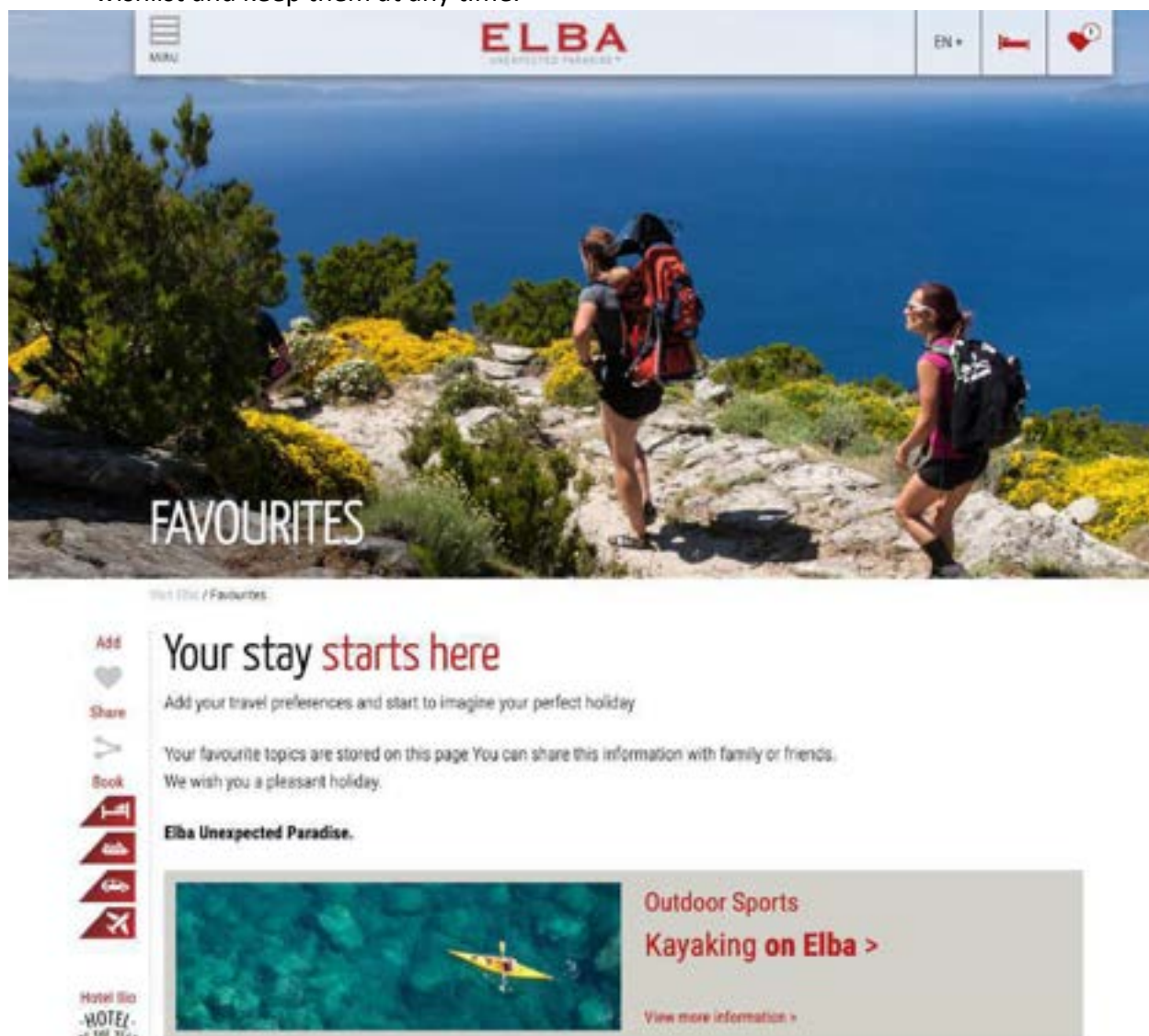
Figure 53 - Visit Elba wishlist

- **HiLand.it**: Tour Operator specializing in travel organization and holidays in the Mediterranean Islands and Continental Europe, and in business travel.
  The site allows users to plan their whole trip by purchasing various services: from flights, trains and ferries to booking accommodation, tours, excursions and car rentals.

Figure 54 - Hi-Land interface

- **Entur.no**: Travel planner in which it is possible to search trips and get alternatives based on the complete Norwegian public transport service.
  The platform that owns and manages the train ticket sales system collects data about public transport in Norway to help people to choose sustainable trips. Users can specify their point of departure and arrival, and the platform will propose different travel alternatives. It is also possible to specify a preference for the means of transport and other travel options, such as the walking speed.
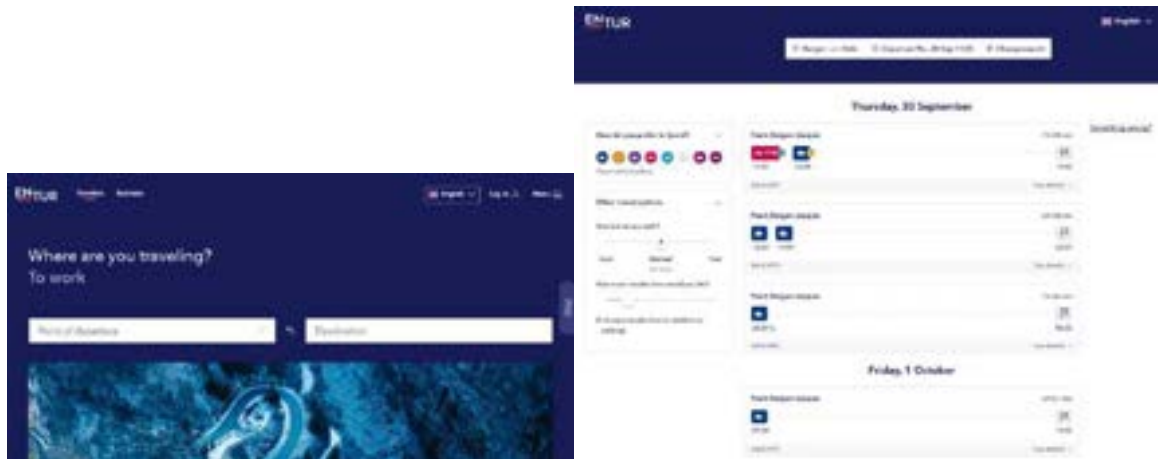
Figure 55 - Entur interface

- VisitNorway.it: Official tourist guide of Norway recognized by The Ministry of Trade, Industry and Fisheries, with the aim of promoting the whole Country.
  The portal also allows people to plan their trip by offering a wide range of services, including exclusive hotels in nature, special and sustainable experiences and green excursions.

Figure 56 - Visit Norway interface

- AnekItalia.com: Booking platform for trips to Greece departing from Italian ports (Ancona, Bari and Venice) and internal routes to Crete and other Greek islands.
  In addition to the possibility of booking, the site offers many travel tips, as well as the possibility to buy exclusive holidays, mini-cruises and travel packages. The platform suggests routes and tours according to the user's needs, as well as customized holidays according to categories, such as event and young people's travel.

Figure 57 - Anek italia interface

- VisitFinland.com: Travel guide with the aim of promoting Finland.
  The portal, as well as having a user interface, offers the possibility to select interesting contents and then having them sent by email; in this way, without the creation of a reserved area, the user's email is acquired, and the user leaves it to receive an immediate service.
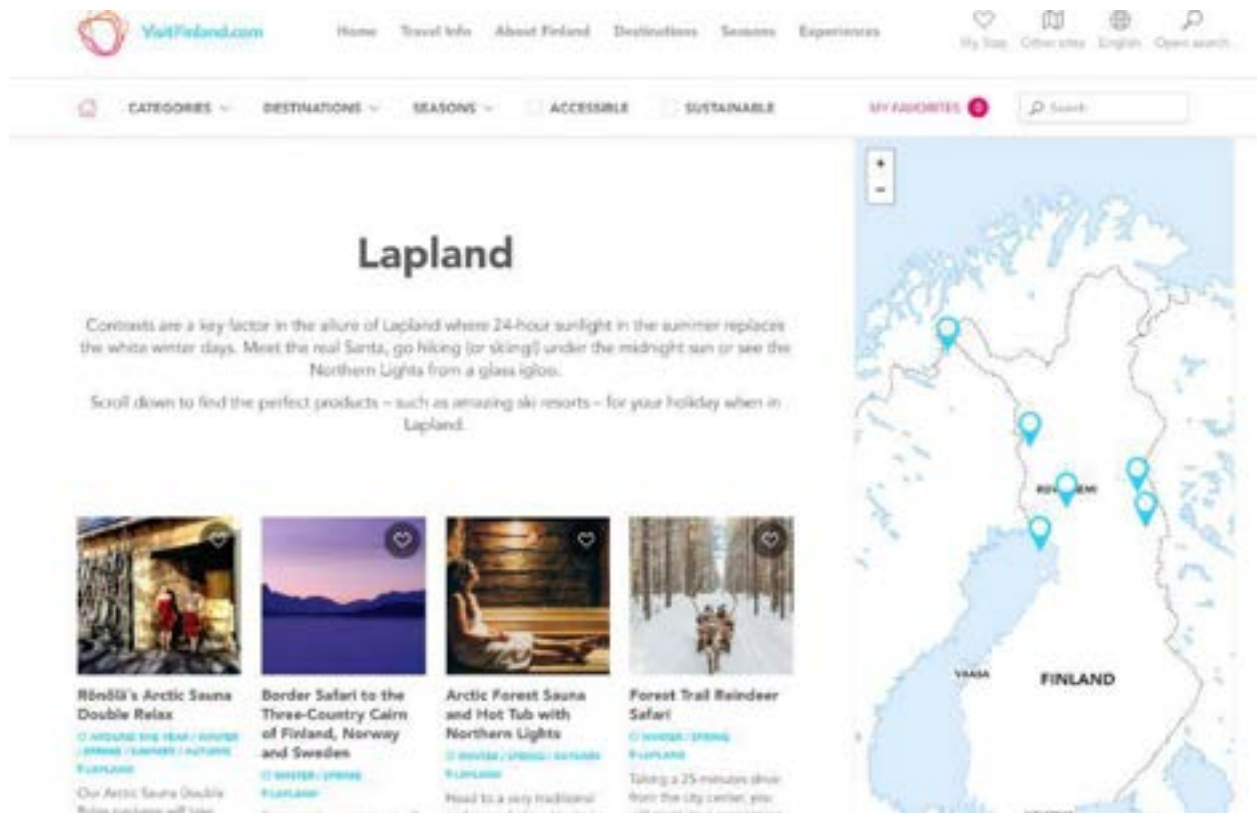
Figure 58 - Visit Finland wishlist

2.2.1.3 Calculators of CO2 emissions

To understand the offering and the real usage of CO2 emissions calculators, the most relevant calculators have been identified and analysed in the following part of the analysis.

Online it is possible to retrieve several calculators that allow users to estimate the total yearly "carbon footprint" of their vehicles or even their daily life, calculating heating consumption, fuel type, etc. in total. On the contrary, the calculation of CO2 emissions during a specific trip is a service offered by a smaller number of applications, most of which are exclusively aimed at calculating flight emissions (for instance, the ICAO calculator) and not other means of transport.

Selecting the calculators that are dedicated also to other transportation means, these are the more interesting:

- **Carbon Footprint calculator** (calculator.carbonfootprint.com) - CO2 emissions calculator that supports carbon offset projects that address climate change and support poor communities around the world.

- **Native - Carbon Offset Providers** (native.eco) - It offers a free CO2 emissions calculator, through which companies can make themselves sustainable and financially support environmental projects.
- **PTV Map&Guide** (PTV Group) - Desktop software to calculate transport CO2 for companies
- **Green Tripper calculator** (greentripper.org): A Belgian Co2logic initiative, the Greentripper tool allows to calculate the CO2 footprint of trips and compensate for their impact on the climate by contributing financially to a CO2 reduction project
- **My climate** (CO2.myclimate.org) - Solution able to calculate individual, domestic, social and transport carbon emissions, allowing offsetting through the support of different social and environmental projects.

The purpose of these calculators is not to suggest the lowest Co2-consuming means of transport and the alternative routes, but simply to calculate the level of emissions for a trip that has been already planned or made in the past, and then to compensate for the CO2 emissions through the purchase of green certificates or projects. In most cases the goal is not to calculate the emissions of a single trip but the total annual consumption, by calculating the kg of Co2 consumed in a year in relation to the total kilometres travelled and to the personal lifestyle.

Most calculators are developed for the user who is particularly sensitive to climate issues, who makes the calculation as a personal assessment and spontaneously decides to compensate for this through donations. Only one solution found, PTV Group, is aimed at companies and offers paid software (but also a free trial version) that calculates accurately the volume of CO2 emitted in order to obtain the Green Certificates required to comply with anti-pollution regulations.

In particular, PTV Group calculates the CO2 emissions of fleets of trucks and lorries in relation to their specifications and route.

Main functions of the CO2 Calculators
Now let's look at the functions offered by these calculators to understand how they might help users solve their needs.

Step 1: Choice of means of transport
All the analyzed calculators start from the choice of the type of transport, choosing between different alternatives if available: car, motorbike, public transport, ferry, plane, etc. In addition, if the vehicle is a car, it is possible to choose the type of fuel (diesel, petrol, hybrid, electric, etc.) and in some cases even the brand and model, to obtain precise data on consumption. For instance, Carbon Footprint allows users to enter the efficiency of their vehicle as an alternative

to the model (see Figure 59), while Green Tripper allows users to choose the level of consumption from medium, low, high and unknown (see Figure 60).

Figure 59 - Carbon Footprint calculator with choice of means of transport
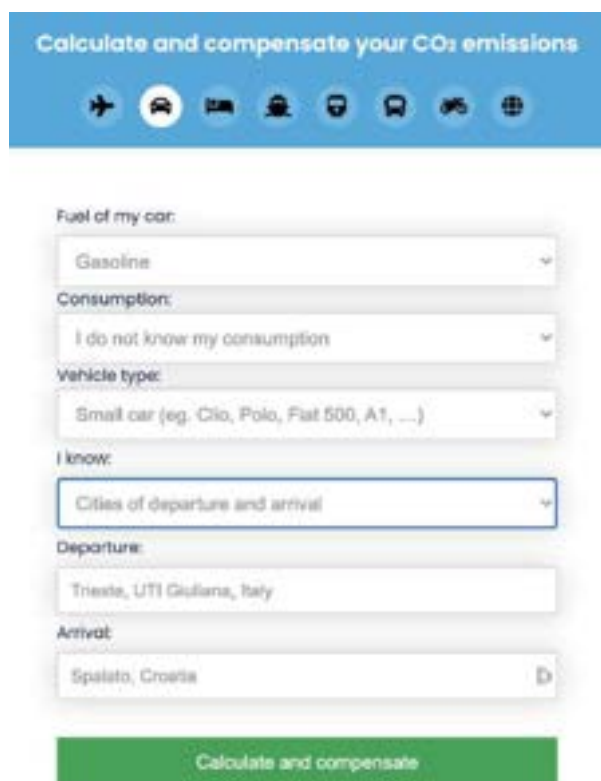
Figure 60 - Green Tripper calculator with possibility to choose the level of consumption

Figure 61 - CO2.myclimate calculator with possibility to choose the fuel type and consumption

Step 2: Consumption calculation based on kilometres travelled

Only three of the calculators studied (Green Tripper, Native.eco e PTV Group) allow the user to choose a departure/arrival point and to calculate consumption by the total number of kilometres travelled or to be travelled between these points, showing the route on the map. The others ask the user to specify the number of kilometres (so the user should calculate the distance using Google Maps or other platforms). Moreover, it is never possible to choose an alternative route to the one proposed (choosing an alternative with or without motorway, taking the ferry instead of the car, etc.). The calculation is then estimated simply by the distance from one point to another and not by the real characteristics of the route, such as height differences, type of roads (state roads VS motorways), etc. Only with the PTV Group calculator the estimate is more complex, based on the actual route characteristics (see Figure 63).

Figure 62 - Native.eco calculator with possibility to choose destination
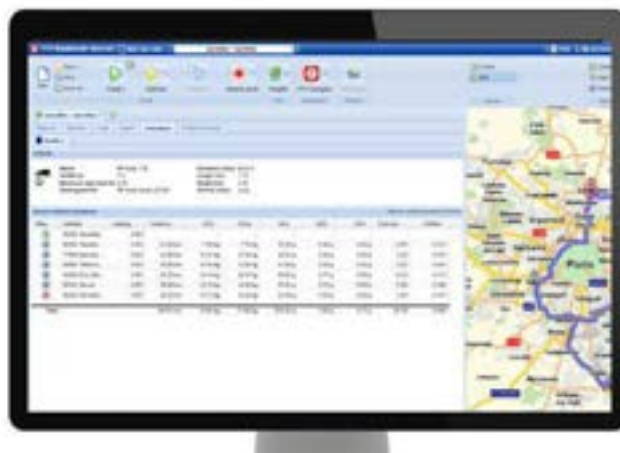
Figure 63 - PTV Group calculator with possibility to choose destination

Step 3: Visualization of estimated consumption

All the calculators present, in a visual way, the result of the emission calculation, with different visualization solutions through images and graphs. For instance, Green Tripper (see Figure 64) proposes the results with pictures and graphs, showing the emission level of the user's trip compared to other global and European averages. This allows the user to understand the importance of the resulting number and to compare the individual emission level with the average and total consumption in the world or in Europe.

Figure 64 - Estimated consumption of Green Tripper platform

Step 4: Possibility of compensating the emissions by contributing to green projects

An interesting service provided by some online calculators is to offset their CO2 emissions. In fact, this is possible through donations to some social and environmental projects that can be offered directly through the CO2 calculators platforms.
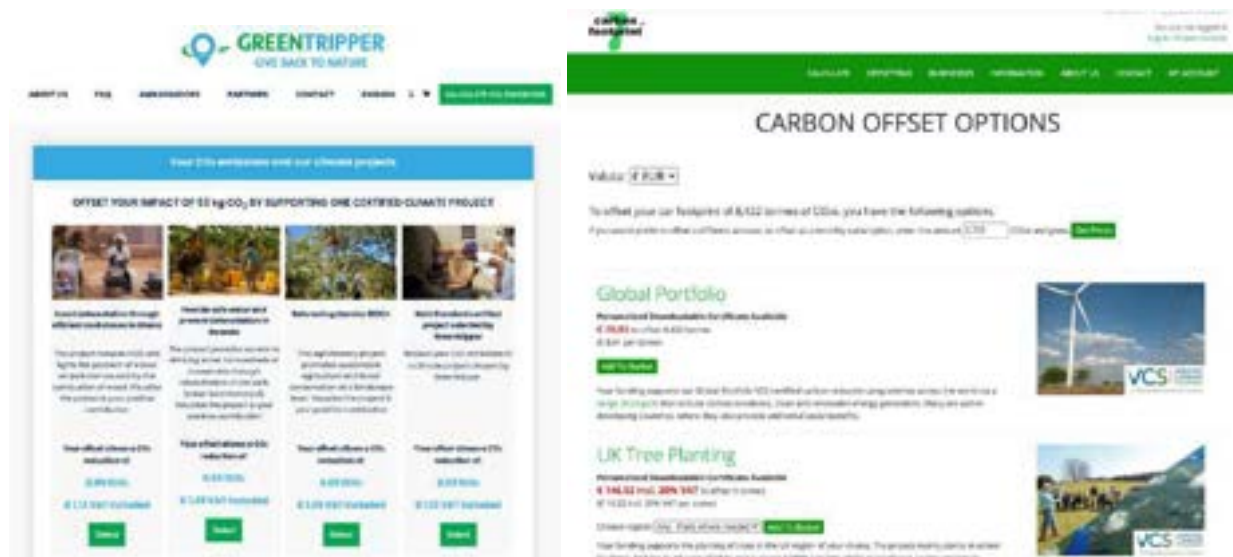
Figure 65 - Carbon offset options on GreenTripper and Carbon Footprint

Traffic results obtained from calculators around the world

Now, let's observe the results in terms of traffic and engagement obtained by these online calculators, to quantify how many visitors are interested in their services and how they are able to engage users.

In order to understand how the level of interest changes, the analysis is divided into two parts: the first focused on the results at a global level, the second related to the interest of Italian users.

Globally, the site that receives the most visits is PTV Group, with an average of 101K visits per month. The group offers premium services and software specific to logistics, management and tracking of indicators for trucks and heavy vehicles. Since it has a very different target and the users visiting the website are not interested in CO_2 calculators but in logistic flows, in the next analysis the website will be not considered.

Therefore, at a global level, the websites of the 4 analyzed calculators register almost 2 million visits in total (152,7 thousand on average per month), mainly from mobile devices (66%). The trend of visits over time shows an increase of interest in the last 8 months, with a peak in August 2021. Users spent more than 2 minutes on these sites, viewing almost 4 pages per visit on average and with a very low bounce rate of 35%.
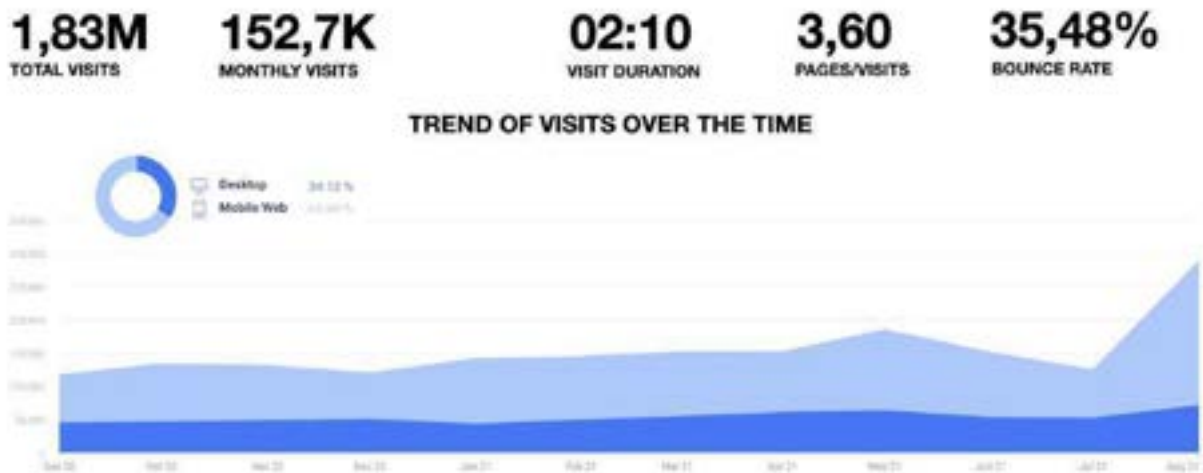

Figure 66 - Worldwide number and visit trends over time (Source: Similarweb, period Sept 2020 to Aug 2021. See Methodology chapter 4.3)

Traffic to the sites

Considering only platforms focused on calculating CO2 emissions, the site with the highest number of visitors is co2.myclimate.org, which users visit on average for almost 2 minutes, viewing almost 3 pages per visit.

Then, looking at the average number of pages viewed and the average time spent on the site, the one in which the users spend the most time is Green Tripper, a platform focused on sustainable projects and one of the most complete calculators. The site recorded more than 11k visits per month, with 6 pages per visit and an average navigation time of 3 minutes: this shows the high level of interest that platforms like this are starting to get.

Figure 67 - Traffic trend (Source: Similarweb, period Sept 2020 to Aug 2021. See Methodology chapter 4.3)

Sources of traffic to the websites

Considering how these platforms are intercepting their users (see Figure 52), more than 50% of them arrived from Google organic search (organic means not through advertising), demonstrating the importance of a good SEO indexing to be found online. Then, around 25% of the users arrived through Direct access, so they already knew the platform and typed the

complete url to access it. A significant volume of traffic is also generated by referrals (18%), or traffic from external sources and other sites, who are promoting these calculators.

This shows how important it is to directly reach a public of users who are already sensitive to the environment and are looking for any possible means to do their positive part.

Figure 68 - Traffic sources (Source: Similarweb, period Sept 2020 to Aug 2021. See Methodology chapter 4.3)

From which countries the traffic arrives

Looking more closely from which countries traffic arrives at the sites considered for the calculation of CO_2 emissions:

- The United States is in first place for the highest number of visits. In the last year, American users spent almost 3 minutes on these sites, viewing an average of 4 pages per visit.
- Considering the country with the highest values in terms of average duration of visits and pages viewed, Mexico is in first place. In fact, users remain on the site for more than 8 minutes, viewing an average of almost 10 pages per visit.
- Italy is not among the 10 countries most interested in the services provided by the sites considered, showing a low interest level for these applications.
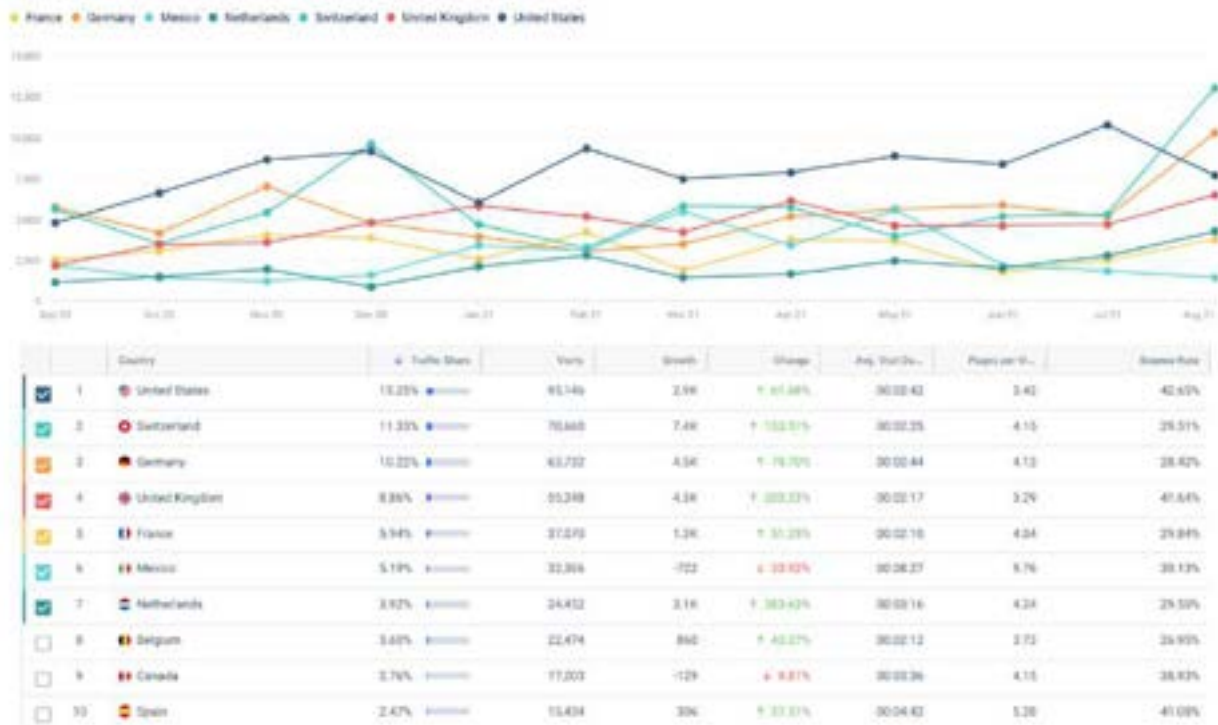
Figure 69 - Rank of Country from which traffic comes (Source: Similarweb, Sept2020 to Aug 2021. See Methodology chapter 4.3)

From which Google searches does the traffic arrive to the emission calculation sites

Moreover, exploring in depth for which researches users arrive on the CO2 emission calculation sites considered, it is possible to notice that:

- Users arrive at the other CO2 calculators websites especially when looking for calculators for flight emissions and for the "carbon offsets" information.
- It's also possible to identify more keywords related to emission offsetting

Figure 70 - What users are looking for when reaching the analyzed websites from Google (Source: Similarweb, Sept2020 to Aug 2021. See Methodology chapter 4.3)

Traffic results of calculators in Italy

After evaluating the traffic and visibility levels of CO2 calculators at a global level, the platforms will be analyzed in Italy as well, to understand the differences and verify what people are interested in.

In Italy, as already discovered, the level of interest for these CO2 calculators is very low: the platforms considered, in fact, obtained less than 5 thousand visits on average per month, for a total of 29,6K visits. Most visits arrive from mobile devices (68%). In addition, users spend much less time on the sites, visiting on average just over a minute and viewing 2 pages per visit on average, with a very low bounce rate of 36%.
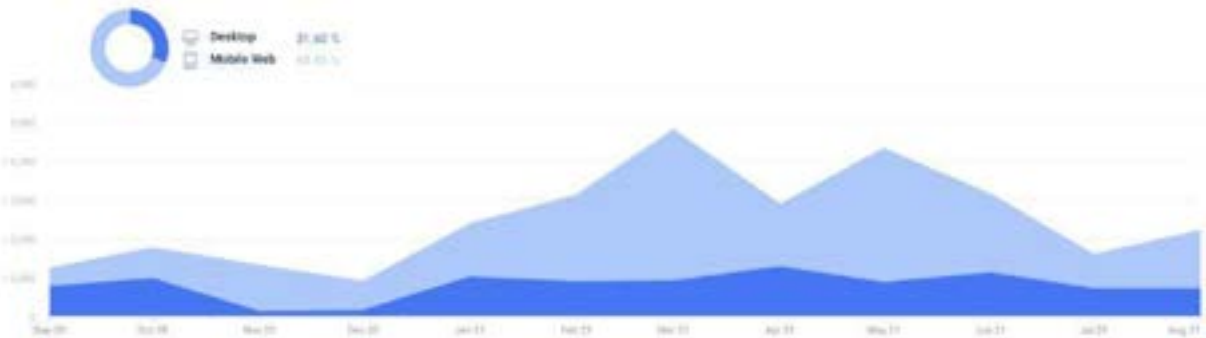
Figure 71 - Number and trend of visits over the time in Italy (Source: Similarweb, period Sept 2020 to Aug 2021. See Methodology chapter 4.3)

Traffic to the sites

In Italy, the site that obtains the highest traffic share is calculator.carbonfootprint.org, with an average visit duration of one minute and 2 page views.

Considering the average duration of user visits, the site with the highest value is native.eco, where users remain for almost 2.5 minutes. The platform on which users visit most pages is co2.myclimate.org (more than 2 and a half pages).

Greentripper, on the contrary, is totally unknown in Italy, with zero visits detected during the last year.

Figure 72 - - Traffic trend (Source: Similarweb, period Sept 2020 to Aug 2021. See Methodology chapter 4.3)

Sources of traffic to the websites

In Italy, the most important source of traffic for CO2 calculators considered is Google organic search (50%), demonstrating the importance of a good SEO indexing to be found online.

Then, around 24% of the users arrived through Direct access, so they already knew the platform and typed the complete url to access it.

Interesting to notice that more than 22% of users came from Referrals, or from external sources and sites. In Italy, a small volume of traffic also comes from social networks, just more than 2% and in particular from LinkedIn.

Figure 73 - Traffic sources (Source: Similarweb, period Sept 2020 to Aug 2021. See Methodology chapter 4.3)

From which Google searches does traffic arrive at the emission calculation sites

In addition, it is important to understand for which searches users arrive to the relevant CO2 calculation sites in Italy:

- There are generic researches relating to emission calculators and few relating to the calculation of travel emissions.
- Some of the research relates specifically to the calculation of transport emissions, specifically for planes and cars.

		Search Term (22)	Traffic ↓		Change	Volume	Volume Trend	Traffic Leader
☐	1	carbon compensated calculator	321	11.40%	-	< 5K		myclimate.org
☐	2	transport footprint carbon calculator	207	7.36%	-	-	N/A	carbonfootprint.com
☐	3	calcolo impronta ecologica footprint	186	6.61%	-	< 5K		carbonfootprint.com
☐	4	calculating carbon emissions from transport	173	6.16%	-	< 5K		carbonfootprint.com
☐	5	car goals	158	5.61%	-	< 5K		native.eco
☐	6	how to calculate co2 emissions from flight	147	5.22%	-	< 5K		myclimate.org
☐	7	co2 footprint cars	140	4.97%	-	< 5K		carbonfootprint.com
☐	8	calcolo footprint	140	4.97%	-	< 5K		carbonfootprint.com
☐	9	impronta ecologica cerca	138	4.91%	-	< 5K		carbonfootprint.com
☐	10	native carbon neutral	126	4.48%	-	< 5K		nativalab.com
☐	11	co2 calculator travel	119	4.23%	↓ 92.78%	< 5K		icao int
☐	12	impronta ecologica area	112	3.98%	-	< 5K		carbonfootprint.com
☐	13	co2 compensation	108	3.06%	-	< 5K		myclimate.org
☐	14	calcola impronta ecologica	108	3.04%	-	< 5K		wwf.ch
☐	15	co2 year calculator	95	3.08%	-	-	N/A	co2logic.com

Figure 74 - What users are looking for when reaching the analyzed websites from Google (Source: Similarweb, period Sept 2020 to Aug 2021. See Methodology chapter 4.3)

Calculators Business Model

From the analysis of the five calculators described, it is possible to estimate the ways of monetization:

- **Commission on sales** of projects and donations: for all platforms that offer users the possibility of offsetting their emissions, when purchasing a commission is earned by the platform.
- **Sale of software licences**, as in the case of PTV Group, a company developing software for the management of trucks and lorries, more specifically transport and logistics.
- **Partnerships** with travel agencies and associations for planning sustainable trips and partnerships with international authorities and companies that support the sustainable spirit of the platform. For instance, myclimate works with international partners on climate projects. In the same way, GreenTripper has global climate project partners, local authorities for biodiversity projects and ecological and sustainable initiatives.

Conclusions about CO2 Calculators

From the analysis of the existing applications and their usage, it's evident that these types of calculators are not already popular, but used only by a niche of users who are more sensitive to these topics, who most of the time already know which tool to use. This is even worse for the calculators of CO_2 for travels: people are more interested in calculating the total CO_2 footprint of their life/car and they don't feel the need to estimate every single trip. To increase the awareness about that it would be necessary to educate the audience, promoting content explaining the problems of emissions in port destinations.

Then, the calculators that exist are generally simple, with standard parameters applied to the total distance between two destinations, aimed just to give an indication to the users. Their attention is more focused on the user experience, inviting their users to offset their emissions.

In conclusion, data suggest that it is not advisable to base most of the value proposition on the CO_2 calculator to attract the users' interest, but it's necessary to address the environmental problem in a more complete way.

2.2.2 During the trip: Customer Care & Green Advice when travelling

In the second phase "during the trip", the E-CHAIN project proposes to offer personalized content via SMS and web platforms to customers who purchase tickets for ferry and coach trips from E-CHAIN partners/suppliers. The aim of this service would be both to provide the travelers useful information about their trip (time tables, addresses information, delays, warnings, etc.), both to offer information to reduce the CO_2 emissions in the local area, encouraging a virtuous environmental behavior and helping to reduce pollution.

Moreover, the editorial calendar of the SMS/emails sent to the customers is aimed to give information related to the trip on behalf of transport companies that do not currently offer this type of services to their customers or that want to give an extra service to demonstrate their environmental sustainability.

This type of service is called "Customer Care services in outsourcing", such as to outsource to other companies the task of contacting clients and providing them with help if needed. In the next part of the analysis, the aim is to understand how these companies work and which are their best practices.

Goals of Customer Care in outsourcing companies

Some companies don't have the time, resources and competences to offer a proper customer care service to their clients. Therefore, in the last few years other players started to offer customer care services on behalf of them. These companies are therefore integrated service providers who connect directly with the client companies' customer management systems (CRM) and are totally invisible to their final customers, who think to receive messages/services directly from their suppliers.

As examples, some companies providing these services (both in the travel industry and in general) have been identified:

- **Amadeus - Customer, Guests & Travel Management** (https://amadeus.com/) - Company that offers travel solutions and has also a service to increase travel agency's clients satisfaction.
- **C-Global** (https://www.c-global.it/cglobal/it/soluzioni/contact-center) - Company that offers modular services in outsourcing, taking care of whole business departments.
- **Procontact Solution** (https://www.procontact-solutions.fr) - Company that offers only Customer Care solutions
- **WOW 24-7** (https://wow24-7.io) - Company that wants to offer a WOW customer service on behalf of their clients' companies.

Main functions and services

Among the services that these companies offer, there are some common services:

- **Passenger Processing**: after the booking, these companies take care of all the steps that are needed to ensure a smooth purchasing process.
- **Telephone Customer Care**: they offer a dedicated phone number and manage the requests on behalf of the client's company, to answer questions, resolve issues, manage refunds, etc.
- **Out-bound SMS/email/phone contacting:** they send offers and information of different kinds to the customer base of the client, to provide the service, propose new offers (up-sell, cross-sell) and to ensure the maximum satisfaction. For instance C-Global is offering services aimed at the "retention" of the clients.
- **Surveys and focus groups to the customer base,** to understand the needs, measure the satisfaction and provide useful information about the customers' experience.
- **Omnichannel experiences**, answering also to social media requests, live chat, etc.

Other services that these companies are offering and that improve the value perception of the outsourcing are:

- **Loyalty and rewards management**; Amadues for instance offers to organize loyalty programs to passengers who travel repeatedly with the same company.
- **Qualification of the customer base**, with an enrichment of the data according to the users' interests and behaviour.
- **Dashboards with aggregated data about the results**, such as number of clients served, types of requests, etc.
- **Real Time Alerts.** The only company that is specifically focused on the Travel industry is Amadeus, which also offers a "Real time" service for the travellers.

Real Time Alerts to travellers: how does it work

This service is offered through Amadeus platform, "Amadeus Travel Alerts Notifier's" on which the client company can customize the messages and create a template that includes the company/agency's logo and configure the layout to their own specification.

Since the platform is customizable, they can include contact details, as well as links to their website or social media, such as Facebook, Twitter or Google+. Notifications can also be provided in the travellers' preferred language for a truly personalized service and a smoother travel experience.

Travellers can also receive e-ticket reminders, guaranteeing peace of mind to the traveller without the need of agent intervention. Messages are sent automatically and in real-time, ensuring travellers receive information quickly and helping to reduce enquiries to call centres.
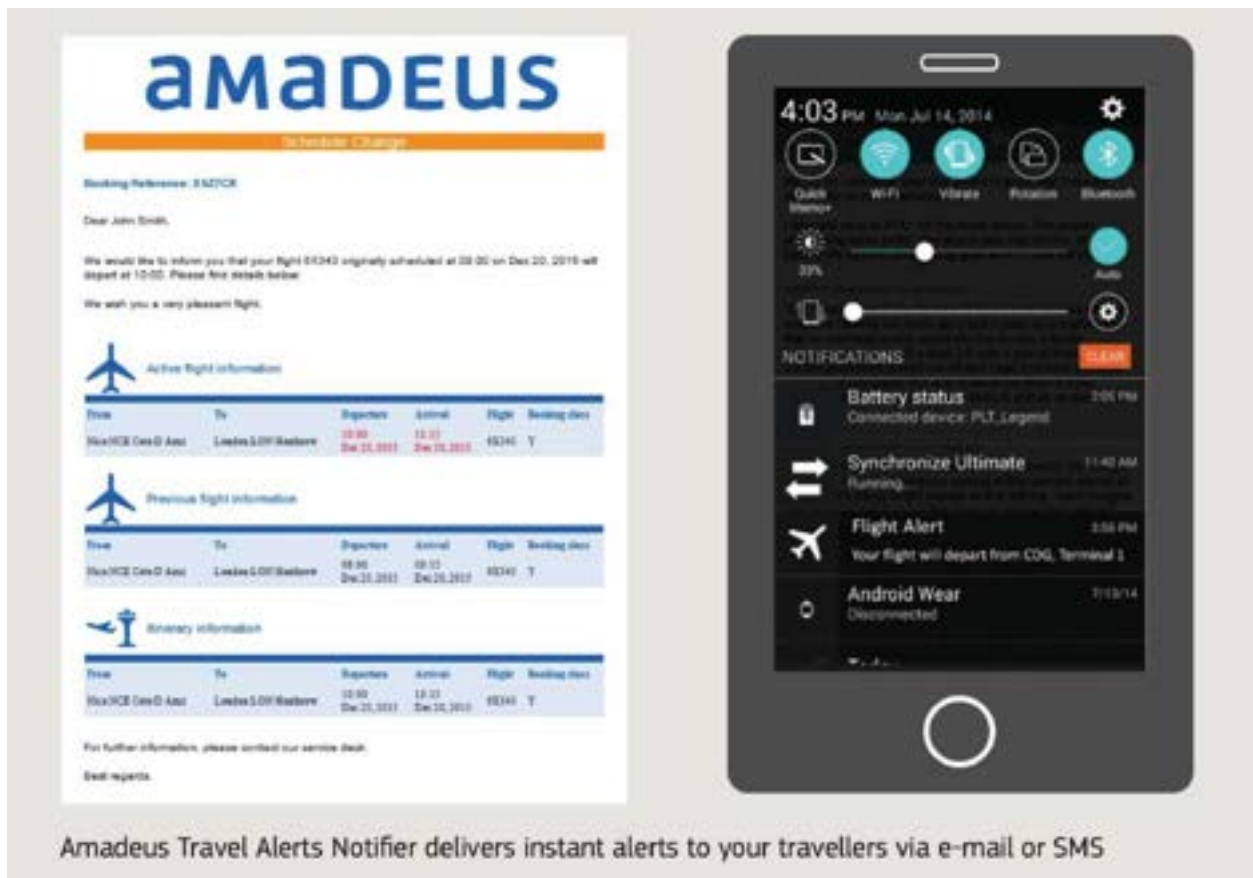
Figure 75 - Real Time Service Alert offered through the Amadeus platform

How does the Customer Care in outsourcing work

The services are strongly customized for each client and most of the value is found in the first planning phase when the needs are discovered and the documentation/editorial calendar is created. Then, the next phase is the training of the internal resources and the "go live".

Figure 76 - Process of the service offered by WOW 24-7

The clients data are not shared with the outsourcing companies, but they access directly the CRM of the client or the Ticketing service (like Zendesk, Olark, etc.) to work on that; this way, the ownership of the data is still of the client and the GDPR/privacy requirements are met.

Business Model

These companies are all paid with a As-A-Service mode, with fixed annual contracts that are created "modularly" according to several factors:

- the different services to include in the package (live chat, customer care, messages to send to users, etc.)
- the level of service (answering 24/7, only business hours, etc.)
- the languages of the customer care
- the number of clients to manage with emails, SMS and phone calls.

So, they are not charging according to the exact number of SMS/emails sent but for the overall service according to levels of users to serve.

The advantages of outsourcing the customer care services are:

- 24/7 availability. Whether it's a day or night, the outsourcing teams of support specialists are ready to assist the customers.
- Advanced technologies to contact the clients with a stronger CRM system that the client's one;
- Experience in e-mail funnels, messages the clients need, etc.
- Scalability: the system is designed to serve an increasing number of customers and when perfected, could be expanded into other countries/services.

2.2.3 After the trip: Data Management on Destination results

The services provided by E-CHAIN in the after-trip phase involve the creation of reports based on aggregated information, collected both through the analysis of the passengers data and the messages sent to them, and through surveys to passengers who have used the service. These reports will then be made available to the partner/supplier companies and to public authorities, so as to allow better insight of the needs of passengers, improve the clients flow and provide targeted services.

To learn more about this type of service and to understand how it is offered by other players in the tourism industry, some platforms have been identified that can offer detailed reporting and data analysis services related exclusively to tourism:

- **Travel Appeal:** https://www.travelappeal.com/it/homepage

The platform provides highly personalized and in-depth reports, made specifically for companies from all areas of tourism: hospitality, food & beverage, museums, airlines, destinations and more. In addition to an accurate analysis of the specific hotel/accommodation that can track all its reviews and online reputation, it also offers a comprehensive analysis of the destinations and geographical areas.

Figure 77 - Travel Appeal interface

- **Str:** https://str.com/it/data-solutions

Company that offers reports and analyses both customized and generic, as well as comprehensive solutions that help customers to develop strategies and be competitive in their market.

Figure 78 - Str services

- **Mabrian:** https://mabrian.com/

Provides Travel Intelligence technology solutions for Smart Destinations by analysing tourism Big Data from multiple data sources. Identifies and predicts tourism dynamics, through continuous monitoring of visitor behavior
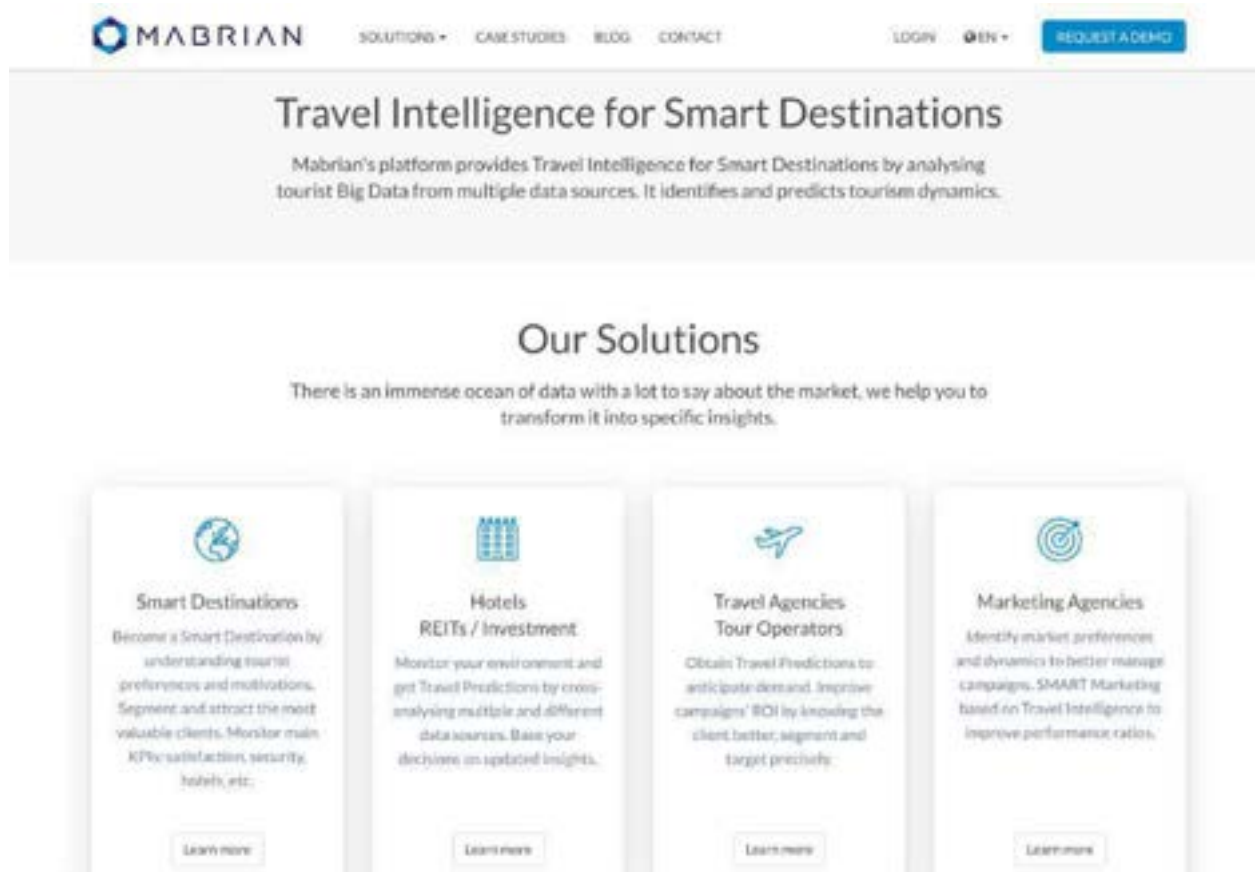
Figure 79 - Mabrian solutions

- **MMGY Intel:** https://www.mmgyintel.com/

It is a global service network, which focuses on market research and customised data, exclusively serving the hospitality, travel and tourism markets. It also develops research at a European level and for North America. It works closely with public authorities in different parts of the world.

- **Nsight For Travel:** https://www.nsightfortravel.com/:

Agency that provides customized reporting services, daily rate analysis and Tripadvisor rankings, through emails sent to customers operating in the hotel business, with the aim of automating the steps of the process according to which operators, to acquire information on competitive prices and customer needs, should use third parties.

Figure 80 - Example of Nsight for travel report

- **Kepsla:** https://www.kepsla.com/:

A company that works with hotels and the hospitality industry to provide customer feedback solutions, network listening tools, in-depth guest analysis and competitive intelligence.

Figure 81 - Kepsla interface and example of a report

- **Travel Data Analytics:** https://traveldataanalytics.de/

Platform providing market reports and travel-related news, especially for Germany, with the aim of mapping the needs of tourism companies on modern data management.

Figure 82 - Travel Data Analytics interface

- **Destination Analysts:** https://www.destinationanalysts.com

It is a market research company in the travel and tourism sector. In addition to the customised information generated by more than 200 national and state authorities and organizations worldwide, Destination Analysts performs continuous consumer and B2B studies, always related to the travel and tourism sectors.

Figure 83 - Destination Analysts interface

- **Entur:** https://entur.no/

State-owned company that, in cooperation with public transport companies, contributes to the development of sustainable travel. In fact, the Entur platform collects data provided directly by public transport companies all over Norway and creates services for end users based on it.
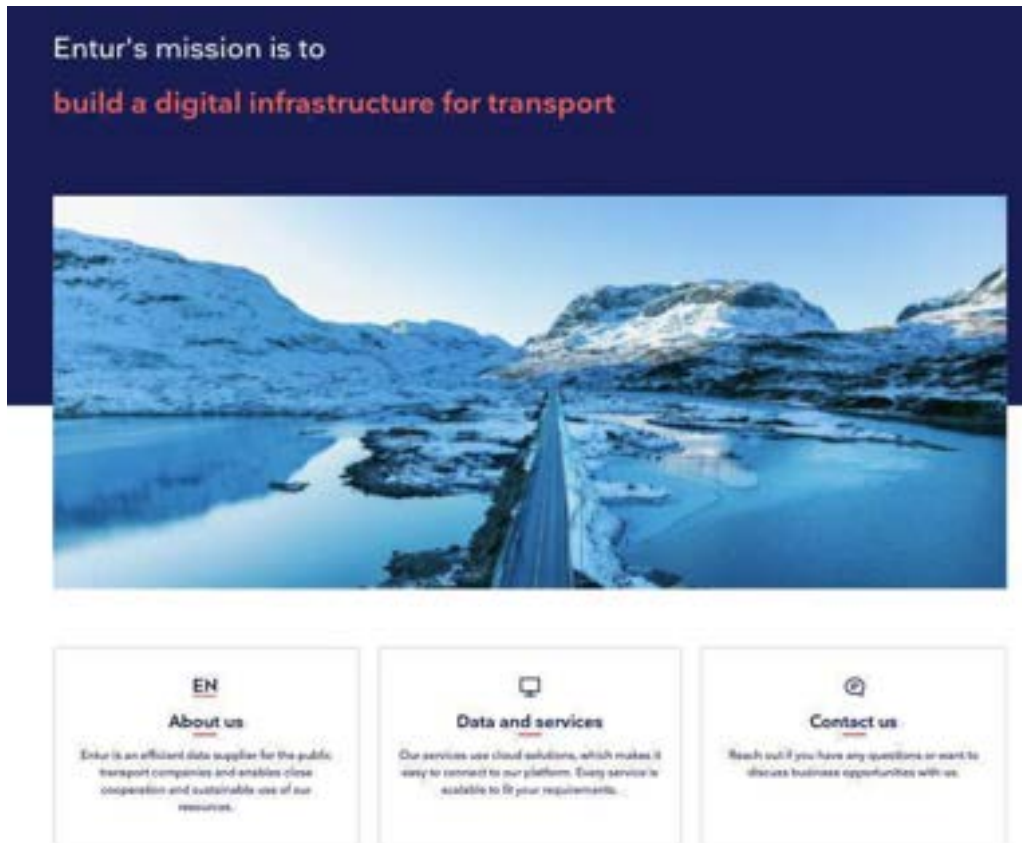
Figure 84 - Entur interface and services offered

- **Hbenchmark:** https://www.hbenchmark.com/

It is a platform that receives data and aggregates them: specifically, the data intelligence programme processes them in order to make available not only the performance of its own structure but also to compare it with that of the territory or the competitive set (benchmarking).

Figure 85 - HBenchmark interface and services offered

Most of the platforms identified are aimed to provide reporting services worldwide.
However, three sites considered operate for specific destinations and areas:
- Entur collects traffic data for all public transport companies in Norway,
- Travel Data Analytics provides market reports and travel-related news in Germany, while
- MMGY Intel conducts research at European level and for North America.

Goals of these platforms

For the relevant platforms, the first purpose is to help hotel owners, accommodation providers and other travel-related companies to improve their business by offering customized reports based on aggregated data.

There are, however, some platforms that support this purpose with additional business activities, in line with the services offered and aimed at specific targets:
- Some platforms, through the reporting service, offer a focus on the continuous tracking of reviews and opinions from end customers in order to control brand reputation.
- Mabrian and Hbenchmark, on the other side, also offer technological solutions for Smart destinations, monitoring tourist flows and providing travel dynamics forecasts
- Nsight for Travel, for example, aims to automate data reception processes for accommodation structures by providing the data necessary to understand the movements of competitors in the field.

- **Entur**, finally, is a reference point for travel planning and organization in Norway, offering a collection of data to provide suggestions to users on sustainable travel.

Types of data involved

The considered platforms analyze multiple types of data that support the complete customer journey of the traveler: from inspiration in finding the trip, decisions, behavior and final opinions. Moreover, these data are acquired in different ways:

Figure 86 - Type of data involved

- **Client's Review data:** Some companies through reporting services analyze reviews: the number of reviews, sentiment (positive or negative), comments. This type of data is acquired directly from dedicated applications such as TripAdvisor, Booking.com, social media such as Twitter, etc. Travel Appeal, for instance, is one of the platforms able to offer customers this kind of service, not only through detailed reports, but also through dashboards where customers can constantly monitor their opinions. In fact, it is possible to identify reviews and conversations with the aim of understanding how the single structure as well as the destination is perceived by end users. In the same way, Kepsla works with hotels and accommodation structures to provide guest feedback solutions and network listening tools, through the management and control of reviews on the main sites of interest.

Figure 87 - Travel Appeal and Kepsla reviews dashboard

- **Price data:** In particular, a platform identified Nsight For Travel, aiming to automate the process by which hotel operators acquire competitor pricing information from third parties, after acquiring daily rate and ranking data from TripAdvisor, offers to hotel operators, through the sending of regular, planned emails, a summary of competitor rates, separated by booking channel.
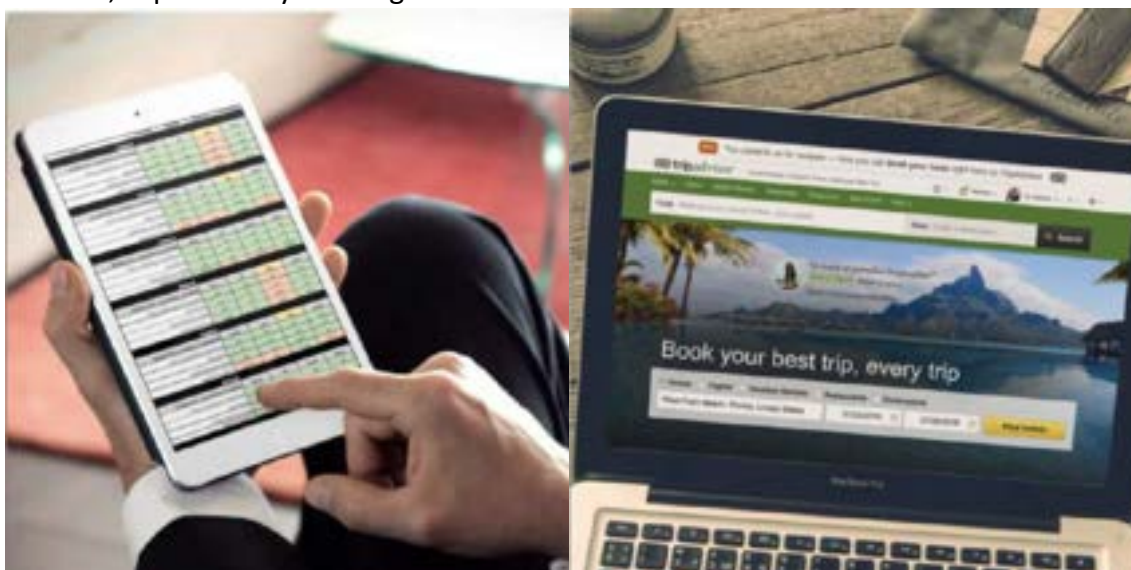
Figure 88 - Report and ranking on TripAdvisor

- **People's transit flows:** one platform among those identified offers data on the flow of people travelling through a specific area, for instance through telephone cell

connections. Reports and analyses with this type of data are offered, for example, by Mabrian which proposes Travel Intelligence technological solutions for Smart Destinations by analysing tourism Big Data from multiple data sources. Specifically, the platform uses Telco Data to acquire data relating to visitors to a specific area or zone and, on the use of algorithms, is able to segment them and identify user profiles. It is therefore possible to identify local and foreign visitors, the origin of people, as well as socio-demographic profiles.

-

Figure 89 - Example of data visualization on the flow of people

- **Data on consumer behaviour:** some of the sites involved offer specific reports on traveller behaviour, mapping and monitoring them over time, starting from the decision-making process. For instance, Destination Analysts performs detailed market research aimed at defining the profiles of travellers and their socio-demographic aspects. Specifically, the site acquires this data through the use of online and offline surveys. In the same way, Mabrian offers a continuous tracking of visitors' behaviour at all their decision-making phases, mapping their preferences and needs.

Figure 90 - Consumer behaviour data by Mabrian

Internal or external data?
Data received directly from accommodation management systems
Most of the solutions regarding reporting and data analysis services obtain data directly from the management systems of accommodation and tourism structure. Data are then supplied exclusively by the client companies, such as hotels, accommodations, restaurants and museums. Combining and analyzing these data, also in relation to the various competitors in the field or to specific needs, the companies are able to develop detailed research and offer more specific services such as monitoring dashboards to understand their customers.

Travel Appeal, for instance, starting from the analysis of the data and the preliminary overview, through a proprietary algorithm developed in-house, is able to collect all the data of the destinations and the individual activities that are part of them (hotels, b&b's, restaurants, museums, transport, etc.).

Figure 91 - Example of destination report by Travel Appeal

[HBenchmark](#), also receives data directly from hotel and camping management systems, allowing it to monitor the trend of tourist flows, the performance of its own structure and to compare it with that of the territory or the competitive set.

Figure 92 - Example of HBenchmark indicators

Outsourced data

Among the sites considered, there are some that acquire data from other sources outside the client companies, which aggregate them to provide a more complete overview of the relevant sector. For example, some of the external data could be the telephone cell data proposed by [Mabrian](#) to identify the number of people who travel through a specific area, or overall data from Chambers of Commerce, or data on the total number of bookings made in a specific geographical area.

Data acquired from other sources

Specifically, a solution proposed by MMGY Intel which is a market research specialist and works closely with public authorities in different parts of the world. The platform acquires data by purchasing them from external sources, thus expanding its database.

Services provided

To summarize, the analyzed platforms offer these four types of services:

- **Customized reports.** All these sites guarantee the creation of customized and specific reports with all the information needed to improve their business and satisfy the specific needs of their customers. Some of the sites studied allow the customer to explore research through dashboards where they can visualize the results of their analysis. For example, Travel Appeal supplies a dashboard to manage brand reputation by tracking online reviews and customer opinions in real time. While, Destination Analysts suggests the dashboard to improve the visualization of socio-demographic profiles of travellers found.
- **Benchmarking services.** In addition, all platforms offer benchmarking services, comparing prices and competitive rates for accommodation and room types. It is also possible to make more specific market analyses relating to the brand or to specific competitors by social listening.
- **Insights on travellers.** In relation to traveller profiles, several platforms define and track travellers' attitudes from the moment they choose to travel, helping hotels and tourism companies to intercept their needs and create ad hoc services.
- **Periodic reports.** One solution, in particular Destination Analysts, in addition to creating customized information for more than 200 tourism authorities and companies worldwide, makes regular studies on consumers and B2B, always in relation to tourism and travel. But more generally, platforms such as Str are concerned with the development of both customized reports and analyses (for instance monthly or annual reports on specific areas or a specific group of hotels) and generic reports (overviews of performance of important markets and areas around the world).

Target

Having identified several platforms that can offer a reporting service based on aggregated information, it is also possible to identify the different targets to which they address the sale of data:

- **Hotels & Accommodations.** Most of the sites considered, like 7 out of 10, are focused mainly on hotels and accommodation structures, but also on all operators in the travel and tourism sector, such as restaurants, museums, airlines and transport, with the aim

of helping them to improve their business performance by adopting data driven strategies.

- **Authorities & Institutions.** However, there are two solutions that work closely with authorities and institutions. These, MMGY Intel e Destination Analysts, provide market research and detailed information about destination tourism to state and national organizations, but also to public authorities related to the travel field.
- **Travellers**. Finally, only Entur focuses its services on end users. In fact, it gives users the possibility of downloading an application on their smartphones and obtaining real-time information on departures, arrivals and delays.
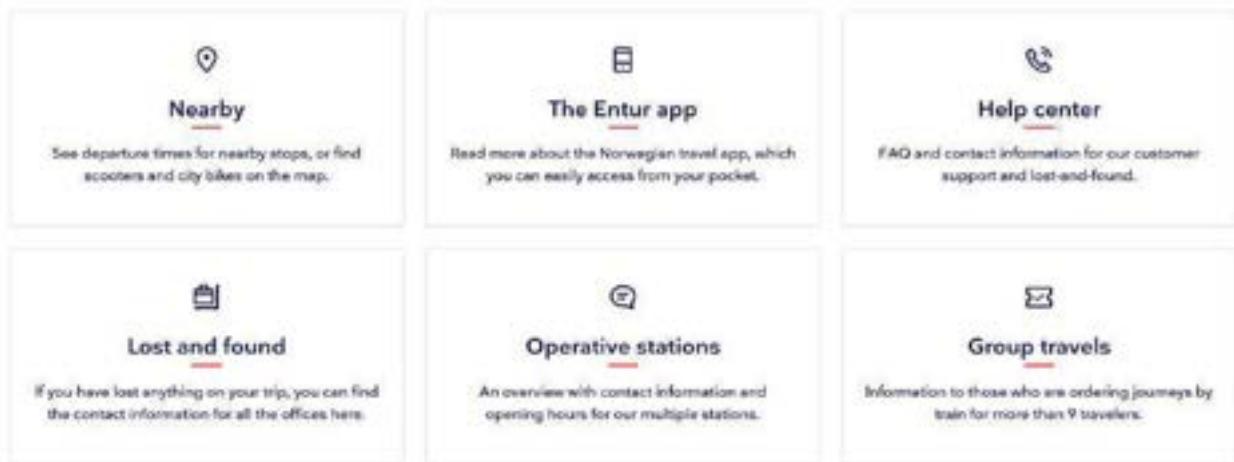
Figure 93 - Services provided by Entur

In particular, Entur is a state-owned company that, in cooperation with public transport companies, contributes to the creation of sustainable trips: all public transport companies send Entur data on their routes and stops. Therefore, based on the data supplied by the companies, it is also possible to plan a trip with any Norwegian means of transport directly from the app or from the website, by entering the destination and starting point in the search bar.

2.3. Advantages, Risks and Key Success Factors to consider

After looking at all the possible examples, the best practices and companies offering similar services, some critical points that need attention have been pointed out.

Before the trip

The E-CHAIN platform has some **competitive advantages** that could make it stand out from the other existing platforms:

- **It's focused on the Adriatic Area**, so it's not a worldwide general platform as most of them are, nor a website focused on a single city/island.
- **It integrates several services that are important for travellers**: the route calculator, informations about what to do in the destinations and the CO2 calculator;
- **It integrates the only CO2 calculator that is able to suggest the best way of transport that reduces the emissions.** The other calculators available online, in fact, are not suggesting the best route but ask the user to select from the start the vehicle they intend to use.

There are also some risks to consider:

- Users might **not understand the value of the emission calculator** and not use the platform just to know the CO2 emissions.
- Without a marketing plan and a strong SEO positioning on Google, **the platform might not be used by potential travellers** looking for information on the Adriatic region.
- **Most of the information provided should be updated very often in order to not provide outdated information** (seasonal time-tables, information that changes quickly, for instance, information about COVID measures) and to provide a valuable service.

Then, there are some key success factors to consider for the different parts of the platform.
For the Travel Platform:

- The content about the location and the activities should be interesting and valuable, with information, experiences, etc. that could not be found easily online; an idea could be promoting all the information and the activities from a sustainable/green point of view.
- The graphic design of the platform should be modern, clean and visual, since most of the existing platforms are beautifully designed; indeed, the traffic analysis proves that the old-looking platforms receive less users than the modern ones. Videos and beautiful Graphs should attract the attention of the users;
- The user experience should be user-friendly and easy to navigate from mobile devices;
- The tracking system should be able to track how many users go to other websites to finalize their purchases, to have the necessary data to analyze the platform performance and to show to the partners the value of the platform.
- There should be a way for the user to save/share the information calculated or to receive the route information via email.

- Adding new activities in the back-office should be very easy for the local businesses in order to convince them to use the service and to keep updated their information and the real number of opportunities/tickets available.

For the emission calculator, key factors are:
- The CO2 calculation results should be shown in a visual way, with a graph that users want to share on social media.
- Information such as the total duration of the trip and the total costs (fuel and highways) are important to give a complete overview of the trip to the users.
- The parameters to consider in the calculation should include the type of engine (diesel, electric, hybrid, oil, etc) to apply the different emission levels.
- The data should be collected in real time from the travel companies to ensure reliable data and not risking to suggest old timetables.
- For the alternative route (not the one by car), the system should calculate the best routes without disfavoring the partners of the platform who are not included in the results.

A suggestion to position the travel platform could be to promote the E-CHAIN travel platform as "the guide to live the Adriatic Area sustainably", as for example the platform Green Key (link: https://www.greenkey.dk/en) is doing for Denmark.
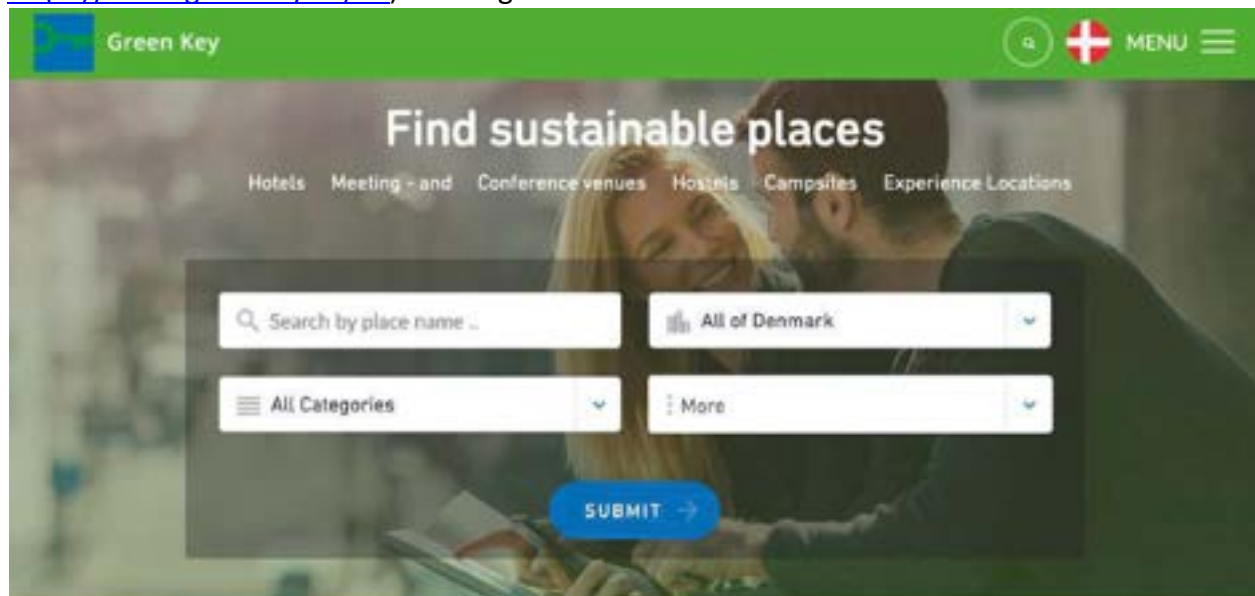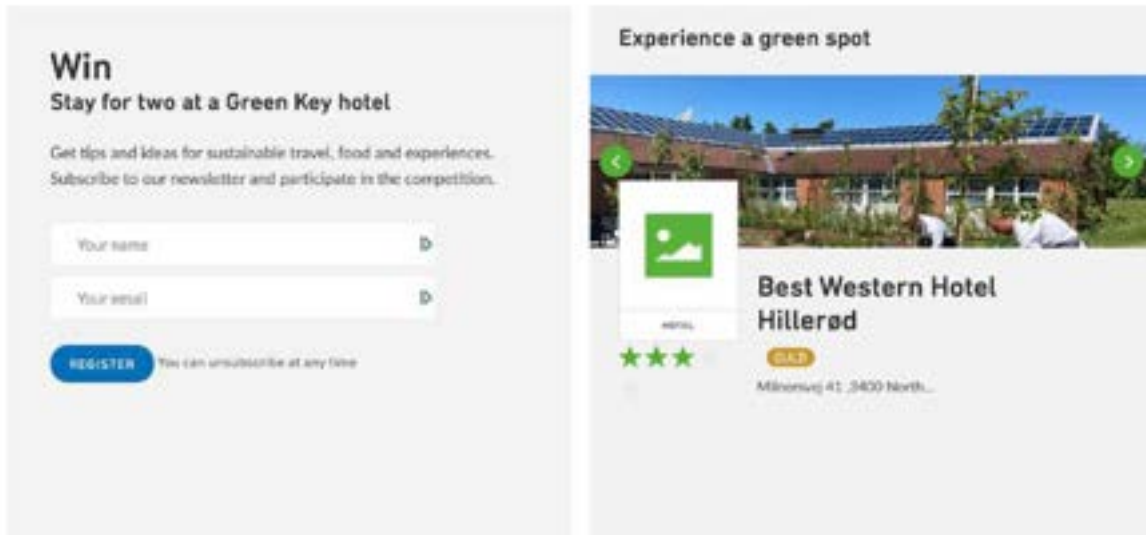
Figure 94 - Example: Green Key platform for Denmark

On the GreenKey platform travellers can find only the accommodations and local experiences that respect several environmental and sustainability requirements, since they are certified by the platform itself. Besides, the users who are interested in green topics can read valuable content about how to live the Denmark region in a green way. Thanks to this strong green positioning, the platform stands out from the hundreds of other websites dedicated to the same topics.

Regarding E-CHAIN, the CO2 calculator could be the starting point to show the green vocation of the platform, while all the other content (articles, images, videos), information, experiences, etc. should reinforce the sustainability concept.

For users who want to receive tips and ideas for sustainable travel, food and experiences, it's then possible to create a newsletter subscription.

During the trip

The CRM service of E-CHAIN and travel Alert has some unique features that should be stressed as competitive advantages:

- **It's the first "green" travel alert service**, aimed not just to give customer support, but to reduce the emissions and therefore reduce the impact on the destinations. Therefore, travel companies and other partners can show their sustainability by joining the project, communicating to their clients that they are helping the environment.

- **It's the first co-marketing project in the Adriatic area**, aimed to improve the economic impact of the travellers who are just passing by the port areas.
- **It could be convenient for travel companies to outsource the customer care services**, reducing the call center overload and offering a better customer experience, focused on sustainability. In fact, some travel companies that are in the E-CHAIN project at the moment are not providing any customer real time service during the trip, therefore should invest more resources to start doing it by themselves.

There are some risks to consider:
- Travel companies that are not already offering these customer care services **could start doing it by themselves** not using the E-CHAIN platform anymore;
- Travel companies could be **not so keen to share their clients' data**, because of privacy problems and to avoid cannibalization of their services; for instance, if the SMS service suggests where to eat in case of a delay of the ferry, then the travellers are unlikely to purchase from the ferry's restaurant during the trip.
- Some travel companies who are already sending messages to their clients **will probably not be interested in sharing their data**, so the collected data about the destinations will not be completed.
- Users could **not consent to receive the travel information,** so it's very important to show them the value of joining the project.

Therefore, to avoid these risks, it is necessary to point out all the advantages for the travel companies to be in the project.
For the CRM activity, key questions to answer are:
- **How to integrate with the travel companies** to access the travellers data to send the SMS/emails, in order to be legally compliant and access the necessary information in real time.
- **How to show the value of the E-CHAIN alerting service to the users,** inviting them to give consent to receive the SMS/emails.
- **How to process the clients data after the trip,** which legal entity will be in charge of the data and what information/promotions could be sent in the following months after the trip.
- **What are the limits that the travel companies would establish in the usage of their clients' data** to send other marketing promotions, during and after the trip (special offers, new events/activities, experiences, etc.).
- **How to automate the information retrieval** about the delays or other warnings (traffic, fires, etc.) to send real time messages to the travellers.

After the trip

The Data Intelligence service about the Adriatic destinations offered by E-CHAIN have some competitive advantages:

- **The only service focused on specific Adriatic locations** that has data on these destinations, provided directly by the travel companies.
- **Data more complete than other providers**, since it is collected starting from the travel intent to the real ticket purchase (through the travel companies who require the CRM service) and to the travel feedback;
- **E-CHAIN provides a full service** that includes the customer care alerts and a strong intelligence service to the travel companies that join the project.

There are some risks to consider:

- **Risk to have a low volume of data,** if the traffic of the Travel Planning platform is low before the trip, if the travel companies do not join the project sharing their client's data and if most travellers don't give consent to receive the messages. Then, the data provided could be partial and not significant to understand the real volume of travellers.
- **Legal aspects about sharing performance data** about the E-CHAIN partners, since in the aggregated KPIs the total number of clients of the partners will be shared publicly.
- **Risk of having a small number of local businesses using the data**, because of a low communication budget and low perceived value of the KPIs.

Some key factors to consider are:

- Create visually appealing dashboards, easy to use and to access for the partners.
- Choose KPIs from the available data that could really bring value to the local activities and local authorities.
- Define a periodic update of the data.

2.4. Methodology: Tools and methodological notes

2.4.1 - Google Search Trend over time (data from Google Trends)

Reading data on Google searches

The research through Google Trend compares the research volumes between multiple Topics detected by Google.

The values in the graphs and tables are not absolute numbers of research, but represent the research interest compared to the highest point of the graph in relation to the region and the period indicated. In practice, the value 100 indicates the highest search frequency of the term, 50 indicates half of the searches. A score of 0, on the other hand, indicates that insufficient data have been collected for the deadline.

The calculation is made in comparison between several comparative searches: if the search "A" has recorded a maximum value higher than B and C, that value will be considered as 100 and all the successive values of A, B and C will be evaluated compared to that maximum value. Specifically, 2 macro themes were studied.

2.4.2 - Google Search absolute volume (data from Google Ads Keyword Planner and Semrush)

Related keywords analyses and estimated search volume from Google Ads Keyword Planner

To estimate the absolute volume of searches on Google it is necessary to use the tool "Google Ads Keyword planner", that estimates the average monthly search volume for a specific keyword in a specific location. Besides, starting from a keyword, Google collects all the related keywords in a semantic field: for instance, starting from the keyword "Italija" searched in Croazia and the "tourism" field, it finds keywords such as "Venezia", "voli per Milano", etc.

It is then possible to calculate the share of searches in every region/city and estimate the absolute volume in every area.

See more information here: https://support.google.com/google-ads/

Monthly research volumes and evaluation of site indexing

Through the software Semrush, on the other hand, it is possible to find all the keywords that have the same root (for example "CO2 calculator" and "CO2 calculate", etc.) and then estimate the average monthly search volume on Google desktop in a specific country. Searches made at least 10 times a month are considered, while keywords with a lower level of searches are not considered.

In particular, Semrush is able to extract more interesting data useful for the SEO strategy, that are below explained:

- **Volume:** estimate of how many times on average in a month a keyword variant is searched on Google; the estimate is based on data from the last 12 months.
- **KD**: difficulty in improving the positioning of the site for that keyword.
- **CPC** (euro/USD): average price paid by advertisers for a click on an Advertisement ranked for the keyword in question.
- **Competitive Density**: a value from 0 to 100 indicating how high is competition by other similar websites for the given keyword; 0=no competition ; 100= maximum competition.

See more information here directly from Semrush: https://it.semrush.com

2.4.3 - Websites traffic analysis (data from Similarweb)

Study of estimated website visits and statistics
Website visits are estimated through the software Similarweb, leader in the Website Analytics field. Similarweb's public data sources are an aggregation of publicly available online information. Similar to how search engines index the Web, Similarweb uses an automated technique to capture and index public data from billions of website pages and apps each month and to estimate traffic, keyword access, and user behavior.

Indication of the top terms identified in the research:
- **Pages for Visit (Pages/Visit):** the average number of pages viewed by visitors to a site in a session. Similarweb calculates pages/visits by dividing the total number of page views by the total number of visits. For most websites, the goal is to keep users involved, cultivate their interests and encourage them to take the next step.
- **Average Visit Duration:** shows the average amount of time visitors spend on a website during a session. Similarweb calculates Avg. Duration of the visit based on the time elapsed between the first and the last page view per visit (visits are closed after 30 minutes of inactivity). For most websites, the longer the duration, the better.
- **Bounce Rate:** the percentage of visitors who access a site and then leave after visiting only one page. Similarweb calculates the bounce rate by dividing one-page sessions for all sessions. The bounce rate reflects a site's ability to hold back traffic sent to the site from different traffic channels.
- **Source of access** to the site:
    - **Direct**: traffic sent by users who entered a URL directly in a browser saved in bookmarks or in any connection from outside the browser (as in Microsoft Word).
    - **Referral**: traffic sent from one website to another, via a direct link. This type of traffic includes affiliates, content partners and traffic from direct media purchase or news coverage.
    - **Organic Search**: traffic sent via organic results (not charged) on search engines like Google or Bing. A website that generates a great deal of traffic from organic research is optimizing itself for the top spots in search results.
    - **Paid Search**: traffic sent by paid search ads on a search engine like Google or Bing. A website that generates a large amount of traffic from paid search spends advertising budgets to raise brand awareness and target a relevant audience.

- **Email**: traffic sent by web-based mail clients like Gmail. It's likely that a website that receives a large amount of traffic from email will have a large loyal customer base that engages via a proprietary mailing list.
- **Display Ads**: traffic sent by display and video ads via a known ad publishing platform (e.g. Google Display Network, Doubleclick).
- **Social**: traffic sent from social media sites such as Facebook or Reddit (organic and paid). Including direct media purchase from Facebook *. Social visits are considered to be easily influenced (as a result of a viral article, a meme, an image, etc.). Therefore, a website that generates high and consistent traffic from social media is likely to have a loyal user community.
- **Outgoing Traffic**: analysis of the traffic sent by the website analyzed to other domains through reference links. Websites reached in this way are referred to as destination domains.

Read more information about SImilarweb data here: https://support.similarweb.com/.

3. BUSINESS MODEL CREATION

E-CHAIN is a high-impact project that plans to create value for several stakeholders located in the areas of interest, such as the Adriatic Area (Italian and Croatian coasts), and for the tourists who want to travel to those destinations.

The E-CHAIN platform plans to better connect the needs of both local stakeholders and tourists improving their economic exchange, reducing the environmental impact of tourism on the destinations and enhancing the tourists experience.

The value flows between the parties involved could be visualized through Figure 95, showing the role of the E-CHAIN platform as a connector between all the Stakeholders, while the economic exchange (tickets purchase) is done directly between Tourists and Suppliers. All those value flows will be then explained in detail in this document.
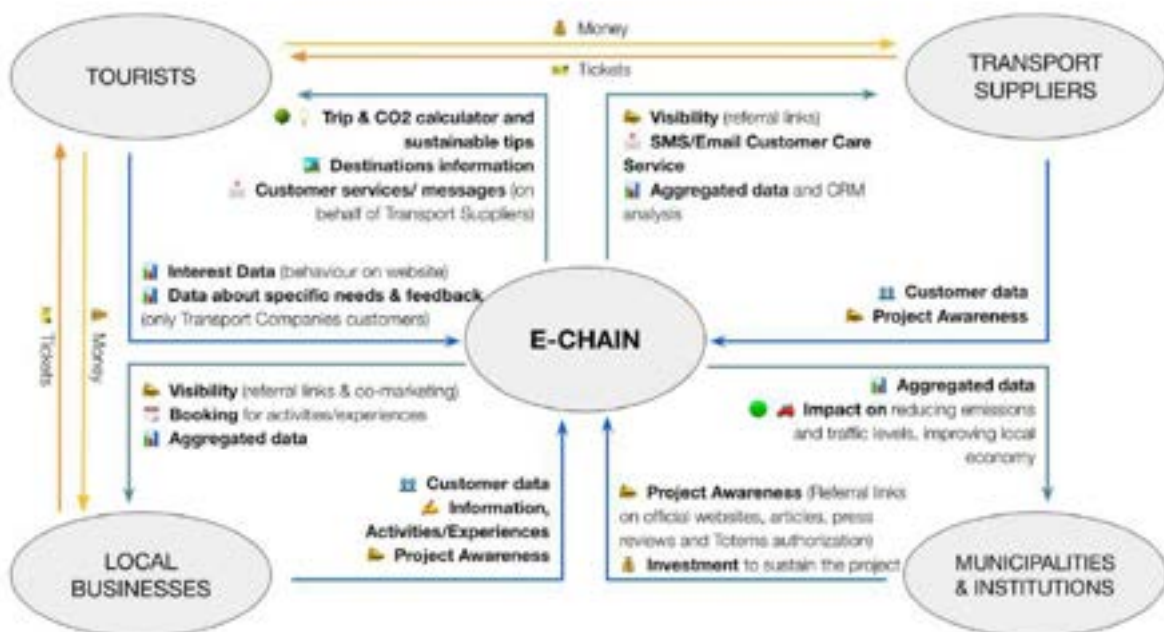
Figure 95 - Representation of value flow between the stakeholders

In fact, the E-CHAIN goal is to intercept the Tourists interested in going to Croatia from Italy and to Italy from Croatia, helping them to:

- discover the best Transport Suppliers, promoting them the choice of more sustainable means of transportation thanks to a Trip Calculator that has also a CO2 emissions calculator;
- reduce their environmental impact and improve their experiences through useful destinations information;
- better discover the Local Businesses and book activities and experiences before arriving at their destinations, or while they are waiting for ferries, buses, trains, etc.;
- improve their travel experience, by allowing the Transport Suppliers to send SMS and emails tailored to their needs.

In exchange for all these services, the tourists are going to generate useful data about their trips, such as their routes, interests, special needs, etc. that would be very useful to the other Stakeholders. In fact, the data collected by the platform will be analysed, aggregated and shared to the Transport companies, the Local Activities and even the Authorities and Municipalities, who need to have a better understanding of the tourists flows in their areas improving the traffic management and the quality of life of their cities.

The Local Stakeholders, by the way, in exchange from the increased visibility and the data gained through E-CHAIN, are going to be actively involved in the project, updating their information in the platform and creating awareness about the project through their marketing channels.

Therefore, the overall objective of the E-CHAIN platform is to help to "live the Adriatic maritime transport sustainably", improving both environmental and economic sustainability for all the parties involved.

To verify the real value created by E-CHAIN, some Impact Metrics have been identified and are going to be measured to understand the overall real improvement for the environment and the local economies thanks to the E-CHAIN intervention.

Under these conditions, the project shows a high potential for the parties involved to create value in a long-time perspective, in the areas of interest and beyond. In fact, the concept of the platform has been developed to be easily scalable to other areas that could benefit from it as well in the future, by joining the project.

Since the project aims to create value for the territory, its local businesses and the environment, it has been first financed by the European Union through the 2014-2020 Interreg V-A Italy - Croatia CBC Programme. This funding covers the development of the project and its first validation phase, called from now on the PILOT Phase.

This document has the goal to delineate the Business Model of the project, better defining how it creates value for all the Stakeholders, how it plans to maintain the relationship with them and how much investments it would need to keep the project ongoing in the future after the PILOT Phase.

In fact, thinking about the possible future developments, **the E-CHAIN project has been structured to be kept operative at very low costs** (that we are going to estimate in the last part of this document) and to be managed directly by the local stakeholders, such as the Municipalities and the Authorities involved (for instance, the Municipality of Ancona and the Municipality of Split, etc.). All these costs could then be covered directly by Public Funding, that could be from the Municipalities or by other Public funds that would ensure the continuity of the project.

An alternative scenario that could also be evaluated is that the economic value created for the local companies could be partly reinvested in the E-CHAIN platform, setting up a Subscription Fee or a Purchase Fee revenue model in which the local stakeholders pay a small amount out of the profit gained thanks to E-CHAIN, to enable the continuity of the project in the absence of public funding.

In this case, the value flows will be like in Figure 96.
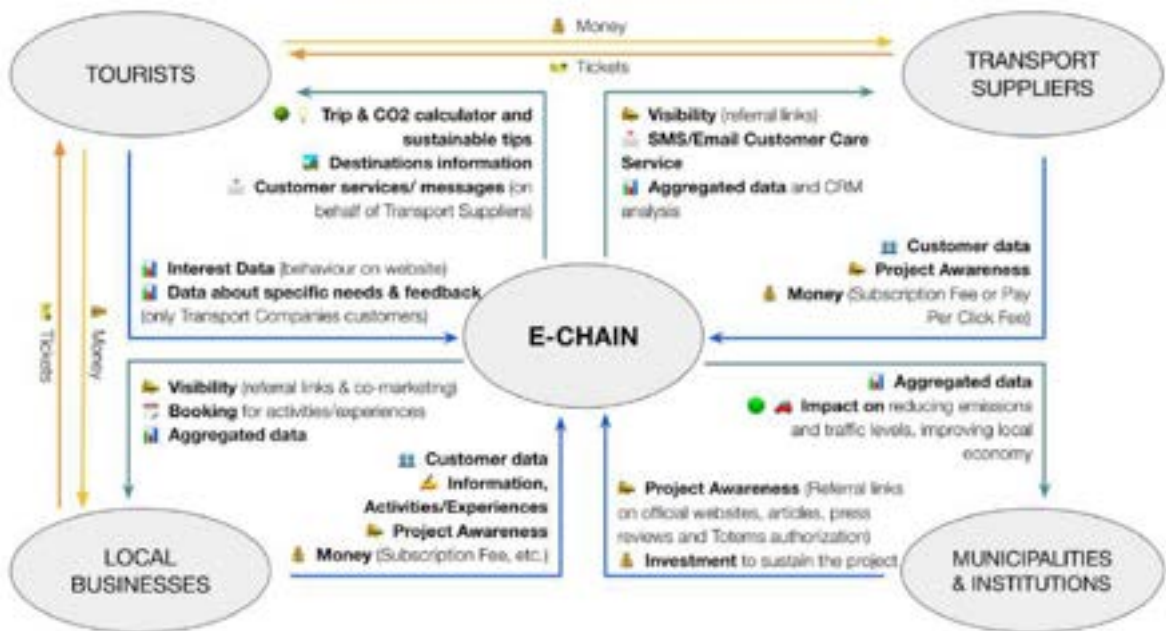
Figure 96 - Representation of value flow between the stakeholders in the absence of Public fundings

All the elements of the E-CHAIN project will be explained in the following chapters thanks to the Business Model Canvas framework.

3.1. Business Model Introduction

To better describe how the whole project would operate and create value, it is necessary to define a Business Model.

A Business Model is a high-level plan for profitably operating a business/project in a specific marketplace. The term "business model" refers to a plan for making a profit or in case of a not-profit project, the plan to be sustainable, creating value in exchange for the costs. It then identifies the products or services the business/project plans to offer, its target market, and any anticipated expenses (Osterwalder, Pigneurr, 2010).

The Business Model of the E-CHAIN project is the plan that defines how it creates value for all the stakeholders involved, through relationships, channels and activities. Then, it defines **how the project can be sustainable after the first PILOT Phase,** generating value over time and requiring costs that can be covered.

The best way to represent a Business Model is the Business Model Canvas (BMC), a strategic management tool to quickly and easily define and communicate a business idea or concept; in particular, we are going to use the version for not for profit projects (Figure 97).

Figure 97 - Example of empty Business Model Canvas

The Business Model Canvas is a one page document which works through the fundamental elements of a project, structuring an idea in a coherent way through 9 key elements. It is used to quickly draw a picture of what the project entails. It allows anyone to get an understanding of the project quickly and to go through the process of making connections between its parts.

In particular, the right side of the BMC focuses on the stakeholders (external), while the left side of the canvas focuses on the project (internal). Both external and internal factors meet around the value proposition, which is the exchange of value between your project and your beneficiaries/stakeholders. Then, the value of the Impact Metrics should overcome the Costs necessary to gain them.

In the next chapter the Business Model for E-CHAIN will be proposed, detailing the project in each area of the Canvas and stating all the "key questions" that need to be validated in the Business Model Validation phase.

The proposed Business Model Canvas for E-CHAIN is then shown in Figure 98, which is going to be better described in the next pages.
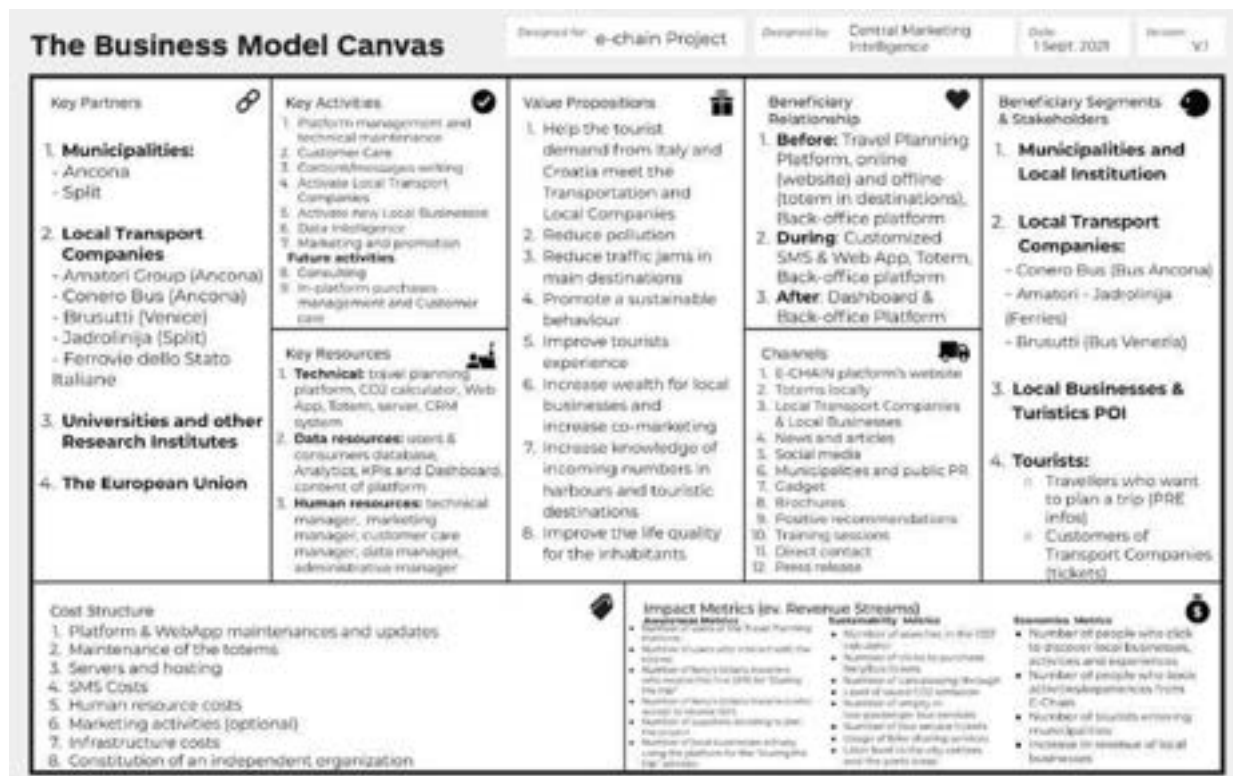
Figure 98 - Business Model Canvas for E-CHAIN

In the absence of Public funds, an alternative business model would need a Revenue Model and is proposed as represented in Figure 99.
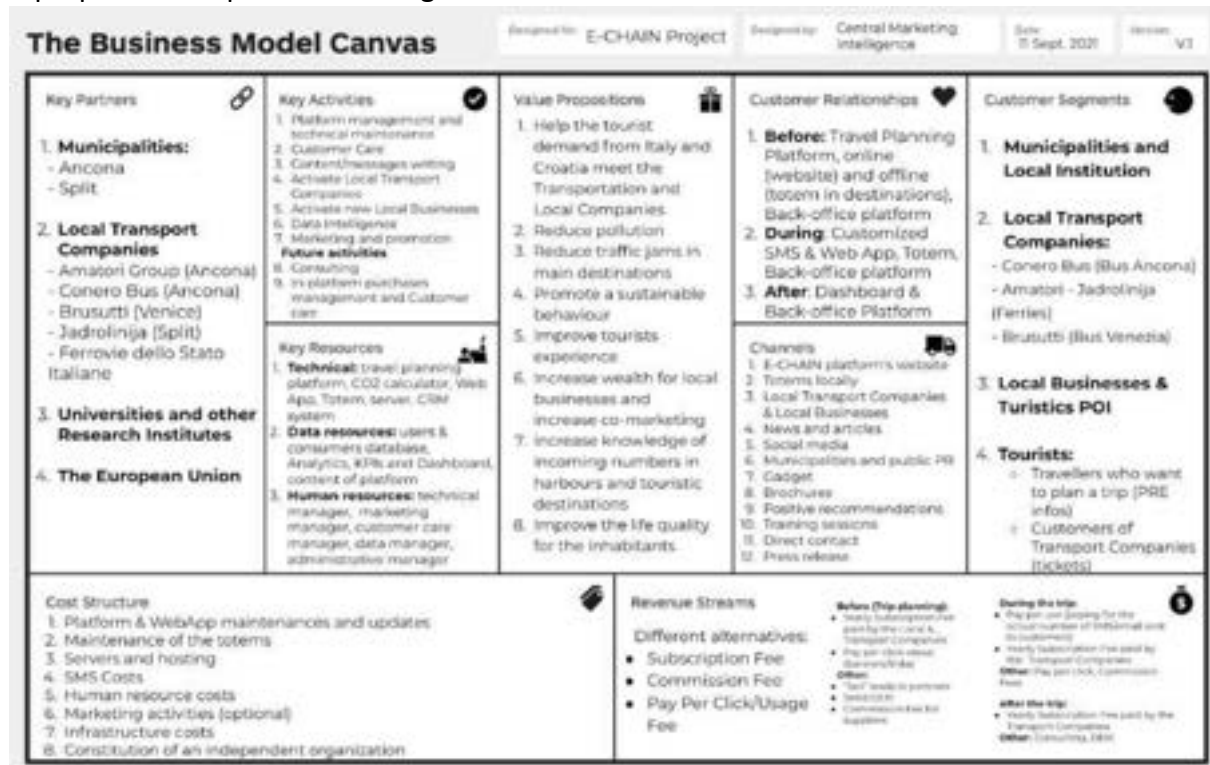
Figure 99 - Business Model Canvas for E-CHAIN in the absence of Public funding

3.2. Beneficiary Segments/Stakeholder & Value Proposition for each of the

Beneficiary/Stakeholders Segmentation is the practice of dividing a customer base into groups of stakeholders that are similar in specific ways, such as types of people/companies, interest, and other characteristics.

The E-CHAIN project has several types of stakeholders for whom it intends to create value, that could be divided into four categories that have different characteristics and needs.

Then, the Value Proposition is the basis of any business/product. It is the fundamental concept of the exchange of value between the project/business and its stakeholders. Generally, value is exchanged from a customer for money or other assets when a problem is solved or a goal is achieved for them by your business.

Specifically, the E-CHAIN platform has as its primary Value Proposition to improve connectivity between Croatia and Italy, through the promotion of an intermodal transport network in port

areas for passenger transport in order to enhance the efficiency, quality, safety and environmental sustainability of maritime and coastal transport services.

Then, for each Stakeholder the Value Proposition could be delineated in a specific way, to help solve their problems and gain their goals.

Before presenting the different stakeholders and the Value Proposition to each of them, it is first necessary to explain the structure of the E-CHAIN project. The modular platform is going to be built in three "phases":

- **Before the trip:** conceived as a "Trip planning platform", the online E-CHAIN platform offers a Trip Calculator (integrated with the Google Maps one) that suggests to users the most sustainable means of transport from an environmental point of view, since it also calculates the level of CO_2 emissions of the route. It then proposes information about the destinations and the possibility to book experiences and other activities from the Local Businesses in the area.

- **During the trip**: the Transport Companies would have the possibility to use the E-CHAIN back-office platform to send to their clients SMS and emails regarding their trips, creating an editorial calendar with messages automatically sent after booking, the day before departure and the day of the trip. This "CRM (Customer Relationship Management) service" would help improve transport efficiency, reduce environmental impact and enhance co-marketing opportunities, since all the travellers would know about E-CHAIN and could discover the activities and experiences offered by the Local Businesses at their destination.

- **After the trip**: all the collected data will be analysed and visualized through a Data Dashboard available to the stakeholders.

As seen, the value proposition offered by the E-CHAIN platform includes several services to satisfy different user needs. Therefore, it is possible to classify the various benefits according to the different stakeholders involved in the project.

3.2.1. Municipalities, Authorities and Local Communities

3.2.1.1. Problems and Goals

Among the main stakeholders of the E-CHAIN project there are certainly the **Municipalities and in general the Communities** of the areas involved in the project, that is Italy and Croatia.

These actors have several problems to solve:

- First, the need to **reduce the pollution** due to the tourists transit in their area. In fact, the tourists are currently passing through their cities with their cars and caravans to take ferries and other transport means, causing high CO_2 emissions, without contributing to the local economy as they do not stay in the area in the local accommodation, restaurants, shops, etc. In many cases, travellers also wait to board the

ferry by standing in the queue in front of the pier for several hours with their cars on, thus increasing emission levels.

- Another point is to **reduce traffic pressure**. For example, in Ancona, each summer there are long queues of traffic in the area between the highway and the port, due to frequent delays of the ships. In fact, the traffic in these key areas of the city causes a lot of inconvenience to the inhabitants and people who transit there for other reasons.

- In addition, they have **difficulty in knowing exactly how many tourists are passing** through during the year and do not have any visibility on tourist peaks, so they cannot organize the local traffic, public buses courses, activities, manifestations, etc. accordingly.

Therefore, the Municipalities and Local Communities in the area involved in the project have several objectives, including:

- **Improve the Local Economy due to tourists flows**: certainly one of the most important objectives for the municipalities involved is to increase the local economy, of the whole community but above all of the local activities present near the ports of departure and arrival.

To do so, Municipalities need to attract tourists to stay in their areas for longer periods of time, and use their time to perform activities in the area, buy at the local shops, explore, visit places and walk in the streets near the ports while waiting for their departure, since most of them usually arrive hours in advance.

- **Become more attractive to tourists**: According to the previous objective, another key point for Municipalities is to become attractive locations for an increasing number of tourists. In fact, in these cities most people pass through in order to reach other places without considering that they are cities with great cultural value. It is therefore necessary for Municipalities to increase tourists' knowledge about these areas, to be considered as places to stay and not just transit while waiting for the ferry to leave. One way to become more attractive is to promote interesting activities, festivals and events for travellers. It is also important for Municipalities to provide a synergy between transport services and the organized events in order to ensure a better service for travellers.

- **Improve the life quality of their inhabitants**: reducing the level of CO_2 emissions caused by long queues of traffic waiting to board the ferry would certainly provide great benefits for the whole community in terms of environmental impact. At the same time, traffic management would also significantly reduce smog and noise for the inhabitants of the involved areas.

3.2.1.2. E-CHAIN Value proposition for Municipalities and Institutions

To help the Municipalities solve their problems and reach their goals, E-CHAIN proposes the following Value Propositions:

- **Help in reducing pollution in the Local Areas**: one of the most important Value Propositions to Local Communities is to reduce CO_2 emissions generated by transfers from Italy to Croatia and vice versa, by promoting more sustainable intermodal transport modes. To this end, the platform will suggest travellers to choose more sustainable means of transport thanks to the CO_2 calculator, calculating the estimated emissions from the point of departure to the destination, considering the route both by car and by a sustainable alternative mode of transport.
- **Help in reducing unnecessary traffic in cities.** E-CHAIN both through its Trip Planning Platform and the CRM Service is going to help car drivers move in a smarter way, immediately finding parking spaces and terminal ferries and avoiding traffic jams or possible obstacles during the trip, thanks to the calculation of alternative routes.

In this way, the municipalities involved in the project will reduce the environmental impact caused by the CO_2 emissions of cars and caravans of individual passengers transiting through the areas, and at the same time the environmentally conscious passengers will be able to choose less polluting means of transport by seeing on the platform the level of emissions according to the vehicle used.

- **Providing data on the number of tourists who really transit:** Municipalities also need to obtain detailed information about the flows of passengers and tourists that really transits in the destinations, because through these data they can better organize traffic, possible events and exhibitions and manage the flows of travellers thus reducing the environmental impact and possible difficulties.
- **Improve the life quality for the inhabitants of the involved areas:** The three points just described can be combined into a single value proposition, which is to contribute to improving the life of the entire community. In fact, the proposed actions would make the areas involved much more liveable for residents and all the inhabitants. Traffic management, the use of alternative routes to avoid long queues, the promotion of sustainable transport and the restriction of car use would provide important benefits to the community in terms of improved air quality, reduced traffic noise and more viable roads.
- **Increasing the local economy**: The E-CHAIN platform, in fact, offers the possibility to use a messaging service to suggest to travellers passing through the municipalities involved activities to do on the site, places to visit and attractions that the areas offer. In this way, travellers can optimize their waiting time for boarding and help the local economy,

for example by going on excursions or visiting museums, thanks to the tips supplied to them via SMS.

3.2.2. Transport companies

Local transport companies in the areas offering transport services from Ancona to Split and vice versa (from now on, called "Transport Suppliers") will be involved in the project. This category also includes bus services that accompany passengers to the port of departure and any other transport company that would join the project actively.

3.2.2.1. Problems and Goals

In the same way as Municipalities and Local Communities, local transport companies also have difficulties and needs:

- **Difficulty in providing customer care service to travellers.** Most of them do not have any system to inform their customers about the trip's details, not to update them in real time about what is happening before their departure, for example delays, transport breakdowns, traffic, etc. So they would need help in better informing their clients to improve their experience and ensure that they are able to arrive on time without any problem.
- **Decrease of travellers by ferry/bus in favour of cars.** So they need to better promote their benefits, to convince people to travel by ferries and buses and not only by their personal cars, showing the advantages of using other more sustainable transport means.
- **Lack of aggregated flow data and analyses** on their own customers data that are stored in their CRMs (the Customer Relationship Management software), in order to be able to make strategic evaluations and better define their budget. In fact, most of the time the data in the CRMs are very valuable if analyzed at an aggregated level, since they enable to discover patterns that are not visible looking at the single customer's details.

3.2.2.2. E-CHAIN Value proposition for Transport companies

To satisfy the needs of local transport companies, the E-CHAIN Value Proposition is declinated in three ways:

- **Help with Customer Service to improve their clients' experience**: the E-CHAIN platform will allow the stakeholder to shift from a pull system based on call center services, to a push system, able to provide the end user with detailed information on their journey automatically. In fact, the system will automatically provide information to passengers about activities to be taken on location, sustainable tips and notifications in case of delays or emergencies. This will also decrease the pressure on the Call Center of the

Transport Companies, which is currently burdened by telephone calls of travellers who cannot find the port address, who do not know where to park or who are angry for the delay of the ferry/bus. Through the E-CHAIN CRM Service, the Transport Companies will be able to automatically send all the messages to their clients, reducing the need for calling the Customer Care number.

- **Increase visibility and promotion,** thanks to the Trip Calculator that is going to propose ferries, buses and trains as more sustainable alternatives to reach the destination.
- **Increase knowledge of their client's needs:** E-CHAIN would offer a very detailed Data Dashboard with in-depth information about their own clients such as peak days, type of car/caravan, family composition, special needs and disabilities, etc. Therefore, through this data, the companies will be able to improve their transport services according to the number of passengers in transit and implement offers according to their real needs.

Besides, for transport companies and local products that intend to join the project, the platform offers the opportunity to receive precise updates about the passengers travelling through the area in order to make certain services even more efficient. For example, for local Public transport companies, the platform will be able to provide data about passenger flows in order to better organize bus runs according to passenger numbers and needs. This will therefore significantly reduce the costs and environmental impact of local buses that travel empty.

3.2.3. Local Businesses and Turistics POI (Point Of Interest)

The E-CHAIN platform aims to include as stakeholders also all Local Companies, as well as turistics POI (Point of Interest) in the areas where the project is going to operate, such as Ancona - Venice and Split for the PILOT Phase (from now on, called "Local Businesses Suppliers").

3.2.3.1. Problems and Goals

In general, local businesses presents several difficulties:

- Most of them are currently **unable to intercept tourists** who are only passing through the port areas to take a ferry or a bus.
- Moreover, these activities, such as restaurants, museums, bars and shops **have difficulties to promote their own initiatives** and could be therefore interested to join the project in order to increase their visibility and to attract new tourists.

In details, these businesses could be divided into several groups, with specific needs for each segment:

- **Hotels & Apartments**: since the platform is going to allow local companies to be present and promote their offers, hotels and accommodations might be interested in joining the

project because they need to increase their visibility and make them known directly to those booking transport.

- **Events:** the organisers need to be able to reach a wider audience of interested people and promote their events, involving also the travellers who are going to pass through the port/coastal areas to take ferries and buses.
- **Museum/exhibitions:** all these local POIs and associations need to gain more visibility, so they need to reach travellers passing through their destination and waiting for ferries or buses to leave.
- **Restaurants:** in the same way, local restaurants located in the proximity of the ferry departure points might need to promote their offers and increase their visibility, since most of the time the tourists are just passing through without stopping to have lunch/dinner.
- **Souvenirs:** tourists travelling through the project sites might be interested to buy souvenirs and local products, therefore shops and activities offering such products are to be considered as stakeholders in the E-CHAIN platform. In fact, shops selling typical products and souvenirs need to attract more customers, so through synergy with local transport companies they would be able to reach also those passengers travelling to a specific destination.

3.2.3.2. E-CHAIN Value proposition for Local Businesses and Touristics POI

For these stakeholders, the E-CHAIN project has the strong Value Proposition to help **increase wealth and improve the economic impact of passing tourism.**

In fact, by suggesting that passengers spend their time in the proximity of the port/coastal areas while waiting for their departure, the platform will be able to help local businesses gain more visibility. Through a strong synergy with the Transport Companies, the tourists with tickets for ferries/buses/trains are going to be advised of the E-CHAIN project and invited to discover more about the locations they are going to visit.

Then, all the Local Businesses are going to be visible inside the E-CHAIN platform (thanks to a bulk data import from Google My Business), with the possibility to enrich their profile and propose activities and experiences to book directly from the platform (travellers can book the activity and pay for it directly on the site).

This way, even the businesses who do not know about the project would have a possibility to improve their visibility, while the more active ones would gain a new marketing channel.

3.2.4. Tourists travelling from/to Italy and Croatia

The E-CHAIN platform aims to help users interested in travelling to Italy or Croatia, specifically Ancona and Split, who could need help in planning their trip. In particular, tourists who are

particularly sensitive to environmental questions and want to make their trip sustainable could be in need of more information.

3.2.4.1. Problems and Goals

To better define their need, it is necessary to make an important distinction, as two different categories of tourists can be identified:

- **Travellers:** are all those tourists who have an interest in planning their own trip and to be informed about which means of transport is best suited to their needs.

From the Market Analysis (Vidulli et al., 2021), we have already discovered that there are more tourists in Italy interested in travelling to Croatia than vice versa. Then, they are aware of the locations and less of how to travel to the other country, so they are looking online for information on ferries and itineraries (as could be seen in the Analysis of Requirements (Vidulli et al., 2021)) or routes to reach them.

Then, among travellers there are also those tourists who are particularly sensitive to the environmental sustainability aspect; these users are a small niche, who are interested in their Carbon Footprint and in the level of CO_2 emissions. They are attentive to their environmental impact, therefore, they need more information and tools to help them be more sustainable.

- **Customers**: a subset of the Travellers, they are all the users who complete their travel planning by purchasing transport tickets from Transport Suppliers who joined the E-CHAIN project. They have some problems related on the lack of follow-up after booking:
    a. difficulty in knowing where exactly the ferry leaves from,
    b. difficulty in knowing where to park when they arrive or which bus/train to take if they arrive by train;
    c. need to be alerted in case of delays, etc.
    d. need to be alerted in case of traffic jams and to know alternative routes;
    e. need to know what to do in the nearby area in case of their ferry's delay.

Therefore, to meet these needs the E-CHAIN platform will be the missing link between all the stakeholders, offering help and information to the tourists, increasing the business opportunities of the Transport and Local Businesses and exploit all the generated data to improve the visibility on the tourists flows.

3.2.4.2. E-CHAIN Value proposition for Tourists

The E-CHAIN Value Proposition for these categories of stakeholders concerns the promotion of virtuous actions towards the environment and the possibility to be "guided" to the discovery of the locations chosen for the trip. In particular:

- **Help in planning their trip from the origin to the destination.** In fact, people planning a trip will be able to read useful tips, information and the possibility to directly book experiences and activities in the destinations, both in Italy and in Croatia, while most platforms offer information on one country at a time;
- **Help in travelling "hassle-free".** The customers who purchase a ticket for a ferry/bus and then accept to receive messages from the E-CHAIN service are going to receive useful SMSs and emails to reduce the time wasted looking for a parking or for the ferry's terminal and to enjoy their staying at the chosen destination. In fact, the activities that can be booked will be suggested according to the waiting time and time to reach the place, so that travellers can organise their time without the risk of missing the ferry.
- **Help in being more environmentally sustainable,** by suggesting alternative routes, means of transport and actions to be taken which respect the environment and the locations visited. In this way, travellers will feel particularly environmentally conscious as they will personally contribute not only to environmental protection, but also to support local businesses, participate in ecological activities or enjoy the local culture.

3.2.5. Questions to validate during the PILOT project

To confirm the needs of all the stakeholders it is necessary to verify the following hypotheses:

- Do tourists need help in being more environmentally sustainable? Are they really going to use the Trip & CO2 Calculator to find the routes instead of other maps apps?
- Do tourists who purchase a transport ticket need more information that is not already provided by their suppliers?
- Do Local Businesses and Transport Companies need help in reaching more tourists and therefore are they interested in increasing their ability to intercept users?
- Is sustainability a key driving factor for both travellers and Partners to join the project?

Then, to check if the project is really able to provide the proposed value, the questions to validate would be:

- Using the CO2 calculator will really help changing travel behaviour? Are users really going to the Transport Companies' website to book a ferry/bus, or do they still travel by car?
- Do the Transport Companies really want to upload in the platform their customers' data to send them travel messages and co-marketing promotions?

- Are the recommendations of sustainable behaviour really applicable to the sites involved in the platform? Can they really improve the experience of consumers and host sites?
- Are ferry's customers going to give consent to receive SMS and emails from E-CHAIN, in particular for marketing purposes?

3.3. Relationships with the Beneficiary & Stakeholders

Customer Relationships is defined as how a business/project interacts with its customers. Therefore, having defined the Value Proposition and identified the needs of the Customer Segments/Stakeholders, it is necessary to ask how the E-CHAIN platform is going to maintain the relationship with those subjects.

Therefore, Figure 100 represents the different ways of relationship with the various stakeholders involved in the E-CHAIN project.
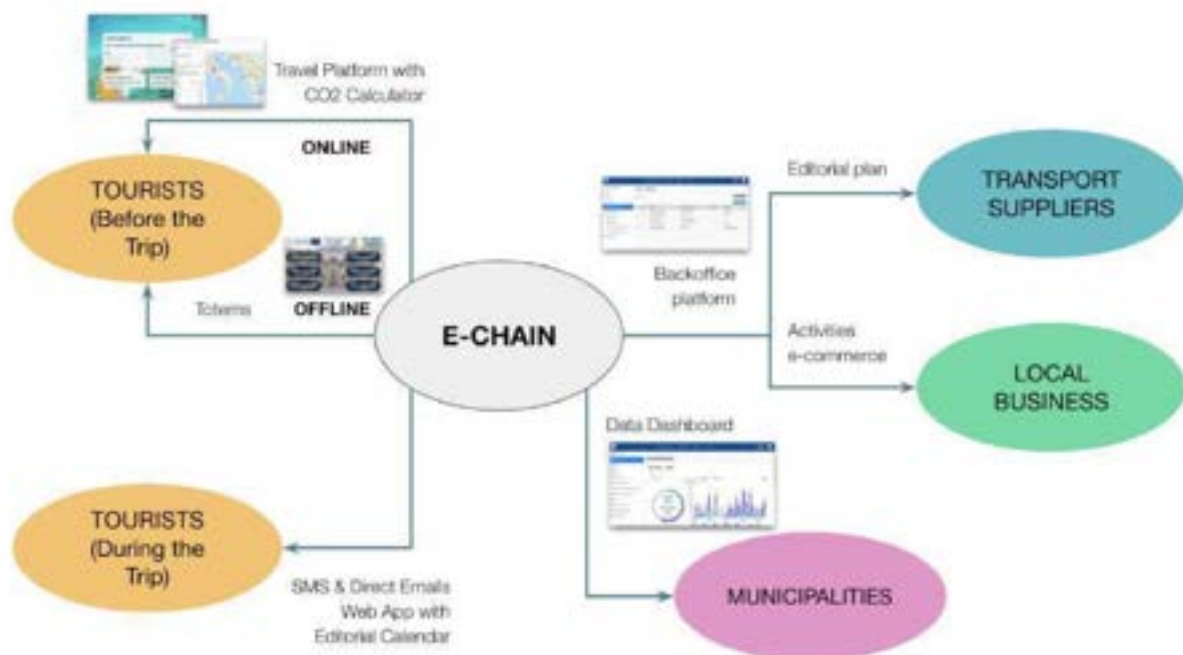
Figure 100 - Schema of Customer Relationships

For the travellers, the E-CHAIN platform offers the opportunity to interact at different steps of the trip. In fact, the platform provides a different plan of interaction with people who want to plan a trip or who already bought a ferry's ticket, divided into 2 levels:

- **Before the trip**: this phase involves a dual mode of interaction, offering an online and an offline trip planning service:
  - ○ **online**: the relationship is kept through the Trip planning platform, with the CO_2 calculator. Users can navigate the website and select their point of departure and destination in order to view the different information related to the trip, such as distance, means of transport, timetables, etc.
  - ○ **offline**: in order to enable offline travel planning, the project includes the installation of Totems in the various sites involved in the project. Through the totems, users will be able to plan their trip in the same way as online and view all the useful information, such as experiences and activities to do in the site. Specifically, the Totems will be installed in Ancona and Split, and through an interactive interface the tourists will be able to directly access some features of the E-CHAIN platform, browsing the information and booking tickets for experiences and activities.
- **During the trip**: for users who complete their trip planning by purchasing tickets from the Transport Suppliers, the platform provides an intermediate interaction level where direct communication with the customer is possible. In fact, the E-CHAIN platform enables the Transport Suppliers to follow their passengers during their journey by sending personalized messages (SMSs and emails) based on categories (to users who have agreed to the treatment of their personal data for the purpose of this service), including basic information on any delays, date and time of departure, sustainable behaviour and useful suggestions.

    In addition, these messages will send links to a **WebApp service** where the travellers could also access additional information regarding their trip, such as activities, attractions of the destination (museums, exhibitions, parks) and food and wine experiences, etc.

The E-CHAIN Trip Planning Platform, the Totems and the Web App, beyond being means to maintain the relationship with the tourists, are also going to collect all the anonymized data from their navigation and interactions (tracking their visits' flow, engagement, clicks, etc), to better understand their needs, interests and trip flows.

Moreover, for the ticket's customers who accept to receive SMS and emails from the E-CHAIN CRM service, it would be possible to collect even more data about needs, type of car/caravan, special needs/disabilities, etc.

For the Local stakeholders, such as Transport Suppliers and Local Businesses Supplier, the relationship is kept through the Back-office platform (Image 4), where they can login and add

their information, add the Experiences and visualize the Data Dashboards. They need to keep all their data constantly updated, to ensure that the information inside the platform is reliable.

In fact, all activities, including shops, museums, hotels, restaurants etc. are automatically uploaded to the E-CHAIN platform from Google My Business data. Then, the businesses who would want to take part in the project will be able to register on the E-CHAIN platform, log in with an OTP code and update the data already automatically uploaded, so as to be present more actively both on the platform and on the totems installed in the locations. In this way, users will be able to view all their updated information and book what they offer.

In addition, in the BackOffice platform the Transport Companies would be able to upload their customers data and edit the Editorial calendar of the messages to automatically send to them.

For the Municipalities, then, the relationship could be kept through the Data Dashboard or some periodic Reports with the data collected during the previous period. Through access to their Dashboards, in fact, the Authorities would be able to receive constant updates on the incoming flows and to find insight.

3.3.1. Questions to validate during the PILOT project

- Are users interested in reading environmental information online and to purchase activities/experiences from it (or do they prefer more "traditional" platforms such as AirBNB Experiences)?
- Are tourists interested in using the Totems and to purchase activities/experiences from them?
- Do the tourists accept to receive messages from the E-CHAIN service, and does this help them improve their travel experience?
- Are the Transport Suppliers and Local Businesses available to login in the Back Office Platform to add their data and to keep them updated?
- To read the Data, are the Municipalities and other stakeholders interested in entering a Dashboard or just to receive PDF reports?

3.4. Channels

Channels are defined as the ways in which users/customers come into contact with the business/project and become part of the sales cycle. Understanding how to reach the users is crucial to any project, and it is generally covered under the marketing plan (that is not an object of this document).

In order to identify the channels to be used to reach customers, it is necessary to define how to communicate the value proposition to the identified customer segment.

To reach the Travellers in the phase before the trip, such as tourists interested in planning trips from Italy to Croatia and vice versa, the channels are:

- **E-CHAIN Platform's Website.** In fact, through the website it is possible to intercept the active demand of interested users, especially if there is a good SEO (Search Engine Optimization, the optimization of titles and texts of a page to be better read by Google and other search engines) indexing so as to be present in the first positions of Google results for the various themes and services offered.
- **Totems**: another channel included in the project is the installation of some totems at the sites involved in the project. Thanks to the installation of this channel, passengers who transit and who are not aware of E-CHAIN, could discover the project, become interested, navigate, etc.
- **Local Transport and Local Business Suppliers:** these partners can be considered as a channel of communication as more customers can be reached through them. In fact, through their websites they are going to explain what E-CHAIN offers and to attract all those customers who are interested in environmental sustainability and in the ecological impact of their trip.
- **Articles via Official Press Release**: one way to reach more users is to promote the E-CHAIN platform and its services by publishing a press release to obtain articles and news about it. An interesting opportunity would be to reach interested travellers through articles in various media, such as local newspapers, focusing on the platform's functions and services in terms of environmental sustainability
- **News on social media by Municipalities, Institutions and Partners (refer to the marketing plan):** the Municipalities involved in the project, but also all local and transport companies could publish posts and articles as news on their social pages in order to increase the visibility of the platform to a wider audience.
- **E-CHAIN Social media accounts (refer to the marketing plan):** such as Facebook, where interested users can be informed about the progress of the E-CHAIN Platform. In addition, through social media pages it is possible to publish information and news about the services offered and thus achieve a higher level of visibility.
- **Gadgets:** to be distributed to users using the totems at various strategic points, to passengers during the ferry trip or on arrival, maybe together with a brochure/information material, or inside the shops/local activities involved.
- **Brochures/posters and signage:** other ways to increase the visibility and awareness of the platform among users include visual material. For example, brochures and posters can be distributed to passengers on the ferries in order to make them aware of the various services offered, such as totems in the ports in the cities involved. A further proposal could be to place posters and signs in the various ports of departure and landing or at strategic points in the cities involved, also simply with indications about the location of the various totems.

- **Positive recommendations** among users who have already used the service and among partners, who may not have joined the project but know E-CHAIN and its services.

Then, to involve more Transport Companies, Local Businesses and Municipalities, the channels are:

- **Training session**: In order to make partners and users aware of the themes on which the E-CHAIN platform is based, training sessions are offered as a valuable channel to expand the audience interested in the platform.
- **Direct Contact**, via email or telephone, to directly speak with potential partners, offering a demo and explaining the project.
- **Posters and brochures** to be delivered to tourist agencies, restaurants and local businesses in order to make them aware of the project.
- **Articles** published in local newspapers and **press releases** released by Municipalities and Institutions

3.4.1. Questions to validate

- The channels need to be better validated through the Marketing Plan after the PILOT phase.
- After defining the Travel Platform's content, it's necessary to understand the SEO goals and the visibility that is possible to gain thanks to the organic positioning and to plan the platform's content accordingly.
- After talking to the different partners and local newspapers, it's necessary to validate their willingness to promote the E-CHAIN project also without a marketing budget.

3.5 Key Activities

The Key Activities of one's business/project are all those actions that the business takes to achieve the value proposition for its customers/users.

Defining the key activities is necessary to identify which Resources to employ, considering time, skills, product deployments, strategies and all those actions that the E-CHAIN project needs to realize the value exchange after the PILOT Phase.

In the first phase of the development of the project, the most important activities are of course the Platform development, the user experience definition, the first tests with users and stakeholders who start interacting with the Platform and the Backoffice, the validation of the hypothesis, etc.

Then, after the validation of the project and the end of the PILOT Phase, to keep creating value over time for all the stakeholders there will be the need to perform several key activities:

- **Platform management and technical maintenance.** The platform will need technical support to deal with software updates, bugs, new features, etc. Therefore there should be someone in charge of the management of everything concerning the platform, who will be in contact with the technical development team, which would probably be outsourced to the original team that created the platform.
- **Customer care**: Customer service is the activity of taking care of all the users who will interact with the platform, both as tourists and as businesses/transport companies. In fact they are going to need help in using the service, logging in, understanding how to use the platform, receiving help in filling in their information, etc..
- **Content/messages writing**. Then, also help Transport Suppliers in writing the editorial plan of messages with the aim of making them useful for the user and keeping them constantly updated would be an important activity. In the PILOT Phase of the platform, working closely with the partners involved the goal would be to define an optimized SMS/emails funnel to be used also by other partners in the future. By the way, according to the Suppliers specific needs, they would need help also in the future to improve their communication funnels.
- **"Activate" Local Transport Companies**: local transport companies are uploaded to the platform by default using the Google Maps integration, anyway to really exploit the opportunities of E-CHAIN, the Transport Suppliers should actively add their information and update their data. Therefore, a key activity after the PILOT phase would be to push the transport companies to participate in the project by inviting them to register on the platform and update their data. In addition, by joining the project, transport companies would also have the possibility to use the messaging service to reach their customers, so it would be necessary to explain the opportunity and teach them how to do it.
- **"Activate" new Local Businesses**: In the PILOT phase, all the businesses present in the areas involved in the project, such as shops and businesses offering typical food products and souvenirs, will be automatically included in the platform thanks to the connection with Google My Business. Then, it will be necessary to contact all the local businesses to invite them to join the platform actively, updating their data and choosing the activities/experiences to be booked by tourists.
- **Data Intelligence:** The platform aims to offer a data intelligence service related to tourism and more specifically to travel flows from Italy to Croatia and vice versa. Therefore, another key activity would be to analyze the data obtained from the platform usage, to check if the KPIs are useful, to measure the Impact Metrics that validate the project goals, to improve the dashboards generated from all these data and to create final Reports to show the outcomes.

- **Marketing and promotion:** to reach as many users as possible, another activity would be promoting the project actively through the possible online and offline channels. These activities should be better detailed in the marketing plan (that is not an object of this document) according to the persons in charge and the budget available.

3.5.1. Future development opportunities: other activities

In the following stages of the E-CHAIN platform, the project could evolve by offering complimentary services to those already present in the PILOT version, in order to increase the value offered by the platform to all the stakeholders involved.

Specifically, some other activities could be considered as future opportunities:

- **Consulting:** One of the objectives of the E-CHAIN platform is to help the partners of the project to increase their visibility and attract new customers. Therefore, by having the possibility to interact with local companies, the E-CHAIN team could offer them support in introducing their services to travellers and better promote themselves. Moreover, it would be possible to offer consulting services to help the transport companies better set up and customize their overall customer care service.
- **In-platform Purchases Management and Customer care:** a future development of the project could include the introduction of a ticketing system, to complete the purchase of tickets for transport routes and activities/experiences inside the E-CHAIN platform. Therefore, another activity would be supporting the customers in their purchases, solving any possible issue, answering questions and providing support to the Transport and Local Businesses Suppliers in connecting their accounts to receive their payments and issue the tickets correctly.

3.5.2. Questions to validate

- Who is going to manage the platform and the whole project after the PILOT phase and therefore undertake the Key Activities?
- How difficult is it to involve new partners, Local Businesses and Transport Companies? Are they willing to invest time to fill in their data and really use the platform?
- How much time does it take to maintain and update the platform technically?
- How much time does it take to maintain and update the content so that it is always consistent, updated and useful? Are the partners really going to upload their content or the E-CHAIN Team is going to invest time and resources to do it?
- How much effort is the Customer Care for the in-platform purchases going to require to help the different users to take advantage of it?

3.6. Key Resources

Then, the next step is to think about what practical resources are needed to realize the key activities (actions) of the project?

Key resources are all those assets that the project requires to properly work. These resources are what is needed practically to undertake the action/activities of the business: Office space, Computers, Hosting, People (staff), Internet connection, etc.

After the PILOT Phase, all the following resources would be available as a result of the first implementation phase of the project, ensuring the continuity of the project:

- **Technical Resources**:
  - **Travel Planning Platform:** the site where users can plan their trip by entering their departure and arrival point.
  - **CO2 Calculator:** the platform will provide route calculation with the most sustainable travel options, such as ferries, also calculating the level of CO2 emissions of the route.
  - **Web App:** with information on the trip and on local activities and businesses in the chosen location.
  - **Totems** to be located in the projects' areas and their software.
  - **Dedicated server** that has been purchased for the project.
  - **CRM system** to send the automatic messages to travellers.

- **Data Resources:**
  - **Content of the Travel Platform**, that means all the articles and information about the destinations and the tips that focus on sustainability in the project's areas.
  - **Transport Companies and Local Businesses data:** all the information uploaded from Google My Business and then improved by the businesses who join actively the project is going to be a very important asset.
  - **Users & Customers Database:** all the customers data uploaded by the Transport Companies would be a very important asset, which would need attention for security reasons.
  - **Analytics** on the actions performed by the users in the Travel platform, the CO2 calculator, and in the back-office platform.
  - **KPIs and Dashboards:** the algorithm computed to analyse the most important data and visualize them are going to be a very important asset to provide value and show the results obtained by the project.

Then, other Key Assets should be defined during the PILOT phase.

3.6.1. Questions to validate
- After the PILOT phase, who would be the owner of all the different Technical Resources created for the project?

3.7. Key Partners
Key Partners are a list of other external companies/suppliers/parties that might be needed to implement key activities and deliver value to the stakeholders. They are the key partners to achieve the value that the company promises to the customer.

Key partners for the E-CHAIN platform are all the partners, the Transport Companies and the Municipalities/Authorities who joined first the project and without which it would be impossible to validate the Value Proposition. In fact these partners work actively to define the scope of the project, to elaborate and test the first version of the platform and to maintain it active in the future.

In details, the Key Partner of E-CHAIN and their role are:
- **Municipalities**, which are vital to give authority to the project, to provide the office spaces, the needed infrastructure and the data about the actual environmental and traffic situation. In details, they are:
  - **Municipality in Ancona**, that is the leader of the project.
  - **Municipality of Split**, that is offering access to the Croatian part of the project.
- **Local Transport Partners,** that are the backbone of the trip planning part of the project and the CRM service. They have a fundamental role, since by working closely with them it's possible to develop the Trip calculator and then verify if the tourists are really going to purchase the tickets starting from it. Specifically, the key partners are:
  - **Amatori Group (for Ancona):** which is a leading player as an agent for all types of ships and as a customs agent for all types of cargo. In addition, as agents for the Croatian company Jadrolinija they are in charge of booking and ticketing the ferry lines that connect the ports of Ancona and Bari with Zadar, Split, Starigrad, Dubrovnik and Bar.
  - **Conero Bus (for Ancona)**: an inter-municipal mobility company that involves several municipalities in the city and province of Ancona and offers urban and extra-urban transport services
  - **Brusutti (for Venice)**: leader in passenger transport for the province of Venice. It offers numerous services including commercial transport, rentals and connections to the airport.

- o **Jadrolinija (for Split)**: a company for scheduled maritime transport of passengers and goods by ferry, connecting the islands with the land on the Croatian side of the Adriatic Sea
  - o **Ferrovie dello Stato Italiane:** the E-CHAIN platform service is offered to travellers from all over Italy and the world, therefore it also includes Ferrovie dello Stato Italiane as a partner. In fact, passengers may need train connections to reach the port of Ancona, from where they can continue their trip by ferry to Croatia. Ferrovie dello Stato Italiane has already been involved in the project, even if it's necessary to better evaluate their real involvement.
- **Universities and other Research Institutes,** which work to define the scope of the project, to create the Business Model and to validate the results after the first test phase. In particular:
  - o University of Trieste and its partners.
  - o University of Rijeka and its partners.
- **The European Union**, which funded the project from the start through the 2014-2020 Interreg V-A Italy - Croatia CBC Programme.

3.7.1. Questions to validate

In the first PILOT phase it's necessary to evaluate the interest of other partners to actively join the project, especially for Local Businesses and Travel Agencies that could be needed to promote the project and test the real effectiveness of the platform.

3.8. Cost Structures

The cost structure is defined as the monetary costs of operating the project. As for most digital startup projects, the highest amount of costs need to be invested in the first setup phase, when it's necessary to develop the so-called "beta" phase of the platform and all the tests with the users should be conducted, in order to optimize the system and launch the final version.

Since the E-CHAIN project has been funded by the European Union through the 2014-2020 Interreg V-A Italy - Croatia CBC Programme, the costs of the first development phase have already been covered, so these costs are not going to be described in this document.

Then, to ensure the sustainability of the project after the PILOT phase, it's vital to delineate all the expenses needed to maintain the E-CHAIN project on-going in the following years.

Therefore, in this chapter it's necessary to delineate the costs that the project is going to face after the end of the PILOT phase, for which it would be necessary to find new financing. **Some of these future costs, anyway, have already been financed in the first phase, so the project will benefit from those investments also in the future.** It could be said that further proceeding

with the E-CHAIN project after the PILOT phase will mean amortize these already purchased assets that otherwise will be not used anymore (in particular, servers and totems).

In detail, the cost structure could be delineated in the following four areas:

- Technical costs for the platform and the Totems
- Human resources costs
- Marketing costs
- Infrastructural and Administrative costs

For all these areas, the E-CHAIN platform has been conceived from the start to be a platform that can be easily maintained over time at minimum costs after its implementation and validation.

Moreover, if the E-CHAIN project is going to be managed by a network of Municipalities in the areas of interest for Italy and Croatia, led by the Comune of Ancona, most of the operative costs could be distributed and already covered by the parties involved (see cost details in the next paragraphs).

In the hypothesis of a project that is managed by the Municipalities, without a dedicated E-CHAIN team, all cost types will be detailed in the next paragraphs.

3.8.1. Technical costs for the platform and the Totems

After its validation, the E-CHAIN Platform and the other technical infrastructures will need maintenance. The costs breakdown is as follow:

- **Platform & Web App maintenance and updates:** maintaining the main platform, updating the code, solving bugs that could be registered by the users, adding small features to resolve problems and questions, etc. In case of the need for integration with the Transport Suppliers' systems, the maintenance will ensure that it works correctly even in the eventuality of changes from their side. These costs are usually quantified in hours/month that are necessary to ensure the correct functioning of the platform. The estimated number of hours needed are:
  - around **32 hours/month (4 full working days each month)**, that is the minimum even for a limited number of users; then it should be evaluated according to the real level of usage of the platform. The cost per hour of a development engineer could be estimated as 40€/hour, so the cost would be around 1.280€/month and 15.360€/year for the technical maintenance;
  - around **16 hours/month (2 working days/month)** for small updates and new small features to be added to solve users' questions, that is around 7.680€;
  - **other hours packages to create possible ad-hoc projects/connections** to the websites of new Transport Companies or creating other small projects that could have a forfeit cost of around 3.000€/project.

- **Costs for Users/Partners support:** partners who actively use the platform would need to ask questions, both technical and operative, while users visiting the E-CHAIN website would need assistance. Therefore, a Customer Support operator who knows the technical aspects and who is in contact with the platforms' engineers is necessary at least for 1 hour/day on weekdays, that is 24 hours/month, that is 288 hours/year. So, assuming that the operator's cost would be around 30€/hour, the total cost would be 8.640€/year.
- **Costs for SEO optimization:** adding more content in the platform, there would be the need to optimize the metadata and check the indexing of the different pages. Therefore, a SEO specialist connected with the engineers should be working at least 4 hours/month (that is half a working day); assuming the hourly fee around 50€/hour, the total cost would be an estimate of 1.920€/year.
- **Costs for the maintenance of the Totems:** since some totems will be located outside the port areas, others in galleries and still others in areas to be defined (location definition it's not an object of this document) they will need constant attention due to weather events and possible vandalism. These costs have already been covered by the first implementation project funding, so they don't need to be included in the on-going investment.
- **Servers and hosting** of the platform have already been covered, since the Server has been bought during the first phase and it's going to be used for the project during the years.
- Other variable costs according to the usage of the platform (to be estimated later):
  - **SMS Costs:** the messaging service is going to involve sending costs, around 0,04€ per SMS (source: SMS bulk senders, for instance bulksms.com). Then, the total costs could vary according to the actual number of SMS sent.

All these cost estimations are detailed in the following Table 8, with a total of 25.920€ for the first year (plus the possible ad-hoc projects to add); then for the following years it's necessary to consider a percentage increase due to the increase in the number of users, the inflation and cost increase, etc.

	2022	2023	2024	2025
Platform Technical costs				
Maintenance Cost/hour	40€	44€	48€	53€

Maintenance hours/year	384	422	465	511
Total Maintenance cost	15.360€	16.896€	18.586€	20.444€
Update & New features - hours/year	192	211	232	256
Total Update cost	7.680€	8.448€	9.293€	10.222€
Server & hosting	0€	0€	0€	0€
SEO cost/hour	40€	44€	48€	53€
SEO yearly hours needed	48	53	58	64
Total SEO costs	1.920€	2.112€	2.323€	2.556€
Platform Users/Partners Support Costs				
Tickets & Customer Care Cost/hour	30€	33€	36€	40€
Tickets and Customer Care yearly Hours	288	317	349	383
Totem Customer Care costs	8.640€	9.504€	10.454€	11.500€
Total costs (ad-hoc projects excluded)	**25.920€**	**28.512€**	**31.363€**	**34.500€**

Table 8 - Estimation of Technical Costs details

Note that all these assumptions and estimation should be validated by the other E-CHAIN partners and then refined after the PILOT Phase.

3.8.2. Human resources costs

Every project needs human resources to perform its Key Activities. Anyway, the E-CHAIN platform is going to be used primarily by the local Institutions in each area of interest, such as for instance the "Municipality of Ancona" or the "Municipality of Split". So, these Institutions could assign some internal persons in charge of the E-CHAIN project, who will ensure the completeness of the data, provide customer care to the users in need in their area and promote the project in their local area to the local businesses.

At the same time, the Transport Companies and the Local Businesses that decide to join the project will assign internal persons in charge to use the platform, updating their information and not needing more help from external users.

Therefore, there would be no need for human resources hired specifically to manage the E-CHAIN platform directly; even if some managers would work full-time to ensure the E-CHAIN operations, their costs would be covered by the Institutions internally, so the additional costs for the project would be minimized.

Anyway, to ensure all the Key Activities are performed, the project would need human resources that cover the main skills, such as:

- **Technical Manager**, in charge of ensuring the update and the maintenance of the platform. This person should be in charge of the relationship with the maintenance team, who is going to be external.
- **Content & Marketing Manager,** in charge of the content inside the platform, the Editorial Plan for the direct messages and the contact with partners to ensure they are uploading their updated data;
- **Customer Care Manager**, both to answer to travellers questions, both to help the Suppliers use the platform;
- **Data Manager,** in charge of data analysis and data intelligence;
- **Administrative Manager,** who should manage all the invoices, payments, accounting etc. that regards the project.

Plus, to provide a better offline experience, it could be possible to assign an attendant from the E-CHAIN staff to each Totem, who would explain to the tourists how to use them and promote the opportunity to people passing by.

Besides, to complete some side activities that require skills outside the competence of the team, it could be necessary to hire some external consultants, for example for the SEO optimization.

3.8.3. Marketing costs (optional)

The costs for marketing activities ensure that the E-CHAIN platform can really gain visibility and reach the final users, travellers and tourists. The investment depends on the future marketing plan - that is not an object of this document - and on the target number of users that the project is planning to reach.

To offer a guideline for the necessary expenses, the most important investments could be:

- **Budget for online advertising**, divided into:
  - ○ Google Ads budget and Facebook/Instagram budget. As an indication, a starting investment of 50€/day divided into the different platforms could be enough to create a first audience, so 1.500€/month and 18.000€/year.

- Online blogs and local newspapers; the average cost of a publication is 250€/article, so the total budget depends on the number of articles to publish every year.
- **Budget for offline advertising,** that depends on the marketing activities such as radio promotion, local promotion with billboards, signals, flyers, etc.
- **Merchandising production** to give to the travellers that pass through the interested areas.
- **Costs for the organization of events and training**, that depends if they are performed online or offline, how often, with how many people, etc.
- (possibly) **PR and influencer marketing costs**, to invite celebrities or social media influencers to try the service and talk about it.

To reduce these costs at minimum, all the parties involved in the project should be asked to directly contribute to the communication of the service. In exchange for a platform free of usage, all the Local Municipalities, Transport Companies and Local Businesses should invest their budget in promoting E-CHAIN online, offline and through the organization of training and events, working of course in a synergic way thanks to an overall marketing strategy and plan.

These costs could also be taken in charge by the Municipalities and Institutions that could use a part of their total communication budget to promote the project.

3.8.4. Infrastructure costs

A project to work needs a physical office (at least a legal address) and hardware to work.

- Offices: rent of a permanent or temporary office where to work
- Computer and other hardware: costs for the necessary devices to work on the project
- Management software: software to manage administrative data;
- Stationery and other minor costs.

This need, however, could be overcome if the project is managed by Municipalities, who would use their own spaces, computers, etc.

3.8.5. Alternative: constitution of an independent Organization

Another solution for E-CHAIN would be to constitute an Organization to manage the project directly. This organization could be privately or publicly owned and it could be a not-profit organisation or even a for profit one.

In this case, the pros would be to ensure a strongest commitment on the project itself, that would have a dedicated team working on it. Besides, coordinating and managing the activities could be easier, since most of the work would be done centrally.

The cons, however, would be higher costs for Human Resources and Infrastructures needed for the team to correctly operate.

In fact, if the project were to become an independent company (no-profit association or public/private company), it would be necessary to consider the costs due to the human resources in charge of the business. It would be necessary to hire at least fours persons:

- **One with a technical background**, to provide technical Customer Care and interact with the external development team;
- **One with a communication and marketing background,** to ensure the reliability of the content published in the platform, manage the Local Businesses and Transport Companies, manage promotional events and press releases, potential interviews, etc.
- **One in charge of the administration, legal aspects**, accounting and all the relationships with the partners involved in the project.
- **One Data Analyst in charge of managing the data flows**, ensures the reliability of the data in the system and in the dashboards, who would also issue reports periodically about the main project KPIs.

Therefore, the costs associated with the hiring of these resources should be precisely evaluated according to the type of company to constitute (association, limited company, etc.), the contract types (full time, part time, freelance contract, etc.), the employees seniority level, the Country where the business is located and all the other parameters to consider (labour cost, taxes, etc.).

3.8.6. Questions to validate

The costs should be better defined to delineate a Financial Model with costs and estimated revenues. For that reason:

- It's necessary to define if the E-CHAIN project is going to become an independent team/organization or not, and in case in which Country;
- In case of a project managed by the Municipalities, it's necessary to define the actual availability of human resources in charge of the project and if it would be necessary to evaluate their billable costs (if applicable).

3.9. Impact Metrics

In a non-profit project the success of the initiative is measured by the real positive impact that its activities could have on the stakeholders.

Therefore, it's important to define which are the Impact Metrics that are going to be monitored over time to evaluate the overall results of the project, with an estimate (when possible) of the actual situation and the projected goal.

The E-CHAIN project already includes an exhaustive list of KPIs, Key Performance Indicators, divided into the three areas of the project, such as the Before, During and After the Trip phases. These KPIs are fundamental to measure the results of the project for each stakeholder and to generate the Data Dashboard and the Reports for the specific Municipalities and Authorities involved.

At a Business Model level, anyway, to summarize and quantify the overall results obtained by the E-CHAIN project, it's necessary to consider some more general Impact Metrics that help verify if the positive impacts justifies the invested costs.

These Impact Metrics should be defined according to the main objectives of the project, to quantify the results gained in each of them. Therefore, 3 main Impact areas have been defined (see Figure 101):

- **Awareness Metrics,** measuring the real impact on the people reached by the project;
- **Sustainability Metrics**, measuring the improvement for the environment obtained thanks to the project;
- **Economic Metrics**, measuring the improvement for the local economies obtained thanks to the project.

Some of these results could be calculated directly from the E-CHAIN platform's analytics, while others should be evaluated externally, looking at the changes that are possible to detect in the environmental situation and in the economic results of the local businesses, both immediately and in the long run.

In the next paragraphs all these metrics will be explained and, when possible, estimated to forecast the possible outcomes and create benchmark values to compare the obtained results.
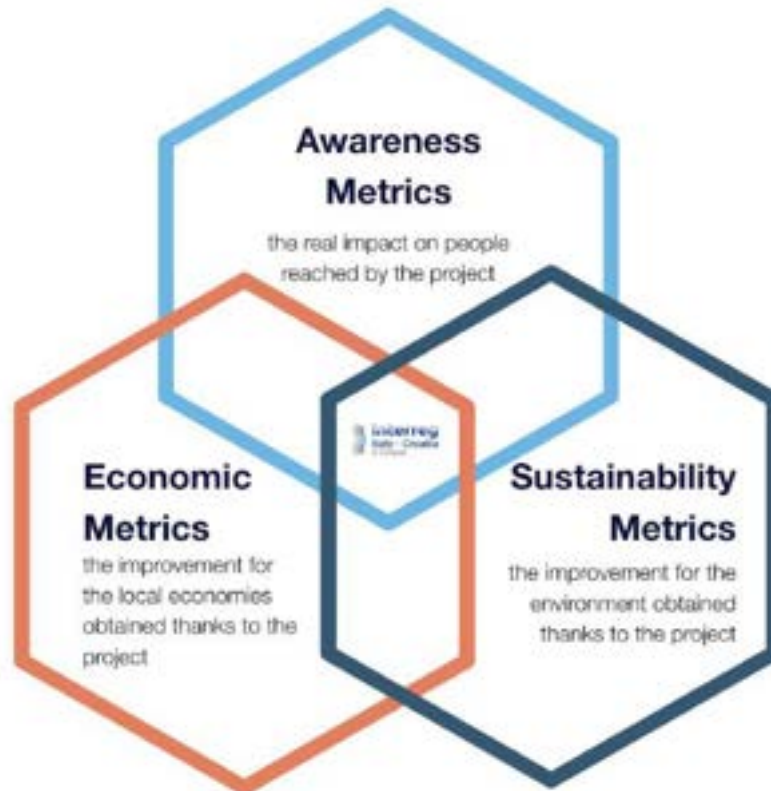
Figure 101 - Impact Metrics

3.9.1. Awareness Metrics

The main goals of the E-CHAIN project are to improve the connection of the Adriatic Area, to gain visibility on incoming tourists data, to sensibilize travellers towards sustainable behaviours and to improve the local economy.

Therefore, in order to achieve all these objectives, **it is necessary to reach as many people and stakeholders as possible** who may be interested and should therefore know about the project and actively use the platform.

The first metrics to consider are the ones that tell the total "awareness" obtained, that is the number of people reached by the initiative, who really started to interact with it.

The Awareness Impact Metrics to consider then are described in the following paragraphs.

1. Annual/monthly number of users of the Travel Planning platform ("Before the Trip" platform)

It represents the users who really use the platform, accessing it both online and from the Totems; this KPI shows the impact in terms of people that discovered the project and started to interact with it. This metric is calculated thanks to the platform's traffic analytics.

To estimate the possible realistic value of this metric, it would be necessary to consider the Marketing Plan, estimating for each planned activity the potential reached audience; anyway, the Marketing Plan after the PILOT phase is not an object of this document and has not yet been defined.

Alternatively, a scenario-based hypothesis could be estimated on the basis of the results analyzed for the other platforms offering information about the Italian and Croatian coasts (as seen in the *Analysis of the functional requirements for the E-CHAIN Business Model Creation* (Vidulli et al., 2021)).

The least visited websites that promote the Croatian coast, such as Novalja.it, receive around 10 thousand visitors every year, while others, such as and croazia-adriatico.it, gain around 30K visits/year, while others are able to get over 100K visits per year, such as croatia.hr and adriatic.hr. On the other hand, sites promoting areas of the Italian coast, specific to the Ancona region, register almost 50K visits per year, coming from all over the world.

It's important to notice that there is a strong seasonality and most of this traffic is registered in the summer: 65,7% of the total traffic is on average registered between June and September. Anyway, in the following estimations the whole year is considered to simplify the analysis.

On the basis of the observation from the competitive landscape, three different scenarios (worst case, most likely and best case) have been assumed, which are represented in the following Table 9:

Metrics	2022			2023			2024		
	Worst Case	Likely Case	Best Case	Worst Case (+10%)	Likely Case (+20%)	Best Case (+30%)	Worst Case (+10%)	Likely Case (+20%)	Best Case (+30%)
Annual number of users of the platform	10.000	30.000	50.000	11.000	36.000	65.000	12.100	43.200	84.500
Monthly number of users of the platform	833	2.500	4.167	917	3.000	5417	1.008	3.600	7.042

Daily number of users of the platform	28	83	139	31	100	181	34	120	235

Table 9 - Awareness metrics about the number of users of the Travel Planning Platform

In the worst case the minimum number of users that could be reached is estimated as 10K users/year, that is less than 28 users/day and so could be a precautionary estimation. It's in fact a level of users that could be reached even in absence of promotion, just through the physical presence of the Totems and the word of mouth started by the partners. Then, in the Best case scenario it is estimated around 50K users/year, while in the more likely case the number is 30K users, that is between the two numbers.

To estimate a change in the next three years, it is hypothesized that in the worst case the number of users increases by 10% year over year, while in the other cases by 20% and 30%. In fact, over years the visibility of the website should increase, due to the improvement in the Search Engine Optimization (SEO) and the word of mouth about the project. This forecasting for the next years will remain the same also in the next estimations.

Of course, all these numbers should be revised according to the first tests, the marketing plan and the budget available for the future years to promote the project.

2. Annual/monthly number of users who interact with the Totems in the local areas

The totems installed in Ancona and Split are one of the main channels of communication with travellers, able to intercept people who pass through the places of installation and are not aware of the E-CHAIN project. Therefore, this metric enables us to analyze the offline impact on the tourists who are passing through the areas. This metric is calculated through the totem's analytics system and is a subset of the first metric for the total users.

In this case, in order to estimate how many people interact with the installed Totems, it is necessary to consider the data estimated before for the visitors who use the platform in total. In fact, it has been assumed that only a part of these users interact with the totems installed in the strategic points of the involved cities and for this reason the estimated assumptions are explained below.

To estimate this metric, we assumed that at least 40% of the travellers who use the platform for trip planning did so through the Totems installed in the involved areas, since it would be one of the primary sources of promotion. These users would probably be more interested in finding information on activities and attractions at their destination and less prone to use the Trip calculator, since they would have already arrived at their destination.

The estimated metrics for these users are shown in Table 10.

Metrics	2022			2023			2024		
	Worst Case	Likely Case	Best Case	Worst Case (+10%)	Likely Case (+20%)	Best Case (+30%)	Worst Case (+10%)	Likely Case (+20%)	Best Case (+30%)
Annual number of users of the platform	10.000	30.000	50.000	11.000	36.000	65.000	12.100	43.200	84.500
Percentage of users arriving from Totems	40%								
Annual	4.000	12.000	20.000	4.400	14.400	26.000	4.840	17.280	33.800
Monthly	333	1.000	1.667	367	1.200	2.167	403	1.440	2.817
Daily	133	400	667	147	480	867	161	576	1.127

Table 10 - Awareness metrics about the number of users who interact with the totems

3. Annual/monthly number of ferry's ticket travellers who receive the first E-CHAIN message for the During the Trip service.
This metric depends on the total number of tickets that are purchased from the Jadrolinija website and so could be estimated by analyzing their past data.

4. Annual/monthly number of ferry's ticket travellers who accept to receive messages for staying updated on delays, services and attractions in the area.
This metric allows us to understand how many travellers and people are really interested in the "During the Trip" part of the project and its services. Specifically, once the user has purchased a ferry ticket on the transport company's website, in order to receive other text messages regarding travel information, places to visit and activities to do, must consent to the processing

of personal data. Counting only the people who gave consent, it is possible to understand the level of interest.

The actual percentage of users who actually give consent could be properly evaluated after the PILOT phase, but a forecasting of around 25% of the people who received the first message could be a precautionary estimation.

3.9.1.1. Other Awareness Metrics that could be calculated

In addition, other metrics have been identified that can be important to evaluate Awareness and that could be estimated and calculated on the basis of data from both the platform and the project members.

- **Annual/monthly number of Local Businesses and Transport Suppliers deciding to join actively the project:** this metric is very important to evaluate the attractiveness of the project and to understand how many suppliers have been reached. In fact, all Local Businesses will be added into the platform thanks to the Google My Business API, but then the Businesses would need to claim ownership of their account and start using it actively. **Therefore it is important to monitor how many partners actively join the project on a daily, monthly or yearly basis, in order to understand if the community is also more interested.** In the early stages, it is possible that the number of partners involved in the project will be limited, but in the later stages, through positive feedback and actions such as totem and training sessions, the project could become a reference point for many local businesses. This metric will be evaluated through the platform's analytics and could be estimated after the PILOT phase.
- **Annual/monthly number of local businesses actively using the platform for the During the Trip services**: the Suppliers who decide to send also SMS and emails to their clients, using the CRM (Customer Relationship Management) service of E-CHAIN.

3.9.2. Sustainability Metrics

The main objective of the E-CHAIN project is to promote environmentally sustainable tourism between Italy and Croatia in order to reduce port's traffic congestion and improve the efficiency, quality, safety and sustainability of maritime and coastal transport services.

To this end, the platform helps travellers be more sustainable from the environmental point of view, both through the CO2 emissions calculator and by suggesting alternative routes, low environmental impact means of transport and actions to be taken that respect the environment and the places visited.

Considering these points and the positioning in relation to the environment, it is also necessary to include a second category of Impact Metrics concerning sustainability, that if positively verified would mean the success of the project.

These metrics will allow us to understand:
- if there has really been a decrease of CO2 emissions, and at what level;
- if there has been an increase of ferry bookings (a means of transport considered to be low environmental impact)
- if also the life quality in the cities involved in the project has improved.

Therefore, the sustainability impact metrics to consider are:

1. Annual/monthly number of searches in the CO2 Calculator

The Calculator is the core of the Platform, so the number of people really using it to receive help for their trip is a very important metric to understand the impact of the project. This metric is calculated thanks to the platform's traffic analytics system, properly set up.

Considering the number of Google Searches for the CO2 calculator sites analyzed in the previous requirements analysis phase (Vidulli et al., 2021) and the estimate of the E-CHAIN platform users as an Awareness Impact Metric, the estimates for this metric and the various hypotheses are explained below in Table 3.

To estimate this metric we assumed that in the worst case only 30% of the customers use the calculator, because although it is the main function of E-CHAIN, not everyone needs it to choose the most sustainable means of transport for their trip. Many people might only access the E-CHAIN platform to find information on locations and activities, so it has been assumed that about 1 in 3 users are interested in the calculator.

In the following scenarios, therefore, it is assumed that the number of users interested in calculating emissions may increase by up to 60%, also on the basis of the data collected in the requirements analysis (Vidulli et al., 2021) and due to the increasing interest in the topic of environmental sustainability (see Table 11).

Metrics	2022			2023			2024		
	Worst Case	Likely Case	Best Case	Worst Case (+10%)	Likely Case (+20%)	Best Case (+30%)	Worst Case (+10%)	Likely Case (+20%)	Best Case (+30%)
Annual number of users of the platform	10.000	30.000	50.000	11.000	36.000	65.000	12.100	43.200	84.500
Percentage of users using the calculator	30%	50%	60%						

Annual	3.000	9.000	15.000	3.300	10.800	19.500	3.630	12.960	25.350
Monthly	250	750	1.250	275	900	1.625	303	1.080	2.113
Daily	8	25	42	9	30	54	10	36	70

Table 11 - Sustainability metrics about the number of searches in the CO2 calculator

These numbers, which are very conservative in the Worst Case scenario, shows anyway that a relevant number of users - from 3K to 15K users according to the scenario - would be impacted in their travel choice in a positive way; this number increases in the following years projection.

2. Annual number of clicks to purchase ferry/bus tickets starting from the E-CHAIN platform

After using the E-CHAIN Trip calculator, the users visualize all the travel options available for the ferries, trains and buses on the day of choice. To buy the tickets of the options they prefer, they can click on the referral link and complete the purchase on the local transport company's website (see Figure 102).

Therefore, a very important metric to estimate the Sustainable Impact is the CTR, Click Through Rate, of the suggestions of the calculator, which means the number of users who click on the links inside the E-CHAIN platform to start the purchase of a ticket is more sustainable than the trip by car.

To estimate this metric, therefore, it is assumed that probably at least 30% of the users who calculate their itinerary would really click on the link to the ticket booking. In fact, the ferry/bus/train may not be the most convenient choice for many users, as they may be too distant from the port of departure and prefer to travel by car. This number increases to 35% in the most likely scenario and to 40% in the Best case scenario; these percentages would need to be validated after the PILOT phase.
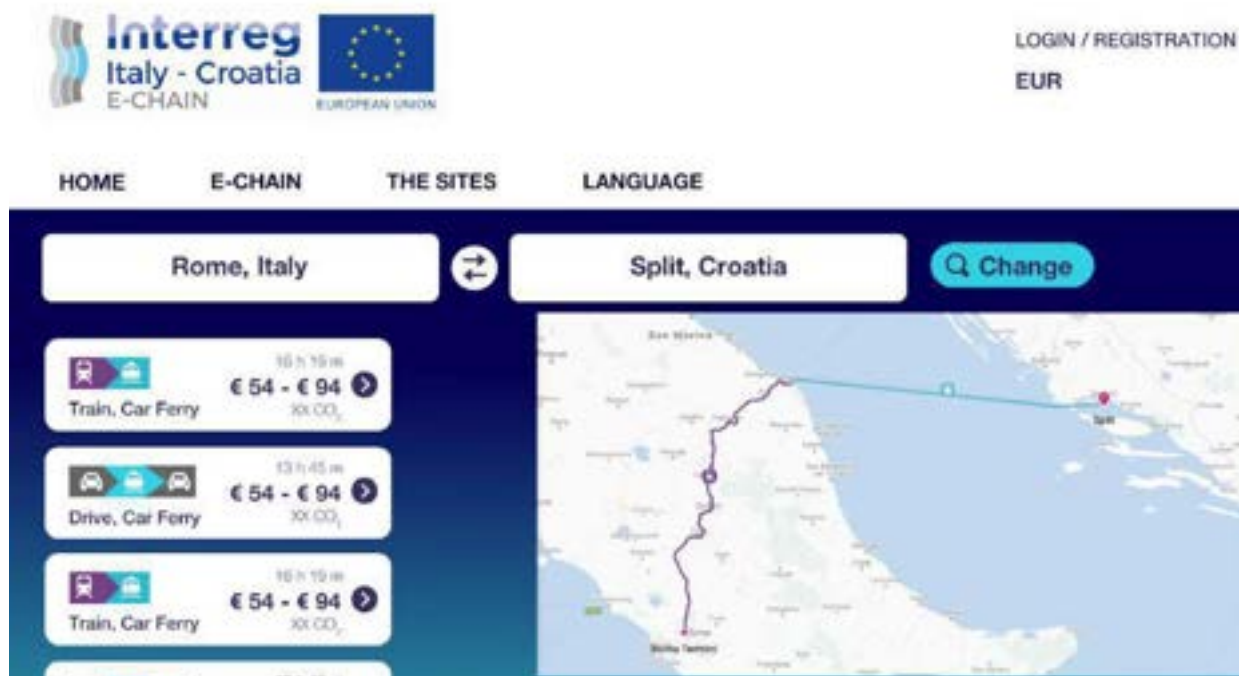
Figure 102 - Preliminary Mockup of the Calculator results

Considering that the 35% of the users clicking on the links, the estimation for this metric is presented in Table 12.

Metrics	2022			2023			2024		
	Worst Case	Likely Case	Best Case	Worst Case (+10%)	Likely Case (+20%)	Best Case (+30%)	Worst Case (+10%)	Likely Case (+20%)	Best Case (+30%)
Annual number of users of the platform	10.000	30.000	50.000	11.000	36.000	65.000	12.100	43.200	84.500
Percentage of total users who calculate the trip	30%	50%	60%						

Annual number of searches in the CO2 Calculator	3.000	9.000	15.000	3.300	10.800	19.500	3.630	12.960	25.350
Estimated CTR on Ferry's or Buses's websites	30%	35%	40%						
Annual number of clicks	900	3.150	6.000	990	3.780	7.800	1.089	4.536	10.140
Monthly number of clicks	75	263	500	83	315	650	91	378	845
Daily number of clicks	30	105	200	33	126	260	36	151	338

Table 12 - Sustainability metrics about the number of clicks to the websites to buy ferry/bus tickets

3.9.2.1. Other Sustainability Metrics that could be calculated

In addition, other metrics were identified to estimate the sustainable impact of the project. These can be calculated through different methods. In detail they are:

3. Traffic metrics: **Annual/monthly number of cars passing through the main roads near the ports of departure in the municipalities involved.**

The goal on this metric would be to decrease the **ADT (Average Daily Traffic),** given by the ratio between the number of vehicles passing through a specific road section (generally referred to both directions) and the number of days of tracking (veic/day), compared to previous years, measuring a reduction of traffic jams.

Note: in order to calculate the exact number of cars passing through the areas of interest, it is possible to install a totem-calculator able to count the real number of cars, if this is not already present.

4. CO2 emission saved: **Annual/monthly level of saved CO2 emission generated by cars and personal transport vehicles in the areas around the ports.** It can be calculated as the difference between the CO2 emissions of the car trip compared to those of the ferry trip, based on the clicks on the Transport Supplier's website to purchase the tickets.

Note: it is also possible to evaluate the level of CO2 emissions in the air and the air quality of the municipalities involved through the installation of totems able to identify the smog and CO2 particles present, if they are not already present in the city.

5. Improvement in the Annual/monthly number of empty or low-passenger bus services connecting the port of departure with other attractions.

In order to be sustainable and improve the viability of the municipalities involved, one objective was to review and manage bus services that take passengers to places of interest or to the boarding point. Observing this metric over time, noticing a reduction of the rides with a low number of passengers would mean a success of the E-CHAIN project.

6. Increase in the Annual/monthly number of bus services tickets. The E-CHAIN project aims to reduce the cars commuting from Italy and Croatia and vice versa, incentivising the users to choose the Public Means. Therefore, an increase in the usage of local bus services could be considered a success of the project.

7. Increase in the usage of bike sharing services. The same as the previous one applies to the bikes rental and other local rental services.

8. Decrease in litter level in the city centers and the port areas. Incentivizing sustainable behaviour, the E-CHAIN project could help to reduce the quantity of litter, such as papers, bottles, cans, etc. left in the local areas by the tourists. This metric could be calculated by the Cleaning Services that usually clean the Public Areas, to understand if it will be possible to see an improvement.

10.3. Economics Metrics

The next objective that E-CHAIN aims to achieve is to increase the local economy, in particular by helping local businesses in the proximity of ports and coastal areas in Italy and Croatia.

To do so, the E-CHAIN platform (Before the Trip) offers the possibility for local businesses to promote their activities and experiences on the platform, offering a booking form to directly book the activity of choice. Then, through the During the Trip offering, only to travellers who buy a ferry ticket and consent to the processing of their data, SMS and emails would be sent to invite them to discover the activities to do before the departure in the areas they are going to visit, maximising the visibility of the other Local Businesses.

In fact, the travellers could discover a museum to visit while they are waiting for the ferry, or enjoy an exhibition, or explore a local park, or purchase excursions or guided tours at strategic points in the chosen location, or have lunch at a restaurant in the area.

In this way, E-CHAIN is able to valorise and make the municipalities involved much more attractive to tourists, who will be able to better organize their time, appreciating the culture and attractions that the chosen places offer.

Therefore, another key Impact Metric type to consider are the Economics Metrics, that evaluate the economic value created by the project. In details:

1. Annual/monthly number of people who click to discover Local Businesses, activities and experiences.

A very important metric to estimate the Economic Impact is the CTR, Click Through Rate, to discover more information on the websites of the Local Businesses, or the click to the telephone number to visit them, or the click to their address. In fact those clicks would mean that the E-CHAIN platform is able to send potential clients to the local businesses, improving their visibility and their economic results.

To estimate this metric it is assumed that probably at 15% to 20% of the users who enter the platform would click on any link to discover more about a Local Business. In fact, the users who start reading the information would probably be interested in knowing more about the activities and the businesses that provide them. Therefore, the projected results are presented in Table 13.

Metrics	2022			2023			2024		
	Worst Case	Likely Case	Best Case	Worst Case (+10%)	Likely Case (+20%)	Best Case (+30%)	Worst Case (+10%)	Likely Case (+20%)	Best Case (+30%)
Annual number of users of the platform	10.000	30.000	50.000	11.000	36.000	65.000	12.100	43.200	84.500
Monthly number of users of the platform	833	2.500	4.167	917	3.000	5.417	1.008	3.600	7.042
Daily number of users of the platform	28	83	139	31	100	181	34	120	235
Estimated click through rate on local businesses websites	15%	17%	20%						

Annual users	1.500	5.100	10.000	1.650	6.120	13.000	1.815	7.344	16.900
Monthly users	125	425	833	138	510	1083	151	612	1408
Daily users	50	170	333	55	204	433	61	245	563

Table 13 - Economic Metrics about the interest for Local Businesses

2. Annual/monthly number of people who book experiences/activities from E-CHAIN to the structures or places promoted by E-CHAIN.

Since the platform allows local businesses to upload the activities and experiences they offer (exhibitions, guided museum tours, restaurants, bars, wine shops etc.) users can book online and then pay for them later on site. The number of bookings is therefore a very important metric, because it shows the increase in potential customers that would be generated by the platform.

To estimate this increase, it is considered a conversion rate of 3% to 5%, that is the percentage of the travellers who use the platform who could probably book activities at their chosen destination. The rate considered is higher than the average ecommerce conversion rate, that is around 1-3%, because the booking of activities does not require a payment process. Therefore, the estimated metrics are presented in Table 14.

Metrics	2022			2023			2024		
	Worst Case	Likely Case	Best Case	Worst Case (+10%)	Likely Case (+20%)	Best Case (+30%)	Worst Case (+10%)	Likely Case (+20%)	Best Case (+30%)
Annual number of users of the platform	10.000	30.000	50.000	11.000	36.000	65.000	12.100	43.200	84.500
Estimated conversion rate for activities	3,00%	5,0%	7,0%						

booking								
Annual number of people who book activities	300	1.500	3.500	330	1.800	4.550	363	2.160	5.915
Monthly number	25	125	292	28	150	379	30	180	493
Daily number	10	50	117	11	60	152	12	72	197

Table 14 - Economics metrics about the number of people who book activities and experiences

These results are very precautionary and should be considered as a minimum number that the platform would probably overcome; anyway, increasing the number of local businesses visits by at least 300 booking would already be a success. Then, as for the other metrics, these numbers are just estimations and should be evaluated after the PILOT phase and in the first year of the ongoing project.

3.9.2.1. Other Economics Metrics that could be calculated

1. Increase in Annual/monthly number of tourists entering municipalities: the real number of tourists arriving in the municipalities involved in the project, so as to monitor the attractiveness of the cities. This metric could be evaluated through the comparison of the tourist taxes year over year.

2. Increase in Annual/monthly revenue of Local Businesses: have all these actions to promote local realities, through messages and totems, had an impact on their revenues? Has there been an increase? This metric could be evaluated through the comparison of the businesses revenue year over year.

Note: To estimate all the remaining Impact Metrics, it would be helpful to answer all these questions:

- How many Local Businesses will be added in total by Google My Business during the PILOT and loaded into the platform? Given their number it would the be possible to estimate how many of them will be "active" in uploading the activities/experiences;

- How many annual customers does Jadrolinija have from Ancona to Split and vice versa, to whom they would send the first SMS to receive the messages? this figure would help estimate how many of them would agree to receive messages from E-CHAIN;
- What is the level of traffic (ADT Average Daily Traffic) in each area of interest, to estimate how much we could improve it?
- What is the number of people passing through the areas where the totems will be places?
- What is the current average level of pollution in the areas of interest?

The assessment of these metrics and their possible integration will be developed in the validation phase of the business model (WP5, activities 3 and 4) where the results provided by D5.3.1 (Key Performance Indicators) will also be taken into consideration.

3.10. Alternative: Revenue Streams BM

As an alternative to what has just been described and explained in detail, in which the assumption is that all the costs are covered by Public Funding, **it is possible to suppose an alternative model in which the platform can generate Revenue Streams in exchange of the value provided to the parties involved.**

In fact, there could be several Revenue Streams that the Suppliers who benefit from the platform could pay to E-CHAIN, to help the project be sustainable also without Public Fundings.

Revenue Streams are defined as the way by which your business converts the Value Proposition or solution to the customer's problem into financial gain. It is also important to understand the price of the business according to the pain of purchase in exchange for the pain of solving the problem for your customer.

For the E-CHAIN platform it is possible to identify different ways of revenue, based both on the actual value generated (Pay per Click and Commission Fee Revenue streams), both on a fixed Subscription Fee to enable the presence on the platform.

In fact, the preliminary research "Analysis of Requirements" (Vidulli et al., 2021) made on other players offering the same services in order to identify new ways of profitability and economic sustainability, brought to light several revenue models that are already applied by the existing companies.

Of course the willingness to pay is another assumption that should be validated, but as seen in the "Analysis of Requirements" (Vidulli et al., 2021) these are already validated Revenue Models and Local Companies are already paying similar prices/fees to ensure their promotion.

In the next part of the document, all the **possible revenue streams will be discussed in detail, divided by the phase of the trip,** and then summarised in one final proposal.

3.10.1. Before the trip: possible Revenue Models

The features of E-CHAIN that regard the "Before the Trip" phase have the goal to provide information to the tourists about the routes and the destinations, linking to the Suppliers websites for the transportation tickets and promoting other Local Businesses in different ways (referral links, contact numbers, experiences and activities booking, etc.).

In the first version of E-CHAIN, the platform is not going to implement an internal ticketing service integrated with the Transportation Companies or the Local Businesses, but to redirect the user to the websites of the transport and activities providers so users can complete the purchase on their websites or at the location. In this way, the objective of the platform is to send users to the Transport and Local Businesses sites where they buy tickets and book activities.

The exit clicks to the suppliers' platforms could be recorded, but the purchase finalization is not going to be tracked.

Therefore, it is not possible to implement a "Commission fee" revenue stream from the tickets purchased, but there are two other options as both types of companies are promoted in the platform and can, therefore, pay either Pay per Click for each actual click to their site, or with a fixed Fee.

Option 1: Pay Per Click (PPC) plan

It is possible to propose a payment plan based on the actual clicks on the outgoing links to the Suppliers' websites. This mode allows the advertiser to pay a predetermined fee for each click (called **Cost per Click, CPC, that is the cost for each click**) only when a user really clicks on the ad/link that brings to its website.

This mechanism is realized through the tracking of the clicks on the links in the E-CHAIN CO2 Calculator's output, and on other links or banners that could be placed in the informational area to promote the Suppliers (both for transport companies and local businesses).

To determine the pricing point of the CPC (Cost per Click), it could be useful to understand the CPC the Transport Companies and Local Businesses are paying to Google at the moment to gain Paid Ads leads.

As seen in the Table 15, for instance, the average CPC cost for a campaign (performed with unlimited budget performed between May and September 2022) would be 1,15€/click, with a minimum of 0,6€/click for general keywords ("traghetti per la croazia") and a maximum of 2,21€ for very targeted keywords ("traghetti ancona split", "traghetti ancona spalato"). **Therefore, a price around 0,75€/click for leads who already searched for an itinerary - and therefore are very targeted - could be a fair pricing point.**

Parola chiave	Gruppo di annunci	↓ Clic	Impressioni	Costo	CTR	CPC medio
traghetti croazia	Traghetti Italia Croazia	7.053,82	30.212,99	6.132,23 €	34,9%	0,87 €
traghetti ancona spalato	Traghetti Italia Croazia	4.989,09	13.813,41	7.855,90 €	36,1%	1,57 €
traghetti spalato	Traghetti Italia Croazia	3.421,66	9.784,81	6.769,33 €	35,0%	1,98 €
traghetti bari dubrovnik	Traghetti Italia Croazia	2.732,09	7.920,01	4.164,48 €	34,5%	1,52 €
traghetti per la croazia	Traghetti Italia Croazia	2.621,91	7.634,63	1.579,01 €	34,3%	0,60 €
ancona spalato	Traghetti Italia Croazia	2.588,19	7.783,39	2.497,71 €	33,3%	0,97 €
traghetti ancona split	Traghetti Italia Croazia	1.359,27	3.827,95	2.778,57 €	35,5%	2,04 €
traghetto ancona spalato	Traghetti Italia Croazia	1.353,59	3.568,89	1.295,69 €	37,9%	0,96 €
ancona split ferry	Traghetti Italia Croazia	1.182,83	4.103,07	2.025,71 €	28,9%	1,72 €
split ancona ferry	Traghetti Italia Croazia	1.122,46	4.068,73	2.090,50 €	27,6%	1,86 €
spalato ancona	Traghetti Italia Croazia	892,51	2.678,39	1.112,26 €	33,3%	1,25 €
traghetto ancona zara	Traghetti Italia Croazia	884,98	2.830,70	414,40 €	21,3%	0,47 €
traghetto spalato ancona	Traghetti Italia Croazia	686,69	1.982,57	1.517,27 €	34,6%	2,21 €

Table 15 - Forecast of keywords costs and results for a Google Ads Campaign based on 372 keywords related to "traghetti croazia", with unlimited budget and performed between May 1, 2022 and September 30, 2022 in Italy. Data from Google Ads Keyword Planner Tool, calculated in October 2021.

Therefore, considering the estimation on the number of clicks done before in Table 5 and 6, the Revenue could be estimated as in the following Table 16.

Metrics	2022			2023			2024		
	Worst Case	Likely Case	Best Case	Worst Case (+10%)	Likely Case (+20%)	Best Case (+30%)	Worst Case (+10%)	Likely Case (+20%)	Best Case (+30%)
Annual users	10.000	30.000	50.000	11.000	36.000	65.000	12.100	43.200	84.500
Annual clicks to the Local Businesses websites	1.500	5.100	10.000	1.650	6.120	13.000	1.815	7.344	16.900

Annual clicks to the Transport websites	900	3.150	6.000	990	3.780	7.800	1.089	4.536	10.140
Total number of external clicks	2.400	8.250	16.000	2.640	9.900	20.800	2.904	11.880	27.040
Cost of 1 click (CPC)	€ 0,75								
Revenue from CPC Plans	€ 1.800	€ 6.188	€ 12.000	€ 1.980	€ 7.425	€ 15.600	€ 2.178	€ 8.910	€ 20.280

Table 16 - Estimated revenue

Therefore, the Revenue from the CPC Plan is going to change according to the number of users, the CTR (click through rate) of the Calculator to go buy tickets and the CTR to the local businesses websites; also the CPC price is another variable that could determine the Revenue.

Option 2: Subscription fees.
Another alternative could be a Subscription Fee model, with a fee paid monthly or yearly and structured in different levels (basic/advanced). Instead of paying for each click, the Suppliers could be charged for a fixed amount, such as an annual subscription, that gives them the possibility to be featured in the E-CHAIN platform, included in the itinerary results and receive new leads from it.
The Subscription Plans could be structured in basic/advanced plans according to the level of visibility on the platform (homepage vs other pages), the position in the trip calculation results, and other services performed. As a benchmark, in Figure 103 there is an example of plans offered by the platform https://www.mareinitalia.it, a website that has less than 5K visitors/month and that features different types of Businesses in the local areas. A range of pricing plans between 100€ - 400€ could be a fair offer in exchange of unlimited targeted leads sent to the Suppliers' websites.

	Piano Start	Piano Premium	Piano Full
Principali servizi di visibilità sul portale e il network	Vetrina con servizi Standard	Vetrina con servizi Plus	Vetrina con servizi Top
Prezzo	120,00 €	220,00 €	380,00 €
Area Riservata per la gestione della vetrina	✔si	✔si	✔si
Contatti diretti dai clienti interessati	✔si	✔si	✔si
Link al proprio sito web	✔si	✔si	✔si
Mappa della struttura	✔si	✔si	✔si
Presenza nella regione,provincia e zona famosa di appartenenza	✔si	✔si	✔si
Foto della vetrina	5	15	30

Figure 103 - Price list for MareinItalia (See more info here https://www.mareinitalia.it/servizi/pubblicita.html)

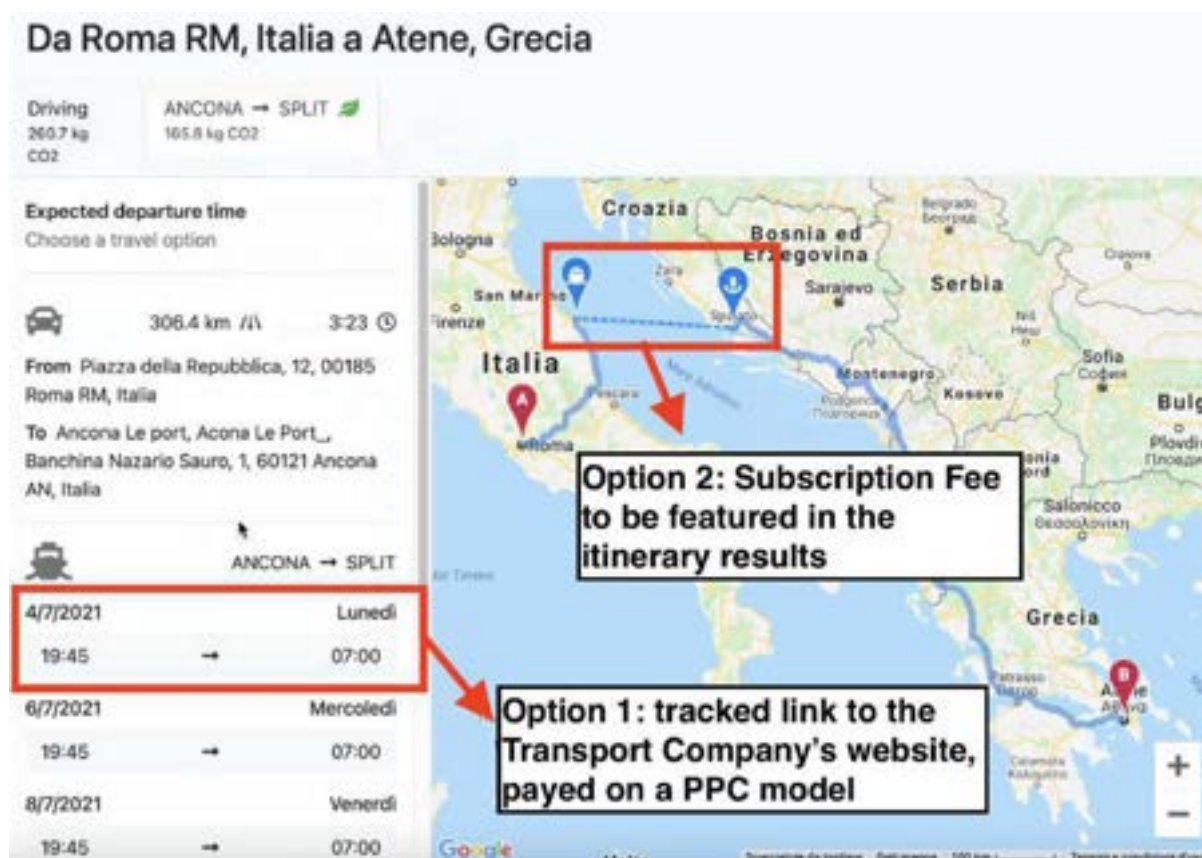Summarising, the options are as described in Figure 104.

Figure 104 - First version of the E-CHAIN CO2 calculator and possible Revenue Models

3.10.1.1. Other Revenue Streams based on users and ticket sales (proposal for next version of the platform)

A first evolution of the platform could be **implementing a "personal area" for the tourists, so that they could register to E-CHAIN and receive messages and marketing offers from it.**

The first version of the E-CHAIN platform, in fact, does not offer a registration option to tourists who are visiting the platform and who use the CO2 calculator or the Totems. Therefore, it's not possible to collect their contact information (name, email, telephone number, etc.) to send them emails or to create a database of people interested in traveling to Croatia/Italy.

Having the users' contact information would allow for more revenue streams. In fact, both users who visit the E-CHAIN website and calculate their trip's CO2 amount and users who interact with the Totems are very targeted leads, since we know they want to travel to a specific destination in a specific period of time. Therefore, having their contact data with their GDPR compliant consensus to share their data to third parties companies for marketing proposals, it would be possible to enhance their value for all the parties involved in the project.

In fact, it would be possible to:

- **"Sell" leads to partners**, sharing with them the contacts and enabling them to send promotions, offers, etc. to users who gave the consensus;
- **Send DEM (Direct Email Messages) on behalf of other partners,** charging a fee according to the number of recipients. This is the traditional revenue stream for Media Companies, who send emails to their customers promoting other businesses who pay for the impression.

Then, another improvement could be **implementing an internal ticketing system, that would enable a Commission fees Revenue Model.** In fact, the PILOT version of the platform only refers to the Transport Companies website and allows to book activities, but not to buy them. In the case of the future development of an internal ticketing service to internally complete purchase, a percentage of the ticket amount could be withdrawn from the E-CHAIN platform as a service fee (the activities offered for free would not be charged).

For instance, the most famous platform AirBNB, charges a 20% service fee for experiences to help cover the costs of the products, services, and support we provide, including maintaining liability insurance for most experiences" (see more information here: https://www.airbnb.co.uk/help/article/1604/why-does-airbnb-charge-a-service-fee-for-experiences).

On the other hand, the ticketing platform Eventbrite for events, concerts, conferences, experiences, etc offers a different pricing system, based on a percentage (between 3,5% and 5,5% of the ticket) and a fixed fee (between 0,49€ and 0,99€); see the pricing table in Figure 105.

The difference is due to the types of tickets sold by the platforms: AirBNB is meant for more expensive experiences, often offered individually to clients, while Eventbrite is meant for events with a high number of participants.

In the case of E-CHAIN, it depends on the types of tickets/activities/experiences to be sold. If the activities are going to be more personalized, such as guided tours or food degustations, the percentage of the commission could be more similar to the AirBNB one, around 10% of the ticket. On the contrary, if the idea is to sell concert tickets, museum tickets, etc., then a commision of 3-5% is more equal.

Figure 105 - Eventbrite pricing table

3.10.1.2. Next steps: Revenue Model validation

To define the revenue models that could be applied, it is necessary to first verify some technical questions:

- The technical platform's capability to track the outgoing clicks and create detailed reports for a PPC revenue model;
- The technical platform's capability to charge a subscription fee to enable the Suppliers to access the E-CHAIN platform, to enable a Subscription based model.

Then, the next step is to validate with the potential Suppliers, both Transport Companies and Local Businesses, their willingness to pay having them answer those questions:

- Would they be interested in paying a CPC fee for every lead sent to their website from the E-CHAIN platform? How much are they paying at the moment to gain traffic and customers?
- Would they be interested in paying a fixed subscription fee to appear on the E-CHAIN platform/Totems as one of the Suppliers, even if at the start the visibility of the project would be low? Would the incentive to have an "E-CHAIN certification" to show their effort to be sustainable be enough to convince them to pay the subscription?
- Would they be interested in selling their activities/experiences directly from E-CHAIN to users of the website and the Totems in exchange for a percentage of their tickets? Or would they prefer to receive more calls/clicks to their website in exchange for a fixed subscription fee?

3.10.2. During the trip: possible Revenue streams

For the second phase of the trip, E-CHAIN is proposing to help Transport Suppliers (and eventually also Local Business Suppliers) offer a better and more "environmentally friendly" customer care service to their clients.

Specifically, the platform provides a personalized SMS and email messaging service to follow the travellers during the different stages of their trip, sent on behalf of the Suppliers from which they purchased the tickets. The Suppliers who want to offer this service through the E-CHAIN platform should upload the contact information of their clients after the purchase and then customize the editorial plan with the messages they want to send to them.

Therefore, the Revenue Models that better fit this situation are two:

- **Pay per use, paying for the actual number of SMS/emails sent to customers:** the platform provides different plans of messages to be forwarded to travellers during the trip. The Suppliers could be charged for the exact amount of SMS/messages really sent to final users, according to the number of them who accepted to join the E-CHAIN program.
- **Subscription fees**: instead of charging for each SMS/email, it is possible to consider a monthly/annual subscription with different pricing plans according to the maximum number of final clients to reach, to the SMS/emails sent and to the other services offered by E-CHAIN.

In this case providers can adopt different payment packages for the service, choosing to purchase either the service for sending only communication messages (editorial plan), message sequences or SMS markup, or a full premium package in which all message types are included. The editorial service could be another add-on, proposing to help in writing the messages texts.

At this stage, a subscription is the most suitable solution as it is possible to create messaging plans according to needs. Suppliers can then choose whether to pay for a subscription in which there is a limited number of messages to be sent to travellers or a more comprehensive and unlimited package. In addition, it is possible to combine the different types of messages (editorial plans, sequences and SMS markup) in the different subscription levels.

3.10.2.1. Other Revenue Streams

Another option to create value for all the parties involved would be:

- **Co-Marketing activities**: it is the possibility to include in the SMS/emails sent to clients other promotional content, to promote other Suppliers and other Local Businesses in a co-marketing approach. Note: to do so, the Suppliers who are sharing their clients information in the E-CHAIN platforms should agree to send to their clients messages about other businesses.
- **Call Center and more solid Customer care:** Another Revenue opportunity could be offering a more structured Customer Service in outsourcing, offering also call center services and other consultancy to better serve the clients.

3.10.2.2. Questions to be validated

- For this phase it is necessary that partners provide data about their customers in order to be able to offer a complete customer care service, but are the suppliers involved really available?
- Are suppliers willing to pay for this personalised service?

3.10.3. After the trip: possible Revenue streams

In the last phase, the platform proposes data analysis and improvement of port performance. The project therefore aims to provide service suppliers with regular statistical information on the offered services, in particular data on tourist flow analysis.

In order to provide this data management service to suppliers, the platform provides two dashboards where the collected data can be monitored:

- A supplier dashboard where it is possible to check data about the research conducted and messages sent to travellers, including surveys.
- A second dashboard, on the other hand, for local authorities with the possibility of accessing data including the areas covered by the authorities + the results of surveys completed by users who have passed through the area.

The best solution to buy this service, both for suppliers and local authorities, is to offer a **Subscription Fee** for the data management service. This solution will make it possible to offer suppliers different basic and premium packages in which to include and combine the possibility

of access to dashboards and obtain the results of aggregated data analysis as reports. The basic package may offer basic services, such as limited access to data, analysis of results as reports for a limited period or annually, while the premium subscription may include a monthly updated report as well as unlimited access to dashboard data.

As a benchmark, the Travel Appeal platform, which was analyzed in the previous part of the research, offers different packages and subscription levels, also specific to specific sectors, such as restaurants, hotels, etc (see image 12).

3.10.3.1. Other Revenue Streams

- **Consulting:** it is also possible to offer an additional paid service to suppliers concerning consulting to solve specific business problems with data and tourism experts. In this way, experts will be able to assist suppliers in managing and interpreting the aggregated data collected in the dashboards, so as to develop new business strategies according to the key results obtained from the analysis of tourist flows. This service can also be customized according to suppliers' needs, allowing them to compare prices, best practices adopted by the competitors and monitor the market.

3.10.3.2. Questions to be validated

- Are suppliers really willing to pay for data management and performance improvement services?
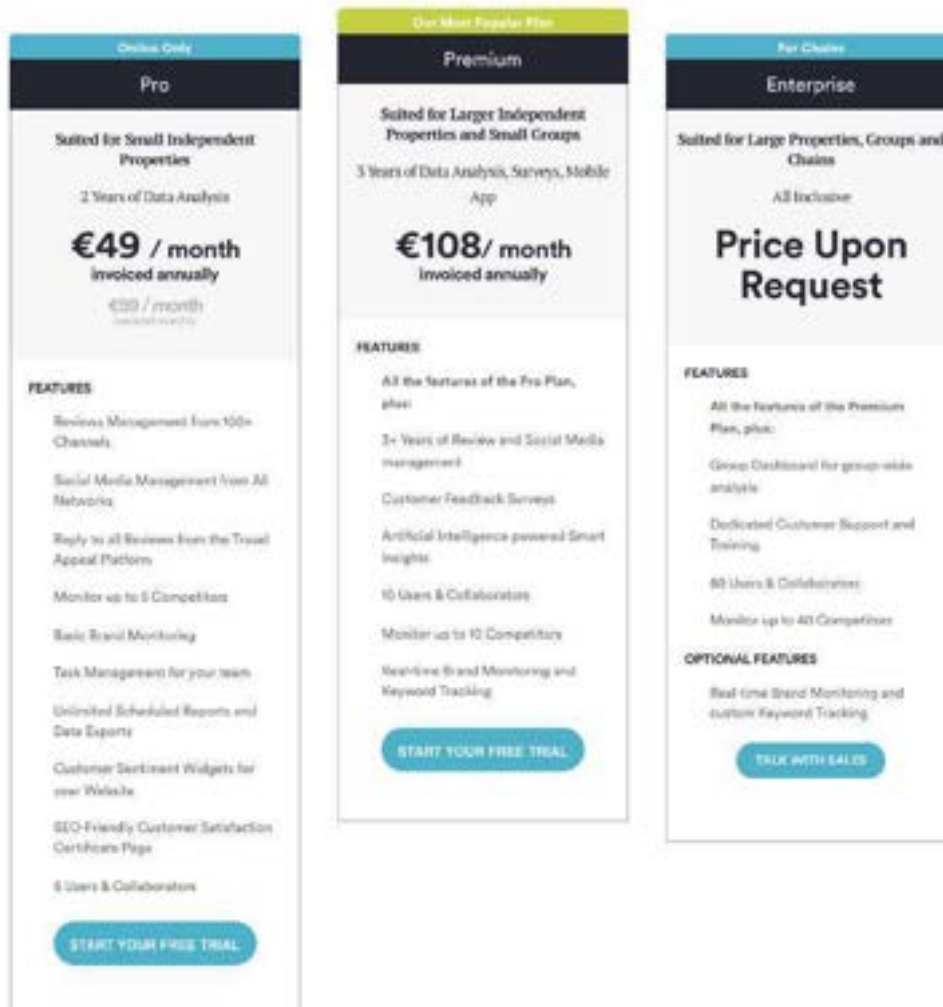- Are they able to understand data from dashboards to improve their business based on tourism flows?

Figure 106 - Price list for Travel Appeal (See more info here https://www.travelappeal.com/plans-and-pricing)

3.10.4. Conclusion: Overall Revenue Stream

On the basis of this and the various revenue models identified, it is also possible to provide a single plan covering the three phases considered so far, that is before, during and after the trip.

Specifically, the platform can offer a monthly or annual subscription on several levels to the interested providers combining the different services offered in the three phases. For example, it is possible to develop two subscription levels:

- **Basic:** This plan includes services in basic and limited versions at a minimum price. Such as, for example, the presence on the E-CHAIN platform in the "before the trip" phase, a limited or minimum number of messages to be sent to travellers in the "during the trip" phase and finally a limited access to the dashboards for the last phase of data management with the possibility of obtaining an updated report every six months or annually.

Advanced: being an advanced plan at a higher price, it can offer a combination of unlimited services. That is, a presence on the E-CHAIN platform and top positions in the route calculator in the "before the trip" phase, a higher number of messages sent to customers and a personalized messaging service in the "during the trip" phase and finally an updated monthly report in the data management phase with unlimited access to the dashboard to allow analysis of the results.

3.11. Conclusions: Business Model Next Steps

After delineating the Business Model Canvas it's evident that the E-CHAIN project could actually bring value to several stakeholders, helping to solve real problems in the areas of interest in Italy and Croatia.

In fact, the Impact Metrics that the project plans to increase in the three main areas of Awareness, Sustainability and Economic Impact are very challenging and their improvement, even if slight at the beginning, could determine a great enhancement for both tourists and the Local Communities with their stakeholder.

During the PILOT Phase all the hypotheses are going to be validated, providing more accurate metrics and adapting the forecasting of the future impact, to determine realistic goals to be achieved.

At the same time, after the PILOT phase the actual costs are going to be better quantified, to understand the needed investment to maintain the project operative.

Anyway, given the premises the E-CHAIN project has all the opportunities to become a fundamental platform for the tourism management and the sustainability sensibilization, starting in the Adriatic Area and then reaching also other coastal regions in Italy, Croatia and the other Mediterranean countries.

Given the high level of interest for the public, the project could be financed by the Local Authorities/Municipalities or by other Public Funds, also collecting sponsorships from other local businesses. Besides, the possibility to define Revenue Streams as a percentage of the real value created makes the project possibly sustainable even without the Public funding.

As for the future evolutions, there are many possibilities to evolve the project, making the platform even more valuable and complete.

The next steps require the Key Partners to discuss all the key questions that emerged in this document, verifying and validating during the PILOT Phase all the open points to better delineate the Model for the future and to decide the organizational form the project it would take after the end of the PILOT phase.

4. TRAINING SESSION ACTIVITY

One of the aims of the deliverable 5.1.1. is to develop an appropriate training activity for each Pilot site according to the E-Chain business model.

The E-Chain platform has great potential since it places the users and their needs on the centre of the travel experiences' system. In detail the E-Chain platform services are Multimodal travel solution (set of services to facilitate choice of route and mode of travel in order to optimize costs and reduce CO_2 emissions. It includes multimodal travel route planning, pre and post travel customer related services and booking module serving as a central node for booking information and redirection to involved operators' booking & ticketing services) and Touristic co-marketing (integrated management of different timetables and the visualization of different kind of information, for example commercial and touristic).

In order to diffuse the E-Chain potentiality to different stakeholders, the training session activity is relevant. It will be diversified for languages and professional sectors (touristic, public administration and commercials).

4.1 The aim of the Training activity

In accordance with E-Chain WP5 objectives (Training activity involving transport operators, interfacing with different professional sectors and creation of new professional profiles, increasing the actual skills of the people who just operating in commercial, mobility and touristic field), the training activity aims to spread knowledge among the stakeholders by promoting a network of contacts including academy, industry, leading experts and the project partners, which will become one of the sources of the information deployed in the training sessions.

The set of training sessions will bring together partners and (future) professionals of the three Pilot Sites: Ancona, Split and Venice. The main goal is to provide a theoretical base of information propaedeutic to understanding the potentiality and functionality of the E-Chain platform.

Transferring knowledge is understood through the creation of a network of experts and information and by making the information obtained available to all interested stakeholders along the time.

Moreover, the design of the Training Sessions keep in mind the principles of Instructional design, and in particular Adult Learning Theory (Knowles):

•   Since adults are self-directed, they should have a say in the content and process of their learning.

- Because adults have so much experience to draw from, their learning should focus on adding to what they have already learned in the past.
- Since adults are looking for practical learning, content should focus on issues related to their work or personal life.
- Additionally, learning should be centred on solving problems instead of memorizing content.

Figure 107 graphically showed the chosen method to delineate the Training Sessions development. The proposed scheme looks like an inverted pyramid, starting from Broad and arriving to Specific, starting from the top:

Learning Outcome: consists in enhancing communication among PPs and (future) professionals through sharing know-how and knowledge and consequently bestow quality and durability to the project outputs, as well as set ground knowledge for future projects.

Learning Objective: consists in deepening awareness and knowledge on the E-Chain project.

Assessment is the systematic process of documenting the knowledge to refine and improve users' learning. It consists in tailoring topics on stakeholders needs.

Teaching Approach compares different methods to enable users' learning. These strategies are determined partly on subject matter to be taught and partly by the nature of the end users.

Figure 107 - Adult Learning Theory (Knowles).

4.2 Training session's framework

The Training Sessions are intended as a Training Activity and also as the shared appointment with the E-Chain Training Actions. The training activity aims to create and consolidate a network among the project partners, between the local authorities, all the interested parties of the specific pilot sites in order to provide a theoretical base of information propaedeutic to understanding the potentiality and functionality of the E-Chain platform.

In order to convey the message clearly to the participants and to present interesting content for the audience, it is proposed to use both Italian and Croatian language. Moreover, to achieve this goal, the training sessions are divided by pilot sites. In Ancona and Venice, the official language will be Italian whereas, in Split will be the Croatian language.

When choosing the training session modality, one decisive factor is the consideration that it would better reach the different audience targets and would better convey the knowledge to very different targets with a different level of awareness.

It is suggested to organize two training sessions for every pilot site: Informative training session and Formative Training session. The training sessions' specifications are described hereafter.

4.2.1 Informative Training Session

The Informative Training Session is dedicated to training and raising awareness to the main issues of E-Chain, from the potentiality of the project to the consequently of the E-Chain platform.

Modality of the session and timing

The Informative Training Session is divided in two parts: the first will be managed in plenary mode, the second as a round table. A chairman (identified among the project partners) will introduce the various guests and coordinate the activities timing. Moreover, in the plenary session each guest will have 15 minutes for their presentation. The two parts of the Informative Training Session will be interspersed with a brief break. After the break will start the thematic round tables. Finally, the event will end with a short debate which will be useful for gathering the ideas in order to organize the contents of the second training session.

Total duration: about 4 hours.

Identification of the audience

To identify the audience and organize the training session the most adequately, a preliminary analysis was performed. For the training session project partners, local authorities and all the

interested parties can attend the online conference. Dissemination is going to be made via invitation through electronic channels, e-mail, social channels and online bulletin boards.

The Informative Training Session is designed to set the grounding knowledge on E-Chain topics, so the vision offered is broad but focused on the aim to create and consolidate a network among the project partners.

The target audience is consequently mainly composed of Transport suppliers (even those who aren't part of the project E-Chain), Public Administration and Travel agencies, community managers, bloggers and travel influencers (online tourism stakeholders). All the attendees to the webinar should own at least basic knowledge on some offered topics.

A few weeks before the event it is necessary to invite the participants to choose the round table topic in which they are interested to join. The preregistration is necessary in order to have a preliminary number of participants and check if at least one category of actors participates in each round table: Transport suppliers, Public administration, and Intermediaries / promoters.

4.2.2 Formative Training Session

The Formative Training Session is focused on the E-Chain platform functionalities. The platform provides to the users three main services, each characterized by specific solutions with the aim of personalising the users' needs. In detail the Formative activity is focused on three periods: before, during and after the trip, when the Infomobility system and Touristic co-marketing services are available.

Modality of the session and timing

The Formative Training Session is divided in two parts: the first one will be dedicated to the presentation of the E-Chain platform and its functions, both presented by a technician, whereas the second one will give space to debate with the aim of exchanging opinions and clarifying any doubts.

The first part is structured as a crash course. This modality of the training session was selected as the most appropriate modality to explain the E-Chain platform to the stakeholders. The videos are freely available to the web repository, whereas the doubts can be solved in the second part: in the "social wall" or faqs.

Total duration: each crash course has variable duration

Identification of the audience

To identify the audience and organize the Formative Training Session the most adequately, a preliminary analysis was performed. For the training session project partners, local authorities and all the interested parties have the free access to the web repository where the crash

courses are uploaded. Dissemination is going to be made via invitation through electronic channels, e-mail, social channels and online bulletin boards.

The Formative Training Session is designed to set the grounding knowledge on E-Chain platform functionality, with the aim to achieve the target audience mainly composed by Transport suppliers (even those who aren't part of the project E-Chain), Public Administration and Travel agencies, community managers, bloggers and travel influencers (online tourism stakeholders) but also to all interested users.

4.2.3. Identification of the topics

An initial analysis, considering the project expected outputs and platform implementation, led to a preliminary list of topics which was submitted to the partners to receive their feedback and better define the most appropriate topics.

Moreover, a topic division between the training typologies were needed because they have to reach different aims. The topics selection divided by training session typology are explained hereafter.

4.2.3.1 Informative training session

The Informative Training Session topics aim to explain the potential of working in synergy with the E-Chain platform. Moreover, the topics are divided into three main groups: Green E-Chian, Connectivity E-Chain, and E-Chain Experience. The topic details are listed below in bullet points.
- Green E-Chain: this section focuses the attention on the environment and consequently to transport solutions which reduce CO2 such as electric mobility, moreover take care also on infrastructure congestion reduction and multimodality to reduce impacts and meet user needs.
- Connectivity E-Chain: this section focuses the attention on the importance of data standardization, harmonization, and exchanging in the transport sector connected to the tourism, by evidencing the benefits of participating in data sharing, moreover, proposes new way of mobility such us MaaS - mobility as a service.
- E-Chain Experience: this section focuses the attention on the importance of services personalization in the tourism sector by promoting the concept of experience such us fourth form of economic value, moreover, it investigates the most appropriate tools of interaction between the user and the destination taking care to the accessibility needs of the users.

4.2.3.2 Formative training session

The Formative Training Session topics are divided in groups referring to the three periods of the trip: before, during and after. Moreover, for each period are linked the E-Chain services, such as Infomobility system and Touristic co-marketing.

4.3 First Training session

On 13 December 2021, the first shared appointment with the E-Chain Training Actions took place. The First Training Session was designed as a dynamic conference by following the guide line of the Informative Training Session described in the previous chapter. It was divided in two parts: the first was managed in plenary mode, the second as a round table. Due to the pandemic period, the event was done in online mode, on the Zoom platform.

4.3.1 Identification of the topics

In order to better tailor the training sessions on the overall needs the topics were shared with all PP in the meeting in Split (10-11 November 2021), to give them the possibility to provide comments on the topics, or suggest new ones. The involvement of the Project Partners was particularly important to enhance the effectiveness of the Training Sessions.

In the first part, for the plenary mode, it was proposed three speeches of 15 min divided by category: public administration, transport stakeholder and private data analysis company, whereas, in the second part, were proposed the round table: Green E-Chain, Connectivity E-Chain, E-Chian Experience. Below they are the covered argument divided by category:

GREEN E-CHAIN

- attention to the environment
- adoption of solutions that reduce co2
- reduction of infrastructure congestion
- electric mobility and the need for a network of charging stations
- multimodality to reduce impacts and meet user needs

CONNECTIVITY E-CHAIN

- standardization and harmonization of data in the transport sector
- big-data for transport and tourism
- MaaS business models / business model canvas
- importance of data exchange / which data?
- benefits of participating in data sharing
- what a stakeholder is required to do (how to participate)
- what information stakeholders are willing to give

- integrated management of passenger flows

E-CHAIN EXPERIENCE

- concept of experience in a tourist destination - the user enters the experience or the experience "enters" the user
- experience as a fourth form of economic value
- why customizes the experience
- where and how to find information on the experience? between material and digital
- accessibility and design for all
- the tools of interaction between the user and the destination

4.3.2 Identification of the Teachers and Experts

For the first part of the training session were searched and selected speakers who could offer an overview of the topics of the E-Chain project.

For each seminarian invited to intervene as an expert, the curriculum information of each speaker and the contents of the proposed topic are indicated below.

A brief introduction follows to each selected speaker with a short biography highlighted on them in gray:

Giulio Bernetti is invited to deepening the topic related to the European H2020 project "Civitas Portis", he is an expert in this topic that collected clear interest from the audience present at the first training session.

GIULIO BERNETTI

Director of the Department of the Territory, Economics, Encironment and Mobility of the municipality of Trieste

PhD, graduated in Civil Engineering - Transport, P.A. executive since 2004 at the Municipality of Trieste and then at the Municipality of Grado. In 2014 he lived in Oman as a consultant for the Ministry of Transport and Telecommunications of the Sultanate. He is currently Director of the Department of Territory Economy Environment and Mobility of the Municipality of Trieste, member of the Management Committee of the Port System Authority of the Eastern Adriatic Sea and President of the URSUS consortium for the enhancement of the Porto Vecchio of Trieste.

Anthony LaSalandra is invited to deepening the topic related to the analysis and elaborations on maritime in the Adriatic Sea, he is an expert in this topic that collected clear interest from the audience present at the first training session.

ANTHONY LASALANDRA

Chief Operating Director of Risposte Turismo

Tourism economist, since 2013 is director of Risposte Turismo, a research and consulting company that has launched and organizes national and international forums including Adriatic Sea Forum - cruise ferry sail & yacht. He coordinates the production of the reports Shopping Tourism Italian Monitor, Italian Cruise Watch and Adriatic Sea Tourism Report. He regularly carries out training and strategic consulting activities with various institutions and organizations.

Diego Melotti is invited to deepening the topic related to the Dynamic Shuttle Platform, he is an expert in this topic that collected clear interest from the audience present at the first training session.

DIEGO MELOTTI

Dynamic Shuttle GoOpti Regional Director

Graduated at Politecnico di Milano in Urban Planning, he has always been passionate about transport and mobility, with a focus on technological innovation and environmental sustainability. He has been in charge of the growth of GoOpti - Dynamic Shuttle in Italy for 5 years, actively contributing to the development of the network of cities and airports served, including the recent launch of ride-sharing in the city of Milano. In addition, he always proudly controls the counter of tons of CO2 saved on the GoOpti platform.

The second part of the training session, the round tables, were moderated by three experts in the round table topics. For each speaker, the curriculum information is indicated below.

Green E-Chain: Focus on the environment and CO2-reducing transportation solutions such as e-mobility, while also addressing infrastructure congestion reduction and multi-modality to reduce impacts and meet user needs.

TERESA AGOVINO

Environmental engineer and sustainable tourism consultant

She works in international cooperation implementing projects with local communities and certifies the sustainability of tourism operators according to the standards of the main international certification bodies recognized by the United Nations. She founded a sustainable tourism startup, Faroo, with the aim of transforming tourism into a positive force for the Planet. Finally, she talks about sustainability through mini pills in his Green Corner.

Connectivity E-Chain: Importance of standardization, harmonization and data exchange in the transport sector related to tourism, highlighting the benefits of participation in data sharing, as well as the introduction of new types of modes such as MaaS - mobility as a service.

CATERINA VIDULLI

Co-founder & CEO Central Marketing Intelligence

A management engineer, Caterina blends her skills in engineering and Big Data Analytics with experience in strategic marketing and business planning, developed working in the field for startups and international companies. Founder of Central Marketing Intelligence, since 2014 she has been working on market surveys and market intelligence on behalf of companies of different sizes and sectors, to help them understand the competitive landscape and improve business results.

E-Chain Experience: Importance of the personalization of services in the tourism sector, promoting the concept of experience as the fourth form of economic value. Also investigated are the most appropriate interaction tools between the user and the destination, with particular attention to the accessibility needs of users.

GIACOMO ANDREANI

Co-founder & CEO Expirit

Co-Founder and Ceo of Expirit, a strategic tourism consulting firm. He designs and implements integrated tourism development projects for the territories and travelers of today and tomorrow. He works side by side with Italian municipalities and regions to create #hospitable and #sustainable #destinations. He is the promoter of the tourist network "Destinazione MaMa" which unites the 55 municipalities of the Province of Macerata.

4.3.3 Agenda

Below the final agenda proposed:

First informative training session - E-CHAIN project

SUSTAINABLE TOURISM IN THE ADRIATIC AREA

Innovative solutions to promote a sustainable flow of passengers between Italy and Croatia.

Zoom Meeting *https://us06web.zoom.us/j/83407161943?pwd=ckJOdmZtcExSTnE2eUViNjZWbTE0UT09*

9:00 – 9:10   **Registration**

9:10 – 9:15	**Welcome and opening**	
	Lorenzo Castelli, *University of Trieste*	
9:10 – 9:30	**Presentation of E-chain project**	
	Marco Cocciarini, *Technical Assistance of the municipality of Ancona, E-Chain lead partner*	

FIRST PART – PLENARY SESSION

9:30 – 9:50	**The future of mobility in the Porto Vecchio Area in Trieste**	
	Municipality of Trieste - Giulio Bernetti,	
	Director of the Department of Territory, Economics, Environment and Mobility	
9:50 – 10:10	**The Adriatic Sea Tourism Report experience: analysis and elaborations on maritime tourism in the Adriatic Sea**	
	Risposte Turismo – Anthony La Salandra, *Director*	
10:10 – 10:30	**GoOpti – Dynamic shuttle platform. Large-scale, low-cost, low-carbon mobility**	
	GoOpti – Diego Melotti, *Dynamic Shuttle Regional Director*	
10:30 – 10:45	**Comfort Break**	

SECOND PART – ROUND TABLES

10:45 – 10:50	**Introduction**	
	Lorenzo Castelli, *University of Trieste*	
10:50 – 12:00	**Round tables suddivision**	
	Green E-CHAIN, *moderation Teresa Agovino - Environmental engineer and sustainable tourism consultant*	
	Connectivity E-CHAIN, *moderation Caterina Vidulli - Co-founder & CEO Central Marketing Intelligence*	
	E-CHAIN Experience, *moderation Giacomo Andreani - Co-founder & CEO Expirit*	
12:00 – 12:15	**Comfort Break**	
12:15 – 12:35	**Presentation of results and satisfaction form**	
12:15 – 12:45	**Conclusions e greetings**	

4.3.4 Attendance First Training Session

The audience of the training session were heterogeneous and geographically distributed between Venice, Trieste and Ancona. Representatives of Public Administration, Transport suppliers and Travel agencies, community managers, bloggers and travel influencers took part in the event. The maximum number reached was 24, a perfect number to manage the round tables. (Figure 108) shows the Zoom screen during the event, the participants were visible in the small windows.

Figure 108 - -Zoom screenshot during the first part of the event.

4.3.5 Dissemination

Dissemination was made via invitation through electronic channels, e-mail, social channels and online bulletin boards. Follows in the Figure 109 and Figure 110 dissemination examples.

Figure 109 - Publication on University of Trieste official website.

Figure 110 - Press release First Training Session on Instagram.

4.3.6 Round Tables Results

The participants had the possibility to choose between three round tables, named Green E-Chain, Connectivity E-Chain and E-Chain Experience. The tables addressed a specific theme, attributable to one of the three salient points of the project: GREEN, CONNECTIVITY, EXPERIENCE.

As planned before the event, the round tables achieved the objective of having an heterogeneous audience mainly composed of Transport suppliers (even those who aren't part of the project E-Chain), Public Administration and Travel agencies, community managers, bloggers and travel influencers (online tourism stakeholders).

Each table was managed by a moderator and an assistant. The moderator had the task of presenting the works, introducing the topics, asking the questions, and finally presenting the results in the plenary. The assistant had the task of managing the screen (the MIRO board), systematizing the information for the final return and monitoring the times.

Before proceeding with the results of the round tables, it is reported the proposed round table approach. It considers the three main topics as a CHALLENGE: through a guided reflection, the participants were invited to share and express their ideas regarding both the definition of the problems and the definition of hypothetical solutions, following the model of the Double Diamond Framework (Figure 111).
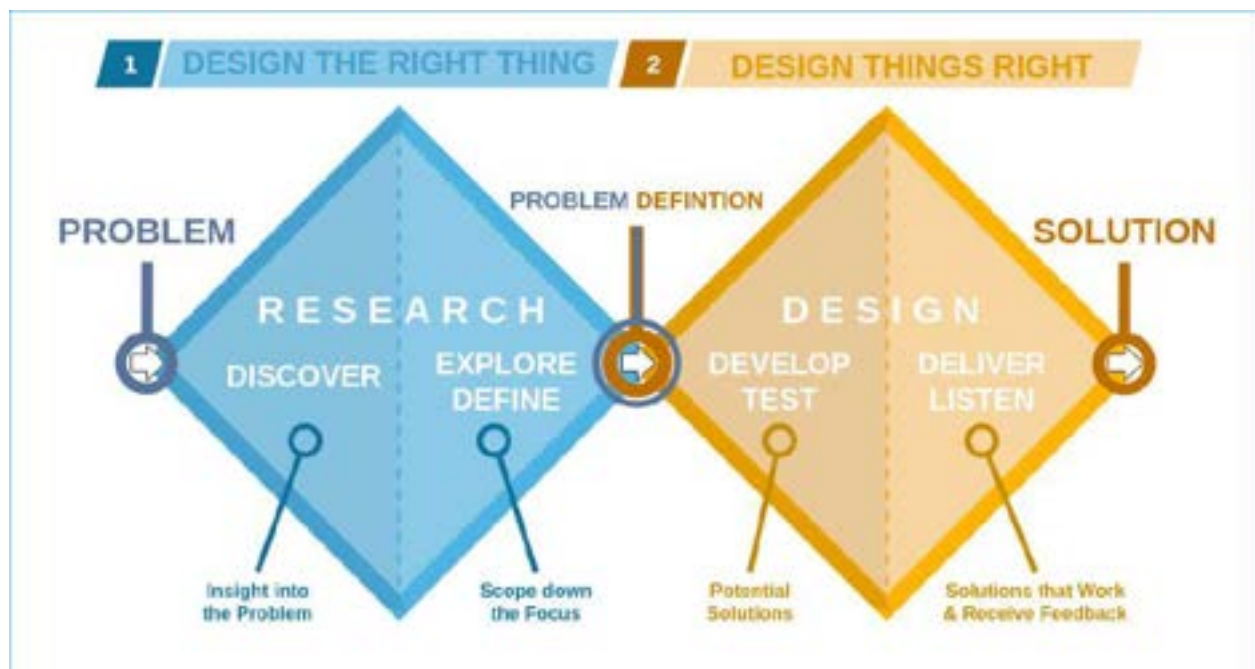
Figure 111 - Double Diamond Framework.

The two diamonds represent a process of exploring an issue more widely or deeply (divergent thinking) and then taking focused action (convergent thinking).

- Discover: The first diamond helps people understand, rather than simply assume, what the problem is;

- Define: The insight gathered from the discovery phase can help you to define the challenge in a different way;
- Develop: The second diamond encourages people to give different answers to the clearly defined problem, seeking inspiration from elsewhere and co-designing with a range of different people;

- Deliver: Delivery involves testing out different solutions at small-scale, rejecting those that will not work and improving the ones that will.

Follows a brief report of the three round tables.

- **E-Chain Experience**
  The starting point of the experience round table was a MIRO board, as shown in Figure 112, and the question how to create a travel experience which can create value for the territory.
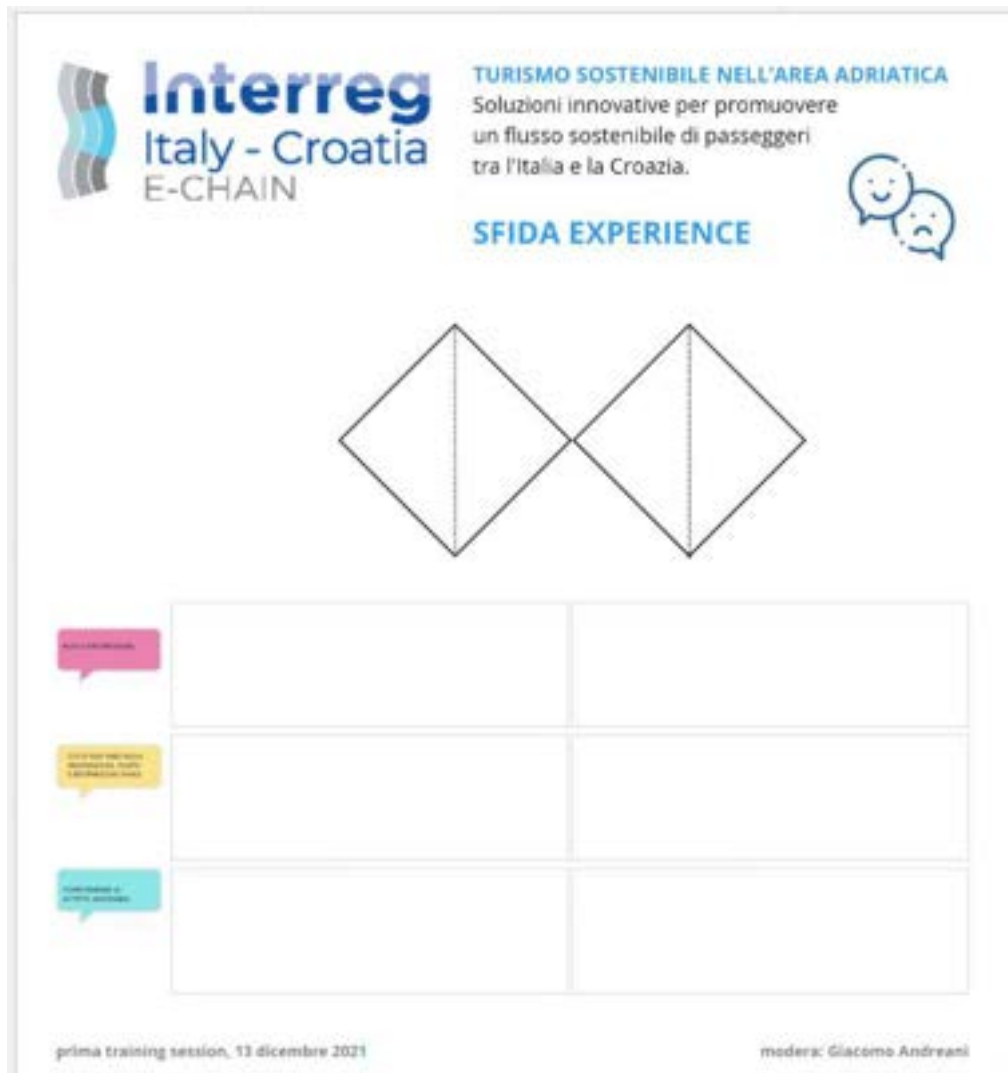
Figure 112 - MIRO board layout.

In the first part, the audience started to think about this topic from many points of view, firstly they realized that the experience is connected to the transformative tourism concept, where the tourists are increasingly sophisticated, connected, demanding, quick to find the information and not willing to waste time.

Secondly, based on the preliminary discussions, three were the main points to focus on: the rule of the information, how to realise sustainable activities and which activity could offer the multimodal stations.

The second part was focused on identifying a number of possible solutions in each of three points of interest before mentioned. The discussion had dealt with topics such as qualitative and quantitative comfort indicators, infopoint, smart working location and multimedia room such as key point in the intermodal node where to find information of the destination's activities, the importance of physical and digital accessibility, as well as the discussion was concluded about the sustainability from social, economic and environmental point of view.

Moreover, the round table ended with the following results:

- the mobility platform has to be accessible; it is important to easily find the information;

- the technology is a tool to help the profanations of the users; the smart concept has to be introduced to offer personalized experience activities;

- the destination network can help to follow the concept of not extracting value from the territory but creating value from it.

- **Connectivity E-Chain**

  The main connectivity round table question was: in a context of integrated management of passenger flows, which data and information are relevant to all stakeholders and how do data sharing systems talk to each other?

  The first part (Figure 113) focused on exploring the topics such as the importance of data exchange, the benefits of participation in data sharing, standardization and harmonization of data across sectors, as well as on MaaS business model, integrated management of user/passenger flows.

  Based on the preliminary discussions, the critical points to focus on were the difficulty and mistrust in releasing and exchanging data between the different sectors, the impossibility to measure data correctly if they are scarce, presence of conflicts of interest and the competition between private parties, criticality linked to the time horizon of European funding, which does not allow for adequate testing of instruments and verification of their viability on the market.

Figure 113 - Round table first part: discover and define the topics.

In the second part, the audience were started to think about a number of possible solutions or fields on which to intervene, including the importance of obtaining accessible and super partes data and consequently the awareness of importance in marketing and communication, as well as the importance of data sharing facilitation to obtain in exchange even more data and try to obtain additional demand, and levelling it out (?).

Finally, the round table ended with a general consideration since a regulation for data management at the European level could help overcome all the critical issues encountered.

- **Green E-Chain**

  The main green round table question was: what affects the choice of using one transport instead of another?

  The discussion immediately converged around the words time (the available time for the trip, the boarding time, crossing time, etc.) and information (no real time data, difficult to know the more sustainable option, few platforms of multimodality, etc.). All the audience decide to conclude the first part by exploring the concept of the awareness of impact of choices further.

Moreover, the second part was focused on identifying a number of possible solutions. The discussion dealt with topics such as data collection, data accessibility, data sharing and data divulgation in an easier way.

Finally, the round table ended by suggesting some solutions to encourage people to choose more sustainable transport solutions, such as multimodal transport cards, virtual travel assistant, incentives for long-term rental, intermodal parkings, and low-cost parking for sustainable vehicles in response to increased payment for the others. The results of the Green E-Chain round table are represented in Figure 114.
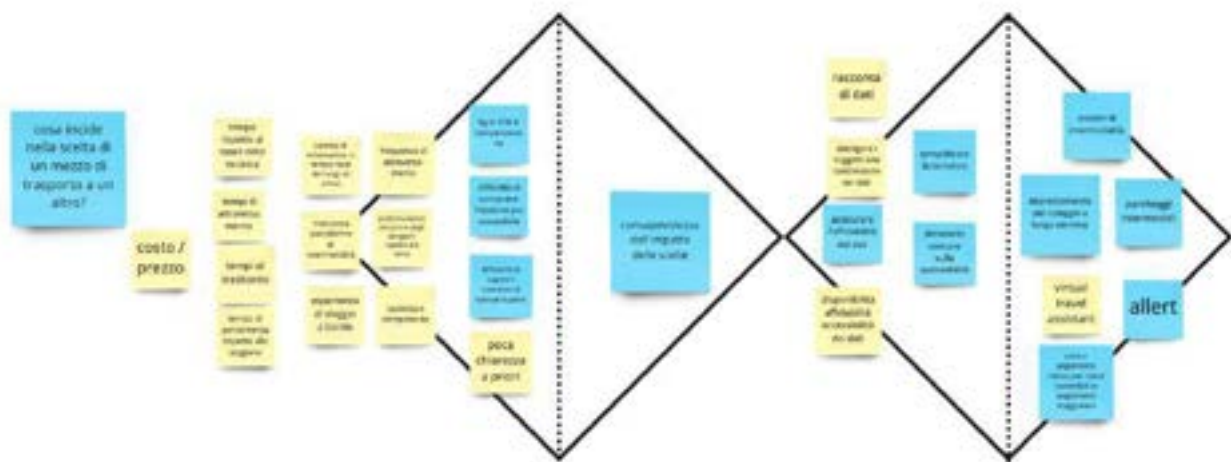
Figure 114 - The results of the round table: the Double Diamond representation.

4.3.7 Training session questionnaire

For the Informative Training Session a questionnaire previously designed has been shared through a link to the audience.

Follows the list of questions proposed to the audience. For each question the audience was asked to express a preference according to the given assessment grid.

Before proceeding with the images related to the graphics of the answers, we report the complete list of questions and the relative evaluation grid proposed.

		Assessment grid	Not at all	Not quite	Neutral	Much	Very much
1	**TOPICS**						
	1.1	The topics were relevant to me					
	1.2	I was familiar with the proposed topics					
	1.3	The topics offered a good overview on issues related to Passengers' flow					
2	**SPEECHES**						
	2.1	The material used for the presentations was coherent and clear					
	2.2	I would find it useful to have the presentations material available for future consultation					
	2.3	The presentations were coherent with the title and the topic					
	2.4	The presentations met my expectations					
3	**CONFERENCE**						
	3.1	The conference contributed to deepen my knowledge on the topics:					
	3.1.2	European projects on mobility					
	3.1.3	New sceneries on mobility (Maas, Electro-mobility…)					
	3.1.5	Sustainable Tourism					
	3.1.6	ICT Tools for Tourism					
	3.1.7	E-Planning Platforms					
	3.1.8	Other					
	3.2	I think these topics should be more disseminated					
	3.3	After the conference my knowledge on the covered topics has improved					
	3.4	I am involved in these topics (e.g. in daily life/at work)					
	3.5	The conference has been well organised					
General assessments:							

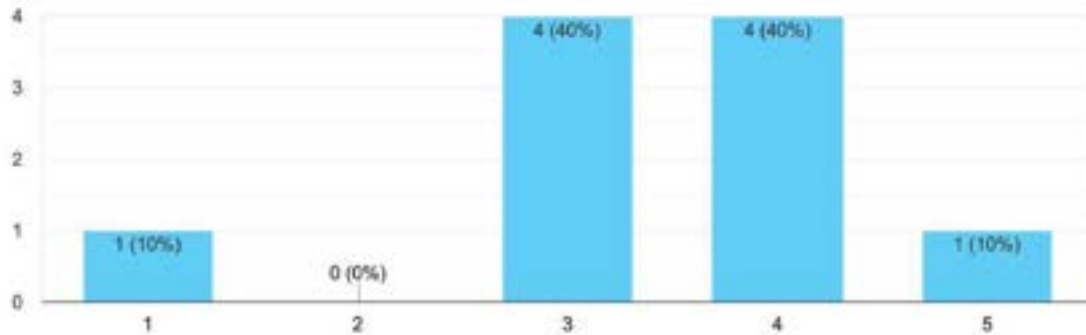| 4.1	Which topic was of major interest?
4.2	Which topics would you like to be deepened further in the next Training Sessions?

TOPICS

The topics were relevant to me
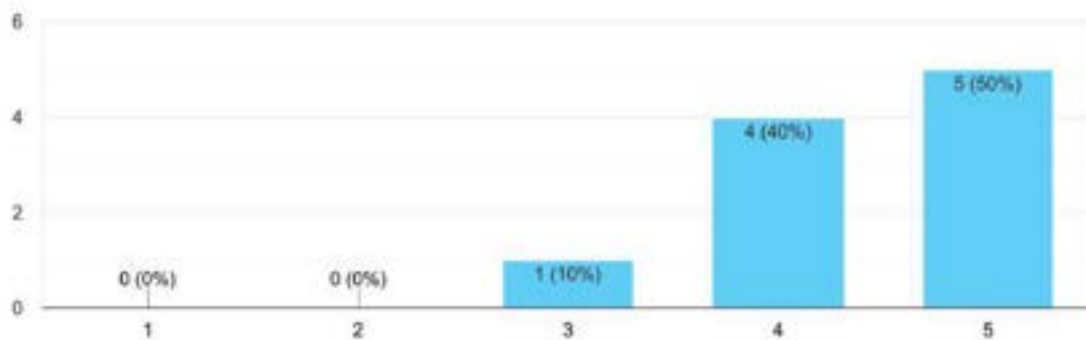*(1 – not at all, 5 – very much)*
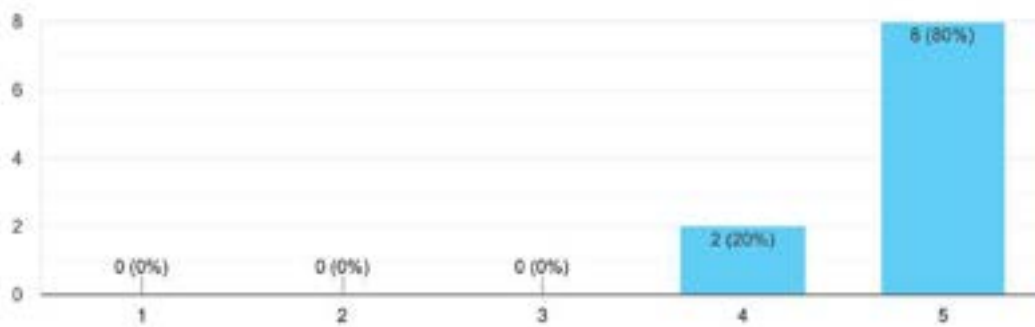
I was familiar with the proposed topics
(1 – not at all, 5 – very much)

The topics offered a good overview on issues related to Passengers' flow
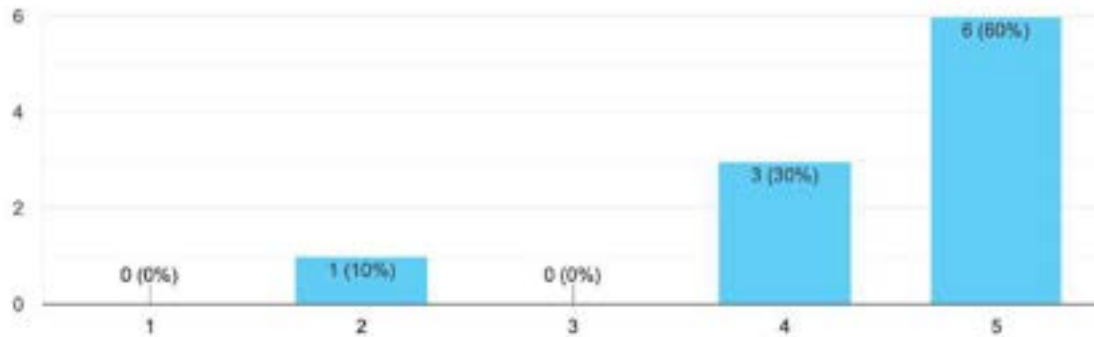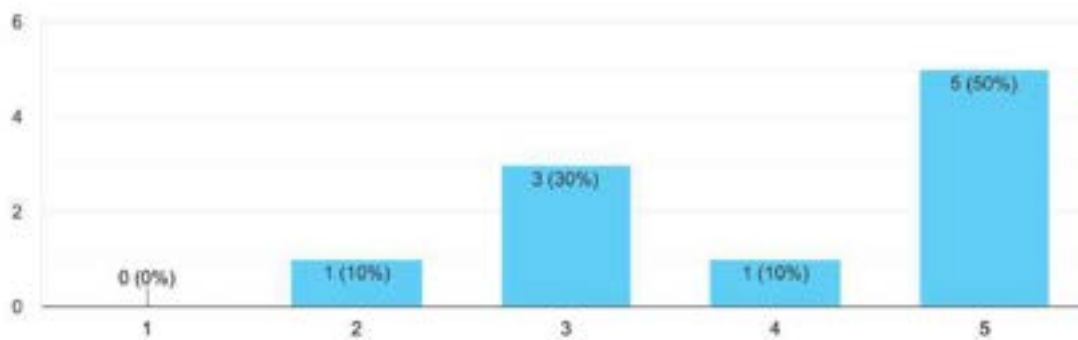*(1 – not at all, 5 – very much)*

SPEACHES

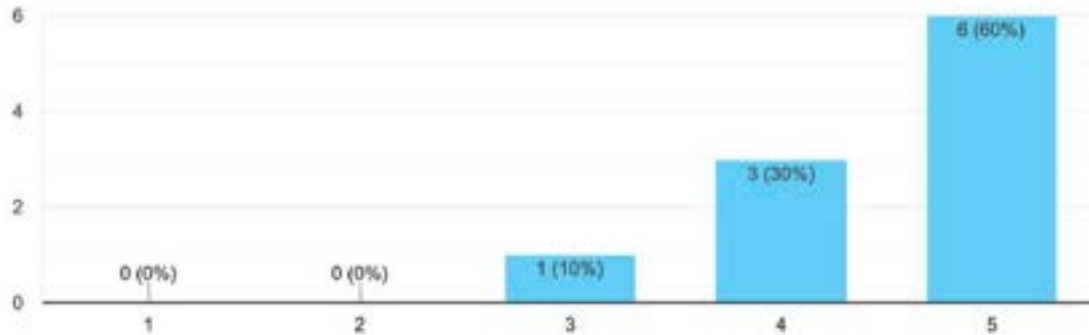The material used for the presentations was coherent and clear
(1 – not at all, 5 – very much)

I would find it useful to have the presentations material available for future consultation
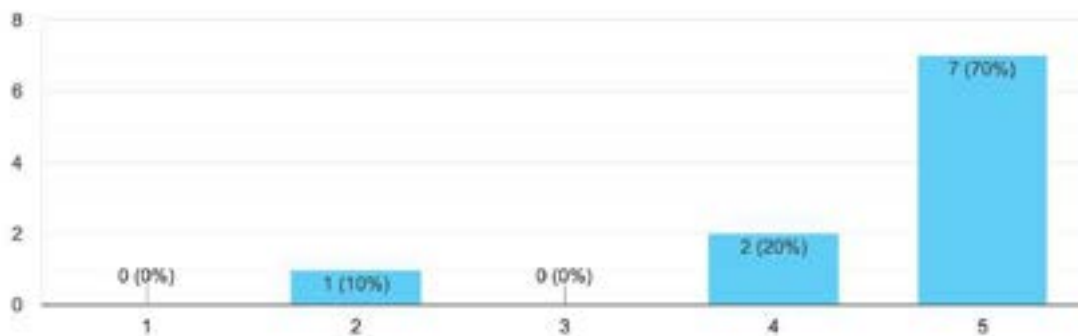*(1 – not at all, 5 – very much)*

The presentations were coherent with the title and the topic
(1 – not at all, 5 – very much)

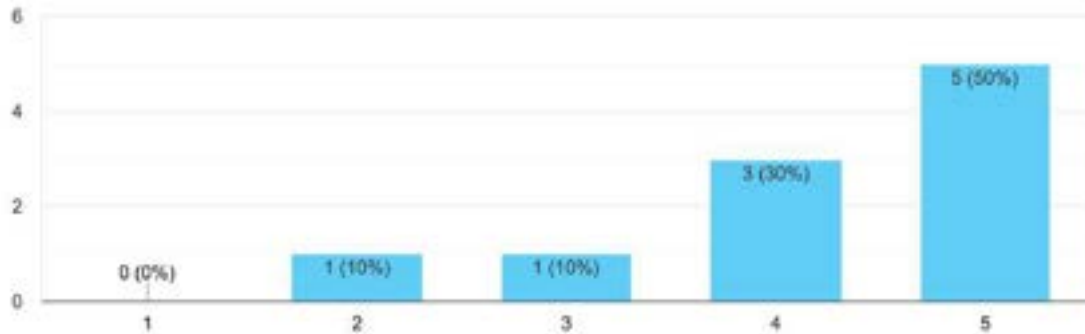The presentations met my expectations
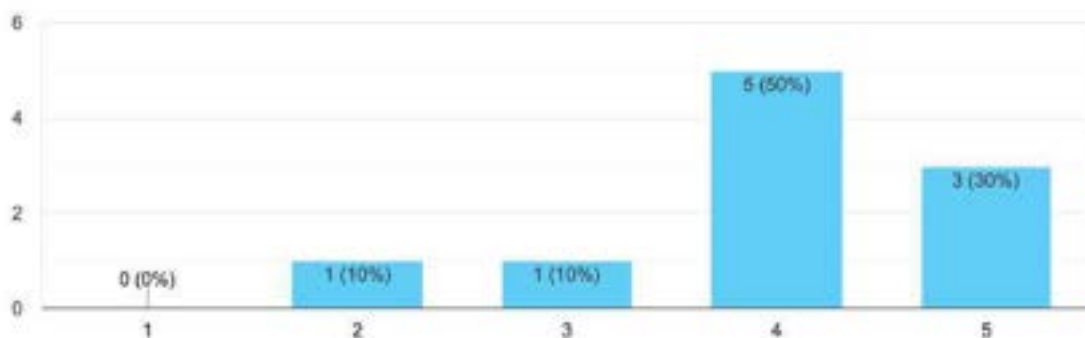*(1 – not at all, 5 – very much)*

CONFERENCE

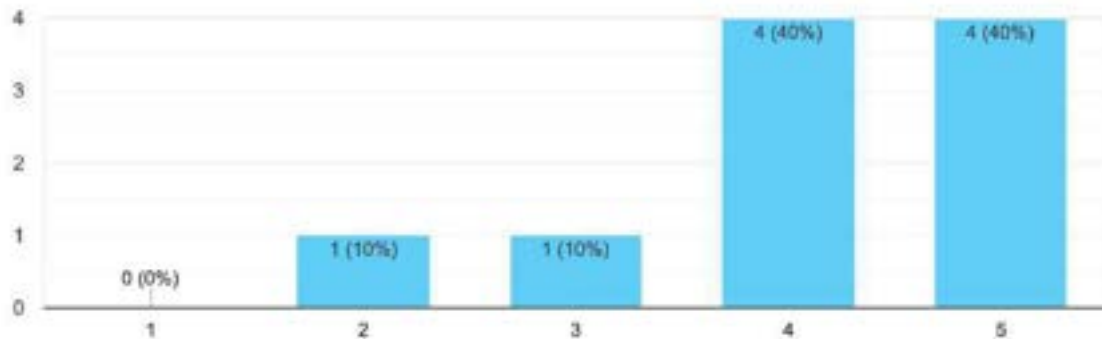The conference contributed to deepen my knowledge on European Projects
(1 – not at all, 5 – very much)

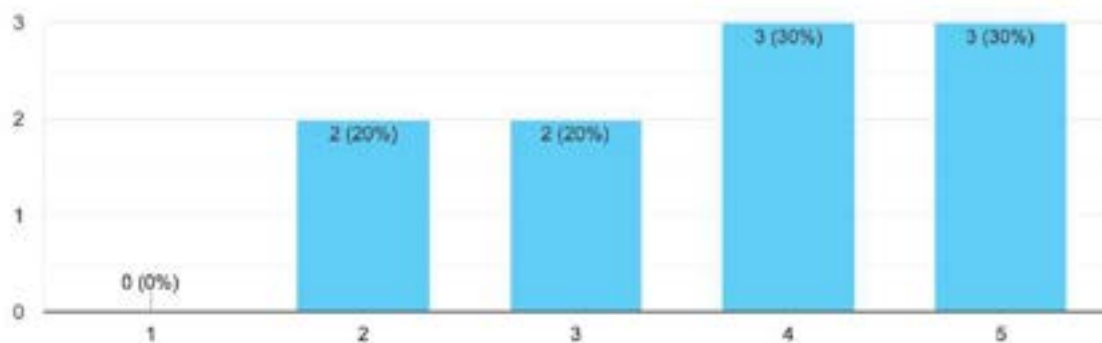The conference contributed to deepen my knowledge on New sceneries on mobility (Maas, Electro-mobility…)
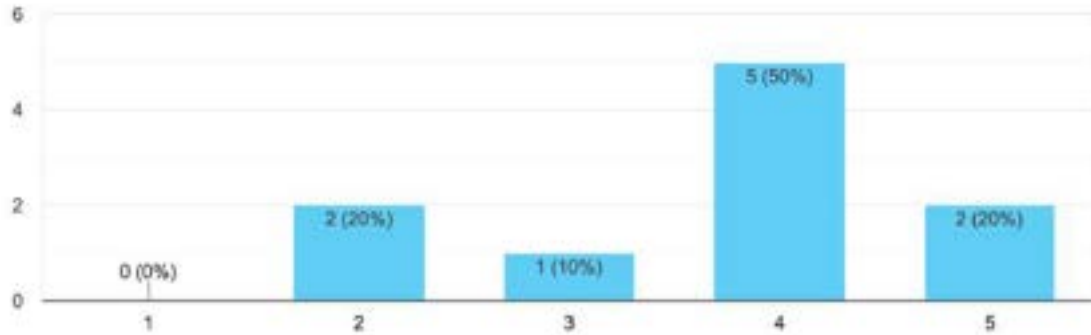*(1 – not at all, 5 – very much)*

The conference contributed to deepen my knowledge on Sustainable Tourism
(1 – not at all, 5 – very much)

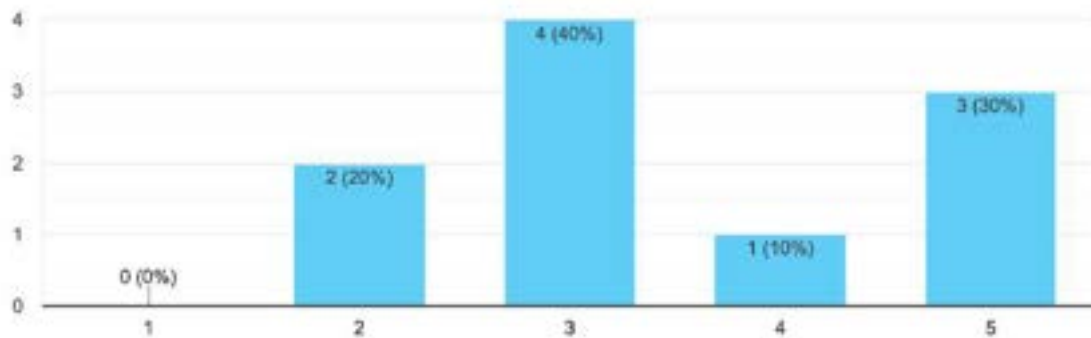The conference contributed to deepen my knowledge on ICT Tools for Tourism
(1 – not at all, 5 – very much)

The conference contributed to deepen my knowledge on E-Planning Platforms
(1 – not at all, 5 – very much)

The conference contributed to deepen my knowledge on other topics
(1 – not at all, 5 – very much)

I think these topics should be more disseminated
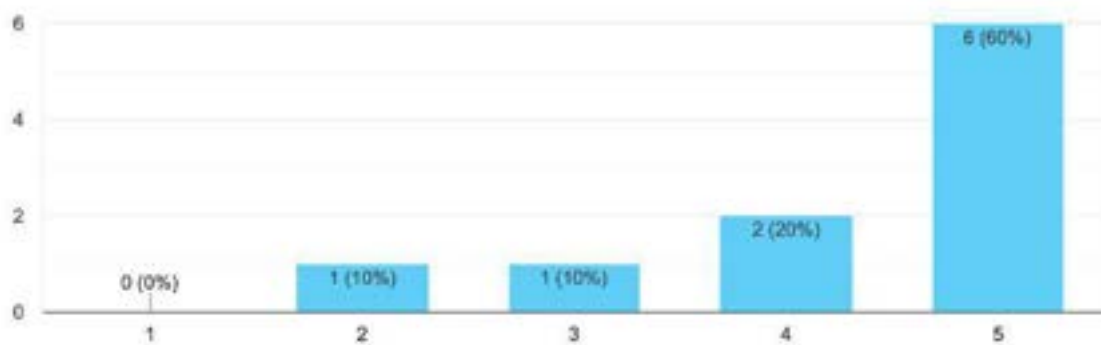*(1 – not at all, 5 – very much)*
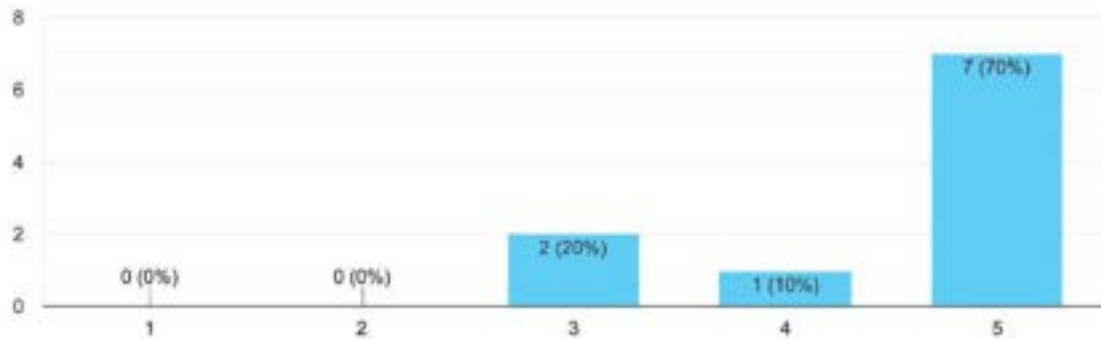
After the conference my knowledge on the covered topics has improved
(1 – not at all, 5 – very much)

I am involved in these topics (e.g. in daily life/at work)
(1 – not at all, 5 – very much)
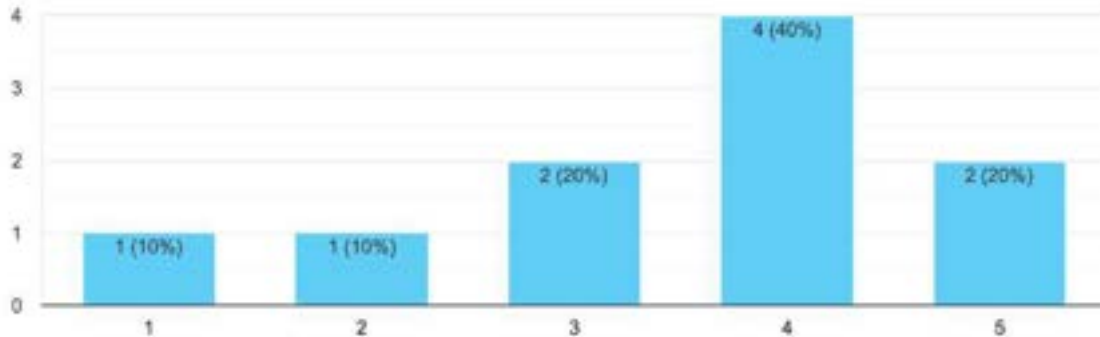
The conference has been well organised
(1 – not at all, 5 – very much)
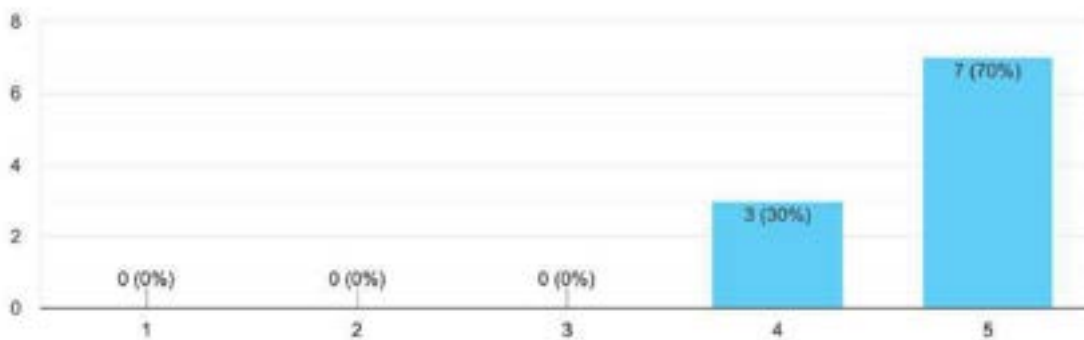
GENERAL ASSESSMENT

Which topic was of major interest?

- The speech: The Adriatic Sea Tourism Report experience: analysis and elaborations on maritime tourism in the Adriatic Sea
- The round tables
- Mobility data analysis
- The speech: The future of mobility in the Porto Vecchio Area in Trieste
- The importance of data sharing
- Tourism experience concept

Which topics would you like to be deepened further in the next Training Sessions?

- Crisis management concept

- E-Chain platform development
- Cruise sector and passenger mobility
- Technical data

4.3.8 Web repository to training sessions relevant material

The first training session was divulged in real time on the E-Chain Facebook channel and it was recorded by the Zoom Platform. The content will be available on the E-Chain official web page.

4.3.9 Overall assessment, evaluations and conclusions

The training session framework was studied in detail, consequently the first training session was a successful event. The audience were watchful in the first part and were interactive in the second one by giving important information for the E-Chain platform development. Certainly, the results of the training session are also useful to increase the quality of the E-Chain project. Moreover, the first training session will be an example for the second one, planned in the next months for the Croatian pilot site.

In the schedule of the next months is also a formative training session. For pandemic reasons, probably also this event will be done online.

5. CONCLUSION

This document illustrates the business potential of the E-chain platform. It starts with an analysis of the market situation, to understand the interest of the potential users, the competitive scenario in which the E-Chain project is going to compete and the best practices from other players in the international scenario. Moreover, the analysis quantifies fundamental aspects such as the reference market, active demand and competition, or the already existing solutions that offer the functions outlined for E-Chain.

These findings have been achieved by studying and quantifying Google searches, to better understand what people are looking for about the topics of interest for the project and how their interests are changing over time.

This analysis shows that

(a) the there is a mutual touristic demand between Italy and Croatia, in particular from the Italian side toward Croatia, (b) the users are already aware of the different ways of transport to reach the countries, so they search on Google directly the ferries, flights and bus solutions, and (c) some regions in Italy and in Croatia are not so aware of the other countries, so it's possible to increase the tourist demand by addressing those users.

The interest in "green" topics, such as Carbon footprint and Co2 savings, is one of the main goals of the E-CHAIN platform. However, the attention for "carbon footprint" in Italy and Croatia appears to be very low when compared to other countries of the world. It means that E-Chain has to take a broader approach offering content about environmental tips and it has to educate the potential users to raise their interest in such issues.

Then the analysis focuses on the different players on the market divided by the different phases of the trip that E-CHAIN is going to work on, such as the phases "before", "during" and "after" the trip to define the opportunities, risks and key success factors.

The E-CHAIN travel platform "before the trip" has some competitive advantages that could make it stand out from the other existing platforms: it's focused on the Adriatic Area, it integrates several services that are important for travellers on condition that the contents are interesting and valuable, the graphic design is modern and clean, and the experience is user-friendly.

Note that E-CHAIN is the only CO2 calculator that is able to suggest the best way of transport that reduces emissions as long as results are shown in a visual way, in order to be shared on social media, and the data analysis is the most in- depth and detailed possible. There are also

some risks to consider: users might not understand the value of the emission calculator or not use the platform at all.

The "during the trip" section also has some competitive advantages: It's the first "green" travel alert service and co-marketing project in the Adriatic area and therefore it would be convenient for travel companies to outsource the customer care services. There are however some risks associated with travel companies to consider: they could be not so keen to share their clients' data because of privacy problems and to avoid cannibalization of their services. In addition, those that are not already offering these customer care services could start doing it by themselves, not using the E-CHAIN platform anymore. Finally , users could not consent to receive the travel information. Therefore it's very important to show them the value of joining the project.

Although Customer Relationship Management (CMR) supports all relationships and interactions of companies and helps stay in touch with customers, there are some key questions to answer about the alerts sent to users; for instance, how to access travellers data and obtain their consent to receive those alerts in order to be legally compliant, which legal entity will be in charge of the data and what information/promotions could be sent in the following months after the trip.

"After the trip" E-CHAIN provides a full service that includes the customer care alerts and a strong intelligence service to the travel companies that join the project. Risks are related to the data in case a low volume of data is available or only a small number of local businesses use such data. Legal aspects about sharing performance data are also to be addressed. Some key factors to consider are the choice of KPIs computed from the available data, which could really bring value to the local activities and local authorities, and the definition of a periodic update of the data.

This market analysis paves the way to the Business Model of the E-CHAIN platform, which is a fundamental step to set how the whole project would operate and create value in the future.

More in detail, the business model of the E-CHAIN project defines how it creates value for all the stakeholders involved, through relationships, channels and activities. Then, it defines how the project can be sustainable after the end of this INTERREG project , generating value over time and requiring costs that can be covered.

To create the Business Model, a strategic management tool to define and communicate a business idea or concept has been used: the Business Model Canvas (BMC) version for non-profit projects. The Business Model Canvas for E-CHAIN is a one-page document which works through the fundamental elements of the project, structuring an idea in a coherent way

through 9 key elements: partners, activities, resources, value propositions, beneficiary relationship, channels, beneficiary segments & stakeholder, cost structure and impact metrics.

The E-CHAIN project has several types of stakeholders for whom it intends to create value, then the Value Proposition is the basis of any business/product. It is the fundamental concept of the exchange of value between the project/business and its stakeholders. Specifically, the E-CHAIN platform has as its primary Value Proposition to improve connectivity between Croatia and Italy and includes several services to satisfy different user needs.

After delineating the Business Model Canvas, it appears that the E-CHAIN project could actually bring value to several stakeholders, helping to solve real problems in the areas of interest in Italy and Croatia and become a fundamental platform for the tourism management and the sustainability sensibilization, starting in the Adriatic Area and then reaching also other coastal regions in Italy, Croatia and the other Mediterranean countries.

The document's last chapter regards the training session activity, essential to disseminate the E-Chain potentiality to different stakeholders, spreading knowledge among them by promoting a network of contacts including academy, industry, leading experts and the project partners. The different audience targets are reached by two training sessions for every pilot site: Informative training session and Formative Training session.

The Informative Training Session is dedicated to training and raising awareness to the main issues of E-Chain. The aim is to explain the potential of working in synergy with the E-Chain platform in accordance with three main areas: Green E-Chain, Connectivity E-Chain, and E-Chain Experience.

On the other hand the Formative Training Session is focused on the E-Chain platform functionalities. Topics are divided in groups referring to the three periods of the trip: before, during and after. Moreover, for each period the E-Chain services, such as Infomobility system and Touristic co-marketing, are linked.

The first training session, held on 13 December 2021, was designed as a dynamic conference divided in two parts: the first was managed in plenary mode, the second as a round table. Due to the pandemic period, the event was done in online mode, on the Zoom platform.

In the first part, for the plenary mode, three speeches of 15 min were proposed, each offering an overview of the topics of the E-Chain project, divided by category: public administration, transport stakeholders and private data analysis company.

In the second part, three parallel round tables were proposed: Green E-Chain, Connectivity E-Chain, and E-Chain Experience, each moderated by an expert and an assistant. A questionnaire previously designed has been shared through a link to the audience.

The training session aided participants to understand, rather than simply assume, which are some key questions, such as how to create a travel experience which can create value for the territory, how to mitigate difficulty and mistrust in releasing, exchanging and measuring data, what affects the choice of using one transport mode instead of another one, and how to enhance awareness of users about the environmental impact of the choices made.

It also encourages people to give different answers to some clearly defined problems: the destination network can support the concept of not extracting value from the territory but creating value from it, a regulation for data management at the European level could help to overcome all the critical issues encountered, the definition of a community vocabulary on sustainability can help in simplifying complex issues and it would help to enhance the interest of users in this field.

Different solutions at small-scale where also delivered: the mobility platform must be accessible and offer personalized experience activities, the awareness of importance in marketing and communication, as well as the importance of data sharing facilitation, the availability, reliability, accessibility of emissions data and economic advantages for virtuous subjects (i.e., reduced pay zones for sustainable vehicles).

Overall, this first training session was a successful event, useful to increase the quality of the E-Chain project. It will be used as an example for the future one, to be soon held at the Croatian side.

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