



DATA MANAGEMENT PLAN. THIRD RELEASE.

D9.8.



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Executive summary

This report updates the Data Management Plan (DMP). The DMP was initially submitted in Month 6 (D9.2) and subsequently updated in Month 18 (D9.7).

Deliverable D9.8 identifies research data generated, modified, or used up to Month 39. It reviews the data management methodology used throughout the project. The report includes the new added data types, formats, TANGENT tool development data, generated reports, and other handled data.

Key words

#Data Management Plan, #personal data, #artificial intelligence, #data processing technologies, #secure data sharing.

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List of abbreviations and acronyms

Acronym	Meaning
M	Month
WP	Work Package
EU	European Union
UK	United Kingdom
GDPR	General Data Protection Regulation
MB	Megabyte
kB	Kilobyte
N/A	Not applicable
AWS	Amazon Web Services
IP	Intellectual Property

1 Introduction

The deliverable updates the Data Management Plan. Second release (D9.7) that was submitted in M18 of the project. This deliverable shows the updates of the methodology for creating, managing, and storing datasets, as established in Deliverable D9.7 with potential adjustments made as needed. This methodology was applied throughout the project.

This report identifies the research data generated, modified, or used in the different WPs throughout the project, focusing on activities from the second half (M19 - M39).

2 Data summary

The nature, type and formats of data as well as list of data managed have been used without modification.

The basic data information such as identifier, description, type, format, size, provider/ origin, receiver, accessibility: public (Yes/No) and link remains unchanged.

2.1 Data inventory for delivering and testing the TANGENT tools

The following tables from Table 1 to Table 4 show the current list of TANGENT datasets available from the performed case studies for developed and tested the TANGENT services. The structure of the tables is retrieved from D9.7.

IDENTIFIER	DATA SOURCE DESCRIPTION	TYPE	FORMAT	SIZE	PROVIDER	ACCESSIBILITY	DATA SOURCE URL	LICENSE	LANGUAGE
REN_BUST_01	Station topological map. List of bus stops in the STAR network, including their name, municipality and geo location.	STATIC	csv, json, excel, geo-json, shapefile, kml	784 KB	Rennes Métropole	direct download, API	https://data.rennesmetropole.fr/explora/dataset/topologie-des-points-arret-de-bus-du-reseau-star/information/?locoo=16.48.13063,-1.68327&basemap=0a023a	Open Database Licence	French
REN_BUST_02	Bus routes of the STAR network	STATIC	csv, json, excel, geo-json, shapefile, kml	5.5 MB	Rennes Métropole	direct download, API	https://data.rennesmetropole.fr/explora/dataset/parcours-des-lignes-de-bus-du-reseau-star/information/?disjunctive.nomcourtille&sort=idligne&location=9.47.94162,-1.24036&basemap=0a023a	Open Database Licence	French
REN_BUST_03	Position of buses in circulation on the STAR network in real time	REAL-TIME	csv, json, excel, geo-json, shapefile, kml	187 KB	STAR DATA EXPLORE - Rennes Métropole et Keolis Rennes	direct download, API or KEOLIS	https://data.explore.star.fr/explora/dataset/bus-vehicules-position-information/?disjunctive.numeroBus&disjunctive.nomcourtille	Open Database Licence	French
REN_BUST_05	2 MB	STATIC	csv, json, excel	2.8 MB	Rennes Métropole	direct download, API	https://data.rennesmetropole.fr/explora/dataset/top-bus-topologie-dessertes-information/?sort=idparcours	Open Database Licence	French
REN_BUST_07	Real-time traffic alerts on STAR network lines	REAL-TIME	csv, json, excel, iCalendar	83 KB	Rennes Métropole/KEOLIS	direct download, API	https://data.rennesmetropole.fr/explora/dataset/alertes-trafic-en-temps-reel-sur-les-lignes-du-reseau-star/information/	0	French
REN_BUST_09	Ridership data for the STAR network by stop, line, direction, day and time slot (15 minutes)	HISTORICAL	FTP, csv, excel	10 MB	Rennes Métropole/KEOLIS	direct download, FTP	https://data.explore.star.fr/explora/dataset/top-billetique-star-frequence-agresse-id/information/	Open Database Licence	French
REN_BUST_10	Historical bus position data collected from REN_BUST_03	HISTORICAL	CSV	100 MB	Rennes Métropole/KEOLIS	Direct download, API	TANGENT-DATA-API	Open Database Licence	French
REN_BUST_11	Historical traffic alerts on bus lines collected from REN_BUST_07	HISTORICAL	CSV	30 MB	Rennes Métropole/KEOLIS	Direct download, API	TANGENT-DATA-API	Open Database Licence	French
REN_BUST_12	Data for Ligne 1a du réseau BreizhGo en Ile-et-Vilaine : Paimpont/Rennes and Ligne 1b du réseau BreizhGo en Ile-et-Vilaine : Saint-Thuria/Rennes	STATIC	pdf/GTFS	43 MB	Région Bretagne	direct download	https://data.breizhgo.fr/explora/dataset/base-de-donnees-multimodale-transports-publics-en-bretagne-mobilite-hivernale/information/	License under CA	English
REN_METR_01	Status of the STAR metro lines network in real time	REAL-TIME	csv, json, excel, geo-json, shapefile, kml	563 kB	KEOLIS	direct download, API	https://data.rennesmetropole.fr/explora/dataset/stat-des-lignes-de-metro-du-reseau-star-en-temps-reel/information/	Open Database Licence	French
REN_METR_02	STAR metro lines	STATIC	csv, json, excel, geo-json, shapefile, kml	234 kB	KEOLIS	direct download, API	https://data.rennesmetropole.fr/explora/dataset/metro-du-reseau-star-traces-de-ligne-des-lignes/information/	Open Database Licence	French
REN_METR_03	Ridership data for the STAR network by stop, line, direction, day and time slot (15 minutes)	HISTORICAL	FTP, csv, excel	2 MB	Rennes Métropole/KEOLIS	direct download, FTP	https://data.explore.star.fr/explora/dataset/top-billetique-star-frequence-agresse-id/information/	Open Database Licence	French
REN_METR_04	Historical collection of the real-time status of the STAR metro lines network	HISTORICAL	csv, json, excel, geo-json, shapefile, kml	2 GB	KEOLIS	direct download, API	TANGENT-DATA-API	Open Database Licence	French
REN_AIRQ_02	Fixed scientific instruments around Rennes Métropole	REAL-TIME, HISTORICAL	CSV	10 kB	Airbreizh	direct download	http://data.airbreizh.asso.fr/contenu/services_didon.html?service=mas	Open Database Licence	French
REN_TRAF_02	Gross FCD data on the intra-Metropolitan perimeter (V, TdP)	REAL-TIME	csv, json, excel, geojson, shapefile, kml	2.1 MB	Auto route trafic	Direct download, API	https://data.rennesmetropole.fr/explora/dataset/stat-du-trafic-en-temps-reel/information/	Open Database Licence	English
REN_TRAF_04	Road counters locations for REN_TRAF_07	STATIC	csv, json	3.7 MB	Rennes Métropole (DVGTs)	Direct download, API	https://data.rennesmetropole.fr/explora/dataset/stations_comptages_routes/information/	Open Database Licence	French
REN_TRAF_07	traffic data from counting stations in PC control	REAL-TIME, HISTORICAL	csv, json	10.7 MB	Rennes Métropole (DVGTs)	Direct download, API	https://data.rennesmetropole.fr/explora/dataset/comptages-routes-station/information/	Open Database Licence	French
REN_TRAF_08	Traffic count on national and departemental roads	REAL-TIME	csv, json	8.4 MB	DIRO (SGAT)	CSV (API)	https://avater.cerema.fr/api/doc	Open Licence 2.0	French
REN_TRAF_09	Traffic count on national and departemental roads	REAL-TIME	csv, json	8 MB	DIRO (SGAT)	CSV (API)	https://drive.google.com/drive/folders/1ROaWFt2s9QwaoT77hgH4PyqEr2ONu2?usp=drive_link https://avater.cerema.fr/api/doc	Open Licence 2.0	French
REN_TRAF_11	Delineation of roadworks generating disruptions to traffic over the next 30 days including the current day.	REAL-TIME	csv, json	935 kB	Rennes Métropole	Direct download, API	https://data.rennesmetropole.fr/explora/dataset/travaux_30_jours/information/?ocato=16.48.11061,-1.7088&basemap=0a023a	Open Database Licence	French
REN_TRAF_12	Historical road traffic data collected from REN_TRAF_02	HISTORICAL	csv	122 MB	Auto route trafic	Direct download, API	TANGENT-DATA-API	Open Database Licence	French
REN_TRAF_13	GeoCoordinates for predefined locations relevant to the Rennes case study for	STATIC	csv	24 kB	Rennes Métropole	Direct download	https://drive.google.com/file/d/1KT_j-nHCbdSvt92WFKn6pXVImowwHQViey?usp=share_link		French
REN_TRAF_14	Historical traffic data from counting stations in PC control	HISTORICAL	csv, json	136 MB	Rennes Métropole (DVGTs)	Direct download, API	TANGENT-DATA-API	Open Database Licence	French
REN_TRAF_15	Delineation of roadworks generating disruptions to traffic over the next 30 days including the current day.	REAL-TIME	csv, json	20 kB	Rennes Métropole	Direct download	https://data.rennesmetropole.fr/explora/dataset/travaux_30_jours/information/?ocato=16.48.11061,-1.7088&basemap=0a023a	Open Database Licence	French
REN_TRAF_16	GeoCoordinates for relevant sensor for REN_TRAF_08/REN_TRAF_09	STATIC	csv	2 kB	DIRO (SGAT)	Direct download	https://drive.google.com/drive/folders/1Hu0Hx_F4HzLsQhnr3Mocqy10DMFEKn2?usp=drive_link		English
REN_OTH0_07	GeoJSON Polygon of the TANGENT RENNES case study area	STATIC	JSON	3 kB	Rennes Métropole	Direct Download	https://drive.google.com/file/d/1CHne3-1eQgwRL5z4MwI942v0t1871/view?usp=share_link	License under CA	English
REN_OTH0_08	List of relevant influencing planned events for Rennes	STATIC	csv	16 kB	Rennes Métropole	Direct Download	https://drive.google.com/file/d/1nJt9ABRzRw_xvmt7p2Z9tlu4kmtgpD/view?usp=sharing	License under CA	English

Table 1: Datasets available from the Rennes case study

IDENTIFIER	DATA SOURCE DESCRIPTION	TYPE	FORMAT	SIZE	PROVIDER	ACCESSIBILITY	DATA SOURCE URL	LICENSE	LANGUAGE
TFGM_BUST_02	Fixed bus stop locations	STATIC	json	500 kB	Department for Transport (DfT)	API	https://data.bus-data.dft.gov.uk/api/v1/dataset https://data.bus-data.dft.gov.uk/timetable/?q=&area=83&organisation=&status=&is_pti_compliant=&start=&published_at=&submitform=submit&ordering=-modified	Open Government Licence v3.0	English
TFGM_BUST_03	Real time bus location	REAL-TIME	xml gtfs-realtime	750 kB	Department for Transport (DfT)	API	https://data.bus-data.dft.gov.uk/api/v1/datafeed/ https://data.bus-data.dft.gov.uk/api/v1/gtfsrt/datafeed/	Open Government Licence v3.0	English
TFGM_BUST_04	Manchester Historical data collected from TFGM_BUST_03	HISTORICAL	xml		Department for Transport (DfT)	Dataset	Sharepoint	Open Government Licence v3.0	English
TFGM_TRAM_01	Real time departure data and network status	REAL-TIME	json	750 kB	Transport for Greater Manchester (TfGM)	API	https://api.tfgm.com/odata/Metrolinks	Open Government Licence v3.0	English
TFGM_TRAM_02	Manchester Historical data collected from TFGM_TRAM_01	HISTORICAL	json		Transport for Greater Manchester (TfGM)	Dataset	Sharepoint	Open Government Licence v3.0	English
TFGM_TRAM_03	Metrolink stops information from NaPTAN	STATIC	csv	1 MB	Department for Transport	Dataset	https://drive.google.com/drive/folders/1e7ZBJByexOZFuc2Bq7sTWUHXKpt5F4?usp=share_link	Open Government Licence v3.0	English
TFGM_BIKE_01	Cycle trips, availability of bike hire, dock locations, via Beryl app who manage TFGM's cycle hire scheme	STATIC	json	500 kB	Beryl		https://gbfs.beryl.co/v2/2/Greater_Manchester/gbfs.is.on	Creative Commons Attribution 3.0 Licence	English
TFGM_TRAF_01	Counters with 13 classifications: cyclist, motorbike, car, pedestrian, taxi, van, minibus, bus, rigid, truck.	REAL-TIME	json	1.2 MB	Vivacity	API	https://api.vivacitylabs.com/docs/#/telemetry/getCounts	Licence under CA	English
TFGM_PEDE_01	Filtered counter from TFGM_TRAF_01	STATIC	json	11 kB	Vivacity	API	https://api.vivacitylabs.com/docs/#/telemetry/getCounts	Licence under CA	English
TFGM_AIRQ_01	Sensors for hourly ambient air quality concentration.	REAL-TIME	json-ld	235 kB	University of Manchester	API	https://muo-backend.cs.man.ac.uk/	Urban Observatory Data Licence	English
TFGM_CARS_02	Location of CCTV and VMS assets on GMaps	STATIC	csv	4 kB	Transport for Greater Manchester (TfGM)	Download	https://drive.google.com/drive/folders/1YH45RPh9_RaaT50f6TptnK6BCEny3a?usp=drive_link	Licence under CA	English
TFGM_CARS_03	Location of Traffic Signals assets	STATIC	json	18 kB	Transport for Greater Manchester (TfGM)	API	https://api.tfgm.com/odata/TrafficSignals	Open Government Licence v3.0	English
TFGM_CARS_04	Real time journey time data from bluetooth sensors, sensor locations are mapped in TFGM_CARS_18	REAL-TIME	json	540 kB	Drakewell	API	https://drakewell03.drakewell.com/npmatch/2/exports/a/lives/journeytimes.asp?group=GM_JOURNEY_TIME&key=645f289bd8c745929a8432f8c74ee20d	Licence under CA	English
TFGM_CARS_05	Traffic flow, counters and vehicle classification on Highway network includes mapped locations of	REAL-TIME	json	967 kB	Drakewell	API	https://drakewell03.drakewell.com/export/binned/f3bc2f9220abf84?startTime=2022-07-04T16:00:00&endTime=2022-07-04T16:10:00	Licence under CA	English
TFGM_CARS_16	Crowd sourced journey time data obtained by Waze tracking its app users	REAL-TIME	json	674 kB	Waze for Cities	API	https://www.waze.com/rows/rtserver/broadcast/BroadcastRSS?build=a8c7a10257a166528ed2f8d33258c2&format=JSON	Licence under CA	English
TFGM_CARS_17	Crowd sourced info from app users on incidents they log about the network	REAL-TIME	json	360 kB	Waze for Cities	API	https://www.waze.com/rows/rtserver/broadcast/BroadcastRSS?build=a8c7a10257a166528ed2f8d33258c2&format=JSON	Licence under CA	English
TFGM_CARS_18	Location of bluetooth sensors measuring journey times for TFGM_CARS_04 and TFGM_CARS_19	STATIC	json	28 kB	Drakewell	Download	https://drakewell03.drakewell.com/npmatch/2/exports/a/locations.asp?group=GM_JOURNEY_TIME&key=645f289bd8c745929a8432f8c74ee20d	Licence under CA	English
TFGM_CARS_19	Historical journey time data from bluetooth sensors. Sensor locations	HISTORICAL	csv	1 GB	Drakewell	Download	https://drakewell03.drakewell.com/npmatch/2/dataset.asp?group=GM_JOURNEY_TIME	Licence under CA	English
TFGM_CARS_22	Fusion between TFGM_CARS_04 and TFGM_CARS_18	REAL-TIME	json	87 kB	Drakewell	API	/data-source?resource_name=TFGM_CARS_22	Licence under CA	English
TFGM_CARS_23	Historical datasets aggregated from	HISTORICAL	json	30 GB	Drakewell	Download	/data-source?resource_name=TFGM_CARS_23	Licence under CA	English
TFGM_CARS_24	Historical datasets aggregated from	HISTORICAL	json	53 GB	Drakewell	Download	TANGENT-DATA-API	Licence under CA	English
TFGM_OTH01	Collision Data each year in three tables "Collision, Casualty and Vehicle".	HISTORICAL	csv	14 MB	Department for Transport	Download	https://www.data.gov.uk/dataset/cb7ae0f0-4be0-4935-9277-47e50e24a11f/road-safety-data	Open Government Licence v3.0	English
TFGM_OTH02	Hourly, three hourly and daily weather forecast information given Latitude-Longitude coordinates	REAL-TIME	GeoJSON	500 kB	Met Office (national UK meteorological service)	API	https://www.metoffice.gov.uk/services/data/data-point/api-reference#location-specific https://metoffice.epiconnect.ibmcloud.com/metoffice/production/	Open Government Licence v3.0	English
TFGM_OTH03	Real time notification for logging of permit for booking of road space for local highway and utility	REAL-TIME	json	137 kB	Department for Transport	API	https://department-for-transport-street-manager.github.io/street-manager-docs/open-data/	Open Government Licence v3.0	English
TFGM_OTH04	Shapefile of the TANGENT TFGM case study area	STATIC	Shapefile	30 kB	TFGM	Download	https://drive.google.com/drive/u/1/folders/1cJCpZ4NGnsokP2F0oM-gGq45NFABZ0	Licence under CA	English
TFGM_OTH05	List of sensors from Drakewell to be considered for the TANGENT	STATIC	Excel	50 kB	TFGM	Download	https://drive.google.com/drive/u/1/folders/1tLALxFNKX1WD_ESGqxbLoh7e1SN-zlq	Licence under CA	English
TFGM_OTH06	List of sensors from Vivacity providing data for TFGM_TRAF_01	STATIC	json	78 kB	Vivacity	API	https://api.vivacitylabs.com/countline https://api.vivacitylabs.com/sensor	Licence under CA	English
TFGM_OTH07	Hourly weather observations made over the 24 hour period preceding the time at which the web service was last updated. The data	REAL-TIME	json, xml	780 kB	Met Office (national UK meteorological service)	API	https://www.metoffice.gov.uk/services/data/data-point/api-reference#location-specific	Open Government Licence v3.0	English
TFGM_OTH08	List of past and future influencing events (concerts, football games,	STATIC	Excel	2 MB	TFGM	Direct Download	https://drive.google.com/drive/folders/1vzi_U1lyDexmIASX3v_pS5ie9hftOLY?usp=drive_link	Licence under CA	English
TFGM_OTH09	Historical archive of notifications for logging of permit for booking of road space for local highway and	HISTORICAL	json	57 MB	Department for Transport	Direct Download	https://department-for-transport-street-manager.github.io/street-manager-docs/archived-notifications/	Open Government Licence v3.0	English

Table 2: Datasets available from the Manchester case study

Table 3: Datasets available from the Lisbon case studyTable 4: Datasets available from the Athens case study

In the second period of the project (M19-M39), a set of documents and data have been generated in the project with reporting purposes, project progress and results dissemination.

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Identifier	Description	Type	Form.	Size	Lang.	Provider/origin	Receiver	Accessibility public Y/N	Link
D1.5 Report on TANGENT Forum activities.	It reports on the activities, lessons learned and conclusions from the TANGENT Forum engagement and consultation activities, including results of surveys, analysis of workshop and forum discussions, and links to online material (webinar recordings, workshop results, and dissemination material developed).	Report	.doc, .pdf	6MB	English	RUPPRECHT	All partners EC general public.	Yes	https://tangent-h2020.eu/deliverables/
D1.6 Multi-actor cooperation models for NTM. Second release	This document reports on the analysis of multi-actor cooperation models for innovative NTM, studying the system's architecture and operation, to develop optimal cooperation models and provide recommendations towards effective governance structures for NTM.	Report	.doc, .pdf	4MB	English	RUPPRECHT	All partners EC general public.	Yes	https://tangent-h2020.eu/deliverables/
D1.7 Policy, regulatory and planning framework for TNM. Second release	This deliverable provides guidance to local authorities on the effective integration of the developed NTM capabilities, models and tools, into their planning and decision-making processes. It builds upon SUMP methodology, and the developed guidance to handle innovative mobility solutions (e.g., CoExist's Automation-ready framework & SUMP Topic Guide) to support and maximise take-up of TANGENT's outputs and outcomes.	Report	.doc, .pdf	3,5MB	English	RUPPRECHT	All partners EC general public.	Yes	https://tangent-h2020.eu/deliverables/
D2.3 TANGENT API for data harmonisation and fusion. First release	TANGENT reference conceptual model for travel and traffic data, and the software solution to address the data interoperability issues identified by TASK 2.1.	Demonstration, Report	.doc, .pdf	2,6MB	English	CEFRIEL	All partners EC	No	N/A
D2.4 TANGENT API for data harmonisation and fusion. Second release	TANGENT reference conceptual model for travel and traffic data, and the software solution to address the data interoperability issues identified by TASK 2.1.	Demonstration, Report	.doc, .pdf	6,1MB	English	CEFRIEL	All consortium partners EC	No	N/A
D3.2 Travel choice modelling (set of models, code). First release	Includes the results of the travel choice models and the implementation of these models to real world scenarios.	Demonstration, Report	.doc, .pdf	0,7MB	English	NTUA	All partners EC general public.	Yes	https://tangent-h2020.eu/deliverables/

Identifier	Description	Type	Form.	Size	Lang.	Provider/ origin	Receiver	Access sibility public Y/N	Link
D3.3 In-depth analysis of travel behaviour	This deliverable will discuss the results of the in-depth analysis of how travel related choices are affected by the emergence of unexpected events, traffic management measures, introduction of new services and adverse weather conditions.	Report	.doc, .pdf	6,2MB	English	NTUA	All partners EC general public.	Yes	https://tangent-h2020.eu/deliverables/
D3.4 Travel choice modelling (set of models, code). Second release	Includes the results of the travel choice models and the implementation of these models to real world scenarios	Demonstration, Report	.doc, .pdf	1,4MB	English	NTUA	All partners EC general public.	Yes	https://tangent-h2020.eu/deliverables/
D4.2 Overview of the developed traffic supply forecasting approaches with benchmarks	Report over the different approaches to forecast traffic supply.	Report	.doc, .pdf	2,4MB	English	IMEC	All consortium partners EC	No	N/A
D4.3 Overview of the developed travel demand predictions with benchmarks	Assessment of the different approaches for travel demand predictions	Report	.doc, .pdf	2,4MB	English	AIMSUN	All consortium partners EC	No	N/A
D4.4 Report on the detection and impact analysis of traffic events	This deliverable will analyse the use of traffic supply predictions and traffic simulations for detection and impact analysis of different events	Report	.doc, .pdf	1,4MB	English	IMEC	All partners EC general public.	Yes	https://tangent-h2020.eu/deliverables/
D4.5 Framework for real-time traffic monitoring and forecasting. First release	This deliverable will gather the different developments of Tasks 4.2-4.4 with reference to traffic supply forecast, travel demand prediction and congestion duration prediction.	Demonstration, Report	.doc, .pdf	1,5MB	English	AIMSUN	All consortium partners EC	No	N/A
D4.6 Framework for real-time traffic monitoring and forecasting. Second release	This deliverable will gather the different developments of Tasks 4.2-4.4 with reference to traffic supply forecast, travel demand prediction and congestion duration prediction.	Demonstration, Report	.doc, .pdf	1,6MB	English	AIMSUN	All consortium partners EC	No	N/A
D5.3 Optimization techniques for transport network management	Set of high-performance algorithms for transport network optimization	Report	.doc, .pdf	1,2MB	English	DEUSTO	All consortium partners EC	No	N/A

Identifier	Description	Type	Form.	Size	Lang.	Provider/ origin	Receiver	Access sibility public Y/N	Link
D5.4 Calibration of arbitration models	Evaluation of the arbitration models developed	Report	.doc, .pdf	3,6MB	English	DEUSTO		No	N/A
D5.5 Transport network optimization module. First release	Software module for transport network optimization	Demonstration, Report	.doc, .pdf	1,0MB	English	DEUSTO	All consortium partners EC	No	N/A
D5.6 Transport network optimization module. Second release	Software module for transport network optimization	Demonstration, Report	.doc, .pdf	1,8MB	English	DEUSTO	All consortium partners EC	No	N/A
D6.2 TANGENT tool development and integration. First release	The main result of this deliverable will be TANGENT system, directly related to T6.3 and T6.4. It consists of software modules and web applications. Besides, the deliverable will contain the installations guidance and a user manual.	Demonstration, Report	.doc, .pdf	1,9MB	English	A-to-Be	All consortium partners EC	No	N/A
D6.3 Smart infrastructure index report. First release	Document that reflects the classification metrics of the infrastructure at a micro level based on locally supported use cases and at a meso level considering the overall connections and restrictions that limit the framework effectiveness.	Report	.doc, .pdf	1,5MB	English	A-to-Be	All consortium partners EC general public	Yes	https://tangent-h2020.eu/deliverables/
D6.5 TANGENT tool development and integration. Second release	The main result of this deliverable will be TANGENT system, directly related to T6.3 and T6.4. It consists of software modules and web applications. Besides, the deliverable will contain the installations guidance and a user manual.	Demonstration, Report	.doc, .pdf	5,7MB	English	A-to-Be	All consortium partners EC	No	N/A
D6.6 Smart infrastructure index report. Second release	Document that reflects the classification metrics of the infrastructure at a micro level based on locally supported use cases and at a meso level considering the overall connections and restrictions that limit the framework effectiveness.	Report	.doc, .pdf	4,8MB	English	A-to-Be	All consortium partners EC general public	Yes	https://tangent-h2020.eu/deliverables/
D7.1 Definition of the Case Studies, testing methodology	Report including the complete and efficient testing method and programme for each test site both for virtual and on-site testing, and	Report	.doc, .pdf	2,8MB	English	ID4CAR	All consortium partners	No	N/A

Identifier	Description	Type	Form.	Size	Lang.	Provider/ origin	Receiver	Access sibility public Y/N	Link
and stakeholders' & users' engagement campaign ¹	the involvement of key stakeholders with defined roles and benefits.						EC		
D7.3 Assessment of the testing results in the Case Study of Rennes	Deliverable with the results of TANGENT and the impact measured comparing the final scenario with the baseline established for Rennes.	Report	.doc, .pdf	-	English	ID4CAR	All consortium partners EC general public	Yes	https://tangent-h2020.eu/deliverables/
D7.4 Assessment of the testing results in the Case Study of Lisbon	Deliverable with the results of TANGENT and the impact measured comparing the final scenario with the baseline established for Lisbon.	Report	.doc, .pdf		English	CARRIS	All consortium partners EC general public	Yes	https://tangent-h2020.eu/deliverables/
D7.5 Assessment of the testing results in the Case Study of Greater Manchester	Deliverable with the results of TANGENT and the impact measured comparing the final scenario with the baseline established for Greater Manchester.	Report	.doc, .pdf		English	TFGM	All consortium partners EC general public	Yes	https://tangent-h2020.eu/deliverables/
D7.6 Assessment of the testing results in the Case Study of Athens	Deliverable with the results of TANGENT and the impact measured comparing the final scenario with the baseline established for Athens.	Report	.doc, .pdf		English	NTUA	All consortium partners EC general public	Yes	https://tangent-h2020.eu/deliverables/
D7.7 Impact assessment report.	Overall report with the results of TANGENT in the different Case Studies and a guide of recommendations for replicability in other cities.	Report	.doc, .pdf		English	PANTEIA	All consortium partners EC general public	Yes	https://tangent-h2020.eu/deliverables/

¹ It was resubmitted in 21 July 2023

Identifier	Description	Type	Form.	Size	Lang.	Provider/ origin	Receiver	Access sibility public Y/N	Link
D8.1 Dissemination and communication plan. ²	Guide for the dissemination activities within TANGENT that will identify and describe the target groups for dissemination activities and explain how and through which dissemination channels they will be reached as well as the tools used and events where publish the results of the project.	Report	.doc, .pdf		English	POLIS	All consortium partners EC general public	Yes	https://tangent-h2020.eu/deliverables/
D8.4 Final booklet.	Summary of project results, outputs and tools in an easy to read and concise format.	Other	.pdf,.		English	POLIS	General public all partners EC	Yes	https://tangent-h2020.eu/deliverables/
D8.5 Policy recommendation s	Policy report targeted at public authorities describing the link between multi-modal network management and policy and recommending on how multimodal network management can be integrated into policy and planning processes.	Report	.doc, .pdf		English	RUPPRECH T	General public, all partners EC	Yes	https://tangent-h2020.eu/deliverables/
D8.6 Exploitation and business model plan.	It will consist in a roadmap of the exploitation of all the outcomes in TANGENT and the different strategies to consider when commercializing the tool and modules of TANGENT.	Report	.doc, .pdf		English	ID4CAR	All consortium partners EC	No	N/A
D8.7 Report on dissemination activities (including cooperation with other projects). Second release	Document summarizing the liaisons and synergies generated with other R&D projects and European initiatives.	Report	.doc, .pdf		English	DEUSTO	General public, all partners EC	Yes	https://tangent-h2020.eu/deliverables/
D9.6 Project management handbook. Third release	This report will set up the baseline on organisation structure of the consortium. Also, the quality procedures for achieving top quality results will be covered.	Report	.doc, .pdf		English	DEUSTO	General public, all partners EC	Yes	https://tangent-h2020.eu/deliverables/
D9.8 Data Management Plan. Third release	The DMP will specify the data sets and procedures to consider in the management of all the data collected during the project, ensuring the correctness and regulatory compliance in the treatment of information.	Report	.doc, .pdf		English	DEUSTO	General public, all partners EC	Yes	https://tangent-h2020.eu/deliverables/

² It was resubmitted at 28 July 2023

Identifier	Description	Type	Form.	Size	Lang.	Provider/origin	Receiver	Accessibility public Y/N	Link
D9.9 IPR management and Data Protection. Second release	This deliverable will include the IPR management and data protection rules agreed upon the project.	Report	.doc, .pdf		English	DEUSTO	General public, all partners EC	Yes	https://tangent-h2020.eu/deliverables/
D9.10 Ethics monitoring. Second release	The document will contain all the ethical requirements and issues arise in this project and the processes carried out to solve them.	Report	.doc, .pdf		English	DEUSTO	General public, all partners EC	Yes	https://tangent-h2020.eu/deliverables/

Table 5: Deliverables generated M19-M39

In Table 6 other documents and data generated in TANGENT from M19 to M39 are detailed, such as reports, surveys, and communication materials, among others.

Identifier	Description	Type	Format	Size	Language	Provider/origin	Receiver	Accessibility public Yes/No	Link
TANGENT project communication materials	Media presentation of text, images, videos	report	.ppt, .doc, .pdf, .png, .mp4	400MB	English	POLIS	General public, all partners EC	Yes	Tangent (tangent-h2020.eu) https://www.linkedin.com/company/tangent-project/
Horizon Results Booster Final Report	PDES-C service description	report	.pdf	1,1 MB	English	POLIS	All partners	No	https://drive.google.com/file/d/1w2sbhbR62qj5ihrHye0UkPaqRupD1qvm/view
Surveys for travel behaviour modelling (Athens case study)	Filled surveys administered through the Coney tool collected for the Athens case study	Datasheet	.csv	5MB	English, Greek	Transport and Mobility users.	Managed by NTUA, CEFRIEL	No	N/A
Surveys for travel behaviour modelling (Lisbon case study)	Filled surveys administered through the Coney tool collected for the Lisbon case study	Datasheet	.csv	9.6MB	English, Portuguese	Transport and Mobility users.	Managed by NTUA, CEFRIEL	No	N/A

Identifier	Description	Type	Format	Size	Language	Provider/origin	Receiver	Accessibility public Yes/No	Link
Surveys for travel behaviour modelling (Manchester case study)	Filled surveys administered through the Coney tool collected for the Manchester case study	Datasheet	.csv	2.4MB	English	Transport and Mobility users.	Managed by NTUA, CEFRIEL	No	N/A
Surveys for travel behaviour modelling (Rennes case study)	Filled surveys administered through the Coney tool collected for the Rennes case study	Datasheet	.csv	4MB	English, French	Transport and Mobility users.	Managed by NTUA, CEFRIEL	No	N/A
Interviews to stakeholders in the workshops	Interviews for gathering feedback on transport and traffic management aspects.	Report	*.doc, *.pdf	<1MB	English, French, Portuguese	Transport and Mobility stakeholders.	All the partners have access to the inputs. The personal data can only be accessed by Rupprecht.	No	N/A
Instructions on exporting trajectory data from Google Maps Timeline	Written Instructions on how to get Historical tracking information from Google Maps Timeline	Document	*.pdf	933kB	English	Transport and Mobility users. Managed by NTUA.	NTUA	Yes	https://drive.google.com/file/d/1AaliCuuqg207V8D6szghZPvyZzjOooOA/view?usp=drive_link
Video Instructions on exporting trajectory data from Google Maps Timeline	Video Instructions on how to get Historical tracking information from Google Maps Timeline	Video	.wmv	22M B	English	NTUA	Phase 2 participants of the Travel Behavior Survey	No	N/A
Informed Consent document	Informed Consent document for participants of the Travel Behavior Survey	Document	.docx	187 KB	English	NTUA	Phase 2 participants of the Travel Behavior Survey	Yes	https://docs.google.com/document/d/1qKmvzFNsz7Ndx0uY_S_Hw4u28Q7so9Dd/edit?usp=drive_link&oid=107886824602937061326&rtpof=true&sd=true
TANGENT video	Video of the TANGENT Tool	Video	MP4	/	English	Peaberry Up	POLIS, ALL	Yes	TANGENT Project YouTube

Identifier	Description	Type	Format	Size	Language	Provider/origin	Receiver	Accessibility public Yes/No	Link
TANGENT Webinar repository	Includes media files of Webinar recordings, attendance, flyers, minutes and presentation templates, speaker presentations files.	Documents Images, Video	.ppt,.docx mp4,.png	>2 GB	English	RUPPRECHT	All consortium partners excluding attendance file which only Rupperecht has access to	No excluding published TANGENT Forum files on Mobility Academy	N/A
AB Meeting Minutes	Includes minutes from the Advisory Board sessions, session presentation, registration files	Text (Documents), Images, Video	.ppt,.excl,.mp4,.pdf	2.7 GB	English	RUPPRECHT	All consortium partners	No	N/A
Stage3 workshop preparation / follow-up files	Includes presentation files, agenda, and on-site pictures from the workshops in Rennes, Manchester, and Lisbon	Text (Documents), Images	.ppt, .pdf, .jpg	250 MB	English	RUPPRECHT	All consortium partners - excluding participation list	No	N/A

Table 6: Other documents and data generated in TANGENT from M19 to M39

Datasets with personal data

The management of the TANGENT personal data remains consistent with established procedures. Table 7 shows the personal data datasets applied through the second part of the project. It provides identifier, description, the users accessing the data and the protection measures. For the first period of the project consult the D8.3.

Identifier	Description	Personal data	Users	Protection measure
Surveys for travel behaviour modelling	Filled surveys for Athens, Lisbon, Rennes and Manchester. collected using the Coney tool	Yes	CEFRIEL, NTUA	Controlled access, informed consent for participants in TANGENT survey.
Interviews to stakeholders in the workshops	Interviews for gathering feedback on transport and traffic management aspects.	Yes	Access to personal data only Rupprecht.	Controlled access, informed consent for participants in the interviews.
Historical tracking information	Historical tracking information of transport users. This information was gathered through Google Maps Timeline.	Yes	NTUA	Controlled access, informed consent of the participants.
Attendance report from Webinars	Participation tracking in WP1 activities involving Webinar series	Yes	Access to personal data (Only RUPPRECHT)	Controlled access
Rennes Workshop participation list	Tracking of on-site workshop participation in Rennes	Yes	Rupprecht, ID4MOBILITY, Rennes	Controlled access
Stakeholder preferences and cooperation specifications	Questionnaires in .xlsx format used for the development and calibration of the Consensus Mechanism	Yes	NTUA	Controlled access

Table 7: Datasets with personal data

2.3 Code developed in TANGENT

Deusto

The procedure of code development and sharing with the research community remains unchangeable. Namely, to manage code repositories, Deusto has used a GitLab repository hosted on our facilities. This allows developers to collaborate, track changes, and create backups of different code versions. For privacy, repositories are configured as private and accessible only to selected users or groups.

Cefriel

To host and control versions of the software components enabling the TANGENT solution for data harmonisation and fusion, Cefriel uploads the code repositories in a dedicated GitLab instance (deployed in its facilities) or to GitHub under the Cefriel organisation (<https://github.com/cefriel>). Repositories on GitLab are configured to be private and only accessible for selected users or groups of users, while repositories on GitHub will be used to share code released publicly under a specific license.

A-to-Be

A-to-Be has an active DevOps team responsible for the operation of A-to-Be's development environments, including tools like Git, Gerrit, Jenkins, SonarQube, JIRA, Xray and Confluence. These services were used for the development of the TANGENT tool. The DevOps team is also responsible for an onboarding procedure that includes a Development environment setup process which guarantees a uniform development environment spanning different technologies such as Java, C++ and Python. This onboarding procedure was followed for all developers of the TANGENT Tool from A-to-Be. Development guidelines, processes and design patterns are also defined by DevOps team and were followed by the team working on the TANGENT Tool. The development tools are all operated with strict privacy rules so only the development team can access code and media related with the TANGENT project.

Deployment was automated to the AWS cloud using NEXUS. For integration and testing with the other partners both a Development and a Production AWS instance were used.

NTUA

During the second project period the NTUA team has utilized both Python and R programming languages to create scripts that execute various tasks and modules within the project. Depending on the specific requirements of each task, the team has employed Pycharm and Anaconda software for scripting. The team has maintained a shared drive to upload different script versions and keeps local copies for security purposes. Access to the shared folder, where all the script versions are stored, is restricted to the project's working team members only.

Aimsun

Aimsun has employed an internal Gitlab repository in its facilities with the developed modules. Aimsun Next scripts may be shared upon request for specific tasks and data exchanges among user partners to facilitate development and progress of data-driven methodologies at the same time that privacy and IP of models is kept by their owners.

imec

imec has unmodified procedures of the code development and sharing established at the beginning of the project. Like DEUSTO, imec uploads their code to repositories on a self-hosted GitLab instance accessible only to selected users. These developed modules are then deployed on-premise and can only be accessed by authorized users.

3 Update on the data management procedures

The data management procedure was not updated during the second period of the project. The **Data Manager** list appointed by consortium for this period is presented in the Table 8:

Appointed Data Managers	
1. DEUSTO	Data manager: Leire Serrano (leire.serrano@deusto.es)
2. AIMSUN	Data manager: Athina Tympakianaki (athina.tympakianaki@aimsun.com)
3. NTUA	Data manager: Eleni Mantouka (elmant@central.ntua.gr)
4. IMEC	Data manager: Ynte Vanderhoydonc (ynte.vanderhoydonc@imec.be)
5. CEFRIEL	Data manager: Marco Comerio (marco.comerio@cefriel.com)
6. RUPPRECHT	Data manager: Lakshya Pandit (l.pandit@rupprecht-consult.eu)
7. ID4MOBILITY	Data manager: Véronique Rottier (veronique.rottier@id4mobility.org)
8. RENNES	Data manager: Pierre Renault (pi.renault@rennesmetropole.fr)
9. A-to-Be	

Data manager: Lara Moura (Feb-Dec 2023), Daniel Matos (Dec 2023 -Jun 2024) replacing Lara Moura, and Frederico Vaz (Jun 2024 - present), replacing Daniel Matos
10. CARRIS Data manager: João Vieira (joao.vieira@carris.pt)
11. TFGM Data manager: Hannah Tune (hannah.tune@tfgm.com)
12. PANTEIA Data manager: Maria Rodrigues (m.rodrigues@panteia.nl)
13. POLIS Data manager: Juliette Thijs (jthijs@polisnetwork.eu)

Table 8: Data Manager List

4 Ethical aspects

All TANGENT data collected throughout the project was handled in accordance with the ethical guidelines outlined in WP10. The procedures detailed in deliverables D10.1, D10.2, and D10.3 were strictly followed. These deliverables address various ethical aspects, including informed consent procedures for TANGENT research participants, the relevance and purpose of data collection, and health and safety protocols.

Additionally, the ethical aspects were declared at the Deliverables D9.4 Ethics Monitoring. First Release (M12) and D9.10 Ethics Monitoring. Second Release (M38) which are focused on ethical monitoring and progress within TANGENT. The project's ethical monitoring framework included the development of a privacy policy for the TANGENT dashboard (D9.10 and D9.9).

On top, when handling personal data, the TANGENT applied the General Data Protection Regulation (GDPR) (EU) 2016/679 and the UK Data Protection Act 2018 protecting individual's personal data and movement of such data.

5 Conclusions

This deliverable updates D9.7 Data Management Plan. Second release (M18) by reviewing the research data generated, modified, or used during the project's second phase. It also assesses the implementation of data management procedures outlined in D9.2 and D9.7.

The report includes updated information on data licenses and languages. It provides a summary of data relevant to tool development, documents, code, and other project-related materials.

The data management procedures defined in the D9.2. and D9.7 (M6 & M18), have been used from M19 to M39 without modifications.

6 References

Serrano, L., Comerio, M., Azzini, A. (2022). TANGENT: D9.2. Data Management Plan. First release.

Serrano, L., Masegosa, A., Metta, S., Comerio, M. (2023). TANGENT: D9.7. Data Management Plan. Second release.

European Commission (2016). Open access data management - H2020 online manual. Retrieved from Data management - H2020 Online Manual.

European Commission (2018), Turning FAIR into reality.

Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) (Text with EEA relevance), ELI: <http://data.europa.eu/eli/reg/2016/679/oj>

UK Data Protection Act 2018, <https://www.legislation.gov.uk/ukpga/2018/12/contents/enacted>