Grant Agreement No. 730822

ATTRACkTIVE

4.2 – Data Management Plan (DMP)

Due date of deliverable: 31/05/2017

Actual submission date: 25/06/2019

Leader of this Deliverable: Achim von der Embse (HaCon)

Document status		
Revision	Date	Description
00-02-00	15/05/2017	First issue
00-02-03	07/07/2017	Partners contribution integrated
00-02-05	29/11/2017	Remarks from partners taken in account
00-02-06	30/11/2017	First ATTRACkTIVE Upload Version first phase
01-00-07	06/05/2019	Final ATTRACkTIVE Version taking review comments into account

Project funded from the European Union's Horizon 2020 research and innovation programme		
Dissemination Level		
PU	Public	X
CO	Confidential, restricted under conditions set out in Model Grant Agreement	
CI	Classified, information as referred to in Commission Decision 2001/844/EC	

First Version Reviewed: 30/11/2017

Start date of project: 01/09/2016 Duration: 33 months

EXECUTIVE SUMMARY

This document is deliverable “D4.2 Data Management Plan (DMP)” of the ATTRACkTIVE[1] Project, associated to task 4.1 of the Grant Agreement.

Within the project ATTRACkTIVE (as part of IP4 of the Shit2Rail JU) the main goal is to provide new concepts, tools, and systems to improve the attractiveness of rail transport by offering more intuitive and engaging travel experiences to customers while shielding them from the complexity and heterogeneity of services for door to door intermodal journeys.

Following the H2020 Guidelines [R4], this DMP describes how the existing data and the new data generated by the project will be handled. The data must be Findable, Accessible, Interoperable and Reusable according to FAIR Principles.

The first section of this document gives a brief introduction while the second section describes general data management lifecycle that applies to the whole project. The following section will describe for each Work Package (WP) (except WP5 – Project Management) a data summary indicating the purpose of the data collection/generation, its origin, size, format, and its relation to the project objectives.

As said the Data Management Plan describes how data will be treated in this project taking the FAIR principles into consideration. The different types of data according to this project are listed in the section 3 of this document. The DMP is a living document. For the time being not all data is already known. During the project runtime additional data might be involved and therefore the document has to be updated. This first version contains the main data that is known till now. The final version will be released at the end of the project.

[1] This project has received funding from the European Union’s Horizon 2020 research and innovation programme under Grant Agreement No 730822.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

1.1 Purpose of ATTRACkTIVE DMP

The Data Management Plan (DMP) is a live document that describes the data management life cycle for the data to be collected, processed and/or generated by a Horizon 2020 project. As part of making research data findable, accessible, interoperable and re-usable (FAIR), a DMP should include information on:

- The handling of research data during and after the end of the project
- What data will be collected, processed and/or generated
- Which methodology and standards will be applied
- Whether data will be shared/made open access
- How data will be curated and preserved (including after the end of the project)

This data can be produced either by the partners of the project or they may be collected by third parties. The latter case can apply if e.g. the data of travel service providers will be needed to prove the outcome of the project along use cases.

The DMP also provides an analysis of the main elements of the data management policy that are going to be used by the Consortium. The policy can concern the:

- Dissemination policies of data
- Collect, process and review restrictions on data
- Interaction with the IT2Rail Lighthouse project to perform an efficient synchronisation
- Intellectual property protection of data produced and used by partners.

This document should be considered in combination with:

- Section 9 of the Consortium Agreement: “Access Rights”
- Chapter 4/ Section 3 of the Grant Agreement No. 730822: “Rights and Obligations related to Background and Results”

In this final version of the document the focus will be on data security in chapter 2 and travel companion together with GDPR issues in chapter 3 as part of each subsection.

1.2 Background of ATTRACkTIVE Project

In order to better understand the data used or generated by the project, a brief overview of the project structure and objectives of each work package (WP) is given below:

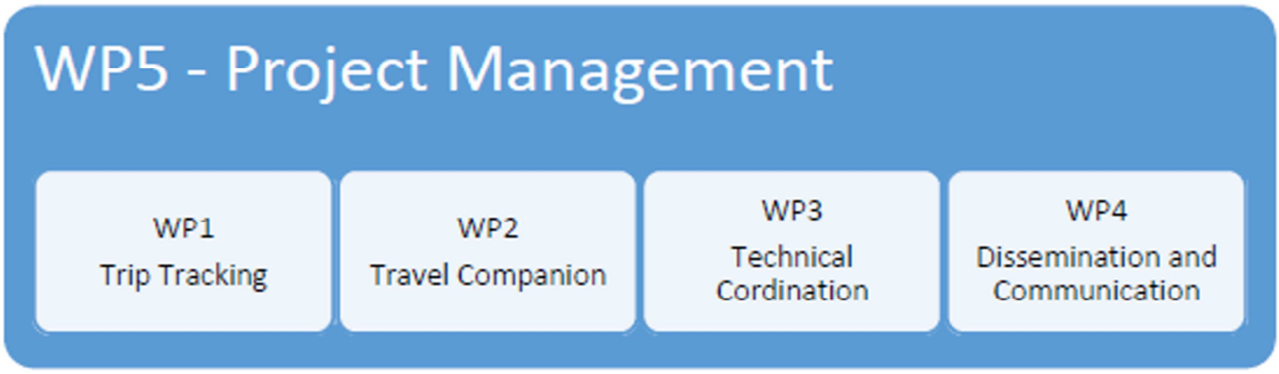

Figure 1 – ATTRACkTIVE Project Structure

- **WP1: Trip Tracking**

The Trip Tracking (TT) work package deals with the specification, design and implementation of the system in charge of collecting travel information from multiple sources, to detect and handle transport events, to analyse the impact of disruptions for all modes and to provide alternatives if necessary and possible. In this sense, so called partial Trip Trackers (pTT) will be treated by a Tracking Orchestrator (TO) to inform and propose the user's individual solution for their current situation.

- The Tracking Orchestrator is responsible for tracking a whole journey and to inform travellers about any occurrences that may happen during a travel. It takes a beforehand selected journey, looks for appropriate partial Trip Trackers and instructs them to track this journey. Thereafter it waits for any information that the pTT may provide. It checks and combines this information to relevant information and forwards this to the traveller.
- Several partial Trip Trackers may coexist, processing events and providing the Orchestrator with impacts that will affect the tracked journey, accounting traveller preferences.

- **WP2: Travel Companion**

The Travel Companion work package aims to specify, design, and implement the required techniques and tools to design novel forms of travel experiences. This includes an advanced Personal Application running on Android devices as well as allocated cloud based services to store private user specific information. The system will be able to handle points of interests (POI), provide navigation assistance and hide complex operations to deal with different modes of transport.

- The Personal Application is the client which a traveller can use to access the whole ecosystem. This way, users are able to access all services through a homogenized user interface, allowing them to leverage all the capabilities of the system. Furthermore, Location Based Experiences are integrated to present entertainment, provide point of interests or any other information that might enrich the journey. In addition, Indoor/Outdoor Navigation will be presented to guide the traveller throughout their journey.
- The online counterpart Cloud Wallet serves as the secured repository for the users' personal information. Storing this information in the Cloud allows the user to not only access information multiple times but enables them to use different devices. Cloud Wallet also acts as a bridge between the Personal Application and all external services, allowing travellers to receive information affecting their journey and providing them with ubiquitous access to travel rights in electronic wallets.

- **WP3: Technical Coordination**

The Technical Coordination work package will assure coordination amongst the activities of the partners within ATTRACkTIVE and as well coordinate with the other Technology Demonstrators inside the IP4 program in particular, IT2Rail, Co-Active (CO-Modal Journey Re-Accommodation on Associated Travel Services), ST4RT (Semantic Transformations for Rail Transportation) and GoF4R (Governance of the Interoperability Framework for Rail and Intermodal Mobility). It will also be in charge of integrating and testing WP1 and WP2 technical results and organising evaluation sessions with end-users to collect feedback and new requirements for the next releases.

- **WP4: Dissemination and Communication**

The Dissemination and Communication work package will put in place communication tools and channels to guarantee seamless exchange between partners and ensure that the outcomes of the project will be produced on time and to high quality standards. Moreover, public events will also be organized and conducted to share the acquired experience.

- **WP5: Project Management**

The Project Management work package will guarantee the efficient coordination of the project work package and tasks, ensuring not only effective consortium management, but overall administrative and financial management of the project. Considering its nature, there will be no data produced by this WP suitable for inclusion within this DMP.

1.3 List of Acronyms

CT	Cooperation Tool
DMP	Data Management Plan
EC	European Commission
FAIR	Findable, Accessible, Interoperable and Re-usable
GA	Grant Agreement
OAS	Operational Assistance Systems
PCT	Project Coordination Team
POI	Point of Interest
pTT	Partial Trip Tracker
RT	Real Time
SC	Steering Committee
S2R	Shift2Rail
TC	Travel Companion
TD	Technology Demonstrator
TO	Tracking Orchestrator
TT	Trip Tracker
TMT	Technical Management Team
VPN	Virtual Private Network
WP	Work Package

Table 1: List of Acronyms

1.4 Reference Documents

[R1]	ATTRACkTIVE Grant Agreement – N° 730822	05/08/2016
[R2]	ATTRACkTIVE Consortium Agreement	14/07/2016
[R3]	Quality Plan (updated version)	07/07/2017
[R4]	Guidelines on FAIR Data Management in Horizon 2020 (v3.0) http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf	26/07/2016
[R5]	ATTRACkTIVE Public Website http://projects.shift2rail.org/s2r_ip4_n.aspx?p=ATTRACKTIVE	

Table 2: Reference Documents

2. DATA MANAGEMENT AT PROJECT LEVEL

This section describes general data management that applies to the whole project and all data generated by the project.

2.1 Typologies of Data

The following categories of outputs will be provided by ATTRACkTIVE Consortium, in order to fulfil the H2020 requirements of making it possible for third parties to access, mine, exploit, reproduce and disseminate the results contained therein:

- (Public) Deliverables,
- Conference/Workshop presentations (which may, or may not, be accompanied by papers, see below),
- Conference/Workshop papers and articles for specialist magazines,
- Research Data and Meta Data.

2.2 Data Collection & Definition

The responsibility to define and describe all non-generic data sets specific to an individual work package shall belong to the WP leader. The WP leaders shall formally review and update the data sets related to their WP.

All modifications/additions to the data sets shall be provided to the ATTRACkTIVE Coordinator (HaCon) for inclusion in the DMP.

2.3 Dataset Naming

All dataset materials generated or used within the project will be named and referred to in this DMP with the following codification, in order to have unambiguous identification and ease of access:

WP (3 characters)	Number (3 digits)	Version
WP1	001	1
WP2	001	1
WP3	001	1
WP4	001	1

Table 3: Dataset Codification

2.4 Archiving and Preservation

Open access to public deliverables/reports, publication or presentation will be achieved in ATTRACkTIVE by depositing the data into the Cooperation Tool (CT), and activating their publication to the project Website [R5].

These documents will be available for at least 3 years following the project completion.

2.5 Data Security

ATTRACkTIVE does not intend to use or produce any confidential or sensitive data that would require setting up specific measures for secure storage or transfer because it develops a technical demonstrator. It is not planned to run this system productively in the market.

The current status of the project does not reconsider this position, but these aspects will be monitored over time and taken into account during development of the system. This ensures that once the system will be going live the data is handled according to Data Security principles.

- **Travel Companion Personal Application**

Personal data will be stored in the Personal Application (PA) for caching purposes in case of network connectivity losses. It will be a mirror of the data stored in the Cloud Wallet and does not need any backup as this cache can be retrieved at will. The storing of the data on the device will comply with the operating systems rules, namely iOS and Android, which are secured through encryption.

The PA will send (indirectly through the Cloud Wallet and the Tracking Orchestrator) sensitive data to an identified partial Trip Tracker. All sensitive data transfer will take place using secured encrypted channels (e.g. HTTPS connections) and authorization mechanism based on temporal token generation.

Once a traveller with a valid journey stored in their secured personal data set intents to be tracked several actions take place:

- the Cloud Wallet is enabled to send push notifications to the travellers PA to inform users about any kind of obstacles
- the Tracking Orchestrator will subscribe this journey by using the User ID and the Offer ID representing the journey
- the journey is sent with a subscription ID anonymously to all partial Trip Trackers
- whenever an Event results in a relevant notification for the traveller the Tracking Orchestrator sends this notification to the Cloud Wallet which sends a push notification to the traveller.

The generated subscription IDs and tokens are valid until the journey has finished or until the traveller terminates the tracking mode.

- **Partial Trip Tracker Repository**

Partial Trip Trackers do not store any personal data into their repositories. The Partial Trip Trackers are not master of the data they manage. The stored data come from sources that control data and the associated life cycles. The storing is for caching purposes. In case of system crash, the data will be re-acquired.

- **Cloud Wallet Repository**

Cloud Wallet data will be stored on a relational database (PostgreSQL) protected by a user and password. The access to this data will only be allowed to administration users. Currently, the access to the data has two ways:

- Through VPN connecting directly to the servers: in this way, a user and a password is needed in addition to the mandatory certificate VPN connection. Then, I will have access to the databases directly.
- Through services using a special admin account: this requires an administrator account registered in the Identity module and login with this account in the system to use a temporary token. Expiration time in temporary tokens is configurable.

The database will be located on the Microsoft Azure Cloud, one of the safest cloud environments.

Microsoft Azure recently completed a new set of independent third-party ISO and Cloud Security Alliance (CSA) audits to expand its certification portfolio. Azure leads the industry with the most comprehensive compliance coverage, enabling customers to meet a wide range of regulatory obligations. The following table summarizes the Azure certifications:

Certification	Azure
CSA STAR Certification	√
ISO 27001:2013	√
ISO 27017:2015	√
ISO 27018:2014	√
ISO 20000-1:2011	√
ISO 22301:2012	√
ISO 9001:2015	√

The access to this server will only be allowed using a Virtual Private Network (VPN) protected by username and password that will only be available to administration users. Only the owner of the cloud environment is able to add new admin users if this is necessary.

This server will only be accessible using specific ports, blocking the access using the most common ports used in hacking attacks, such as HTTP.

A database backup will be executed daily to generate a snapshot of the data stored in the repository, and the backup will be stored on Azure infrastructure to avoid data loss in case of a

server crash. This backup execution will be the responsibility of Indra as well as the recovery in case of data loss.

A server backup will be configured in Azure daily for being able to restore the full server in case of disaster.

All passwords stored physically in the database or in files will be stored cyphered using a state of the art algorithm. The algorithm used is **bcrypt**, a password hashing function based on the Blowfish cipher. This algorithm incorporates a salt to protect against rainbow table attacks and it is also an adaptive function: over time, the iteration count can be increased to make it slower, so it remains resistant to brute-force search attacks even with increasing computation power.

2.6 Ethical Aspects

The developed procedures and findings generated in ATTRACkTIVE are centred on embedded systems topics and do not foresee any research on areas of ethical relevance such as research on humans, animals, medical applications, genetics or bio/nano-electronics.

During the project all possibly needed data will be simulated (replica data) and thus constitute no personal data. In cases where personal data can or will be used after the end of the project, this data will be secured and protected by design.

None of the ethical issues that have been named in section 4 “Ethics issues table” of the proposal submission forms are relevant for the ATTRACkTIVE proposal.

3. DATA MANAGEMENT PLAN OF ATTRACKTIVE PROJECT

- **FAIR Principles**

In order to have a well-organized data management, the FAIR Principles should be applied, which mean to make the research data:

- **F**indable,
- **A**ccessible,
- **I**nteroperable,
- **R**eusable

for internal and external stakeholders of the project. The data architecture of ATTRACkTIVE takes these rules into account for their specific parts having in mind that this project is one of several ones in the course of Shift2Rail IP4. The Open Call project My-TRAC deals with regulations according to GDPR and parts of their outcomes will be reflected within this document.

Furthermore, produced data of the two work packages 1 and 2 are partly targeted at one specific person and produce personal sensitive data, which is not intended to be openly accessible so there is no need to enable an exchange of data or to make them findable for an external usage. This applies especially for the Travel Companion. It is guaranteed that data generated within the project will only be reused with respect to corresponding projects of IP4. For this usage data security especially for private sensitive data is ensured due to anonymizing them so that data of this type would be reused in an aggregated form. Data generated during the project is only used for the development of new features to reach the mentioned objectives and will be deleted after finalizing the project.

3.1 DMP of WP1: Trip Tracking

3.1.1 Data Summary

The WP1 of ATTRACkTIVE project deals with the TD4.4 – Trip Tracker. The Trip Tracker is designed to detect any kind of disruptions or obstacles of a traveller's itinerary and to provide users with alternative routes in case of them.

The Trip Tracker deals with a wide range of multi-source and multi-format information through direct links with various transport providers and data providers. Therefore interfaces to support emerging and established standard protocols such as VDV TRIAS, NeTEx, SIRI, GTFS static and real time will be developed. Additionally information from urban OAS (Operational Assistance Systems), ITS, suburban rail management systems, signalling infrastructure and road traffic data will be taken into consideration. On top of that, data from social networks related to the ongoing travels will be collected. The aim is to analyse how social network information could feed the trip tracker and help to enrich the trip tracking functions. This information can be complemented by other information sources such as weather information that could affect common operation. Finally the Travel Companion will be used as a data source for real time information. Therefore this task also aims to interface it to the TC to collect traveller information. The Trip Tracker will be fed with data from the semantic web of transportation through the interoperability framework once the S2R ecosystem is fully stablished.

The aim to collect data for the Trip Tracker is to retrieve all necessary information required to enable tracking activation on journeys to be tracked. This is in relation with the objective of collection of planned and real time data for all modes including personal transport which is essential for all following up calculations and assistance.

The collected data from Public Transport includes mixed reference data (network data, time tables, planned journeys) as well as mixed dynamic data (passing times, vehicle location, operating information, situational/contextual information).

On the one hand, reference data is "real data" provided by Transport Services Providers (e.g. STIB in Brussels). On the other hand, dynamic data is "simulated data" from the simulator implemented within the ATTRACkTIVE project to generate real time events in relation with the corridor/scenario that will be defined in the final demonstrator. Real time events generated will be linked with existing reference data in order to be as close as possible to reality and respond to all situations that can happen within a network.

The consideration of relevant standards within the project as well as the existence of Shift2Rail interoperability framework, will contribute to tear down barriers and obstacles that stakeholders may find when joining Shift2Rail ecosystem. Preventing those competitors in the transportation marketplace might isolate themselves instead of participating in Shift2Rail in the assumption that their market share would be higher.

The collected data from personal application components is extracted from traveller's mobile device sensors and traveller's reported events. This data will provide the ability to identify events based on user inputs and behaviour without identifying that user.

Code	Data Set	Description	Origin	Type	Size	Personal Data	Access/ License
WP1-001-1	Weather	Yahoo Weather API allows you to get current weather information for your location. It makes use of YQL (Query Language) Query, a SQL-like language that allows you to obtain meteorological information. The API is exposed like a service REST and returns the information in a data structure JSON. The data are updated every 2 seconds.	Yahoo Weather API			No	open access; terms of use could be checked at https://policies.yahoo.com/us/en/yahoo/terms/product-atos/apiforydn/index.htm
WP1-002-1	Planning data for Madrid	Feeds for Indra's Urban TSP with the planning data of the urban transit in Madrid (CRTM)	CRTM	GTFS		No	CRTM (Consorcio Regional de Transportes de Madrid)
WP1-002-2	Planning data for Barcelona	Feeds for Indra's Urban TSP with the planning data of the urban transit in Barcelona (TMB)	TMB	GTFS /REST API		No	https://developer.tmb.cat/docs/terms-conditions

Code	Data Set	Description	Origin	Type	Size	Personal Data	Access/ License
WP1-003-1	STIB GTFS	Open data from STIB-MIVB, The Brussels Intercommunal Transport Company. The Files API contains one operation returning the GTFS Files. The GTFS files are updated every two weeks. We will retrieve: • Stops with their geolocation • Lines and their routes • Details of every stop on a line • Theoretical timetables at every stop	STIB	GTFS	~25 MB	No	https://opendata.stib-mivb.be/store/license
WP1-004-1	STIB Operation Monitoring API	Open data from STIB-MIVB, The Brussels Intercommunal Transport Company. The Operation Monitoring API provides real-time information including: • Waiting times at stops • Vehicles positions This API will not be used for demonstration purposes where SIRI SX simulated data is better suited.	STIB	REST API	N/A	No	https://opendata.stib-mivb.be/store/license

Code	Data Set	Description	Origin	Type	Size	Personal Data	Access/ License
WP1-005-1	RT Data VDV Based Data for VBB	Non-Open Data provided by VBB (Berlin-Brandenburg public transport association. Data inherits plan data and real time data; the latter one is used in ATTRACkTIVE Trip Tracker	VBB	VDV 454 V2.1 Program-status Real	N/A	No	Individual bilateral
WP1-006-1	Planned and RT Data from public Transport in Netherland	Data Source to be evaluated for prognosis events; based on Feeds created from open data files published by the transit-agencies under open license in Netherlands	OVapi	GTFS /GTFS-RT		No	http://gtfs.ovapi.nl/nl/ http://gtfs.ovapi.nl/README

Table 4: WP1 - Data summary

3.1.2 FAIR Principles

In this chapter the data used and created in the Trip Tracker is listed according to each of the FAIR categories.

- **Findable aspects**

Code	Meta Data, Comments
WP1-001-1	Data can be accessed according to open access terms; Comment: It was decided within the course of the project not to implement weather forecast conditions
WP1-002-1	Data has been obtained from the open data portal of the CRTM (http://data-crtm.opendata.arcgis.com/) containing the GTFS files for Metro, Buses, Coach, Tram and Train and this information is imported in the Indra's Urban TSP.
WP1-002-2	According to its non-open status access is granted according to license. From a developer portal you can access to GTFS and real-time data.
WP1-003-1	Data has been obtained from the open data portal of the STIB : https://opendata.stib-mivb.be

WP1-004-1	Data could be obtained from the open data portal of the STIB : https://opendata.stib-mivb.be
WP1-005-1	According to its non-open status access is granted according to license
WP1-006-1	Data has been obtained from the RESTful API publicly available. It contains GTFS and GTFS-RT feed related to some Netherlands public transport agencies

Table 5: WP1 - Findable aspects

- **Accessible aspects**

Code	Public/Private	Specific Restrictions	Access	Comments
WP1-001-1	Public	Not applicable		
WP1-002-1	Public	Not applicable	Stored in the Indra's Urban TSP repository	
WP1-002-2	According to license regulations	Specific regulations for Real Time Data	Accessible through INDRA account.	Accessible for Shift2Rail Projects
WP1-003-1	Public	Specific open data license	Accessible through free account	
WP1-004-1	Public	Specific open data license	Accessible through free account	
WP1-005-1	According to license regulations	Specific regulations for Real Time Data		Accessible for Shift2Rail Projects
WP1-005-1	Non open data	Individual regularities	Access according to the individual regularities	Accessible for Shift2Rail Proects

Table 6: WP1 - Accessible aspects

- **Interoperable aspects**

Code	Comments
WP1-001-1	
WP1-002-1	The GTFS data can be combined with GTFS data from other providers to have a complete multimodal environment covering multiple regions.
WP1-002-2	The GTFS data can be combined with API/REST data to have a complete multimodal environment.
WP1-003-1	Based on GTFS standard
WP1-004-1	Specific API
WP1-005-1	VDV454 is a German standard used in public transport for data exchange
WP1-006-1	Based on GTFS/GTFS-RT standard

Table 7: WP1 - Interoperable aspects

- **Reusable aspects**

Code	Comments
WP1-001-1	
WP1-002-1	The GTFS data can be used to feed the Travel Expert Repository and build the Meta Network through the Meta Network Builder.
WP1-002-2	The GTFS data can be used to feed the Travel Expert Repository and build the Meta Network through the Meta Network Builder.
WP1-003-1	The GTFS data are used to feed the pTT. They are available for other potential purposes.
WP1-004-1	Not applicable
WP1-005-1	Real Time Data is according to its nature is not reusable as it is invalid after it expires when the specific travel segment lies in the past.
WP1-006-1	Not applicable

Table 8: WP1 - Reusable aspects

3.1.3 GDPR Issues

Within chapter 2.5 – Data Security it is explained that anonymous tokens (subscription IDs) are generated to enable partial Trip Trackers to forward collected Events to a specific traveller. These tokens are invalid after the journey is past or tracking is terminated manually by the traveller. Insofar the system works according all needs described in the GDPR regulations.

The Real Time Datasets as described in WP1-002-1 till WP1-006-1 used to receive Events if any are completely independent of human beings. They reflect only technical situations along the operation time independent of any specific journey. GDPR issues therefore are not tackled at all.

3.1.4 Specific Consideration

No specific considerations regarding data within this WP.

3.2 DMP of WP2: Travel Companion

3.2.1 Data Summary

The WP2 of ATTRACkTIVE Project deals with the TD4.5 – Travel Companion. The Travel Companion aims to act as the “face to the customer”. It’s an application running on the traveller’s smart device. This application needs a counterpart with server application as well as storage in the cloud.

In order to offer some meaningful capabilities to the traveller, the Travel Companion has to store a profile per user, containing their preferences as well as historical data. This private data will be stored in the cloud component of the Travel Companion, in a cloud database to be accessible from all of the Shift2Rail components. Of course, access to this data will be controlled through state of the art authentication mechanisms.

Moreover, one component of the personal application will collect user data, another one will collect the information generated by the mobile device sensors. The data generated will be anonymously sent to a dedicated partial Trip Tracker. The pTT will analyse the data and use it to detect disruptions if any. This will allow the Trip Tracker to better analyse traffic, temporary accessibility issues, finally providing other users with more complete and more up to date information.

All the other data will be handled in the Travel Companion either in the Personal Application or in the corresponding Cloud Wallet.

For the time being there is no data to be listed in the Travel Companion.

Code	Data Set	Description	Origin	Types/ Format	Size	Personal Data	Access/ License

Table 9: WP2 - Data summary

3.2.2 FAIR Principles

In this chapter the data used and created in the Travel Companion is to be listed according to each of the FAIR categories.

As no data are listed, the FAIR categories need not to be detailed.

3.2.3 GDPR Issues

Collected data as well as cloud wallet data are not intended to be openly accessible.

They are generated within the project and could be only reused in IP4 projects if needed. For this usage data security especially for private sensitive data is ensured due to anonymizing them so

that data of this type would be reused in an aggregated form. At least data generated during the project are only used for the development of new features to reach the mentioned objectives and will be deleted after finalizing the project.

3.2.4 Specific Consideration

No specific considerations regarding data within this WP.

3.3 DMP of WP3: Technical Coordination

3.3.1 Data Summary

WP3 handles all activities regarding technical coordination within the Consortium and manages interaction with other Shift2Rail complementarity projects.

In particular WP3 will carry out integration and testing activities of the TDs developed within WP1 and WP2 and will mostly rely on data generated amongst them.

It will produce deliverables in the form of integration and synchronization reports that will be disseminated at public level.

Code	Data Set	Description	Origin	Types/ For-mat	Size	Perso nal Data	Access/ License
WP3-001-1	OSM tiles	This is the Open Street Map's standard tile layer that can be used to display maps in testing environments. Distributed experiences should use other services to comply with the Tile Usage Policy.	OSM	TMS	N/A	No	https://operations.osmfoundation.org/policies/tiles/
WP3-002-1	Mapbox Maps API	The experience engine also offers to use MapBox APIs to display maps in testing or production environments.	Mapbox	WMTS	N/A	No	Commercial agreements https://www.mapbox.com/pricing/

Table 10: WP3 - Data summary

3.3.2 FAIR Principles

In this chapter the data used and created in Technical Coordination is to be listed according to each of the FAIR categories. For the time being there is no data according to FAIR principles listed.

- **Findable aspects**

Code	Meta Data, Comments
WP3-001-1	Testing data can be obtained from the open street map website (https://www.openstreetmap.org). Editors are available to create custom maps.
WP3-002-1	Testing data has been obtained from the mapbox website (https://www.mapbox.com). It provides map design tools to customized maps that suit the experience authors want to provide.

Table 11: WP3 - Findable aspects

- **Accessible aspects**

Code	Public/Private	Specific Restrictions	Access	Comments
WP3-001-1	Public	Licensed under the Open Data Commons Open Database License (ODbL)		
WP3-002-1	Public	According to commercial agreements https://www.mapbox.com/pricing/	Accessible through registered account.	

Table 12: WP3 - Accessible aspects

- **Interoperable aspects**

Code	Comments
WP3-001-1	Not Applicable
WP3-002-1	Not Applicable

Table 13: WP3 - Interoperable aspects

- **Reusable aspects**

Code	Comments
WP3-001-1	Maps from open street map can be used for any kind of experiences.
WP3-002-1	The map used to create the testing and demonstration experiences are reusable only for a testing and demonstration purpose.

Table 14: WP3 - Reusable aspects

3.3.3 Specific Consideration

No specific considerations regarding data within this WP.

3.4 DMP of WP4: Dissemination and Communication

3.4.1 Data Summary

This work package communicates the projects vision and results and ensures that the partners of the related projects within IP4 will interact in a seamless way by exchanging all relevant information. An essential part is to organize expert and user groups to not only to inform relevant stakeholders, but to collect their advice to take this into account during the development of the system.

Code	Data Set	Description	Origin	Types/ Format	Size	Personal Data	Access/ License
WP4-001-1	News-letter	ATTRACkTIVE Project Newsletter	Produced by the consortium	PDF	<1M	No	Public
WP4-002-1	Project Identity and website	ATTRACkTIVE Project Identity and website	Produced by the consortium	PDF	<1M	No	Public

Table 15: WP4 - Data summary

3.4.2 FAIR Principles

In this chapter the data used and created in dissemination and communication is listed according to each of the FAIR categories.

- **Findable aspects**

Code	Meta Data, Comments
WP4-001-1	This document is a deliverable of the project, disseminated at public level. Under the form of a newsletter, it details the project progress and status.
WP4-002-1	This document is a deliverable of the project, disseminated at public level. Its purpose is to describe the setup of the project website.

Table 16: WP4 - Findable aspects

- **Accessible aspects**

Code	Public/Private	Specific Restrictions	Access	Comments
WP4-001-1	Public	read only	This document has been published over the project website and is accessible in the deliverable section.	
WP4-002-1	Public	read only	This document has been published over the project website and is accessible in the deliverable section.	

Table 17: WP4 - Accessible aspects

- **Interoperable aspects**

Code	Comments
WP4-001-1	Not applicable
WP4-002-1	Not applicable

Table 18: WP4 - Interoperable aspects

- **Reusable aspects**

Code	Comments
WP4-001-1	This document can be reused as a dissemination/communication tool to share information regarding the ATTRACkTIVE project.
WP4-002-1	No reusability is expected for this kind of document

Table 19: WP4 - Reusable aspects

3.4.3 Specific Consideration

No specific considerations regarding data within this WP.

4. CONCLUSION

The Data Management Plan has the following characteristics:

- It is a document outlining how all the research data generated will be handled during the project life, and even after it is completed, describing, whether and how these datasets will be shared or allowed data re-use and also allow validation of results presented in scientific publications generated by the project.
- It is a document outlining how all the research data and non-scientific documents generated during the lifetime of the project will be handled in terms of sharing policies, archiving and storage and preserving time.