Deliverable D 3.2
List of operational KPIs, analysis of the users' satisfaction and methodology as a whole, F-REL

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1. Executive Summary

Since the main aim of the IP4MaaS project (S2R-OC-IP4-01-2020, GA 101015492) is to design, execute, monitor, and assess the Shift2Rail IP4 demonstrations by liaising between CFMs, TSPs, and users, it will be necessary to determine the indicators that will allow evaluating if the tool adds value to the already existing webs and other services TSPs provide to the travellers.

Deliverable 3.2 will illustrate the final list of operational KPIs analysis of the users' satisfaction for both Transport Service Providers (TSP$_s$) and travellers with the new approach. Moreover, the methodology of this deliverable will focus on the calculation of effectiveness.
The iterative process used in IP4MaaS involves the planning process and includes 2 iterations of the planning that correspond to 2 phases of pilots. The iterations are named, respectively, C-REL (core release) defined inD3.1 and F-REL (final release) described in this deliverable.

F-REL provides the preliminary information for consistent monitoring of IP4 solutions in real environments. Also, a market acceptance analysis will be done through an assessment based on the current and future needs and expectations of travellers and TSPs when using IP4 solutions.

After setting the methodology of the IP4MaaS project compared to other IP4 projects, an operational list of relevant Key Performance Indicators (KPIs) will be considered in the assessment of each demonstration. The list is defined by considering CFMs recommendations, indicators from other projects such as Shift2MaaS, and other literature review technical documents.

In addition, after providing an updated list of KPIs which has been introduced in C-REL (D3.1), this deliverable presents an update of the methodology, the User Satisfaction Index (USI) survey, which is dedicated to the 6 demo sites (Athens, Barcelona, Padua, Warsaw, Liberec, and Osijek). This methodology determines the indexes (one per TSPs and one for travellers) and defines the Effectiveness formula.

A statistical approach to the significance of the results is also considered to identify the number of travellers to be involved through the user engagement strategy per each functionality "j" and a specific TSP "k," which will serve as input data for "*D4.4. User engagement strategy per each demonstrator*" (M15).

This F-REL deliverable feeds demonstrations' performance (WP5) and the performance assessment (WP6). In this Deliverable D3.2, the list and metric of KPIs, the methodology to measure the satisfaction index through surveys, and the methodology as a whole about how to manage all this information together will be updated based on the fundamental capabilities of the
demonstration planning (WP4) and the demonstration execution (WP5) are identified in D3.1.

2. Abbreviations and acronyms

Abbreviation / Acronym	Description
CFM	Calls for Members
EU	European Union
GA	Grant Agreement
IP4	Innovation Programme 4
IT	Information Technology
JP	Journey Planner
KPI	Key Performance Indicator
LBE	Location Based Experiences
MAAP	Multi-Annual Action Plan
MaaS	Mobility as a Service
S2R JU	Shift2Rail Joint Undertaking
TSP	Transport Service Providers
USI	User Satisfaction Index
WP	Work Package
WPL	Work package leader

3. List of figures

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5. Background

The present document constitutes the Deliverable D3.2 "List of operational KPIs, analysis of the users´ satisfaction and methodology as a whole, F-REL" in the framework of the WP3, Task 3.1, and Task 3.2 IP4MaaS project (S2R-OC-IP4-01-2020, GA 101015492).

As a starting point, this deliverable will set the terminology list used in this project, summarizing the concepts from the previous IP4 projects. Those new concepts introduced by the IP4MaaS project will be differentiated, and special attention will be paid to those topics with a different meaning than the other IP4 projects (MaaSive, RIDE2RAIL, and COHESIVE).

This deliverable, as the F-REL version, will focus on the update of the methodological framework to obtain the selection of the final list of KPIs to be used for the evaluation of demonstrations that will be held in WP5 (Task 5.2 Barcelona demonstration, Task 5.3 Padua demonstration, Task 5.4 Athens demonstration, Task 5.5 Osijek demonstration, Task 5.6 Liberec demonstration, and Task 5.7 Warsaw demonstration). The final list of operational KPIs is included in this Deliverable as D3.2 "List of operational KPIs, analysis of the users' satisfaction and methodology as a whole, F-REL" (M17) and also will be included in D3.3 "Final version of the methodological framework for future projects" (M30).

After explaining the methodology to define the list of KPIs in all the demonstration scenarios and providing one as an example, this deliverable indicates the methodology to perform the user satisfaction index (USI) questionnaires that will be asked to the users to evaluate their satisfaction with the IP4 solution[1] and profoundly explain how the effectiveness will be calculated for each user profile and the technological innovation.

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[1] IP4 solution refers to the Information technology solution, which includes different modules or functionalities, that is being developed by previous projects in Shift2Rail Innovation Program 4 (IP4), which include ATTRACkTIVE, CO-ACTIVE, MaaSive, and CONNECTIVE projects.

6. Objective/Aim

IP4MaaS WP3 has prepared this document to provide a comprehensive framework for setting the final list of KPIs to evaluate the IP4MaaS tool in each of the 6 demonstration sites.

This document has the following objectives:

- Providing an update in terms of methodology to apply in the final list of operational KPIs related to each specific demo site Providing the final list of operational KPIs regarding both travellers and TSPs
- Providing an updated version of USI (User Satisfaction Index) questionaries dedicated to each demo site

The methodological framework of this deliverable aims to select the final list of operational KPIs (Key Performance Factors) and analysis of Users' satisfaction (Shift2MaaS project 2020).

Moreover, after defining the concept of methodology, the evaluation of the performance (Han et al. 2020) of each function will be done in USI (User Satisfaction Index) questionnaires which users fill out to calculate the Effectiveness of each profile and the technological innovation (Palengi et al. 2021).

7. Terminology

This section will describe an overview and update regarding the changes from D3.1. Concerning the last conference paper submission of the methodological framework based on Efficiency in TRA Lisbon 2022, Portugal, the review team of TRA2022 has offered the replacement of "Efficiency" with "Effectiveness." The reviewer noted that the term 'efficiency' refers to a system's ability to answer users' needs. In economics or engineering, efficiency is commonly understood as the amount of output compared to the number of resources consumed. Measuring the ability of the system to meet users' and other stakeholders' needs is something different from efficiency, as it is understood by most engineers and economists. In this case, the aim is to measure the ability of innovative technologies to address travellers' and transport service providers' needs but not necessarily compare it to the number of resources consumed for implementation. So, as a result, the word "Effectiveness" is a better option than "Efficiency" to measure this concept.

Table 1. Glossary of the most relevant terms in the IP4MaaS project and comparison with the terminology of other IP4 projects

TERM	IP4MaaS DESCRIPTION	MaaSive DESCRIPTION	Ride2Rail DESCRIPTION	COHESIVE DESCRIPTION
Effectiveness	Metric on how IP4 solutions match the needs and expectations of travellers and TSPs, from the perspective of an aggregated analysis and per each group of travellers in intersectional analysis.	-	-	-

The methodology used in this deliverable sets the concept of "demonstration scenario" (IP4MaaS project. D3.1, 2021), which is the intersection of a new technology offered to travellers and a TSP (Transport Service Provider) that is offering it, and the "Effectiveness" as a metric on how this new technology is matching needs and expectations of these travellers and TSPs (Transport Service Provider), from the perspective of an aggregated analysis and per profiles of travellers in intersectional analysis. (Ahmadi and Hooshangi 2015).

To calculate the "Effectiveness" of new technology in a specific "demonstration scenario," two kinds of quantitative data, one objective and another subjective, are required (Ngossaha et al. 2017).

8. Objective data: Operational KPIs

A list of operational KPIs (Key Performance Indicators) measuring the gain of benefit for the TSP (Transport Service Provider) and the travellers by integrating innovative technology into the TSP's services (Litman 2016) can be identified in the table 2. Innovative technologies listed in this table are new functionalities developed in the Innovation Program number 4 (IP4) according to the Shift2Rail program (Shift2Rail Master Plan 2015). These operational KPIs will be gathered directly from the cloud system of these IP4 functionalities automatically regularly.

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Table 2. List of operational KPIs per functionalities

Number	Innovative Technology (IP4)	Linked to Traveler/TSP	KPI	Units	Already validated by CFMs?
1	Journey Planner (JP)/ Offer Builder	Traveler	Number of involved modes of transport in the trip (multimodality)	Average number of transport modes per trip	Yes
1	Journey Planner (JP)/ Offer Builder	Traveler	TSP Web-services acting as JP integrated into the IP4 ecosystem	Number of TSP integrated	Yes
1	Journey Planner (JP)/ Offer Builder	Traveler	A successful proposal or solution accepted by travellers (due to the integration of transport modes)	Number of travel solutions shown per day	Yes
1	Journey Planner (JP)/ Offer Builder	Traveler	Available travel solutions or options issued by TSP for travellers to reach their destination (due to the integration of transport modes)	Number of travel solutions shown per day	Yes
2	Booking	Traveler	Number of offers booked per day	Number of trips booked per day	Yes
3	Issuing	Traveler	TSP web-services for issuing process integrated into the IP4 ecosystem	Number of TSP integrated	Yes
3	Issuing	Traveler	Successful issuing of multimodal travel solutions	Number of issues per day	Yes
4	Mobility package's	Traveler	Number of mobility packages offered	Number/year	No
5	Validation and inspection	Traveler	Total number of Ticket(s) purchased	Number of tickets validated per day	Yes
6	Trip tracking	Traveler	TSP locations (stations, platforms) available for	Number of TSP locations	Yes

			navigation		
6	Trip tracking	Traveler	Successful delivery of notifications on the status of a planned trip	Number of successful notifications per day	Yes
7	Alternative's calculation	Traveler	Service offerings to travellers (in case of disruption)	Number of services per day	Yes
8	Location-based experience	Traveler	Number of users using the entertainment services	Number of users per day	Yes
8	Location-based experience	Traveler	Time using the entertainment services	Number of seconds per connection	Yes
9	Navigation	Traveler	Number of connections to the Navigation function	Number/day	No
9	Navigation	Traveler	Time of connection to the Navigation function	Seconds of connection/day	No
10	Traveller's feedback	Traveler	Number of feedbacks received	Number/day	No
11	Trip Sharing	Traveler	Number of trips shared by more than one traveler	Number of trips shared	Yes
12	Guest user	Traveler	Number of connections without a password	Number/day	No
13	Preferences and profiles	Traveler	Number of profiles handled	Number/day	No
13	Preferences and profiles	Traveler	Number of features handled	Number/day	No
14	Group traveling	Traveler	Number of connections to the group traveling function	Number/year	No
14	Group traveling	Traveler	Number of travelers involved	Number/year	No
15	Asset manager	TSP	Number of services integrated by a TSP	Number/year	No
16	Contractual management	TSP	Number of mobility packages handled	Number/year	No

	marketplace				
16	Contractual management marketplace	TSP	Number of involved stakeholders	Number/year	No
17	Business analytics	TSP	Number of connections to Business analytics by TSP	Number/day	No
17	Business analytics	TSP	Time connected to business analytics by TSP	Seconds of connection/day	No
18	CEP configuration	TSP	Number of configurations	Number/year	No

Each KPI is measured in a specific unit, and it will be converted into a dimensionless KPI, with a value between 0 and 1, by dividing each KPI linked to a specific functionality by the maximum value measured for this KPI among all TSPs. The KPI is defined in a mean that the higher, the better, so a dimensionless value close to 1 will always be better than a dimensionless value close to 0 (IP4MaaS project. D4.2, 2022).

Per each demonstration scenario "D" or living lab, several User Journeys "i" were considered with a different travel solution (Scheiner 2006) to go from an origin to a destination through the combination of several means of transport (TSP "k"). The previous list of KPIs was proposed based on the technological capabilities of the TSP "k" for the integration of an IP4 functionality "j" (IP4MaaS project. D3.1. 2021), as depicted in Figure 1.
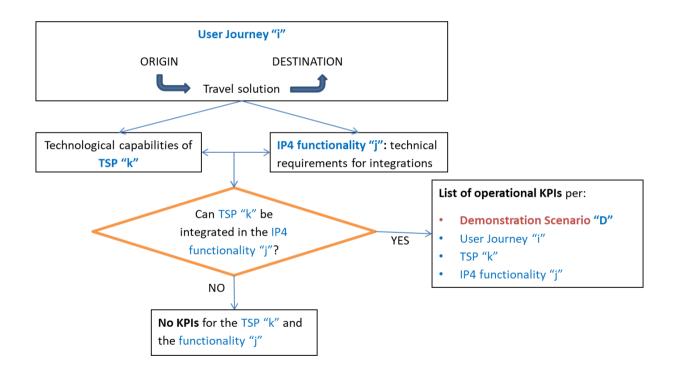

Figure 1. Flowchart to define KPIs

9. Subjective data: User Satisfaction Index (USI) surveys

Two User Satisfaction Indexes (USIs), one for travellers and another for TSP$_s$, measure their opinions about a specific new technology's utility (Bamberg et al. 2011). These indexes are calculated from answers to surveys:

- The USI questionnaire for **travellers** evaluates questions about needs and expectations from 1 (strongly disagree) to 5 (strongly agree) and collects socio-demographic information of the traveler to conduct an intersectional analysis (Misra and Panda 2017) (Pelangi et al., 2021).
- The USI questionnaire for **TSP$_s$** contains questions about the satisfaction of the TSP with the new integrated technology (Maranghi et al., 2020).

The USI questionnaire for **travellers** is structured in 2 sections:

Part A: questions about needs and expectations. This questionnaire includes a specific section with questions for all profiles and a second section with profile-based questions, which will be only answered by users that select this profile in the socio-demographic questionnaire (Annex 1).

Part B: Socio-demographic questionnaire for travellers (Annex 2) that will support the analysis of satisfaction per each profile vector "r," as a set of socio-demographic characteristics of the traveler (IP4MaaS project. D3.1. 2021).

The USI questionnaire for travellers aims to evaluate their satisfaction level with those IP4 functionalities related to travellers among those listed in table 2 and others for which an operational KPI has not yet been defined (MaaSive Project 2020):

1. Journey planning function: The utility to find routes involving different modes of transport (Ahmadi and Hooshangi 2015)
2. Booking function: The utility to reserve and purchase both a specific ticket and multimodal tickets (Han et al. 2020)
3. Issuing function: The utility to provide online tickets that can be validated and inspected through the mobile application
4. Mobility package's function: The utility to offer the packages of trips with better offers to go from an origin to a destination
5. Validation and inspection function: The utility to validate and inspect digital tickets (QR code, Voucher) through the application.
6. Trip tracking function: The utility to observe real-time information about your trips, such as the expected time of arrival, expected time of departure, the timetable, and traffic information
7. Alternative's calculation function: The utility to help finding alternative accommodation in case of a trip disruption.
8. Location-based experience (LBE) function: The utility to provide and discover entertainment services, such as quiz games or commercial offers provided during the trip.

9. Navigation function: The utility to guide and direct travellers in using the correct metro or bus stop, especially in the interchanges among different means of transport.
10. Traveler's feedback function: The utility to allow travellers to submit or provide feedback about delays, cleanness of stations, disruptions, and crowdedness on public transportation or road environment.
11. Trip sharing function: The utility to allow travellers to share their trip with other travellers or friends and family (car sharing, bike sharing, taxi sharing).
12. Guest user function: The utility to allow travellers to use the application as a guest and the features and accessibility provided in the application when travellers use it as a guest.
13. Preferences and Profiles function. The utility to allow travellers to observe and check the quality level of provided features on their Profile application.
14. Group traveling function: The utility to allow travellers to organize group travels with other travellers.
15. LBE functionality (Location-based experience): The utility to allow the building Location-Based Experiences for the user.

The USI questionnaire for TSPs (Annex 1) aims to evaluate the satisfaction level with those IP4 functionalities related to TSPs among those listed in table 2 and others for which an operational KPI has not yet been defined (MaaSive Project 2020):
1. Asset manager: The function to insert and describe TSP (Transport Service Provider) services and facilities in the IP4 platform (IP4MaaS project 2021).
2. Contractual Management Market Place: The function to describe products integrated with mobility.
   Packages and proposes new mobility packages to other stakeholders.
3. Business Analytics function: The function to perform a descriptive, diagnostic, predictive, and prescriptive analysis of the data; to visualize data through dashboards, portals, or virtual reality; and use algorithms to anonymize the provided data. (Ahmadi and Hooshangi, 2015)
4. CEP configuration: The function to define and modify the rules based on Trip tracks.
5. Validation and Inspection: The function to control fraud from Travellers during their journey.

For a better assessment of questionnaires, each USI will be split and customized based on the functionalities evaluated in each demo site. This approach aims to facilitate the travellers to fill out the survey.

USIs per each Demo site, following this codification per question, will be uploaded in a Google Form after being translated by each demo leader to the local language. Before each USI questionnaire, the user will accept a data privacy message (traveler or TSP) fulfilling the GDPR.

The number of each question will follow the following methodology:

1. As shown in Annex I, "r" refers to the profile vector in travellers USI and is based on aggregated analysis. So, as a result:
   - (r=1) belongs to all profiles
   - (r=2) belongs to unemployed people, low-income people, retired people, and students.
   - (r=3) belongs to the disabled or impaired people, people with physical or mental illnesses, people in wheelchairs, people with reduced mobility, people with visual impairment, hearing impairment.
   - (r=4) Elderly.
   - (r=5) Women.
2. The functionality that each USI will assess will be shown as "J". As shown in Annex I, for each customized USI in each demo site, there will be only the functionalities approved to be tested.
3. "k" will stand for the TSP (Transport Service Provider), assessed in each demo site.
4. "q" will be the number of questions belonging to the functionality "J".

9.1. USI for specific profiles of travellers

Concerning the specific profiles after collecting the result from "Conversational surveys" and "Data Mining techniques," the following decisions have been made:

I. The results of the conversational survey conducted within WP2 to determine the needs and expectations of travelers revealed that target users are interested in the technological solutions provided by IP4. However, the analysis of that survey data did not highlight any relevant effect of travellers' special profiles on interest or preference for IP4 solutions (analysis conducted on age, gender, and employment, details reported in deliverable D2.3). Therefore, based on the outcomes of the conversational survey, we decided to avoid adding additional questions for specific demographic profiles within the USI survey.
So, as a result, there will be no questions in "USI for travellers" from conversational surveys analysis for specific profiles regarding Age, Employment Status, and Gender.

II. Regarding the "Sentiment Survey," 3 topics (needs and expectations) were identified for travellers: Security, Tickets (price), and Schedule (reliability).

In conclusion, the succeeding steps will be done through this deliverable:

➢ Identifying sensitive profiles to the mentioned needs and expectations (for example, women regarding security; unemployed people regarding tickets-price; or disabled people regarding the schedule-reliability)

> ➢ Identifying functionalities contributing to meeting mentioned needs and expectations (for example, Booking regarding Ticket-price; Alternative calculation function regarding Schedule-reliability; Journey planning regarding Security)
>
> ➢ Finally, identify benefits that these functionalities can provide to these specific profiles to match the mentioned needs and expectations (for example, Journey planning can help women to find more secure routes in off-peak hours), and we raise questions to score the satisfaction with these benefits after assessing the functionality by travellers belonging to this profile.

These conclusions raise questions for specific profiles in the second part of the USI questionnaire for Travellers. The applicability of these questions will be programmed according to PART B: socio-demographic questionnaire of the USI (Annex 2).

Concerning the USI survey, all questions will have a score. It means if a traveller answered that they had used a specific functionality, necessarily that functionality would have a score. The main reason for making the questions obligatory is that if the traveller or TSP answered that they have used a specific functionality and consequently do not answer the associated question to that functionality, they would not be counted or considered a respondent.

To make the USI questionnaire easy to understand and avoid repetition for specific profile surveys, table 3 has been introduced. This table will identify the additional questions for specific profiles considering the answer to the socio-demographic answer. This means that if the traveller chooses a specific answer to the socio-demographic question, the associated specific question will appear.

Table 3. Specific questions for specific travellers

Specific Profiles	Sociodemographic question:	q2	q3	q4	q5	q6	q7
r=2	Unemployed people, low-income people, retired people, students	d	a	b, c, d	a, c, e, f	-	-
r=3	Disabled people	d	-	d, e	-	b, c, d, e, f	-
r=4	Eldrely	b	-	d	-	-	-
r=5	Women	-	-	-	-	-	b

9.2. Calculation of the User Satisfaction Index (USI)

The satisfaction index for travellers belonging to a profile vector "r" with the functionality "j" offered by the TSP "k" is calculated as:

$$USI_{Traveller_{rjk}} = \frac{\sum_{w=1}^{m_{rjk}} \sum_{v=1}^{n_{1jk}+n_{2jk}^{r}} Score\ question_{wv}}{m_{rjk} \cdot (n_{1jk} + n_{2jk}^{r}) \cdot 5} \qquad (Eq.\ 1)$$

Being:

$Score\ question_{wv}$ = the score to the question "v" by the respondent "w".

n_{1jk} = number of questions applicable to all the profiles measuring the satisfaction with the functionality "j" offered by the TSP "k".

n_{2jk}^{r} = number of questions applicable only to the profile "r" measuring the satisfaction with the functionality "j" offered by the TSP "k".

m_{rjk} = number of respondents to the USI questionnaire belonging to the profile "r" measuring the satisfaction with the functionality "j" offered by the TSP "k".

The satisfaction index for a TSP "k" regarding a functionality "j" is calculated as:

$$USI_{TSP_{jK}} = \frac{\sum_{v=1}^{n_j} Score\ question_v}{n_j \cdot 5} \qquad (Eq.\ 2)$$

Being, $Score\ question_v$ the score to the question number "v" and "n_j" The number of questions in the USI questionnaire belonging to a specific functionality "j" offered by the TSP "k."

In both equations, a 5 appears to divide to normalize and obtain a value between 0.2 and 1 because the answer to each question has a value between 1 (representing the minimum satisfaction) to 5 (representing the maximum satisfaction).

All this quantitative data (operational KPIs and USIs) is managed together within the concept of "Effectiveness".

Regarding the satisfaction level of USI surveys, the 6th option is dedicated to N/A (Not Applicable). The N/A option will be chosen by respondents (traveller or TSP) when the tester has not experimented with specific functionality. If the traveller or TSP has not tested a specific functionality, the score question (v) by the respondent (w) and consequently m_{rjk}, which is the number of respondents to the USI questionnaire belonging to the profile (r) measuring the satisfaction with the functionality (j) offered by TSP (k), in (Eq.1 and Eq.2) will be zero. As a result, N/A will be assigned zero, and that specific functionality has not been assessed.

10. The concept of Effectiveness

The Effectiveness of a functionality "j" offered by a TSP "k" for a specific profile "r" in a demonstration scenario "D" is calculated through the following equation:

$$Effectiveness_{rjk} = \frac{\sum_{n=1}^{N} KPI_{n_{TSP_{jk}}} + USI_{Traveler_{rjk}} + USI_{TSP_{jk}}}{N+1+1}$$ (Eq. 3)

Being:

- "N" is the number of operational dimensionless KPIs linked to the functionality "j" offered by the TSP "k" (N can be zero for some functionalities),
- $KPI_{n_{TSP_{jk}}}$ the value of the KPI "n" belonging to the functionality "j" offered by the TSP "k",
- $USI_{Traveler_{rjk}}$ the value calculated in Eq. 1, and
- $USI_{TSP_{jk}}$ The value calculated in Eq. 2.

Given that the Effectiveness is dimensionless with a value between 0 and 1, the higher, the better, and different demonstration scenarios "D" can be compared to analyze how the needs of travellers in other locations or demo sites are matched by the same innovative technology "j" offered by different TSPs.

The three elements in the numerator are summed in a linear way and with an equal weight because an innovative technology with no good operational KPIs, no good acceptance level by travellers, or no good acceptance level by the TSP would not be implemented in practice or would not remain in use for a long time, as it would therefore not be answering users' needs.

The effectiveness comparison can only be done after grouping based on what parameters are considered in the Effectiveness formula: KPIs, USI Travellers, USI TSPs, or combinations among them. For example, in the demo of Athens's first phase, the Effectiveness can be grouped in the following way:

1.   Group 1: KPIs
Calculating Effectiveness for functionalities (J) considering only the value of operational KPIs
2.   Group 2: KPIs + Travellers
Calculating Effectiveness for functionalities (J) considering the value of operational KPIs and USI travellers
3.   Group 3: KPIs + travellers + TSPs
Calculating Effectiveness for functionalities (J) considering all values of operational KPIs, USI travellers, and USI TSPs
4.   Group 4: KPIs + TSPs
Calculating Effectiveness for functionalities (J) considering the value of operational KPIs and USI TSPs.

11. Conclusions

This research provides Deliverable 3.2, which is based on a methodological assessment approach for quantifying the innovative technologies produced by the IP4 Shift2Rail program to meet the needs of travelers and TSPs. With this aim, a new concept to define demonstration scenarios on which the assessment is conducted was introduced, jointly with two quantitative types of data: Operational KPIs and USIs, which allow the calculation of the Effectiveness of a specific innovative technology offered by a TSP to a profile group of travelers.

The Effectiveness is dimensionless and has a value between 0 and 1; the higher, the better, which measures how an innovative technology matches the needs and expectations of its users, travellers, and TSPs. A specific technology allows comparisons between demonstration scenarios or TSPs and different travellers' profiles.

Future works will apply this quantitative assessment methodology to the 6 demo sites with multiple demonstration scenarios set by the H2020 Shift2Rail IP4MaaS project to validate its benefits, proceed with the required refinements, and explore its potential.

Moreover, statistical correlations between operational KPIs and USIs could be defined by applying Machine Learning techniques as Bayesian Networks.
To achieve the primary goal of the IP4MaaS project of designing, executing, monitoring, and assessing the Shift2Rail IP4 demonstrations by liaising between CFMs, TSPs and users, several indicators will be needed to define the satisfaction and utility of the IP4MaaS tools to increase and facilitate the intermodality.

This deliverable *D3.2 List of operational KPIs, analysis of the users' satisfaction, and methodology as a whole, F-REL* describes:

- An updated version of the operational KPIs for innovative technology IP4MaaS
- The methodology to define the list of KPIs to measure the gain or benefit of the functionality provided by a specific IP4 Tool in a specific TSP and for a specific user profile
- The User satisfaction index, from the users' and TSPs' perspective based on the functionalities which are going to be evaluated in each demo site
- The Effectiveness of specific technology innovation and the application of this methodology to assess the related functionalities

The Effectiveness has a value between 0 and 1; the higher, the better, which measures how new technology matches travellers' needs and expectations and TSPs. This Effectiveness is dimensionless, and it allows comparisons between how new technology fits the travellers' needs when different TSPs offer it and different profiles of travellers (COHESIVE project 2020).

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13.   Annex 1: USI surveys

13.1. User Satisfaction Index (USI) Survey for ATHENS

USI Questionnaire for TSPs

According to your experience by using these functions, evaluate your satisfaction level with the following statement:

1.   The tool that allows building Location-Based Experiences for the user:
(For internal use: LBE tool)

1.a.- <u>In general terms, I am satisfied with this Function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

1.b.- It has the potential to increase the <u>number of travellers</u> using railways services.

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

1.c.- It has the potential to increase the <u>business around platforms and stations.</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

1.d.-It has the potential to assist the company in getting acquainted with the customers based on the comments and reviews on the application

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

1. e. It has the potential to help the company to measure marketing results

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

2. The platform to insert and describe the services and facilities in the IP4 platform:
(For internal use: Asset manager)

2.a.- In general terms, I am satisfied with this platform

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

2.b.- It has allowed me to know better my services offer and technology level

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

3. Do you have any additional comments that can help us improve any of these functions? Please fill out the box specifying the function you are referring.

USI Questionnaire for Travellers

Please specify which of the following transport modes you have used during your intermodal trip?

DEMO SITE: Athens

K=1 Urban public transport (For internal use: OASA)	K=2 Railway (For internal use: TrainOSE)	K= 3Taxi (For internal use: Taxiway)	K= 4 Bike (For internal use: BrainBox)
☐	☐	☐	☐

2a.- ALL profiles (r=1) (aggregated analysis)

According to your experience by using these functions, evaluate your satisfaction level with the following statement:

J=1 The function to find routes involving different modes of transport (metro, rail, bus…) in a journey from an origin to a destination:
(For internal use: Journey planning function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has saved me time

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has saved me money

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=2 The function for <u>booking</u> both a specific ticket for a trip and tickets that allow you to travel on multiple forms of transport such as metro, buses, and trains
(For internal use: Booking function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It will urge me to <u>use the buses, trains, and public transport systems more frequently</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=3 The function that allows you to purchase tickets that can be used, validated, and inspected through the mobile application
(For internal use: Issuing function)
q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It will urge me to use <u>the train, buses,</u> and generally public transport systems <u>more frequently</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has <u>saved</u> me time, from my point of view

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=4 - It has <u>saved</u> me money, from my point of view

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=8 **The function for providing you entertainment services, such as quiz games or commercial offers during your trip:**
(For internal use: Location-based experience function)
q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It <u>has made my trip more pleasant</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It will urge me to use <u>different modes of transportation more frequently</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=9 **The function for guiding and directing you in using the correct metro or bus stop, especially in the interchanges among different means of transport (bus, train, car):**
(For internal use: Navigation function)
q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It <u>has saved me time</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has made my trip <u>easier to reach my destination</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=10 The function for submitting or providing feedback about delays, cleanness of stations, disruptions, and crowdedness in public transportation or road environment that you might consider helpful for other travellers:
(For internal use: Travellers' feedback function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has encouraged me to participate and be more involved in the public transport services' offers

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has encouraged me to <u>participate in rating the trips and submitting comments and feedback</u> through the application

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=4 - It will lead to an <u>overall upgrade of Public Transport services</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=11 The function that allows you to share the trip in terms of route and payment with other users or friends and family – (car sharing, bike sharing, taxi sharing):
(For internal use: Trip sharing function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It <u>has saved me money</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 -It will <u>reduce the number of private cars</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=4 -It will <u>reduce the environmental impact</u> of the ride

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=12 The function that allows you to use the application as a guest and the features and accessibility provided in the application when you use it as a guest:
(For internal use: Guest user function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has given me the freedom to use the application in a confidential way

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=13 The function that allows you to observe and check the quality level of provided features on your Profile application:
(For internal use: Preferences and Profiles function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has increased the usability and fast handling of the application by me

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It will urge me to use different modes of transportation more frequently

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

Do you have any additional comments that can help us improve any of these functions? Please fill out the box specifying the function you are referring.

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2b.- SPECIFIC Profiles

According to your experience by using these functions, evaluate your satisfaction level with the following statement:

TICKETS (price)

(r=2) Unemployed people, low-income people, retired people, students

J=4 The function to offer you the packages of trips with better offers to go from an origin to a destination (Mobility packages function)

q=1 provides you with several options to find a reasonable and cheap offer for your journey

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 is encouraging you to use railways and public transport more frequently

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

SCHEDULE (reliability)
(r=3) Disabled or impaired people-people with physical or mental illnesses, person in a wheelchair, person with reduced mobility, person with visual impairment, person with hearing impairment, and Elderly

**J=7 The function helps you find alternative transport options in case of a trip disruption.
(Alternative's calculation function)**
q=1 is reducing the travel time when you face a disruption in transport services

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 make your trip more convenient and comfortable

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=9 The function for guiding and directing you in using the correct metro or bus stop, especially in the interchanges among different means of transport (bus, train, car). (Navigation function)

q=1 is helpful to save you more time

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

(r=4) Elderly

**J=1 The function to find routes involving different modes of transport (metro, rail, bus…) in a journey from an origin to a destination.
(Journey planning function)**

q=1 provides you a better planning option to avoid crowds and have a safe trip from Covid-19 perspective

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

SECURITY

(r=5)   Women

J=1 The function to find routes involving different modes of transport (metro, rail, bus…) in a journey from an origin to a destination.
(Journey planning function)

q=1 helps you to find more secure routes in off-peak hours

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=6 The function to observe real-time information about your trips, such as the expected time of arrival, expected time of departure, the timetable, and traffic information.
(Trip tracking function)

q=1 provides you with a higher security perception in off-peak hours

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=7 The function helps you find alternative transport options in case of a trip disruption.
(Alternative's calculation function)

q=1 provides you with an acceptable and secure travel option in case of disruption

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

Do you have any additional comments that can help us improve any of these functions? Please fill out the box specifying the function you are referring.

13.2. User Satisfaction Index (USI) Survey for BARCELONA

USI Questionnaire for TSPs

According to your experience by using these functions, evaluate your satisfaction level with the following statement:

1. **The tool that allows building Location-Based Experiences for the user.**
   (For internal use: LBE tool)

   1.a.- <u>In general terms, I am satisfied with this Function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

   1.b.- It has the potential to increase the <u>number of travellers</u> using railways services.

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

   1.c.- It has the potential to increase the <u>business around platforms and stations.</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

   1.d.- It has the potential to assist the company in getting acquainted with the customers based on the comments and reviews on the application

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

1.e.- It has the potential to help the company to measure marketing results

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

2. The platform to insert and describe your services and facilities in the IP4 platform.
(For internal use: Asset manager)

2.a.- In general terms, I am satisfied with this Function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

2.b.-It has allowed me to know better my services offer and technology level

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

3. The function to describe products integrated with mobility packages and proposes new mobility packages to other stakeholders.
(For internal use: Contractual Management Market Place)

3.a.- In general terms, I am satisfied with this Function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

3.b.- It has increased the number of intermodal trips.

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

3.c.- It has developed my business in financial terms

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

4. **The function to perform a descriptive, diagnostic, predictive, and prescriptive analysis of the data; to visualize data through dashboards, portals, or virtual reality; and use algorithms to anonymize the provided data.**
    (For internal use: Business Analytics function)

4.a.- In general terms, I am satisfied with this Function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

4. b.-It has helped me to monitor better my services and business

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

5. **The function to define and modify the rules based on Trip tracks.**
    (For internal use: CEP configuration)
    5.a.- In general terms, I am satisfied with this Function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

5.b.- It has the potential to boost my services by providing me with real-time information to help users during their travel

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

5. c.- It has the potential to give me a good knowledge about the comfort in the trips of my travellers from the origin to the destination

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

6. The function to control fraud from Travellers during their journey.
(For internal use: Validation and Inspection)

6.a.- In general terms, I am satisfied with this Function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

6.b.- It has helped me to reduce the number of travellers without tickets

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

6. c.- It has reduced the time in inspections and checking operations

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

7. Do you have any additional comments that can help us improve any of these functions? Please fill out the box specifying the function you are referring.

USI Questionnaire for Travellers

Please specify which of the following transport modes you have used during your intermodal trip?

DEMO SITE: Barcelona

K=5 Bus (For internal use: TMB)	K= 6 Metro (For internal use: TMB)	K = 7 Bus (For internal use: BusUp)	K = 8 Minibus (For internal use: AMTU)
☐	☐	☐	☐

2a.- ALL profiles (r=1) (aggregated analysis)

According to your experience by using these functions, evaluate your satisfaction level with the following statement:

J=1 The function to find routes involving different modes of transport (metro, rail, bus…) in a journey from an origin to a destination.
(For internal use: Journey planning function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 -It has saved me time

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 -It has saved me money

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=2 The function for <u>booking</u> a specific ticket and tickets allows you to travel on multiple forms of transport such as buses, trains, and trams.
(For internal use: Booking function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It will urge me to <u>use the buses, trains, and public transport systems more frequently</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=3 The function that allows you to purchase tickets that can be used, validated, and inspected through the mobile application
(For internal use: Issuing function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It will urge me to use <u>the train, buses,</u> and generally public transport systems <u>more frequently</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has <u>saved</u> me time, from my point of view

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=4 - It has <u>saved</u> me money, from my point of view

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=4 The function to offer you the packages of trips with better offers to go from an origin to a destination

(For internal use: Mobility packages function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has encouraged me to use <u>railways and public transport</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It <u>has saved me money</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=5 The function to validate and inspect your digital tickets (QR code, Voucher) through the application.

(For internal use: Validation and inspection function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

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q=2 - It has made my trip <u>more comfortable and safer</u> (Covid-19 free, for example) during the journey

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=6 The function to observe real-time information about your trips, such as the expected time of arrival, expected time of departure, the timetable, and traffic information
(For internal use: Trip tracking function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has helped me to have a <u>more accurate and precise plan</u> for my trip

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has encouraged me to use <u>public transport more frequently</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=7 The function helps you find alternative transport options in case of a trip disruption.
(For internal use: Alternative's calculation function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has made my trip <u>more convenient and comfortable when facing disruption</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has encouraged me to use different modes of transportation more frequently

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=8 The function for providing you entertainment services, such as quiz games or commercial offers during your trip:

(For internal use: Location-based experience function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has made my trip<u> more pleasant</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It will urge me to use different modes of transportation more frequently

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=9 The function for guiding and directing you in using the correct metro or bus stop, especially in the interchanges among different means of transport (bus, train, car):

(For internal use: Navigation function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has saved me time

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has made my trip easier to reach my destination

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=10 The function for submitting or providing feedback about delays, cleanness of stations, disruptions, and crowdedness in public transportation or road environment that you might consider helpful for other travellers:

(For internal use: Travellers' feedback function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has encouraged me to participate and be more involved in the public transport services' offers

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has encouraged me to <u>participate in rating the trips and submitting comments and feedback</u> through the application

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=4 - It has led to an <u>overall upgrade of public transport services.</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=11 The function that allows you to share the trip in terms of route and payment with other users or friends and family – (car sharing, bike sharing, taxi sharing):
(For internal use: Trip sharing function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It <u>has saved me money</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 -It will <u>reduce the number of private cars</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=4 -It will <u>reduce the environmental impact</u> of the ride

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=12 The function that allows you to use the application as a guest and the features and accessibility provided in the application when you use it as a guest.

(For internal use: Guest user function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has given me the freedom to use the application in a confidential way

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=13 The function that allows you to observe and check the quality level of provided features on your Profile application.

(For internal use: Preferences and Profiles function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has increased the usability and fast handling of the application by me

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It will urge me to use different modes of transportation more frequently

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=14 The function that give you the possibility of organizing group travels with other travellers.

(For internal use: Group traveling function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has improved the image of different modes of transportation to the public, linking with leisure time

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has made the different modes of transportation be used more frequently by the people who usually don´t use it

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

Do you have any additional comments that can help us improve any of these functions? Please fill out the box specifying the function you are referring.

2b.- SPECIFIC profiles

According to your experience by using these functions, evaluate your satisfaction level with the following statement:

TICKETS (price)

(r=2) Unemployed people, low-income people, retired people, students

J=4 The function to offer you the packages of trips with better offers to go from an origin to a destination (Mobility packages function)

q=1 provides you with several options to find a reasonable and cheap offer for your journey

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 is encouraging you to use railways and public transport more frequently

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

SCHEDULE (reliability)

(r=3) Disabled or impaired people-people with physical or mental illnesses, person in a wheelchair, person with reduced mobility, person with visual impairment, person with hearing impairment, and Elderly

J=7 The function helps you find alternative transport options in case of a trip disruption. (Alternative's calculation function)

q=1 is reducing the travel time when you face a disruption in transport services

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 make your trip more convenient and comfortable

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=9 The function for guiding and directing you in using the correct metro or bus stop, especially in the interchanges among different means of transport (bus, train, car). (Navigation function)

q=1 is helpful to save you more time

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

(r=4) Elderly

**J=1 The function to find routes involving different modes of transport (metro, rail, bus…) in a journey from an origin to a destination.
(Journey planning function)**

q=1 provides you a better planning option to avoid crowds and have a safe trip from Covid-19 perspective

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

SECURITY

(r=5)   Women

**J=1 The function to find routes involving different modes of transport (metro, rail, bus…) in a journey from an origin to a destination.
(Journey planning function)**

q=1 helps you to find more secure routes in off-peak hours

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=6 The function to observe real-time information about your trips, such as the expected time of arrival, expected time of departure, the timetable, and traffic information.
(Trip tracking function)

      q=1 provides you with a higher security perception in off-peak hours

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=7 The function helps you find alternative transport options in case of a trip disruption.
(Alternative's calculation function)

      q=1 provides you with an acceptable and secure travel option in case of disruption

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

Do you have any additional comments that can help us improve any of these functions? Please fill out the box specifying the function you are referring.

13.3. User Satisfaction Index (USI) survey for Padua

USI Questionnaire for TSPs

According to your experience by using these functions, evaluate your satisfaction level with the following statement:

1. **The tool that allows building Location-Based Experiences for the user.**
   (For internal use: LBE tool)

   1.a.- In general terms, I am satisfied with this Function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

   1.b.- It has the potential to increase the number of travellers using railways services.

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

   1.c.-It has the potential to increase the business around platforms and stations.

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

   1.d.- It has the potential to assist the company in getting acquainted with the customers based on the comments and reviews on the application

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

1.e.- It has the potential to help the company to measure marketing results

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

2. The platform to insert and describe your services and facilities in the IP4 platform.
(For internal use: Asset manager)

2.a.- In general terms, I am satisfied with this Function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

2.b.- It has allowed me to know better my services offer and technology level

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

3. The function to describe products integrated with mobility packages and proposes new mobility packages to other stakeholders.
(For internal use: Contractual Management Market Place)

3.a.- In general terms, I am satisfied with this Function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

3.b.- It has increased the number of intermodal trips.

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

3.c.- It has developed my business in financial terms

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

4. The function to perform a descriptive, diagnostic, predictive, and prescriptive analysis of the data; to visualize data through dashboards, portals, or virtual reality; and use algorithms to anonymize the provided data.
(For internal use: Business Analytics function)

4.a.- In general terms, I am satisfied with this Function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

4. b.- It has helped me to monitor better my services and business

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

5. The function to define and modify the rules based on Trip tracks.
(For internal use: CEP configuration)

5.a.- In general terms, I am satisfied with this Function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

5.b.-It has the potential to boost my services by providing me with real-time information to help users during their travel

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

5. c.- It has the potential to <u>give me a good knowledge about the comfort</u> in the trips of my travellers from the origin to the destination

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

6. The function to control fraud from Travellers during their journey.
(For internal use: Validation and Inspection)

6.a.- <u>In general terms, I am satisfied with this Function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

6.b.- It has helped me to reduce <u>the number of travellers</u> without tickets

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

6. c.- It has <u>reduced the time in inspections and checking</u> operations

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

7. Do you have any additional comments that can help us improve any of these functions? Please fill out the box specifying the function you are referring.

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USI Questionnaire for Travellers

Please specify which of the following transport modes you have used during your intermodal trip?

DEMO SITE: Padua

K=9 Railway (For internal use: Trenitalia)	K=10 Bus (For internal use: BusItalia)
☐	☐

2a.- ALL profiles (r=1) (aggregated analysis)

According to your experience by using these functions, evaluate your satisfaction level with the following statement:

J=1 The function to find routes involving different modes of transport (metro, rail, bus…) in a journey from an origin to a destination.
    (For internal use: Journey planning function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has saved me time

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has saved me money

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=2 The function for <u>booking</u> a specific ticket and tickets allows you to travel on multiple forms of transport such as buses, trains, and trams.

(For internal use: Booking function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It will urge me to <u>use the buses, trains, and public transport systems more frequently</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=3 The function that allows you to purchase tickets that can be used, validated, and inspected through the mobile application

(For internal use: Issuing function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It will urge me to use <u>the train, buses,</u> and generally public transport systems <u>more frequently</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has <u>saved </u>me time, from my point of view

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=4 - It has <u>saved</u> me money, from my point of view

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=4 The function to offer you the packages of trips with better offers to go from an origin to a destination

(For internal use: Mobility packages function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has encouraged me to use <u>railways and public transport</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It <u>has saved me money</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=5 The function to validate and inspect your digital tickets (QR code, Voucher) through the application.

(For internal use: Validation and inspection function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has made my trip more comfortable and safer (Covid-19 free, for example) during the journey

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=6 The function to observe real-time information about your trips, such as the expected time of arrival, expected time of departure, the timetable, and traffic information
(For internal use: Trip tracking function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has helped me to have a more accurate and precise plan for my trip

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has encouraged me to use public transport more frequently

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=7 The function helps you find alternative transport options in case of a trip disruption.
(For internal use: Alternative's calculation function)
q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has made my trip <u>more convenient and comfortable when facing disruption</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has encouraged me to use <u>different modes of transportation more frequently</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=8 The function for providing you entertainment services, such as quiz games or commercial offers during your trip:

(For internal use: Location-based experience function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has made my trip <u>more pleasant</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It will urge me to use <u>different modes of transportation more frequently</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=9 The function for guiding and directing you in using the correct metro or bus stop, especially in the interchanges among different means of transport (bus, train, car):
(For internal use: Navigation function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has saved me time

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has made my trip easier to reach your destination

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=10 The function for submitting or providing feedback about delays, cleanness of stations, disruptions, and crowdedness in public transportation or road environment that you might consider helpful for other travellers:
(For internal use: Travellers' feedback function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has encouraged me to participate and be more involved in the public transport services' offers

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has encouraged me to <u>participate in rating the trips and submitting comments and feedback</u> through the application

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=4 - It has led to an <u>overall upgrade of public transport services.</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=11 The function that allows you to share the trip in terms of route and payment with other users or friends and family – (car sharing, bike sharing, taxi sharing):
(For internal use: Trip sharing function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It <u>has saved me money</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 -It will <u>reduce the number of private cars</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=4 -It will <u>reduce the environmental impac</u>t of the ride

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=12 The function that allows you to use the application as a guest and the features and accessibility provided in the application when you use it as a guest.
(For internal use: Guest user function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has given me the <u>freedom to use the application in a confidential way</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=13 The function allows you to observe and check the quality level of provided features on your Profile application.
(For internal use: Preferences and Profiles function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has <u>increased the usability and fast handling</u> of the application by me

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It will urge me to use <u>different modes of transportation more frequently</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=14 The function gives you the possibility of organizing group travels with other travellers.
(For internal use: Group traveling function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has <u>improved the image of different modes of transportation</u> to the public, linking with <u>leisure time</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has made the <u>different modes of transportation be used more frequently by the people who usually don´t use it</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

Do you have any additional comments that can help us improve any of these functions? Please fill out the box specifying the function you are referring.

2b.- SPECIFIC profiles

According to your experience by using these functions, evaluate your satisfaction level with the following statement:

TICKETS (price)

(r=2) Unemployed people, low-income people, retired people, students

J=4 The function to offer you the packages of trips with better offers to go from an origin to a destination (Mobility packages function)

q=1 provides you with several options to find a reasonable and cheap offer for your journey

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 is encouraging you to use railways and public transport more frequently

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

SCHEDULE (reliability)

(r=3) Disabled or impaired people-people with physical or mental illnesses, person in a wheelchair, person with reduced mobility, person with visual impairment, person with hearing impairment, and Elderly

J=7 The function helps you find alternative transport options in case of a trip disruption. (Alternative's calculation function)

q=1 is reducing the travel time when you face a disruption in transport services

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 make your trip more convenient and comfortable

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=9 The function for guiding and directing you in using the correct metro or bus stop, especially in the interchanges among different means of transport (bus, train, car). (Navigation function)

q=1 is helpful to save you more time

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

(r=4) Elderly

J=1 The function to find routes involving different modes of transport (metro, rail, bus…) in a journey from an origin to a destination.
(Journey planning function)

q=1 provides you a better planning option to avoid crowds and have a safe trip from Covid-19 perspective

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

SECURITY

(r=5)   Women

J=1 The function to find routes involving different modes of transport (metro, rail, bus…) in a journey from an origin to a destination.
(Journey planning function)

q=1 helps you to find more secure routes in off-peak hours

66

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=6 The function to observe real-time information about your trips, such as the expected time of arrival, expected time of departure, the timetable, and traffic information.
(Trip tracking function)

q=1 provides you with a higher security perception in off-peak hours

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=7 The function helps you find alternative transport options in case of a trip disruption.
(Alternative's calculation function)

q=1 provides you with an acceptable and secure travel option in case of disruption

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

Do you have any additional comments that can help us improve any of these functions? Please fill out the box specifying the function you are referring.

13.4. User Satisfaction Index (USI) survey for Warsaw

USI questionnaire for TSPs

According to your experience by using these functions, evaluate your satisfaction level with the following statement:

1. The tool that allows building Location-Based Experiences for the user.
   (For internal use: LBE tool)

1.a.- In general terms, I am satisfied with this Function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

1.b.- It has the potential to increase the <u>number of travellers</u> using railways services.

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

1.c.- It has the potential to increase the <u>business around platforms and stations.</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

1.d.- It has the potential to assist the company in getting acquainted with the customer based on the comments and reviews on the application

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

1.e.- It has the potential to help the company to measure marketing results

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

2. The platform to insert and describe your services and facilities in the IP4 platform.
(For internal use: Asset manager)

2.a.- In general terms, I am satisfied with this Function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

2.b.- It has allowed me to know better my services offer and technology level

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

3. The function to define and modify the rules based on Trip tracks.
(For internal use: CEP configuration)

3.a.- In general terms, I am satisfied with this Function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

3.b.- It has the potential to boost my services by providing me with real-time information to help users during their travel

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

3. c.- It has the potential to give me a good knowledge about the comfort in the trips of my travellers from the origin to the destination

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

4. Do you have any additional comments that can help us improve any of these functions? Please fill out the box specifying the function you are referring.

USI questionnaire for travellers

Please specify which of the following transport modes you have used during your intermodal trip?

DEMO SITE: Warsaw

K = 11 Bus/ (For internal use: MZA)	K= 12 Tram/ (For internal use: TRAMWARSAW)
☐	☐

2a.- ALL profiles (r=1) (aggregated analysis)

According to your experience by using these functions, evaluate your satisfaction level with the following statement:

J=1 The function to find routes involving different modes of transport (metro, rail, bus…) in a journey from an origin to a destination.
(For internal use: Journey planning function)
q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It <u>has saved me time</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It <u>has saved me money</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=5 The function to validate and inspect your digital tickets (QR code, Voucher) through the application.

(For internal use: Validation and inspection function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has made my <u>trips more comfortable and safer</u> (Covid-19 free, for example)

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=6 The function to observe real-time information about your trips, such as the expected time of arrival, expected time of departure, the timetable, and traffic information

(For internal use: Trip tracking function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 -It has helped me to have a <u>more accurate and precise plan</u> for my trip

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=9 The function for guiding and directing you in using the correct metro or bus stop, especially in the interchanges among different means of transport (bus, train, car):
(For internal use: Navigation function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 -It has saved me time

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has made my trip easier to reach my destination

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=10 The function for submitting or providing feedback about delays, cleanness of stations, disruptions, and crowdedness in public transportation or road environment that you might consider helpful for other travellers:
(For internal use: Travellers' feedback function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has encouraged me to participate and be more involved in the public transport services' offers

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 -It has encouraged me to participate in rating the trips and submitting comments and feedback through the application

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=11

The function that allows you to share the trip in terms of route and payment with other users or friends and family – (car sharing, bike sharing, taxi sharing):

(For internal use: Trip sharing function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has saved me money

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has reduced the number of private cars

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=4 - It has reduced the environmental impact of the ride

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=12 The function that allows you to use the application as a guest and the features and accessibility provided in the application when you use it as a guest.

(For internal use: Guest user function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has given me the freedom to use the application in a confidential way

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=13 The function that allows you to observe and check the quality level of provided features on your Profile application.

(For internal use: Preferences and Profiles function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has increased the usability and fast handling of the application by me

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It will urge me to use different modes of transportation more frequently

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

Do you have any additional comments that can help us improve any of these functions? Please fill out the box specifying the function you are referring.

2b.- SPECIFIC profiles

According to your experience by using these functions, evaluate your satisfaction level with the following statement:

TICKETS (price)

(r=2) Unemployed people, low-income people, retired people, students

J=4 The function to offer you the packages of trips with better offers to go from an origin to a destination (Mobility packages function)

q=1 provides you with several options to find a reasonable and cheap offer for your journey

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 is encouraging you to use railways and public transport more frequently

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

SCHEDULE (reliability)

(r=3) Disabled or impaired people-people with physical or mental illnesses, person in a wheelchair, person with reduced mobility, person with visual impairment, person with hearing impairment, and Elderly

J=7 The function helps you find alternative transport options in case of a trip disruption. (Alternative's calculation function)

q=1 is reducing the travel time when you face a disruption in transport services

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 make your trip more convenient and comfortable

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=9 The function for guiding and directing you in using the correct metro or bus stop, especially in the interchanges among different means of transport (bus, train, car). (Navigation function)

q=1 is helpful to save you more time

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

(r=4) Elderly

J=1 The function to find routes involving different modes of transport (metro, rail, bus…) in a journey from an origin to a destination. (Journey planning function)

q=1 provides you a better planning option to avoid crowds and have a safe trip from Covid-19 perspective

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

SECURITY

(r=5)   Women

J=1 The function to find routes involving different modes of transport (metro, rail, bus…) in a journey from an origin to a destination.
(Journey planning function)

> q=1 helps you to find more secure routes in off-peak hours

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=6 The function to observe real-time information about your trips, such as the expected time of arrival, expected time of departure, the timetable, and traffic information.
(Trip tracking function)

> q=1 provides you with a higher security perception in off-peak hours

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=7 The function helps you find alternative transport options in case of a trip disruption.
(Alternative's calculation function)

> q=1 provides you with an acceptable and secure travel option in case of disruption

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

Do you have any additional comments that can help us improve any of these functions? Please fill out the box specifying the function you are referring.

13.5. User Satisfaction Index (USI) survey for Liberec

USI questionnaire for TSPs

According to your experience by using these functions, evaluate your satisfaction level with the following statement:

1. **The platform to insert and describe your services and facilities in the IP4 platform.**
   (For internal use: Asset manager)

   1.a.- In general terms, I am satisfied with this Function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

   1.b.-It has allowed me to know better my services offer and technology level

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

2. **The function to perform a descriptive, diagnostic, predictive, and prescriptive analysis of the data; to visualize data through dashboards, portals, or virtual reality; and use algorithms to anonymize the provided data.**
   (For internal use: Business Analytics function)

   2.a.- In general terms, I am satisfied with this Function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

   2. b.- It has helped me to monitor better my services and business

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

3. The function to control fraud from Travellers during their journey.
(For internal use: Validation and Inspection)

3.a.- In general terms, I am satisfied with this Function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

3.b.- It has helped me to reduce the number of travellers without tickets

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

3. c.- It has reduced the time in inspections and checking operations

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

4. Do you have any additional comments that can help us improve any of these functions? Please fill out the box specifying the function you are referring.

USI questionnaire for travellers

Please specify which of the following transport modes you have used during your intermodal trip?

DEMO SITE: Liberec

K= 13 Tram (For internal use: KORID)	K=14 Bus (For internal use: CSAD Liberec)	K=15 Railway (For internal use: ARRIVA VLAKY)
☐	☐	☐

2a.- ALL profiles (r=1) (aggregated analysis)

According to your experience by using these functions, evaluate your satisfaction level with the following statement:

J=1 The function to find routes involving different modes of transport (metro, rail, bus…) in a journey from an origin to a destination.
(For internal use: Journey planning function)
q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has saved me time

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has saved me money

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=2 The function for <u>booking</u> a specific ticket and tickets allows you to travel on multiple forms of transport, such as buses, trains, and trams.
(For internal use: Booking function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It will urge me to <u>use the buses, trains, and public transport systems more frequently</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=3 The function that allows you to purchase tickets that can be used, validated, and inspected through the mobile application
(For internal use: Issuing function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It will urge me to use <u>the train, buses,</u> and generally public transport systems <u>more frequently</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has <u>saved</u> me time, from my point of view

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=4 - It has <u>saved</u> me money, from my point of view

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=5 The function to validate and inspect your digital tickets (QR code, Voucher) through the application.

(For internal use: Validation and inspection function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 -It has made my trip <u>more comfortable and safer</u> (Covid-19 free, for example)

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=6 The function to observe real-time information about your trips, such as the expected time of arrival, expected time of departure, the timetable, and traffic information

(For internal use: Trip tracking function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has helped me to have a <u>more accurate and precise plan</u> for my trip

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has encouraged me to use <u>public transport more frequently</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=7 The function helps you find alternative transport options in case of a trip disruption.
(For internal use: Alternatives calculation function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has made my trip <u>more convenient and comfortable when facing disruption</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has encouraged me to use <u>different modes of transportation more frequently</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=9 The function for guiding and directing you in using the correct metro or bus stop, especially in the interchanges among different means of transport (bus, train, car):
(For internal use: Navigation function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has saved me time

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has made my trip easier to reach my destination

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=10 The function for submitting or providing feedback about delays, cleanness of stations, disruptions, and crowdedness in public transportation or road environment that you might consider helpful for other travellers:

(For internal use: Travellers' feedback function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has encouraged me to participate and be more involved in the public transport services' offers

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has encouraged me to participate in rating the trips and submitting comments and feedback through the application

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

IP4MaaS – GA 101015492

q=4 - It has led to an <u>overall upgrade of public transport services.</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=11 The function that allows you to share the trip in terms of route and payment with other users or friends and family – (car sharing, bike sharing, taxi sharing):
(For internal use: Trip sharing function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It <u>has saved me money</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - has <u>reduced the number of private cars</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=4 - has <u>reduced the environmental impact</u> of the ride

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=12 The function that allows you to use the application as a guest and the features and accessibility provided in the application when you use it as a guest.

(For internal use: Guest user function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 -It has given me the freedom to use the application in a confidential way

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=13 The function that allows you to observe and check the quality level of provided features on your Profile application.

(For internal use: Preferences and Profiles function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has increased the usability and fast handling of the application by me

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It will urge me to use different modes of transportation more frequently

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

Do you have any additional comments that can help us improve any of these functions? Please fill out the box specifying the function you are referring.

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2b.- SPECIFIC profiles

According to your experience by using these functions, evaluate your satisfaction level with the following statement:

TICKETS (price)
(r=2) Unemployed people, low-income people, retired people, students

J=4 The function to offer you the packages of trips with better offers to go from an origin to a destination (Mobility packages function)

q=1 provides you with several options to find a reasonable and cheap offer for your journey

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 is encouraging you to use railways and public transport more frequently

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

SCHEDULE (reliability)

(r=3) Disabled or impaired people-people with physical or mental illnesses, person in a wheelchair, person with reduced mobility, person with visual impairment, person with hearing impairment, and Elderly

J=7 The function helps you find alternative transport options in case of a trip disruption. (Alternative's calculation function)

q=1 is reducing the travel time when you face a disruption in transport services

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 make your trip more convenient and comfortable

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=9 The function for guiding and directing you in using the correct metro or bus stop, especially in the interchanges among different means of transport (bus, train, car). (Navigation function)

q=1 is helpful to save you more time

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

(r=4) Elderly

J=1 The function to find routes involving different modes of transport (metro, rail, bus…) in a journey from an origin to a destination. (Journey planning function)

q=1 provides you a better planning option to avoid crowds and have a safe trip from Covid-19 perspective

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

SECURITY

(r=5)   Women

J=1 The function to find routes involving different modes of transport (metro, rail, bus…) in a journey from an origin to a destination.
(Journey planning function)

q=1 helps you to find more secure routes in off-peak hours

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=6 The function to observe real-time information about your trips, such as the expected time of arrival, expected time of departure, the timetable, and traffic information.
(Trip tracking function)

q=1 provides you with a higher security perception in off-peak hours

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=7 The function helps you find alternative transport options in case of a trip disruption.
(Alternative's calculation function)

q=1 provides you with an acceptable and secure travel option in case of disruption

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

Do you have any additional comments that can help us improve any of these functions? Please fill out the box specifying the function you are referring.

13.6. User Satisfaction Index (USI) for Osijek

USI questionnaire for TSPs

According to your experience by using these functions, evaluate your satisfaction level with the following statement:

1. **The tool that allows building Location-Based Experiences for the user.**
   (For internal use: LBE tool)

1.a.- In general terms, I am satisfied with this Function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

1.b.- It has the potential to increase the number of travellers using railways services.

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

1.c.-It has the potential to increase the business around platforms and stations.

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

1.d.- It has the potential to assist the company in getting acquainted with the customers based on the comments and reviews on the application

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

1.e.- It has the potential to help the company to measure marketing results

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

2. The platform to insert and describe your services and facilities in the IP4 platform.
(For internal use: Asset manager)

2.a.- In general terms, I am satisfied with this Function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

2.b.- It has allowed me to know better my services offer and technology level

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

3. The function to describe products integrated with mobility packages and proposes new mobility packages to other stakeholders.
(For internal use: Contractual Management Market Place)

3.a.- In general terms, I am satisfied with this Function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

3.b.- It has increased the number of intermodal trips.

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

3.c.- It has <u>developed my business in financial terms</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

4. The function to perform a descriptive, diagnostic, predictive, and prescriptive analysis of the data; to visualize data through dashboards, portals, or virtual reality; and use algorithms to anonymize the provided data.
(For internal use: Business Analytics function)

4.a.- <u>In general terms, I am satisfied with this Function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

4. b.- It has helped me to <u>monitor better my services and business</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

5. The function to define and modify the rules based on Trip tracks.
(For internal use: CEP configuration)

5.a.- <u>In general terms, I am satisfied with this Function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

5.b.- It has the potential to <u>boost my services</u> by providing me with <u>real-time information</u> to help users during their travel

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

5. c.- It has the potential to <u>give me a good knowledge about the comfort</u> in the trips of my travellers from the origin to the destination

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

6. The function to control fraud from Travellers during their journey.
   (For internal use: Validation and Inspection)

6.a.- <u>In general terms, I am satisfied with this Function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

6.b.- It has helped me to reduce <u>the number of travellers</u> without tickets

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

6. c.- It has <u>reduced the time in inspections and checking</u> operations

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

7. Do you have any additional comments that can help us improve any of these functions? Please fill out the box specifying the function you are referring.

USI questionnaire for travellers

Please specify which of the following transport modes you have used during your intermodal trip?

DEMO SITE: Osijek

K=16 Trams (For internal use: GPP Osijek)	K=17 Bus (For internal use: GPP Osijek)	K=18 Railway (For internal use: HZ Putnicki prijevoz)
☐	☐	☐

2a.- ALL profiles (r=1) (aggregated analysis)

According to your experience by using these functions, evaluate your satisfaction level with the following statement:

J=1 The function to find routes involving different modes of transport (metro, rail, bus…) in a journey from an origin to a destination.
(For internal use: Journey planning function)
q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has saved me time

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has saved me money

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=2 The function for <u>booking</u> a specific ticket and tickets allows you to travel on multiple forms of transport such as buses, trains, and trams.

(For internal use: Booking function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It will urge me to <u>use the buses, trains, and public transport systems more frequently</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=3 The function that allows you to purchase tickets that can be used, validated, and inspected through the mobile application

(For internal use: Issuing function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It will urge me to use <u>the train, buses,</u> and generally public transport systems <u>more frequently</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 -It has <u>saved</u> me time, from my point of view

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=4 - It has <u>saved</u> me money, from my point of view

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=4 The function to offer you the packages of trips with better offers to go from an origin to a destination

(For internal use: Mobility packages function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has encouraged me to use <u>railways and public transport</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It <u>has saved me money</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=5 The function to validate and inspect your digital tickets (QR code, Voucher) through the application.

(For internal use: Validation and inspection function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has made my trip _more comfortable and safer_ (Covid-19 free, for example) during the journey

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=6 The function to observe real-time information about your trips, such as the expected time of arrival, expected time of departure, the timetable, and traffic information
(For internal use: Trip tracking function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has helped me to have a _more accurate and precise plan_ for my trip

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has encouraged me to use _public transport more frequently_

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=7 The function helps you find alternative transport options in case of a trip disruption.
(For internal use: Alternative's calculation function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has made my trip <u>more convenient and comfortable when facing disruption</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has encouraged me to use different modes of transportation more frequently

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=8 The function for providing you entertainment services, such as quiz games or commercial offers during your trip:

(For internal use: Location-based experience function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has made my trip <u>more pleasant</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It will urge me to use <u>different modes of transportation more frequently</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=9 The function for guiding and directing you in using the correct metro or bus stop, especially in the interchanges among different means of transport (bus, train, car):

(For internal use: Navigation function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has saved me time

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has made my trip easier to reach my destination

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=10 The function for submitting or providing feedback about delays, cleanness of stations, disruptions, and crowdedness in public transportation or road environment that you might consider helpful for other travellers:

(For internal use: Travellers' feedback function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has encouraged me to participate and be more involved in the public transport services' offers

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has encouraged me to <u>participate in rating the trips and submitting comments and feedback</u> through the application

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=4 - It has led to an <u>overall upgrade of public transport services.</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=11 The function that allows you to share the trip in terms of route and payment with other users or friends and family – (car sharing, bike sharing, taxi sharing):
(For internal use: Trip sharing function)

q=1 - <u>In general terms, I am satisfied with this function</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It<u> has saved me money</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 -It will <u>reduce the number of private cars</u>

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=4 -It will <u>reduce the environmental impac</u>t of the ride

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=12 **The function that allows you to use the application as a guest and the features and accessibility provided in the application when you use it as a guest.**

(For internal use: Guest user function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has given me the freedom to use the application in a confidential way

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=13 **The function that allows you to observe and check the quality level of provided features on your Profile application.**

(For internal use: Preferences and Profiles function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has increased the usability and fast handling of the application by me

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It will urge me to use different modes of transportation more frequently

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=14 **The function gives you the possibility of organizing group travels with other travellers.**
(For internal use: Group traveling function)

q=1 - In general terms, I am satisfied with this function

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 - It has improved the image of different modes of transportation to the public, linking with leisure time

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=3 - It has made the different modes of transportation be used more frequently by the people who usually don´t use it

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

Do you have any additional comments that can help us improve any of these functions? Please fill out the box specifying the function you are referring.

2b.- SPECIFIC profiles

According to your experience by using these functions, evaluate your satisfaction level with the following statement:

TICKETS (price)

(r=2) Unemployed people, low-income people, retired people, students

J=4 The function to offer you the packages of trips with better offers to go from an origin to a destination (Mobility packages function)

q=1 provides you with several options to find a reasonable and cheap offer for your journey

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 is encouraging you to use railways and public transport more frequently

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

SCHEDULE (reliability)

(r=3) Disabled or impaired people-people with physical or mental illnesses, person in a wheelchair, person with reduced mobility, person with visual impairment, person with hearing impairment, and Elderly

J=7 The function helps you find alternative transport options in case of a trip disruption. (Alternative's calculation function)

q=1 is reducing the travel time when you face a disruption in transport services

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

q=2 make your trip more convenient and comfortable

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=9 The function for guiding and directing you in using the correct metro or bus stop, especially in the interchanges among different means of transport (bus, train, car). (Navigation function)

q=1 is helpful to save you more time

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

(r=4) Elderly

J=1 The function to find routes involving different modes of transport (metro, rail, bus…) in a journey from an origin to a destination.
(Journey planning function)

q=1 provides you a better planning option to avoid crowds and have a safe trip from Covid-19 perspective

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

SECURITY

(r=5)   Women

J=1 The function to find routes involving different modes of transport (metro, rail, bus…) in a journey from an origin to a destination.

(Journey planning function)

q=1 helps you to find more secure routes in off-peak hours

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=6 The function to observe real-time information about your trips, such as the expected time of arrival, expected time of departure, the timetable, and traffic information.
(Trip tracking function)

q=1 provides you with a higher security perception in off-peak hours

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

J=7 The function helps you find alternative transport options in case of a trip disruption.
(Alternative's calculation function)

q=1 provides you with an acceptable and secure travel option in case of disruption

1. Strongly disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree	N/A
☐	☐	☐	☐	☐	☐

Do you have any additional comments that can help us improve any of these functions? Please fill out the box specifying the function you are referring.

14. Annex 2: Socio-demographic questionnaire for travellers USI surveys

1. Do you consider yourself to live in:

a. A rural environment ☐
b. An urban environment ☐
c. A suburban environment ☐
d. Abroad/tourist ☐

2. Please choose your age group.

a. 18-24 years ☐
b. 25-44 years ☐
c. 45-64 years ☐
d. 65 years or more ☐
e. Prefer not to answer ☐

3. What is your average yearly income?

a. Less than 11,999 € ☐
b. 12,000-40,999 € ☐
c. More than 41,000 € ☐
d. Prefer not to answer ☐

4. Do you travel weekly with a dependent person?

a. No ☐
b. Preschool age children (under 5 years) ☐
c. School age children (5-16 years) ☐
d. Elderly relative ☐
e. Disabled person ☐
f. Prefer not to answer ☐

5. What is your professional status?

a. Non-paid work ☐
b. Paid work ☐
c. Student ☐
d. Housekeeper, Homemaker ☐
e. Retired ☐
f. Unemployed ☐
g. Prefer not to answer ☐

6. Do you currently have a problem, disability, or impairment that affects how you travel?

a. No ☐
b. Person on a wheelchair ☐
c. Person with reduced mobility ☐
d. Person with visual impairment ☐
e. hearing impaired ☐
f. Other ☐
g. Prefer not to answer ☐

7. Do you identify yourself as:

a. Male ☐
b. Female ☐
c. Other ☐
d. Prefer not to answer ☐

8. How familiar are you with technology, specifically mobile applications?

a. Expert ☐
b. familiar ☐
c. not so familiar ☐
d. I am having many troubles using mobile apps in general ☐