Project deliverable D4.10

Tampere - Detailed Implementation Plan Part A

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Legal disclaimer

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Project executive summary

The establishment of a common European mobility data space (EMDS) aims to accelerate the digital and green transformation of the European mobility and transport sector. The deployEMDS project contributes to the further development of the common European mobility data space as announced in the European Strategy for Data and the Sustainable and Smart Mobility Strategy. It builds on PrepDSpace4Mobility, a Coordination and Support Action funded under the Digital Europe Programme and is the first deployment action foreseen under the EMDS initiative.

The deployEMDS project advances EU policy priorities by developing a technical infrastructure for an operational data space in the mobility sector. It aligns with the European Data Strategy's goal to facilitate data access, pooling, and sharing. The project supports the European Green Deal's aim to accelerate sustainable and smart mobility, thereby contributing to a reduction in transport emissions. Additionally, it aligns with the Sustainable and Smart Mobility Strategy, ITS Directive, and the NAPCORE project. The diverse Consortium of partners implements 16 use cases across nine European cities and regions, aiming to create and deploy an operational data space with a common technical infrastructure. The project aims to make data available in a machine-readable format while facilitating innovative services and applications and contributing to the development of a European mobility data-sharing ecosystem.

Social Media links:

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For further information please visit **www.deployEMDS.eu**

Deliverable executive summary

Keywords

Use case, implementation approach, implementation plan

Tampere, Finland, ITS Directive, MMTIS, RTTI, NAP

Executive summary

This document details the approach of the deployEMDS local use case in Tampere, Finland. Use case TAM_01, which is titled “Collection of data, mandated by the ITS directive, and interface to the NAP”, is implemented under the lead of Johan Scholliers, Principal Scientist, VTT, together with the City of Tampere and Fintraffic.

This deliverable comprises the first of two iterations.

List of abbreviations and acronyms

Acronym	Meaning
EMDS	Common European mobility data space
KPI	Key performance indicator
WP	Work package
MVP	Minimal viable product
ITS	Intelligent Transport Systems
MMTIS	Multimodal Travel Information Services
RTTI	Real-Time Traffic Information
NAP	National Access Point

1 Purpose of the deliverable

This document is one of nine deliverables produced in deployEMDS detailing the local use cases proposed and to be implemented by the nine local implementation sites of the action. These Detailed Implementation Plans are developed in two waves: This first wave of reports, titled Detailed Implementation Plan – Part A, are published in Month 6 of the project (April 2024). They focus on the ideation and refinement of the overall use case objectives, scope and context as well as providing a first description of the approach to be taken in the local implementation project.

In combination with the efforts of WP2 ("Development of an operational data space across borders"), in particular, the ongoing analysis of technical requirements for the use cases, this report will lay the foundation for the Detailed Implementation Plan – Part B. In Part B, the overall steps, responsibilities, and timelines of the local implementation projects relative to the overall development of the EMDS technical and governance building blocks will be defined in detail. Part B will be published in autumn of 2024.

1.1 Intended audience

The detailed elaboration of the objectives, context, scope, and approach of the use cases proposed and implemented by the local implementation sites in deployEMDS aims to establish a common and clear understanding of these local projects across the sites and inform horizontal actions in deployEMDS. Part A of the Detailed Implementation Plan allows for this understanding by providing necessary contextual information regarding the technical characteristics and requirements of the use cases analysed in WP2 and addressing governance-related aspects elaborated in WP3 (“Development of common governance mechanisms across borders”).

For interested stakeholders outside the Consortium, this series of reports offers an initial understanding of the real-world challenges and objectives in the field of urban mobility data sharing, that the EMDS may address.

1.2 Structure of the deliverable and links with other work packages/deliverables

This first set of reports, titled Detailed Implementation Plan – Part A, summarise the use case ideation and refines the overall approach considerations of the use cases proposed by the local implementation sites in deployEMDS. For each use case, the reports provide general information, an analysis of the use case context, the definition of the use case objective, and a delineation of pathways to the use case implementation. Based on these analyses, the primary implementation product, or minimum viable product (MVP) of the use case, as well as potential subsequent implementation products, is defined. Each local implementation site chooses an approach: either “cascading” with a more comprehensive MVP or more agile iterations with a simpler MVP to start with. The report also provides a preliminary reflection on the subsequently elaborated Part B of the Detailed Implementation Plan.

This particular deliverable describes the Use Case TAM_01 developed by the Tampere implementation site.

The Detailed Implementation Plan – Part A, along with the use case ideation outlined in this document, draws from the technical analysis of local use cases conducted in WP2 and the insights outlined in Deliverable D2.1, which specifies the technical infrastructure requirements for deployEMDS.

D2.1 is accessible on the deployEMDS project website and outlines essential technical, functional, and operational capabilities necessary to establish a data space to support the various mobility use cases, aiming to standardise mobility data and facilitate interoperability.

The Implementation Plan builds on this foundation, directly referencing information from D2.1, particularly in defining the implementation products for the use cases.

2 Implementation approach for use case TAM_01

2.1 General information

The following sections provide general information about the use case and introduce the Consortium partners forming the local implementation project Consortium.

Use case title	
Collection of data, mandated by the ITS directive, and interface to the NAP	
Mobility themes addressed in the use case	
Reporting of data mandated by the ITS Directive and supplementing MMTIS and RTTI Delegated Acts	
Use case cluster	
Data reporting / Data for mobility planning	
Roles	
Use case implementation lead	**Johan Scholliers,** Principal Scientist, VTT
Consortium partners involved in the use case implementation	**VTT Technical Research Centre of Finland Ltd (VTT)** is a state-owned and controlled non-profit limited liability company established by law and operating under the ownership steering of the Finnish Ministry of Employment and the Economy. VTT is a Research and Technology Organisation whose activities are focused on three areas: Carbon neutral solutions, sustainable products and materials, and digital technologies. VTT is impact-driven and takes advantage of its wide multi-technological knowledge base to strengthen Finnish and European industrial competitiveness.
	The City of Tampere (Tampere) is located in the middle of Finland with 250,000 inhabitants. It is a local authority responsible for urban development and has a long history of actively developing ITS systems and services. Tampere's goal is to make the city one of the leading smart mobility cities and testing grounds in Europe.

	Fintraffic provides and develops traffic control and management services in all traffic forms as well as ensuring safe and smooth traffic responsibly. Fintraffic's services support citizen mobility, commercial transportation needs, the operations of safety authorities, and Finland's competitiveness. Fintraffic collects, administers, and opens data, creating opportunities for the new business that emerges in the market. Fintraffic provides and develops advanced new services and contributes to the growth of traffic ecosystems. It operates as a special assignment group under the ownership steering of the Ministry of Transport and Communications. Fintraffic operates the Finnish NAPs for MMTIS (finap. fi), RTTI, and SRTI. The NAP service catalogue is an open national access point, through which transport service providers submit transport service information via digital machine-readable interfaces. The Digitraffic service is the NAP for RTTI and SRTI, providing real-time data on traffic conditions and road weather in Finland. Digitransit is an open-source service platform from Fintraffic, HSL, and Waltti Solutions oy, for journey planning. Fintraffic also leads the Traffic Data Ecosystem[1]. This ecosystem is an open-source network of about 200 organisations, which any private entity or organisation may join if they agree to comply with the Rulebook, based on Sitra's Fair Data Economy Rulebook.

2.2 Analysis of the use case context

The following sections summarise the overall use case context by reflecting on the current situation at the implementation site and the challenges or opportunities for value creation related to the use case.

2.2.1 Overall context and geographical scope

The use case covers the jurisdiction of the city of Tampere. Tampere, according to customer research, is the most attractive city in Finland, and the population of the city of Tampere is growing at an annual rate of about 2%. Large-scale infrastructure projects are ongoing, including the extension of the tram system and the development of the Central Deck and Arena in the city centre.

Tampere City Region strives for development and growth in a sustainable and human-centred manner. Tampere is one of the cities participating in the Cities Mission, aiming to be climate-neutral by 2030. Tampere's Sustainable Urban Mobility Plan is a strategic document that outlines the objectives for mobility and considers perspectives such as equality, efficient use of space, environmental health, activity and safety.

[1] https://www.fintraffic.fi/en/rulebook

The city offers a great platform to develop and implement innovations. The goal is to add value to the everyday lives of citizens, create new business opportunities for companies, and build a sustainable city together with the ITS Factory network.

The ITS Factory is an active network that has been operating in the region for a considerable time, supporting collaboration between different parties and facilitating the creation of new solutions with companies, universities, R&D organisations, and public entities. Tampere's goal is to establish the city as one of the leading smart mobility cities and testing grounds in Europe.

Tampere Regional Transport, known as Nysse, provides public transport services for the Tampere urban area through collaboration between Tampere and eight neighbouring municipalities. Nysse is owned by the City of Tampere and the participating municipalities. Public transport includes buses and trams. While several operators manage bus services, Nysse owns all ticketing machines in the vehicles and manages public transport data. Commuter trains to the neighbouring municipalities Nokia and Lempäälä are operated by the national rail company, VR. Nysse is also responsible for the city Bicycles, while e-scooters are operated by several companies such as Tier and Voi.

The city of Tampere operates a Traffic Management Centre, which collaborates closely with Fintraffic's national Traffic Management Centre. The city makes use of both open and commercial data sources.

Tampere has an extensive Open Data platform[2] providing access to public datasets. APIs for traffic-related data can be accessed at https://wiki.itsfactory.fi/. Tampere also has an IoT platform featuring a marketplace[3].

Fintraffic operates the Finnish NAPs for MMTIS, RTTI (Digitraffic) and SRTI. Various traffic providers such as Tampere Regional Transport Nysse, VR, and e-scooter operators, contribute data to the Digitraffic service. This data is aggregated and accessible through Digitransit for both national and local journey planners. The RTTI data catalogue is presently being developed and is structured based on mobility-DCAT-AP.

The TURMS (Tampere Urban Rail Mobility Services) Living Lab is an open development environment that serves as a testbed for urban rail technology and digital services.

2.2.2 Current situation

In the coming years, the volume of data that the City of Tampere (and the Tampere public transport authority) collects and provides to the NAP in a standardised format will increase. Currently, data on public transport is collected and partly made accessible to Fintraffic's services but it has not yet been registered in the NAP catalogue. This includes:

- Static public transport information: basic data, such as stops, routes, and timetables are available in GTFS format, but accessibility information is not yet included.
- Real-time public transport is available in GTFS format. The data does not include occupancy information, and historical data is not yet available.
- Data on city Bicycles is available in static format but the interface is currently closed.
- Park and Ride information is available in the Liipi format developed by HSL. In addition, Bicycle parking data is available in WMS/WFS format.

[2] https://data.tampere.fi/fi/
[3] https://marketplace.iot.tampere.fi/

- Incident and major roadworks information are published by the traffic management centre of the City of Tampere and published in DATEX 2 format.
- Winter maintenance data (i.e. data generated by maintenance vehicles) is available in some parts of the city.

For e-scooters, information is provided directly by the providers to the NAP. However, formats used by different operators differ; for example, Voi provides data in NeTEx, while others use GBFS.

2.2.3 Current challenges or opportunities for value creation

The status of the data is mentioned above. The collection of data, potentially requiring manual labour, is subject to the availability of resources by the providers. The availability of data also depends on the contracts between the data providers and the City of Tampere or the NAP.

The data collected by the city and national level data should be harmonised, both in terms of data quality and content. Information on small roadworks is very challenging, as permits for road works may cover a wide time range compared to the actual execution time of the roadwork. The lack of business models and processes to make use of commercial data is also a challenge: the benefit should outweigh the cost.

2.3 Objective of the use case

2.3.1 Objective statement

The main purpose of the use case is to provide the data required by the ITS directives in a harmonised way and make it accessible nationally to the NAP, and from there to the common EMDS, so that stakeholders willing to use the data, can use it. This will also contribute to the vision that the data which travellers need to plan and perform their trips is available anytime, anywhere, and on any vehicle. Stakeholders from the EMDS can find and access the data related to Finnish transport. Access to accurate real-time data in a harmonised format allows service providers to develop services that correspond to the demands of the end users for quality data and gives them an increased feeling of safety.

2.3.2 Overall use case narrative

The City of Tampere and Tampere Region Public Transport are collecting information on public transport and road transport in a standardised format. The ITS Directive and other regulations guide the roadmap of the City for the provision of the data. The data is delivered in a standardised format to Fintraffic, which operates the NAP. Fintraffic verifies the quality of data and aggregates it with other relevant data sources, such as commuter rail information and other multimodal data, providing a comprehensive view of traffic. This will allow service developers to create travel-related products and support travellers in making decisions prior to and during their journeys. Since the data adheres to standards, the services can be easily extended to other cities in Finland and Europe. Service providers can thus use the information from Tampere as a benchmark and later extend the geographical scope to other cities.

2.4 Elaboration of implementation pathways

The following sections explore the actions and interactions required for the successful implementation of the use case.

The pathway elaboration begins with the exploration of the most ideal implementation in an idealised, fictional scenario where all circumstances for implementation are favourable.

Subsequently, the idealised pathway is adjusted to real-world circumstances at the implementation site by identifying potential barriers induced by this context and requiring alternate actions to address them. This chapter also explores how specific, realistic aspects, initially outside the scope of the use case, may influence its design or serve as subsequent development steps. This ensures the use case's longevity by considering potential additions during the initial implementation.

2.4.1 Ideal implementation pathway

The roles of the partners are:

- City of Tampere: ensures the collection of data and provides it in the agreed format. This involves agreements with the Tampere Region Public Transport administration on data collection and publication. The City of Tampere publishes the dataset on the NAP.
- Fintraffic: Ensures that the data received from the city of Tampere adheres to the agreed specifications i.e. standardised formats such as DatexII, NeTEx and Siri, and complies with Nordic Profiles. It integrates the dataset in the NAP converting data to other formats if needed (e.g. from GTFS to NeTEx) and stores it in Fintraffic's database. The data is then made accessible to other actors within the data space.
- Fintraffic leads the Traffic Data Ecosystem, an open-source network of about 200 organisations, following a Rulebook based on Sitra's Fair Data Economy Rulebook. The Traffic Data Ecosystem has its own data catalogue[4].
- Other data providers (such as Voi, e-scooter providers) provide data directly to Fintraffic.
- VTT leads the implementation in the test site and benchmarks data space technology before deployment. The environment can be used for benchmarking data space functionalities.

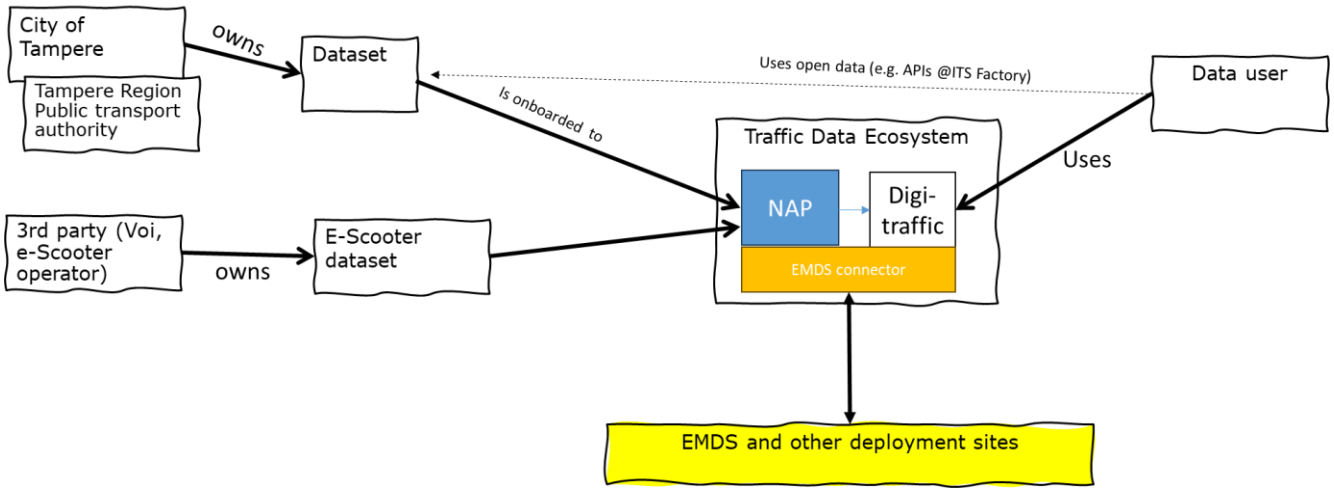

Figure 1 – Ideal flow of the TAM_01 Use Case

[4] Traffic Data ecosystem - Dataset description template.pdf, https://www.fintraffic.fi/sites/default/files/2022-06/Traffic%20Data%20ecosystem%20-%20Dataset%20description%20template.pdf

2.4.2 Alternate pathways to implementation

Issues with data providers: each event could cause deviation from the original plan.

Potential obstacles in the implementation:

- Not all data is collected. The collection of data is agreed upon with the data owners, but the collection may require considerable resources, which are not planned.
- Data is not according to the agreed format. Issues will be monitored regularly, and discussions with the providers held to solve the issue.
- The data quality of the provided data is not sufficient.
- Issues related to the use of the data (privacy, licenses, usage conditions). Currently, all data addressed in the plan is open data.

The status of the work is monitored in biweekly meetings at the Finnish deployment site, and corrective actions are implemented if needed.

Alternate pathways: the data is directly accessed from Digitraffic, without being registered in NAP.

2.4.3 Additional pathways to amend the use case implementation

The basic use case focuses on open data, which is made available to the NAP. To demonstrate the potential of data spaces, data with usage restrictions or commercial data may be included in a later phase. The TURMS (Tampere Urban Rail Mobility Services) Living Lab's research data platform or the Tampere IoT platform can be used for this purpose. Potential data sets include passenger count measurements from trams in TURMS and traffic data from smart cameras in the IoT platform. The data sets are then made available through a connector to the Traffic Data Ecosystem — the local data space.

In the case of passenger count measurements, the data set can be used for occupancy data, which is an attribute to the SIRI real-time data public transport information. SIRI data is produced by Tampere Region Public Transport and published in the NAP. The data flow between the actors, that is, how to integrate the occupancy data in SIRI and publish it to the NAP, is still under investigation.

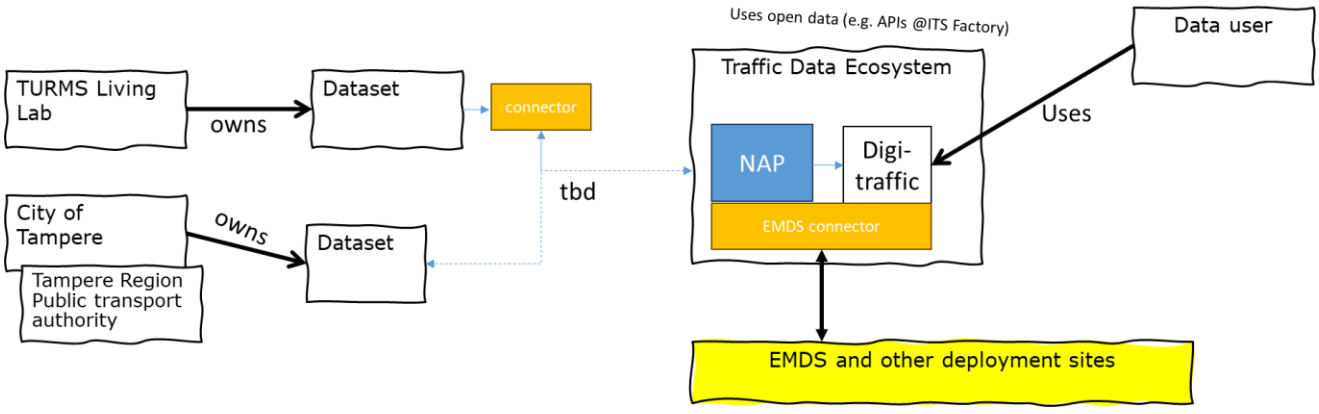

Figure 2 – Additional pathway of the TAM_01 Use Case

2.5 Primary use case implementation products

The following concerns the definition of the primary use case product or the minimal viable product design of the use case that is to be implemented in the first iteration of the implementation project.

2.5.1 Description of the primary use case product (MVP)

The minimum viable product for the Tampere deployment site consists of the following data products, which will be made discoverable and accessible for EMDS stakeholders:

- TA.DPO.01.01: Static public transport data.
  - This data product includes data on routes, trips, and stop times in GTFS format.
- TA.DPO.01.02: Dynamic public transport data
  - This data product includes real-time position and disturbance data in SIRI format.
- TA.DPO.01.05: Traffic events and roadworks
  - This data product includes traffic events in DATEX 2 Lights and winter maintenance data.

Two data products will be made available at a later stage of the project:

- TA.DPO.01.03: Historical public transport data
- TA.DPO.01.04: Multimodal data

2.5.2 Steps of the primary use case implementation

The work for each of the data sets in the data product goes through the following steps:

1. Specification of the work which must be performed on the data set to make it available to the EMDS.
2. Procurement or outsourcing of development: Based on the specification of the work, such as software development, the City of Tampere and Fintraffic take care of the procurement, e.g. by using service providers, with whom they have framework contracts.
3. Data collection: For some data sets, additional data or data attributes may need to be collected
4. Data processing at the data provider: This may include conversion before publishing the data on the NAP and the processes for publishing the data on the NAP
5. Data processing at the NAP: This may include quality control steps, integration with other data sets, and potential conversion to other protocols.
6. The data set is made available to the EMDS: The metadata is published to the EMDS.

In addition, the following horizontal steps can be identified:

1. Design of the implementation site architecture
2. Design and development of the connectors, e.g. to connect the local data space or NAP to the EMDS.
3. Deployment of the connectors

2.5.3 Participants in the primary use case product

2.5.3.1 Data providers

Data provider 1	**Fintraffic**	
Type of organisation:	Traffic management data agency	
Project partner:	Yes	
Data product 1A	**Public transport static data (Ta.DPO.01.01)**	
Data type:	Static	
Access:	Open data	
Conditions:	No specific conditions	
Components:	<u>Data sources/ data points</u>	<u>Data model/specification</u>
	Ta.01.01 PT static data (quality assessed)	GTFS
	converted PT static data	NeTEx

Data product 1B	**Public transport real-time data**	
Data type:	Dynamic	
Access:	Open data	
Conditions:	No specific conditions	
Components:	Data sources/ data points	Data model/specification
	Ta.01.02 Dynamic PT data	SIRI
	Ta.01.03 PT disturbances and cancelled trips	SIRI
Data product 1C	**Tampere public transport history data**	
Data type:	Static	
Access:	Not yet defined	
Conditions:	Conditions may apply in case of selectively accessible data	
Components:	Data sources/ data points	Data model/specification
	Ta.01.02 Dynamic PT data	SIRI (conversion to OPRA)
	Ta.01.03 PT disturbances and cancelled trips	SIRI
	Historical data	
Data product 1D	**Multimodal data for Tampere**	
Data type:	Static and dynamic	
Access:	Open data	
Conditions:	No specific conditions	
Components:	Data sources/ data points	Data model/specification
	Ta.01.05 Park & ride data	HSL Liipi, GeoJSon
	Ta.01.10 Bicycle parking data	GeoJSon
	Ta.01.11 City Bicycles	GBFS
	Ta.01.12 e-scooters (Voi)	NeTEx
	Ta.01.13 e-scooters (other providers)	GBFS
Data product 1E	**Dynamic incidents and roadworks**	
Data type:	Dynamic	
Access:	Open data	
Conditions:	No specific conditions	
Components:	Data sources/ data points	Data model/specification
	Ta.01.08 Tampere incidents	Datex II light/Datex II
	Ta.01.07 Winter maintenance vehicles	Datex II light/Datex II

2.5.3.2 Data intermediaries

The TAM_01 Use case does not include data intermediaries within its implementation project.

2.5.3.3 Data consumers

The TAM_01 Use case does not include data consumers within its implementation project. The data product is published on the NAP, from where it is available to service providers and other stakeholders.

2.5.4 Subsequent implementation products

The following sections outline (potential) subsequent implementation products that may be introduced in subsequent iterations of the local implementation project.

The data products “Tampere historic public transport data” (Identified in D.2.1 as Ta.DPO.01.03) and “Tampere multimodal data” (Identified in D2.1 as Ta.DPO.01.04) may be implemented in a second iteration of the use case implementation, dependent on the further project development.
Potential additional data sources that may be explored as subsequent implementation projects include:

- Collection of smart traffic camera data to NAP
- Passenger counting data from trams (TURMS)

3 Initial reflections on Detailed Implementation Plan – Part B for use case TAM_01

A preliminary version of the Detailed Implementation Plan Part B has already been defined for the TAM_01 and is available in tabular format in the annex. For each of these steps, the content, responsible partner, timing, and validation procedure are defined. The validity of this implementation plan will be assessed in relation to the further development of the deployEMDS action at large.

4 Conclusions

This report provides a detailed understanding of the local context of Tampere and summarises the objective, scope and preliminary implementation approach of use case TAM_01, as envisioned and proposed by the local project Consortium of the Tampere implementation site.

The contextual information outlined in Part A of the Detailed Implementation Plan for each of the nine implementation sites offers a comprehensive understanding of the local projects for all Consortium members and interested external parties. In combination with the ideation and elaboration process carried out by the respective local project consortia leading up to this refined summary of the use cases, these reports establish a clear agenda for deployEMDS to address in the upcoming months.

To pave the way for the Detailed Implementation Plan – Part B series, which will outline in detail the project plans for the EMDS deployment within (local use cases) and across (transversal use cases) the nine implementation sites, the following factors have been identified as particularly challenging and will be addressed by autumn 2024:

- **The lack of clarity in conceptualising the common EMDS**
  The prevailing heterogeneity among the Implementation Plans – Part A largely stems from the lack of clarity surrounding the EMDS concept and the technical possibilities offered by the European data-sharing framework. While some implementation sites, experienced in decentralised data sharing within mobility or other locally significant sectors, view their use cases as facilitated by this common

data-sharing framework, others see the EMDS as an auxiliary tool. In these instances, the relevant data sets for the use cases are made available but without an immediate need for data space components. This question closely relates to the missing European or cross-border harmonisation dimensions in the deployEMDS use cases, as outlined in Deliverable D2.1 describing the technical requirements. This will be addressed during the development of the transversal use case frameworks in WP4 and the project's strategic alignment process. Alignment with SIMPL, the Data Spaces Support Centre (DSSC) and other sectorial data space deployment actions will support this process.

- **The challenge of sustaining the common EMDS beyond the project lifespan**
  The use case products proposed by local implementation sites do not merely pilot actions but rather address real-world mobility challenges sustainably. This underscores the need to ensure the sustainability of the implemented data exchange solutions beyond the project end. However, implementation sites may hesitate to fully embrace the EMDS as the facilitating data-sharing framework for their use case products due to uncertainties regarding its long-term viability and pathway. This is exacerbated by the overall ambiguity surrounding the EMDS conceptualisation. To tackle this issue, the strategic alignment process and WP3 on governance will define development scenarios for the EMDS beyond the project end, taking into account initiatives such as the EMDS technical support study funded under CEF.

- **The missing or unclear link between the EMDS and existing common mobility data frameworks**
  The greatly varying levels of awareness for European (mobility) data legislation among local and regional stakeholders lead to a missing or unclear link between deployEMDS use cases and existing frameworks like the National Access Points (NAPs) mandated under the ITS Directive. Several data sets required for the use cases are already published in the NAPs by mandate of the MMTIS and RTTI delegated regulations. However, uncertainty surrounding the connection to the NAPs exists and is reinforced by the overall lack of clarity in conceptualising the common EMDS. The collaboration effort with NAPCORE (the National Access Point coordination effort), coordinated within WP3 of the action, will identify how these missing links can be established to ensure complementarity.

- **The lack of understanding regarding the capabilities of data space components and technical governance to tackle data-sharing challenges**
  The use cases proposed by the nine implementation sites tackle real-world mobility challenges that can be addressed with data-driven solutions or data-enriched products. Many data-sharing challenges for these use cases could be resolved with technologies less powerful than a data space but the scaling of these solutions cross-border is potentially limited without a truly European framework. The question of technological choice and refining local use cases for EMDS deployment, while ensuring their real-world relevance to the co-funding cities, regions, and project partners will be addressed through the strategic alignment process within WP4, WP2 on technical infrastructure, and WP3 on governance.
  Further workshops and trainings will provide a better understanding of data space components and their concrete application in specific future-oriented use cases, especially for scalable data sharing ecosystems and sharing of non-public data where trust and compliance by design may play an important role.

In summary, both the reports and the elaboration process of the Detailed Implementation Plans – Part A have yielded valuable insights for strategic alignment in deployEMDS. Specifically, this report offers a clear and comprehensive initial description of the approach for the local implementation project in Tampere and the eight other sites across Europe. By autumn 2024, the Detailed Implementation Plan – Part B series will detail the final use case definitions and the detailed steps for their implementation, marking the first step toward deploying common infrastructure, governance and use cases as part of the common European mobility data space.

Annex

Annex 1: Preliminary detailed implementation plan Part B in tabular format (see next page)

Data Product	**Ta.DPO.01.01**	**Ta.DPO.01.02**	**Ta.DPO.01.03**	**Ta.DPO.01.04**					**Ta.DPO.01.05**	
Description	Static PT data	Dynamic PT data	Historical PT data	multimodal data					incidents and roadworks	
Data Set code	Ta..01.01	Ta.01.02 and Ta.01.03	Ta.01.02 and Ta.01.04	Ta.01.05	Ta.01.10	Ta.01.11	Ta.01.12	Ta.01.13	Ta.01.08	Ta.01.07
Data Set description	Static Public Transport data	Ta.01.02: Dynamic PT data (position) Ta.01.03: Dynamic PT data (trip update)	Ta.01.02: Dynamic PT data (position) Ta.01.03: Dynamic PT data (trip update)	Park and Ride data	Bicycle parking data	City Bicycles	e-scooters (Voi)	e-scooters (other providers)	Tampere incidents	winter maintenance vehicle location
Data owner	Tampere regional public transport Nysse	Tampere regional public transport Nysse	Tampere regional public transport Nysse	open	City of Tampere	City of Tampere	Voi	other providers	City of Tampere	City of Tampere
Data protocol	GTFS	GTFS-RT	GTFS-RT	Liipi	GeoJSon,WMS/ WFS	GBFS	NeTEx	NeTEx	Datex II light	WMS/WFS
Work planned										
Current status	data available in GTFS	data available in GTFS-RT. Data is available in SIRI, but the quality of the conversion to SIRI is not ascertained.	builds on Ta.DPO.01.02	data on major P&R sites is available in Liipi format	Data on cycle parking racks is available in Tampere as open data.	Data is planned to be made available in GBFS format in mid-2024	data directly provided to Fintraffic	data directly provided to Fintraffic	Traffic events are generated by the Tampere traffic management centre in DATEX II Light format	Data on historical locations of the winter maintenance vehicles is available at the City of Tampere.
Work to be performed in the project	transfer data automatically to Fintraffic and convert to NeTEx.	convert to SIRI and transfer data automatically to Fintraffic	generate historical data from SIRI-data, conversion to OPRA	Liipi data fields combined with other data from PT terminals to NeTEX. Will be done in 2025	Convert to format (TBD) for NAP	make data available from NAP to EMDS	make data available from NAP to EMDS	make data available from NAP to EMDS	convert to DATEX II and make data available to NAP	make data available to NAP
Step 1: specification of the work to be performed										
Description	detailed description of the work content	benchmarking of SIRI transfer - verification of the current status and compliance. Detailed description of the work content;	detailed description of the work content	detailed description of the work content	detailed description of the work content	detailed description of the work content	detailed description of the work content	detailed description of the work content	Assess the need for conversion. Detailed description of the work content.	detailed description of the work content: determine the protocol and the specifications of the messages to be transmitted to the NAP.

Data Product	Ta.DPO.01.01	Ta.DPO.01.02	Ta.DPO.01.03	Ta.DPO.01.04					Ta.DPO.01.05	
Description	Static PT data	Dynamic PT data	Historical PT data	multimodal data					incidents and roadworks	
Responsible actor	City of Tampere, Fintraffic	City of Tampere, Fintraffic	Fintraffic	City of Tampere, Fintraffic	City of Tampere, Fintraffic	City of Tampere, Fintraffic	Fintraffic	Fintraffic	City of Tampere, Fintraffic	City of Tampere, Fintraffic
Start										
End		30.huhti								1.syys
Acceptability protocol	specifications ready									
Step 2: procurement or outsourcing of software development										
Description	most likely not needed	description of the work performed by the service providers	description of the work performed by the service providers	description of the work performed by the service providers	description of the work performed by the service providers	description of the work performed by the service providers	description of the work performed by the service providers	description of the work performed by the service providers	description of the work performed by the service providers	description of the work performed by the service providers
Responsible actor	City of Tampere, Fintraffic	City of Tampere, Fintraffic	Fintraffic	City of Tampere, Fintraffic	City of Tampere, Fintraffic	Fintraffic	Fintraffic	Fintraffic		City of Tampere, Fintraffic
Start										
End										
Acceptability protocol	contract/work description for service providers									
Step 3 (depends on data set): data collection										
Description			n/a	add P&R sites to Liipi, optionally add Real-time data attribute						include other areas of the city
Responsible actor	City of Tampere	City of Tampere		City of Tampere						City of Tampere
Start										
End										
Acceptability protocol	all specified data are available									
Step 4: data processing at data provider (data set publishing to NAP, incl. potential conversion before publishing)										
Description	publish static PT data to NAP. The work amount depends on the issues detected when checking quality at NAP.	convert RT data to SIRI, and publish to NAP	n/a	send data to NAP	conversion of the Liipi scheme, integration with Ta.01.05 and send data to NAP	conversion to GBFS and publish to NAP			convert to DATEX II	convert to DATEX II

Data Product	Ta.DPO.01.01	Ta.DPO.01.02	Ta.DPO.01.03	Ta.DPO.01.04					Ta.DPO.01.05	
Description	Static PT data	Dynamic PT data	Historical PT data	multimodal data					incidents and roadworks	
Responsible actor	City of Tampere	City of Tampere		City of Tampere	City of Tampere	City of Tampere			City of Tampere	City of Tampere
Start										
End	30.4.									
Acceptability protocol	data accepted by NAP									
Step 5: data processing in NAP (quality control and potential conversion)										
Description	conversion to NeTEx	quality control	conversion to OpRa	quality control, combination with terminal data, conversion to NeTEx	same as for Ta.01.05	?	?	?		
Responsible actor	Fintraffic	Fintraffic	Fintraffic	Fintraffic	Fintraffic	Fintraffic	Fintraffic	Fintraffic	Fintraffic	Fintraffic
Start										
End										
Acceptability protocol	data can be retrieved from NAP									
Step 6: data publishing to EMDS (incl. Connector)										
Description	static PT data is made findable and accessible on the EMDS	RT PT data is made findable and accessible in the EMDS	data is made findable and accessible in the EMDS	data is made findable and accessible in the EMDS	data is made findable and accessible in the EMDS	data is made findable and accessible in the EMDS	data is made findable and accessible in the EMDS	data is made findable and accessible in the EMDS	data is made findable and accessible in the EMDS	data is made findable and accessible in the EMDS
Responsible actor	Fintraffic	Fintraffic	Fintraffic	Fintraffic	Fintraffic	Fintraffic	Fintraffic	Fintraffic	Fintraffic	Fintraffic
Start										
End										
Acceptability protocol	data can be consumed by another actor in the EMDS									