



Horizon 2020 ETC 636126

Ecosystem ABT – The Business Canvas

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1. Introduction - Summary

The deliverable is part of work package 3 and is described in the Grant Agreement as “A *white paper that describes the whole eco-system for interoperable account-based ticketing*”.

In order to draft this document, we have reached out to our stakeholders to involve them in the development of the European Travellers Club (ETC) as a not-for-profit entity and create support both in the development phase of the entity as well as thereafter.

We have discussed this document both with partners in our project (eg. Verkéiersverbond, VDV-ETS and UL), in the ETC-council (more specifically with NTA in Ireland) and it was used for discussion within the ISO working group regarding the envisaged business model for account-based travelling. With the authorities and e-ticketing scheme providers in our project and council the discussion mainly focusses on the role of the scheme provider in the new business model: how to migrate from existing card centric systems towards account-based systems.

Next to the roles in an eco-system, this document also presents the business canvasses (for explanation: see the annex to this memo) for the three new roles that will be involved in Account-Based Travelling (ABT):

1. Scheme Provider;
2. Mobility Account Provider; and
3. Revenue Collector.

These roles have also been discussed between Accept and the relevant stakeholders and was presented in several Advisory Council meetings. Feedback from the parties was included in this document.

This document will be used to further detail the ETC and its business processes, the ETC business plan and the franchise contracts.



2. The Position of the Scheme Provider in the ABT role model

The purpose of Account Based Travelling (ABT) schemes is to facilitate seamless handling of mobility products (pay-as-you go, prepaid tickets or post-paid arrangements) between passenger and transport operators through a single account, recognizing the increasing responsibility of schemes for revenues.

2.1. Four-corner model, main roles

In principle, the major roles will interact in a four-corner model, comparable to the financial sector, under the guidance of a central Scheme Provider:

1. Passenger ('Consumer');
2. Mobility Account Provider (the 'Issuer' and retailer of mobility products), working for the passenger;
3. Mobility Service Operator (the 'Merchant' who provides the public transport service or related mobility service, such as bike rental or parking); and
4. Revenue Collector (the proposition owner for mobility products and 'Acquirer' of the transactions), working on behalf of the PTO or Transport Authority entitled to the fare revenue from the mobility services provided.

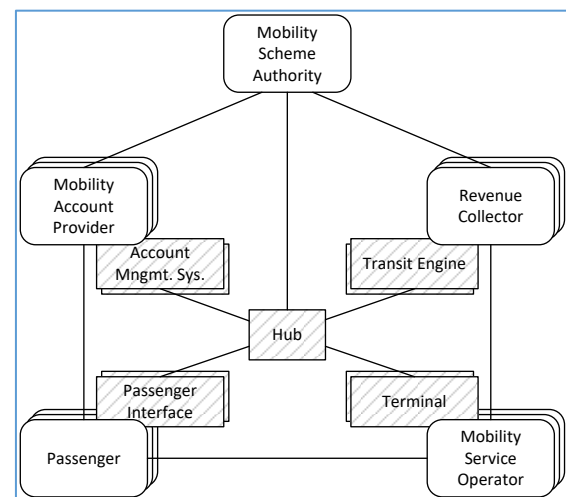
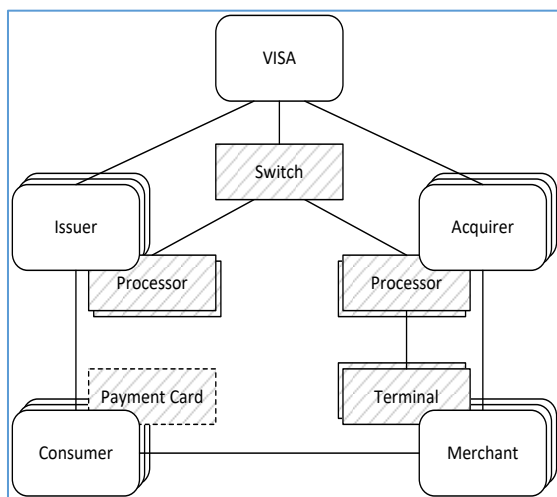


Illustration of the EMV four-corner model and a similar representation for ABT, showing only the main roles and support systems (depending on architectural choices to be made).



2.1.1. Scheme Provider

The **Scheme Provider** will set standards and requirements for account-based travelling (ABT) and open payment in public transport to ensure interoperability, data integrity and privacy, as well as EMV compliance (which requires additional rules in such a multi-actor environment when compared to a simple merchant point-of-sale). Depending on architectural choices, the scheme provider may use a hub or switch to keep control over the central routing and authentication to ensure access of all participants to the network.

The business of the Scheme Provider is to provide and maintain a framework for trust and seamless interaction between all participants in the delivery of integrated mobility to the public.

2.1.2. Mobility Account Provider

A **Mobility Account Provider** will not only hold a financial balance and transaction history for every customer and passenger, but also store the mobility products, personal passenger credentials (like age or discount arrangements) that may be used in fare calculation, multiple tokens and payment means, travel history (if desired by the customer or needed for fare calculation), and that connects the account to planning and booking tools, and in-journey notifications.

The business of a Mobility Account Provider is to help passengers make optimal use of mobility services with minimal effort or concern.

2.1.3. Revenue Collector

A **Revenue Collector** needs to be able to calculate a fare on the basis of the specified journey (pre-specified, Tag-On Only or Tag-On/Tag-Off), passenger credentials and other business rules (e.g. for multi-leg journeys or period capping). The revenue collector will arrange with or regarding the (subsidized) Mobility Service Operator (1) what propositions are offered to passengers through their account with their Mobility Account Provider, (2) how terminals and data connections will be implemented and maintained, and (3) what revenue protection measures are needed.

The business of a Revenue Collector is to collect the correct revenue (share) for mobility services against minimal service disruption and costs.

2.2. Support Roles

We recognize that there are support roles to be detailed, such as the role of:

- Sales Agent,
- Token Provider, or
- Central Fare Calculator across modes.



2.3. Difference per Member State

The Public Transport sector differs between and in Member States.

In London, the Transport Authority is responsible for revenue collection. In the Netherlands, the PTOs are. In some countries, like Denmark and Ireland there are national schemes including national fare rules and central clearing and settlements, in other countries there are standards organizations like, ITSO in the UK or Calypso in a number of cities in multiple countries.



3. Flow of products and payments

The Revenue Collector defines the products it will offer for the associated mobility services to its respective customer segments, including monthly passes, pay-as-you-go, individual tickets etc. The Mobility Account Provider retails the product in the sense that it stores the product in the mobility account of the individual passenger, which in ABT is leading. Note that the exact flows will differ per type of product, transaction and payment. An EMV-c transaction will be initiated at the terminal, whereas a mobile ticket can be generated using the journey planner.

In financial terms, the Mobility Account Provider arranges payment with the customer, either before, during or after the journey. The debtor risk lies therefore with the Mobility Account Provider. The inspection risk remains with the Revenue Collector (but note that eg. NTA in Ireland as a Revenue Collector may subcontract the operational task for inspection to the Public Transport Operator that is the mobility service operator in this example).

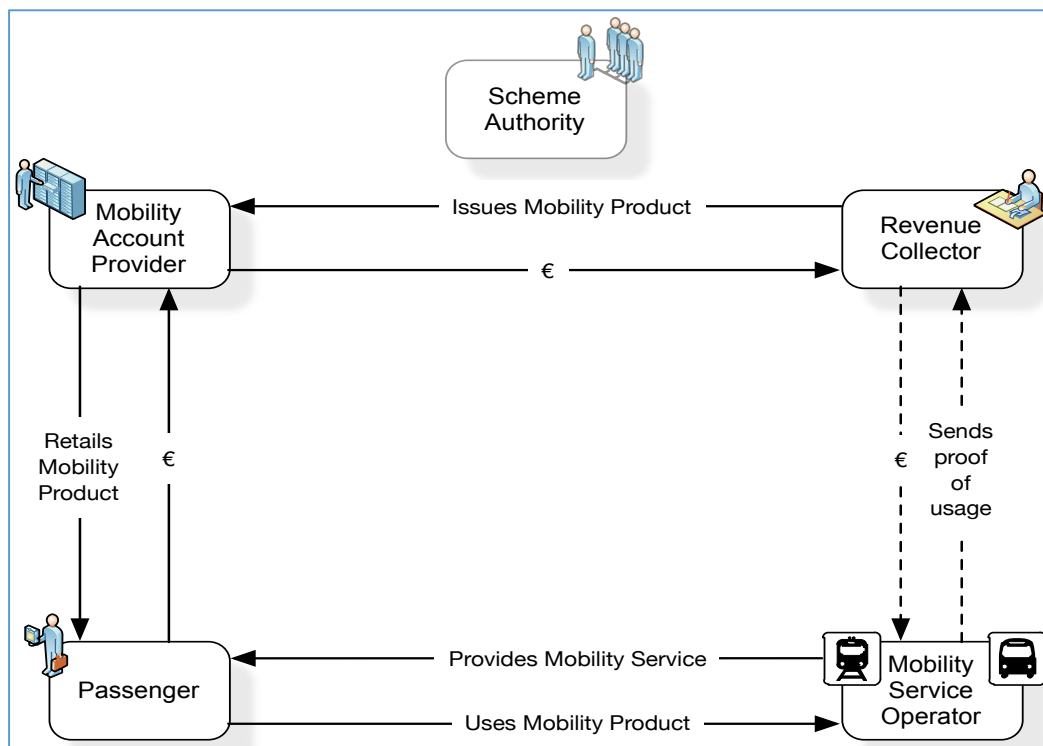


Illustration of the main flows between the main roles in the scheme, noting that the exact flows will differ per type of product, transaction and time of payment.



3.1. Three Businesses

In this section we present three *draft* business canvasses to stimulate thinking about these roles as businesses, and thus to support the collection of business requirements for each of the three roles on that level.

That does not mean that these are for-profit activities, but rather that each aims to create specific value for its respective customer groups, while two of the three roles could over time be fulfilled by other actors as well (other than the scheme provider).

3.1.1. Scheme Provider

Scheme Provider				
<i>Key Partners:</i> Government / Authorities Public Transport Sector Financial Sector	<i>Key Activities:</i> Define Scheme Manage Scheme Monitor Compliance Clearing	<i>Value Proposition:</i> Provide a framework for trust and seamless interaction between all participants for integrated mobility	<i>Key Relations:</i> B-2-B Audit Advisory Council	<i>Key Customers:</i> Mobility Account Pro- vider(s) with Passengers Revenue Collector(s) with Mobility Service Operators.
	<i>Key Resources:</i> Staff IT Systems		<i>Key Channels:</i> Direct contact Automated Monitoring	
<i>Costs:</i> Staff (legal, financial, technical) IT costs		<i>Revenues:</i> Government budget or % of fares		

The key IT-Systems that a Scheme Provider needs are the following:

- a Transaction Acceptance Network (TAN) (connected through a switch or hub, a scheme prefers peer-to-peer processing between participants);
- a Network Monitor (connected to the TAN or to the participant systems);
- a Clearing House;



3.1.2. Mobility Account Provider

Mobility Account Provider				
<i>Key Partners:</i> Scheme Provider Revenue Collector(s) Payment Providers (incl. EMVc) Token Providers Journey Planner PTOs	<i>Key Activities:</i> Provide Travel App Provide Accounts Process Journeys Customer Service Add Value	<i>Value Proposition:</i> Help Passenger to make optimal use of mobility services, with minimal effort, through a single account	<i>Key Relations:</i> Direct interaction through Travel App, Online chat, email	<i>Key Customers:</i> -Regular passengers -Tax Saver Commuters -Entitlement Holders -Corporate travel users -Foreign visitors
	<i>Key Resources:</i> Staff IT Systems		<i>Key Channels:</i> Direct to Customers, with some info via PTO, Bank or others	
<i>Costs:</i> Staff (development, customer service) IT-costs Payment Charges		<i>Revenues:</i> % of fares payments for value added services		

The key IT systems that a Mobility Account Provider needs are the following:

- Mobility App (integrated with Journey Planner and Travel Companion)
- Mobility Accounts System (with CRM, and Id. Management)
- Payment Gateways



3.1.3. Revenue Collector (with central fare calculation for public transport)

NTA Revenue Collector				
<i>Key Partners:</i> Scheme Provider Mobility Account Provider(s) Passengers Mobility Service Operators	<i>Key Activities:</i> Provide infra Manage Products Manage Inspection Process Transactions Calculate and Charge Fares Add Value (data)	<i>Value Proposition:</i> Collect the correct revenue (share) for a mobility service, with minimal service disruption and costs	<i>Key Relations:</i> B-2-B Account Management Automated processing	<i>Key Customers:</i> Entity with the Revenue Risk (authority, PTO or other mobility service provider)
	<i>Key Resources:</i> Terminal infra. IT Systems Staff		<i>Key Channels:</i> Direct	
<i>Costs:</i> Terminal infra IT-costs Staff Costs		<i>Revenues:</i> Fee for terminals % of fares or: government budget		

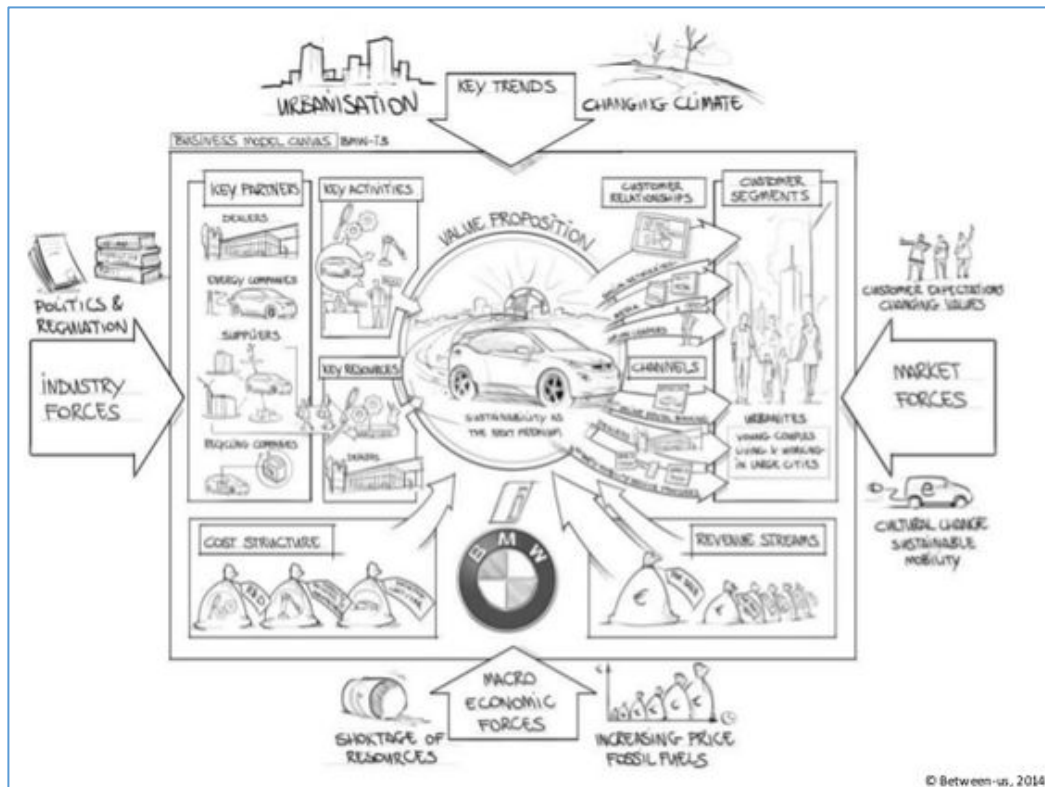
The key IT systems that a Revenue Collector needs are the following:

- Device management system
- Transit engine for trip reconstruction and central fare calculation
- Inspection management system
- Transport Service Account (in the name of the respective customers)



4. Annex: The Business Canvas

The Business Canvas is a template to summarize in a single page a new or existing business set-up. As an illustration, please see below the Business Canvas for a BMW green car:



A Business Canvas is created in a three-step approach:

1. It starts with a simple question: what is the value we want to create for our customers?
2. From that central point it looks at the two sides of value creation: (a) how do we make the product, and (b) how do we sell and deliver it:
 - as to (a): who are our key partners, what are our own key activities and what are our own key resources?
 - as to (b): who are our key customer groups, how do we interact with them (relationship) and what kind of channels do we use to serve them?
3. What are the costs (to partners and for our own activities and resources)? What are the revenue streams (how do customers pay us?).

