



Mobility as a Service in a multimodal European cross-border Corridor (MyCorridor)

Deliverable 6.1: Pilot plans framework and tools

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Abbreviation List

Abbreviation	Definition
API	Application Programming Interface
AT	Austria
CIA	Cumulative Impact Assessment
C-ITS	Cooperative Intelligent Transportation System
CX	Consumer Experience
CZ	Czech Republic
D	Deliverable
DE	Germany
DoA	Description of Action
FAQ	Frequently Asked Question
FCD	Floating Car Data
GLOSA	Green Light Optimized Speed Advisory
GDPR	General Data Protection Regulation
ICT	Information Communication Technologies
ID	Identification
IoT	Internet of Things
IST	Information System Technology
IT	Information Technologies
IT	Italy
ITS	Intelligent Transport System
JSON	JavaScript Object Notation
KPI	Key Performance Indicator
LoS	Level of Service
Ltd	Limited
MaaS	Mobility as a Service
MAMCA	Multi-Actor Multi-Criteria Analysis
MoU	Memorandum of Understanding
NL	The Netherlands
POI	Point of Interest
PC	Project Coordinator
P+R	Park and Rider
PSM	Pilot Site Manager

Abbreviation	Definition
PT	Public Transportation
QoS	Quality of Service
ROI	Return on Investment
SES	Socio-economic Status
SME	Small – Medium Enterprise
SPSS	Statistical Package for Social Sciences
SUS	System Usability Scale
TAM	Technology Acceptance Model
TM	Traffic Management
TMC	Traffic Management Controller
TRL	Technology Readiness Level
UC	Use Case
UI	User Interface
URL	Uniform Resource Locator
UTAUT	Unified Theory of Acceptance Use of Technology
UX	User Experience
VMS	Variable Message Sign
WP	Work Package
W3C	World Wide Web Consortium
XML	Extensible Markup Language

Executive Summary

The aim of this Deliverable is to present the methodological framework for all evaluation activities that will take place during the lifetime of the MyCorridor project. This Deliverable introduces the concept of evaluation of MaaS platforms and ecosystems. Next, the lack of consensus in evaluation frameworks and methodologies that need to borrow aspects from both user and consumer experience testing and analytics, are described in **Chapter 1**, which elaborates further on the interrelations with other WPs. The chapter closes with stating the objectives of this document and the evaluation plans overall.

The multi-faceted and iterative evaluation framework is presented along with its dimensions in **Chapter 2**, elaborating also on the separate Key Performance Indicators (KPIs) for the iterative evaluation and the final high-level impact assessment with reference to the steps taken to define the evaluation processes and activities within this Deliverable. The evaluation phases are discussed in **Chapter 3**. The evaluation hypotheses, methods, user groups (i.e. service providers and travellers), objects of evaluation (i.e. the Service Registration Tool and the MyCorridor platform) are presented along with a preliminary description of the evaluation framework for the second and real-life evaluation. A short description of the additional co-design sessions is provided with first results from the co-participatory session with service providers conducted by SWARCO MIZAR in Rome with the support and attendance of CETH/ITI developers. Furthermore, the initial impact assessment methodology and the supplementary Multi-Actor Multi-Criteria Analysis (MAMCA) methodology are defined and described in sub-chapter 3.5.5.

A brief overview of pilot sites is provided in **Chapter 4**. The recruitment and incentivisation strategies are presented in **Chapter 5** and are reported in collaboration with the WP7 team. Other planning aspects and logistics, such as training the users and methods to protect the integrity of the evaluation process, are briefly discussed in **Chapter 6**, including any related risks and mitigation strategies that are further reported within the risk management activity and Deliverable. **Chapter 7** briefly describes the ethical issues and aspects related to pilot tests with users in reference to D9.2, which defines and presents the ethics manual and policy of the project. The deliverable concludes in **Chapter 8**, with a summary of the overarching aspects of the Deliverable as well as the next steps and updates.

Finally, the Deliverable contains six annexes: **Annex I** includes the GDPR compliant consent form template. **Annex II** contains a summary of the ethics status at each pilot site and the ethics controlling form that was updated to take into consideration GDPR requirements. **Annex III** includes a description of the testing protocol and evaluation material for the first phase for the tests with service providers and travellers. **Annex IV** contains the storyboards and testing scenarios to be used within the 1st iteration phase with service providers and travellers. **Annex V** contains guidelines for the face-to-face sessions' conduction with travellers. Last, a glossary of terms used throughout the Deliverable are presented in **Annex VI**.

This Deliverable is submitted with a two-months delay because evaluation material for testing a functional prototype of MyCorridor platform is sought, although according to the Description of Action (DoA), non-functional wireframes would be used during the first evaluation phase. As the second evaluation phase is conducted in real conditions (i.e. travellers will have real journeys) and there are no other interim evaluations, it was decided to conduct additional co-design sessions with service providers, travellers and other relevant stakeholders. These sessions are conducted with non-functional or limited functionality prototypes of Service Registration Tool and the MyCorridor platform. The co-design session results enable the use of functional prototypes, instead of wireframes, in the first iteration phase, aiming to collect richer and more meaningful data.



This deliverable will be further updated twice during the lifetime of the project; firstly, in M18 with the refinement and finalisation of the 1st phase's evaluation material and testing scenarios and, finally, once more in M22 to include the detailed experimental plan and protocol for the 2nd evaluation phase and an update of the impact assessment methodology and indicators.

1 Introduction

The concept of Mobility as a Service (MaaS) has been recently introduced to transportation and has the potential to really affect and change the transportation market as well as the interactions between users, service providers and suppliers across many countries. The MaaS concept is a *'mobility distribution model in which a customer's major transportation needs are met over one interface and are offered by a service provider'* [1].

Demand-driven transportation is becoming an increasing force in user-centred designed transportation systems and ecosystems by taking currently critical issues and challenges into consideration, such as congestion, emissions and noise reduction, especially in urban traffic systems and smart cities' environments. Extremely innovative and disruptive technologies in vehicle design and infrastructure (e.g. communication between vehicles and infrastructures, Internet of Things (IoT), automated vehicles) can further enhance the sustainability of these models, but first consideration for traveller choice and choice of traveller behaviour needs to be addressed.

Further provision for eco-friendly MaaS packages can direct travellers towards these behaviours if these offers are **usable**, **valuable** and **ease-to-use** to the travellers. Therefore, offering services-on-demand and bundled up (i.e. system-of-a-systems modelling) is not anticipated for the existing and traditional technologies but for those that are currently under research. As such, evaluating the experiences of users when interacting within and with these complex systems and services is not just important but a necessity. The necessity is evident in our everyday user and professional interactions, because we do multi-task and multi-use across a spectrum of complex systems (i.e. we often use one platform that bundles up all of our social and professional online networks in one place), we tend to shop online though platforms offering a diversity of products (e.g. Amazon) in one place and we even physically shop in places where you can find everything in one place (e.g. megastores, malls). We do consume pluralistically and, therefore, our experience as consumers should be evaluated, as such.

MyCorridor aims to deliver a MaaS ecosystem-to-be in the end of its lifetime being populated with its zero population. The participants in the second evaluation phase, who will use MyCorridor platform to organize their travels in semi-real conditions will constitute the zero population of this ecosystem (described in Section 3.3). At the end of the project, the MyCorridor platform will be ready to be deployed in the transportation market- standalone or in integration with other MaaS one-stop-shops - and used by real travellers to accommodate for the existing and new services and cover the Use Cases (UCs) developed within WP1 and described in D1.1. Hence, the operation of the MyCorridor platform will entail multi-faceted and complex interactions that have not been evaluated in-depth in the past and, as such, there are no standard or typical methods to evaluate their use and value.

The evaluation activities within MyCorridor entail the participation of service and transportation providers, developers, research institutes, transportation companies, and various SMEs in 5 pilot sites across Europe (Austria, Czech Republic, Greece, Italy, and The Netherlands) as well as additional cross-border corridors that pass from several countries, including Germany, connecting different pilot sites with the participation of over 400 travellers and 30 service providers in two separate phases. At the end of evaluation activities, stakeholder focus groups - with representatives from government/authorities, cities/regions, mobility and MaaS operators and aggregators, transportation providers/operators, infomobility, added value and mobile service/ technology providers and travellers¹ - will be held to support the supplementary impact assessment (MAMCA), as well as to collect feedback about the added value of MyCorridor to the MaaS and, generally, the transportation market and the necessary steps to be

¹ A complete list of relevant stakeholder groups can be found in D1.1 (Table 1, p. 24-26).

taken after the end of the project to create the conditions for a sustainable and growing MaaS one-stop-shop.

The project aims to evaluate the **use** and **user experience** of travellers and service providers in using the MyCorridor platform (through a mobile application) with different mobility products (services, or combination of services), available in different pilot sites through pre-determined and/ or customised MaaS packages.

The aim of this Deliverable is to present the methodological framework for all evaluation activities that will take place during the lifetime of the project. This Deliverable will be further updated twice (M18 and M22) to refine the 1st phase evaluation phase and, finally, to include the detailed experimental plan and protocol for the 2nd evaluation phase and an update of the impact assessment methodology and estimation techniques.

This Deliverable is submitted with a two-months delay because evaluation material for testing a functional prototype of MyCorridor platform is sought, although according to the Description of Action (DoA), non-functional wireframes would be used during the first evaluation phase. As the second evaluation phase is conducted in real conditions (i.e. travellers will have real journeys) and there are no other interim evaluations, it was decided to conduct additional co-design sessions with service providers, travellers and other relevant stakeholders. These sessions are conducted with non-functional or limited functionality prototypes of Service Registration Tool and the MyCorridor platform. The co-design session results enable the use of functional prototypes, instead of wireframes, in the first iteration phase, aiming to collect richer and more meaningful data.

1.1 Purpose of the document

This Deliverable aims to present the MyCorridor evaluation framework for both evaluation phases anticipated in the project and the impact assessment, as well as the evaluation protocol for the first iteration with service providers and travellers. The document will be used by the pilot site teams (WP6) to plan and execute the pilot sessions for each iteration. In addition, the exact protocols are annexed in the document to be utilised and translated at each site before testing takes place (Annexes III, IV, V).

1.2 Intended audience

This document will be used for the evaluation activities within WP6. It is intended to be used by the pilot site teams to plan and execute the MyCorridor pilots. The direct intended audience are the pilot site responsible partners (WP6). The indirect intended audience are the service providers (WP4) who will receive the outcome and recommendations based on the iterations, and most importantly from the 1st evaluation phase, together with the MyCorridor platform development team that will be provided with a basis to optimise the MyCorridor one-stop-shop back-end and front-end mechanisms.

1.3 Interrelations

The deliverable encompasses the evaluation material that will be administered in all pilot sites and presents the plans of the evaluation activities (Activities 6.2, 6.3 and 6.4). Indirectly, it will partially evaluate the incentives and payment strategies proposed within WP7. Furthermore, the testing plans will use the services registered as part of WP4 and validate the Service Registration Tool developed within WP3. Finally, it will evaluate the User Interfaces (UIs) developed within WP5 with testing scenarios based on user categories and Use Cases (UCs) described within D1.1 'Use Cases' of WP1. The following diagram presents the uni- and bidirectional relations between the MyCorridor evaluation framework and different WPs and activities (Figure 1).

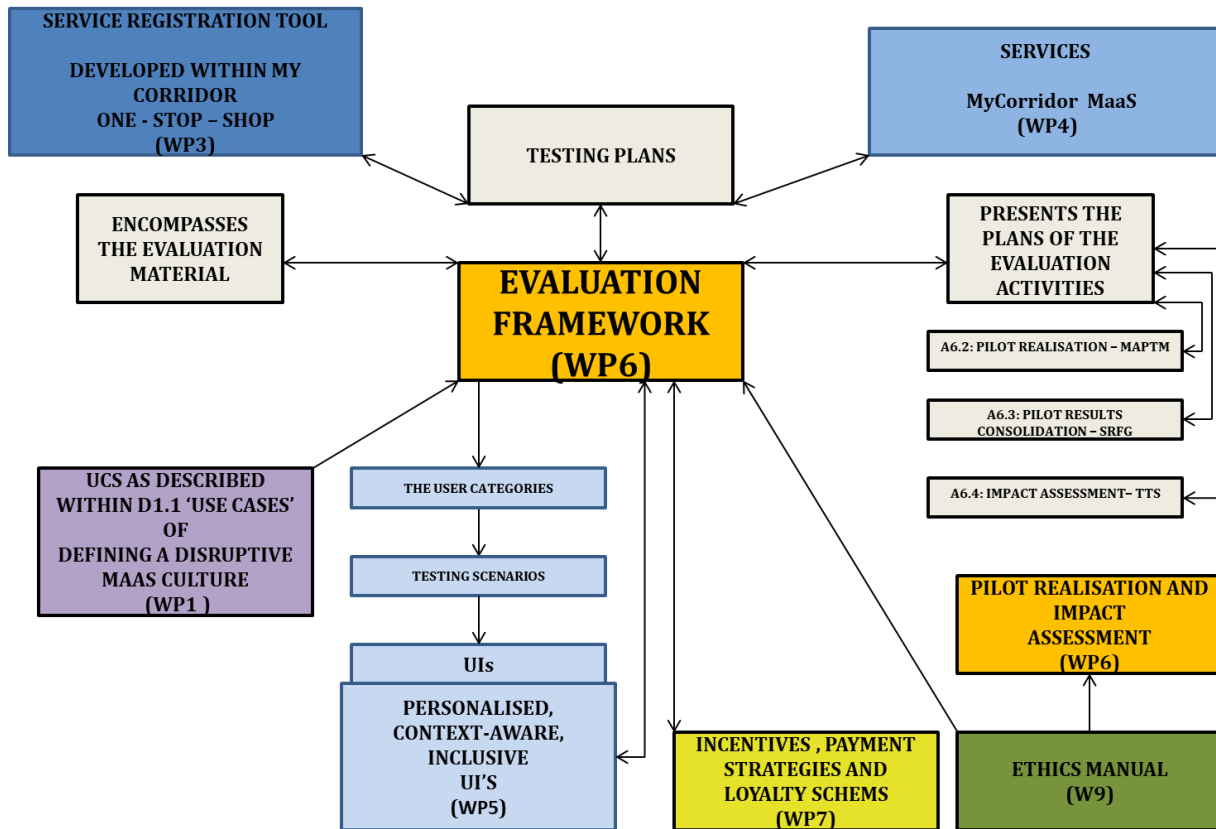


Figure 1. Interrelations of the MyCorridor evaluation framework with other WPs.

1.4 Objectives

The overarching objectives are resulting from the requirements defined in the DoA and from the project evaluation-related Key Performance Indicators (KPIs). The high-level objectives of this Deliverable are the following:

- 1) Create a multi-faceted evaluation framework for the evaluation of the MyCorridor platform and its potential as an ecosystem-to-be by:
 - a. Evaluating the **usefulness, ease of use, usability** and **user experience of travellers** and **service providers** in using the MyCorridor platform (**1st iteration**) and Service Registration Tool, respectively– *mostly formative/ partially summative*.
 - b. Evaluating the **user experience** of the MyCorridor platform in **real-like use** in a **semi-longitudinal condition** with both main clusters of users for a longer period – *summative evaluation, collection of analytics and online feedback forms (incl. benchmarking evaluation)*.
 - c. Creating a **sound impact assessment plan** for all addressed areas to be conducted in parallel with the 2nd evaluation phase.
- 2) Prepare a **meta-evaluation protocol** to be administered to partners after the data collection at each site (included in updated version of this Deliverable in M22). The meta-evaluation will

further provide valuable data about the real value of MaaS concept and technologies in different European countries, taking into consideration cultural, literacy, behavioural aspects of the travellers.

- 3) Describe the process of the **MyCorridor feedback loop** to ensure timely and efficient recommendations to the development teams that will result in optimisation of MyCorridor outcomes towards evaluation.
- 4) Develop the **impact assessment and extrapolation mechanisms** for MyCorridor platform transportation market penetration (included in updated version of this Deliverable in M22).

2 Multi-faceted and iterative evaluation framework

2.1 Steps towards creating the MyCorridor evaluation framework

The following diagram (Figure 2) presents the steps for creating the evaluation framework and its components. The process starts with the MyCorridor Use Cases (from D1.1) and ends with the instruments and evaluation materials for pilot execution (A6.2) and pilot results' consolidation (A6.3).

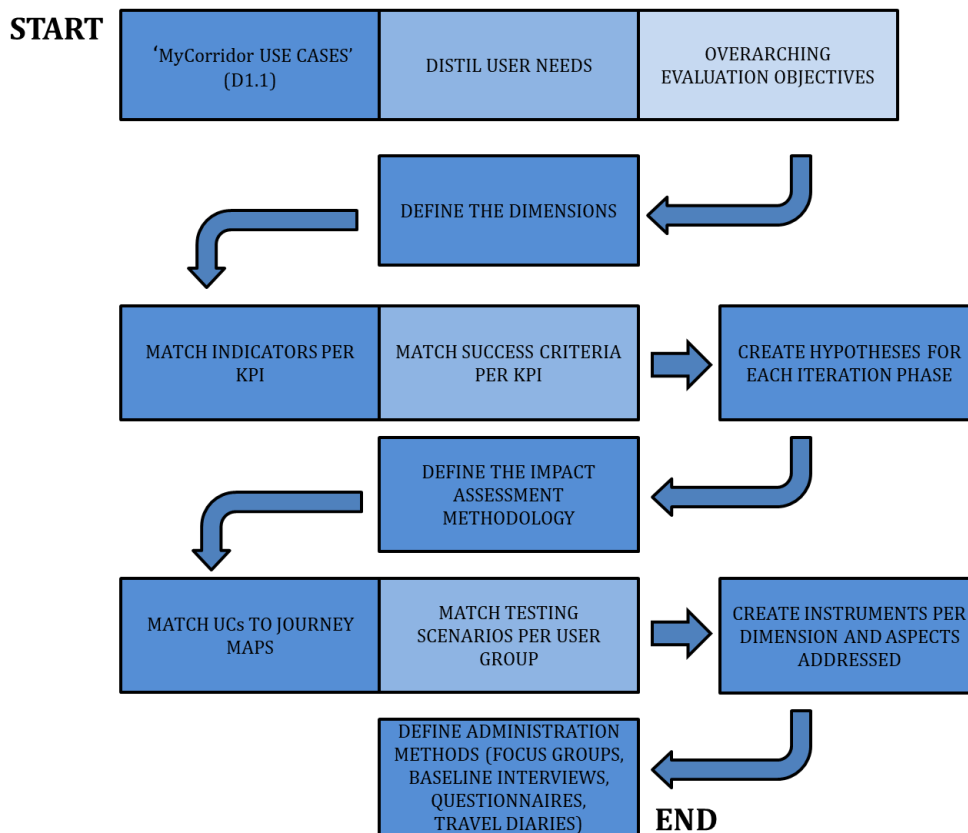


Figure 2. Steps towards creating the MyCorridor evaluation framework.

Technical validation of the developed solution will take place internally among the development teams and is not part of the evaluation framework. The evaluation framework described in this document includes all activities related to users and -at several occasions- their interactions with developers (i.e. co-design sessions). The iterative technical validation process will follow the user evaluation trials and will be conducted in the corresponding technical WP for each component/module/mechanism developed/integrated in the MyCorridor one-stop-shop.

2.2 Iterative phases across user groups

Evaluation activities within the project are iterative for both major user clusters- that interact directly with the MyCorridor one-stop-shop- with an additional participatory focus groups' round. An iterative approach within and across user groups is adopted to allow for two dimensions:

- a) Fragmented evaluations that focus on certain parts of the platform and the potential **interactions** users can have with MyCorridor platform/mobile application;
- b) An optimisation process to take in place with focus on delivering a **usable** and **useful** MaaS platform, **accessible** to all traveller types.

The user's role is central in the evaluation from the beginning of the development process; as such, a one-stop-shop experience in transportation is innovative but rather complex and complicated. Hence, the primary focus is delivering a platform that will evoke positive experience to users, but the validation of the selected pre-defined MyCorridor MaaS packages is also important, as are the chosen incentives per interaction type, e.g. differentiation of incentives between un-registered and registered users. A feedback loop mechanism will be set between the evaluation teams and the development teams as soon each evaluation phase will be completed.

2.3 Evaluation dimensions, indicators and success criteria

The MyCorridor evaluation framework is **User-Centred** and **multi-faceted**, i.e. it addresses 2 major clusters of users (service providers and travellers), in 4 types of evaluation activities (co-participatory, formative and usability testing, real-life and benchmarking experience, impact assessment). Apart from the co-design phase, the remaining three evaluation activities are closely connected and follow an iterative approach.

The principal components of the framework are the evaluation dimensions -including the appropriate methods for these dimensions- and are the ones mentioned above (i.e. a and b in section 2.2), the evaluation overarching objectives (mapped to KPIs and resulting hypotheses), as well as the selected indicators.

Apart from a multi-faceted evaluation, the approach adopted in this project, is mixed, as it includes interviews, questionnaires (some of them standardised), travel diaries (for the second phase) as well as co-participatory design focus groups that will be conducted before the beginning of the first iteration to resolve any design problems, issues and indecisions and are not described in DoA (i.e., the initial evaluation plans included only two iteration phases without co-design sessions).

Evaluation for service providers, as well for the first iteration phase with travellers, is **ex-ante** and **ex-post**; however, evaluation for travellers in the second phase will be **ex-ante**, **in-itinere** and **ex-post** (Annex III). The addition of in-itinere condition in the second evaluation phase is possible because travellers will make real journeys and not only user testing sessions, as it is the case for the first evaluation phase. The longitudinality of the second phase enables continuous measurement of both travellers' and platform's performance.

The diagram below (Figure 3) presents the evaluation framework chain of the MyCorridor evaluation framework taking into consideration only the high-level parts, which are discussed above.

The indicators are chosen to fulfil the overarching evaluation targets (e.g. the questions that we will ask users can be found in Annex III). These are the **primary indicators**. Any other, not high level, and specific to a service or pilot site are called **secondary indicators**. Metrics (e.g. Likert scale) are chosen for each indicator (e.g. user's acceptance) based on the evaluation technique used (e.g. questionnaire or logged data). The common indicators are the primary indicators and common are the ones covered by all pilot sites and correspond to the main dimensions of the evaluation framework. The sequence below shows the connection between these aspects in the project.

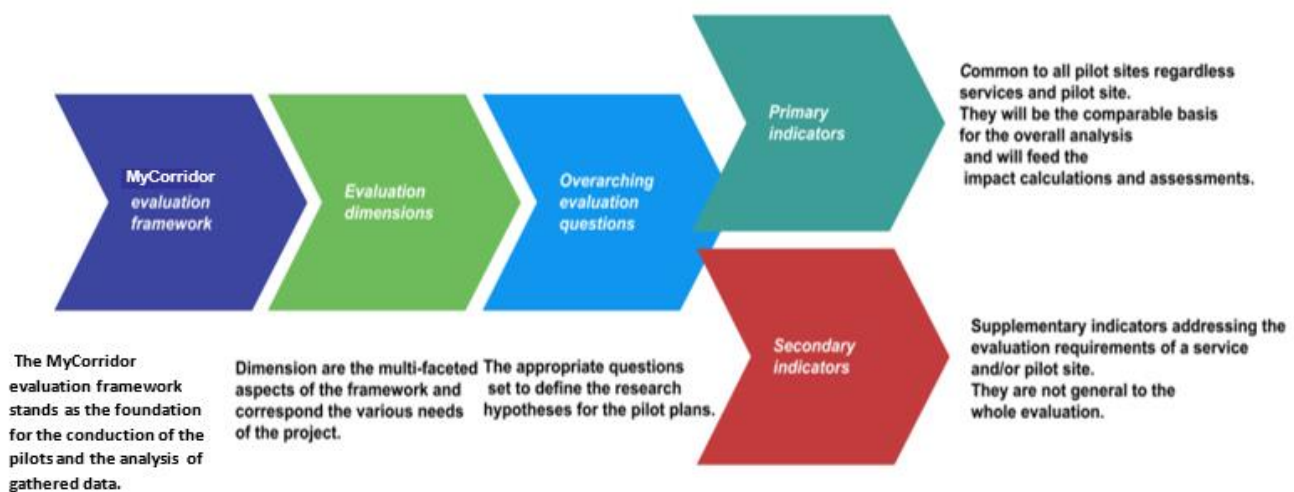


Figure 3. The MyCorridor evaluation framework chain.

2.4 Key Performance Indicators

2.4.1 KPIs in iterative phases

Apart from the Key Performance Indicators (KPIs) relevant to the overall impact assessment (presented in 2.4.2), certain KPIs are defined within this document for the iteration evaluation activities with service providers and travellers focussing on the optimisation process of the MyCorridor platform. For these KPIs, specific success criteria are set, and are driven from the evaluation framework objectives and are driving the hypotheses, the selected indicators and evaluation material.

Five major constructs related to user interaction with the platform are presented in the below (Table 1): **usability**, **user experience**, **acceptance**, **comfort/wellbeing** and **Quality of Service (QoS)**. The latter are defined within D1.1 (Tables 18 and 19, p. 159-160) and were further refined in Table 1.

The QoS KPIs are relevant for both the evaluation activities and impact assessment estimations. All are relevant for all iterations and all addressed user groups, apart from the last one that is only relevant for travellers. In the next section, other KPIs discussed, which focus on macro-evaluation aspects that will utilise data collected during the second evaluation phase. As such, change in travelling behaviour, increase of modal choice split and 'greener' mobility behavioural patterns are relevant to the following KPIs but have been included in the overarching impact assessment related indicators. QoS indicators' checklist can be found in Annex III.C.

Table 1. KPIs per iteration phase.

Construct	KPIs	Evaluation phases success criteria			
		1 st iteration		2 nd iteration	
		Service providers	Travellers	Service providers	Travellers
Usability	MyCorridor platform will be easy to use, useful and usable by all addressed user groups	Usability of Service Registration Tool > 60%	Usability of MyCorridor platform>60%	Usability of Service Registration Tool > 70%	Usability of MyCorridor platform>70%
User Experience	The interaction with MyCorridor will be a positive, satisfactory and attractive experience for all traveller groups	Positive user experience (65%) and successful registration of their services (5/6) without major issues	Benchmarked User Experience above 30% of online sites	Positive user experience (75%) and successful registration of their services (all) without major issues	Benchmarked User Experience above 50% of online sites
Acceptance	Traveller and service provider acceptance increases from 1 st to 2 nd iteration by 25%	Acceptance increase by 10% from baseline	Acceptance increase by 10% from baseline	Acceptance increase by 25% from 1 st iteration	Acceptance increase by 25% from 1 st iteration
Comfort	The use of MyCorridor will be a comfortable experience for most travellers	NA	NA	NA	75% perceive it as a comfortable experience
Quality of Service (QoS)	Accuracy/ Reliability (accuracy of information on products that return upon user profiling)	85%	75%	90%	90%
	Validity (one-stop-products comply with the overall business rules policy)	70%	70%	80%	80%

Construct	KPIs	Evaluation phases success criteria			
		1 st iteration		2 nd iteration	
		Service providers	Travellers	Service providers	Travellers
	Timeliness (interaction between user and system)	<2 sec	<2 sec	<2 sec	<2 sec
	Relevance (configuration of offered products in one-stop-shop to user)	90% (regarding search functionality)	95% (regarding search functionality)	70%	80%
	Completeness (seamless experience when applicable)	80%	90%	80%	90%
	Accessibility (W3C compliant interfaces)	90%	100%	90%	100%
	Availability (system responses vs. service provider initial registrations)	80%	90%	NA	NA

2.4.2 Impact assessment KPIs per area

MaaS is based on existing technologies but brings a core innovation by the fact that it gives to a MaaS aggregator the opportunity to bring together conventional Transport Operators and infomobility services, using a single access digital platform; the application of this model to mobility services will result in meaningful and positive impacts to society, economy, environment and businesses.

According to survey results from the first Whim pilot (Whim is a service of MaaS Global; <https://whimapp.com/>), run during 2016-2017 in four key transport areas of Helsinki, Turku, Tampere and Tallinn, it was proved that a transition towards more sustainable forms of transport could be achieved with MaaS (Figure 4); particularly, a 20% reduction in private car trips was registered in the surveyed areas, while the increase in the use of Public Transport (PT) use was 26%. Furthermore, an interesting additional finding of the Finnish pilot was that, considering the current costs of vehicle ownership in Finland and taking into account the recent changes in the demographic structure, the user preferences and the easiness of access to technologies and more connected customisable forms of

transport services, users' acceptance of Whim was recorded as being high. A significant proportion of Whim users recognised the application as the best local solution to leave the private car out. Notably, the research also demonstrated the ability for MaaS to generate business opportunities, in terms of potential revenue streams, for all transport service and data providers involved in the MaaS ecosystem.

Similar outcomes from other studies are discussed within D1.1. (section 6.5, Table 3, p. 50-52). These first outcomes from MaaS piloting in cities also validate the previous work undertaken (i.e. D1.1 MyCorridor 'Use Cases') which has already identified the impact areas of the MyCorridor one-stop-shop, i.e. **environmental, economic and social impact areas**. The definitions of such impact areas, largely obtained through capitalising the work undertaken in the MASSiFiE project [4], are reported below for information.

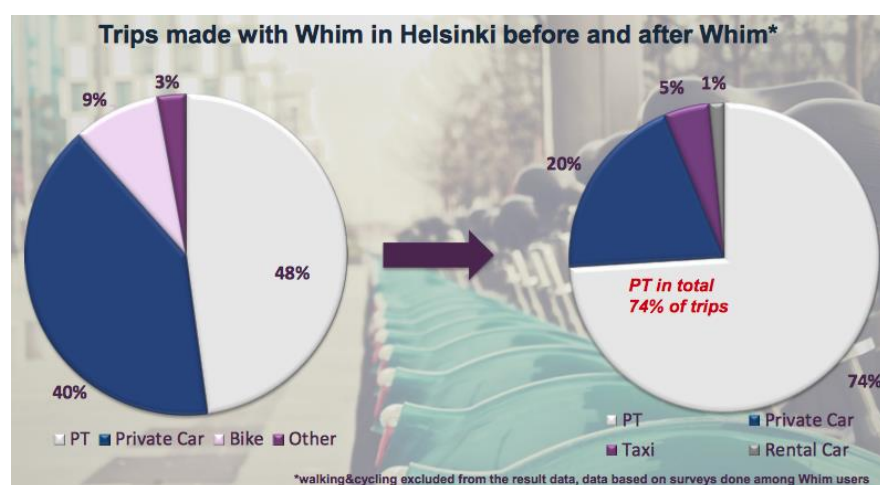


Figure 4. Comparison of modal split registered in Helsinki before (to the left) and after the Whim app trial (to the right). Source: Whim presentation at an industry event (Source: MASSiFiE project).

According to ISO 14001:2004, as noted by the MASSiFiE project, **environmental impacts** describe "any changes to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects". The term 'aspect' describes the element of an organisation's activities or products or services that can interact with the 'environment', i.e. the surrounding in which the organisation operates including air, water, land, natural resources, flora, fauna, humans as well as the interaction between these.

One way of defining **economic impacts** is in terms of "effects on the level of economic activity in a given area" [5]. These can include business output or sales volume, personal income, or jobs.

Social impacts have been defined as the effects which characterize and influence the community's social and economic wellbeing. Another and more recent definition suggests that social impacts refer to changes that "... (might) positively or negatively influence the preferences, well-being, behaviour or perception of individuals, groups, social categories and society in general (in the future)" [6]. Social impacts can be derived from the provision of transport (e.g. infrastructure, vehicles, facilities, etc.) and from user experience (e.g. the experience of travelling) [7].

Moreover, MASSiFiE has discerned the impacts and their KPIs on **Individual/user level, Business/organisational level and Societal level**.

It is particularly noteworthy that the MASSiFiE project, on the basis of some first empirical results of MaaS schemes, and, also, through literature studies and assumptions, has proceeded with some indications of the expected negative and/or positive impacts of MaaS across the aforementioned impact areas. These qualitative assessment results are reflected through the colour coding in Table 2, where the MyCorridor project team elaborations have also been added in *Italics*.

The MASSiFiE categorisation and qualitative assessment approach have been currently preserved in MyCorridor; however, it should be noted that these only serve as qualitative pre-impact assessment results used as a reference guidance to inform the development of the Core Impact Assessment (CIA). Whilst the KPIs in table below are also adopted in MyCorridor, the associated data collection analysis and validation methods are currently provisional and will be fine-tuned in the later version of this Deliverable and finalised as part of the work to be undertaken in A6.4 'Impact Assessment'.

Table 2. Qualitative pre-impact assessment results (Source: MASSiFiE project, MyCorridor elaborations are in Italics).

Overall positive increase/decrease	
Both positive and negative increase/decrease	
Overall negative increase/decrease	
Not possible to assess	

Level	KPIs	Description	Environmental	Economic	Social
Individual/user level	Total number of trips made	A reduction in the total number of trips made could have a positive effect on congestion as well as emissions, and hence on the environment.	X		x
	Modal shift (from car to PT, to sharing, to...)	<p>The KPI refers to a modal shift from private car to other, more sustainable transport modes such as public transport, bicycling, walking, but also to car sharing and other sharing facilities. A general assumption is that the introduction of MaaS will result in a modal shift, from trips made by private cars to other modes of transport. This could have a positive effect on emissions and consequently also on the environment.</p> <p><i>In the MyCorridor project however, it will be interesting to explore how this will work given that the specific solution is not excluding vehicle users (although it does promote vehicle sharing).</i></p>	X		
	Number of multimodal trips	<p>Another possible effect of the introduction of MaaS is that travellers will make use of different modes of transport as well as combine different modes of transport in a way that will result in a more efficient use of available resources.</p> <p><i>In specific, in MyCorridor, the implementation of TM2.0 concept will open up the multimodality to a greater group of travellers, as it will specifically address vehicle users.</i></p>	X		
	Attitudes towards PT, sharing, etc.	MaaS could result in changed attitudes towards different modes of transport providing an increased use of different modes of transport. Indirectly a less positive attitude towards the use of private car use and a more positive attitude	X		

Level	KPIs	Description	Environmental	Economic	Social
		towards public transport, car- and bike sharing, etc. could result in environmental impacts. <i>Again, as mentioned above, in MyCorridor, it is one of the crucial things to see how the advanced traffic management services will impact the use of vehicle, private or shared.</i>			
	Perceived accessibility to transport	MaaS has been argued to result in an increased accessibility to transport and therefore also an increased access to, for example social services. This would have positive social impacts.			X
	Total travel cost per individual/household	MaaS could potentially result in a decrease in the total travel costs per individual and/or household.		X	X
	Total travel time per individual	<i>The total travel time is conceived as the summation of time consumed for the trip planning (that may be significant specifically in cross-border travels) and the time spent for the travel itself (including waiting times, intermodal time, congestion time, etc.). Through MyCorridor, both are expected to decrease, as the travellers will spend less time in retrieving the optimum for them travel options in advance and will not spend unnecessary time in searching before or on their trip. Also, vehicle users will be benefited from advanced traffic management services that will also lead to less time in congestion, optimum routing, etc. This will most probably result in a reduction of environmental resources as well, whereas it is also correlated to decrease of travel costs most probably.</i>	X	X	X
Business/organisational level	Number of customers	Given a shift from private car to other modes of transport, including public transport, car sharing, taxi, etc., service providers could be expected to face an increase in the number of customers which could results in a positive economic impact.		X	
	Customer segments (men/women, young/old, ...)	With a transport service offer that has a less narrow focus on a shift from private car to public transport specifically but instead from private car to other modes of transport, i.e. including different modes of transport in the service offer, it is possible that MaaS will attract new and other customer segments. This could be expected to result in an increase in the number of customers which could result in a positive economic impact.		X	x

Level	KPIs	Description	Environmental	Economic	Social
		<i>Especially MyCorridor, throughout is personalisation approach is expected to contribute significantly to that. MyCorridor aims to address specific traveller clusters (businessmen, commuters, mobility restricted users, elderly, etc.) throughout an all-inclusive approach.</i>			
	Collaboration/partnership in value chain	With the assumption that MaaS will require further collaboration between transport service providers, public as well as private, it is feasible to assume further collaboration between different stakeholders and (depending upon the business model) possibly new roles in the value chain. <i>Especially in the case of MyCorridor, the value chain is opened up to more providers coming from the traffic management and navigation world (i.e. SWARCO MIZAR, TomTom).</i>		X	
	Revenues/turnover	Depending upon how the streams of customers move, revenues could increase or decrease. These moves (and resulting revenues) are also dependent on the payment model, e.g. pre-paid packages with or without credit rolled over, pay-as-you-go, minimum monthly subscription level, etc., and the relative prices of the modes		X	
	Data sharing	A further implementation and dissemination of MaaS relies on the collection and processing of data from different service providers, and hence on data sharing. Data sharing is thus a prerequisite for and a feasible impact of MaaS.		X	
	Organisational changes, changes in responsibilities	With the assumption that MaaS will require further collaboration between transport service providers, public as well as private, it is feasible to assume that organisational changes will be one result of a further implementation of MaaS.			
	<i>Contribution to standards and novel business models</i>	<i>MaaS is expected to bring in important changes in business models and roles, while it is not impossible that throughout the new paradigms, the need for new standards or revision of standards may emerge (i.e. regarding security and interoperability).</i>		X	
	<i>ICT and ITS penetration</i>	<i>Both ITS and ICT penetration will be affected by MaaS and will most probably increase giving a boost to the associated markets. However, it should be validated if impacts on social level will be positive or negative.</i>		X	X
Societal	Emissions	A reduction in emissions relies on a reduction in trips made and/or reduction in km travelled, and/or a modal shift from petrol/diesel fuelled car to other modes of transport. If MaaS results in a modal shift, from trips made by less energy	X		

Level	KPIs	Description	Environmental	Economic	Social
		<p>using modes of transport, this could result in a reduction of emissions. If MaaS also results in a reduction in the overall number of trips made, a further positive effect on the emissions resulting from transport could be expected.</p> <p><i>In addition, in MyCorridor, specific incentivisation will be given in order to promote more environmentally friendly options. Also, one of the criteria for selecting and purchasing mobility products will be the environmental friendliness itself. Apart from that, MaaS overall is expected to contribute towards a “eco-friendlier” behaviour beyond mobility.</i></p>			
	Resource efficiency (roads, vehicles, land use, ...)	<p>Given a reduction in number of trips made, MaaS could possibly result in an increase in resource efficiency due to a reduction in congestion. Given a reduction in the ownership and use of private cars, a reduction in the need for parking spaces can be expected. Furthermore, a further use of shared resources in terms of public transport, carsharing, and bikesharing, etc. results in an overall increase in resource efficiency.</p> <p><i>In specific in MyCorridor, the traffic management services will contribute further towards that, as they specifically target at optimum use of infrastructure resources.</i></p>	X	x	
	Citizens accessibility to transport services and beyond	<p>MaaS has been argued to result in an increased accessibility to transport and, provided this increased accessibility to transport, also to an increased accessibility to the different services offered by society.</p> <p><i>In MyCorridor, the inclusion of mobility restricted users in the profiling and the provision of the optimum services for them increases the potential of all-inclusive transport and life.</i></p>		X	X
	Citizens overall comfort & well-being	<p><i>MaaS and MyCorridor in specific is expected to increase comfort with respect to travelling, which is expected to be even more evident in cross-border travels. In MyCorridor, this will be specifically addressed through the personalisation aspects that will be put in force but will be also extended to vehicle users due to the fact that they will enjoy of advanced traffic management services that will promote multimodality themselves. Nevertheless, apart from that, comfort of travellers is one of the primary goals of MaaS.</i></p>		X	X

Level	KPIs	Description	Environmental	Economic	Social
	Trustworthiness in transport	<i>The overall trustworthiness in transport may or may not increase due to MaaS (including MyCorridor) with possible financial implications. This is associated to the overall service experience of the users with MaaS, both travellers and participating providers/operators.</i>		X	X
	Security and safety of citizens	<i>Due to the single access notion of MaaS solutions, including MyCorridor, and the default way of operation, citizens' security and safety is rather expected to increase as more attention is paid at the liability part of service provision. The historical records that will be kept will serve as an additional safety net for the users. However, if attention is not paid to data protection rules and security protocols for transactions (with the travellers and the service providers both), the outcome may be exactly the opposite.</i>	X		
	Modification of vehicle fleet (electrification, automation)	The introduction of MaaS has been argued to facilitate a further electrification of the vehicle fleet. Also, automated vehicles are frequently mentioned in relation to MaaS.	X		
	Legal and policy modifications	The implementation and dissemination of MaaS must take place taking national as well as international laws and regulations into considerations. Further implementation and dissemination of MaaS may require changes in laws and regulations and/or policy.	X	X	X
	Employment indices	<i>Employment rates will be affected given a mass penetration of MaaS. MaaS may create the need for new positions and skills but may also lead to redundant ones.</i>		X	X

3 Evaluation phases and impact assessment

The evaluation activities are **iterative** and **user-centred**. An overview of the activities is presented in the following table (Table 3).

Table 3. Overview of evaluation activities within MyCorridor project (extract from DoA)

Participants type & number	Evaluation objective	Success Criteria
1st Iteration [M18-M22]		
6 internal developers/service providers (transport operators, mobility service providers, content providers, etc.)	Functionality of MyCorridor front-end & back-end modules	At least 6 services integrated in MyCorridor One-Stop-Shop.
20 users (from each MyCorridor site) - a total of 120 users, addressing all MyCorridor profiles encompassing VEC citizens (respecting also gender equality)	UI and key functionalities aspects	<ul style="list-style-type: none"> Usefulness and usability rated positively as a mean by over 50% of users per site and 60% overall.
2nd Iteration Round [M28-M33]		
<ul style="list-style-type: none"> All project internal developers/service providers At least 15 external developers/service providers 	<ul style="list-style-type: none"> Functionality of optimised MyCorridor front-end & back-end modules Benefit from added value services (enhanced services) Attraction of external service providers 	<ul style="list-style-type: none"> At least 2/3 of the intended services at node-cities integrated in MyCorridor platform. At least 15 external service providers will connect their services in MyCorridor platform. On average, less than 1 day of development required for integration of any of these services into MyCorridor platform by experienced developers. Cloud Architecture scalable and able to support all connected support services. Multiple business principles and schemes of all connected service providers supported by MyCorridor platform.
<ul style="list-style-type: none"> 50 users (from each MyCorridor site) - a total of 300 users, addressing all MyCorridor profiles including Vulnerable to Exclusion Citizens (VEC) (respecting also gender equality) 	<ul style="list-style-type: none"> Impact of MyCorridor in: cross-border interoperability, time, comfort, environmental outcome UI aspects, with focus on personalisation Benefit from added value services (enhanced services) 	<ul style="list-style-type: none"> UI adequate for operation by all types of travelers (including those with low IT literacy, elderly, travelers with disabilities, etc.) in an intuitive, personalized and fast way (user acceptance per group over 65%; overall over 75%). Time of use faster by at least 90% (on average) over the without MyCorridor options.

3.1 Co-design and participatory focus groups

A supplementary pre-testing phase was added to the originally planned evaluation framework to ensure that user design expectations were met in the creation of a complex and multi-faceted framework and ecosystem. The iterative process comprises two iterations and, as such, there will be one opportunity to test the usability, user-friendliness and experience of different users. The opportunity to focus mostly on the user-facing part of the MyCorridor platform/ mobile application will in the first evaluation phase. For this reason, it was decided to add a co-participatory pre-phase. As the platform offers an indirect testbed for already existing services, any design issues and misconceptions were decided to be addressed early in the design process before any functional parts of the platform were developed to limit design flaws and pitfalls before the user-facing part of MyCorridor is developed and tested in the first evaluation phase.



The co-design process is purely formative and participatory approach and is held with representatives of the development teams as well as addressed user groups. The co-design sessions are conducted with focus groups, where scenarios are presented often on paper and simple sketches are presented in the users.

Two types of focus groups are scheduled between M14 (already held) and M16 of the project:

- a) a focus group with service providers in Italy organized and conducted by SWARCO MIZAR to investigate requirements, needs and design priorities of the Service Registration Tool, and
- b) at least two focus groups with travellers (Greece) to investigate design issues and priorities for the MyCorridor platform (mobile application) based on the current wireframes and the initial incentivisation strategies.

The **objectives** of all focus groups are:

- **Reveal** any design requirements, with increased user value, already considered by the design/development teams with regards to the existing Service Registration Tool functional prototype (i.e. fields, categories, taxonomies) and User Interface (UI) elements (e.g. type, number, colours, fonts, hierarchies, etc.);
- **Co-decide** with travellers about basic MyCorridor functions and elements (e.g. MyCorridor functionalities, menus as well as UI presentation/layout and business strategies) as well as increase the knowledge of traveller needs;
- **Bring together** designers, developers and end-users to closely collaborate and exchange ideas in order to create the best possible user experience and select/ validate the UI concepts -among others- with users and improve developers' decision-making process;
- **Reduce** development time and costs by validating the concepts beforehand.

Participants were and will be recruited by the partner who has conducted or is conducting the focus groups (SWARCO MIZAR, CERTH, SWARCO HELLAS) with the support of other partners (e.g. RSM, IRU, AMCO) and the aim is not gathering representative data but instead of gathering preferences and making decisions in informal and loose manner. The developers will have a facilitator role. During the service providers focus group, they presented the concept of MyCorridor as well as the Service Registration Tool. For the focus groups with traveller, they will present the MyCorridor concept and platform as well as respective UIs, and the business strategies (including incentivisation and loyalty schemes). The latter were also discussed with the service providers.

For all focus groups, scenarios will be utilised to present the concepts within a context and through early designs of MyCorridor mobile application. Feedback collected only after consent has been obtained and data are pseudonymised (pseudonymisation is discussed in section 3.4). Only audio recording will be used. A second facilitator will help with keeping notes.

The focus groups **with service providers** focused on the following themes:

- Primary and secondary functionalities of Service Registration Tool.
- Comprehensibility of field and categories.
- Elements of interface – what is necessary and what is redundant.
- Added value/ reasons for use.



- Value propositions for service providers.
- Business strategies.

The sessions with **travellers** will focus on the following topics:

- Primary and secondary functionalities in MyCorridor.
- Primary and secondary scenarios of use in real conditions.
- Elements of interface – what is necessary and what is redundant.
- Accessibility preferences (for representatives of vulnerable groups, i.e. disabled users, older/retired travellers).
- Added value/ reasons for use.
- Incentives to change travelling behaviour – what would trigger such a change and duration.
- Effectiveness and applicability of loyalty schemes and incentives and the process of selection as well as alignment with their business strategy and planning (own experience of failures/successes).
- Discuss suggested loyalty scheme for MyCorridor (positive and negative aspects, suggestions).
- Discuss incentivisation process – their own experiences so far.
- Discuss incentivisation process per traveller group.
- Issues arising with service providers own business strategy, lessons learnt from their own case studies.

3.1.1 Co-design sessions with service providers

A co-design session with service providers (internal and external to the Consortium) was conducted in Rome on 12th of July 2018, by SWARCO MIZAR with the attendance and support of the Service Registration Tool development team (CERTH/ITI). The whole workshop was organized with service providers with MyCorridor project, Service Registration Tool and business modelling presentations. The latter involves the business models for attracting service providers as well as identifying the added value (i.e. primary value propositions) for services providers to become members of the MyCorridor community and business MaaS platform (Figure 5).

Workshop venue

TTS Italia

Via Flaminia, 388 - Rome, Italy

Workshop objectives

MyCorridor Partners wish to provide an insight to MaaS service providers on how they plan to involve them in the MaaS value chain through the one-stop-shop that will be developed in the project. Automatic service registration to the MyCorridor one-stop-shop and business models to apply will be suggested by MyCorridor Partners during the focus group, seeking for feedback that will be discussed with the project developers and considered in the iterative development cycle of MyCorridor.

MyCorridor MaaS solution is now in your hands!

Project overview

MyCorridor is a 3-year project, funded by the EU's Horizon 2020 programme. Its overall objective is to achieve sustainable travel in urban and interurban areas and across borders. The project looks into connecting services from various service providers and providing the traveler with alternatives to replace their own vehicle trip with combined shared vehicles and multimodal transport solutions. The idea is to have a one-stop-shop operated by the Mobility Services Aggregator through a variety of Business Models. The project is part of the Mobility as a Service (MaaS) concept that puts users at the core of transport services, offering them tailor-made mobility solutions based on their individual needs.

Contact

The Workshop is organised by SWARCO.

For any information, please contact:

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Giulia Dovinola, e-mail: giulia.dovinola@swarco.com

Agenda – Thursday 12th July 2018



09:30 – 10:00 Arrival and welcome coffee

10:00 – 10:20 Opening and Introduction

L. Cocone, SWARCO MIZAR s.r.l.

10:20 – 10:30 MyCorridor overview

L. Cocone, SWARCO MIZAR s.r.l.

10:30 – 10:50 MyCorridor - Mobility, infomobility and added value services registration tool

A. Salamanis, Information Technologies Institute Centre for Research & Technology

10:50 – 11:30 Interactive session on "MyCorridor - Mobility, infomobility and added value services registration tool"

A. Salamanis, Information Technologies Institute Centre for Research & Technology

11:30 – 11:50 MyCorridor Business model

V. Mizaras, SWARCO HELLAS S.A.

11:50 – 13:30 Open discussion

L. Cocone, SWARCO MIZAR s.r.l.

13:30 – 14:30 Lunch

14:30 – 15:00 Conclusion

L. Cocone, SWARCO MIZAR s.r.l.



Figure 5. The agenda of the co-design workshop with service providers in Rome (12th July 2018).

The following questions were asked by the CERTH/ITI Service Registration Tool development team to service providers in order to improve the existing preliminary version of the platform:

- Are you willing to provide your company's email for registering to the platform, or a username should be enough?
- Is the process of registering a new service quite straightforward?
- Is the way of presenting the already registered services (tabular form) quite straightforward?
- Which of the presented features do you consider as misleading and should be fixed or even removed?
- Are there features that describe a service and are missing from the current version? Can you give an example?
- Do you consider the services clustering accurate to enough, so there is no problem in choosing the correct cluster, sub-cluster and mobility product for your service?
- Should the 'Location' feature change to include countries instead of cities? Both perhaps?
- Should the service operating periods be different for weekdays and weekends?
- What kind of business rules of your services would you like to provide in order to be visible to the travellers? For instance, tariffs, discount offers, temporary interruption of service provision (e.g. due to maintenance)?

- In which way, it would be easier for you to provide the additional arguments of the services' APIs and booking APIs? For instance, in textual form or from a list?
- How often the characteristics of a service are updated?
- Would you like to be able to delete an already registered service?
- SWARCO HELLAS presented the business rule editor for service providers. There are two software modules, which are relevant to this session:
 - Service providers' business rule editor.
 - Overall business rule editor (MaaS level).
- The objectives were to identify:
 - What are the features of each one of those modules?
 - What are the incentive strategies to be incorporated in the system's operation?
 - What are the tools to be used to facilitate increased usage of the system and support multimodal transport management policy?

3.1.1.1 Results and recommendations

The main business and technological insights resulting from the focus group conducted with service providers are presented below. They will be taken into serious consideration for designing the prototypes for the first evaluation phase.

Business insights:

- A separate 'Terms and Conditions' agreement should be signed between the MyCorridor platform and each of the registered service providers.
- The end user (i.e. traveller) should have to sign only one general 'Terms and Conditions' agreement with the MyCorridor platform.
- The 'Terms and Conditions' agreement that will be signed by the service providers should appropriately manage competition issues for service providers that provide similar type of services.
- The 'Terms and Conditions' agreement that will be signed by the service providers should clarify all the issues that concern the storage and processing of the data. For instance, it should be explicitly stated who is responsible for storing and processing the data, what kind of processing is implemented, for how long the data will be stored, and so on. Different service providers may have different needs or requirements regarding data management.
- The service providers should be able to promote their marketing activities through the MyCorridor platform.
- For the end user, selecting and using a mobility service directly from the service provider might be cheaper than going through the MyCorridor platform. Therefore, appropriate incentive strategies to use the MyCorridor platform/ mobile application should be designed and implemented.
- The different incentive strategies that will be implemented in the MyCorridor project, can only be successfully promoted by administrative entities (e.g. municipalities) and not by private companies.
- The MyCorridor project should present a specific and clear business model to attract as many external service providers as possible.

Technical insights:

- The service providers are not willing to make any changes in the way they handle data (e.g. data formats, web services design) in order to comply with a specific generic pattern. Therefore, the integration of the different mobility services through their corresponding web services, should be carried out on a case-by-case basis. This means that -at least for the beginning of MyCorridor deployment- for each type of services (e.g. traffic management, public transport, car sharing) a generic format describing all the necessary information for this type should be designed, and then for each different, specific service of this type a 'wrapper' translating the incoming information from the service provider's format to this generic format should be implemented.
- All the information that describes the operation of a specific service should be provided through the service's corresponding API.
- The Service Registration Tool should provide a clear and straightforward process for registering a new service (the easier the better).
- In the Service Registration Tool, the service provider should be able to denote if the service is paid or not.
- In the Service Registration Tool, the service provider should be able to provide a link to the website of the service.
- In the Service Registration Tool, the service provider should be able to provide larger operating areas of the service in different levels. This means that the service provider should be able to state/ set the operating areas in terms of country, city in the country and even a bounding box on a map.
- In the Service Registration Tool, regarding the business rules:
 - Some specific pre-sets should be defined based on the general business model of the MyCorridor project.
 - The service provider should give the specific business rules of the service through the API and not through the Service Registration Tool. In this case, an appropriate mechanism, for informing the backend of the MyCorridor platform for changes in the business rules of the registered services, should be established.
- In the Service Registration Tool, an issue ('ticketing') system for reporting errors should be implemented. For example, if a service has a problem, the operator should be able to provide this information through the service registration tool.

3.2 First evaluation phase: controlled and lab-based sessions

3.2.1 Evaluation with service providers

3.2.1.1 User groups

The groups of users directly interacting with MyCorridor are clustered around two major categories, **service providers** and **travellers**.

In the first iteration, only 6 internal service providers will participate according to the plan, and they will be the first service providers integrating their services to MyCorridor platform. Services from the following list (Table 4) are selected to be integrated to the MyCorridor platform based on the four criteria below, that actually reflect their priority in the decision process:

- Presence across sites (e.g. popularity across sites, service owner is a Consortium member);



- Readiness of service for integration (existing API, if possible no need for signing a Memorandum of Use (MoU), with high Technology Readiness Level (TRL));
- Diversity in service purpose (attempt to integrate different types of services, when this was possible);
- Their utility in creating cross-border scenarios.

Services from the following clusters will be integrated in the first phase. Table 4 shows an extract from the services inventory, as defined and presented within D1.1, with a selection of potential services to register in the Service Registration Tool during the first evaluation phase. However, this list will be further updated based on the integration level and status before the first iteration starts, as many services are already in the process of integration (e.g. 1, 7, 9 in Table 4), some of these will be replaced based on the same aforementioned criteria and others set by the developers/service providers. In addition, this list of services presents the services that will be automatically registered through the Service Registration Tool for primarily evaluation purposes and should not be confused with the pool of services to be integrated (back-end process) and it will be the result of collaboration between the development team of MyCorridor platform and the service providers to realise travellers' testing scenarios (Annex IV).

Table 4. Candidate services for 1st phase integration tests.

ID	Service Cluster <i>Sub-cluster</i>	Mobility Products	My Corridor One-Stop-Shop relevant services	MyCorridor Beneficiaries services & Description	TM2.0 enabled	Availability in MyCorridor Sites						Service Provider/Integrator & Service Content Owner	Terms of Use ²	Current TRL	Available API (Yes/No)
						NL	AT	GR	IT	DE	CZ				
1.	Mobility Vehicle related / Parking	Parking	Parking availability information	Static and Dynamic Parking availability and pricing information in Amsterdam (and other NL cities)		X						Service Provider & Content Owner: Brand MKRS BMCA / Livecrowd (MyCorridor third party)	Open Data	9	Yes, Open data. First point of access ;
2.	Infomobility Parking	N/A	Parking info	Parking probability by TomTom: Parking probabilities dataset based on historical data which gives the probability of parking in every street and the average search-time.		X	X	X	X	X	X	Service Provider & Content Owner: TomTom (MyCorridor beneficiary)	Private with free access only for MyCorridor	4	No

² Public, private with free access only for MyCorridor, private with access upon MoU, etc.

ID	Service Cluster <i>Sub-cluster</i>	Mobility Products	My Corridor One-Stop-Shop relevant services	MyCorridor Beneficiaries services & Description	TM2.0 enabled	Availability in MyCorridor Sites						Service Provider/Integrator & Service Content Owner	Terms of Use ²	Current TRL	Available API (Yes/No)
						N L	A T	G R	I T	D E	C Z				
3.	Traffic Management Advanced traffic management services	Adaptive real-time traffic management	Advanced Traffic Forecasting	SWARCO Advanced Traffic Forecasting in Rome (PRATI area) and Athens: Traffic Data collection by different integrated sources (road sensors, Traffic Control and FCD by TomTom navigation system with Traffic Information related to traffic flow and traffic incident), data process, integration, validation and elaboration to enable traffic	X			X	X			Service Provider & Content Owner: SWARCO MIZAR/SWARCO HELLAS	Private with free access only for MyCorridor	1	Yes

ID	Service Cluster <i>Sub-cluster</i>	Mobility Products	My Corridor One-Stop-Shop relevant services	MyCorridor Beneficiaries services & Description	TM2.0 enabled	Availability in MyCorridor Sites						Service Provider/Integrator & Service Content Owner	Terms of Use ²	Current TRL	Available API (Yes/No)
						N L	A T	G R	I T	D E	C Z				
				state forecast (Travel Time). These data will be provided to MyCorridor platform.											
4.	Mobility Public Transport (Para transit)	Taxi	Taxi apply and book	Splyt taxi services: Splyt integrates a variety of taxi booking platforms, and is the first ever global taxi alliance and is expanding its service to integrate with other modes of transport, such as airlines.		X	X	X	X	X		Service Provider: Splyt Technologies Ltd. Service Content Owner: Splyt Technologies Ltd.	Private with access upon MoU with Splyt Technologies Ltd.	9	Yes
5.	Mobility Public transport	Interurban PT (train, maritime, bus)	PT scheduled information	AMSBUS by ČSAD SVT Praha s.r.o.: Advanced Coach Ticketing							X	Service Provider: Chaps Service Content owner: ČSAD	Private with free access only for	9	Yes

ID	Service Cluster <i>Sub-cluster</i>	Mobility Products	My Corridor One-Stop-Shop relevant services	MyCorridor Beneficiaries services & Description	TM2.0 enabled	Availability in MyCorridor Sites						Service Provider/Integrator & Service Content Owner	Terms of Use ²	Current TRL	Available API (Yes/No)
						NL	AT	GR	IT	DE	CZ				
				system giving timetables It covers all CZ regions as well as particular routes from CZ to DE/AT/NL/IT.								SVT Praha s.r.o.	MyCorridor		
6.	Infomobility Multimodal	N/A	Multi modal journey planner	VBB-Fahrinfo, VBN FahrPlaner & HAFAS multimodal journey planner by HaCon: Covering: PT (ferry, bus, tram, subway, commuter trains, trains, fast trains, walk, bike, car, taxi, P+R)						X		Service Provider: HaCon Service Content Owner: Operators giving permission to HaCon	Private with free access only for MyCorridor	9 (Productive system)	Yes
7.	Infomobility Multimodal	N/A	Multi modal journey planner	Austrian multimodal routing by VAO: Multimodal routing	X		X					Service Provider: SRFG Service Content	Private with access upon MoU	9	Yes

ID	Service Cluster <i>Sub-cluster</i>	Mobility Products	My Corridor One-Stop-Shop relevant services	MyCorridor Beneficiaries services & Description	TM2.0 enabled	Availability in MyCorridor Sites						Service Provider/Integrator & Service Content Owner	Terms of Use ²	Current TRL	Available API (Yes/No)
						N L	A T	G R	I T	D E	C Z				
				including all modes of transport; dynamic routing based on real-time traffic information; real-time PT information is also included.								Owner: Verkehrsagentur Österreich VAO GmbH			
8.	Infomobility Parking	N/A	Parking info	Parking availability information in Salzburg; Parking availability information in the city of Salzburg.			X					Service Provider: SRFG Service Content Owner: City of Salzburg	Content by City of Salzburg to SRFG upon MoU	9	Yes (partially available also as open data)

3.2.1.2 Methodology

The evaluation with service providers will be **remote**, **unmoderated** and **contextual** (i.e. service providers will complete the process and questionnaire at their own time and at their own place). Service providers will complete the registration of their service on their own. Before any process takes place, they will be interviewed on their professional background, current and existing relevant experience and their expectations about the Service Registration Tool and process (i.e. pre-acceptance). Service owners of services presented in the aforementioned table will participate, as defined in column '**Service Provider & Content Owner**'.

3.2.1.2.1 Testing procedure

The process of the first evaluation activities with service providers is described below.

Baseline interview: The 6 internal service providers will be interviewed about their current professional workflow, their experience in mobility products and their current practices.

Technical validation: These tests will be carried out for each service registration to the MyCorridor platform through the Service Registration Tool. Each responsible team will carry out the validation with relevant testing scenarios, based on the functionality added/improved of the Service Registration Tool. The QoS metrics to be gathered and analysed are presented in Table 1 and will be further refined before the validation tests by the respective development teams (i.e. My Corridor platform, Service Registration Tool and service providers). Each team will have the opportunity to add more metrics that might be relevant only to their services and would not make sense to apply to other services (a template checklist can be found in Annex III.C).

Recruitment: For the first evaluation phase, participants will be recruited from the teams of service providers participating in the workflow of WP4 service integration. At least one service provider will participate per service registration process (i.e. one participant per service registration) but it will be sought to include a second member of the development team (i.e. a second person/participant) if this is deemed necessary.

Training: During the first iteration, the evaluation sessions will have a strong influence from tutorial-based assessment, as service providers will complete the registration process unmoderated. Training will be based upon communication with the development team, the use of instructions and additional documentation.

Remote and unmoderated evaluation sessions: The evaluation session per service is anticipated to lasting no more than two hours. Of course, the participants can break down the process in smaller sessions, but they will be advised otherwise (i.e. if all of them attempt to complete the registration in one session, then their effort is more comparable. But we cannot pressure participants to complete the process in a manner that significantly differs from their current professional routine). Participants will consent prior their participation, but no ethics related issues are anticipated, due to their involvement in the project and abidance to the MyCorridor Ethics policy. However, all gathered data will be pseudonymously and confidentially treated.

Analysis of results and reporting: Each session is different from the other; therefore, analysis will be session-specific apart from the session carried out with and the baseline interviews.

Feedback to Service Registration Tool development team: Analysis will be carried out at two levels: a) gather immediate prioritized feedback to development teams to immediately incorporate in their

workflow; b) in-depth formative evaluations and lower level metrics estimations (mainly questionnaires' scores).

Meta-evaluation: Evaluation of the process, the results, the applied methodologies, instruments, and metrics to serve as a learning instrument for preparing the final evaluation phase.

The service registration process will be completed by service providers at their own time and pace. The service providers will complete a very short diary/ log with any issues they encountered and how they resolved them with the development team. They will complete a post-questionnaire to collect data about their experience, the usability and usefulness of the Service Registration Tool and suggest improvements, changes and additions.

The first iteration with service providers is almost completely formative and relies heavily on self-reports because the actual experience of the service providers, who are highly IT skilled professionals can be an expert evaluation of the whole process and it will run one month prior the 1st evaluation phase with travellers.

3.2.1.2.2 Hypotheses

The following list of hypotheses will be addressed in the first and second evaluation phase with service providers. The hypotheses included in this section will be update according to the final evaluation plans for second iteration phase. If needed they will be updated for the first phase. The null hypotheses are that no change will happen between baseline and the outcomes of first iteration phase. Under each hypothesis the success criterion and measurement indicator are noted. These are the hypotheses for the evaluation phases, but it is important to note that the technical validation teams need to address separate hypotheses for the QoS indicators, as they are presented both in D1.1 and in Table 1.

1. The Service Registration Tool is easy to use.
 - a. Ease-of-use measured at the end of each completed scenario and overall usability scale. (ease-of-use >60% for 1st iteration and >70% for 2nd phase).
2. The Service Registration Tool is useful.
 - a. Usefulness measured at the end of each completed scenario and overall usability scale.
3. The service registration tool is usable (>55% in 1st phase).
 - a. The Service Registration Tool is highly usable (>70% in 2nd phase).
4. The service providers are successful in completing the registration process.
 - a. Success ratio in scenario completion (>60% in 1st phase and >70% in 2nd phase)
 - b. Failure ratio in scenario completion (<10% in 1st phase and < 5% in 2nd phase)
 - c. Error percentage <5% in first phase and <2% in second phase
 - d. Issues encountered but not resolved with the development team need to be less than 5 major and 7 minor in the first iteration phase and less than 3 major and 5 minor in the second phase.

3.2.1.3 Service Registration Tool

The first functional prototype will be evaluated by the service providers. The Service Registration Tool aims to provide a simple and straightforward procedure and it will be offered through the MyCorridor platform as a web service. The current version of the Service Registration Tool can be found here: <http://mycorridorsrt.iti.gr/>

The Service Registration Tool (Figure 6) is an online tool which aims to automate the process of registering a service on the MyCorridor MaaS platform. An updated version of Service Registration Tool will be tested during the 1st evaluation phase from the one shown in Figure 6.

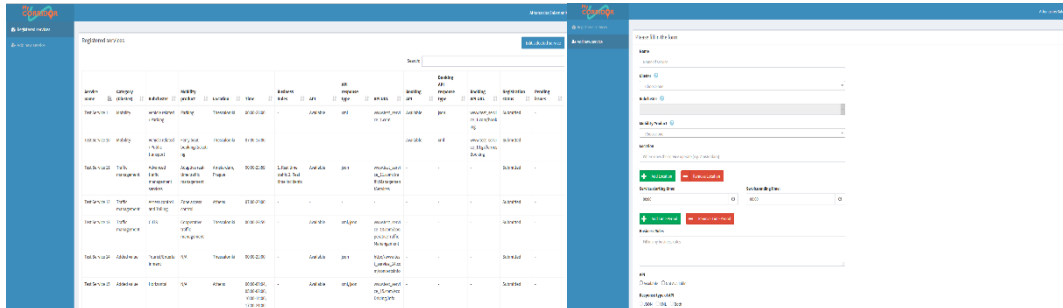


Figure 6. The Service Registration Repository (left) and the Service Registration Tool form (right).

The main functionalities offered are the following:

- Service provider registration and login
- Registration of a new service
- Edit of an existing service
- View existing services

The service provider registers a new service by providing information regarding the following characteristics of the service:

- **Name:** The name of the service
- **Cluster:** The cluster to which the service belongs
- **Sub-cluster:** The sub-cluster to which the service belongs
- **Mobility Product:** The mobility product offered by the service
- **Location:** The location (city) where the service operates
- **Service starting time:** The start time of a service session
- **Service ending time:** The end time of a service session
- **Business rules:** General, business rules of the service that may affect the passengers (e.g. discount policies)
- **API availability:** The availability of an existing web API
- **API type:** The response type (JSON, XML or both) of the web API
- **API URL:** The base URL of the web API

- **Booking API availability:** The availability of an existing web API through which the service is booked by the traveller
- **Booking type:** The response type (JSON, XML or both) of the Booking API
- **Booking API URL:** The base URL of the Booking API
- **Comments:** Additional comments/remarks of the service provider in relation to the operation of the service

3.2.1.4 Testing scenarios

Testing scenarios will be prepared to only guide the service providers in completing the accompanying diaries and not for traditional usability testing purposes. The service providers themselves will assess the process and the perceived effort, success and easiness.

Three scenarios will be prepared and shared through a service provider diary template. This diary will be an online spreadsheet, with one sheet describing the scenarios and one to provide their comments and suggestions (log/diary). The scenarios are not included in the current version because users will simply replicate the service providers' Use Cases (D1.1, p. 158) and because the aim is for service providers to note down the steps they take for completing each scenario. These steps will afterwards be compared with the steps defined by the development team:

- **S1:** Service provider log-in:
 - **S1.1:** Registered service provider.
 - **S1.2:** New/unregistered service provider.
- **S2:** Service registration.
- **S3:** Service provider business rules editing.

3.2.1.5 Instruments and Questionnaires

In this section we will describe the instruments and questionnaires administered during all evaluation phases. Those that will be administered/ collected during the second phase will be further updated two months before testing takes place to ensure appropriateness and efficiency. The questionnaires can be found in Annex III.

The **baseline interview** (template can be found in Annex III) will last approximately an hour. Interviews will be held via phone or Skype (or other online meeting applications). The main sections of the interview are the following:

- Background information
- Previous Experience/Current Behaviour
- Constraints/Cost/Value
- Risk/Impact

The online **service provider scenarios completion and log** will be filled in after the completion of each scenario. The participant will rate each scenario with regards to its ease of use with a 5-rating Likert scale, rate the success of completion of each scenario, add the steps taken to complete each scenario as well as give an estimate of time taken to complete each scenario.

The Service Registration Tool and integration process evaluation (post-questionnaire) includes the following categories:

- Service Registration Tool use and performance.
- Use of supportive documentation.
- Learnability.
- Sustainability and maintainability.
- Installability (*optional and administered only for parts/ services that require installing*).
- Changeability.
- Effort.
- Usability (standardised questionnaire, SUS scale [16]).

The evaluation session is anticipated to be completed within two hours. Users will complete a General Data Protection Regulation (GDPR) compliant consent form (Annex I) regardless if they are members of the Consortium or not. An online or physical workshop will be held before the evaluation activities with service providers kick off to inform and instruct service providers about the evaluation procedure and what is expected from them. For those service providers unable to participate to the workshop, one-to-one online sessions will be held.

3.2.2 Evaluation with travellers

3.2.2.1 User groups

In the first iteration phase, 20 travellers from the following groups will participate at each pilot site, as they are defined within D1.1. However, a user might fit to more than one of the following categories (e.g. a user can be both a mobility-restricted businessman and a commuter):

1. “Commuter”.
2. “Tourist”.
3. “Businessman”.
4. “Spontaneous user”.
5. “Mobility-restricted” user (i.e. user with disabilities).
6. “Low IT literacy user” (i.e. older user).
7. “Bleisure traveller”.

Background information of the identified users will be collected before any testing takes place, also with the consideration of their mobility patterns and choices. Users will vary in age, type of user cluster, ICT literacy and education, occupational background, nationality, income and vehicle use.

The users will be loosely matched to the testing scenarios with the sole aim to collect meaningful and appropriate data, aiming for users to fully realize the potential of the offered services through this single digital platform with diverse mobility choices (i.e. from daily travelling routines (commuter) to special occasions (tourists)). Testing scenarios addressed at each pilot site are presented in Annex IV.

3.2.2.2 Methodology

A mixture of usability (i.e. testing scenarios, think aloud protocol) and user experience (i.e. the user is given a loose storyboard with very clear objectives) have been selected for the first iteration phase. The researcher may also ask the participant to 'think aloud' as they work on a scenario to better understand the participant's mental model for the scenario and his decision-making in real time. When the participant has completed a scenario, the researcher sets up the starting point for the next scenario and continues the test.

3.2.2.2.1 Testing procedure

Each evaluation session will follow a standard procedure where users will be informed in native language about the project (layman presentation), its developments (mainly the ones included in the evaluation), the test procedure, the handling of recorded data, and before testing starts their consent will be obtained. After the end of the session, users will be debriefed. Each session will be a scenario-based evaluation face-to-face meeting with the end user.

User experience face-to-face sessions

Each session is anticipated to last between 90 and 120 minutes (pre-testing will define exact duration) and comprises the following eight steps:

1. Introduction/ project presentation (based on existing dissemination material and adapted to the needs of each user group);
 - 1.1. The presentation of MyCorridor project, platform and services will be the same for all pilot sites and will be distributed before testing takes place. Each pilot site will adapt this presentation to the pilot-specific scenarios and translate it in native language;
2. Informed consent completed (Annex I);
3. Background and pre-testing questionnaire completion (Annex III);
4. Scenario completion, including baseline scenario³ (partners will be informed that time will be recorded during scenario completion (screen recorder (e.g. "[CamStudio](#)") will do) is required and facilitators need to be ready to start and stop the recorder);
 - 4.1. Participants are encouraged to "think aloud" during the completion of each scenario (video recordings are encouraged, if partners have the capacity to do so);
 - 4.2. Participants are asked not to generally navigate around MyCorridor platform/ mobile application whilst completing the scenario because they are being recorded but stick to the completion of scenarios;
 - 4.3. Facilitators keep their own notes (templates and scripts will be provided to all pilot sites to be translated and used during the evaluation sessions);
5. Post-testing questionnaire completion (Annex III);
6. Debriefing/ compensation (if any);
7. Further guidance has been added in Annex V.
8. Each evaluation team should run a pre-pilot with 2 end-users to ensure smooth and uneventful pilot conduction. All necessary material and links should be prepared and translated before any testing takes place.

3.2.2.2.2 Hypotheses

The following list of hypotheses will be addressed in the first and second evaluation phases with travellers. For the first iteration phase, hypotheses will not be traveller group-specific. The hypotheses included in this section will be re-visited, refined and amended according to the final evaluation plans for

³ Baseline scenario involves the completion of the objective (e.g. get from Thessaloniki to Rome without using the MyCorridor platform, aiming to capture the current traveller experience). This part of the plan is described further in section 3.2.2.2.4.

second iteration phase as well as based on the 1st phase lessons learnt. The null hypotheses are that no change will happen between baseline and the outcomes of first iteration phase. Under each hypothesis the success criterion and measurement indicator are noted.

1. The MyCorridor platform is easy to use.
 - a. Ease of use measured at the end of each completed scenario and overall usability scale. (ease-of-use >60% for 1st iteration and >70% for 2nd phase).
2. The MyCorridor platform is useful (i.e. useful because they will save time and effort in travel planning).
 - a. Usefulness measured at the end of each completed scenario and overall usability scale.
3. The MyCorridor platform is usable (>55% in 1st phase).
 - a. The MyCorridor platform is highly usable (>70% in 2nd phase).
4. The travellers are successful in completing the scenarios per storyboard and user group.
 - a. Success ratio in scenario completion (>60% in 1st phase and >70% in 2nd phase).
 - b. Error percentage <5% in 1st phase and <2% in 2nd phase.
 - c. Issues encountered but not being easily resolved with the development team need to be less than 5 major and 7 minor in the first iteration phase and less than 3 major and 5 minor in the second phase.
5. Personalisation of offered services is effective (>75% in first phase).
 - a. Effectiveness in second phase (85%).
 - b. Efficiency (85%).
 - c. Highly tailored to their needs (85%).
6. Travellers are positive towards MaaS technologies (acceptance > 60% in 1st phase).
 - a. Acceptance increases totally from baseline and 1st phase by 10% (>75%; 2nd phase).
 - b. Attitude towards MaaS technologies is positive for 75% of users/travellers (2nd phase).

3.2.2.2.3 The MyCorridor platform and mobile app

The MyCorridor platform will be the one-stop-shop where all internal and several external mobility services will be integrated. The travellers will be able to create their own profile, select from pre-defined or create customised MaaS packages. They will be able to use a trip planner to create a journey (if they wish) and then create a package, get one Mobility Token for all their travelling arrangements, complete transactions, collect loyalty points and receive discounts. The traveller will be able to use the MyCorridor platform registered or unregistered, however personalised service provision is only feasible for registered users. This section will be updated with screenshots and an elaborate description after the first functional version is available to be tested during the first evaluation phase. The MyCorridor traveller solution will be available as iOS and Android mobile application.

3.2.2.2.4 Baseline assessment

Baseline assessment is twofold. Firstly, assessment of current experiences and background information will be collected from service providers and travellers through baseline interviews or freely completed forms of selected participants to investigate their transport and mobility preferences and patterns along with pre-acceptance of MyCorridor platform and consumer behaviour (*self-assessment*).

Secondly, users will complete a storyboard with no use of MyCorridor platform but only the first part of the storyboard and they will be left to their own devices to reach the objective of the scenario. Figure 7 presents an example of user testing storyboard. The first paragraph of the storyboard will be used for the baseline scenario (e.g. the user is informed about the origin and destination of the journey and sometimes about the modes he/she can use). As this might be a time-consuming part of the user testing session, only one baseline scenario will be completed by users (*observer assessment*). The same metrics (see section 3.2.2.2.7.1 for a complete list) apply and will be collected as for the rest of MyCorridor scenarios.

3.2.2.2.5 Limitations

User testing within MyCorridor has several limitations because the platform is being developed during the project progresses and certain corridors and services are addressed per pilot site. Therefore, fully open and real-life testing is not possible because not all services that exist in this country and/ or region will be available at each site. As such, though, the second evaluation phase methodology incorporates realistic scenarios and collects data during real-life travelling experience, the users will be recruited and informed about the study purpose and its inherent limitations (i.e. semi-real life experience). Such a perspective, allows for real data collection and at the same time avoids the dissatisfaction and disappointment that may result because of services and routes not addressed in the project, leading into artefacts being embedded in the evaluation.

3.2.2.2.6 Testing scenarios

One or more user testing scenarios are accompanied by a storyboard. The storyboard is the user scenario that will be provided to the participants. The user testing scenarios (presented in Annex IV) will be available to the facilitator for assessing the scenario completion and making notes in a separate template.

The storyboard includes **the story**, **the objectives** and the **steps** the participant needs to take to complete the scenario (an example is shown in Figure 7). The story is allowing the participant to step into the user's shoes with accompanying clearly stated objectives. The aim is not to confuse the user within the story but to have clear objectives of what they have to achieve within a context of use and purpose as well as to add a realistic flair in the scenario.

STORYBOARD for TOURISTS

Elena is 33 years old, employed, tech savvy and ready to leave for a summer leave. She wants to travel from Athens to Naxos (up to this point constitutes the instructions also for baseline scenario) in the most comfortable way MyCorridor platform can offer. Elena has been informed by a friend about MyCorridor one-stop-shop and uses the MyCorridor app he shared with her via SMS (how users get to one-stop-shop is important for online visibility) to visit the site. She has only one week before she has to return to work and does not want to lose any minute and she decides she is not interested in an existing MyCorridor product but wants to select the services herself. She wants to take a taxi to Rafina, get the ferry to Naxos island and wants to use public transport during her stay in the island, so she can easily move around.

Objective: Imagine you are in Elena's position and want to purchase a customised MyCorridor product to comfortably travel as a tourist from Athens to Naxos with only one voucher to get a taxi [No.21: taxi

apply and book, Splyt Technologies Ltd.] from home to Rafina port, then get a ferry [No. 36-37: ferry boat booking and Ticketing services, VivaWallet] to Naxos island and there to use the bus [Adaptation of No. 34: Public Transport – KTEL Naxou as a service provider as it is the case for KTEL Korinthou] for a whole week in Naxos.

**In brackets the actual services and their names that are being invoked (4 services invoked in this storyboard).*

Figure 7. Storyboard example from Greek pilot (Tourist).

The structure of the testing scenarios is presented in the following table (Table 5) with the main categories shown in the first column and a description of each category in the second column. These scenarios will be administered only to user testing facilitators for observation and their evaluation of the scenario completion. All testing scenarios are included in Annex IV per country site and per storyboard. These testing scenarios will be further refined as soon as the testing version of MyCorridor platform (when it will be also known which services are integrated and fully operational) and Service Registration Tool are available to ensure appropriateness and feasibility. It is important to note, that these scenarios were created to accommodate for all applicable Use Cases (UCs) for both country and cross-border corridors. This is especially true for Germany which is participating as a pilot site mainly with a cross-border corridor and, thus, has a supportive role in the evaluation phase and not a leading pilot role.

Table 5. Testing scenario template.

Goal/Output	<i>[The testing scenario title, main itinerary]</i>
UC - sub-UC	<i>[Use Case and sub-Use Cases titles, as defined within D1.1]</i>
Inputs	<i>[What is necessary to be in place in order to the user to be able to execute the scenario, e.g. the user might have to register first]</i>
Assumptions	<i>[The basic assumptions are fulfilled, e.g. the user is a commuter or an older traveller, as defined in the testing scenario goal]</i>
Steps	<i>[These are all separate steps required to complete each scenario. The user needs to complete all steps in order to complete the scenario unless stated otherwise]</i>
Success criteria	<i>[Defines the actions that need to be made or what is needed to be done by the user in order to the facilitator to decide that the scenario was successfully completed]</i>
Notes	<i>[These are notes to be taken into consideration by the facilitator that are important for the execution of the scenario]</i>

Each facilitator will be provided with a facilitator spreadsheet, where they will complete the following information for each scenario completed by the user:

- Overview of evaluation material to be gathered through templates;
- Scenarios ID;
- Scenario description;

- Tasks completed within a scenario;
- Participant ID/No.;
- Time it took to complete the scenario;
- Verbal/ thoughts/ facial expressions/ comments made during the session (most of the information will be gathered from the application of the 'Think aloud' technique and observation);
- Pathway followed (i.e. actually what the users did); this will result from notes taken by the facilitator screen recordings and/or web analytics gathered per user);
- Attempts made to find information (i.e. especially important if the user cannot successfully complete the scenario or abandons it and/or if they deviate in the steps they take in order to complete the scenario);
- Scenario completion score (based on success criteria, as they are defined in the final sheet);
- Other notes the facilitator may take and are useful for the results interpretation.

The facilitator template can be found [here](#). This link will be available throughout the evaluation period.

3.2.2.2.7 Instruments and Questionnaires

The early phases will be mostly formative with selected summative aspects. The latter will mainly aim to create a comparative basis across phases and collection of summative data. The evaluation material for travellers can be found in Annex III.

Selected participants (5 participants per pilot site) will first complete the **baseline interview/questionnaire** that comprises the following categories:

- Background information (Section A);
- Mobility needs & wants (user requirements were explored in the WP1 survey; Section B);
- Online consumer experience (Section C);
- MaaS awareness (Section C);
- MyCorridor platform pre-acceptance (D).

A **pre-testing questionnaire** that includes the following parts will be completed only by those participants that were not being interviewed. These participants will additionally answer the mobility needs and wants questions from the baseline interview:

- Background information
- Computer literacy
- Online consumer attitude and behaviour
- Online shopping needs & wishes
- MaaS awareness
- MyCorridor platform pre-acceptance

The following metrics will be collected per subject of evaluation.

Baseline experience

Formative data and content analysis of topics and themes under the four areas: A. Background information, B. Access Needs & Wants and MaaS awareness, C. Consumer experience, and D. MyCorridor pre-acceptance. The questionnaire consists of 24 question items (13 close-ended and 11 open-ended). Therefore, descriptive statistics will be prepared for the close-ended items and content analysis will be conducted for the remaining 11 open-ended items. A template to collect data from each pilot site will be circulated to partners. A content analysis will be conducted on aggregated and consolidated data across pilot sites. Comparison will be conducted for the following variables:

- User group membership
- Digital literacy
- Socio Economic Status (SES)

This evaluation is formative and purely qualitative. Pre-acceptance will be compared with acceptance at each evaluation phase (1st and 2nd).

Face-to-Face evaluation sessions

Scenario completion (including baseline scenario completion): Success, duration, deviation from designed paths, screen capture of scenario completion, video and audio recording (whenever available).

Subjective measures included closed and open-ended question items: Pre- and post-questionnaire completion, SUS and TAP-3 [17] standardised questionnaires.

Facilitator notes: emotion heuristics, observation notes from 'think aloud' protocol.

The emotional heuristics will be used and noted by facilitators per scenario completed and overall during the session based on the work carried out by Eva de Lera & Muriel Garetá-Domingo (2006) [18].

In particular, several usability metrics will be gathered, such as the following, as defined by Sauro (<http://www.measuringu.com/blog/essential-metrics.php>; accessed 20/07/18), apart from the Annex III questionnaires:

- **Completion Rates:** A simple gateway metric that constitutes a simple usability measure. We will measure if the user succeeds or fails to complete the scenario and subsequent steps (i.e. tasks).
- **Usability Problems:** these will be formative descriptions of the UI issues encountered by the user and the number (and type) of users encountering these issues. The severity of the problem (high/moderate/low) will be noted by the facilitator accompanied by a suggestion for solution (if any and if feasible). The knowledge of the potentially encountered problems can be used to calculate Return on Investment (ROI) and by knowing the type of users that have these problems can help the pilot teams to define what kind of problems are found by what kind of users and discovery rates per user group. That could better predict the sample size number we might need for the impact assessment.
- **Scenario Time:** Recording how long it takes the user to complete (or not) the scenario (seconds or minutes) will allow us to measure the productivity and efficiency for the specific scenario. Comparison of the completion times to the expert (researchers) can give an indication of the deviation, reasons and reveal any issues in the operation of the back-end and front-end mechanisms.
- **Scenario Level Satisfaction:** Users are asked to simply state how difficult it was to complete the scenario.

- **Errors:** Facilitators will record any mistakes, omissions while trying to complete the scenarios along with a very short description and a severity for the specific error. They will be checked along all identified UI issues to reveal any relations/ patterns.
- **Page Views/Clicks:** Number of clicks required to complete the scenario. They are good indicators of efficiency and very often the first click is an indication of success or failure in completing the scenario at hand. For websites and web-applications, these fundamental tracking metrics might be objective indicators of usability.

Another facilitator will keep notes based on the ‘think aloud’ comments and statements made by the user whilst trying to complete the scenario including the relevant QoS indicators as presented in Table 1. A spreadsheet will be created to collect uniform data from each pilot site. Each site manager will share their completed datasets with SFRG (A6.3 ‘Pilot results’ consolidation leader).

3.2.2.3 Limitations

Each scenario includes steps that can be carried out in a laboratory setting but others that require actual execution of the scenario in a realistic setting (in italics the parts that are applicable to the 2nd evaluation phase). The primary objective is to emulate in a laboratory setting, the steps that cannot be performed (e.g. going to the bus station, driving, etc.) as the aim of the first iteration is not to perform and complete a real journey as an actual traveller, but to complete a real interaction with the MyCorridor platform. The reason that the testing scenarios include steps that require real execution is for users to better understand the complex MaaS concept which is innovative, and many travellers have not even heard of. Therefore, to increase the ecological validity of the acceptance and usefulness data collected, we place the use of services and MyCorridor platform within a realistic scenario (Annex IV).

3.3 Second evaluation phase: The semi-real experience

The second evaluation phase testing will start in September 2019 and will entail evaluation with service providers and travellers. This is the final evaluation phase with the final version of the one-stop-shop with of all integrated services and involving real travellers. The current version of this chapter is preliminary and provides an overview of the second evaluation phase methodology. The same holds true for the impact assessment (section 3.5). These parts will be further refined after the end of the first phase, based on summaries of results and drawn inferences as well as the development objectives. Reimbursement might be required for the realisation of the cross-borders scenarios during the second evaluation phase.

A less obvious objective is the meta-evaluation of the whole real-life experience and its interpretation for MaaS innovative transportation market in general for Europe and globally, much broader than MyCorridor project itself. The meta-evaluation process will take up the major inferences and lessons learnt and will translate them into recommendations for MaaS systems. Additionally, travellers’ user acceptance will be measured to estimate the penetration of MyCorridor to transportation, taking into consideration the continuously changing and disruptive ‘scenery’ (e.g. automation in private and public transportation, cooperative and IoT emergence).

3.3.1 Evaluation with service providers

The second evaluation phase with service providers will include the integration of the remaining services and the integration of external/ invited service providers. MyCorridor Consortium will sign a Memorandum of Understanding (MoU) with each one of the external service providers who want to integrate their service(s) to the MyCorridor platform. Therefore, the process might not differ significantly from the one described for the first evaluation phase. For example, an optimised version of the Service Registration Tool with additional supportive documentation, files and URLs will be evaluated. The evaluation material will be further refined to reflect the improvements and changes made, based on the

first iteration results. Nevertheless, the baseline assessment will remain the same, as we have to collect background information for all service providers. As the process is not anticipated to differ significantly, increased effort is required to engage and attract service providers that will provide added value to the ecosystem-to-be, as well as aggregators offering bundles of services across countries.

Therefore, a separate engagement strategy to attract external service providers to MyCorridor will be defined in close collaboration with the dissemination team along with the coordination and platform administrators and will be included in the updated version of this Deliverable. The engagement strategy will start to be organized before an optimised version of the Service Registration Tool is available at M20 with dedicated information and engagement leaflets. The starting point of the engagement strategy will be the identified gaps in the services inventory annexed in D1.1(Annex 6; p.254-286).

Close collaboration with WP7 (Business models, incentives and legal issues) partners will help shape the appropriate value propositions per different type of service provider. Of special interest are potential external service integrations that have a higher cross-border potential to strengthen the cross-border choices and possibilities across Europe.

3.3.2 Evaluation with travellers

Contrary to the second phase with service providers, the second evaluation phase with travellers is completely different when compared to the first one. The second evaluation phase will be conducted in semi-real conditions. As the existing platform will offer pre-defined services at certain areas, then the travellers will be recruited to complete real journeys and carry out real transactions (with no additional monetary gain/procurement for the aggregator/payment or any of the partners but solely for service providers that are (or not) members of this Consortium). Users will be compensated for their participation and reimbursed in case issues with their journeys and Mobility Tokens arise.

Again, recruitment, incentivisation and engagement are of instrumental role in the success of the second evaluation phase. Dedicated steps in the organization and logistics part of the project will be taken to ensure the appropriate travellers participate and at the same time achieve a wide enough diversity according to user profiles identified within WP1 (Defining a disruptive MaaS culture). The participants from the first iteration phase will participate in the second along another 30 travellers per pilot site (300 users in total). Recruiting the same participants across phases increases the comparability and, thus, the validity of the results. In addition, 10% of total users will participate in dedicated usability sessions to evaluate the usability and user experience of MyCorridor mobile application (the same evaluation material will be used in these dedicated sessions across all pilot sites, adjusted for improvements and changes in the second evaluation phase).

Two dedicated workshops will take place at least a month prior kicking off the activities to:

- a) **disseminate** and discuss with partners the evaluation process, material, etc.;
- b) **put in motion the recruitment and incentivisation processes**, which are required to elicit continuous and frequent use of the platform to reflect selected types of journeys and package selection.

Users from relevant user groups will be identified and will be invited to participate in the second phase. As mentioned above, the travellers who will participated in the first phase will be included to the second in order to ensure continuous assessment from baseline to end of real tests across the lifecycle of the project and its developments. As scenarios will be pre-defined, then travellers will be recruited to complete specific routes and journeys, thus, the term semi-real is used to describe the second evaluation phase. Moreover, as the MyCorridor application will still be a prototype, participants will be reimbursed if they encounter problems, delays, etc. because of the MyCorridor app use. As such, potential users will



be attracted through dedicated events for travellers and the existing networks of each pilot site. Users will be informed about the scenarios they will be asked to complete. The scenarios (see Annex IV) will be adjusted and the users will be asked to carry at least 55% of their travelling within the week through MyCorridor. Users will be compensated for their participation and will receive real incentives and loyalty points. In addition, they will be reimbursed for their expenses in case they encounter issues during travelling because of MyCorridor use.

A dedicated testing version of the platform will be created to track the anonymised use of the recruited participants who will use the MyCorridor platform/mobile application anonymously (dedicated code per user) for a period of six months. Users will be informed about the packages and services available at their place of origin (depending the type of user) and suggested scenarios of use by the Pilot Site Managers (PSMs). Any respective limitations will be considered for re-adjustment of existing scenarios for real implementation.

Users will receive an information sheet with all data types collected during their participation and they will have to agree by signing the informed consent form. The consent form will include links to the data privacy and terms and conditions on using the MyCorridor application.

Apart from the web analytics continuously collected during the use of the MyCorridor platform, users will keep a diary with specific aspects of their journey (e.g. purpose of journey, likes/dislikes of the specific journey, delays, problems encountered, mood, evaluate each journey experience as a whole, and in general, add thoughts about each specific journey they make). In addition, an online feedback tool (i.e. through reminders and notifications) will be put in place to collect their experience, acceptance, satisfaction, worse and best moments of use including any recommendations of problems/issues encountered.

A contact team (for real-life tests) will be allocated to serve as a contact point for users in case of any issues arise. Users will participate in a workshop prior kicking off the real-life testing activities where all aspects of testing and participation will be thoroughly explained, and they will have the opportunity to raise questions and discuss any issues with the evaluation team. These workshops will take place at each pilot site and they will signify the beginning of the second evaluation phase with travellers. Travellers who did not participate in the first phase will complete the baseline assessment and the pre-questionnaire.

Each completed diary can be either in paper form or online and it will be submitted weekly in order the respective evaluation team to keep track of participant's motivation, learning curve, change in travelling behaviour and modal choices.

The objective is to evaluate the true experience of the traveller, their preferences and the MyCorridor and, consequently, MaaS penetration into their daily travelling patterns. The findings will have high ecological validity and many of the data will be further fed to the impact assessment calculations.

Additional focus groups with travellers as well as stakeholders (e.g. representatives from authorities, regional transport agencies, touristic agencies, mobility and MaaS aggregators, public transport -and other type of vehicles- operators, infomobility and added value providers, mobile and technology service providers, etc.) will be held at the end of the second evaluation phase; firstly, to collect qualitative data to triangulate data collection and enrich the other types of collected data and, secondly, to conduct the supplementary impact assessment based on MAMCA. Focus groups with stakeholders will aim to collect information about the sustainability and growth of MyCorridor as a business and consumer experience after the end of the project with consideration on new directions/innovations in transportation, such as IoT and automation apart from MaaS. At least two focus groups (i.e. one with travellers and one with stakeholders) will take place at each pilot site. The focus groups with stakeholders will be sought to be organized within a major project event near the end of the project.



It is important to calculate customer related experience data (Customer Experience; CX) because the MyCorridor platform aims to offer paid mobility products/ services, hence return of investment/mission and conversion rates are relevant and important. An indicative list of indicators for second semi-real-life testing follows along with potential app usage analytics:

- Consumption/use of mobility product
- Frequency of use
- Preferred mobility products/ services
- Preferred combination of products/ services
- Ratio of use of added value synthetic services
- Preferred MaaS packages
- Preferred payment method (if applicable)
- Frequency of visit
- Preferences popularity (which user preferences are popular per traveller type)
- Time spent on platform per visit
- Completed transactions
- Cancelled transactions
- Preferred redeemed coupons
- Most popular incentive
- Ratio of registered/vs. unregistered users
- Preferred entry point(s)
- Preferences per type of user for all the above
- % of private car use (ratio for reduced use)
- Use/consumption of 'greener' packages
- Use/consumption of 'greener' mobility products/ services (e.g. PT, bike sharing, etc.)
- Change in modal choice and travelling behaviour (patterns)
- Ratios modal split (positive increase ratio)
- Attitude/change in attitude towards 'greener' mobility

As analytics of User Experience, Google analytics will be utilised for desktop (i.e. testing with service providers) or mobile (e.g. <https://www.google.com/analytics/analytics/app/>) to continuously collect data of MyCorridor platform use. Apart from diaries and online feedback forms that will allow us to collect their subjective feedback and perceive journey experience, we will collaborate with transport operators to collect information about successful journey completions (or not) and successful Mobility Token redemptions (or not) to further validate their experience with objective data. The selection of app analytics for iOS and Android will be added in the updated version of this Deliverable.

The storyboards and testing scenarios will be further refined and improved in the final version of this Deliverable to reflect the internal and external services integrated to the MyCorridor platform, the MaaS packages offered, the optimised and final MyCorridor app layout, menu and information architecture. These scenarios are simply a foundation for creating more and even more representative of the higher number of users we anticipate recruiting for the final round.

Furthermore, the testing scenarios, as they are currently presented, focus mostly on UI elements and platform interaction. The scenarios in the second evaluation phase will focus more on the actual experience and the use of the MyCorridor app to carry out, not only organize, their journeys. MyCorridor's data privacy policy and its terms of condition will be available to users upon registration and links to both will be easily located at the main menu of MyCorridor application.

3.4 Data handling and analysis

At this stage, analysis will be mostly descriptive and loose comparisons of pre and post acceptance based on perceived scores will be presented. The number of service providers is very low to allow for any in-depth statistical testing or further data elaboration. The aim is to reveal any issues or missing aspects that need to be resolved before external service providers will be involved and register their own services.

There are traditionally four steps to be taken to reach inferences. The first two steps are relevant to data handling (data gathering and entering) and the two later steps to statistical analysis (descriptive and inferential). Firstly, data will be gathered at each pilot site with consideration for the following aspects and compliance to GDPR:

- **Confidentiality and data protection (data handling & ethics):** Participants, and the data retrieved from them (performance or subjective responses) must be kept anonymous unless they give their full consent to do otherwise.
 - Identifiable personal information should be encrypted (i.e. pseudonymisation and coding). Otherwise ethical approval is necessary specifically for this;
 - Pseudonymisation is preserved by consistently coding participants with unique identification codes. Only one person at each pilot site will have access to personal identifiers (if any). Payment data will be encrypted by default and the payment facility offered by VivaWallet is certified for administration on a European level. A Test ID will be issued for each of the participants, whereas the pilot site person that will collect and issue them will not have participated in the evaluation and will have not meet the test participants and their performance in the tests;
 - Each individual entrusted with personal information is personally responsible for their decisions about disclosing it;
 - Pilot site managers must take personal responsibility for ensuring that training procedures, supervision, and data security arrangements are sufficient to prevent unauthorised breaches of confidentiality.
- **Encrypted and pseudonymised data:** To mitigate the risks involved with processing personal data, personal data collected is encrypted or pseudonymised to the extent reasonably possible, so that individual cannot be identified. This is recommended by Article 32 of the GDPR. Pseudonymised data is data that can no longer be attributed to a specific data subject without the use of additional information, provided that such additional information is kept separately and is subject to technical and organisational measures to ensure that the personal data are not attributed to an identified or identifiable natural person.⁴ In line with Recital 26 of the GDPR, information which is encrypted or pseudonymised is still information on an identifiable natural person, even if on its face, an individual's identity is concealed by the encryption or pseudonymisation. Therefore, appropriate technical and organisation measures are also in place, together with other security measures as recommended by Article 32 of the GDPR and the GDPR as whole.

Only one individual in each research entity will hold the key to, or will otherwise be responsible for, any coding, pseudonymisation or encryption of the personal data collected by that research entity for purposes relating to MyCorridor research. This individual will be separate from the core research team and will therefore have no direct interaction with the research participants and will not otherwise be involved in MyCorridor research. For performance and analytics' data, these processes will be defined by the MyCorridor platform administrator (CERTH/ITI) and for the

⁴ Article 4(5) of the General Data Protection Regulation (EU) 2016/679

remaining subjective data by the Data Management Plan Deliverable (D2.1). Whilst the data is encrypted or pseudonymised to the research team, in light of the inherent risk that this information, together with other information, could be used to identify individuals, the data is also appropriately organised and separated, with access granted only as necessary to those who require access (i.e. one person per pilot site). Combinations of demographic data that might lead to identification or personal information collected from small groups of individuals will be avoided unless necessary and otherwise encrypted or pseudonymised. Unless necessary, certain types of personal information will not be collected, e.g., (without limitation) age, gender, nationality, occupational and Socio-Economic Status (SES) and address. The types of data collected will be clearly communicated to individuals via a GDPR-compliant privacy policy. The collection of sensitive data will be avoided unless necessary and then only with the individual's explicit consent to the processing for a specified purpose. In cases of in-depth qualitative data collection (e.g. ethnographic observations, interviews) with increased complexity of data collection, the risks involved with such data will be considered on a case-by-case basis and in advance of any processing, by way of a privacy impact assessment. This will also be taken into serious consideration for ethics approval. Any databases including participants' details will only be held for as long as necessary and in the case of the majority of personal data collected, this will be for no longer than the duration of the research project ((3) three years). Access to any such database will be limited and only granted when necessary. Personal data may be held for longer, where individuals confirm that they would like us to retain certain personal information of theirs (e.g., it is often the case that participants inform researchers that they would like to participate in other studies in the future). Where individuals' personal information is being shared with third parties, this will only be done where the relevant individuals have provided clear, affirmative, freely given, specific, informed and unambiguous consent to this, and only in accordance with all applicable laws.

In addition, aggregated data and/ or inferences-mainly related to impact estimations and not personalised data- will be shared with researchers outside the Consortium upon agreement to do so, as the project participate in the Open Research Pilot

For statistical analysis, the answers provided by the participants will be associated with their type their travelling preferences, age, gender, nationality, previous MaaS experience, familiarity and use of services and transport modes, etc. However, each month, and during the project, the pseudonymised data will be re-sorted randomly, to mix participants' order. Data handling will be carried out only for pseudonymised datasets and will be aggregated and consolidated by the partner who shall consolidate and analyse data.

Different templates will be prepared for data gathering based on data type. Additional testing materials related to data gathering will be used such as meta-data template (i.e. a template describing briefly the data types collected at each site and any related data that describe and present the procedure). Meta-data templates facilitate analysts to understand the procedures and the nature of tests conducted at each site. This proves very helpful and efficient in cases the analyst is not the test responsible or is not a member of the test conduction team. Separate common templates will be created for each instrument and technique applied. For example, logs and diaries during the second evaluation phase with open-ended fields and questions will be transcribed under main themes topics for further content analysis and questionnaires could be available in electronic forms (e.g. Google Forms).

Common templates are essential instruments for harmonised data collection and consolidation of findings. In case of different instruments used for similar attributes but different facets (e.g. usefulness in usability), then standardised values will be calculated to provide appropriate descriptive statistics. As data have been identified to certain categories (e.g. subjective and objective, qualitative and quantitative with respective combinations) it provides a first categorisation for further data analysis and for the software statistical tools used to carry out any descriptives or inferentials. If further analysis is required,

then data will be either imported to statistical software (e.g. SPSS) or qualitative data analysis tools (e.g. NVivo; content/theme analysis).

In addition, calculating the Confidence Intervals for certain data types will be of benchmarking value, formative, and extrapolating value of data gathered within the lifespan of the project. Moreover, the latter is of significance and value for the final assessment calculations. Evaluation of mature versions of MyCorridor platform will include estimation of Confidence Intervals wherever appropriate to associate also the marketability and provide input to impact assessment calculations.

Overall sample size and subsequent sample sizes' calculations are based on the basic assumption that a larger sample size will reveal more usability problems and increase the likelihood of face validity and generalizability of evaluation results. There is however a diminishing return as fewer new usability problems get uncovered with each additional user. The application of the binomial probability formula led to the determination of a sample size of at least 120 users in order to reveal even the last 5% of issues, taking in to consideration the diversity of user groups, the number of services as well as the potential arising confounders during evaluation activities (i.e. real-life testing experience). Another 180 participants were added (i.e. 30 users for each one of the 6 user groups) to accommodate for between groups' comparisons across sites and ensure that the application of fine statistical testing is feasible and valid. Therefore, the number of participants estimated are considered adequate for extrapolated the results to a European level with regards to all addressed impact areas in impact estimations. Further statistical testing procedures are discussed within section 3.5.1.

Impact assessment might also "borrow" meaningful aggregated analysis if they will be assessed to be of considerable value for performing the impact assessment.

3.5 Impact assessment

The aim of this chapter is to provide a comprehensive overview of the impact assessment methodologies that will be applied to assess the performances of the MyCorridor one-stop-shop across differing impact areas and per user group.

A two-stage impact assessment methodology will be implemented; firstly, a semi-quantitative impact assessment will be undertaken in the first iteration of the evaluation process. Secondly, and a qualitative assessment will be conducted in the second stage of the evaluation, i.e. the Multi-Actor Multi-Criteria Analysis (MAMCA), which takes into account views, needs and requirements of all stakeholders of the MyCorridor value chain. The MAMCA results will allow us to formulate deployment recommendations to promote the diffusion of the MyCorridor ecosystem across European markets beyond the project lifecycle. The KPIs will be estimated and measured primarily by the data collected during the second evaluation phase.

The initial sections of the chapter describe the semi-quantitative impact assessment, which is referred to as the core impact assessment (CIA), from a methodological standpoint; subsequently, the MAMCA high-level methodological framework will be introduced, which will be further refined and enriched in the later version of this Deliverable.

3.5.1 MyCorridor impact assessment framework

In general, impact assessments serve a twofold purpose; firstly, they aim at generating knowledge to understand key benefits associated with a certain transport measure and ascertain to what extent users

will accept and use such services, how technologies should be implemented to unleash their full potential and what situational conditions influence the best outcome; on the other hand, impact assessments, coupled with sound cost-benefit assessments, help developing a knowledge basis to judge the efficiency and effectiveness of transport measures and ultimately supporting policy makers to prioritise investment among different transport measures. It is anticipated that inferences and results will be further extrapolated for the penetration of general MaaS concept into transportation and mobility market (*business-wise*) and social acceptance and adherence (*traveller-wise*).

Impact assessment are invaluable tools to assess the effectiveness of transport measures to produce benefits and value for end-users, the transport system itself and the whole socio-demographic context. Traditionally impact assessments have been implemented in the form of ex post evaluations of deployed services, field operational tests and simulation studies. The most consolidated and widely applied impact assessment methodology follows a goals-based approach, whereby impacts are estimated by making use of a set of predefined performance indicators which are deemed to respond to the strategic objectives of the transport measure to be assessed [2].

The conceptual sequence of operations through which the CIA framework can be broken down, which also corresponds to the CIA topics broadly discussed in the remainder of this Chapter, is depicted in Figure 8 below.

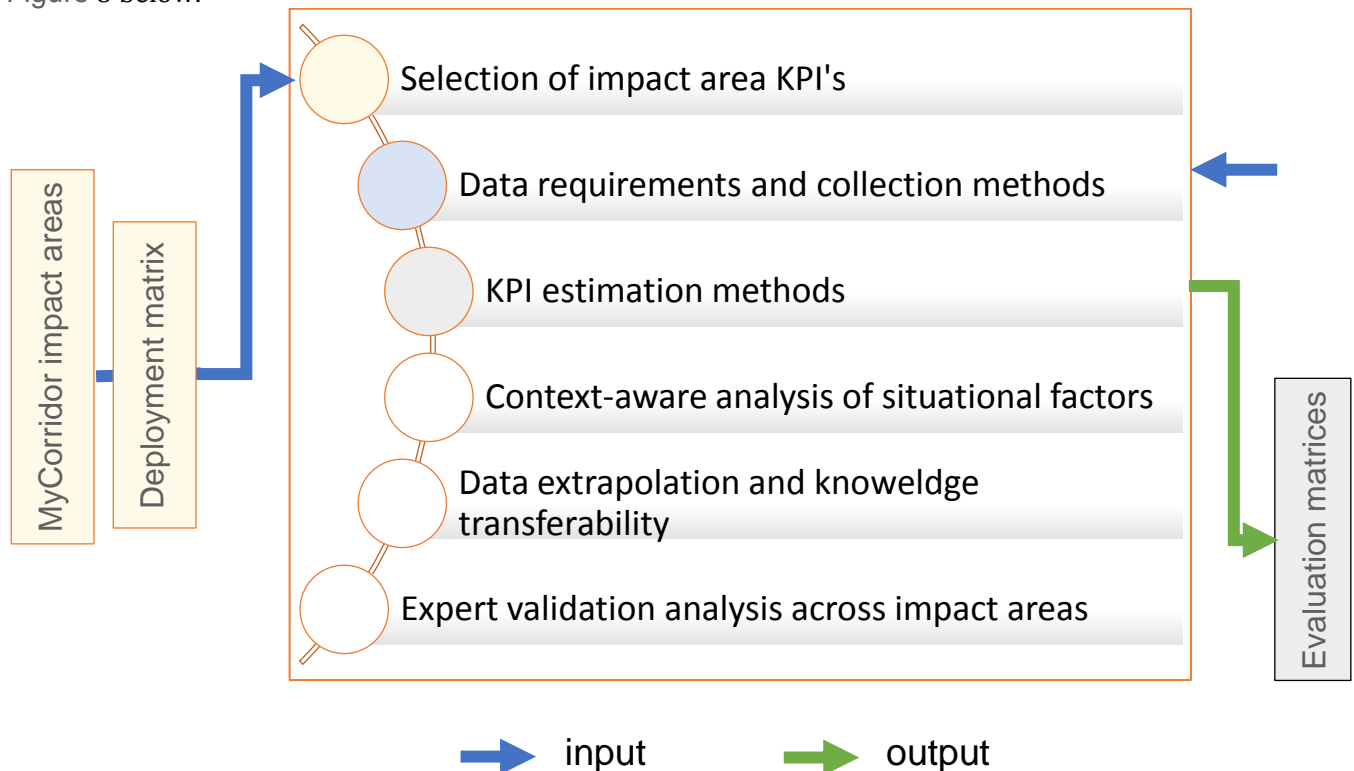


Figure 8. Schematization of Impact Assessment Framework.

Firstly, a **deployment matrix** (Table 7) provides a synthetic overview of the MyCorridor mobility products invoked in each testing scenario; then, drawing on the work undertaken in “D1.1 MyCorridor Use Cases”[**Error! Reference source not found.**], the impact assessment areas to be investigated (i.e. environmental, economic and social impact areas) are defined. After that, the selection of site-specific KPI’s for each impact area involving different user groups, namely end-users and service providers, is made; it is noted that the consolidated list of KPI’s and associated target value ranges will ultimately be validated as part of the work to be done for “D6.3 Impact Assessment Framework”.

Subsequently, data requirements and data collection methods are discussed; afterwards, estimation methods for impact estimations through the calculation of the predefined set of KPI's are introduced.

It is worth acknowledging that whilst impact assessments of Intelligent Transport Systems (ITS) and Intelligent System Technologies (IST) allow to come to a methodological estimation of impacts, they also bring a number of limitations and challenges, such as the questionable validity of the impact assessment results over time due to the continuous growing and accessibility to transport-related technologies and the lack of historical empirical data from ITS implementations especially on evidence of cause-effect mechanisms. That makes it hard to transfer the impact of a specific service/solution to other contexts, the dependence of the impacts from driver/user behaviours issues (i.e. user distraction, adaptation, system awareness, privacy, trust), the accuracy in establishing a baseline scenario that is scientifically sound to compare impacts to, the influence of the market penetration issues and network effects on user's and public acceptance of the service. Therefore, impact assessment results have to be accurately interpreted via a number of possible contributing factors and contextualised in a critical manner within the specificity of the pilot operations; to this aim, their relationships between KPI's and situational factors will be analysed to characterise the impact these have on the attainment of KPI's and their possible sensitive changes.

Lastly, statistical data extrapolation techniques will be applied to generalise pilot data findings (to a level higher than the pilot scale) and provide meaningful insights on the enabling conditions for the successful transfer of impacts at EU level, starting from the analysis of the MyCorridor socio-demographic contexts. To strengthen the results' validity, a thorough analytical review of findings will be undertaken by selected renowned ITS and MaaS experts from the MyCorridor consortium, who will be able to suggest validate/guide a successful transferability strategy of impact-area results to other European territorial contexts. The following items will be addressed in the remainder of the chapter:

- a) selection of impact area KPI's;
- b) data requirements and collection methods;
- c) KPI estimation methods; and
- d) data extrapolation and knowledge transferability.

Furthermore, reference guidelines regarding data collection and estimation methods. These guidelines should be adopted by all Pilot Site Managers (PSMs) when running the pilots in their own localities. PSMs will be responsible for making sure that these are applied and for reporting back to the Project Coordinator (PC) and WP6 (Pilot realisation and impact assessment) leader. To insure potential deviations, if practical issues prevent this, then mitigation actions should be identified as early as possible in the evaluation process.

The deployment matrix (Table 6) provides a synthetic overview of the MyCorridor mobility products invoked in each potential testing scenario. 5 different combinations of mobility products that could constitute a MaaS product. However, further scenarios have been prepared with diverse possibilities and are annexed in this Deliverable (Annex IV). Therefore, the information presented in the table below will be further updated for both evaluation phases.

Table 6. MyCorridor deployment matrix.

Scenarios (Type of travel)	Austria	Czech Republic	Germany	Greece	Italy	Netherlands
1	Advanced multimodal routing (VAO) Real time traffic state and forecast (SRFG) Adaptive traffic management (City of Salzburg) E-ticketing (Salzburg Transport Association) Park and ride (City of Salzburg) Parking availability (City of Salzburg) Bike Sharing (tbc)	Real time information for parking availability, Multi modal journey planner, Multi-modal service real time information		Parking, interurban PT, bicycle sharing, TM2.0 (Adaptive real-time traffic management)	Urban PT	
2		PT scheduled information, purchase e-tickets, multi-modal service real time information		Ferry boat, parking, interurban PT, TM 2.0, car rentals	Urban PT, taxi, car sharing	
3				Ferry boat, car rentals, C-ITS	Adaptive real-time traffic management, zone access control, C-ITS, parking	
4					Adaptive real-time traffic management,	

Scenarios (Type of travel)	Austria	Czech Republic	Germany	Greece	Italy	Netherlands
					zone access control, C-ITS, Urban PT, taxi, Car sharing	
5					adaptive real-time traffic management, zone access control, C-ITS, parking	

3.5.2 Data requirements and collection methods

Qualitative data -in addition to web analytics- to calculate the selected KPI's are gathered at pilot site level through users' interactions with the MyCorridor platform and via periodical user questionnaires managed by PSMs. The collection of data at pilot sites is taking place in continuous collaboration with the WP6 leader, who will play a coordination role in the whole data gathering and consolidation process to meet applicability and compatibility requirements of the impact assessment methodology. After periodical qualitative data collection processes (i.e. both the platform interaction -and questionnaire-based data collection processes) at pilot site level have been completed, PSMs will consolidate the results which will be submitted to the WP6 leader in accordance to pre-defined data formats and to-be-agreed quality standards (to be decided and agreed upon at the time of finalising the questionnaire template). This process will ensure a consistent and smooth estimation of the selected KPI's. It should be noted that the estimation of KPI's and all associated analyses will be conducted by the WP6 team.

While logging the users' interactions with the MyCorridor platform will provide factual evidence of transport choices made by heterogeneous end-user groups in different geographic and socio-demographic contexts, the other data collection method, for example questionnaires with end-users and service providers, is aimed at collecting more qualitative information regarding the user's acceptance, willingness to pay for a MaaS service, (stated) changes in their habits/attitudes following the switch to the MyCorridor system, as well as the impacts on local businesses' organisations and society as a whole. These questionnaires will be run periodically using a standardised questionnaire template, which will be prepared jointly by the Project Coordinator (PC), WP6 leader and the PSM's before running pilot site operations. The running frequency of such questionnaires is yet to be decided and will depend on informative discussions with PSMs.

In addition, two further dedicated questionnaires targeting both end-users and service providers will be performed by each pilot site before the start of testing operations in order to develop the required informative basis to establish a robust baseline scenario, to which data collected during the pilot will be compared to assess the impacts. Such questionnaires will therefore deliver a similar informative basis to that provided by user questionnaires run in the middle/at the end of the pilot running process.

With reference to KPI's already listed in Table 2, **evaluation matrices** included in Tables Table 7-

Table 8-

Table 9 show the selected KPI's and further specify the data that is required as well as the relative means of data collection.

Regardless of the specific level a certain user represents, both the platform-based and the questionnaire-based data collection processes should additionally provide the necessary information to characterise the different user profiles, which in turn will facilitate the undertaking of correlation analyses of the impacts achieved. Consequently, as a minimum set of additional data requirements, the following information should also be gathered regarding the users and their mobility attitudes/mind-set:

- Age;
- gender,
- education level;
- work status/ income level;
- maximum level of monthly transportation expenditure;
- location of origin and destination of trips (to discern among urban, suburban and rural locations and relative transport accessibility levels);
- journey purpose of most frequent trips;
- physical accessibility restrictions;



- mode choice preference (or preferred combination of transport modes);
- distance travelled on most frequent trips;
- Number and types of vehicles owned in the household;
- costs paid (on a daily and/or monthly basis) to accommodate parking needs.

Once again, the granularity and format of this data will be detailed at the time of drafting the relative questionnaire templates.

Table 7. Individual/user-level evaluation matrix.

Level	KPI id	KPIs	Data requirement	Means of collection	Baseline
Individual/user level	1	Total number of trips made	Recording trips made by each user in the reference period	Log files ⁵	Reported by the user
	2	Modal shift	Number and type of service used in each trip by individual users	Log files	Reported by the user
	3	Number of multimodal trips	Derivable from KPI 1 requirement	Log files	Reported by the user
	4	Attitudes towards PT, sharing, etc.	n/a	User questionnaires	Pre-acceptance
	5	Perceived accessibility to transport	n/a	User questionnaires	Perceive pre-questionnaire
	6	Total travel cost per individual	Recording individual travel cost of each trip completed successfully by users	Log files	Reported by the user
	7	Total travel time per individual	Recording individual travel time of each trip completed by users	Log files	Reported by the user/initial estimations from baseline measurements

Table 8. Business/organisational-level evaluation matrix.

Level	KPI id	KPIs	Data requirement	Means of collection
Bus line	8	Number of customers	Recording the number of users using each individual transport service	Log files

⁵ Log files will be kept by the dedicated logging mechanisms that will be built in the MyCorridor one-stop-shop.

Level	KPI id	KPIs	Data requirement	Means of collection
	9	Customer segments (men/women, young/old, ...)	Recording socio-demographic data of users to segment customers	Log files / User questionnaires
	10	Collaboration/partnership in value chain	No. of service providers that collaborate/work together as a result of MyCorridor. Number of jobs created.	Questionnaires to service providers
	11	Revenues/turnover	Information regarding revenue increase levels achieved by service providers as a result of MyCorridor platform.	Questionnaires to service providers
	12	Data sharing	This directly links to KPI 10; specific questions will be asked to service providers that decide to cooperate regarding the type, frequency and volume of data shared as part of MyCorridor, as well as what organisational changes they have put in place and how this has impacted their business operations.	Questionnaires to service providers
	13	Organisational changes, changes in responsibilities		Questionnaires to service providers
	14	Contribution to standards and novel business models		Questionnaires to service providers

Table 9. Societal-level evaluation matrix.

Level	KPI id	KPIs	Data requirement	Means of collection
Societal level	15	Emissions	CO2 emission reduction is directly connected to the reduction in vehicle trips or the modal shift achieved (KPI 1, KPI 2). It may be computed by using typical emission factors (available in the technical literature) of vehicles used by individual services.	Comparison to historic data and utilization of EU relevant estimations to extrapolate potential reductions in omissions because of replacement of private vehicle by PT (per type of vehicle/PT and km drive) with consideration for mode shift
	16	Resource efficiency	If MyCorridor results in a reduction of the trips made by private cars and shift towards more	User questionnaires

Level	KPI id	KPIs	Data requirement	Means of collection
			sustainable modes (KPI 1, KPI 2), a congestion reduction and decrease in parking demand may also be achieved. In a given reference period, this will be quantified by the number of users switching from private car mode to sustainable transport modes and matching this to their current parking cost/requirements.	
	17	Citizens accessibility to transport services and beyond	Qualitative information to be collected through ad-hoc questions.	User questionnaires
	18	Citizens overall comfort & well-being	Qualitative information to be collected through ad-hoc questions.	User questionnaires
	19	Trustworthiness in transport	Qualitative information to be collected through ad-hoc questions.	User questionnaires
	20	Security and safety of citizens	Qualitative information to be collected through ad-hoc questions.	User questionnaires
	21	Modification of vehicle fleet	This is directly linked to the type of vehicles and services accessed by end-users (KPI 2). MaaS can have an impact on facilitating the transition of the vehicle fleet towards electrified, shared vehicle systems. This will be derived from the percentage of MyCorridor end-users that would access electric and shared vehicle services.	Log files
	22	Legal and policy modifications	This is to assess the role and influence of policy-makers and regulators to make MaaS (and its cooperative model) a success at EU level, through ad-hoc questions.	Questionnaires (both end-users and service providers)

Whilst this section has identified provisional data requirements and data collection means to be used in the CIA, it should be again reminded that these will be duly addressed and finalised as part of A6.4 Impact Assessment, with the full assessment results to be reported in D6.3 MyCorridor Impact Assessment, expected by M36.

3.5.3 Estimation methods

This section describes the calculation methods of the KPI's requiring a quantitative estimation. Data collected through user/service providers' questionnaires will not be considered since these will deliver qualitative information only. Moreover, it should be considered that the estimation methods below relate to the operational scenario (with the MyCorridor system in place), while similar estimation processes will also be undertaken for the baseline scenario (without the MyCorridor system), based on the information collected via user/service provider's questionnaires, to enable a sound comparison.



3.5.3.1 Individual/user level KPI's

3.5.3.1.1 Total number of trips made (KPI 1)

It is believed that using a MaaS-type solution such as MyCorridor, the number of trips per person could decrease in a pre-determined reference period given the much more limited accessibility to private cars [4], as other modes of transportation are offered more frequently than cars; on the contrary, having access to carsharing services may increase the number of trips by users who were not used to car-share before. Additionally, the possibility to make much more informed transport choices, as enabled by the MaaS ecosystem, has a positive social component since it could increase the number of trips potentially, although contradicting environmental goals. For example, the user might use carsharing services more but less their own car, which is not an environmentally friendly choice. The user will get familiar with combinations of modes that potentially has never used before which will increase ease and comfort of travelling and, thus, will increase his/her number of journeys. It is, therefore, not expected to travel less with MyCorridor but potentially more often and for journeys he/she could not have chosen before.

KPI 1 will be estimated by recording the number of MyCorridor trips successfully completed by each user and comparing these to those made by them in the baseline scenario.

3.5.3.1.2 Modal shift (KPI 2)

One of strongest benefits MyCorridor could bring is to encourage modal shift for users, although there is very limited evidence to demonstrate that it is always the case for MaaS solutions. To date, empirical evidence has shown that modal shift is principally towards Public Transport (PT) which is supposed to be the backbone of MaaS; however, MaaS builds on the idea of user-centeredness whereby tailored mobility services are offered based on the situational contexts and specific users' needs.

Therefore, the MyCorridor impact assessment objective is to demonstrate that MaaS can bring positive and sustainable modal shift not only towards public transport but also towards (and in combination of) other private forms of transport such as carsharing, carpooling, walking and cycling modes.

KPI 2 will be estimated by recording all service(s) utilised by each user completing a MyCorridor trip and comparing these to the previous choices made by them based on current travelling behaviour (pre-questionnaire/interview). KPI2 will then lead to the number of users making a mode shift.

3.5.3.1.3 Number of multimodal trips (KPI 3)

Empirical evidence shows that MaaS could result in more trips resulting from a combination of multiple transport modes; enabling conditions for this are real-time travel updates for each mode of transport, as well as the possibility to book and pay for transport services chosen for each leg of the multimodal trip. However, it is important to keep in mind that the availability of mobility products/ services will affect the modal choices/changes, as the testing conditions will be semi-real and MyCorridor evaluation will be prototype testing.

KPI 3 will be estimated from KPI 2 by excluding the number of user's trip using single modes only.

3.5.3.1.4 Total travel cost per individual (KPI 6)

Empirical case studies show that MaaS can result in a decrease of total travel cost for individuals, but not for all members of the household. However, this may vary on the type of car owned, the mileage, parking costs to be incurred. Total travel cost is anticipated to be reduced because travellers will transfer from ownership to usership of vehicles. A travel cost comparison between trips undertaken in the baseline scenario and with MyCorridor implemented will be made; this will give a net change of travel cost per individual over a given period, i.e. the duration of MyCorridor testing operations or a fraction of it.



To enable a sound comparison, baseline user questionnaires will have to capture the typical travel behaviour and attitudes of users taking part in the experimentation; more specifically, data on travel costs incurred by users to perform a certain testing trip before the introduction of MyCorridor should be thoroughly collected and examined.

KPI 6 will be estimated by recording the tokens spent (or the equivalent amount in euros) towards those transport services used in each MyCorridor completed trip and compared to the cost of baseline journey (i.e. hypothetical cost of baseline scenario).

3.5.3.1.5 Total travel time per individual (KPI 7)

A reduction in total travel time, having both a social, economic and environmental component, should be expected from the introduction of MyCorridor. Ad-hoc questions will be included in baseline users' questionnaires to determine the travel time spent by users to perform a certain testing trip before the introduction of MyCorridor. As for KPI 6, the total travel time per individual is derived from travel time savings over a pre-determined period.

KPI 7 will be estimated by recording the timestamps at both origin and destination locations of each MyCorridor completed trip, from which trip-based travel times and total travel times per individual can be estimated.

3.5.3.2 Business/organisational level KPI's

3.5.3.2.1 Number of customers (KPI 8)

Given the potential reduction in personal vehicle ownership and use, MyCorridor may generate positive impacts for other service providers who could see an increase of their customer base, following the users' shift towards alternative transport modes such as public transport, carsharing and active modes (i.e. bike sharing). To assess the impacts on their business, there may be a lack of information needed to establish the baseline conditions (such as the current customer numbers and related revenues) due to privacy and commercial concerns. Therefore, to estimate such impacts, the number of users selecting a specific service (other than the private car) for completing a MyCorridor trip will be used. Subsequently, it would be relevant to investigate how many times over a pre-defined period such users would shift towards each alternative mode/service to have an indication of potential revenues generated by service providers. This result will also be complemented by questions to service providers by asking them whether MyCorridor resulted in a positive impact to their business (i.e. customers growth level over the testing period).

KPI 8 will be estimated from KPI 2 (i.e. number of users making a mode shift from private cars)

3.5.3.2.2 Customer segments (KPI 9)

An interesting point of debate around MaaS is whether the service should target only a specific customer segment or geographic area by offering valid alternatives to car ownership. The ability to attract a diverse range of customers also depends on the efficiency of the booking functionality, the payment model adopted, and the charges set by each service provider. It is worth noting that in the case of UbiGo (i.e. the Swedish start-up; <http://ubigo.se/>), on the one hand the required minimum monthly subscription fee made the service less attractive to single-person households and retirees, while on the other hand the flexibility of the system that enabled users to personalise own subscription contents, and therefore the opportunity to provide transport services based on situational factors and the actual needs of customers, made it attractive to diverse user groups with differing levels of transportation expenditure.

A customer segmentation analysis will be done using the socio-demographic parameters indicated earlier in the document; for each alternative transport service, the relative proportion of users belonging to the same segment will be calculated; by comparing this result to that achieved in the baseline scenario, it will



be possible to establish whether MyCorridor will result in an additional positive impact for service providers that diversifying their customer bases.

Upon segmenting users according to a range of socio-demographic characteristics measured (i.e. age range, education/income levels, etc.), KPI 9 will be estimated by reporting the share of users of differing segments using MyCorridor.

3.5.3.3 Societal-level KPI's

3.5.3.3.1 Emissions (KPI 15)

CO2 emission reductions are linked to the reduction of vehicle trips or to the modal shift achieved (i.e. from private cars to other modes). Several estimation methods have been proposed by experts, most of which are based on the application of emission factors (representing the mass of CO2 per fuel consumed or distance travelled, depending on the type of vehicle, fuel type, vehicle age and speed) to distance travelled or fuel consumed [8]. Alternative studies adopted a modelling approach to estimate the amount of CO2 from road transport [9]. The specific estimation method to be used for this KPI will be decided following discussions within the MyCorridor project, however the following method could be applied.

KPI 15 is calculated by applying typical emission factors of vehicles used to travel distances executed by each MyCorridor user using a certain transport service (or a combination of services) to perform a trip. A comparison will be made between CO2 emissions generated in presence of MyCorridor and those generated in the baseline scenario.

KPI 15 may be estimated by applying the CO2 emission factors available in the technical literature for different vehicles classes to MyCorridor trip distances performed by individual users.

3.5.3.3.2 Resource efficiency (KPI 16)

Further to a potential reduction in the number of trips made and a shift towards more sustainable modes, a minor land use to meet current parking demand/requirements may be achieved due to congestion reduction. Over a given period, KPI 16 will be quantified by the number of users requiring a parking space at their origin/destination locations that switch to transport modes other than the private car. The change in parking space demand will be calculated.

KPI 16 will be estimated through KPI 2 (i.e. number of users shifting from car mode to other transport modes and that require a parking space at origin/destination locations).

3.5.3.3.3 Modification of vehicle fleet (KPI 21)

KPI 21 is directly linked to the type of vehicles/services accessed by end-users. MyCorridor can have a direct positive impact on facilitating the transition of the vehicle fleet towards electrified, shared vehicle systems. This will be calculated through the proportion of MyCorridor end-users using such services.

KPI 16 will be estimated by deriving the proportion of users accessing shared, electric vehicle services (either electrified PT systems or carsharing, etc.) to perform a MyCorridor trip.

3.5.4 Data extrapolation and knowledge transferability

Through the activities described earlier, the impacts of the MyCorridor one-stop-shop across the environmental, economic and social impact areas will have been determined for various user groups (mainly end-users and service providers) through comparison of the selected KPI's in the baseline and operational scenarios.



The aim of this section is to outline the principles of the data extrapolation approach that will be used to facilitate the scaling up/transferability of the impact results demonstrated at pilot site level. To achieve this, it is proposed to match statistical data on various levels with KPI data at site level to provide an assessment of results on the Environment, Society and the Economy and analyse contributing factors to the impact levels achieved by means of statistical correlations.

Numerous studies have found significant relationships between socio-demographic variables (such as age, gender, household income and so on) and travel behavior 101112; for example, a high household income may represent an important driver for a positive attitude towards private car use, given the generally greater monthly transport expenditure of such households in comparison to that of average/lower income households 1213; however, other statistics also confirms that this is debatable due to negative correlations experts found between income and car ownership arguing that this latter variable is also influenced by household size, cultural habits and education levels 14. Likewise, other studies have found correlations between travel behavior and age, gender and the working status, although very limited evidence of this is available for MaaS schemes.

Table 10 shows the proposed draft statistical associations between performance indicators and their relative independent variable(s); a number of situational variables (i.e. qualitative ones) that could affect the performances of the MyCorridor system on the various impact areas have also been identified. While resulting impact changes reflect reduction or increase of KPI's to changes in the independent variables, association/situational variables will mostly be derived (at both quantitative and qualitative levels) from baseline questionnaires to be undertaken at the preliminary step of the impact assessment procedure.

As highlighted in Table 10, it is proposed to study the influence of socio-demographic characteristics on the uptake of the MyCorridor one-stop-shop. Other than serving the MyCorridor evaluation purposes and considering that MaaS is an open ecosystem focused around the needs of the customers, such statistical analysis represents **an interesting research ground where MyCorridor can provide a valuable contribution, especially in light of the lack of available analytical evidence to substantiate arguments relating to the quantitative correlations between socio-demographic profiles and the uptake of MaaS.**

In addition, further correlations will be investigated between KPI's and key transport-related variables (such as travel distance, transport accessibility, monthly transport expenditure, etc.); the data extrapolation study will then be complemented considering situational variables that may influence a positive/negative impact on KPI's, thus enabling to contextualize the choices of users in the pilot sites.

Statistical regression analysis is a type of predictive modelling technique that will be applied in MyCorridor to establish whether and how strongly the variables listed below are correlated. Investigating the relationship between a dependent (target) and independent variable (predictor) will allow to capture the causal effect relationship between the variables.

From a statistical perspective, correlation coefficient is a quantity that measures the strength of the association (or dependence) between two variables (x and y). If r is close to 0, there is no relationship between the variables; if r is positive, there is a positive correlation among variables (as one gets larger so does the other one), whereas if r is negative it means that as one gets larger, the other gets smaller ("inverse" correlation). Another useful interpretation of correlation coefficients is obtained if these are squared; the square of the coefficient represents the percentage variation in one variable that is related to the variation in the other. For example, an r of 0.5 means that 25% of the variance is related (i.e. $0.5^2=0.25$).

Table 10. Proposed draft statistical associations between MyCorridor impacts (expressed as KPI's) and independent variables.

KPI id	Impact description	Association variables	Situational variables
1	Total number of trips made	Number of vehicles owned by individual/household, socio-demographic characteristics (such as age, gender, education and income levels, occupation to segment users), monthly transport expenditure, accessibility to transport services (as distance from their most frequent origin location), travel distance.	Preferred mode (or combination of modes), journey purposes, physical accessibility impairments
2	Modal shift	Number of vehicles owned by individual/household, socio-demographic characteristics, monthly transport expenditure, accessibility to transport services (as distance from their most frequent origin location), travel distance.	Preferred mode (or combination of modes), journey purposes, physical accessibility impairments
3	Number of multimodal trips	Number of vehicles owned by individual/household, socio-demographic characteristics, monthly transport expenditure, accessibility to transport services (as distance from their most frequent origin location), travel distance.	Preferred mode (or combination of modes), access to multimodal travel information and payment functionalities, journey purposes, physical accessibility impairments
6	Total travel cost per individual	Socio-demographic characteristics, monthly transport expenditure, accessibility to transport services (as distance from their most frequent origin location), travel distance, number of services used.	Preferred mode (or combination of modes), access to multimodal travel information and payment functionalities, journey purposes, physical accessibility impairments
7	Total travel time per individual	Socio-demographic characteristics, monthly transport expenditure, accessibility to transport services (as distance from their most frequent origin location), travel distance, number of services used.	Preferred mode (or combination of modes), access to multimodal travel information and payment functionalities, journey purposes, physical accessibility impairments
8	Number of customers	Same as KPI 2 since the change in service providers' customer numbers are directly related the number of users making a mode shift from private cars to other transport modes.	-

KPI id	Impact description	Association variables	Situational variables
9	Customer segments	Travel distance, monthly transport expenditure.	Efficiency of the booking and payment functionality, flexibility of subscription model to tailor local contexts and users' needs.
15	Emissions	Same as KPI 2 since the change in emissions is directly related to the number of users making a mode shift from private cars to other transport modes.	-
16	Resource efficiency	Same as KPI 2 since resource efficiency (in terms of land space savings) is directly related to the number of users making a mode shift from private cars to other transport modes.	-
21	Modification of vehicle fleet	Same as KPI 2.	-

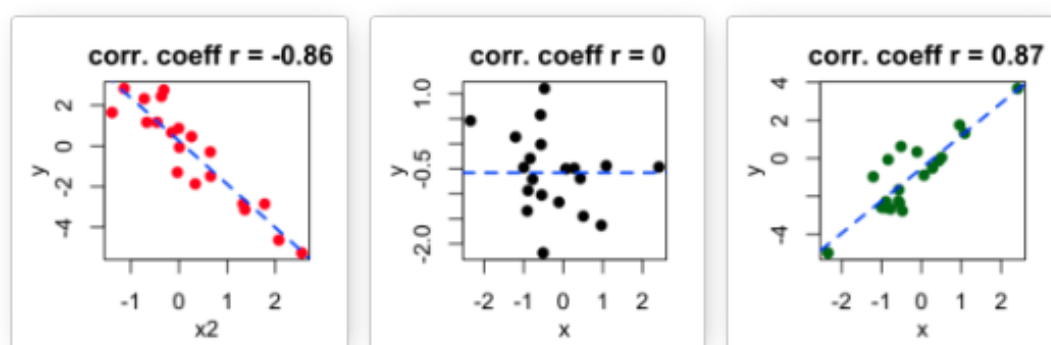


Figure 9. Graphical interpretation of the statistical correlation coefficient.

Once the cause-effect relationships between impacts and independent variables are calibrated, a number of general findings going beyond the scope of the pilots and arising from the interdependence of variables may be formulated. For example, not having access to a private car may result in less short, spontaneous trips being made; MaaS could result in users combining different modes of transport in one and the same trip to a higher degree than is the case today, etc.

A cross-site validation exercise of the expected impacts, consolidated through correlation analyses, will be performed together with ITS experts. This will allow to consolidate the assessment results and generalize the findings at a level higher than the locality of the pilots.

Last, data extrapolation and respective inferences will be further stratified per envisaged penetration rates for MaaS and MyCorridor. Hence, depending on the resulting impact estimations, several levels of penetration will be estimated, depending on the MaaS adherence at the time these calculations will be performed as well as taking into consideration the indicative rates of penetration for other MaaS technologies.

3.5.5 Supplementary Impact Assessment Methodology

3.5.5.1 Introduction

In the transport sector, the Multi-Actor Multi-Criteria Analysis (MAMCA) methodology attempts to develop a structural debate among mobility-related stakeholders and come to informed compromises to implement effective policy measures. The adoption of MAMCA methodology within MyCorridor is based on the belief that transport projects quite often bring practical controversies leading sometimes, in extreme cases, to the formation of local action groups challenging the specific transport measure in question. To overcome this, MAMCA proposes to engage with stakeholders directly from the outset to reach a compromised and balanced solution meeting the needs of all stakeholders involved.

Drawing on the results obtained through the CIA, through structured discussions and surveys with the stakeholders, the application of the MAMCA methodology aims at assessing the MyCorridor business and technological paradigm– being representative of innovative MaaS -using several diversified criteria based on the objectives, needs and requirements of the stakeholders. MAMCA methodology will be applied in the second iteration of the evaluation process, however a draft high-level methodology has been described below.

3.5.5.2 The MAMCA methodological approach

The distinctive elements of MAMCA, as opposed to conventional multi-criteria analysis, is that it takes into account the points of view of the different stakeholders; this is considered to be a consolidated method that has already been applied in several transport decision problems 15.

As shown in Figure 10, MAMCA is made up of 7 steps, with its high-level conceptual methodology and the relative adaptation to the MyCorridor context being provided below.

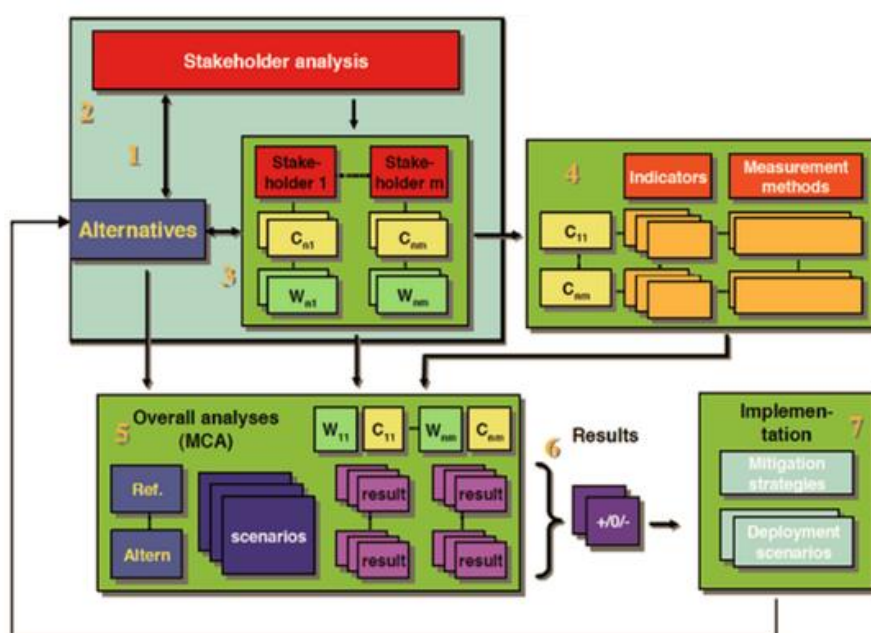


Figure 10. MAMCA methodological framework (Source: 15).



1. ***Definition of the problem and identification of the possible alternatives submitted for evaluation*** (Step 1)

The alternatives to be evaluated at this stage are simply the baseline scenario and the operational scenario, fully described by the MyCorridor platform in operation in the pilot sites.

2. ***Identification of stakeholders and in-depth understanding of their objectives, alongside the weights each stakeholder attaches to those objectives, in order to appropriately assess the different alternatives*** (Step 2 and 3)

As part of this methodology, the very first step is the identification of stakeholder groups, that is groups of stakeholders with the same objectives. The stakeholders to be considered in MyCorridor are travellers, transport service providers, public transport operators, mobility/MaaS operators and/or MaaS aggregators, data providers, IT/ITS developers and mobile service providers, local authorities, cities and regional representatives and national and regional government bodies. Obviously, the heterogeneity of the stakeholders will result in a methodological challenge to structure the objectives and needs of all actors involved.

The objectives of stakeholders, alongside weighting factors (representing the importance of the specific objectives to the stakeholder), will be determined through means of an online stakeholder survey. The survey will be made available to a large audience, including representatives of the stakeholder groups drawn out of the MyCorridor consortium to ensure the survey is delivered to acceptable qualitative standards. The aim of such survey will be to identify what stakeholders would like to achieve by 2030 in their field of core activities and to come up to a ranking of objectives.

3. In the fourth step, ***one or more indicators are constructed and measurement methods for each indicator are also specified***. (step 4)

Upon identification of the objectives, these will be paired to the KPI's determined with the CIA methodology most relevant to them; that is, KPI's relevant to stakeholder objectives will be weighted (using weighting factors derived from the stakeholder's survey) to measure the performance of each alternative in terms of its contribution to the objectives of the specific stakeholder groups. This method will allow to evaluate the performances of the MyCorridor platform factoring in the objectives and viewpoints of stakeholders.

4. ***Construction of an evaluation matrix***, aggregating each alternative's contribution to the objectives of all stakeholders (step 5) and classification of the proposed alternatives revealing the strengths and weaknesses of the proposed alternatives (step 6);

Following on from step 3, the weighted combination of KPI's delivers an evaluation score of each individual alternative (i.e. baseline vs operational scenario) that could be used to compare and visualise the alternatives.

5. The last step (step 7) regards **the actual implementation process**.

A deployment recommendations toolkit will be prepared to provide conditions for transferability conditions of MyCorridor to other European socio-economic contexts. This set of recommendations will represent an initial **roadmap for the successful deployment of MyCorridor and MaaS at EU level** beyond the project lifecycle.

4 Pilot sites

This section briefly presents the pilot sites with regards to the corridors, the users, the services tested (a preliminary selection reflecting mainly the first phase), ethical and GDPR compliance issues as well as the people who will act as contact points for both the pilot execution and data management and privacy.

The pilot sites will be continuously supported on a Pan-European level by TomTom (traffic management services), IRU (dissemination and communication leaders), and VivaWallet (payment schemes). Each service provider entity is an active link, so the reader can visit and learn more about the service provider.

A GPPR compliant consent form template has been prepared for the pilot sites and has been annexed in this Deliverable (Annex I). In addition, pilot sites completed the Ethics Controlling Form and the main updates with regards to ethics considerations and GDPR compliance are included in Annex II.

In total, 120 travellers from all user groups defined in D1.1, with minimum 3 services integrated per pilot site and one cross-border scenario will be the minimum to be covered in the first iteration phase.

Partners who are involved in the integration of their services to the MyCorridor platform, they will be (through WP3 and WP4 activities) additionally responsible to ensure smooth operation and functioning of their services during the first and second evaluation phase. In particular, these partners will coordinate the technical validation activities that will take place between M19 and M21, depending on the integration performance of the respective services, to ensure accuracy, temporal appropriateness, timely activation, etc. and other Quality of Service (QoS) indicators defined by the development and integration teams (WP2 and WP4, respectively).

4.1 Austrian pilot site

Pilot site: The Austrian pilot site is led by Salzburg Research (<https://www.salzburgresearch.at/en/>) and it covers the corridor from the Italian – Austrian boarder via Salzburg and Vienna to the Austrian – Czech Republic boarder. The Austrian pilot is focused on the Federal State of Salzburg as well as the City of Salzburg.

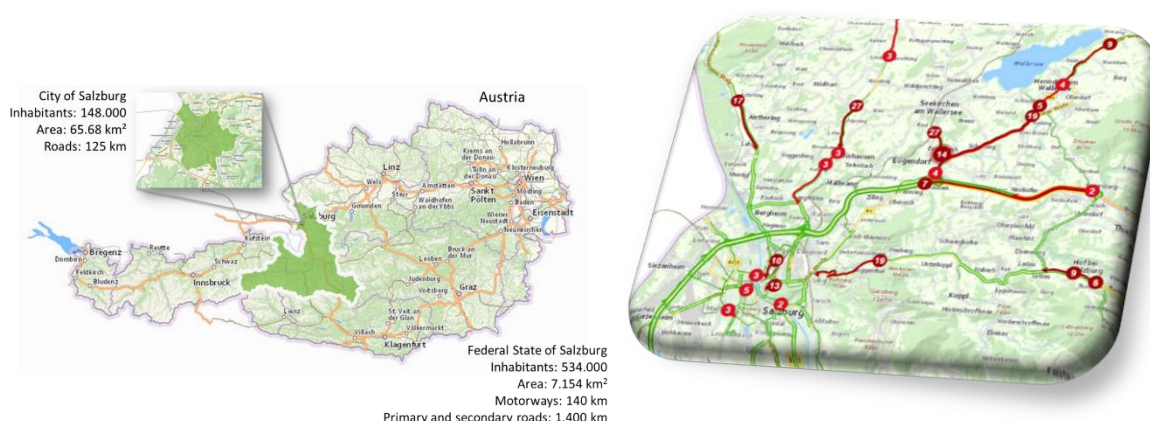


Figure 11. City of Salzburg (left; © Basemap) and FCD traffic information (right; © map: Basemap.at, traffic information: FCD model region Salzburg).

Mobility services & Users: The following table (Table 11) presents the services to be integrated. This is a preliminary list that will be finalised by M17. For the first phase, the VAO, the Parking Service, and probably the Floating Car Data (FCD)-based real time traffic state and forecast will be integrated. The trip planner service for travelling within Austria is offered by Verkehrsauskunft Österreich VAO GmbH (Austrian multimodal routing by VAO, service No.: 54 in service inventory table of D1.1).

The main targeted user groups are **tourists** and **students**. Tourists participating in the pilot will need to be contacted before their visit to the city of Salzburg. Austrian partners will collaborate with hotels and touristic information centres in the surrounding area of Salzburg, with the Salzburg Public Transport Association, Automotive Associations (ÖAMTC, ADAC, etc.) and use social networking (Facebook, Twitter, etc.) to establish their contacts. The recruitment of the students will be done with the support of Salzburg Research's contact point at the local universities. The user groups included in Table 11 are not exhaustive but only indicative of the users that will participate in the first evaluation phase. These user groups are addressed in the current storyboards (Annex IV). More types of users will participate in the second evaluation phase.

Table 11. Mobility services and users at the Austrian pilot site.

Service	Service Provider/Integrator	Service Content/Owner	Travel Group	Journeys
VAO - Advanced multimodal routing (Verkehrsauskunft Österreich)	SFRG	Verkehrsauskunft Österreich VAO GmbH	Tourist, student	Urban, peri-urban, rural
EVIS.at (Real-time road traffic information Austria)	SFRG	EVIS	Tourist	Urban. peri-urban, Rural
Floating Car Data	SWARCO MIZAR/SWARCO HELLAS	SWARCO MIZAR/SWARCO HELLAS	Tourist	Urban. peri-urban, Rural
FCD-based Real-time Traffic State and Forecast	SFRG	SWARCO MIZAR/SWARCO HELLAS	Tourist	Urban, peri-urban, Rural
e-Ticketing for Public Transport)	SFRG	Salzburg Transport Association	Tourist	Urban, peri-urban
Adaptive Traffic Management	SFRG	City of Salzburg	Tourist	Urban, peri-urban
sBike – Bike Sharing (to be added later)	SFRG	Not determined yet	Tourist, Student	Urban, peri-urban

Service	Service Provider/Integrator	Service Content/Owner	Travel Group	Journeys
Parking – Park&Ride	SFRG	City of Salzburg	Tourist	Urban, peri-urban
Taxi service	SFRG	Taxi.eu	Tourist	Urban, peri-urban

Ethical aspects: SFRG pilot site complies with project’s ethical requirements and the General Data Protection Regulation (GDPR (EU) 2016/679) on EU-level as well as the Data Protection Amendment Act 2018 (BGBl 2017/120) and the Data Protection Act 2018 on a national level.

All participants will need to sign an informed consent form that will explain to them that participating at the pilot is on a voluntary basis, that all data collected will be kept entirely confidential and that their anonymity will be protected throughout the whole pilot. The approval of a local research ethics committee for conducting the pilots is not required. GDPR compliance will be ensured by the institute’s Data Protection Officer (DPO).

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4.2 The Czech Republic pilot site

Pilot site: This pilot is led by CHAPS (<https://www.chaps.cz/eng>) and includes urban, interurban and rural travelling and covers the corridor from Brno and Prague to Germany and Italy.

Mobility services & Users: CheckMyBus ([CheckMyBus GmbH](#)) search engine for international bus trips will be used as part of cross-border tourist scenarios originating from Czech Republic, purchase of bus e-tickets within Czech Republic and some cross-border countries (e.g. Austria, Italy, Germany) (will be provided by [AMSBus by ČSAD SVT Praha s.r.o.](#)), Real time traffic flow and event management by [TomTom](#) (to be decided), and information on Prague Zoo events will also be included ([Prague ZOO](#)). The trip planning service is offered by Chaps (IDOS journey planner, service No.: 53 in service glossary table of D1.1).

Users will be recruited through the company’s social media and networking as well as using company’s existing contacts. These will be mainly **commuters** (inhabitants of Central Bohemia region commuting to Prague to school/work (Figure 12, left map)) and **tourists** (e.g. Český Krumlov visitors; at least for the first phase; Figure 12, right map). Services and users are presented in Table 12 below.

Table 12. Mobility services and users at the Czech Republic pilot site.

Service	Service Provider/Integrator	Service Content/Owner	Travel Group	Journeys
Search engine for international bus trips	CheckMyBus GmbH	CheckMyBus GmbH	Tourist	Urban, peri-urban, rural, cross-border
PT scheduled information	CHAPS	AMSBUS by ČSAD SVT Praha s.r.o.	Tourist, Commuter	Urban, peri-urban, rural, cross-border
Purchase e-tickets	CHAPS	AMSBUS by ČSAD SVT Praha s.r.o.	Tourist, Commuter	Urban, peri-urban, rural, cross-border
Real time traffic flow and event management (to be decided)	TomTom	TomTom	Commuter, Tourist	Urban, peri-urban, rural, cross-border
Real time traffic flow	TomTom	TomTom	Commuter, Tourist	Urban, peri-urban, rural, cross-border
Real time information for parking availability and PT estimated time of arrival	CHAPS	Technická správa komunikací hl. m. Prahy a.s.	Commuter, Tourist	Urban, peri-urban
Prague Zoo events	CHAPS	Prague ZOO	Tourist	Urban

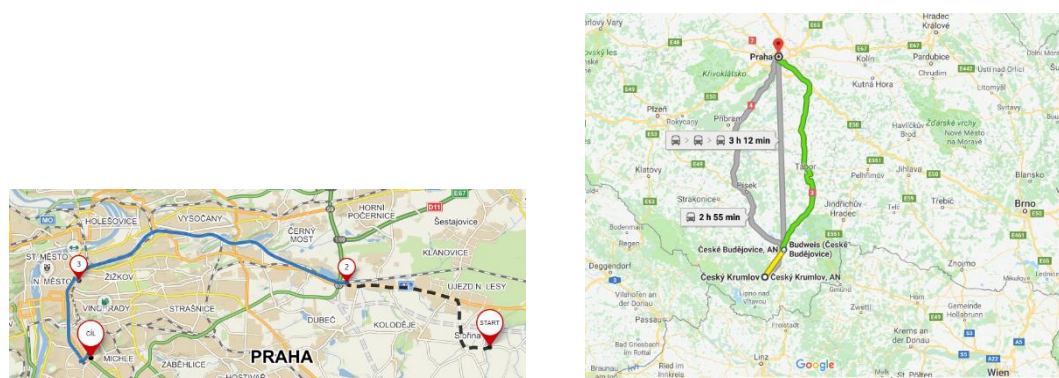


Figure 12. Example of a commuter trip (left map) and of tourists' trip (right map).

Ethical issues: Ethical approval is obtained by the organization's board, which fully complies with the MyCorridor ethics policy and no issues are anticipated. GDPR compliance will be met.

Contact information: Filip Kvaček – activity coordinator (kvacek@chaps.cz).



4.3 Greek pilot site

Pilot site: The Greek pilot site is coordinated by SWARCO HELLAS with the participation of AMCO and CERTH. The Greek pilot site includes both national and cross-border corridors with mainly **commuters**, **businessmen** (incl. bleisure users), and **tourists** with urban, interurban, and rural segments. There are three corridor scenarios for the Greek site:

- Athens to Loutraki (Commuter scenario).
- Athens to Naxos via Port of Rafina (Tourist scenario).
- Thessaloniki to Italy via Port of Igoumenitsa (Cross border scenario).

Mobility services & users: Available services are: taxi apply and book ([Splyt Technologies Ltd.](#)), Fare collection system of Korinthos interurban buses ([Korinthia interurban bus company](#)), VivaWallet Ferry Boat Booking and ticketing services ([VivaWallet](#)), real time traffic state and forecast and event management ([SWARCO HELLAS](#)), advanced Traffic forecasting in Rome (PRATI area) and Athens ([SWARCO MIZAR/SWARCO HELLAS](#)), Green Light Optimized Speed Advisory (GLOSA) in Rome (PRATI area) and Thessaloniki ([SWARCO MIZAR/SWARCO HELLAS](#)), booking parking space and bike sharing in Loutraki ([Municipality of Loutraki](#)). The trip planning will be made with the open-source trip planner (<http://www.opentripplanner.org/>), which integration has been taken up by CERTH/ITI to accommodate for countries with no trip planning service. Users will be mainly **inhabitants, commuters, Greek and Italian tourists**. Involved partners will contribute to recruitment with support from CERTH, municipality of Loutraki and interurban public transport companies. Services and users are presented in Table 13 below.

Table 13. Mobility services and users at the Greek pilot site.

Service	Service Provider/Integrator	Service Content/Owner	Travel Group	Journeys
Taxi apply and book	Splyt Technologies Ltd.	Splyt Technologies Ltd.	Commuter, Tourist, Bleisure	Urban, peri-urban, rural, cross-border
Fare collection system for Korinthos interurban buses	AMCO	Korinthia interurban bus company),	Commuter, Tourist	Urban, peri-urban, rural
Ferry boat booking and ticketing services	VivaWallet	VivaWallet	Tourist, Bleisure	Sea
Real time traffic state and forecast and event management	SWARCO HELLAS	SWARCO HELLAS	Commuter, Bleisure	Urban, peri-urban, rural, cross-border
Advanced Traffic forecasting in Rome (PRATI area) and Athens	SWARCO MIZAR/SWARCO HELLAS	SWARCO MIZAR/SWARCO HELLAS	Commuter, Bleisure	Urban, peri-urban, rural, cross-border
Green Light Optimized Speed Advisory (GLOSA) in Rome (PRATI area) and Thessaloniki	SWARCO MIZAR/SWARCO HELLAS	SWARCO MIZAR/SWARCO HELLAS	Commuter, Bleisure	Urban, peri-urban, rural, cross-border
Booking parking space and bike sharing in Loutraki	AMCO	Municipality of Loutraki	Tourist	Urban, peri-urban, rural

Ethical issues/aspects: Data protection and privacy are the identified issues that have to be addressed according to GDPR requirements.

Contact information: The evaluation manager will be Vasilis Mizaras (vasili.mizaras@swarco.com; SWARCO HELLAS), with the support of AMCO and CERTH.

4.4 The German pilot site

Pilot site: The German pilot site's role (led by HaCon) is different from the rest of the pilot sites. Its role will be to enable and support the cross-border corridors for the cross-border pilot scenarios that will be conducted during the second evaluation phase. Their role will be instrumental in the success of the real-life scenarios (second evaluation phase), where participants will travel from Italy to Austria and Prague to Austria, thus facilitating at least the smooth conduction and execution of the final evaluation phase.

Mobility services & Users: Services that are available in Germany are: BlaBlaCar carpooling service ([Commuto SA](#)), Taxi apply and book ([Splyt Technologies Ltd.](#)), CheckMyBus search engine for international bus trips will be used as part of cross-border tourist scenarios originating from Czech Republic ([CheckMyBus GmbH](#)), Real time traffic flow, event management and parking info (to be discussed; [TomTom](#)). Trip planning is offered by VBB-Fahrinfo, VBN Fahr-Planer multimodal journey planner by HaCon. The German pilot site will support the recruitment process of the other MyCorridor pilot sites with additional users for the cross-border scenarios completion, specifically for the Austrian and Czech Republic pilot sites. The services and users are presented in Table 14 below.

Table 14. Mobility services and users at the German pilot supportive site.

Service	Service Provider/Integrator	Service Content/Owner	Travel Group	Journeys
Car pooling	BlaBlacar	Commuto SA		Urban, inter-urban, rural, cross-border
Search engine for international bus trips	CheckMyBus GmbH	CheckMyBus GmbH	Tourist	Urban, peri-urban, rural, cross-border
Real time traffic flow and event management (to be decided)	TomTom	TomTom	Commuter, Tourist	Urban, peri-urban, rural, cross-border
Real time traffic flow	TomTom	TomTom	Commuter, Tourist	Urban, peri-urban, rural, cross-border

Ethical issues: The responsible partner, from each corresponding pilot site, will ensure that all ethical and GDPR issues related to the segments/ legs of journeys conducted within Germany, as in intermediate step of their journey is according to ethical, GDPR and national guidelines standards for these parts of the journey.

Contact information: Daniel Schmidt, daniel.schmidt@hacon.de

4.5 Italian pilot site

Pilot site: The Italian pilot is both a national and a cross-border Pan-European Corridor including: Greece, Italy, Austria, Germany, Czech Republic and Netherlands. The cross-border corridor of Thessaloniki – Rome (Greece – Italy) is conducted in collaboration with SWARCO HELLAS and CERTH (interurban & cross-border corridor). The second cross-border corridor includes Italy and Austria and involves the Italian partners (SWARCO, RSM, TTS) and the Austrian pilot site (SRFG). The national pilot scenarios include both travelling within Rome (local and cross-urban corridor) and Rome to Ostia (Local and interurban corridor).

Mobility services & users: The following table presents the main services available at the Italian pilot sites and the travellers groups related to these services (Table 15). The trip planning will be made with the open-source trip planner (<http://www.opentripplanner.org/>), which integration has been taken up by CERTH/ITI to accommodate for countries with no trip planning service. This table will be further revised prior the first phase.

Table 15. Services and users at Italian pilot site.

Service	Service Provider/Integrator	Service Content/Owner	Travel Group	Journeys
Interactive traffic management services	SWARCO	RSM	Commuter Businessman	Urban/Interurban (Rome-Ostia)
Event management	SWARCO	SWARCO	Commuter Businessman	Urban (Rome)
Advanced Traffic Forecasting	SWARCO	SWARCO	Commuter Tourist for cross-border	Urban/Interurban (Rome-Ostia) Athens
C ITS	SWARCO	SWARCO	Commuter Spontaneous user	Urban (Rome)
Multi-modal real time information	SWARCO/RSM	RSM	Commuter Businessman Tourist	Urban/Interurban (Rome-Ostia)
Service	Service Provider/Integrator	Service Content/Owner	Travel Group	Journeys

Service	Service Provider/Integrator	Service Content/Owner	Travel Group	Journeys
Zone access control	SWARCO	SWARCO	Businessman Tourist	Urban (Rome)
Car sharing/Pooling	RSM	RSM	Commuter Spontaneous user Tourist	Urban/Interurban (Rome-Ostia)
Taxi service	RSM	RSM	Spontaneous user Tourist Mobility-restricted Low IT literacy user	Urban (Rome)

Ethical aspects: SWARCO MIZAR is the ethical manager of the project and ensures all partners abide to the project's ethical policy including the Italian pilot site.

Contact information: Giulia Dovinola (giulia.dovinola@swarco.com) and Laura Cocone (laura.cocone@swarco.com).

4.6 The Netherlands Pilot Site

Pilot site: The site consists of an entertainment area with two music venues and a football stadium. The pilot will focus on more than 30.000 people are visiting the venues. The pilot will focus on getting visitors to the location and past the location in a most fluid way. The service will provide travel advise and arrangements (ticketing) to the venue location through different modes of transport (personal car, share car, taxi (normal and 'Uber'), bike (share/hire), public transport). The aim of this concept is to influence travel mode choice to get a better modal split and also to distribute travel demand over the network and available mobility networks. The cross-border scenario will cover travelling from Amsterdam to Germany.

Mobility services & Users: The [Livecrowd platform](#), Static and Dynamic Parking availability and information in Amsterdam ([Brand MKRS BMCA](#)), real time availability of 'rent' bikes called [OV-Fiets](#) (Brand MKRS BMCA), taxi apply and book ([Splyt Technologies Ltd.](#)). The trip planning will be made with the open-source trip planner (<http://www.opentripplanner.org/>), which integration has been taken up by CERTH/ITI to accommodate for countries with no trip planning service. The services and users are presented in Table 16.

The pilot will be an extension of the current Livecrowd service offered in the area (online customer service set up per event and main communication channel for visitors to the events). This means there is

already a community that can be reached and might be interested in the pilot. This community is diverse and includes various types of travellers, **including commuters, older people (IT illiterate), mobility-restricted, young tourists, students** and **businessmen** travellers and so on. The users will be able to use the Livecrowd service as their personal 'butler' service (Livecrowd will do the interaction with the one-stop-shop) or the visitor can do that interaction for himself/herself.

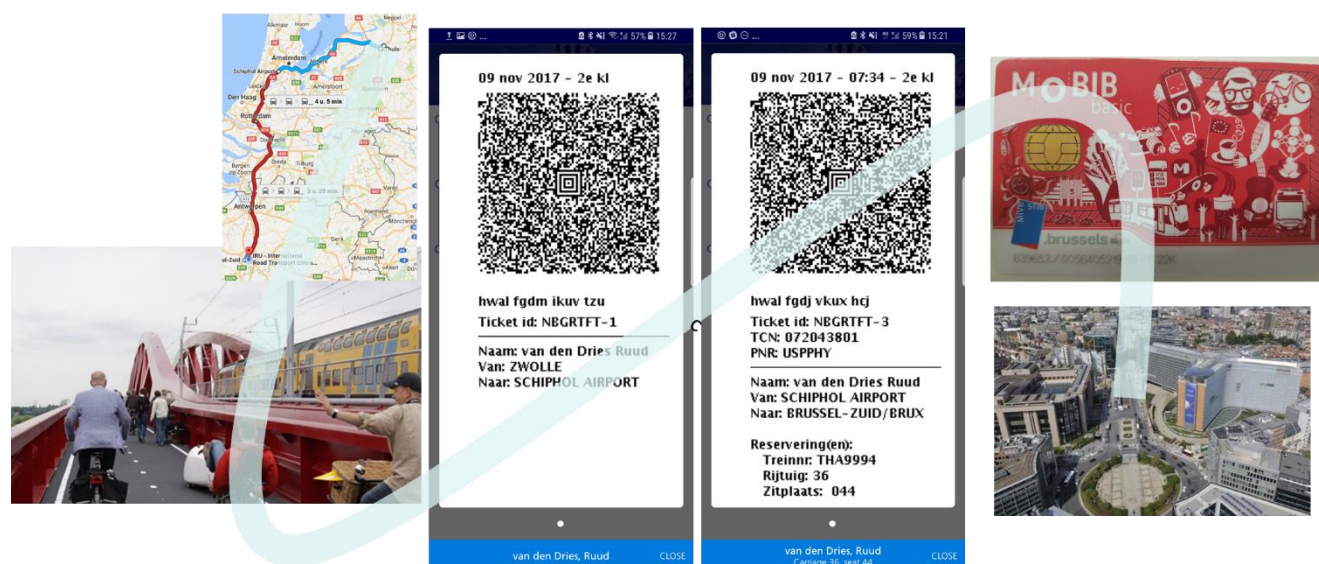


Figure 13. E-tickets for public transport at the Dutch pilot site.

Table 16. Services and users at the Dutch pilot site.

Service	Service Provider/Integrator	Service Content/Owner	Travel Group	Journeys
Dynamic Parking availability and information	Brand MKRS BMCA	Brand MKRS BMCA	Commuters	Urban, inter-urban
Real time availability of 'rent' bikes (OV-Fiets)	Brand MKRS BMCA	Brand MKRS BMCA	Commuter, Tourist	Urban, peri-urban
Taxi apply and book	Splyt Technologies Ltd.	Splyt Technologies Ltd.	Older traveller, mobility-restricted (certain conditions apply)	Urban, peri-urban



Ethical issues/aspects: Already compliant with GDPR and no ethical issues are anticipated to arise.

Contact information: the Dutch pilot is led by MAPtm. Ethics and data responsible person will be Mr. Giovanni Huiskens (Data Protection Officer for MAPtm: Giovanni.huiskens@maptm.nl) and the evaluation activities will be managed and coordinated by Mr. Ruud van den Dries (ruud.vandendries@maptm.nl).

5 Recruitment, engagement and incentivisation monitoring and strategies

As participants will be recruited in all evaluation phases, a recruitment methodology is developed to utilise diverse techniques to engage users. Such techniques entail involving existing service providers' customers (i.e. existing service users), their social media to invite and recruit users, each pilot site partners' websites, project's social media and existing contacts. Careful consideration should be put to match the needs of the selected users with the offered infrastructure and services in order these services to be useful to the participants. Otherwise, mis-matched users might not give us meaningful data that make any sense or are useful for analysis and for drawing any differences. This is important for both iterations with travellers, but it is even more important for the semi-realistic evaluation taking place in the second iteration.

The recruitment of participants refers to the creation of strong and reliable liaisons with addressed user groups and is an essential component of project. Recruitment is realized at both pilot site and project level. Liaisons are an integral part of dissemination activities. The project teams must attract external service providers and other stakeholder groups. The latter especially required for the final assessment. The recruitment framework is established and will be later adjusted to the requirements of each evaluation phase. Recruitment is closely related also to ethics management at pilot sites and on project level (i.e. Ethics policy).

User involvement strategies

A recruitment procedure needs to be efficient and flexible (i.e. users are happy to participate and return for further activities, either within this project or others not necessarily related to testing). Recruiting and retaining volunteers is an essential process that will guarantee a reliable outcome regarding users input in all testing activities. For example, it will be beneficial for the project to recruit travellers who provided feedback for preparing the reference case for the first iteration and then to invite the same ones to participate in later stages. The reason is not to provide comparative data so much on statistics but to provide rich qualitative data for investigating several traveller-related attributes (e.g. time spent travelling, new modal choices) and attitudes towards their use in the future. Such gain in richness resulting from follow up adds value and reliability in testing and project outcomes.

There are three main recruitment sources (starting from small and moving towards larger scale of effect) that partners and project should utilize:

- Local liaisons with organizations;
- existing participant database;
- word-of-mouth.



Mobility fora, networks and organizations (e.g., the [Forum for Mobility and Society](#), [ERTICO](#), [POLIS](#), etc.) and public transportation representatives will also put to use their own liaisons and contacts with assistance from dissemination teams and will be in close collaboration for taking advantage of dissemination activities to recruit participants. For example, participation in MaaS-oriented events within and outside EU might bring international service providers to the project and opportunities for joint workshops with other projects or initiatives (e.g. MaaS Alliance, TM2.0 platform) that can bring in knowledge and practices from other projects. The dissemination and pilot site teams should harmonize these activities and exploit the potential of each member of the network to maximize the possibility of including diverse user groups and thus validate and generalize their findings, which is extremely valuable for impact assessment. Potential users who already are using the services that will be integrated to MyCorridor platform, they will be offered discounts to continue using the services through the platform and participate in the pilot tests.

Selecting participants

As the platform will be used by many different types of travellers, a major aim is to reflect this diversity in the testing procedures. This adds on ecological validity, facilitates the impact assessment and sets a strong foundation for a sustainable deployment after the end of the project. Selection and exclusion criteria define the recruitment process based on the requirements of the evaluation and the pilot site. The pilot site team will be responsible for applying the agreed and chosen criteria of recruitment. Usually a telephone interview suffices for investigating if they are met and the participant can be recruited to the study. Equal gender representation, different age groups, variety in user groups addressed, people coming from different Socio-Economic Status (SES), variation in experiences with using mobility or transportation applications in their daily living activities (i.e. differences in ICT literacy), attracting professionals (i.e. service providers) with experience in transportation and others who are not, are important characteristics to consider for each pilot site in preparing their groups of participants.

Basic recruitment steps

For each activity requiring the participation of users it is necessary to ensure that it follows the steps below for managing users' involvement:

- **First impression:** Cognitive economy is a strong aspect of the impression users will form about the study and the test teams. Users will in most cases get official invitations via the organization they are members. Official invitation letter will be prepared and communicated to interested parties and organizations. Test teams should be available for any further queries the organizations, member, and other people might have. Such research is often advertised on media and social networks. Information about testing procedure and specifics is also provided.
- **Interview via phone/arrange test appointment and check participation criteria:** A short telephone interview will ensure users fulfil testing requirements and affirmation for participation is provided. Reminder emails are sent if they are requested.
- **User compensation:** If participants are compensated (e.g. monetary, voucher) this should be relevant to research effort. Users should be informed about it prior participation and during recruitment. The information/invitation letter sent out to organizations, centres and similar stakeholder centres should provide necessary information about compensation and voluntary activity with reference to test duration. During the second evaluation phase, users will be reimbursed if they encountered any issues with their journey for the ticket /Mobility Tokens they issued.



Incentivisation strategies and loyalty schemes

However, as the main focus of the first iteration is the usability of the MyCorridor platform, a simplistic approach was applied for two reasons:

- administer scenarios with incentives and loyalty schemes to **showcase their role** in the users' interactions with MyCorridor platform; and,
- to gather their **opinions and feedback** on their preferred incentives and attitudes towards such schemes. The findings will help shape the respective strategies and schemes for the second evaluation phase.

The actual preparation and development of the strategies is taking place within WP7 and separate evaluations will be conducted with experts and users within WP7. However, the effectiveness of the selected and applied models and strategies will be evaluated during the second evaluation phase with real incentives and loyalty schemes in place. Table 18 presents the first modelling of the incentivisation strategy per traveller group that will be fully applied in the second phase, whereas the following simplistic approach is applied in the first iteration. The overarching aims are to engage the user, influence his/her behaviour, and to commercially promote the MaaS products and the services. These strategies should be aligned with the business plans and strategies of the service providers and aggregators.

Based on the work being conducted with WP7, an initial list of strategies is presented in the following table. These strategies will be applied in the real-life testing second evaluation phase. For the first iteration phase a simplistic incentivisation strategy was adopted mainly to support the preparation of the testing scenarios and respective storyboards, presented below (Table 17). Participants will be asked to evaluate the selected incentives (first evaluation phase), but this evaluation will be merely formative. The results will support the work performed within WP7 and the further development of initial strategies for the second evaluation phase (Table 18). The evaluation of incentives in the second evaluation phase will be summative based on continuous assessment of travellers' behaviour (incl. change in behaviour) that is related to incentives. The effective of a strategy will be evaluated based on the travellers' behaviour and choices after the incentivisation has been implemented and if repetition of the targeted behaviour has been achieved.

Table 17. Incentivisation strategy for testing scenarios (1st iteration).

Aim	Incentivisation strategy (Other promotions from service providers/aggregators can run in parallel and can add upon to collected points/ miles)
Reinforce use of MyCorridor platform	Unregistered user: inform about personalised travelling choices to attract to register and offer 15% of first trip/MaaS product upon registration.
Move from ownership to usership	Priority in public transport and car/sharing/pooling modes (in trip planning). 15% off for 'Greener' MaaS packages (if available at pilot site).
Promote greener modal choice	15% off for 'Greener' MaaS packages (if available at pilot site).



Aim	Incentivisation strategy
Make the user a loyal consumer/ member	<p>(Other promotions from service providers/ aggregators can run in parallel and can add upon to collected points/ miles)</p> <p>Issuing of MyCorridor loyalty card schemes. Collection of 500 points upon registration (levels of scheme, e.g. blue, silver, gold).</p>
Attract participants in first place and make user a frequent / priority user	<p>Get points for customised packages, 25% for new users and 15% for loyal users.</p> <p>Discounts and promotions are 25% for registered users and 15% for unregistered.</p> <p>(registered users get lower discount in existing MaaS packages but higher in discount coupons to promote engagement* and unregistered users get higher package discount but random/much lower service and coupons discount).</p> <p>*This needs to be further discussed with and instantiated by service providers.</p>

Table 18. Promotion/ incentivisation strategies for second evaluation phase

Objective	a/a	Promotion/Incentive strategy (title)	Short Description	Description of business rule	Financial measures	Other measures	Pre-trip, on trip, after trip
Influence user travel behaviour	1	Peak – off peak shift	MyCorridor system provides incentives at purchase to influence time of travel.	A mobility product concerning off peak times usage has improved rules and/or prices.	Yes		Pre trip
	2	Sustainable mode use promotion	MyCorridor system provides incentives at purchase to influence mode choice.	The MaaS aggregator can rank the various mobility products according to sustainability and accordingly provide improved rules and/or prices and/or promote at purchase.	Yes	Yes (promotion)	Pre trip
	3	Modal shift	MyCorridor system provides incentives for changing from private car to other modes at purchase OR on trip.	When the user is usually using or according to his/her profile is declared as mainly a driver then the system promotes other mobility products of same location at improved rules and/or prices. When a user is currently driving his/her private car, then the system promotes on	Yes	Yes (information)	Pre trip

Objective	a/a	Promotion/Incentive strategy (title)	Short Description	Description of business rule	Financial measures	Other measures	Pre-trip, on trip, after trip
				trip other mobility products of same location at improved rules and/or prices.			On trip
	4	Last mile combination	MyCorridor system can combine two mobility products so that one of those can cover last/first mile (for example, shared bicycle scheme can cover last mile after regional train)	The MaaS aggregator can combine mobility products according to interchangeability / complementarity and accordingly provide improved rules and/or prices and/or promote at purchase	Yes	Yes (information)	Pre trip
	5	Park & Ride	MyCorridor system can combine parking lots with other sustainable mobility products	The MaaS aggregator can combine mobility products and parking products according to interchangeability / complementarity and accordingly provide improved rules and/or prices and/or promote at purchase or during trip with private vehicle	Yes	Yes (information)	Pre trip On trip
	6	Route/line choice influence	MyCorridor system provides incentives so that users are encouraged or	The MaaS aggregator can rank routes/lines based on their usage and accordingly provide	Yes	Yes (promotion, information)	Pre-trip

Objective	a/a	Promotion/Incentive strategy (title)	Short Description	Description of business rule	Financial measures	Other measures	Pre-trip, on trip, after trip
			discouraged to use specific routes/PT lines	improved rules and/or prices and/or promote at purchase			
	7	Real time route influence	MyCorridor system provides real time information	Real time traffic information and PT service disruption is sent to user device	NA	Yes	On trip
	8	TM2.0 scenario	MyCorridor system provides enhanced traffic information to driver in order to influence route choice	<p>When content coming from TMC is marked as TM2.0 then it has priority over “standard” traffic information (case #7)</p> <p>In order the content to be marked as TM2.0:</p> <p>TMCs content is developed by internal data and traffic information from navigation system for more accurate data elaboration (e.g. LoS, forecasts)</p> <p>Scheduled events by TMCs have been integrated into the navigation service providers’ Incident Feed and the rerouting to drivers will be</p>	NA	Yes TM2.0 Information	<p>(Pre-trip)</p> <p>On trip</p> <p>(After trip)</p>

Objective	a/a	Promotion/Incentive strategy (title)	Short Description	Description of business rule	Financial measures	Other measures	Pre-trip, on trip, after trip
				also according to schedule event			
	9	TM2.1 scenario	MyCorridor system provides incentives to drivers to change from car to other mode because of TM alerts	When TMC indicates road network capacity drop then MyCorridor automatically proposes park and ride to sustainable mode	Yes Discounts for using park and ride	Yes Real time traffic and/or traffic restrictions because of load Parking information Finding closest park & ride location Sustainable mode information	(Pre-trip) On trip (After trip)
	10	Car sharing scheme & TM2.0 combination	Similar to case #7, but additionally the system promotes car sharing schemes in combination	Similar to case #7 but in combination with promoting car sharing at purchase or on trip	NA	Yes	Pre-trip On trip

Objective	a/a	Promotion/Incentive strategy (title)	Short Description	Description of business rule	Financial measures	Other measures	Pre-trip, on trip, after trip
	11	Reward user behavior	MyCorridor system provides rewards when a user follows promotional strategies' advices (cases #1-10)	When the user accepts one of the promotional strategies at purchase or on trip then he/she may get reward points	NA	Yes	After trip
Engage the user	12	Sharing data	MyCorridor system provides incentives for a user to share data of completed trips or FCD	If the user accepts to share data, then he/she is eligible to rewards	Yes	Yes	On trip After trip
	13	Sharing car/ride	MyCorridor system provides incentives for a user to share data of intended trips and to share rides with other MyCorridor users	If the user accepts to share intended car trips and share rides, then he/she is eligible to rewards	Yes	Yes	Pre-trip
	14	Eco-driving	MyCorridor system provides incentives for a user to drive within certain eco driving thresholds	If the user drives within certain eco driving limits, then he/she may get reward points	NA	Yes	On trip
Commercial promotion	15	Combination product promotions	MyCorridor system provides discounts for certain mobility	The MaaS aggregator can combine mobility products ad hoc and accordingly provide	Yes	Yes	Pre-trip

Objective	a/a	Promotion/Incentive strategy (title)	Short Description	Description of business rule	Financial measures	Other measures	Pre-trip, on trip, after trip
			products' combinations ad hoc	improved rules and/or prices and/or promote at purchase			
	16	Promotion of mobility products	MyCorridor system provides discounts for certain mobility products ad hoc	The MaaS aggregator selects certain mobility products ad hoc and accordingly provide improved rules and/or prices and/or promote at purchase	Yes	Yes	Pre-trip
	17	Promotion of overall MyCorridor usage (Loyalty usage)	MyCorridor system provides loyalty points based on user choice	The user is eligible to rewards based on his/her purchases	NA	Yes	After trip

6 Planning across phases

Planning across phases entails close collaboration among many teams. Pilot testing will begin only after positive completion of technical validation activities to ensure all functionalities and chosen testing scenarios can be successfully and efficiently completed.

Additionally, the scenarios and the whole evaluation protocol and procedure will be pre-tested in a dry run in all pilot sites to ensure smooth execution and data collection across sites. This will be an opportunity to further refine the evaluation material (i.e. questionnaires, etc.) as well as to estimate the duration of the whole process.

Pre-testing will take place at least three weeks before any testing takes place and immediately after technical validation to ensure there is enough time to rectify or improve any eventual issues that were not revealed during technical validation, especially with reference to the evaluation procedure. However, these testing scenarios will also be shared with the development teams to be used during technical validation to reduce the number of issues and problems that may arise during pilots' conduction.

Pre-testing will follow exactly the same procedure as the testing protocol and pilot sites will be advised to recruit external users that fall into the identified user categories, as they are defined in the testing scenarios per pilot site. However, if recruiting external users is time-consuming, although it is incredibly favourable, employees could play that role.

6.1 Training activities

Separate training activities in each pilot site will not be held but secondary actions will be taken. Training workshop will be organized with all pilot site managers to train the facilitators to carry out the sessions. The workshop will be organized and conducted by CERTH.

Service providers will receive instructions and documentation necessary to use the Service Registration Tool as well as to complete the registration process. These material will be prepared by the responsible teams for the development of the MyCorridor platform (and the Service Registration Tool) and each service to be used by travellers in a format that is understandable by users. Especially for travellers, jargon will be removed. Travellers will be informed about the various services, especially before the second evaluation phase, in order to be familiar with the purpose and content of the service. Similarly, travellers will be informed about the purpose, content and different functions of MyCorridor platform.

These material will be published to the platform and will be publicly available to visitors and future users. The material will be in the form of documentation for service providers including any necessary links (e.g. GitHub) and README files. For travellers, the information will be added in the platform in a separate 'How to section...' page linked out to the landing page of the MyCorridor platform.

In addition, users, regardless being registered or not, will have access to FAQ section as well as the option to ask questions, which they will be answered by the responsible development teams. However, training and familiarisation material will not be prepared for the first but only for the second evaluation.

6.2 Evaluation process integrity

The integrity of the evaluation is closely related to the identification of risks and threats that could affect the evaluation process, the evaluation objectives, data collection, the results, and, subsequently, the inferences drawn by these findings. A risk protection and mitigation plan addresses potential risks or threats and provides a common step-by-step mitigation strategy in case problems arise. Pilot related risks will be thoroughly addressed within D2.3 ('Risk Analysis'). The risk mitigation plan and the completed feedback loop tables (template is presented in Table 19) will be important communication instruments between different work teams during the whole implementation process. The feedback loop table is a testimonial template for the evaluation supervisor to communicate any problems that arise during testing, prior any analysis is carried out. Communicating problems as early as possible is a time-efficient strategy and helps both end-points to share issues. Whether and when a problem is fixed depends on the nature of the problem. Some problems are more time-consuming and more complex than others.

The main results and revealed issues will be fed back to development responsible teams in a timely manner. Feedback related to usability and design issues will be a priority and communicated to the development teams prior any reporting. This holds true for both phases. Even though some of the technologies (e.g. services) are mature, further service testing might be required. The MyCorridor feedback loop will be served through the completion of the template distributed to pilot sites and through conversations, online meetings and discussions between the development and pilot teams.

Table 19. Developers' feedback loop template.

Issue	Date	Tools/app version	Description	Allocated partner	Priority* (H/M/L)
Bug/failure/other?					

7 Ethics

Ethics are very important when carrying out any type of research with human participants. The participant should be respected and protected in any case and their needs should be considered prior any evaluation phase starts. The supervisor and the facilitators should be experienced in ethical code of conduct and should apply it in any interaction with users. This chapter addresses mainly ethical issues relevant to the evaluation process (i.e. carrying out tests with human participants, ethical approval by regional committees, ethical regulations in each country acting as a pilot site, and data handling). The MyCorridor Ethics Manual (D9.2) addresses the ethical issues for the whole project and the current updates can be found in Annex II.

The core issue of ethics in evaluation relates to the conduct of tests with all types of users that are foreseen in the context of the project.

The major categories of users that will be involved in testing are travellers (including people with disabilities and older persons), service providers and service aggregators. In addition, all types of stakeholders that may have an interest in transportation services and products (i.e. infrastructure operators, transportation research centres and facilities, governmental organizations with relevant activities, etc.) will be also involved whenever applicable. In this context, it is vital to establish an ethical code of conduct, with which we will comply across all anticipated evaluation phases of the project. The focus of moral responsibility during the pilots is to protect participants. Ethics refer to the correct rules of conduct necessary when carrying out



research. The MyCorridor partners have a moral responsibility to protect research participants from any harm, anticipated or not. Obviously, the ethical code of conduct for evaluation aligns with the MyCorridor overall ethics policy, as it is described in the project's ethics manual (D9.2). The major ethical issues that relate to evaluation are the following:

- Ethics Control and Monitoring.
- Informed Consent.
- Confidentiality and data protection.
- Deception.
- Risk assessment, Safety & Insurance.
- Withdrawal from a trial.
- Reimbursement and incentives for participation.
- Accessible facilities and services.
- Gender and overall balance.
- Debriefing to participants.

The way these ethical issues are handled within MyCorridor and within the evaluation is presented in D9.2. Ethics control refers to both pilot testing and training activities involving human participants. The pilot site manager will be in close collaboration with the ethics responsible person and the MyCorridor Ethics Manager (SWARCO MIZAR). In a nutshell, ethics representatives from pilot sites will be responsible for ensuring abidance to MyCorridor ethical policy, ethics code of conduct for evaluation as well as national and European laws, Directives, guidelines, and moral considerations. They will be also responsible for supervising ethical-related procedures entailing preparing, completing and submitting the ethical application form to the regional/institutional or other relevant ethics body at least one month prior any test conduction (this includes pre-pilots and technical verification; in case the latter involves participants). Time management with respect to ethics application submission might differ based on regional code-of-practice and work volume. In case of any issues, ethics responsible partners should communicate their problems to the MyCorridor Ethics Advisory Board and collaborating partners. Testing within MyCorridor abides to both European and National guidelines as they are discussed in D9.2.

Apart from steps taken to ensure ethical treatment of participants, data collection, storage and analysis, GDPR compliance is necessary in all related steps. The consent form template found in Annex I is GDPR compliant. Steps taken to ensure data treatment, storage, and analysis will be discussed in depth within the update of Data Management Plan (D2.1).

All pilot site partners have completed the ethics controlling form in view of the first pilot round, updated with consideration to GDPR, in relation to steps taken and a summary can be found in Annex II, along the questionnaire distributed to partners.

An ethics site responsible has been identified in each pilot site to guarantee that the pilots abide to the ethics code of conduct for evaluation (inherent part of the overall ethics policy of the project) and the relevant policy and restrictions posed by the local research ethics committees and other respective national authorized bodies in each case. Each pilot site contact person will be additionally responsible for Data Management and GDPR compliance at their pilot site, unless another person is appointed. If there is another candidate, then Table 20 will be updated accordingly.

In compliance with the ethical code of conduct for evaluation, the local ethics responsible will ensure that the collected (i.e. subjective) data of the test participants are stored and kept properly

secure and pseudonymised before use and post-processing. Retrieved performance data and mobile/web analytics will be collected by CERTH/ITI, responsible for those data encryption and privacy. Each pilot site ethics responsible is also responsible for communicating the Ethics application form for pilot conduction to both the regional and/or governmental bodies, following all the processes anticipated by the local/regional/national law and to the MyCorridor Ethics Advisory Board. The Ethics responsible person will be in collaboration with the Ethics Representative.

Table 20. Ethics Representatives per pilot site.

Pilot site	Ethics responsible contact person
Austria	Cornelia Zankl – SFRG (cornelia.zankl@salzburgresearch.at)
Czech Republic	Filip Kvaček – CHAPS (kvacek@chaps.cz)
Greece	Katerina Toulou – CERTH/HIT (toulouk@certh.gr) Vasilis Mizaras - SWARCO HELLAS (vasili.mizaras@swarco.com)
Italy	Dovinola, Giulia – SWARCO MIZAR (giulia.dovinola@swarco.com)
The Netherlands	Ruud van den Dries MAPtm (ruud.vandendries@maptm.nl)
Cross-border corridors	The members of the cross-border corridor ethics responsible team are the ethics responsible persons of the pilot sites included in each specific corridor.

8 Conclusions and next steps

This Deliverable presents the main evaluation framework, the primary KPIs for both evaluation phases and the impact assessment. Moreover, it includes the evaluation protocol and material for the conduction of the 1st evaluation phase with internal service providers and travellers that focus mostly on the functionality, use and usability of the MyCorridor platform and less on the acceptance of the offered MaaS concept and ecosystem that is primarily the focus of the second pilot phase in the project.

The material in certain annexes (III and IV) of this deliverable will be further refined when the testing versions of the Service Registration Tools and the MyCorridor platform are ready to be tested, after the technical validation and pre-testing activities are complete. The annexes of this deliverable can be further used to complete the national/ regional ethics approval application forms at each pilot site.

In addition, two workshops will be held before the kick off of the first evaluation activities. The first workshop will be held in October 2018 in parallel with the 4th project plenary meeting in Rhodes, Greece and will focus on the readiness of the pilot sites with regards to recruitment and ethical approvals.

The second workshop will be either held face-to-face or online, depending on the availability and pilot site status (e.g. partners could already be amidst technical validation activities), with the aim to finalise evaluation material and prepare translations for the first phase conduction. The pre-

tests will take place as soon as the technical validation has successfully been completed and any resulting issues have been resolved. The dry-run is expected to be conducted at least two weeks before the actual pilots kick off (M17).

Therefore, the material annexed in this deliverable will be further refined before the actual tests in November 2018 (M18) and are expected to be completed by February 2019 (M21).

By then, a second update of this Deliverable will be prepared to include the final version of the second evaluation method techniques, instruments, refinement of KPIs and impact assessment methodology and the supporting and detailed evaluation material.

Annexes I, III, and IV will be updated by M18 and will further include any potential updates required in the main body of the Deliverable related to the first evaluation phase. The final update of this Deliverable will be in M24 and it will include the final pilot plans for the second evaluation phase, the updated evaluation material, the documents of ethical approval obtained by the pilot sites and finalised testing scenarios and storyboards.

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Annex I. Participant Consent form template

The consent form will be used in the first iteration phase. It has been adapted from the one presented in the Ethics Manual (D9.2) to ensure GDPR compliance and will be further adapted to meet the requirements of each pilot site with the addition of an information sheet describing the project and the testing sessions and a link to the Data Privacy and Terms of Use. In addition, the following consent form is used when no personal data are collected. In any other case, the consent form needs to further be adapted.

Pilot name: _____ (the "**Pilot**")

Researching entity: _____

Researching entity's address: _____

Who we are and what is the MyCorridor project?

The MyCorridor project is a European Commission funded research project with the aim of researching and facilitating sustainable travel in urban and interurban areas and across borders by replacing vehicle ownership with private vehicle use. The project's objective is to use Mobility as a Service ("MaaS"), to put users at the core of transport services and offer them tailor-made mobility solutions based on each individual's needs. The project intends to use MaaS to integrate various forms of transport into a unified mobility platform; accessible via a single app.

As part of the research project, the MyCorridor consortium, which includes 16 research partners across various EU countries (the "**Research Partners**") ("**we**", "**us**", "**our**") and a legal team, will work together to advance the MyCorridor project. Various Research Partners will conduct pilots to research: user behaviour and needs; sustainable intermodal transport; interoperability of data and services; internet-based platforms for information; and booking and travelling and ethical requirements, for the purposes of the MyCorridor project.

By signing the Consent Form below, you agree to participate in the Pilot, as named at the top of this page and detailed below.

What is the purpose of this Pilot?

The purpose of our Pilot is to further the research objectives of the MyCorridor project, by...
[To be completed by the relevant pilot entity before submitting to the users].

Who is conducting the Pilot?

[Please insert details of the pilot entity, insert entity name] is conducting the Pilot as part of MyCorridor Research Partners.

Information collected during the course of the pilot

Personal information collected from you during the course of the pilot will be processed in accordance with our privacy policy, here [\[insert link\]](#).



Who will my personal information be shared with?

We may share information with the EU Commission and the Innovation and Networks Executive Agency (who assisted with the funding of the MyCorridor project) to assist with the objectives of both the Pilot and the MyCorridor project. We will not transfer your personal data outside of the EEA. *[Please consider whether anyone outside your pilot organisation may be assisting with reviewing/interpreting the data or assisting with focus groups.]*

What will my participation in the Pilot involve?

[To be inserted by the relevant pilot entity before submitting to the users].

You will be required to take part in focus groups as part of the Pilot. These focus groups will be audio recorded and filmed to assist us in our research.

What value can a participant bring to the MyCorridor project?

[To be inserted by the relevant pilot entity before submitting to the users].

What will happen to any information I give you and how will it be stored?

[To be reviewed and updated in accordance with each pilot's storage process - We will comply with all applicable laws and regulations when it comes to collecting, storing, using and sharing your personal information.

Where possible, data will be pseudonymised and stored on a password protected computer.

Further information on how we use your personal information can be found in our privacy policy, here [\[insert link\]](#).

How long will you store my personal information for?

We will only keep your personal information for as long as is necessary to assist us in the purposes of our research and for no longer than 5 years. Any data held by us during this period will be stored in accordance with our privacy policy, here [\[insert link\]](#).

Will the data possibly be commercially exploited?

Personal data collected during the pilot will not be commercially exploited.

How long will the Pilot last?

[Each pilot entity should insert the estimated duration of their pilot here before submitting to the users].

Who should I contact in relation to the Pilot?

If you have any queries or complaints relating to the pilot please contact *[Each pilot entity should insert the relevant contact's details here before submitting to the users].*

What will happen to the results of the Pilot?

The results of this Pilot will be anonymised. You will not be identifiable by these results. These anonymised results will be used by us and shared with the European Commission and the Innovation



and Networks Executive Agency, at national and international conferences and exhibitions and published in peer-reviewed scientific and academic journals; with a focus on open-access journals.

What are the possible benefits of taking part in the Pilot?

[To be inserted by the relevant pilot entity before submitting to the users – please note that this may be different for each pilot.]

Are there any risks?

[To be inserted by the relevant pilot entity before submitting to the users. Please note that this may be different for each pilot.]

Photographs

During the course of your participation in the Pilot, we would like to photograph the focus groups that you participate in as part of the Pilot, for MyCorridor research, publications, conferences, exhibitions and MyCorridor social media activities. For example, we would like to include focus group photographs to accompany related MyCorridor social media posts and publicised research.

We will only take your photograph if you consent to us doing so by ticking the corresponding box in the Participant Consent Form. We will also ask you to review and sign a separate consent and release form at your first focus group. If you do not consent, you can still take part in the Pilot and focus groups but we will not take your photograph.

If you do consent to us taking your photograph, you may withdraw this consent at any time.

For further information on how we use and store the photographs that we take during the Pilot, please see our privacy policy, here [\[insert link\]](#).

My rights

You can withdraw from the experiment at any time and without having to give a reason for withdrawing. Please also read MyCorridor's privacy policy (link below) for further information regarding your rights in relation to the personal information we collect about you.

MyCorridor's Privacy Policy

Please read our privacy policy which is available [\[here – link to be inserted\]](#). Our privacy policy contains information about the personal information that we collect from you, and how we collect, store, use and share your personal information. It also sets out your rights to control personal information we hold about you.



Consent Form

Researcher's Name: _____

Participant's Name: _____

Participant's Unique Reference Number: _____

Place of Pilot: _____

This part will be filled in by the participant.

The original will be kept by the Researcher; a copy will be given to the participant.

I confirm that I have read and I understand the Documentation of Consent form in full and understand the information in relation to this Pilot.	<input type="checkbox"/>
I have had the opportunity to consider the information provided to me and to ask questions about the Pilot and my participation in the Pilot.	<input type="checkbox"/>
I was informed about whom to contact for questions or complaints about the research and my rights.	<input type="checkbox"/>
I understand that other Research Partners will have access to my information.	<input type="checkbox"/>
I have spoken to: Dr./Mr./Ms.	
I understand that I am free to withdraw from the experiment ♦ at any time; and ♦ without having to give a reason for withdrawing.	<input type="checkbox"/>
I have read MyCorridor's privacy policy (to be inserted the link to the web), which contains further information about how MyCorridor Research Partners collect, use and store my personal information and about my rights relating to my personal information.	<input type="checkbox"/>
I voluntarily agree to participate in the Pilot.	<input type="checkbox"/>
I consent to my photograph being taken during the Pilot focus groups and for it to be used by MyCorridor for MyCorridor research, publications, conferences, exhibitions and MyCorridor social media activities.	<input type="checkbox"/>



Participant:

Name of Participant

Signature

Date

Researcher:

Name of Researcher

Signature

Date

Thank you for taking part in this pilot. Your contribution is very much appreciated.

Informed Consent Concerning Private Information

A form will be used by MyCorridor researchers who record private information in the course of any evaluation/pilots.

The answers to the questions below will constitute considerable part of the Privacy statement of the MyCorridor platform. The form and format of this statement will be decided later in the project when the Architecture and first platform wireframes will be in place (M24). Please clearly explain to the participant how the following issues regarding privacy are handled related to the experiment at hand:

- What kind of data will be recorded, stored and why?
- Will the data be transferred?
- Data ownership?
- Is the data connected to other information?
- Will the data possibly be commercially exploited?
- Duration of storage?
- Where will the data be stored, - according to which national legislation?
- Who will access the data?
- Who will supervise the data protection?

Annex II. Ethics Controlling Form summary and template

The Ethics Manual (D9.2), submitted on 30th of November 2017, defines the ethics code of conduct of research within MyCorridor and details the Ethics control methodology to be adopted across all project activities, in general, with emphasis on pilots' conduction.

As described in the Ethics Manual and in section 7, an Ethics Site Responsible has been identified in each pilot site, to guarantee that the pilots abide to the overall MyCorridor Ethical Policy. In this project phase, the "Ethics Controlling Form" has been completed by each Ethics site Responsible with a twofold scope: a) to capture the status of ethical aspects/issues at each pilot site and b) to serve as a checklist reminding the researcher to consider all relevant ethical aspects before conducting any evaluation activities within MyCorridor, in view of the first pilot phase. The Form itself is divided into different subsections (e.g. participants and informed consent, ethical control instruments, privacy, safety, risk assessment and reimbursement).

From the questionnaires, it has been emerged that all collected data will be kept entirely confidential and their anonymity will be protected in full. Pilot data management will be carried in all the pilot site according GDPR regulations and the project data management procedures identified in the D2.1 'Data management plan' and its upcoming update. Furthermore, all the Local Ethics site representatives (except for the Austrian representative, where according to data protection regulations in Austria a dedicated Data Protection Officer for Salzburg Research is not needed) are in continuous collaboration with the entity's Data Protection Officer who will guarantee the compliance of the project activities with the GDPR.

In the following paragraphs, the questionnaires results have been summarised for each its subsections and country (Italy - IT, Greece - GR, Austria - AT, Czech Republic - CZ and Netherland - NL).

Participants and Informed consent

Pilot sites have not yet submitted ethics approvals from to institutional or regional Ethics Committees.

In general, informed consent is needed to be obtained for personal data and audio records management.

It is not anticipated to conduct tests with individuals that might not understand the informed consent form and the oral consent of a participant in presence of a witness is taken in consideration only in the Dutch pilot. The Informed consent form will be translated in the national language of all pilot sites. All pilot sites abide to the national European legislation reported in D9.2. No changes or additions have been noted in legislation since then.

An overview of the answers for project pilot site reported in the Ethics Controlling Form for the "Participants and Informed Consent" session has been reported in the table below.

Table 21. Overview of the "participants and Informed consent" session for country.

Participants and informed consent	AT	CZ	GR	IT	NL
Will you obtain the consent of the participants?	YES	YES	YES	YES	YES
Will you conduct pilots with individuals that might not understand the informed consent form?	NO	NO	NO	NO	NO

Participants and informed consent	AT	CZ	GR	IT	NL
Do you anticipate that you will have any doubt about the individuals' capacity to consent?	NO	NO	NO	NO	YES
Will the wording which seeks to gather individuals' informed consent be provided in common language to be understood by "the man/woman in the street"?	YES	YES	YES	YES	YES
Will the participant be given sufficient time to reflect upon his/her decision regarding their giving or withholding consent?	YES	YES	YES	YES	YES
Do you believe that any of the participants will be unable to provide consent for any reason?	NO	NO	NO	NO	NO
Do you believe that any of the participants will object in either words or body language or any physical action that can be interpreted to that end?	NO	NO	NO	NO	NO
Do you believe that there will be participants, for any reason, unable to read the form by him-/herself?	NO	NO	NO	NO	NO
Do you believe that there will be participants unable to read the consent wording?	NO	NO	NO	NO	YES
Will be the oral consent of a participant in the presence of a witness appropriate in accordance with your national legislation?	NA	NA	NA	NA	YES
Is there an international or national legislation which you must follow when performing tests within the MyCorridor project?	YES	YES	YES	YES	YES

Ethical control instruments

No ethics controlling body are necessary to be contacted in Italy, Austria and Czech Republic. While, in Greece and the Netherlands there is a local Ethics controlling Committee. However, the Ethics Site Responsibles will be contacted by MyCorridor Ethics Board to ensure that the processes are conducted in line with the project's ethics policy and that no further action is necessary to be taken in relation to ethics approvals from regional bodies.

An overview of the answers for project pilot site reported in the Ethics Controlling Form for the "Ethical control instruments" session has been reported in the table below.

Table 22. Overview of the "Ethical control instruments" session for country.

Ethical control instruments	AT	CZ	GR	IT	NL
If there is a local ethics controlling committee that your organisation will be obliged to get approval from for the experimental procedures before beginning with the experiment, will you obtain this approval?	NA	NA	YES	NA	YES

Privacy

Privacy in **Italy** is dealt with according to the national law namely D.lgs 196/2003 and the European regulation GDPR (General Data Protection Regulation) (Regulation (EU) 2016/679).

In addition, it is highlighted that SWARCO Mizar (Italian Ethics site representative) implements specific procedures for digital data protection according to the 2700 standards as well as for personal data management according to the ISO9001:2015 norm. Persons involved in the personal data management have been granted by the SWARCO Mizar Managing Director through a written assignment letter.

In accordance with Article 37 (7) GDPR, SWARCO has appointed the Company Data Protection Officer.

In **Greece**, all personal data (e.g. gender, age, travelling preferences, routes and journeys) will be encrypted, as it is the case for all pilot sites.

All the pilot activities will be carried out in compliance with the GDPR and it will be followed all the procedures defined with the project Data Management Plan deliverable (D2.1). In particular, CERTH/ITI will be the MyCorridor platform administration and responsible for the protection and encryption of the data collected at the platform.

In accordance with Article 37 (7) GDPR, CERTH has appointed the Company Data Protection Officer, who will contact the Data Protection Authority to investigate what steps have to take after GDPR implementation.

Privacy in the **Netherlands** is regulated by GDPR and the Local Ethics Site Representative has appointed a Data Protection Officer tasked to check that all project activities are aligned with the GDPR regulations. Personal data will be anonymised and access to data storage will be restricted to appointed personnel.

In **Czech Republic**, CHAPS as Local Ethics site representative will manage all pilot personal data (e.g.name, email, fare information (may include age and disabilities details), diaries, platform analytics, screencastings, video recordings) in line with the GDPR and the Personal Information Protection Act, which is defined at national level, where all staff sign a confidentiality clause. Personal data will be stored in one protected location and will be secured in accordance with applicable law. The Company Data Protection Officer will assure the compliance with the GDPR.

Privacy in **Austria** is regulated by the Data Protection Act 2018, the General Data Protection Regulation and the Data Protection Amendment Act and all the project data will be managed according to the national and European regulation. In detail, it will file an internal register where all data processing activities will be documented on project level. This register has been set up by Salzburg Research and will be updated on a regular basis. The MyCorridor project is listed in this register. Furthermore, an internal form, that has to be filled out for every project, covers all “data processing activities” within the project.

An overview of the answers for project pilot site reported in the Ethics Controlling Form for the “Privacy” session has been reported in the table below.

Table 23. Overview of the “Privacy” session for country.

Privacy	AT	CZ	GR	IT	NL
Is there an established Data Protection Authority issuing procedures / standards you must follow before performing tests with human participants and their personal / private data?	YES	YES	YES	YES	YES
Have you appointed a Data Protection Officer at your organization?	NO	YES	YES	YES	YES

Privacy	AT	CZ	GR	IT	NL
Will you follow written procedures for protecting privacy?	YES	YES	YES	YES	YES
Will you follow any official guidelines on protecting privacy?	YES	YES	YES	YES	YES
Will you clarify to the participants that all data that will be collected in the activities they will participate in will be kept entirely confidential and that their anonymity will be protected in full?	YES	YES	YES	YES	YES
Will you identify persons that will have been authorised to have access to the data collected and / or to any data storage devices, both paper-based and electronically?	NO	NO	YES	YES	YES

The Austrian and Czech pilot sites have not yet identified the personnel that will have access to the data collected but they will do so in due time and, most importantly, before the evaluation workshop takes place in Rhodes in October 2018.

The GDPR compliance process reports for the pilot activities will be reported in D6.2 'Pilot results consolidation' (M33).

Safety

MyCorridor tests and pilots do not involve any risks about safety. No such issue is anticipated/expected for MyCorridor project. However, any risks that are related to real journeys that the participant will take, do not fall under the responsibility of MyCorridor project and they are risks that are related to any daily trips the participant takes during his/her day. Hence, the safety aspects reported below, are relevant to the first evaluation phase. Safety aspects are managed in the pilot countries in line with its national regulation, for example:

- 1) In Italy, there is the regulation Dls 81/08 in force.
- 2) In Greece, an internal document exists that describes the procedure and the organizational structure of the committee for health and safety within CERTH (Safety guidelines are available on CERTH website and will be downloaded and be openly available to participants as we always do during testing).
- 3) In the Netherlands, it is available a checklist to establish a safe workspace on worksites, named VCA (Veiligheid Gezondheid Milieu) Checklist Aannemers (VCA-certification).
- 4) In Austria are in place first-aid-measures and firefall-measures.
- 5) In Czech Republic, all employees have passed mandatory occupational safety and health training.

Pilot implementation effects will be evaluated at project level.

An overview of the answers for project pilot site reported in the Ethics Controlling Form for the "Safety" session has been reported in the table below.

Table 24. Overview of the "Safety" session for country.

Safety	AT	CZ	GR	IT	NL
Will you provide information to the participants about any participant's illness?	NO	NO	NO	NO	NO

Will the pilot implementation be evaluated for possible side-effects?	YES	NO	NO	YES	NO
Will you have written procedures for safety for employees and volunteers within your own group or institution?	YES	YES	YES	YES	YES

Risk assessment

In **Italy**, risk assessment concerning breach of privacy and / or breach of safety is performed according to the national regulation Dls 81/08 and ISO9001:2015 norm. In particular, SWARCO Mizar (the Italian Ethics site representative) will manage privacy issues according to the company quality procedures in line with ISO9001:2015 norm (e.g. Periodic internal Audit and corrective action, restricted data access).

In the same way, also Salzburg Research (SRFG) for **Austria** and CHAPS for **Czech Republic** are certified according to the new standard ISO 9001: 2015 and any chances and risks concerning the risk-assessment of breach of privacy and/or breach of safety are depicted in their quality management system. Salzburg Research has defined an internal form “data processing activities” to be covered within the project:

- Risk assessment (required for sensible data)
- Technical and organisational measures for the project including a reference on the technical and organisational measures of Salzburg Research that are described in a privacy policy manual.
- Procedure in case of data protection infringement

Maptm (the **Dutch** Ethics site representative) will solely use certified storage and processing systems, including sufficient breach protection.

In **Greece**, all data are stored anonymised. There is only one offline storage of data that contains the link between the private and pilot data. Keeping this link offline, stored in locked physical area decreases considerably its access as well its access breach, as only one person has access.

An overview of the answers for project pilot site reported in the Ethics Controlling Form for the “Risk Assessment” session has been reported in the table below.

Table 25. Overview of the “Risk Assessment” session for country.

Risk Assessment	AT	CZ	GR	IT	NL
Will you perform a risk-assessment concerning breach of privacy and / or breach of safety?	YES	YES	YES	YES	YES

Compensations & Reimbursement

In general, as stated in the MyCorridor Ethical Manual (D9.2), participants will be compensated for their participation and they will be reimbursed if they encounter issues with their planned journeys and Mobility Token during the second evaluation phase. Before the pilots’ instantiation, the reimbursement mechanisms will be revisited by MyCorridor Ethical Board and approved.

The current update on ethics related aspects and issues across pilot sites ensures that all activities, processes and plans are taking place in accordance to the project’s ethics policy, as it has defined within D9.2.

Ethics Controlling Form template

Will all testing activities be approved by the local research ethics committee (if applicable)?

☐ Yes ☐ No

A) *Participants and informed consent*

1. Will you obtain the consent of the participants (if applicable)?

☐ Yes ☐ No

If **yes**, briefly explain which specific aspects of the trials you will obtain informed consent for:

2. Will you conduct pilots with individuals that might not understand the informed consent form?

☐ Yes ☐ No

If **yes**, briefly explain the procedures you will follow in order to obtain informed consent:

3. Do you anticipate that you will have any doubt about the individuals' capacity to consent?

☐ Yes ☐ No

If **Yes**, please clarify, for each case, who will provide consent in such instance: _____

4. a) Will the wording which seeks to gather individuals' informed consent be provided in common language to be understood by "the man/woman in the street"?

☐ Yes ☐ No

If **no**, why not? Please provide an example of any *technical or confusing terms* that might be used for the description (e.g. jargon that might need to be simplified).

b) Will the participant be given sufficient time to reflect upon his/her decision regarding their giving or withholding consent?

☐ Yes ☐ No

If **no**, why not? Please indicate, for each case, the time that will be given to the participant and the reason of such limited time (if this will be the case).

5. Do you believe that any of the participants will be unable to provide consent for any reason?

☐ Yes ☐ No

If *yes*, no experiment will be performed since these participants will be excluded from MyCorridor trials. Please list here each excluded case.

6. Do you believe that any of the participants will object in either words or body language or any physical action that can be interpreted to that end?

☐ Yes ☐ No

If *yes* (he/she will object) no experiment will be performed since these participants are excluded from MyCorridor trials.

7. Do you believe that there will be participants, for any reason, unable to read the form by him-/herself?

☐ Yes ☐ No

If *yes*,

There might be a range of people who may be unable to read the consent form; these include those who have severe visual impairments (e.g. cataract, glaucoma). Please see question 9.

8. Do you believe that there will be participants unable to read the consent wording?

☐ Yes ☐ No

If *no*, please continue with the question 10.

If *yes*, be advised that any participant that will not be able to read must give oral consent which has to be witnessed at least by one person. If that will be the case, please ensure that you will record the name of the witness when recording the individual's grant of consent.

Please see question 9.

9. Will be the oral consent of a participant in the presence of a witness appropriate in accordance with your national legislation?

10. If there is an international or national legislation which you must follow when performing tests within the MyCorridor project, please explain how you will assure compliance:

B) Ethical control instruments

11. If there is a local ethics controlling committee that your organisation will be obliged to get approval from for the experimental procedures before beginning with the



experiment, will you obtain this approval?

☐ Yes

☐ No

If **No**, please explain why and shortly describe how you will plan to solve this issue:

12. If there is an established ethical control procedure which you must follow before performing tests, please explain how you will assure compliance:

C) Privacy

13. What personal data belonging to individual participants will be recorded as part of the trial? Please list them here:

14. If there is an established Data Protection Authority issuing procedures / standards you must follow before performing tests with human participants and their personal / private data, please explain here how you will assure compliance:

15. If you have already appointed a Data Protection Officer at your organization, please let us know that person will be. Otherwise, state the reasons for not doing so below:

16. If you will follow written procedures for protecting privacy, please state the procedure you will put in place to comply with these procedures during the MyCorridor pilots:

17. If you will follow any official guidelines on protecting privacy, please explain here the procedure you will put in place to comply with these procedures during the MyCorridor pilots:

18. Will you clarify to the participants that all data that will be collected in the activities they will participate in will be kept entirely confidential and that their anonymity will be protected in full?

☐ Yes

☐ No

If **Yes**, please give a brief outline and provide references:

19. Will you identify persons that will have been authorised to have access to the data collected and / or to any data storage devices, both paper-based and electronically?

☐ Yes

☐ No

If **Yes**, please give a brief outline and provide references.

D) Safety

20. Will you provide information to the participants about any participant's illness?

☐ Yes

☐ No

If **Yes**, please give a brief outline of it and provide some references on the process and/or templates you administer to do :

21. Will the pilot implementation be evaluated for possible side-effects?

☐ Yes ☐ No

If **Yes**, please give a brief outline of it:

22. If you will have written procedures for safety for employees and volunteers within your own group or institution, please explain here how you will assure compliance:

E) Risk assessment

23. Will you perform a risk-assessment concerning breach of privacy and / or breach of safety?

☐ Yes ☐ No

If **Yes**, please give a brief outline of it:

If **No**, please explain the reasons briefly refer to any corrective actions you will take:

F) Reimbursement

24. Is any reimbursement going to be provided according to your national regulations?

☐ Yes ☐ No

If **Yes**, please give a brief outline of it:

Annex III. Testing procedure and protocols

Annex III.A. Evaluation material for service providers

In this section, the evaluation material for the first iteration with service providers can be found. The evaluation comprises: a) A baseline interview to capture their current profile, experience and expectations from MyCorridor and the registration process (pre-testing session). The service provider will complete the registration process at their own time and will complete an online diary that will then share with the pilot site evaluation team. After registration has been successfully completed, they will answer an online questionnaire to evaluate the ease-of-use and usability of the registration tool along any suggestions for improvements they might have. Most of the evaluation will happen remotely. The whole process is happening remotely to additionally validate the process because it will be conducted with external service providers during the second iteration, who are not members of the consortium and will not be familiar with the process and potentially mobility (e.g., in the case of added value services).

Service providers will complete the registration process at their own pace and context. They will be evaluated through the completion of a questionnaire that comprises both close and open-ended items. The online questionnaire is shared with them and includes the following sections: a) Background information and MaaS experience, b) Expectations about the registration tool and their participation in the MyCorridor platform, i.e. what they expect to gain through their participation, c) Evaluation of their experience and the usability of the registration tool, supporting documentation and required assistance (User Experience Questionnaire), d) Acceptance of the registration tool (UTAUT).

Service providers' interview (before use of Service Registration Tool)

(can be completed remotely before any testing takes place – actually it will be distributed in September 2018 to be completed)

1. Background information

1. What is the solution/software you are integrating into the MyCorridor platform?
2. What is the target traveller group(s)?
3. Have you integrated/offered your service(s) in other platform(s) and/or sites? If Yes, which?

2. Previous Experience/Current Behaviour

With the following questions, we want to learn more about your previous experiences when registering this or other services. This will help us to understand better the requirements needed to successfully integrate them into the MyCorridor platform.

a) Previous Experience with other services/platforms/ websites (-> explicit knowledge)

4. Do you have any previous experience with MaaS platforms?
Yes/no
5. If answered Yes in Q.4: What is your general experience with similar services and MaaS platforms? What does that practically mean for you?



6. What will be, for you, the advantage of offering your service(s) through the MyCorridor platform?

b) Current Behaviour

6. What are the 3 most important aspects for a successful integration?
 - 6.1. Is licensing e.g. important?
 - 6.2. Does the type of Open Source or Public Domain Licence make a difference to you, e.g. that it is allowed to freely modify or redistribute the code?
 - 6.3. How do you believe we can ensure that your integration requirements are met (if any)?
 - 6.4. Does technology, dependencies or programming languages matter to you?
 - 6.5. How important, do you think, is training material?

c) Previous Negative Experience (-> implicit knowledge)

(-> situation: time pressure, resources, costs, importance, alternatives)

7. Can you think of one particular negative experience when you tried to integrate your service or offer through another platform/ website that you recall as being very frustrating or aggravating?

Can you provide a complete and detailed description?

- a. Aim?
- b. Search?
- c. Criteria for selection?
- d. Integration process? Typical?

d) Previous Positive Experience (-> implicit knowledge)

(-> situation: time pressure, resources, costs, importance, alternatives)

8. Can you think of one particular positive experience when you tried to integrate your service or offer through another platform/ website that you recall as being very satisfying or encouraging?

9.

Can you provide a complete and detailed description?

- a. Aim?
- b. Search?
- c. Criteria for selection?
- d. Integration process? Typical?

3. Constraints/Cost/Value

For the next questions, I want you to focus on the current MyCorridor project.

10. What is the most important aspect about MyCorridor that can help you prosper?

4. Risk/Impact

Finally, I want you to think about possible risks relating to MyCorridor.



11. What are the major problems/challenges/risks you anticipate in the things you plan?

Follow-up question:

Q: Would that not be something you consider at the beginning, e.g. "by design"? Why is it a risk?

12. What is the most important impact you believe you can possibly achieve with your service if everything works out within the project?

13.

14. Where do you like to be in your professional expertise in a few years down the line? (e.g. Do you like to be more involved in MaaS or other new areas and/or other services?) (*expectations as professionals, as themselves*)

Thank you for your time!

Annex III.A. II - Service provider registration tool and integration process evaluation (post-questionnaire)

This questionnaire will be completed by the developers/ software engineers of the service providers' teams who will participate in the first iteration phase.

This questionnaire will be available online.

Background information (common for interviews/questionnaires)

Date: _____

Organization: _____

Service provider organization: _____

Age: _____ years old

Gender: ☐ Male, ☐ Female, ☐ Don't want to answer

Area of expertise: _____

1. What is your programming experience?

☐ ≤ 5 years ☐ 5-10 years ☐ >10 years

2. How often you use the following programming languages?

Programming language	Seldom				Daily
C/C++					
ASP					
Java					
Javascript/ ECMAScript					
PHP					
Other (please specify)					

3. What desktop/web development IDEs do you use?

IDEs	Seldom				Daily
Eclipse IDE					
Visual Studio					
Adobe Dreamweaver					
Netbeans IDE					
Other (please specify)					

4. What mobile development platforms do you use?

Platforms	Seldom				Daily
Xcode					
Android Studio					
Other (please specify)					

A. Service Registration Tool use and performance

5. How much time did you spent on the Service Registration Tool?

☐ 5-15 mins ☐ 16- 30 mins ☐ 31- 45 mins ☐ 46-60 mins ☐ >60 mins

6. What are other sources -from which you are often fetching resources- was required for registering your service(s) to the MyCorridor platform (Git, Github, Codeshare, developer spaces)?

7. Have you contacted any of the authors or people referring as responsible for the available materials?

☐ Yes ☐ No

If you answered Yes in Q.6, please briefly mention the reasons for communicating the development team:

8. Will you recommend MyCorridor to other colleagues not related to the project or other service providers?

☐ Very Likely ☐ Somewhat Likely ☐ Not Worth Recommending

9. Please rate the following aspects of the Service Registration Tool:

a) The overall structure

☐ Excellent ☐ Good ☐ Average ☐ Poor ☐ Very Poor ☐ Undecided

b) Ease of navigation

☐ Excellent ☐ Good ☐ Average ☐ Poor ☐ Very Poor ☐ Undecided

c) Overall look

☐ Excellent ☐ Good ☐ Average ☐ Poor ☐ Very Poor ☐ Undecided

10. Do you agree that:

a) the information requested by the Registration tool is relevant.

☐ Strongly Disagree ☐ Disagree ☐ Undecided ☐ Agree ☐ Strongly Agree

b) The Service Registration Tool is appealing.

☐ Strongly Disagree ☐ Disagree ☐ Undecided ☐ Agree ☐ Strongly Agree

11. Did you experience any problems accessing/downloading files or links?

☐Yes ☐No ☐Did Not Try

a) If yes, please describe:

12. The supportive documentation provided the type of information I need?

☐Yes ☐No ☐Partially

13. Do other registration tools for service providers cover topics or aspects that are missing from this registration tool?

☐Yes ☐No

a) If yes, please describe:

14. What suggestions do you have for improving the registration tool?

B. Use of supportive documentation

15. Did the documentation and READMEs provide clear and high-level support?

☐Yes ☐No

a) If No, please elaborate:

16. Were there any examples, case studies, tutorials to help you?

☐Yes ☐No

a) If No, please elaborate:

17. How useful did you find the available resources (i.e. the examples, case studies, tutorials)?

☐Extremely ☐Very ☐Average ☐Not so much ☐Not at all

a) Please give three reasons why:

18. Did you contact directly the development team for help?

a) If Yes, how many times

☐5-10 ☐10-20 ☐More than 20

b) If Yes, briefly list the topics for which you asked help for:

c) If No, please explain why:

19. Was it easy to locate the documentation?

☐Yes ☐No

20. Was there a quick start-up guide?

☐Yes ☐No

21. Is the documentation appropriate for the work you are carrying out?

☐Yes ☐No

22. Is the documentation structured for the work you are carrying out?

☐Yes ☐No

C. Learnability

23. How straightforward was the registration process?
- ☐Extremely ☐Very ☐Average ☐Not so much ☐Not at all
24. How easy was to learn to use the Service RegistrationTtool?
- ☐Extremely ☐Very ☐Average ☐Not so much ☐Not at all

D. Sustainability and maintainability

25. Were there any licensing issues with the integration process (if applicable)?
- ☐Yes ☐No
26. Is there support for the registration process (e.g. from the development team or documentation)?
- ☐Yes ☐No
27. Was it easy to test the correctness of the code (if applicable)?
- ☐Yes ☐No
28. Are there high-level descriptions of how the integration work(s)?
- ☐Yes ☐No
29. Is there an architectural overview (with diagrams, etc.) of the integration process?
- ☐Yes ☐No

E. Installability *(this part of the questionnaire will be used only if applicable)*

30. How straightforward was it to:
- a) Meet the pre-requisites for the integration on the MyCorridor platform?
- ☐Extremely ☐Very ☐Average ☐Not so much ☐Not at all

- b) Install the service/app (or parts) onto the MyCorridor platform (if applicable)?
☐Extremely ☐Very ☐Average ☐Not so much ☐Not at all
- c) Configure the service following installation for use (if applicable)?
☐Extremely ☐Very ☐Average ☐Not so much ☐Not at all
- d) Verify the installation for use?
☐Extremely ☐Very ☐Average ☐Not so much ☐Not at all

E. Changeability

31. How straightforward is it to modify the service after integration to:
- a) Address issues?
☐Extremely ☐Very ☐Average ☐Not so much ☐Not at all
- b) Modify functionality?
☐Extremely ☐Very ☐Average ☐Not so much ☐Not at all
- c) Add new functionality?
☐Extremely ☐Very ☐Average ☐Not so much ☐Not at all

F. Effort

32. Did it take more effort to integrate the [SP2 component(s)] than originally planned?
- ☐Yes ☐No

If you answered Yes, please explain:

33. Did it take more time to integrate the service than originally planned or anticipated to?
- ☐Yes ☐No

If you answered Yes, please explain:

34. What were the major problems/challenges/risks you encountered so far?
35. Name three properties (adjectives) that describe the service registration tool.

Usability (standardised questionnaire)

Please judge the following statements: {SUS, according to <http://www.usabilitynet.org/trump/documents/Suschapt.doc>, replaced “system” with “service registration tool”}

Strongly disagree

Strongly agree



I think that I would like to use this service registration tool frequently.

I found the service registration tool unnecessarily complex.

I thought the service registration tool was easy to use.

I think that I would need the support of a technical person to be able to use this service registration tool.

I found the various functions in this service registration tool were well integrated.

I thought there was too much inconsistency in this service registration tool.

I would imagine that most people would learn to use this service registration tool very quickly.

I found the service registration tool very cumbersome to use.

I felt very confident using the service registration tool.

I needed to learn a lot of things before I could get going with this service registration tool.

Annex III.B Evaluation with travellers

This section includes the evaluation material to be completed by the travellers. For each evaluation material, a template will be created for consolidated data and conduct the analysis.

Please explicitly ask participants for consent for video recordings after informing the purpose of use. If they agree, we can use material not only for evaluation and analysis but also for creating demonstration and dissemination videos with real people based on real-life experiences.

Baseline interview with travellers

Objectives

We aim to discuss with each participant certain aspects prior any testing takes place:

- capture their **existing mobility needs** and how they are met;
- investigate their **current general and mobility products related online consumer behaviour** and preferences;
- investigate the **pre-acceptance** of MyCorridor platform and offered services (at least the ones offered in 1st phase and available at the specific site).

Short introduction:

Address of welcome

Intention (Introduce project, objectives and concept; users will become aware not familiar)

Procedure

Recording and notes

Duration: about 45-60'

The questionnaire comprises, on purpose, both close- and open-ended questions aiming to create a comparison basis for the two phases.

A. Background

Please tell us a bit about yourself..

1. How old are you?

_____ years old

2. Gender

☐ Male ☐ Female ☐ Don't want to answer

3. Educational level

☐ Elementary ☐ Secondary ☐ Higher ☐ Other:_____

4. What is your living situation?

☐ Alone ☐ with spouse/ partner ☐ family/friends ☐ Other _____

5. What is your total combined family income for the past 12 months, before taxes, from all sources, wages, public assistance/benefits, help from relatives, alimony, and so on?

If you don't know your exact income, please estimate.

5,000€ - 19,999€	
20,000€ - 49,999€	
50,000€ - 99,999€	
100,000€- 149,999€	
More than 150,000€	
Don't know	
Do not want to answer	

6. How many years have you been using PCs?

☐ < 1 year

☐ 1 to less than 2 years

☐ 2 to less than 5 years

☐ >5 years

7. How often do you use it?

☐ Many times per day

☐ Just once per day

☐ Few times per week

☐ Rarely/ Never

8. When you use a mobile device, which operating system do you use most frequently?



- ☐ iOS
- ☐ Android
- ☐ Symbian
- ☐ Windows
- ☐ Others

8.1. How often do you use it?

- ☐ Many times per day
- ☐ Just once per day
- ☐ Few times per week
- ☐ Rarely/ Never

9. How often do you "surf" the internet?

- ☐ Many times per day
- ☐ Just once per day
- ☐ Few times per week
- ☐ Rarely/ Never

B. Mobility needs & wants

In this section, we want to learn about the individual's personal mobility needs and preferences they might.

10. Which of the following transport modes do you usually take during your day?

Private car	
Motorcycle	
Bus	
Tram	
Metro	
Bicycle	

Taxi	
Other (please add)	

11. On a scale from 1 (strongly dissatisfied) to 7 (strongly satisfied), how would you assess your satisfaction with your existing transport choices (please rate all the modes you use)?

	1	2	3	4	5	6	7		
Strongly dissatisfied								Strongly satisfied	NA
Private car	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Motorcycle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Tram	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Metro	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Bicycle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Taxi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Car sharing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Car pooling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Ferry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Other (please add)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

12. Do you often use online trip planners and mobility services?

☐ Yes

☐ No

If Answered Yes, in Q.12, which ones:



If Answered No, in Q.12, why:

13. Which problems do you usually face when using online services to plan your travels? [free answer]

14. Please describe an instance/event/experience where MyCorridor could help you to succeed/ complete the desired action?

15. What's your biggest challenge when you are planning to travel?

15.1. What's not out there? What product/service/tool/app would you like someone to create?

16. Have you heard of MaaS (Mobility as a Service) before?

☐ Yes

☐ No

If you answered 'Yes' in Q. 16, from where? (Please tick all that apply).

☐ Press or other types of articles

☐ My work is related to MaaS

☐ The city/region I live provides MaaS

☐ Word of mouth

☐ Other, please state: _____

C. Online consumer experience

Investigate their attitude towards online shopping and state their preferences (if any). In the following questions, the term mobility products is continuously used. As mobility products, you may consider the following, any transport mode trip planning and tickets, bookings, payments.

17. What kind of mobility products do you shop online and how often?

16.1. If you never shop online, why and then GO DIRECTLY TO SECTION D.

18. Name your top 5 sites to plan your travels and buy tickets from and please explain the reasons behind this selection.

(Prompt: get their likes/dislikes and what is missing from each site; prompt: please share your experiences)

17.1. Please describe a *satisfactory* online shopping experience for mobility products.



17.2. Please describe a *frustrating* online shopping experience for mobility products.

D. MyCorridor platform pre-acceptance

In this section, we are interested to learn about what they do if they want to obtain mobility products or technologies and their preconception of MyCorridor platform. The existing description of MyCorridor platform and MaaS services (from dissemination material and presentation) will be simplified (layman's) and added in this section.

19. If you wish to book tickets or plan a trip, where do you go to find it? (they might reply that they get it from a person, service, online, etc.)

18.1. If you search online, which engines/ spaces do you use?

20. (*Describe the concept of MyCorridor ecosystem*) – And ask to describe what they believe is positive about the MyCorridor platform and what is negative.

21. What's your preferred method of receiving information about a product? (Learn about their preferred way to contact and receive info). Please rate the following modes of presentation with 1 being the least preferred and 5 the most preferred. In case you prefer another mode, please ask them and add it in "Other".

☐ Reading ☐ Listening ☐ Watching ☐ Practicing ☐ Other__

22. What are your most burning questions about the MyCorridor platform and travelling services?

(this is the last question and by giving them the chance to change roles with us, we might get rich info)

Thank you for your time.

Travellers' Pre - Questionnaire

This questionnaire is completed before the testing session starts and after the participant has consented to participate.

Do not repeat for participants who already completed section A in baseline interview.

A. Background information

1. How old are you?

_____ years old

2. Gender

☐ Male ☐ Female ☐ Don't want to answer

3. Educational level

☐ Elementary ☐ Secondary ☐ Higher ☐ Other: _____

4. What is your living situation?

☐ Alone ☐ with spouse/ partner ☐ family/friends ☐ Other _____

5. What is your total combined family income for the past 12 months, before taxes, from all sources, wages, public assistance/benefits, help from relatives, alimony, and so on?

If you don't know your exact income, please estimate.

5,000€ - 19,999€	
20,000€ - 49,999€	
50,000€ - 99,999€	
100,000€ - 149,999€	
More than 150,000€	
Don't know	
Do not want to answer	

B. Computer literacy

6. How many years have you been using PCs?

☐ < 1 year

☐ 1 to less than 2 years



☐ 2 to less than 5 years

☐ >5 years

7. How often do you use it?

☐ Many times per day

☐ Just once per day

☐ Few times per week

☐ Rarely/ Never

8. When you use a mobile device, which operating system do you use most frequently?

☐ iOS

☐ Android

☐ Symbian

☐ Windows

☐ Others

8.1. How often do you use it?

☐ Many times per day

☐ Just once per day

☐ Few times per week

☐ Rarely/ Never

9. How often do you "surf" the internet?

☐ Many times per day

☐ Just once per day

☐ Few times per week

☐ Rarely/ Never

10. Have you heard of MaaS (Mobility as a Service) before?

☐ Yes

☐ No

11. If you answered 'Yes' in Q. 16, from where? (Please tick all that apply).

☐ Press or other types of articles

☐ My work is related to MaaS

☐ The city/region I live provides MaaS

☐ Word of mouth

☐ Other, please state: _____

C. Online consumer attitude and behaviour

This questionnaire aims to gather information about participants' attitudes towards shopping for products online and their actual behaviour. If you are not buying any mobility products online, please complete the questions about buying any other products online.

12. Do you buy mobility products online?

☐ Yes ☐ No

If you answer No in Q.12, please answer the following questions 16-

13. How often do you buy mobility products online?

☐ Extremely often

☐ Quite often

☐ Moderately often

☐ Slightly often

☐ Not at all often

14. What type of mobility products do you typically buy online?

15. Which online mobility retailers/ shops do you typically use/ access?

16. What are your biggest concerns about buying mobility products online?

17. How comfortable are you buying mobility products online from a company you know?

☐ Extremely comfortable

☐ Quite comfortable

☐ Moderately comfortable

☐ Slightly comfortable

- ☐ Not at all comfortable
18. How confident are you that your personal information is kept confidential when buying mobility products online?
- ☐ Extremely confident
- ☐ Quite confident
- ☐ Moderately confident
- ☐ Slightly confident
- ☐ Not at all confident
19. How confident are you that your payment information is kept secure when buying mobility products online?
- ☐ Extremely confident
- ☐ Quite confident
- ☐ Moderately confident
- ☐ Slightly confident
- ☐ Not at all confident
20. How often do privacy concerns prevent you from buying mobility products online?
- ☐ Always
- ☐ Most of the time
- ☐ About half the time
- ☐ Once in a while
- ☐ Never
21. Which payment method do you use most often when buying products online?
If you buy mobility products online and you use a different payment method from the one you use for all other online shopping, please specify.
- ☐ PayPal
- ☐ Credit card
- ☐ Debit card
- ☐ Google Checkout
- ☐ Other (please specify): _____

20. On which website are you most comfortable buying from an individual you don't know?

- ☐ EBay
- ☐ Amazon Marketplace
- ☐ ebit/ubit
- ☐ Craigslist
- ☐ Google product search list
- ☐ Other (please specify): _____

21. How often do you buy products because you have a point collecting card in this shop?

- ☐ Always
- ☐ Most of the time
- ☐ About half the time
- ☐ Once in a while
- ☐ Never

22. How often do you buy products because if you do so, you receive discounts or prizes?

- ☐ Always
- ☐ Most of the time
- ☐ About half the time
- ☐ Once in a while
- ☐ Never

D. Online shopping needs & wishes

This section aims to collect the needs and wishes of people with access needs when they are online consumers. It is known that often users do not do what they say they will do or what they need. Therefore, such a discrepancy will be explored via two paths: a) changes in responses and metrics across phases and from baseline experience. An in-depth consumer profile is outside the scope of this evaluation, but their attitudes and behaviours are investigated.

23. What type of mobility products do you need and cannot find online?

24. Can you find them somewhere else? If yes, where? (Please specify)

25. Respondents are requested to answer the following questions (with answers from strongly agree to strongly disagree on a Likert five-point scale) about Convenience, Web design/ features. Time saving and Security).

Question items		Strongly disagree	Disagree	Uncertain /NA	Agree	Strongly Agree
C o n v e n i e n c e	I get the products immediately when I shop online					
	Detail information about their use					
	Mobility needs are covered when shopping online					
	I can the products anytime 24hrs					
	It is easy to choose and make comparisons with other mobility products whilst being online					
	The design of MyCorridor platform helps in searching the products easily					
W e b D	While shopping, I prefer to purchase from a website that					

Question items		Strongly disagree	Disagree	Uncertain /NA	Agree	Strongly Agree
e s o g n / F e a t u r e s	provides safety and ease of navigation and order					
	The website layout helps me in searching and selecting the right product while shopping online					
	I believe that familiarity with the website before making actual purchase reduces the risk of shopping online					
	I prefer to buy from website that provides me with quality of information					
T i m e S a v i n g	Online shopping takes less time to purchase					
	Online shopping doesn't waste time					
	feel that it takes less time in evaluating and selecting					

Question items	Strongly disagree	Disagree	Uncertain /NA	Agree	Strongly Agree
a product while shopping online					
Security	I feel safe and secure while shopping online				
	Online Shopping protects my security				
	I like to shop online from a trustworthy website				

E. MyCorridor platform pre-acceptance

NOTE for facilitators: People are notoriously known for being unpredicted when it comes to future use of products, as eloquently put by late S. Jobs. However, we wish to predict usage and adoption. We will ask some of the Technology Acceptance Model (TAM 3) (Venkatch & Balla, 2008) questions prior to interacting with the product, to explore it based on the MyCorridor presentation and the MaaS concept. After users having some time interacting with MyCorridor platform by completing the scenarios, we will be able to see how well their usage was predicted by some the TAM items. These questions are part of the TAM that will be completed also after the end of the sessions.

Participants are asked to provide their level of agreement on a 5 (Adjusted) point scale (1=strongly disagree and 7 = strongly agree).

26. Using the MyCorridor could improve my travelling experience.
(Perceived potential usefulness).

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

27. I believe that interacting with MyCorridor platform will not require a lot of my mental effort (Perceived potential Ease of Use).

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

28. I believe that I will find using MyCorridor platform pleasant
(Perceived potential Enjoyment).

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

Travellers' Post- Questionnaire

In this section all the questionnaires that the participant will complete after the end of the evaluation session are included. Always make sure the participant can understand/ answer the questions. They must in a format accessible to them.

A. Post-scenario completion questions

These questions are answered after then completion of each scenario. In the meantime, other metrics will also be gathered. Additionally, any interactions with the screen and the MyCorridor platform will be recorded (CamStudioTM) and audio/ video recording will be gathered (where this is feasible and when the participant has consented to do so) to capture the think aloud process.

The following questions will be asked after the completion of **EACH** scenario.

29. How easy was to complete the scenario?

- ☐ Very easy
- ☐ Easy
- ☐ Neither
- ☐ Not easy
- ☐ Not easy at all

30. How useful do you believe [actions related to the scenario] is?

- ☐ Very useful
- ☐ Useful
- ☐ Neither
- ☐ Not useful
- ☐ Not useful at all

31. How easy-to-use do you believe MyCorridor is?

- ☐ Very easy
- ☐ Easy
- ☐ Neither



☐ Not easy

☐ Not easy at all

31.1 If answered “Not easy” or “Not easy at all” in Q30, please what would have made it easier or better?

B. MyCorridor platform evaluation questionnaire

Consider each statement and select your agreement with each one.

32. It is easy to understand what I can do in MyCorridor platform.

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

32. It is easy to find what I want on MyCorridor platform.

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

33. MyCorridor platform loads too slowly.

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

34. It was easy to use MyCorridor platform upon my first visit.

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

35. Clicking on links takes me to where I expect to be.

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

36. The organization of information on the system screens is clear.

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

37. How satisfied were you with your visit on MyCorridor platform?

☐ Very Satisfied ☐ Satisfied ☐ Neutral ☐ Dissatisfied ☐ Very Dissatisfied

1. If answered 'Dissatisfied' or 'Very Dissatisfied' in question 37, please specify.

38. What you liked MOST about MyCorridor platform?

39. What you liked LEAST about MyCorridor platform?

40. Who do you think will be interested in using MyCorridor platform?

41. Would you recommend MyCorridor platform to a friend?

☐ Yes ☐ No

1. If you answered 'No' in question 41, please explain.

2. If you answered 'Yes' to whom would you recommend it and why would they be interested to MyCorridor platform?

C. Questions for interaction (scenario-specific)

These questions explore the participant's positive and negative experience with different parts of MyCorridor and other online experiences.

Joining/Becoming a member

42. What do you like most/least about registration process?

1. Please describe the most frustrating moments.

43. What do you like most/least about being a member of MyCorridor?

Search for a product

44. How do you usually search for products?

44. Where did you go first on the MyCorridor platform?

45. Which were the major difficulties you encountered in finding a product that suits your needs?

46. What was the first place you visited on the MyCorridor platform?

1. What was missing?

2. What was most useful?

3. What would facilitate your search?
47. How and what is different from your usual search habits?

D. Questions for value

48. What parts would you use most?
49. How can the MyCorridor platform help you organize your travels?
50. Please mention the most valuable aspect of MyCorridor platform (for you, without over-thinking).
51. What payment method would you prefer to use? Why?
52. Was MyCorridor accessible (for disabled users ONLY)?
 - b. If 'No', please explain why and state which parts were not?
 - c. What would you change to make it accessible?
53. Would you use the MyCorridor platform in the future? If No, please justify.
54. Please use THREE words to describe MyCorridor platform
55. Anything else not asked? Comment/Feedback – last thoughts..

E. Standardised Usability scale (SUPR-Q)

The 13 items together create a new standardized questionnaire called the SUPR-Q. It stands for the Standardized Universal Percentile Rank-Questionnaire. Here are the four essential elements (**Usability, Credibility (Trust, Value & Comfort), Loyalty, Appearance**) that make for a successfully online site and how the 13 SUPR-Q items measure them.

Question items	Strongly disagree	Disagree	Uncertain/NA	Agree	Strongly Agree
MyCorridor platform is easy to use.					
I am able to find what I need quickly on MyCorridor platform.					
I enjoy using MyCorridor platform.					
It is easy to navigate within the MyCorridor platform					
I feel comfortable purchasing from MyCorridor platform.					
MyCorridor platform keeps the promises it makes to me.					
I can count on the information I get on MyCorridor platform.					
I feel confident conducting business with MyCorridor platform.					
The information MyCorridor platform is valuable.					
It is very likely to recommend MyCorridor platform to a friend or colleague.					
I will likely visit MyCorridor platform in the future.					
I find MyCorridor platform attractive.					
I find MyCorridor platform to be useful in my everyday activities.					

Question items	Strongly disagree	Disagree	Uncertain/NA	Agree	Strongly Agree
Interacting with MyCorridor platform does not require a lot of my mental effort.					
I could use MyCorridor platform if someone showed me how to do it first					
I have the resources, opportunities and knowledge necessary to use MyCorridor platform					
The actual process of using MyCorridor platform is pleasant.					
Would you characterize yourself as ____ when you use computer? ... spontaneous					
... creative					
... playful					
... unoriginal					
Computers make me feel uncomfortable.					
People who are important to me think that I should use MyCorridor platform.					
My use of MyCorridor platform is voluntary.					
In my job, usage MyCorridor platform is relevant.					

Question items	Strongly disagree	Disagree	Uncertain/NA	Agree	Strongly Agree
The quality of the output I get from MyCorridor platform is high.					
I would have difficulty explaining why MyCorridor platform may or may not be beneficial.					
Assuming I had access to MyCorridor platform, I intend to use it.					

F. Standardised Acceptance scale (TAM3)

Known as Technology Acceptance Model (TAM). Participants are asked to provide their level of agreement on a 7-point scale (1=strongly disagree and 7 = strongly agree).

Question items	Strongly agree	Moderately agree	Somewhat agree	Neither agree/disagree	Somewhat disagree	Moderately disagree	Strongly disagree
I find MyCorridor platform to be useful in my everyday activities.							
Interacting with MyCorridor platform does not require a lot of my mental effort.							

Question items	Strongly agree	Moderately agree	Somewhat agree	Neither agree/disagree	Somewhat disagree	Moderately disagree	Strongly disagree
I could use MyCorridor if someone showed me how to do it first.							
I have the resources, opportunities and knowledge necessary to use MyCorridor platform							
The actual process of using MyCorridor platform is pleasant.							

Annex III.C QoS Indicators checklist

Quality of Service (QoS)	QoS indicators (High/Medium/ Low)	
	QoS indicators addressed (No.)	
	Accuracy/ Reliability (accuracy of information o products that return upon user profiling)	H/M/L
	Validity (one-stop-products comply with the overall business rules policy)	H/M/L
	Timeliness (interaction between user and system)	H/M/L
	Relevance (configuration of offered products in one-stop-shop to user)	H/M/L
	Completeness (seamless experience when applicable)	H/M/L
	Accessibility (W3C compliant interfaces)	H/M/L
	Availability (system responses vs. service provider initial registrations)	H/M/L

Annex IV. User testing storyboards and scenarios

These scenarios reflect the potential combination of mobility products by addressing the potential functions of the MyCorridor one-stop-shop, as they have been reflected through all UCs as they are presented within D1.1. Scenarios to be selected and to be tested in the 1st iteration will be selected from this pool and might need to be further adapted to reflect the actual developments and functions ready before the first phase. Moreover, the storyboards and scenarios have been created with real travelling in mind, aiming to be the basis for the real-life scenarios to be prepared for the second evaluation phase.

Scenarios that correspond to UCs T1, T6 and, at this stage, T7 are generic across pilot services and will be presented only once at the beginning of this document. The back-end UCs (B1-B4) will be indirectly validated through the travellers' and service providers' Use Cases.

The aim is to avoid having scenarios with more than 10 steps because it will affect the evaluation of the scenario and each subsequent step by the facilitators, therefore there are several scenarios corresponding to the same sub-UC.

The scenarios that follow comprise of two parts: a) the **storyboard**, which will be a user scenario based on the initial journey maps prepared by pilot partners and will be administered to participants and b) the testing scenario that includes the steps that the user needs to take in order to complete the scenario. One storyboard may accommodate more than one scenario and will be completed solely by the targeted user group (i.e. participants acting as tourists will complete scenarios for tourist users, participants acting as commuter will complete scenarios for commuter users, etc.). The **testing scenarios** are administered to testing facilitators at each pilot site in order to check if the completion was successful, partially successful, the user failed to complete along the errors made, the help requested and the time it took (or not) to complete the scenarios. Separate templates will be prepared for questionnaire data collection and facilitators' data collection and distributed to pilot sites to be used during the pilots. Each service included in the scenario is described in the objective section of the storyboard in brackets with red and the service ID allocated in the services' inventory, as annexed in D1.1.

Furthermore, the storyboards will also be used for the baseline traveller experience assessment. After we give the storyboard to the user, we will ask them how they would complete this trip and ask them to showcase the process on the computer in front of them.

The search process will be recorded with camstudio (<http://camstudio.org/>) and the whole testing session will be video and audio recorded to keep a record of think aloud processes and comments.

It is important to note that regional (or the ones used at each pilot site) trip planners are not added as separate services -for the scenarios that are relevant- because they are assumed as fundamental for the execution of the scenarios that include one. However, the evaluation of their use is the foundation of the testing execution, but it is necessary to clarify it is not the primary testing objective, which is the usability of the MyCorridor platform and the respective user interactions. Users will not be aware which trip planners they will be using for planning their journeys, as in the end of the end, the trip planner will be a hybrid product and will be one. The trip planner services included in the hybrid product are described per pilot site in the respective chapter.



The users are provided with dummy credentials. These credentials are unique per participant (PILOT_SITE_XXX). A unique range of numbers will be allocated per pilot site to ease data consolidation (e.g. 001-030 to Czech Republic pilot, 31-56 to Greek pilot site, etc.). Although, 25 users will participate per test site in the first iteration phase, at least 5 more credentials should be created as back-up. These same credentials can be used for pre-testing purposes.

These scenarios do not have to be completed by all users. Some users will access the MyCorridor platform through the mobile apps as registered users and some with access as unregistered users. The testing scenarios they will complete will be administered accordingly. However, the unregistered user will complete an additional scenario for registered users and the same holds true also for registered users.

For scenarios that do not require the users to register and/ or create a profile with preferences and requirements, but it is assumed the user has already registered, the facilitator needs to pre-create the preferences based on the scenario user profile.

Each user will not complete more than 5 scenarios, depending on the complexity of the scenario. Scenario completion will not surpass an hour of testing. Questionnaire completion will last another hour. Therefore, users will have to participate for approximately 2.30-2.45 including briefing, consent form signing and de-briefing.

This will help users to understand the differences in functions and privileges offered to them and ask them to evaluate the necessity and added value of registration.

A critical aspect of these testing scenarios is that many (an in some cases the majority) of included steps cannot be performed (i.e. the user does not go the parking station or does not drive in their car) in the first iteration but solely in the second. However, these aspects will be emulated in order users to understand and assimilate the MaaS concept and experience. Apart from the steps that obviously cannot be taken in a closed, laboratory tests, others will be possibly be emulated because development of certain functions might not be mature enough.

The initial generic scenarios' storyboards will be embedded in the beginning of each storyboard and, thus, they do not need a separate storyboard. The storyboards at each pilot site might include more than one testing scenarios.

IMPORTANT: All the scenarios will be refined after the testing version of MyCorridor platform is ready for feasibility, language and terminology (e.g. add names for menus and different parts of the platform) and steps included. The ones added in this version utilize mostly existing services. This was decided for two reasons: a) to investigate the possibilities of journeys and trips with existing services, and b) additionally to reveal the gaps and the requirements for other external services. The scenarios for the second evaluation phase will be enriched and utilize more services per trip.

Although, users will most probably have the opportunity to register through two other ways, i.e. through their social network accounts (e.g. Facebook, Twitter) and/or through existing accounts to offered services. These scenarios will be mainly tested during technical validation to ensure optimal functionality and reduce any anticipated issues. At this stage, there is no need to create additional scenarios for this type of registration, as it is straightforward. However, if the technical validation and the pre-testing activities result in such a need, then additional dedicated scenarios to alternative registration processes will be prepared.

Goal/Output	Scenario 01: User registration
UC - sub-UC	T1 User Login/Register/Authentication and T2 Static and semi-dynamic profiling – T1.1 New/unregistered traveller – T1.3 Failed registration – T2.1 New/unregistered user creating profile (step 3)
Inputs	User is provided with dummy credentials.
Assumptions	User belongs to the selected user group (i.e. representativeness) for the pilot site and familiar with technologies.
Steps	<ol style="list-style-type: none"> 1. User enters user name and password provided (<i>for the first attempt the user will receive wrong username that will give him a failed registration attempt and automatically needs to receive message that this username exists to avoid entering all information needed in step 3 twice</i>). 2. The user enters right set of credentials. 3. The user adds all information* required for registration details (these will be provided to user). 4. The user receives confirmation of registration by email (email address will be provided to user).
Success criteria	User completes registration; b) user receives confirmation email.
Notes	<p>A dummy account is created per dummy credentials to avoid any issues with privacy and personal data disclosure. The dummy credentials to be used at each pilot site depend on registration form fields and will be created and shared with pilot site responsible teams prior any testing takes place. These credentials will be used to pre-test scenarios.</p> <p>*Information: email, mobile phone number (optional) age range (optional), gender (optional), language preference, payment method and details (e.g. card, other).</p>

Goal/Output	Scenario 02: Registered traveller
UC - sub-UC	T1 User Login/Register/Authentication – T1.2 Registered traveller- T1.4 Failed login/ Authentication
Inputs	User is provided with dummy credentials.
Assumptions	User belongs to the selected user group (i.e. representativeness) and familiar with technologies.
Steps	<ol style="list-style-type: none"> 1. User enters credentials to access profile (wrong username is provided). 2. User fails to access profile and retries to access with another set of credentials (correct username is provided). 3. The user receives confirmation of new credentials by email (email address will be provided to user).
Success criteria	User accesses profile.

Goal/Output	Scenario 02: Registered traveller
Notes	The notes of scenario 01 are applicable.

Goal/Output	Scenario 03: Un-registered user
UC - sub-UC	T1 User Login/Register/Authentication – T1.5 Login of unregistered user
Inputs	No inputs are necessary.
Assumptions	User belongs to the selected user group (i.e. representativeness) and familiar with technologies.
Steps	<ol style="list-style-type: none"> 1. User selects to access the MyCorridor platform as an unregistered user. 2. User confirms that they want non-registered access 3. Lands on MyCorridor platform for unregistered users and understands the limitations (<i>ask to recite limitations to ensure comprehension</i>).
Success criteria	User accesses MyCorridor with no registration.
Notes	The differences in layout or available interaction points need to be clear to users.

Pilot site-specific scenarios

Austria pilot site

STORYBOARD for STUDENT/LEISURE

Stefan is 20 years old and he is studying at the Paris Lodron University in Salzburg. His two best friends study at different universities in the same city (Paracelsus Medical University and the University of Applied Sciences, respectively). He usually takes a bus or rents a bike (*probably not implemented for first phase*) to get from one campus to the other. Today, he is renting a bike to get to the next class which is about 15 minutes ride. After he finishes with his class, he gets a bus to meet his other friend from the Paracelsus Medical University. His friend has already a carsharing service (*from service inventory in D1.1, not offered from Austrian partners*) and he joins him instead of taking public transport to the train station. Then they take a train (line S3) to University of Applied Sciences, located 5km outside the city of Salzburg, to meet up with their other friend and have a drink.

Objective: Imagine you are in Stefan's position and want to travel from Paris Lodron University in Salzburg to your next class which is another campus by first using the bike sharing service [*No. 17, 19: Booking shared bike and purchasing shared bicycle e-tickets, sBike*], then get on the bus to go to the University of Applied Sciences [*No. 6, 26: E-ticketing for Public Transport in Salzburg, Purchase e-tickets in Salzburg*], car share with your friend by adding advanced traffic management service [*N47: Advanced traffic forecasting*] to your existing Mobility Token and car parking slot for your friend who gave you a ride [*No. 8: Park and Ride in Salzburg*], get to the train station and get

train (line S3) to University of Applied Sciences [No. 6, 26: *E-ticketing for Public Transport in Salzburg, Purchase e-tickets in Salzburg*], to meet up with your friends and watch the football match you have received the push notification for [No. 62: *Push services for sports information/recommendation; WINGS*].

You enter your MyCorridor profile, you select the trip planner by adding the address of your campus (address will be added by Austrian partners in updated version of these scenarios before testing starts) to the other campus (same as previous) and destination the university of Applied Sciences (same as previous), with bike, public transportation (bus and train) and Push sports information/ notification services and create your own Mobility Product (Package). The system takes in to consideration your set preferences in order to suggest relevant services to you for the mobility product you wish to create. You pay for your Mobility Token and save it under your profile. You wish to add advanced traffic management services in the Mobility Token you just created. You modify the existing package by adding this service and pay again the additional required amount. You replace the Mobility Token with the new one and save it under your profile.

Scenario 4 described below, will be completed once by participants of one user group (as defined by the selection of preferences in the specific scenario), as described below. However, if the technical validation and pre-testing reveals a need to further investigate the selection of preferences and matchmaking process, then scenario 4 will be created for each addressed traveller group at each pilot site.

Goal/Output	Scenario 04AU: Registered user creating/changing user preferences
UC - sub-UC	T2 Static & dynamic profiling – T2.2 Registered user
Inputs	Credentials are either re-entered or this scenario follows after the completion of 01, 02, 03.
Assumptions	User belongs to the selected user group (i.e. representativeness) and familiar with technologies. User is registered and has already created a profile. Static user information parameters are added in scenario 01.
Steps	<ol style="list-style-type: none"> 1. User accesses their profile. 2. The user sets the following preferences depending on user traveller group they belong to (to be finalised before test activities kick-off): <ol style="list-style-type: none"> a. Tourist: Leisure and sports b. Student: events and conferences 3. Select transportation preferences <ol style="list-style-type: none"> a. Bus b. Rail c. Car d. Biking 4. Select cost: <ol style="list-style-type: none"> a. Low 5. Select routing preferences: <ol style="list-style-type: none"> a. Cheapest b. Fastest 6. Select favourite POIs and transport schedules 7. Select type of services in favour of user <ol style="list-style-type: none"> a. Mobility vehicle related/ Parking b. Mobility vehicle related/ PT c. Traffic management – Advanced traffic management services d. Infomobility – Park & Ride

Goal/Output	Scenario 04AU: Registered user creating/changing user preferences
	<ul style="list-style-type: none"> 8. Select level of comfort: <ul style="list-style-type: none"> a. No/ minimum walking 9. Choose environmental footprint: <ul style="list-style-type: none"> a. do not select 10. Pet <ul style="list-style-type: none"> a. No 11. Meal <ul style="list-style-type: none"> a. No 12. Luggage <ul style="list-style-type: none"> a. No
Success criteria	User sets all preferences according to the storyboard persona requirements.
Notes	Please use the same credentials for accessing the user profile that were used in scenario 01, 02, and 03.

Student commutes from one campus to other parts of the city of Salzburg to meet his friends (incl. leisure).

Goal/Output	Austria Scenario 05AU: Students commutes within city of Salzburg to meet friends in different universities' campuses across the city.
UC-sub-UC	T3 - Personalised MaaS package configuration, purchase & redemption - T3.1 Configuration, purchase & redemption of personalised MaaS package (consisting of one or more mobility products) coupled with trip planning-T4-Personalised info support (added value services- athletic, touristic, cultural, health push personalised notifications) - T4.1 Configuration, purchase & redemption of personalised MaaS package (consisting of one or more mobility products) coupled with trip planning and personalised push notifications.
Inputs	User is familiar with online tools and trip planners and the trip.
Assumptions	Registered user. In italics are either systems responses or parts of the scenario that are not performed by the user but help the scenario to unravel.
Steps	1. Accesses MyCorridor app through mobile (<i>with dummy credentials</i>).

Goal/Output	Austria Scenario 05AU: Students commutes within city of Salzburg to meet friends in different universities' campuses across the city.
UC-sub-UC	<p>T3 – Personalised MaaS package configuration, purchase & redemption – T3.1 Configuration, purchase & redemption of personalised MaaS package (consisting of one or more mobility products) coupled with trip planning-T4-Personalised info support (added value services- athletic, touristic, cultural, health push personalised notifications) – T4.1 Configuration, purchase & redemption of personalised MaaS package (consisting of one or more mobility products) coupled with trip planning and personalised push notifications.</p>
	<p>2. Enters the address of campus (<i>address will be provided to the user</i>).</p> <p>3. Enters inter-mediate stops' addresses (<i>addresses will be provided to the user</i>) – <i>this step needs to be checked for feasibility before the pilots.</i></p> <p>4. Selects PT, Parking, and bike share services (<i>as defined with red in the storyboard</i>).</p> <p>5. Creates the customised Packages (through the system) and confirms selection.</p> <p>6. Add the Package to the basket.</p> <p>7. <i>Enters payment details and purchases the package (when testing scenarios will be re-visited, this step might be move at the beginning of the scenario).</i></p> <p>8. Saves the Mobility Token under 'MyTokens' in the user profile.</p> <p>9. Adds the advanced traffic management service to the existing Package (<i>this step needs to check for feasibility and might be added to step 4</i>).</p> <p>10. Repeat step 7.</p> <p>11. Saves the modified Mobility Token under 'MyTokens' in the user profile.</p> <p>12. <i>Uses the Mobility Token to validate the code for releasing the sbike and get to the next campus (address to be added).</i></p> <p>13. <i>Validates Mobility Token to bus from one campus to the other University campus.</i></p> <p>14. <i>Uses the advanced traffic management services in the MyCorridor app whilst travelling with his friends' car.</i></p> <p>15. <i>Validates Mobility Token for a parking space for his friend near the train station.</i></p> <p>16. <i>Validates Mobility Token on the train S3 line to the get to the university campus outside the city.</i></p>
Success criteria	Plans trip, creates Package, adds Package to basket, <i>completes transaction, modifies Packages, completes transaction again.</i>

Goal/Output	Austria Scenario 05AU: Students commutes within city of Salzburg to meet friends in different universities' campuses across the city.
UC-sub-UC	T3 - Personalised MaaS package configuration, purchase & redemption - T3.1 Configuration, purchase & redemption of personalised MaaS package (consisting of one or more mobility products) coupled with trip planning-T4-Personalised info support (added value services- athletic, touristic, cultural, health push personalised notifications) - T4.1 Configuration, purchase & redemption of personalised MaaS package (consisting of one or more mobility products) coupled with trip planning and personalised push notifications.
Notes	Steps in <i>italics</i> (from step 12 onwards) show where validation happens in real journey and are not used for evaluation purposes unless they could be emulated in laboratory conditions (e.g. Wizard of Oz technique solely for UI interactions). If it is not feasible, these steps will not be taken in the first pilot phase.

STORYBOARD for FAMILY of TOURISTS

Helga is a 38 years old architect from Germany. She is visiting Salzburg with family (her husband and 2 children). They are staying for a week at the lakes district of Salzburg and then driving with their private car to the City of Salzburg for the weekend to do some sightseeing. They wish to visit certain museums, the opera and move around with public transport and bikes (*probably for the second phase*)

Objective: Imagine you are in Helga's position and want to travel from the lakes district to City of Salzburg with your private car [N47: *Advanced traffic forecasting*] to a parking space [No. 8: *Park and Ride in Salzburg*] and then use public transport [No. 6, 26: *E-ticketing for Public Transport in Salzburg, Purchase e-tickets in Salzburg*] and sbikes [No. 17, 19: *Booking shared bike and purchasing shared bicycle e-tickets, sBikes*] to move around. You select to receive notifications about museums and cultural events [No. 62: *Push services for tourists and cultural events information/recommendation; WINGS*].

You enter your MyCorridor profile, you select an existing Package with parking space, bike rental, public transportation (bus and metro) and Push touristic and cultural information/ notifications for a weekend for a family of 4 persons. You pay for your Package and save the Mobility Token under your profile. You receive a discount coupon of 15% for redeeming at selected museums. Because you bought a family package, you receive an additional 15% discount for your next family MaaS package you purchase on MyCorridor platform the next month. In addition, you get 300 points added to your MyCorridor loyalty scheme. Along, with the pre-defined fields of feedback form, you leave the following feedback to the platform: 'The MyCorridor package made travelling within the city of Salzburg such a smooth experience'.

A family of tourists in the lakes district of Salzburg

Goal/Output	Austria Scenario 06AU: Family of tourists travel to city of Salzburg for sightseeing.
UC-sub-UC	T3 – Personalised MaaS package configuration, purchase & redemption – T3.3 Configuration, purchase & redemption of ready to use MaaS packages-T4-Personalised info support (added value services- athletic, touristic, cultural, health push personalised notifications) (sub-UCs include only choice with trip planning, hence not selected) – T6- Traveller feedback- T6.2 Provide feedback for other travellers- T7. Loyalty scheme (encompassing incentivisation & rewarding).
Inputs	User is familiar with online tools and trip planners and the trip.
Assumptions	Registered user. In italics are either systems responses or parts of the scenario that are not performed by the user but help the scenario to unravel.
Steps	<ol style="list-style-type: none"> 1. Accesses MyCorridor app through mobile (with dummy credentials). 2. Selects the pre-existing packages 3. Selects the one with traffic management services, public transportation, bike sharing, push notifications for cultural push notifications. 4. Selects the number of persons to be 4. 5. Confirms selection and adds the Package to the basket. 6. <i>Enters payment details and purchases the package (when testing scenarios will be re-visited, this step might be move at the beginning of the scenario).</i> 7. Saves the Mobility Token under 'MyTokens' in the user profile. 8. Receives a notification for two discount coupons added in their profile. 9. Checks the coupon for 15% discount in selected museums and events. 10. Checks the coupon for 15% for the next purchase of a pre-existing MaaS package for 4 persons. 11. Checks the 300-loyalty scheme points they earned. 12. <i>Enters the address at the lakes (address will be provided to the user) to their navigator and receive information about traffic events and flow until they get to the city of Salzburg.</i> 13. <i>Validate the Mobility Token for a parking space in a dedicated area.</i> 14. <i>They get on the bus, where they validate the Mobility Token to the nearest museum they received information about through the push notification.</i> 15. <i>They redeem the 15% discount at the museum and complete their visit.</i>

Goal/Output	Austria Scenario 06AU: Family of tourists travel to city of Salzburg for sightseeing.
UC-sub-UC	T3 – Personalised MaaS package configuration, purchase & redemption – T3.3 Configuration, purchase & redemption of ready to use MaaS packages-T4-Personalised info support (added value services- athletic, touristic, cultural, health push personalised notifications) (sub-UCs include only choice with trip planning, hence not selected) – T6- Traveller feedback- T6.2 Provide feedback for other travellers- T7. Loyalty scheme (encompassing incentivisation & rewarding).
	<p><i>16. They then validate the Mobility Token to get bikes from the dedicated station and have a walk around the city and then they leave the bikes to another dedicated area.</i></p> <p><i>17. They get the bus to get back to their parking space.</i></p>
Success criteria	Purchase the package, save the Mobility Token to their user profile, receives notifications for discount coupons and checks the loyalty scheme points.
Notes	In italics the actual journey, some segments might be able to be emulated.

Czech Republic

Goal/Output	Scenario 04CZ: Registered user creating/changing user preferences
UC - sub-UC	T2 Static & dynamic profiling – T2.2 Registered user
Inputs	Credentials are either re-entered or this scenario follows after the completion of 01, 02, 03.
Assumptions	User belongs to the selected user group (i.e. representativeness) and familiar with technologies. User is registered and has already created a profile. Static user information parameters are added in scenario 01.
Steps	<ol style="list-style-type: none"> 1. User accesses their profile. 2. The user sets the following preferences depending on user traveller group they belong to (to be finalised before test activities kick-off): <ol style="list-style-type: none"> a. Commuter/Businessman: Weather and events 3. Select transportation preferences <ol style="list-style-type: none"> a. Rail b. Car 4. Select cost: <ol style="list-style-type: none"> a. Low 5. Select routing preferences: <ol style="list-style-type: none"> a. Fastest 6. Select favourite POIs and transport schedules 7. Select type of services in favour of user <ol style="list-style-type: none"> a. Mobility vehicle related/ Parking b. Mobility vehicle related/ PT

Goal/Output	Scenario 04CZ: Registered user creating/changing user preferences
	<ul style="list-style-type: none"> c. Traffic management – Advanced traffic management services d. Infomobility – Park & Ride <p>8. Select level of comfort:</p> <ul style="list-style-type: none"> a. No/ minimum walking <p>9. Choose environmental footprint:</p> <ul style="list-style-type: none"> a. do not select <p>10. Pet</p> <ul style="list-style-type: none"> a. No <p>11. Meal</p> <ul style="list-style-type: none"> a. No <p>12. Luggage</p> <ul style="list-style-type: none"> a. No
Success criteria	User sets all preferences according to the storyboard persona requirements.
Notes	Please use the same credentials for accessing the user profile that were used in scenario 01, 02, and 03.

STORYBOARD for COMMUTER

Jana, 28 years old, works in Prague and is tech savvy. She is familiar with MyCorridor mobile app as it helps her on regular basis to find the best option to commute to work. She searches and finds fast and comfortable travel modes for her from her home at Central Bohemia (address will be added) to her workplace in Prague (address will be added). She enters MyCorridor and searches for the fastest and most comfortable trip the next day (date and time will be added).

Objective: Imagine you are in Jana's position and want to travel from Central Bohemia to your workplace in Prague. You visit the MyCorridor platform and enters the time and day (*will be provided for actual tests*) you wish to travel from where (*will be provided for actual tests*) you are to Prague workplace address (*will be added*). You get scheduled and real time coach information [No. 31, 33: *AMSBus by CSAD SVT Praha s.r.o.*]. You select to drive from your home address (*will be added*) to the parking space near the coach station [No. 31, 33: *AMSBus by CSAD SVT Praha s.r.o.*] and you get real time information in real-time on available parking space [No. 56: *Prague P+R Real time information for parking availability*]. You park your car and get on the coach to Prague. From there it is a 10-minute walk to your workplace.

You enter the MyCorridor platform, you set the date and time (will be provided) for the journey from your home address at Central Bohemia (will be provided) to workplace in Prague (will be added). You get the results (will be added) and gets available modes. Select to travel by car and coach. The MaaS package is created with your selections. You add the Package to the basket and proceed to payment. After the payment is completed, you receive the Mobility Token and save it on your profile. You receive a notification with a coupon reference number for a 15% discount for your next ready-made package purchase. You save the coupon under your profile. You check the comment about the parking space near the coach station.

Commuter travelling to Prague

Goal/Output	Scenario 05CZ: Commuter travel from home in Central Bohemia region to work in Prague
UC-sub-UC	T3 – Personalised MaaS package configuration, purchase & redemption – T3.1 Configuration, purchase & redemption of personalised MaaS package (consisting of one or more mobility products) coupled with trip planning – T6 Traveller feedback – T6.1 View information of other travellers – T7 – Loyalty scheme (encompassing incentivisation & reward)
Inputs	Registered user.
Assumptions	User is tech savvy. Everything in italics are part of the interaction performed by the system and not the user.
Steps	<ol style="list-style-type: none"> 1. Enters MyCorridor platform with dummy credentials (to be issued per pilot site) 2. Searches for journey from home address (<i>to be added</i>) to workplace in Prague (<i>address to be added</i>) for a certain time interval (<i>to be added</i>) 3. Selects to travel by car, parking and coach. 4. Adds the services to the Package and the MaaS package is created. 5. Adds the Package to basket. 6. <i>Enter payment details and completes transaction.</i> 7. Stores Mobility Token under his/her profile ('MyTokens'). 8. Receives discount coupon. 9. Stores discount coupon under profile ('MyCoupons'). 10. Checks the comment another user has added about the parking space near the coach station. 11. <i>Gets coach scheduled and real-time information (say aloud which are)</i> 12. <i>Gets available parking spaces</i> 13. <i>Parks own car</i> 14. <i>Gets on coach</i> 15. <i>Validates Mobility Token on coach</i> 16. <i>Arrives at coach station in Prague</i> 17. <i>Walks to workplace (address to be added).</i>
Success criteria	Completes journey search, selects ready-made package, completes transaction, stores Mobility Token, stores discount coupon.
Notes	In Italic parts of the scenario that require either real implementation or its emulation.

STORYBOARD for TOURIST

Lena, 31 years old is a tech average, tourist going for a long weekend in UNESCO city. Lena is familiar with MyCorridor mobile app as it helps her to find the best option to commute to work on regular basis. She wants to travel cheap from her home (*address to be added*) at Central Bohemia to UNESCO city. She has no idea how to get there and for what transport modes to search for. The truth is that she sets her MyCorridor profile based on her daily travelling routines. She decides to search with keywords, as there is such option on the MyCorridor platform. She enters the keywords for cheap tickets, prefers to travel by coach and adds another keyword, being her destination city.

Objective: Imagine you are in Lena's position and want to travel cheap from Central Bohemia to the UNESCO city. You visit the MyCorridor platform and use keywords to search for available MaaS products and transport modes. You do not find any MaaS product and you create your own with bus service till the coach station [No. 31, 33: AMSBus by CSAD SVT Praha s.r.o.] a coach service [No. 31, 33: AMSBus by CSAD SVT Praha s.r.o.] to UNESCO city. You purchase your customised MaaS package. As you set as final destination your hotel address (will be added), you received a message about the distance from the coach station to your hotel. Initially, you ignored this message but now you think about it, you know that you will arrive quite late, and you decide to go back and modify your Mobility Token and throw a car pooling service from the coach station to the hotel (this option will be checked for feasibility before the pilots) [No.12: Car-pooling search, booking and purchase; BlaBlaCar] and some supplementary cultural push information service [No. 62: Unified configurable personalised added value services (Touristic); WINGS] in the basket.

You enter your MyCorridor platform, you use the following keywords to search: 'coach', '<50 Euros', 'UNESCO city'. You receive a message that no ready-made MaaS products fulfil these criteria'. You are prompted to create your own MaaS package based on the results that appear on the screen (gets available products, and therefore modes, with prices; will be added in the text here as well). You further narrow your search by adding the date and time (will be provided) of the journey from your home address at Central Bohemia (will be provided) to a/the hotel in UNESCO city (will be added). Select to travel by bus and coach. You create the MaaS package, add the Package to the shopping cart and proceed to payment. You ignore the message you receive: 'The hotel is 7 km from the coach station. Do you want to select another service from Coach station to Hotel address?' After the payment is completed, you receive a Mobility Token and save it to your profile. You receive a notification with a coupon reference number for a 25% discount for your next ready-made package purchase. You save the coupon to 'MyTokens'. You change your mind and modify the Mobility Token by adding a carpooling service and a touristic push information service. You proceed again with payment and a new Mobility Token is issued. You replace the old with the new one in your profile ('MyTrips'). You are notified that you have received a 15% discount for a guided tour in the city. You save the coupon under your profile.

Tourist travelling to UNESCO city

Goal/Output	Scenario 06CZ: Tourist travelling from tourist travel from home in Central Bohemia region to UNESCO city in South Bohemia region
UC-sub-UC	T3 – Personalised MaaS package configuration, purchase & redemption – T3.2 Configuration, purchase & redemption of personalised MaaS package with multicriteria search (without encompassing trip planning)– T5-Modification/Cancelation – T5.1-Modify selected mobility products – T4. Personalised info support (added value services – athletic, touristic, cultural, health push personalised notifications) – T4.2 Configuration, purchase & redemption of personalised MaaS package with multicriteria search (without encompassing trip planning) T7 – Loyalty scheme (encompassing incentivisation & reward)
Inputs	Registered user.
Assumptions	User is tech average. Everything in italics are part of the interaction performed by the system and not the user.
Steps	<ol style="list-style-type: none"> 1. Enters MyCorridor platform with dummy credentials (to be issued per pilot site) 2. Enters the terms 'coach', '<50 Euros', and 'UNESCO city' in MaaS product search field. 3. Gets several results (they will be added). <i>Receives message that 'No such ready-made MaaS package exists' and is asked: 'Do you want to create a package?'</i> 4. Selects bus, coach, carpooling. 5. Creates personalised MaaS package. 6. Adds the Package to basket. 7. Ignores notification on screen: <i>'The hotel is 7 km from the coach station. Do you want to select another service from Coach station to Hotel address?'</i> 8. Enter payment details and completes transaction. 9. Stores Mobility Token under his profile. 10. Receives discount coupon for 25% discount for ready-made MaaS product. 11. Stores discount coupon under profile. 12. Modifies Mobility Token by adding a carpooling service and touristic push information service. 13. Repeat steps 6, 8, 9. 14. Receives 15% discount coupon for guided city tour. 15. Stores the discount coupon for museum visit. 16. <i>Validates Mobility Token on the bus from home address to coach station at Central Bohemia.</i> 17. <i>Validation Mobility Token on coach to UNESCO city.</i> 18. <i>Validation Mobility Token in carpooling from coach station to hotel.</i>
Success criteria	Carry out keyword search, select services to create the MaaS package, Create and modify the personalised MaaS package, completes transaction (twice), stores Mobility Token (twice), stores discount coupons.
Notes	In Italic parts of the scenario that require either real implementation or its emulation.

STORYBOARD for BUSINESSMAN (cross-border)

Petr is 56 years old and is a tech average. He wants to travel from his home in Prague to the meeting venue in Hannover. He has no idea how to get there and what transport modes to search for. He decides to use the MyCorridor Trip planner, where he enters the dates (*to be added*) and hours (*to be added*) that he wants to travel. It appears that there is a ready-made cross-border MaaS package for this trip that includes bus, coach, car sharing in Hannover and traffic management services. He decides to buy the premium version of the package that additionally includes leisure and touristic information push information that he believes might prove interesting for his evenings during this three-day trip.

Objective: Imagine you are in Petr's position and want to travel from Prague to Hannover for a three-day business meeting. You visit the MyCorridor platform and search for all possible routes for the dates (*to be added*) and hours (*to be added*) you want. You purchase a ready-made MaaS product with bus service [No. 31, 33: *AMSBUS by CSAD SVT Praha s.r.o.*] *get to coach station*, coach service to Hannover [No. 31, 33: *AMSBUS by CSAD SVT Praha s.r.o. – suggestion for external service provider: couple with HaCon trip planner (No.:51) to offer train service instead of coach*], carpooling service whilst moving from hotel (*to be added*) to meeting venue (*to be added*) [No.12: *Car-pooling search, booking and purchase; BlaBla Car*] with additional touristic and leisure information about the city of Hannover [No. 62: *Unified configurable personalised added value services (Touristic); WINGS*]. You pay for your customised MaaS package and you leave feedback for MaaS platform: 'Seriously consider adding train services between Czech Republic and Germany!' You are thanked for the feedback and are asked whether you want to be informed when new services are offered through MyCorridor. You accept to receive this information to your email. You receive a 15% discount for a dinner in a restaurant in Hannover (*discounts and coupons for services that are outside of the MyCorridor platform (e.g. as in this case for a dinner) require some kind of agreement with these external service providers. For instance, in order to be in position to provide a 15% discount for a dinner in a restaurant in Hannover, a deal with the restaurant's owner needs to be set. These aspects will be addressed within WP7 when creating the actual discounts and coupons based on final incentivization strategies*).

You enter your MyCorridor platform, you search the dates (to be added) and hours (to be added) for your trip from Prague to Hannover. You get the results and select the ready-made MaaS Package including bus, coach, carpooling and push information for leisure and tourists. You add the Package to the basket and proceed to payment. The payment is completed, you receive the Mobility Token and save it on your profile. You receive a notification with a coupon reference number for a 15% discount coupon for a restaurant meal in Hannover. You save it in your profile. You leave the following feedback for MyCorridor platform: 'Seriously consider adding train services between Czech Republic and Germany!'. You accept to receive information about new services added in MyCorridor platform via email.

Business man travelling from Prague to (Cross-border)

Goal/Output	Scenario 07CZ-DE: Businessman travelling from Prague, CZ to Hannover, Germany for a meeting.
UC-sub-UC	T3 – Personalised MaaS package configuration, purchase & redemption – T3.1 Configuration, purchase & redemption of personalised MaaS package (coupled with trip planning)- T6 – Traveller feedback – T6.3 – Provide feedback for MaaS – T7 – Loyalty scheme (encompassing incentivisation & reward)
Inputs	Registered user.
Assumptions	User is tech savvy. Everything in italics are part of the interaction performed by the system and not the user.

Goal/Output	Scenario 07CZ-DE: Businessman travelling from Prague, CZ to Hannover, Germany for a meeting.
UC-sub-UC	T3 – Personalised MaaS package configuration, purchase & redemption – T3.1 Configuration, purchase & redemption of personalised MaaS package (coupled with trip planning)- T6 – Traveller feedback – T6.3 – Provide feedback for MaaS – T7 – Loyalty scheme (encompassing incentivisation & reward)
Steps	<ol style="list-style-type: none"> 1. Enters MyCorridor platform with dummy credentials (<i>to be issued per pilot site</i>) 2. Enters date (<i>to be added</i>) and time (<i>to be added</i>) with origin: Prague and destination: Hannover. 3. Gets results (<i>they will be added</i>). 4. Selects bus, coach, carpooling. <i>Informed the premium version includes leisure and touristic push information for Hannover.</i> 5. The MaaS package is created (system response). 6. Adds the Package to basket. 7. <i>Enter payment details and completes transaction.</i> 8. Stores Mobility Token under his profile ('MyTokens'). 9. Receives discount coupon for 15% discount for restaurant in Hannover. 10. Stores discount coupon under profile ('MyCoupons'). 11. Enters feedback: 'Seriously consider adding train services between Czech Republic and Germany!' in feedback form and sends it. 12. <i>Validates Mobility Token on the bus from home address (to be added) to coach station at Prague.</i> 13. <i>Validation Mobility Token on coach to Hannover city.</i> 14. <i>Validation Mobility Token in carpooling from coach station to hotel.</i>
Success criteria	Enters date, time, origin-destination, selects ready-made premium MaaS package, Purchases the Package, stores Mobility Token, stores discount coupons, sends the feedback.
Notes	In Italic parts of the scenario that require either real implementation or its emulation.

The Netherlands

The Dutch pilot site acts as an aggregator offering service through Livecrowd acting as a layer for service provision to the MyCorridor platform.

STORYBOARD for EVENT VISITOR (student)

Johan, 25 years old, a postgraduate student in Media Arts is attending a Kate Perry concert in at the Ziggo dome in Amsterdam. He lives at the outskirts of Amsterdam, so he wants to check the train timetable before he decides when to leave for the concert. He checks the timetable to get the journey and available transport modes from where he lives (*address will be added later by pilot site representative*) to Ziggo dome. Before, he leaves, he has to visit a friend in the hospital and time is tight. He gets his car and finds the fastest route there and returns home with selected again the fastest route. He additionally wants to find real time information for PT because he is stressed to get there on time. He gets on the train, gets off at the main Amsterdam train station, and gets to

the event with a shared bicycle. Afterwards he receives an offer for a 25% discount on any package he wants to purchase (customised or not).

Objective: Imagine you are in Johan's position and want to travel from the outskirts of Amsterdam to Ziggo Dome. You are a registered user and get the fastest route *[No.42: Open real-time traffic and forecast service through Livecrowd; MKRS BMCA]* to drive your private car from your house (address to be added) to the hospital (address to be added). You return to home by car via the fastest route. You visit the MyCorridor platform and enters the time and day (*will be provided for actual tests*) you wish to travel from where (*will be provided for actual tests*) you are to Ziggo Dome. You access Livecrowd through MyCorridor platform and get scheduled train timetable *[No. 28: PT scheduled information, 9292OV through Livecrowd]* asks for a train ticket for the specific journey *[No. 25: Purchase e-tickets, Brand MKRS through Livecrowd]* to the train station and then use the booked shared bike *[No. 18: Booking shared bike OV-Flets through Livecrowd]* to get to Ziggo Dome.

You enter your MyCorridor platform through the mobile device, you enter MyCorridor (dummy credentials), get the fastest route from home (address to be added) to hospital (name and address to be added) and then set the date and time (will be provided) for the journey from your home address at the outskirts of Amsterdam (will be provided) to Ziggo Dome. You get the results (will be added) and enters Livecrowd to check the timetable (will be added) and the available modes (infomobility services). You select to use train and shared bike. You select to create a package. You purchase the package. You download the Mobility Token and save it on your profile. You receive a notification with a coupon reference number for a 25% if you select to buy a ready-made package next time. You save the coupon under your profile.

Goal/Output	Scenario 04NL: Registered user creating/changing user preferences
UC - sub-UC	T2 Static & dynamic profiling – T2.2 Registered user
Inputs	Credentials are either re-entered or this scenario follows after the completion of 01, 02, 03.
Assumptions	User belongs to the selected user group (i.e. representativeness) and familiar with technologies. User is registered and has already created a profile. Static user information parameters are added in scenario 01.
Steps	<ol style="list-style-type: none"> 1. User accesses their profile. 2. The user sets the following preferences depending on user traveller group they belong to (to be finalised before test activities kick-off): <ol style="list-style-type: none"> a. Tourist: Leisure and sports b. Student: weather, event, conferences, discounts 3. Selects transportation preferences <ol style="list-style-type: none"> a. Bus b. Rail c. Biking d. Car 4. Selects cost: <ol style="list-style-type: none"> a. Low 5. Selects routing preferences: <ol style="list-style-type: none"> a. Shortest b. Fastest c. Cheapest d. Fastest

Goal/Output	Scenario 04NL: Registered user creating/changing user preferences
	<ol style="list-style-type: none"> 6. Selects favourite POIs and transport schedules 7. Selects type of services in favour of user <ol style="list-style-type: none"> a. Mobility vehicle related/ PT b. Mobility Tourist c. Infomobility – Multimodal d. Added value – Touristic / Entertainment 8. Pet <ol style="list-style-type: none"> a. No 9. Meal <ol style="list-style-type: none"> a. No 10. Luggage <ol style="list-style-type: none"> a. No
Success criteria	User sets all preferences according to the storyboard persona requirements.
Notes	Please use the same credentials for accessing the user profile that were used in scenario 01, 02, and 03.

Event visitor (student)

Goal/Output	Scenario 05NL: Event visitor (student/leisure)- Attending Kate Perry's concert at the Ziggo Dome
UC-sub-UC	T3 – Personalised MaaS package configuration, purchase & redemption – T3.1 Configuration, purchase & redemption of personalised MaaS package (consisting of one or more mobility products) coupled with trip planning – T7 – Loyalty scheme (encompassing incentivisation & reward)
Inputs	User has bought Event Ticket and requests service assistance via MyCorridor and Livecrowd Service.
Assumptions	User has a social media account and has visited MyCorridor before. Everything in italics are part of the interaction performed by the system and not the user.
Steps	<ol style="list-style-type: none"> 1. Enters MyCorridor platform through mobile device with dummy credentials (to be issued per pilot site) 2. Gets the fastest route with offered traffic services. 3. Searches for journey from home address (<i>to be added</i>) to Ziggo Dome. 4. Selects to travel by train and bike sharing. 5. Selects the Livecrowd service in MyCorridor platform 6. Connects using their Facebook account 7. Requests train timetable to his destination. 8. Requests booking by train. 9. Requests booking for bike sharing. 10. Enters payment details and completes the transaction. 11. Creates customised MaaS package and adds it into the MyCorridor basket. 12. Stores Mobility Token under his profile. 13. Receives discount coupon.

Goal/Output	Scenario 05NL: Event visitor (student/leisure)– Attending Kate Perry’s concert at the Ziggo Dome
UC-sub-UC	T3 – Personalised MaaS package configuration, purchase & redemption – T3.1 Configuration, purchase & redemption of personalised MaaS package (consisting of one or more mobility products) coupled with trip planning – T7 – Loyalty scheme (encompassing incentivisation & reward)
	14. Stores discount coupon under profile. 15. <i>Validates Mobility Token on train.</i> 16. <i>Validates Mobility Token (or uses authorization code) to bike sharing station to unlock bike.</i> 17. <i>Arrives at Ziggo Dome.</i>
Success criteria	Completes journey search, creates package, completes transaction, stores Mobility Token, stores discount coupon.
Notes	In Italic parts of the scenario that require either real implementation or its emulation.

STORYBOARD for Leisure and Environmentally Friendly Traveller

Alexander Klöpping, 29-year-old, wild-life photographer. Focused on travelling by train or bike. For him environmentally friendly travelling is important. He wants to get from Amsterdam Central Station to Amsterdamse Bos. He simply wants to purchase the same ready-made MaaS Package subscription because he is about to run out of available trips. His package contains travelling only by train and by bike. He purchases again the package and travels to Amsterdamse Bos. He leaves feedback asking for a new functionality to be informed by email or SMS when is about to run out of trips. He gets another 300 points added to his MyCorridor loyalty card. He is informed that he just reached the Silver level and two discount coupons (20% off) have been added to his profile to be used for purchasing added value services within the next 6 months and for purchasing bike accessories.

Objective: Imagine you are in Alexander’s position and want to travel from Amsterdam Central Station to Amsterdamse Bos. You visit the MyCorridor platform and just renew your MaaS package. You do not have to enter any payment details because you have chosen to be saved in your account/profile. The services you already have are: a bus service *[No. 28: PT scheduled information, 9292OV through Livecrowd]* and *[No. 25: Purchase e-tickets, Brand MKRS through Livecrowd]* and a shared bike service *[No. 18: Booking shared bike OV-Flets through Livecrowd]*.

You enter your MyCorridor platform, you press on your MaaS package and choose to renew it. You select to use the same payment details and your purchase is completed. You replace the new Mobility Token with the old one. You choose not to discard it and add it in your ‘History’. You receive a discount coupon and you save it under your profile. You check the message about the addition of 300 miles in your MyCorridor loyalty card and your upgrade to a silver card under your MyCorridor Loyalty card details. You open the two discount coupons (20%) you received because of the upgrade, one to be redeemed with added value services and second one for purchasing bike accessories from a shop in Amsterdam.

Leisure and environmentally friendly traveller

Goal/Output	Scenario 06NL: Leisure and environmentally friendly traveller from Amsterdam Central Station to Amsterdamse Bos.
UC-sub-UC	T3 – Personalised MaaS package configuration, purchase & redemption – T3.3 Configuration, purchase & redemption of ready-to-use MaaS packages – T7 – Loyalty scheme (encompassing incentivisation & reward)
Inputs	An expired MaaS Package exists in his profile as well as a blue level loyalty card that is 300 points before upgrading (which happens in the scenario).
Assumptions	Focused on travelling by train or bike. Environmentally friendly travel is important. It is a registered user.
Steps	<ol style="list-style-type: none"> 1. Enters 'My Profile' in MyCorridor platform 2. Selects expired MaaS package 3. Selects to re-new it 4. Selects 'Yes' in using saved payment details 5. Purchase the new Mobility Token 6. Replaces the old one with the new one 7. Stores the old one in 'History' 8. <i>Receives notification about 300 points in Loyalty card. Checks it under his Loyalty Card section of his profile.</i> 9. Opens both discount coupons and reads aloud the content. 10. <i>User validates Mobility Token on the train.</i> 11. <i>User uses unlock code and location (both found on Mobility Token) to unlock the bike.</i> 12. <i>User leaves the bike to the dedicated station/ parking spot near his destination.</i>
Success criteria	Renews Mobility Token, completes transaction, replaces Mobility Token, store old one in 'History', Checks card upgrade, Checks two coupons.
Notes	In italics parts that are relevant to system reaction, parts that will be added after the refinement of scenarios, segments of actual journey.

STORYBOARD for Older/Low digital literacy traveller for leisure (cross-border)

Maarten van Rossum, male 73-year-old, retired police officer. He is not acquainted with travel searches engines nor any other online tool/service. He uses a simple and old smartphone. He wants to travel from Amsterdam to Hannover, Germany. He is accessing MyCorridor platform through Livecrowd and his Whatsapp (<https://www.whatsapp.com/>), as it is not possible to do so with the phone he owns. He gets assistance through Livecrowd to create a personalised MaaS Package with bus, coach, and taxi to his hotel. He wants also to receive text information about the Beer Festival he is attending and the sightseeing nearby.

Important note: The process of how Livecrowd will be connected/ integrated into MyCorridor platform is currently undergoing. Therefore, the exact connection points will be provided in an updated version of this scenario or any other scenarios included in this Annex that involve using the Livecrowd platform.

Objective: Imagine you are in Maarten's position and want to travel from Amsterdam home (*address to be added*) to Hannover, Germany for a beer festival. You ask about scheduled and real time bus information on a certain date (*to be added*). You select bus information and booking [No. 28: PT scheduled information, 9292OV through Livecrowd] and [No. 25: Purchase e-tickets, Brand MKRS through Livecrowd], then you get information about international coach timetable and tickets [No. 24: Check MyBus search engine for international bus trips; CheckMyBus GmbH] from Coach station (*address to be added*) in Amsterdam to Hannover, Germany. You purchase the ticket from the station. When you arrive at Hannover, you get the taxi booked for you [No. 21: Splyt taxi services; Splyt Technologies Ltd.] from the Coach station (*Address to be added*) to your hotel (*address to be added*). You additionally want push information [No. 62: Unified configurable personalised added value services (touristic); WINGS] to be added to this personalised MaaS package. You create the Mobility Token with the Livecrowd assistance and you receive it through a text message.

*You enter your Livecrowd through your Whatsapp (<https://www.whatsapp.com/>) and you ask for assistance with your MyCorridor profile, you provide your username, you ask for information on travelling from your address (*to be added*) to Hannover, Germany hotel (*to be added*) for a specific date (*to be added*). You create the personalised MaaS package with assistance and you give your card details to complete the transaction. You receive the Mobility Token through your mobile with text message. You ask to be sent also in printable format, so you can print it at home before you leave. You check the Mobility Token you receive. You receive a text message with address and information about the events and various stands of the Beer Festival you are attending (*to be added*).*

Older / Low digital literacy traveller (cross-border)

Goal/Output	Scenario 07NL-DE: Low digital literacy traveller by bus, train and taxi from Amsterdam to Hannover, Germany
UC-Sub-UC	T3 – Personalised MaaS package configuration, purchase & redemption – T3.3 Configuration, purchase & redemption of ready-to-use MaaS packages
Inputs	User is not familiar with online tools and trip planners.
Assumptions	Older user not acquainted with travel searches engines or any online tool/service. He uses a simple and old smartphone and is acquainted with What's up app.
Steps	<ol style="list-style-type: none"> 1. User enters geofence and gets a Livecrowd welcome message indicating what kind of services could be requested. 2. Provides username (<i>to be added</i>) to verify MyCorridor member/customer 3. Requests travel advice to his destination: <ol style="list-style-type: none"> a. Asks how to get from home address (<i>to be added</i>) to Hannover, Germany hotel (<i>to be added</i>) on a certain date (<i>to be added</i>). <i>He receives information about bus, coach, taxi.</i> b. Asks for information for the Beer Festival in Hannover. 4. Validates with Livecrowd assistant that this is the personalised MaaS Package he/she will purchase. 5. <i>Gives payment details and completes the transaction (fake credentials need to be prepared for this part of the scenarios)</i> 6. Receives link to Mobility Token in a printable format. 7. <i>Validates Mobility Token on bus.</i> 8. <i>Gets ticket at coach station.</i>

Goal/Output	Scenario 07NL-DE: Low digital literacy traveller by bus, train and taxi from Amsterdam to Hannover, Germany
UC-Sub-UC	T3 – Personalised MaaS package configuration, purchase & redemption – T3.3 Configuration, purchase & redemption of ready-to-use MaaS packages
	<i>9. Validates Mobility Token in taxi to hotel.</i>
Success criteria	Completes transaction, receives and reads Mobility Token. This is an example of aggregator-to-aggregator interaction, which is an advanced service provider (as it provides a bunch of services).
Notes	In italics parts that are relevant to system reaction, parts that will be added after the refinement of scenarios, segments of actual journey.

Greece

STORYBOARD for TOURISTS

Elena is 33 years old, employed, tech savvy and ready to leave on summer leave. She wants to travel from Athens to Naxos (up to this point constitutes the instructions also for baseline scenario) in the most comfortable way MyCorridor platform offers. Elena has been informed by a friend about MyCorridor one-stop-shop and installs/activates the MyCorridor app that she found in the link he shared with her via txt (how users get to one-stop-shop is important for online visibility) to visit the site. She has only one week before she returns to work and does not want to lose any minute and she decides she is not interested in an existing MyCorridor product but wants to select the mobility products herself. She wants to take a taxi to Rafina, get the ferry to Naxos island and wants to rent a car whilst on the island, so she can easily move around.

Objective: Imagine you are in Elena's position and want to purchase one or more customised MyCorridor products to comfortably travel as a tourist from Athens to Naxos with only one voucher including getting a taxi [No.21: taxi apply and book, Splyt Technologies Ltd.] home to Rafina port, then get the ferry [No. 36-37: ferry boat booking and Ticketing services, VivaWallet] to Naxos island and there uses the bus [Adaptation of No. 34: Public Transport – KTEL Naxou as a service provider as it is the case for KTEL Korinthou] for a whole week in Naxos.

*In brackets the actual services and their names that are being invoked (4 services invoked in this storyboard).

Tourist traveller – from Athens to Naxos by ferry

Goal/Output	Scenario 04GR: Registered user creating/changing user preferences
UC - sub-UC	T2 Static & dynamic profiling – T2.2 Registered user
Inputs	Credentials are either re-entered or this scenario follows after the completion of 01, 02, 03.
Assumptions	User belongs to the selected user group (i.e. representativeness) and familiar with technologies. User is registered and has already created a profile. Static user information parameters are added in scenario 01.

Goal/Output	Scenario 04GR: Registered user creating/changing user preferences
Steps	<ol style="list-style-type: none"> 1. User accesses their profile. 2. The user sets the following preferences depending on user traveller group they belong to (to be finalised before test activities kick-off): <ol style="list-style-type: none"> a. Tourist: Leisure and sports 3. Select transportation preferences <ol style="list-style-type: none"> a. Rental Car b. Taxi c. Ferry 4. Select cost: <ol style="list-style-type: none"> a. Premium 5. Select routing preferences: <ol style="list-style-type: none"> a. Fastest 6. Select type of services in favour of user <ol style="list-style-type: none"> a. Mobility vehicle related/ rental b. Added value – Touristic / Entertainment 7. Select level of comfort: <ol style="list-style-type: none"> a. Business/ First class b. Minimum/ no transfers c. No/ minimum walking 8. Luggage <ol style="list-style-type: none"> a. Yes
Success criteria	User sets all preferences according to the storyboard persona requirements.
Notes	Please use the same credentials for accessing the user profile that were used in scenario 01, 02, and 03.

Goal/Output	Greece Scenario 05aGR: Tourist traveller (Athens-Naxos) Ferry
UC - sub-UC	T3 – Personalised MaaS package configuration, purchase & redemption – T3.2 Configuration, purchase & redemption of personalised MaaS package with multicriteria search (without encompassing trip planning)
Inputs	User is familiar with online tools and trip planners.
Assumptions	Registered user has completed all scenarios till 05GR.
Steps	<ol style="list-style-type: none"> 1. Visits the MyCorridor one-stop-shop mobile application (she is already logged in). 3. She enters as origin her home address (Aigialeias 52, Marousi) and as destination the Naxos island. 4. She selects the 'Return' option and enters the dates for departure and return. 5. She selects the 'Fast' option 6. She selects 'On Destination travel options'.

Goal/Output	Greece Scenario 05aGR: Tourist traveller (Athens-Naxos) Ferry
UC - sub-UC	T3 – Personalised MaaS package configuration, purchase & redemption – T3.2 Configuration, purchase & redemption of personalised MaaS package with multicriteria search (without encompassing trip planning)
	<p>7. She gets all possible modes for the criteria she has set.</p> <p>8. She selects the 'Package basket' and adds the products she wants.</p> <p>9. She selects 2 taxi services in Athens and gets price.</p> <p>10. She selects 2 ferry services from Rafina-Naxos and return.</p> <p>11. She selects a whole week car rental service in Naxos.</p> <p>12. She confirms the customised package selection.</p> <p>13. <i>She is transferred to payment page, where is completes the transaction.</i></p> <p>14. She selects to download her invoice and Mobility Token and add it to her online wallet.</p> <p>15. She saves the Mobility Token on to her online profile under 'My Tokens' sub-page.</p>
Success criteria	The user creates the customised MyCorridor package, pays for it, receives the receipt, stores the Mobility Token in her profile, receives the discount coupon and receives the consolidated Mobility Token.
Notes	This is a large scenario that can be broken down into shorter sub-scenarios and steps if user is less digitally literate. If the latter is the case, please administer up to six steps at a time.

Tourist traveller in Naxos using Public Transport (Bus)

Goal/Output	Scenario 05bGR: Tourist traveller – Naxos (PT)
Inputs	User is familiar with online tools and trip planners.
UC - sub-UC	T3 – Personalised MaaS package configuration, purchase & redemption – T3.3 Configuration, purchase & redemption of ready to use MaaS packages-T7 - Loyalty scheme (encompassing incentivisation & rewarding)
Assumptions	Enters the MyCorridor platform as a registered user and is interested to move whilst being in the island with public transport.
Steps	<p>1. Enters MyCorridor mobile application through mobile phone.</p> <p>2. Selects a MaaS package with 20 bus rides in Naxos.</p> <p>3. <i>Enters payment details and completes transaction.</i></p> <p>4. Gets the Mobility Token.</p> <p>5. Saves Mobility Token under 'MyTokens'.</p>

Goal/Output	Scenario 05bGR: Tourist traveller – Naxos (PT)
	<p>6. Gest message that Mobility Token can be exchanged for bus tickets at the dedicated bus station kiosk.</p> <p><i>6a. She adds this Mobility Token to the existing one (before user testing check feasibility of this step).</i></p> <p>7. Receives a coupon for a 15% discount to be used for a night club at Naxos.</p> <p>8. Saves coupon under 'MyCoupons' (or 'MyOffers').</p> <p>9. <i>Exchanges Mobility Token for a while week while visiting Naxos.</i></p> <p>10. <i>Redeems the coupon to the nightclub in Naxos.</i></p>
Success criteria	The user purchases a bus token and receives a discount voucher to be redeemed in Naxos.
Notes	Scenarios 6aGRa and 6b GR belong in the same storyboard and should be administered in sequence, one after the other following the narrative of the storyboard.

STORYBOARD for COMMUTERS (1)

John, 39 years old, is a customer sales representative for a large Parts and Accessories for a Shipping and Naval Industries manufacturer with average digital literacy, who commutes daily from his home in Athens to Loutraki from Athens. He spends large parts of his day in his car and wants to use some of his commuting time to unwind and exercise a bit. The last few years there are many roadworks and traffic and often he arrives at work later than anticipated, especially when he needs to spend more than 15 minutes searching for a parking spot, as where he works you need a treasure map to find a parking space! He recently heard a colleague talking about the e-biking services he found on MyCorridor platform. It would be incredibly nice to be able to get to work on time and spend half an hour stretching his muscles biking around Loutraki port before he starts his working day!

Objective: Imagine you are in John's position and want to purchase a MaaS MyCorridor product to comfortably travel from Athens with your own private car [No. 41, 45, 47: *Real time traffic state and forecast, event management, advanced traffic forecasting (only in Athens)*] to Loutraki port Parking [No. 7: *Booking parking space in Municipality of Loutraki*] and then rents a bike [No. 16: *bike-sharing in Loutraki*] to get to work.

**In brackets the actual services and their names that are being invoked (5 services invoked in this storyboard).*

Commuter driving their private car and parking from Athens to Loutraki

Goal/Output	Greece Scenario 6aGR: Commuter travel by car from Athens to Loutraki and parks his car.
UC - sub-UC	T3 – Personalised MaaS package configuration, purchase & redemption – T3.1 Configuration, purchase & redemption of personalised MaaS package (consisting of one or more mobility products) coupled with trip planning

Goal/Output	Greece Scenario 6aGR: Commuter travel by car from Athens to Loutraki and parks his car.
Inputs	User is familiar with online tools and trip planners and the trip.
Assumptions	Registered user. Moderate digital literacy might require checking (as shown below in brackets) participants' understanding of the steps they follow.
Steps	<ol style="list-style-type: none"> 1. Selects MyCorridor application. 2. Logs in MyCorridor (<i>add dummy credentials</i>). 3. Car use is selected. 4. Enters as destination the city of Loutraki and selects optimum route calculation. 5. Gets information on mobile phone of traffic events (<i>ensure user understands the provided info</i>). 6. Gets new proposed route (<i>ensure user understands the provided info and change of route</i>). 7. Gets information of a parking space near the e-bike station (<i>ensure user understands the provided info</i>). 8. He validates his Mobility Token in the parking station and leaves his car. 10. He enters the username and password for the e-bike service and rides to work.
Success criteria	Gets the Mobility Token for parking his car and e-bike services.
Notes	Most of the scenario parts cannot be tested but only being emulated on a screen as real testing would be needed.

STORYBOARD for COMMUTERS (2)

Eva, 32 works and lives in Loutraki. She is an environmentalist and avoids using her car in the Loutraki city centre, however, she has to drive up to the outskirts of the city as there is no bus stop near by her home. She drives her car to an open, community parking outside the city and then takes a bus to her workplace. At the end of the day, she wants to unwind and relax and rents a bike that she leaves near the bus station, where she gets on a bus to the parking and returns home by car. Eva is interested to purchase a MyCorridor package because she wants to make this her commuting routine.

Objective: Imagine you are in Eva's position and want to purchase a MaaS MyCorridor product to comfortably travel from outside Loutraki with your own private car **[No. 41, 45: Real time traffic state and forecast, event management]** to bus station **[No.34: Purchase bus e-tickets, Korinthia Interurban Bus Company]**, then get to work and when you return you want to rent a bike **[No. 16: bike-sharing in Loutraki]** to get to the bus station **[No.34: Purchase bus e-tickets, Korinthia Interurban Bus Company]** and get the bus to where you have parked your car **[No. 41, 45: Real time traffic state and forecast, event management]** to get back home.

Commuter travel by car, bus and bicycle in Loutraki

Goal/Output	Greece Scenario 6bGR: Commuter travel by car, bus and bicycle in Loutraki
UC - sub-UC	T3 – Personalised MaaS package configuration, purchase & redemption – T3.3 Configuration, purchase & redemption of ready to use MaaS packages
Inputs	User is familiar with online tools and trip planners and the trip.
Assumptions	Registered user. In italics are either systems responses or parts of the scenario that are not performed by the user but help the scenario to unravel and the facilitator understand the process.
Steps	<ol style="list-style-type: none"> 1. Searches for mobility products at the city of Loutraki. 2. Selects MyCorridor product packages. 3. Adds the ready-to-use MaaS package to the Package basket. 4a. Selects the preferred payment method (pre-defined by evaluation team). 4b. Uses an existing coupon that includes a 15% discount on parking to be used if she uses the proposed parking lot and 25% if she additionally uses the bicycle sharing scheme. 5. Completes the transaction and gets the Mobility Token (for parking, bus, bicycle sharing). <i>5. Parks the car in the parking lot by using the Mobility Token (not interactive at the moment).</i> <i>6. Uses the Mobility Token to release the bicycle to go to the first customer. The parks the bicycle at a bicycle dock close to the first customer.</i> 7. Searches for real time bus arrival estimation time. <i>8. The bus is on time and gets on bus to go to 2nd customer.</i> <i>9. Uses the Mobility Token on the bus to validate their ticket.</i>
Success criteria	Purchase the package, Validates Mobility Token tickets/vouchers for parking, bicycle sharing and bus, gets the bus arrival time.
Notes	Most steps in the testing scenario are not operational in the first iteration but they are included to showcase the MaaS utilisation and its concept to participants and ensure valid data collection.

STORYBOARD for TOURIST/BUSINESSMAN/TEMPORARY DISABLED (Cross-border)

Nick is 56 years old, owns business and every summer he makes road trips around Europe. He had a stroke half a year ago and his cognitive and navigation skills were significantly deteriorated. He is in rehabilitation and doing very well but still he relies a lot on his navigation support on

mobile that makes him feel confident, even when he travels in familiar places and routes that he has taken loads of time before. This summer he decides to go from his hometown Thessaloniki to Rome by car and ferry and in the meantime have a business meeting with a new customer and spend some time sightseeing.

Objective: Imagine you are in Nick's position and want to travel from Thessaloniki to Rome* by your own private car [No. 41, 45 (Rome), 49: *Real time traffic state and forecast, event management, GLOSA*] to get to Igoumenitsa to get the Ferry to Brindezi [No. 36, 37: *Booking and Purchase ferry tickets, VivaWallet*] and then travel to Rome and find in Rome the address to meet for business [No. 41, 45 (Rome), 49: *Real time traffic state and forecast, event management, GLOSA*] and do some sightseeing [*Unified configurable personalised added value service, WINGS*].

*Regional trip planners are the basis for the scenarios that involve trip planning (e.g. application of T3.1 UC) and, thus, although they constitute separate services, they are not addressed in the above objective's part. They will be however instrumental though in the execution of the second evaluation phase scenarios. In case, there is no regional trip planner or there are parts of the journey that are not covered by any regional trip planner then these parts are covered by the MyCorridor open platform trip planner. Overall, the trip planning services that are invoked in each case are not transparent to the traveler, as they operate in the back-end depending on the availability in each context. MyCorridor trip planning services are thus hybrid and an integrated function provided through the one-stop-shop.

Tourist/businessman travelling by car from Thessaloniki to Italy (cross-border)

Goal/Output	Greece Scenario 7aGR: Tourist travel by car and ferry from Thessaloniki (Greece) to Rome (Italy)
UC-sub-UC	T3 – Personalised MaaS package configuration, purchase & redemption – T3.1 Configuration, purchase & redemption of personalised MaaS package (consisting of one or more mobility products) coupled with trip planning
Inputs	User is familiar with online tools and trip planners and the trip.
Assumptions	Registered user. In italics are either systems responses or parts of the scenario that are not performed by the user but help the scenario to unravel.
Steps	<ol style="list-style-type: none"> 1. Selects MyCorridor app at nomad device (in-vehicle device). 2. Logs in MyCorridor and <i>car use is selected</i>. 3. Selects in the trip planner the fastest route to Igoumenitsa and gets the results for selected dates (<i>specific dates will be added based on the emulated scenario that will be developed before the pilots kick off</i>). 4. Selects the traffic management services (as defined in Storyboard objectives) is interested and are available for the trip 5. Selects a ferry return journey from Igoumenitsa to Brindezi for preferred dates (for dates see step 3) with car included. 6. Enters payment details and purchases the Mobility Token. <i>The Mobility Token includes a 15% discount on selected tourist sites in Rome.</i>

Goal/Output	Greece Scenario 7aGR: Tourist travel by car and ferry from Thessaloniki (Greece) to Rome (Italy)
UC-sub-UC	T3 – Personalised MaaS package configuration, purchase & redemption – T3.1 Configuration, purchase & redemption of personalised MaaS package (consisting of one or more mobility products) coupled with trip planning
	<p>7. <i>Starts the journey and gets information on nomadic device screen on traffic light forecasts whilst still driving in Thessaloniki. Traffic is 'heavy', and a new route is suggested and re-calculated.</i></p> <p>8. <i>After getting off at Brindezi, the selects 'Destination travel options' the comfort option and real-time information.</i></p> <p>9. <i>As soon as enters Rome, selects information on congestion and traffic lights timing for deciding alternative routes and having a more relaxed trip.</i></p> <p>10. <i>Select information about the closing hours of office at the building the user is arriving soon to ensure that will get there on time and find a parking spot.</i></p> <p>11. <i>Selects to redeem the 15% voucher for a visit to the nearest museum (will add the name of the museum later when the service will be ready).</i></p>
Success criteria	Select the services, creates the package, completes the transaction, redeems the discount coupon.
Notes	Everything in italics is part of the scenarios that it will realised during the second evaluation phase, unless it can be emulated during the first evaluation phase or system response.

Italian pilot site

For the Italian pilot site, the cross-border scenarios are covered by the ones prepared for the Greek pilot site. For the second evaluation phase, other cross-border scenarios, originating from Italy will be created, as new services will be integrated to the platform, and real travelling will take place.

STORYBOARD for SPONTANEOUS TRAVELLER

Roberto is a 21-year-old student of Ancient History. He is moderately keen on going 'green' and short in cash. He is planning to surprise his friends with a visit to Rome and wants to travel as cheap and as smooth as possible. He avoids using his own car and prefers to use public transport and car sharing to move around the city and to visit other parts of the country.

Objective: Imagine you are in Roberto's position and want to travel from Rome to Ostia by PT **[No. 27, 29, 30 extend from Rome?) Purchase e-tickets for PT and get PT scheduled and real time information]** then use car sharing **[No. 13, 14 (extend from Rome?) Booking car and purchase shared car e-tickets]** and gets real traffic information whilst travelling within Rome **[No. 41: Real time traffic state and forecast]** and park the shared car in a dedicated parking space **[No 1: Parking purchase e-ticket (extend from Rome?)].**

You enter your MyCorridor profile, purchase an existing MyCorridor package, save the Mobility Token under your profile, check the discount you will receive, and the loyalty points you will collect.

Goal/Output	Scenario 04IT: Registered user creating/changing user preferences
UC - sub-UC	T2 Static & dynamic profiling – T2.2 Registered user
Inputs	Credentials are either re-entered or this scenario follows after the completion of 01, 02, 03.
Assumptions	User belongs to the selected user group (i.e. representativeness) and familiar with technologies. User is registered and has already created a profile. Static user information parameters are added in scenario 01.
Steps	<ol style="list-style-type: none"> 1. User accesses their profile. 2. The user sets the following preferences depending on user traveller group they belong to (to be finalised before test activities kick-off): <ol style="list-style-type: none"> a. Spontaneous: weather and events 3. Select transportation preferences <ol style="list-style-type: none"> a. Bus b. Metro c. Rail d. Car 4. Select cost: <ol style="list-style-type: none"> a. Low 5. Select routing preferences: <ol style="list-style-type: none"> a. Cheapest b. Fewest transfers 6. Select favourite POIs and transport schedules 7. Select type of services in favour of user <ol style="list-style-type: none"> a. Mobility vehicle related/ Parking b. Mobility vehicle related/ PT c. Mobility vehicle related/ sharing – pooling d. Mobility Public Transport (Para-transit) e. Traffic management – Advanced traffic management services 8. Select level of comfort: <ol style="list-style-type: none"> a. Minimum/ no transfers
Success criteria	User sets all preferences according to the storyboard persona requirements.
Notes	Please use the same credentials for accessing the user profile that were used in scenario 01, 02, and 03.

Spontaneous user and student travels from home in Ostia to meet with friends in Rome (Leisure)

Goal/Output	Italy Scenario 5IT: Spontaneous user and student travels from home in Ostia to Rome city centre
UC-sub-UC	T3 – Personalised MaaS package configuration, purchase & redemption – T3.3 Configuration, purchase & redemption of ready to use MaaS packages – T7 Loyalty scheme (encompassing incentivisation & rewarding)
Inputs	User is familiar with online tools and trip planners and the trip.
Assumptions	Registered user. In italics are either systems responses or parts of the scenario that are not performed by the user but help the scenario to unravel.
Steps	<ol style="list-style-type: none"> 1. Opens MyCorridor app on smartphone. 2. Logs on as registered user (<i>dummy credentials to be provided</i>) 3. Enters as origin the home address in Rome and as destination Ostia (<i>trip planner</i>). 4. Searches for the cheapest option from the existing packages. 5. Selects the Package that includes transportation with PT, shared car, parking and train. 5. Enters payment details and purchases the Mobility Token. 6. Stores the Mobility Token under 'MyTokens' in their profile. 7. <i>Validates the Mobility Token on PT and gets a bus to suburban train station and then underground to get to Rome city centre.</i> 8. <i>Goes to the nearest parking station and validates the Mobility Token for the shared car.</i> 9. <i>Receives real traffic information to reach the friend's address and avoids the peak hour traffic and gets access to Limited Traffic Zones at all times.</i> 10. <i>There is car sharing parking in this area and thus receives a 25% discount for the nearest private parking.</i> 11. <i>Validates the discount coupon and parks the car to the dedicated parking area.</i> 12. <i>Has a five-minute walk to friend's place.</i> 13. <i>Receives a message in his MyCorridor application that 250 points have been credited into their MyCorridor loyalty card.</i>
Success criteria	Selects the cheapest and Purchase the package, stores the Mobility Token under 'MyTokens', gets discount voucher/coupon.
Notes	Steps in Italics are either information related to the actualisation of the journey or parts of the journey that cannot be performed during the 1 st

Goal/Output	Italy Scenario 5IT: Spontaneous user and student travels from home in Ostia to Rome city centre
UC-sub-UC	T3 – Personalised MaaS package configuration, purchase & redemption – T3.3 Configuration, purchase & redemption of ready to use MaaS packages – T7 Loyalty scheme (encompassing incentivisation & rewarding)
	iteration phase. Some of these parts, those that are instrumental in the interaction with the platform and/or services, will be emulated.

STORYBOARD for COMMUTER

Michaela is a 35-year-old, mother of two, bank clerk. She wants to be able to drop her kids at school on time. The school is quite far away from her home and then she also has a very short time window to get to her work on time in the city centre where there are usually no parking spaces available.

Objective: Imagine you are in Michaela's position and want to travel from Roma city to the city centre but first drop off your children at their school by car sharing *[No. 41: Real time traffic state and forecast; No. 13, 14 (extend from Rome?) Booking car and purchase shared car e-tickets]*, then continues to train station to get train and metro *[No. 27, 29, 30: Purchase e-tickets for PT and get PT scheduled and real time information]* to get to your work.

You enter your MyCorridor profile, you select the trip planner by adding your home address (*address will be added by Italian partners in updated version of these scenarios before testing starts*) to your kids' school address (*same as previous*). Then you enter another destination, which is your nearest train station (*same as previous*). You create and pay for your Mobility Token. You save the Mobility Token under your profile ('MyTokens'). You check the discount coupon you received for the next car sharing ride, and the loyalty points you collected.

Commuter travels from home in suburbs of the Roma city (Ostia city) to her office in city centre.

Goal/Output	Italy Scenario 6IT: Commuter travels from Roma city to Ostia city centre.
UC-sub UC	T3 – Personalised MaaS package configuration, purchase & redemption –T3.1 Configuration, purchase & redemption of personalised MaaS package (consisting of one or more mobility products) coupled with trip planning /T5. Modification/Cancellation- Modify selected mobility products/ T6. Traveller feedback – View information of other travellers/ T7 Loyalty scheme (encompassing incentivisation & rewarding)
Inputs	User is familiar with online tools and trip planners and the trip.
Assumptions	Registered user. In italics are either systems responses or parts of the scenario that are not performed by the user but help the scenario to unravel.
Steps	1. Selects MyCorridor app.

Goal/Output	Italy Scenario 6IT: Commuter travels from Roma city to Ostia city centre.
UC-sub UC	T3 – Personalised MaaS package configuration, purchase & redemption –T3.1 Configuration, purchase & redemption of personalised MaaS package (consisting of one or more mobility products) coupled with trip planning /T5. Modification/Cancellation- Modify selected mobility products/ T6. Traveller feedback – View information of other travellers/ T7 Loyalty scheme (encompassing incentivisation & rewarding)
	<p>2. Logs in MyCorridor.</p> <p>3. Registered user is defined.</p> <p>4. Enters as destination office address (will be added) with intermediate stop at school (will be added).</p> <p>5. Selects from available services traffic information, car sharing, train and metro tickets.</p> <p>6. Creates the Mobility Token, adds payment details and purchases the Mobility Token.</p> <p>7. Saves the Mobility Token under 'MyTokens'.</p> <p>8. Checks that receives a 25% discount in next car sharing ride.</p> <p>9. Checks that 250 points have been added to their loyalty scheme card.</p> <p><i>10. Enters traffic and gets real traffic information about the route from home to school where drops off kids.</i></p> <p><i>11. Validates Mobility Token for car sharing and gets a ride to the train station.</i></p> <p><i>12. Parks the shared car to the dedicated parking area.</i></p> <p><i>13. Validates the Mobility Token to get the train to the city (station names will be added later).</i></p> <p><i>14. Validates the Mobility Token to get to the metro station (stop will be added later).</i></p> <p><i>15. Gets off at metro station (exact station added by later).</i></p> <p><i>16. Walks 5 minutes to get to work.</i></p>
Success criteria	Creates, purchases the customised package and stores the Mobility Token, checks the discount for next car sharing ride, checks the accumulated points at loyalty scheme card.
Notes	If journey legs are emulated (those steps in italics), then success criteria will be the validation of respective Mobility Token coupons.

General implementation and demonstration scenarios

Two additional scenarios have been created to: a) showcase the one great corridor connecting all MyCorridors in Europe and b) a scenario for UC B5 (D1.1., p. 199). The administration of these scenarios in pilots is envisaged only for the second evaluation phase. They will be re-visited and refined in the final update of this Deliverable, just before the semi-real evaluation kicks off.

Pan-European Corridor: the American tourist

STORYBOARD for American Student/ Tourist (One corridor)

John Mac Dolan is a 21-year-old, very tech savvy, History student in NYC. He has been waiting for this trip for a while now. He has a gap year and wants to spend a month travelling through Europe with various transport modes. He does not want to buy a railpass across Europe because he needs the flexibility of alternative transfer modes. He wants to limit his expenses but at the same time he is also keen on comfort (choosing two preferences relies heavily on development outcomes). One of his friends back home informed him about MyCorridor and its ludicrous offers and discount coupons and he decided to check it out during his waiting time for his final flight to Amsterdam. He wants to register, create a user profile, add his preferences and plan his trip.

Objective: Imagine you are in John's position and you want to create your MaaS package, so you add bike sharing [No.18: *Booking shared bike of OV-Flets; Brand MKRS BMCA*] to move around Amsterdam, couple with anything you can find on public transport (i.e. tickets and scheduled timetable) [No. 25: *Purchase e-tickets*, No. 28: *Schedule information; Brand MKRS*], push information about museums, leisure activities, events, and healthcare [No. 62: *Unified Configurable personalised added value services; WINGS*]. You then decide to get carpooling from Amsterdam to Berlin to meet new people and get into a road trip adventure [No. 12: *Carpooling search, booking, and purchase; BlaBlaCar*] to Berlin, you get a taxi [No. 21: *Taxi apply and book; Splyt taxi services*] to your hotel (will address) from where the last carpooling drops you. It was an exciting but very tiring experience! You access CheckMyBus [No. 24: *CheckMyBus search engine; CheckMyBus GmbH*] to get information about offers and cheap tickets to get to Prague. You find out that the bus service you have in your package offers the cheapest options and you check the scheduled timetable [No. 31: *scheduled information; AMSBus by CSAD SVT Praha s.r.o.*] and want to know real-time info for when you will arrive in Prague [No. 33: *Purchase e-tickets; AMSBus by CSAD SVT Praha s.r.o.*], after you enjoy the Prague nightlife and opera, you travel from Prague to Salzburg via coach [No. 31: *scheduled information; AMSBus by CSAD SVT Praha s.r.o.*], [No. 33: *Purchase e-tickets; AMSBus by CSAD SVT Praha s.r.o.*], where you take the bus [No. 6: *e-ticketing for public transport in Salzburg; STA*], and book a shared bike [No. 17: *Book shared bike e-tickets; SAT*, No. 19: *Purchase shared bike e-tickets; SAT*] to sightsee and get to know the city. Then you get on another coach to visit Rome, where you share a car to visit Ostia's ancient ruins [No. 13: *Booking shared car in Rome; RSM*, No. 14: *Purchase e-tickets shared car in Rome; RSM*], and you park the car in the dedicated parking space area [No. 1: *Purchase of parking e-tickets in Rome; MyCicero*, No. 2: *Parking availability information*] and then you get a taxi [No. 22: *Taxi apply and book; RSM*] back to Rome where you spent the weekend sightseeing by using public transport [No. 27: *Purchase e-tickets; Pluservice*, No. 29: *PT scheduled information; RSM*, No. 30: *PT real time information; RSM*]. Next week you again car share [No. 13: *Booking shared car in Rome; RSM*, No. 14: *Purchase e-tickets shared car in Rome; RSM*], to get to Brindisi, park the car, and get the ferry to Igoumenitsa [No. 36: *Booking ferry tickets*, No. 37: *VivaWallet: Purchase ferry tickets; VivaWallet*], where you get the bus to Athens [No. 34: *Purchase e-tickets (extended) Fare collection system for Korinthos interurban buses (investigate possibility to extend service); Korinthia Interurban Bus Company*]. From there, you reach Rafina with rented car where you select to have access to several traffic management services in order to reach the port in time [No. 41: *Real time traffic state; SWARCO MIZAR/SWARCO HELLAS*, No. 45: *Event management; SWARCO MIZAR/SWARCO HELLAS*, No. 47: *Advanced Traffic Forecasting; SWARCO MIZAR/SWARCO HELLAS*] and, finally, reach Naxos by ferry [No. 36: *Booking ferry tickets*, No. 37: *VivaWallet: Purchase ferry tickets; VivaWallet*].

B5: Interactive Traffic Management Plan (D1.1; p. 199)

This scenario will be used for evaluation during the second evaluation phase, with the participation of MyCorridor partners with traffic management expertise (i.e. MAPtm, SWARCO, and TomTom) and potentially other key actors, as they have been defined within D1.1. (Section 12.3.3.5; p. 198), by utilising expert walkthroughs and focus group discussions.

STORYBOARD for road accident/ heavy traffic congestion

Giorgio, 33 years old, tech savvy, Chemistry teacher is driving from Rome to Ostia, where he is meeting his friends for dinner. He decides to go by carsharing and he is already a bit late. He is a MyCorridor registered user and a silver loyalty card member. He purchased a MaaS package with loads of traffic related services just a few days ago *[No. 41: Real time traffic state; SWARCO MIZAR/SWARCO HELLAS, No. 45: Event management; SWARCO MIZAR/SWARCO HELLAS, No. 47: Advanced Traffic Forecasting; SWARCO MIZAR/SWARCO HELLAS, No. 48: Zone access control information; SWARCO MIZAR, No.: 49: GLOSA in ROME; SWARCO MIZAR, No.1: Purchase e-ticket; MyCicero, No.4: Parking availability; ATAC, No. 27: Purchase e-tickets, Pluservice, No 29: PT scheduled information, RSM, No. 30: PT real time information, RSM]* and other services. While driving he experiences dynamic navigation service, which includes enhanced traffic management related information such as real time traffic management information & events, zone access control, speed recommendations, in vehicle signage as well as C-ITS services such as GLOSA, as he is near the Bacino Prati area of Rome. Thanks to the traffic management services, he has already set the route he will follow.

Traffic management operators (SWARCO MIZAR) receive FCD data from TomTom and information on heavy congestion at the Rome exit Giorgio has chosen and provide an alternative re-route that requires additional ten minutes' drive. But with the state of the congestion Giorgio will never make it on time. However, as he drives the alternative route, a car accident happens ten km ahead from where Giorgio is currently located. Now, the road operators inform the traffic management operators about the accident that happened on one exit and the heavy congestion on the other exit. The traffic management operators send a VMS for the road ahead being blocked by accidents for the next 30 minutes. In addition, the traffic management operators send a message to Giorgio through the MyCorridor traffic management service. The traffic management operators ask the MyCorridor operator -in order to decrease the heavy congestion from one side and reduce the long queue of vehicles on the other side- to increase the demand of other transport modes. The MyCorridor operator initiates the process of incentivising drivers in this area to use public transport. Giorgio has added parking spaces in his Mobility Token and he receives a free parking space coupon and a 30% on train tickets. He decides to take advantage of both coupons. He is re-routed to the nearest parking space where he leaves his car. He checks when the next train leaves for Ostia. He walks to the nearest train station, where he takes the next train to Ostia. He validates his coupon. He arrives to Ostia and walks to the restaurant on time to have dinner with his friends.

Annex V. Guide for evaluation sessions

This section includes a comprehensive list of guidelines to successfully plan the evaluation sessions with end-users and ensuring pilot sites are prepared and they all have the same understanding of the plans ahead the pilots start. This list is not prescriptive but it can be used as a modifiable guide which pilot site teams can use as a checklist of selecting the appropriate steps, materials and templates for the 1st phase.

Planning the evaluation sessions

- Have test material ready
- Complete test planning spreadsheet
- List of scenarios based on traveller user group
- Pre- and post-test questionnaires
- Assign roles to team members:
 - Facilitator
 - Note taker(s) – may want to have one to take notes on what the users say and one to take notes on the paths they take looking for information and think aloud protocols
 - Video editor (in case video clips are recorded). This person will be responsible also for the CamStudio screencasting recordings.
 - Recruitment manager
- Schedule meeting room(s), setup, testing, and participant debrief / waiting

Recruit Participants

- Create recruiting materials:
- Use storyboards to identify candidates for participants
- Recruitment criteria, schedule, and participant background
- Recruitment, confirmation, and reminder emails
- Consent to record (Annex I)
- Thank you notes and package honoraria or compensation (if given) for participants
- Recruit participants (allow at least 2-3 weeks for this process)
- Send confirmation invitations (including consent to record) to participants and team members for:
 - User evaluation sessions (one person per session)
- Make arrangements for user participant gratuities

Develop and Assemble Test Materials

- **Materials for participants:**
 - Consent form to sign – note that we typically request consent written or verbally (recorded);
 - Pre/post-test questionnaires (in person only).
- **Materials for team:**
 - Test script (compiled from test planning spreadsheet; includes facilitator intro and think out loud protocol, scenarios, and pre/post test questions) (script and procedure written to be distributed along with data collection and facilitator templates).
 - Note taking form for facilitator (template to be distributed before tests)



- Issue tracking (template to be distributed before tests);
- Participant names/emails/phone numbers;
- URLs for Service Registration Tool and MyCorridor platform, including smartphones.

Set Up Testing Environment

- For in person tests:
 - Put up "Do Not Disturb" signs;
 - Be sure screen capture/camera set up works properly;
 - Check supplies for test room (pens, paper, refreshments for participants) o Print copies of all test materials.
- Note takers should:
 - b)** Set up your workspace (2 monitors, or 2 computers - one with virtual meeting software and one with note taking spreadsheet);
 - c)** Get a stop watch and be sure it's working (e.g. from your mobile phone).

Pilot Test

- Send out reminder email to pilot test participants the day before the session; copy team;
- Verify set up of testing environment;
- Conduct pre-test;
- Revise test materials and their translation;
- Conduct pilot;
- Revise test materials as need based on pilot test;
- Check lab supplies and replenish as needed.

Evaluation sessions

- Send out reminder email to test participants (or call them) the day before the session;
- Copy team;
- Verify set up of testing environment;
- Conduct tests;
- Debrief with team after each session and capture key positive findings and usability issues on the issue tracking spreadsheet;
- Debrief with observers;
- Post all videos to predetermined location;
- Abide to ethical and GDPR guidelines and legislation.

Data Analysis

- Work with team to determine final list of positive findings, usability issues;
- Work with team to develop recommendations for improvement;
- Choose video clips that illustrate your main findings;
- Prepare summary of findings and recommendations; include video clips;
- Present and distribute summary of findings and recommendations;
- Send thank you notes.

Annex VI. Glossary

Term	MyCorridor definition
MyCorridor one-stop-shop	The one-stop-shop that will be developed in MyCorridor and will allow configuration, purchase and redemption of MaaS packages that consist of Mobility Products and supportive infomobility and added value services (upon payment of not).
Mobility products	Real life, physical transportation services or transportation management provided by private/ public/public-private transport companies/authorities; they might be sold to travellers in the form of ticket products, which are based on tariff policy. Infomobility and Added-Value services are not conceived as Mobility Products, either they are provided upon payment or not.
Services	Digital services which can be provided through MyCorridor one-stopshop and formulate Mobility Products. Encompassing also infomobility or Added value services.
e-vouchers	Payment receipts of Mobility Products
Mobility Tokens	Type of vouchers concentrating smart characteristics that define the eligibility conditions for MaaS packages purchased by the traveller.
Mobility/MaaS operator or MaaS aggregator or Maas Issuer	The business holder of the one-stop-shop. See section 4 of D1.1 for clusters of stakeholders addressed and provisional roles
MyCorridor platform	The MyCorridor platform is MyCorridor mobile application, the Service Registration Tool and the interaction users and other stakeholders can have with MyCorridor.
MyCorridor mobile application	The MyCorridor MaaS products will be available through an iOS and Android application. Users will be able to download it for free.