

Horizon 2020 ETC 636126

Project Plan Pilots

Deliverable D10.2



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Document overview

1.1. Purpose of this document

The Pilots are an essential part of the European Travellers Club (ETC) project. They are included into our program not only to test Account Based Ticketing (ABT) in practice, but also to develop practical solutions to implement ABT in existing systems and to ensure interoperability across schemes and borders. In work package 10 'Set up Pilots' the pilot designs were drafted end of 2015, in order to guide the development of the central systems to which the pilots will connect as well as the development of pilot project plans.

This Project Plan Pilots document contains a representation of the plans for the execution of the three pilots. In the Grant Agreement the pilots are listed as work packages 11, 12 and 13, and are respectively named the Dutch, the German and the Luxembourg pilot. The purpose of this document is to:

- Describe the objectives and success criteria for each of the pilots;
- Describe what actors are involved;
- Describe what deliverables need to be made to achieve the objectives;
- Describe the timeline for each of the objectives;
- Describe the risks and measures;
- Describe the interdependencies of the pilots.

This document concludes with a detailed overview of the planning of the three pilots and a listing of the main risks. As such, this document is meant to enable monitoring of progress of the deployment of the three pilots.

1.2. Relation to the individual pilot plans

This document is based on the individual plans for each of the three pilots. It gives a high level overview of each plan. Detailed timelines and overviews of deliverables and tasks are part of the Annexes. This document is drafted by Open Ticketing Institute as responsible party for the work package 10 'Set up Pilots' and has been approved by all the project managers of the three pilots.



2. Pilots objectives

As per the Grant Agreement, the pilots are meant to establish the Technological Readiness Level (TRL) of the Account-Based Ticketing concept and systems. The pilots intend to validate (TRL 5) and demonstrate (TRL 6) the concepts for interoperable Account-Based Travelling and to demonstrate (TRL 6) the integration of transport and non-transport services (such as parking) through Account-Based Travelling. Achieving TRL 6 in three pilots will provide an excellent basis also for further roll-out in the participating Member States (Germany, Luxembourg and the Netherlands) in the years 2017 onward.

Therefore, the overall objective of the pilots is to validate and demonstrate interoperable Account-Based Ticketing in a 'live' environment with actual travellers and further explore the concept of Account-Based Travelling in a lab-environment.

Definitions regarding the objective:

Account-Based Ticketing (ABT): As opposed to card-centric schemes, with Account-Based Ticketing cards act as mere tokens or secure identifiers. Enrichment of the transaction (fare calculation, discount, etc..) take place on back-office systems. Users can make changes to their tickets etc. by accessing the back office via apps, websites etc.

Account-Based Travelling (ABTr): Account-Based Ticketing, integrated with personal journey planning and relevant real-time journey information.

Interoperable: a user with an account with one organization (scheme) can travel with a PTO which does not primarily use this scheme. Both schemes are member of the European Travellers Club.

Live environment: an actual production environment with real travelers, making real trips.

Lab-environment: a setup in a non-production environment: for this program the European Travellers Lab in Amersfoort is used.

2.1. Pilots success criteria and evaluation

The following main criteria determine the viability of the ETC setup for ABT:

- 1. ABT should be valued positively by travellers;
- 2. ABT should be valued positively by the pilot partners/schemes;
- 3. ABT should be valued positively by the participating PTOs.

The pilot outcomes should give insight into how to implement this European scheme solution both technically as operationally and result in do's and don'ts. These do's and don'ts take the perspective from:

- The traveller
- The schemes
- The PTO's

The detailed criteria for the evaluation of the pilot will be described in the test and evaluation plan, deliverable (D14.1).



3. WP11 - The Dutch pilot

3.1. Objectives

In the Grant Agreement the objective of the Dutch pilot is described as follows: to demonstrate Account-Based Travelling for both regional and cross-border travellers on the basis of Pay-As-You-Go and Post payment propositions.

Below the objective is operationalized and the sub-objectives are mentioned. The sub-objectives have been reformulated to capture experiences which have been gathered in the preparatory phase of the pilot. Sub-objectives which need to be realized in the Dutch pilot to realize success in the German pilot are separated from the core Dutch sub-objectives. Evaluation will take place based on the (sub-)objectives mentioned below.

Operationalization of the Dutch objective:	
To demonstrate that holders of a German account can travel (= pay for trips and get real-time personal feedback on their journey) with a Dutch PTO on cross border bus lines, by using their 'home account'. Payment is based on direct fare calculation.	
Sub-objectives:	Dutch sub-objectives to support German pilot:
Acceptance of the accounts of German travellers by a Dutch PTO/scheme.	Enabling Dutch pilot participants to buy tickets for services from a German PTO.
Achieved when German-owned GST's are accepted by Dutch PTO/scheme.	Achieved when the purchase of tickets is possible for Dutch participants.
Acceptance by a Dutch PTO or Trans Link Systems of a method to pay for trips made in the Netherlands through the German scheme.	The issuance of contactless cards with a Dutch transit application (OV-chipkaart) and a generic ETC token.
Achieved when there is agreement with VDV- ETS / AVV on how bills are settled and who takes risk on non-paying travellers.	Achieved when it is proven in the lab that this is possible*.
The inspection of the right to travel in the account of travellers by a Dutch PTO.	
Achieved when inspectors can establish a correct check-in for a trip or construct an onboard (higher) check-in fee in the back office.	
The calculation of fares by the Trans Link Systems back office for Account Based Ticketing travellers.	
Achieved when fares are calculated and are aligned with the OV-chipcard price sheet.	
The invoicing of fares by Trans Link Systems to a German PTO or VDV-ETS	



Achieved when each trip results in an invoice.

3.2. Who is involved

TLS is responsible for delivering this work package.

OTI is responsible for the European Travel Lab and the central systems:

- tests will be done in the European Travel Lab, according to the Master Test Plan;
- OTI will implement the central systems: ETC Ecospace, that will be connected to the systems of TLS (and/or their suppliers).

Arriva is the Public Transport Operator which will be facilitating the live pilot.

ProData/Kapsch is the supplier of the validators which will need to be able to read the GST.

3.3. What needs to be done – deliverables and tasks

The Dutch pilot is split into a lab-phase and a live-phase. The deliverables have been listed below. A new deliverable (D11.5a) has been added. The Product Breakdown structure has been added as Annex A.

Deliverable	Deadline
D11.1 ABT systems & equipment	01-01-2017
D11.2 Mobile Travel App	01-01-2017
D11.3 Acceptance of the Dutch account in Germany	01-01-2017
D11.4 Acceptance of the German account in the Netherlands	01-01-2017
D11.5a Test in a lab situation	31-03-2017 (end of tests)
D11.5 Running pilot (previously named: "Introduction of the GST")	31-12-2017 (end of pilot)

3.4. Timeline and project phases

This pilot consists of two phases. In phase 1 the concept will be tested in the European Travel Lab in Amersfoort. This phase will start beginning of 2017 and end before April 2017. In phase 2 the pilot will be rolled out in a live environment. This phase will start in July 2017 and will last till the end of December 2017. A detailed timeline is part of Annex A. Because the German and the Dutch pilot are so much intertwined the planning of the live phase has been aligned.

3.5. Testing

In the test phase the setup is tested in a controlled environment in the European Travel Lab. The test will also include live persons. The tests will be carried out according to the Master Test Plan. This test plan is published as Deliverable 2.1.

^{*} In an early project phase the issuance of OV-Chipkaarten with a generic ETC token was identified as risk due to limitations of the standard from a governance perspective. It was therefore decided to test the technical feasibility in the lab.



3.6. Risks and mitigation

Description of the risk	Risk mitigation
PTO focusses on bringing concession life, and gives the pilot insufficient priority.	Secure buy-in from PTO within the pilot set-up and in-depth session to fully understand their needs and scope of work.
Proposal of suppliers to PTO is not in line	Secure ongoing commitment during the pilot phase through letter of intent. Challenge proposal and discuss on
with estimations.	strategic level (long term).
	Tweak requirements on essential needs for achieving pilot objectives.
The Dutch pilot and the German pilot are intertwined and for a large part dependent on each other.	Plan regular in depth meetings to discuss relevant topics on interfaces between pilots.
	During the testing and LAB phase the functioning can be technical tested without dependencies of the German partner (using a Dutch card with GST through the Back office of Translink towards OTI HUB).
	Be prepared to internally decouple activities that support the Dutch pilot from activities for the local pilot to avoid unnecessary dependencies.
The Dutch pilot is highly dependent on the IDBT-back office project of Translink. The back office is mandatory for the Horizon 2020 project. Critical resources are needed for both projects.	Project team will manage dependencies actively and timeline of both project are aligned within the adjusted planning.
Specification and pilot design will leave interpretation to the consortium partners.	Plan regular in depth meetings to discuss relevant topics on interfaces between pilots.
	Test during the LAB phase
	Accept that after pilot a rework on the specification is likely needed.
Inspection device provider is not selected yet (This is a small item within D11.1).	Leave inspection out of scope for LAB situation if necessary.



3.7. Interdependencies with other pilots

The Dutch pilot and the German pilot are intertwined and for a large part dependent on each other. The major dependencies are:

- Germany needs to contract travellers in such a way that 'pay-as-you-go' fares as used by the Dutch scheme can be billed and paid;
- Contactless cards with German transit application (VDV-KA) and a generic ETC token need to be distributed to German travellers;
- The German partner will need to recruit and communicate with German participants who will travel in the Dutch pilot environment;
- The German partner will need to provide the token ID's of the participants;
- The German partner will need to inform participants with information on travels within the Dutch region (f.i. through a mobile app).



4. WP12 - The German pilot

4.1. Objectives

In the Grant Agreement the objective of the German pilot is described as follows: to demonstrate Account-Based Travelling for both regional and cross-border travellers on the basis of on-line planned and booked tickets.

Below the objective is made operational and is described in such a way that sub-objectives can be derived. Sub-objectives are mentioned. The pilot is evaluated on these (sub-) objectives. Also reference is made to sub-objectives which need to be realized in the German pilot to realize success in the Dutch pilot.

German pilot objective: To demonstrate that holders of a TLS account can travel on the basis of a ticket and can receive personal journey information with a German PTO, by using their 'home account'.	
Sub-objectives:	German sub-objectives to support Dutch pilot
Acceptance of the accounts of Dutch travellers by a German PTO (or authority). Achieved when Dutch-owned GST's are accepted by German PTO/scheme.	Signing-up German travellers on a payment method accepted for pay-as-you-go fares in the Netherlands Achieved when contracts can be signed with customers which enable pay-as-you go.
Enabling Dutch pilot participants to buy tickets to make trips served by a German PTO Achieved when Dutch travellers can make trips and travel rights are given in the form of a ticket.	The issuance of contactless cards with German transit application (VDV-KA) and a generic ETC token. Achieved when two systems are delivered on one card.
The inclusion of on-line created tickets in the account of travellers Achieved when tickets are linked to the ID's of Dutch travellers.	one cara.

4.2. Who is involved

The following actors are involved in the deployment of the German pilot:



<u>VDV-ETS</u> is partner in the consortium and has an interest in the roll-out of the GST across Germany. It has delegated the execution of the pilot to AVV.

AVV is delivering the pilot.

ASEAG is the Public Transport Operator which will be facilitating the live pilot.

IVU Traffic Technologies AG is the supplier of the validators which will need to be able to read the GST.

OTI is responsible for the European Travel Lab and the central systems:

- tests will be done in the European Travel Lab, according to the Master Test Plan;
- OTI will implement the central systems: ETC ecospace, that will be connected to the systems of AVV (and/or their suppliers).

4.3. What needs to be done – deliverables and tasks

The deliverables have been listed below. The several tasks have been added as Annex B. With respect to the Grant Agreement changes have been made to the names of the Deliverables.

Deliverable	Deadline
D12.1 Travel Information (previously named: "Mobility Info")	01-01-2017
D12.2 Service platform (previously named: "Reservation & Ticketing Platform")	01-01-2017
D12.3 Medium for Travellers (previously named: "Fare Medium)	01-01-2017
D12.4 Equipment (previously named: "ABT equipment adaptation")	01-03-2017
D12.5 Running Pilot (previously named: "Pilot")	31-12-2017 (end of pilot)
D12.6 Standards & Requirements for Germany	01-02-2018

4.4. Timeline

The pilot will run between July 2017 and the end of December 2017. Before this testing will take place. A detailed timeline is part of Annex B. Because the German and the Dutch pilot are so much intertwined the planning of the live phase has been aligned.

4.5. Testing

In the test phase the setup is tested in a controlled environment in the European Travel Lab. The test will also include live persons. The tests will be carried out according to the Master Test Plan.



4.6. Risks and mitigation

Description of the risk	Risk mitigation
Validators are not delivered in time.	Contract supplier in time: deploy first validators on cross-border lines and then on lines which are most likely to be used by Dutch travellers.
Specs leave too much room for interpretation: suppliers make wrong choices.	Engage in a joint process with OTI and suppliers to monitor and guide implementation.
The Dutch pilot and the German pilot are intertwined and for a large part dependent on each other.	Plan regular in depth meetings to discuss relevant topics on interfaces between pilots.
	During the testing and LAB phase the functioning can be technical tested without dependencies of the Dutch partner.
	Be prepared to internally decouple activities that support the Dutch pilot from activities for the local pilot to avoid unnecessary dependencies.

4.7. Interdependencies with other pilots

The German pilot and the Dutch pilot are intertwined and for a large part dependent on each other. The major dependencies are:

- The Dutch scheme needs to be able to bill German tickets to their clients;
- Contactless cards with the generic ETC token need to be distributed to Dutch travellers;
- The Dutch partner will need to recruit and communicate with participants who will travel in the German pilot environment;
- The Dutch partner will need to provide the token ID's of the participants.
- The Dutch partner will need to inform participants with information on travels within the German region (f.i. through a mobile app).



5. WP13 - The Luxembourg pilot

5.1. Objectives

In the Grant Agreement the objective of the Luxembourg pilot is described as follows: to demonstrate the integration of transport and non-transport services (such as parking) through Account-Based Travelling.

Below the objective is operationalized and the sub-objectives are mentioned. The sub-objectives have been reformulated to capture experiences which have been gathered in the preparatory phase of the pilot. Sub-objectives which need to be realized in the Dutch pilot to realize success in the German pilot are separated from the core Dutch sub-objectives.

Operationalization of the Luxembourg objective:

To demonstrate the possibility of integrating services for public transportation and parking by applying the back-office functions of Account-Based Travelling.

Sub-objectives:

Demonstrate the multi functionality of the Luxembourg-transit card (mKaart), by issuing mKaart's (equipped with VDV-KA) with a GST.

Demonstrate that public transportation services and parking can be combined and offered in such a way that users experience the services as an integrated product.

Study whether the attractiveness of public transportation for travellers increases when travellers receive a discount on parking when using PT.

5.2. Who is involved

Verkéiersverbond is responsible for delivering the pilot.

<u>CFL</u> is het public transport operator and operates the Belval parking area.

<u>Scheidt&Bachmann</u> is the supplier of the access gates and parking terminals in the Belval parking area.

INIT is the supplier of the validators which participants will use for the click service.

OTI is responsible for the European Travel Lab and the central systems:

- tests will be done in the European Travel Lab, according to the Master Test Plan;
- OTI will implement the central systems: ETC ecospace, that will be connected to the systems of Verkéiersverbond (and/or their suppliers).

<u>Open Ticketing Institute</u> is supplier of the app which makes it possible for participants to check the number of clicks and OTI is the supplier for the click service.

5.3. What needs to be done – deliverables and tasks

The deliverables have been listed below. The several tasks have been added as Annex C.

Deliverable	Deadline



D13.1 Pilot Luxembourg	30 June 2016 (month 14 from start of program)
D13.2 Pilot Report	
Luxembourg	28 February 2017 (month 22 from start of program)

5.4. Timeline

The timeline is included in Annex C.

5.5. Testing

In the test phase the setup is tested in a controlled environment in the European Travel Lab. The tests will be carried out according to the Master Test Plan

5.6. Risks and mitigation

Description of the risk	Risk mitigation
System is not functioning properly when	Allow sufficient time for testing in the
starting the pilot.	travel lab.
Planning is too tight for good field tests.	Start with a core of friendly users first
	(employees of CFL for example).
Certain components are not delivered in	Accept a pilot setting which is gradually
time	scaled up during use.
A lot of components are on the critical	Have project management meetings in
path.	which progress for each of the
	components is discussed: make go-no go
	decisions for the roll out of certain
	components. Have back-up plans ready in
	case one of the components delays.

5.7. Interdependencies with the other pilots

None



6. Main conclusions from the three pilots

6.1. Combined planning of the pilots

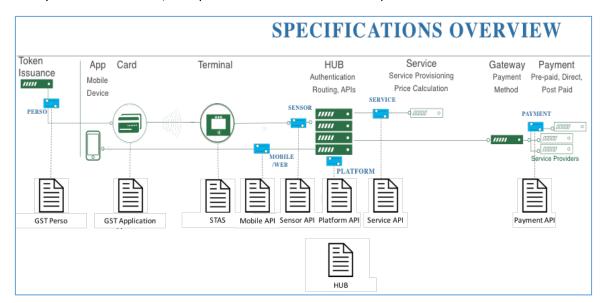
The Luxembourg pilot will be go live in June 2016 and will be finalized before 2017. The German and Dutch pilot will run in parallel. Both pilots are aimed to be finalized by the end of 2017.

6.2. Main risks and mitigation

The main risk is that equipment is not available in time or not up to standard. This is mitigated by closely monitoring suppliers progress and discussing the interpretations of specifications with suppliers. Another risk is that delays of in either the German or Dutch pilot can result in delays in the other one. This is mitigated by having frequent progress meetings and by choosing to steer on providing support for the other pilot separately.

6.3. Interdependencies

The German pilot and the Dutch pilot show large interdependencies. By jointly developing the system and in regular meetings the interfaces will be managed. The Luxembourg pilot is developed in isolation of the other two pilots. All pilots are dependent on the development of the ETC Ecosystem by OTI. OTI is delivering specifications as needed and development of the ETC Ecosystem is kept off the critical path. The ETC concept comprises of a set of specifications. In relation to the ETC systems architecture, the specifications are shown in the picture below.



The documents¹ in the picture are the following:

- GST Perso The interface specification and personalization requirements for issuance of Generic Secure token:
 - Generic Secure Token Personalization Requirements
 - Generic Secure Token Personalization Specification (GP compliant platforms)

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¹ See for the current status of all documents, annex D of this document.



- GST Application the interface and functional specification of the Generic Secure Token
 - o Generic Secure Token Application Specification
- STAS the terminal (sensor) functional specification
 - o STAS Behaviour and Interface Specification
- Mobile API the interface specification between the Hub and a mobile app
- Sensor API the interface specification between STAS and the Hub
- Platform API the interface specification between the Hub and the Travel Scheme using the Hub (account and token management)
- Service API the interface specification between the Hub and a Service Provider
- Payment API the interface specification between the Hub and a Payment Provider
- HUB the functional description of the Hub
 - o Hub Design (refer to deliverable 6.1)



project plan and timeline for the Dutch pilot (WP11)

	Description						20	16										
	Description	J	F	М	А	М	J J	10	А	S	0	N	D	J	F	М	А	M
lan	Projectplan for H2020 Translink parts		х	х		х												
ss and user requirements	What should we do (in scope) from a business and user	х	х	х	х	х	х	х	х									
esign / - flows	perspective High level design/ flows for the scope of the pilot from a IT					х	х											
rk and Infraplan CBO Translink	perspective How are the components connected (network and infra) to the					x	х											
·	backoffice of Translink																	
greement OTI greement PTO (Arriva)	Agreement on scope, confidentiality, liability, etc Agreement on scope, confidentiality, liability, etc				X	х												
processing agreement	Agreement on scope, confidentiality, flability, etc Agreement on sharing and liability of privacy information				X	X						×	Y					
em & Equipment	Agreement on sharing and habiney of privacy information											^	^					
ications																		
minal specifications (card to terminal)	Specification of the interface card to terminal (for supplier Arriva)		х	х		х												
ecification of the transaction processing (terminal to Translink	Specification of the interface terminal to Translink Backoffice (for supplier Arriva)	х	х	х	х	х												
ecification of the BO-Hub interfaces (Translink CBO to OTI HUB)	Specification of the interface Translink Backoffice to OTI HUB		х	х	х	х												
ink Backoffice (Translink CBO)	(for Payment Gateway)																	
nslink Backoffice	ID Based backoffice (in development)	Х	Х	х	Х	х	Х	Х	Х	Х	х	Х	Х					
ilding payment gateway	Payment gateway contains the specific interfacing modules with								х		х	х						
	the OTI Hub																	
lding token registrations component	Component which registrates tokens and transactions with								х									
nfra components (hosting)	(authorized) tokens								,									
nfra components (hosting) erminals (Arriva L1)	Hardware and connection in the IT infra domain								X	X	X							
lding OTI Kernel for validator	Component of terminal which interfaces with the card					х	X	Х	х	Х	х							
Iding OTI Kernel for inspection device	Component of terminal which interfaces with the card												Х	х	х	х	Х	
lding whitelist mechanism	Component of terminal which checks the cardtoken to the whitelist						Х		Х									
) test validators / terminals	Component test of terminal (FAT, SAT)										Х	Х	X					
onent testing																		
t environment operational	All components deployed to testing environment										х	х	х					
Hub (Available for testing purposes)	Backoffice OTI where backoffice Translink connects to	х	х	х	х	х												
n for testing (incl. test scenarios)	Test plan									Х	Х							
t endreport	Report of performed tests (INT, Regression)												X					
ravel App																		
e German traveller nctional design							х											
obile app of German partner	Mobile app for the dutch traveller containing general					X	X	Х.	×	×	×	Y	Y					
some app of definition partition	information, Q&A's and insights in own travels								^									
neral infromation for the German traveller in the Netherlands	General infromation for the German traveller in the Netherlands											х						
German)	(in German)																	
A for travelling in the Netherlands available (in German) e Dutch traveller	Q&A for travelling in the Netherlands available (in German)											х						
nctional Design						х	х	х										
bbile app of Translink	Mobile app for the dutch traveller containing general information, Q&A's and insights in own travels								х	х	x	X						
neral infromation for the Dutch traveller in Germany (in Dutch)	General infromation for the Dutch traveller in Germany (in Dutch)											х						
A for travelling in German available (in Dutch)	Q&A for travelling in German available (in Dutch)											х						
ce of the Dutch account in Germany																		
bility of Dutch cards, provided with token	Physical card and list of tokens					х	х	х	х	х	<u>x</u>							
registration in Back office of Germany	List of tokens registered in backoffice											х						
n on whitelist German terminals	List of tokens registered in terminal / validator												х					
ce of the German account in the Netherlands																		
bility of German cards, provided with token	Physical card and list of tokens				Х	х	х	х	х	х								
registration in Back office of Translink	List of tokens registered in backoffice											Х						
on on whitelist Dutch terminals	List of tokens registered in terminal / validator												Х					
ion of GST - LAB SITUATION																		
	Darle was to see a s																	
tance environment operational	Deployment to acceptance environment							34	- 1/-	- 1/			Х					
or E2E testing (incl. test scenarios)	Building validator and deployment in production					Х	Х	X	X	Х	X		Y					
ntion report of Lab situation	Evaluation report												^	х				
go Live situation	Filled in Go/No go protocol for Live situation													х				
ion of GST - STREET PILOT SITUATION																		
g and preparation IT																		
t endreport of terminal within Arriva DC	Testing the terminal / validator within the Arriva Driver Console																х	
C certification of validator	Each software change of the terminal leads to a new certification of the validator																	
erational production terminals	Deployment of terminal software to busses																	
erational production environment backoffice Translink	Deployment to production environment													х	х	х		
erational production environment OTI HUB	Deployment to production environment													х	х	х		
erational production environment backoffice (German tner)	Deployment to production environment													х	х	х		
g and preparation Operations																		
A for service personal	List of known questions and answers																х	Х
rking guidelines for service personal	How do service personal interact with participants of the pilot																х	Х
ormation transfer protocol	How do we inform all involved parties about changes in tokens,																	Х
	addendum to Q&A's and so on.																	
nosition to participant	(what is our promise to the traveller)					V											v	v
nmunication plan and communication messages towards the	How to inform and tools to inform particpants (like E-mail																	



project plan and timeline for the German pilot (WP12)

ersion 14.03.2016	2016												2017												20
Ionth	Jan	Feb	Mrz	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez	Jan	Feb	Mrz	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez	Ja
oordination/steering		х	х	Х	х	Х	Х	Х	Х	х	х	х	Х	х	Х	Х	х	Х	Х	Х	Х	(X)	(X)		Г
roject management tasks,																									
pordination with suppliers		Х	Х	Х	Х	Х	Х	Х	X	Х	х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	(X)	(X)		
egarding WP921																									
roject management tasks,																									
pordination with suppliers		Х	Х	X	Х	X	Х	Х	X	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	X	Х	(X)	(X)		
egarding WP922																									
roject management tasks,																									
pordination with suppliers		X	X	Х	Х	X	Х	Х	X	Х	Х	Х	Х	Х	Х	X	Х	Х	Х	X	Х	(X)	(X)		
egarding WP923																									₩
roject management tasks,		١.,	١.,		۱.,	١.,	١.,	١.,			١.,			١.,		١.,	١.,	٠.	٠.	١.,	١.,	(24)	(24)		
pordination with suppliers		X	X	Х	Х	Х	Х	X	Х	Х	Х	Х	Х	Х	Х	X	Х	Х	Х	Х	Х	(X)	(X)		
egarding WP924							-									-	-								₩
roject management during the																									
roject period incl. upstream													Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	X	()
lanning tasks and contractual																									
sues in context of the nilot				Х	Х	Х	х	Х	Х	Х	Х	Х	Х												+
lanning				^		^	<u> </u>		^	^		^	^												₩
PP for the pilot - specification					Х	Х	Х																		
Inctionality and architecture Iterface KVPS - specification																									\vdash
iterface to ticket stock							Х	Х	X																
icket Stock - specification of																									\vdash
roject related requirements for				х	х	x																			
cket stock					'																				
pecification of medium (multi-																									T
pplication) and procurement				Х	Х	х																			
rocess																									
ehicle - specification of																									
equirements on the side of the							Х	Х	X																
ehicle																									丄
ehicle - specification interface							x	x	х																
uthentication and routing hub																									₩
spection - specification of							١.,																		
equirements on the side of							Х	Х	Х																
nobile terminals																									₩
ispection - specification							x	x	х																
iterface authentication and							^	^	^																
icket Stock - specification of																									t
iterface ticket stock and mobile							х	х	Х																
erminal																									
lanning and organisation of the											, ,	.,	· ·												
ilot										X	Х	X	Х												
ealisation							Х	Х	Х	Х	Х	Х	Х	(X)											
itegration of technical jump-off																									
VV-APP (AVV Connect)										Х	Х	Х													
itegration of information into																									T
ne AVV-Website										Х	Х	Х													
PP for the pilot - development																									T
r adaption											Х	Х	Х	(X)											
iterface KVPS - realisation																									+
iterface to ticket stock (AVV)										X	Х	Х	Х	(X)											
icket Stock - development Ticket							 																		+
tock					l					Х	х	Х	Х	(X)											
iterface Ticket Stock -					\vdash						\vdash														\vdash
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oordination of development		-			\vdash		-				\vdash			<u> </u>											\vdash
iterface Ticket Stock -					l					х	х	х	х	(X)											
alisation		-	-	-				-	-						-	-	-			-	-				1
roduct and Inspection Module					l					х	х	х	х	(X)											
'KM) - integration					<u> </u>					ļ	<u> </u>	<u> </u>	ļ <u></u>												igapha
ehicle - development of vehicle					l					Х	х	х	х	(X)											
quipment	ĺ	1		1	l					^`	l ^	^`	l ^`	1/1/	1	I	I	ĺ	İ				l		Ì



project plan and timeline for the Luxemburg pilot (WP13)

Name	Duration	Start	Finish
ibourg	181.125	9/1/15 9:00 AM	6/15/16 6:00 PM
lication	139.125	9/1/15 9:00 AM	4/8/16 6:00 PM
tion	0 days	1/13/16 9:00 AM	1/13/16 9:00 AM
	17.5 days	1/13/16 9:00 AM	2/9/16 6:00 PM
	0 days	3/10/16 9:00 AM	3/10/16 9:00 AM
ie	0.875 days?	9/1/15 9:00 AM	9/1/15 6:00 PM
ment	8.75 days	3/14/16 9:00 AM	3/25/16 6:00 PM
	4.375 days	3/28/16 9:00 AM	4/1/16 6:00 PM
) Test	4.375 days	4/4/16 9:00 AM	4/8/16 6:00 PM
Ticker App	137.375	9/1/15 9:00 AM	4/6/16 6:00 PM
ing Workshop	12.25 days?	12/1/15 9:00 AM	12/18/15 6:00 PM
itform	0 days	3/10/16 9:00 AM	3/10/16 9:00 AM
ie	0 days	9/1/15 9:00 AM	9/1/15 9:00 AM
ment	8.75 days	3/10/16 9:00 AM	3/23/16 6:00 PM
		3/24/16 9:00 AM	3/30/16 6:00 PM
Test	4.375 days	3/31/16 9:00 AM	4/6/16 6:00 PM
	0 days	9/1/15 9:00 AM	9/1/15 9:00 AM
	0 days	9/1/15 9:00 AM	9/1/15 9:00 AM
ce	89.25 da	12/7/15 9:00 AM	4/26/16 6:00 PM
	43.75 days?	12/7/15 9:00 AM	2/12/16 6:00 PM
	21.875 da	3/23/16 9:00 AM	4/26/16 6:00 PM
	3.5 days?	9/1/15 9:00 AM	9/4/15 6:00 PM
tion	3.5 days	9/1/15 9:00 AM	9/4/15 6:00 PM
ntation	0.875 days?	9/1/15 9:00 AM	9/1/15 6:00 PM
	0.875 days?	9/1/15 9:00 AM	9/1/15 6:00 PM
	0.875 days?	9/1/15 9:00 AM	9/1/15 6:00 PM
	181.125	9/1/15 9:00 AM	6/15/16 6:00 PM
eeting	0 days	9/1/15 9:00 AM	9/1/15 9:00 AM
-		3/10/16 9:00 AM	3/10/16 9:00 AM
ment Plattform		3/10/16 9:00 AM	6/1/16 6:00 PM
ement Vehicle	52.5 days	3/10/16 9:00 AM	6/1/16 6:00 PM
	-	6/2/16 9:00 AM	6/15/16 6:00 PM
ı Fleet	0 days	6/15/16 6:00 PM	6/15/16 6:00 PM
		5/11/16 9:00 AM	6/15/16 6:00 PM
eeting CFL-Verkeiersverbond		5/11/16 9:00 AM	5/11/16 9:00 AM
%R Product on cards		5/11/16 9:00 AM	5/17/16 6:00 PM
g KeyUsers		5/18/16 9:00 AM	6/7/16 6:00 PM
 [6/15/16 6:00 PM	6/15/16 6:00 PM
livery		4/25/16 9:00 AM	4/25/16 9:00 AM
nbourg		6/16/16 9:00 AM	12/16/16 6:00 PM



Annex D: Status of specifications as referred to in paragraph 6.3

Document	Status
GST Perso	v2.1.6
GST Application	v4.2.4
STAS	Draft
Mobile API	Draft
Sensor API	Draft
Platform API	Draft
Service API	v2.1
Payment API	Draft