Horizon 2020 ETC 636126

Business Plan for the European Travellers Club

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1. About this document

This document is deliverable D3.4 within Work Package 3 of the Horizon2020 funded *European Traveller Club* project, registered under number 636126.

The present document is the final version. It is a follow-up of the ETC statutes document, dated 20 October 2015 (deliverable 3.1 of the ETC program). The document has been discussed with the ACCEPT Supervisory Board, the ACCEPT auditor and will act as a basis for the further roll-out of the ETC project.

The governance model of the European Travellers Club is out of scope of this document. Governance principles are presented in the ETC Statutes.

2. Introduction: a business plan for the European Travellers Club

The travel industry and in particular public transportation is rapidly developing towards using Account-Based Travelling (ABT) to improve the travellers' user experience. Travellers will be able to plan, book and pay for their journeys via a single interface, identify themselves with various IDs or tokens such as contactless bank cards and NFC-phones and receive constant personalized updates on their journeys.

All of this *can* be arranged by using a single, interoperable, account.

However, certain imperfections in the market could result in several partial initiatives being deployed which are not compatible, eroding the potential added value offered to the traveller. As in every *network* economy the value increases when more users are connected. Therefore, existing and new networks have to be tied together. It should be avoided that several initiatives develop in diverging and non-compatible ways. At the same time, those different networks should be allowed to develop and innovate freely as long as interconnectedness is guaranteed.

2.1. ETC and its mission

The European Travellers Club (ETC), currently under establishment, emanates from an existing initiative: the e-TSAP association[1], the ETC project[2] and the Open Ticketing Institute (OTI)[3]. The mission of the ETC is to support and enable pan-European, interoperable, traveller-centric and cost-effective Account-Based Travelling.

With European e-ticketing schemes already as its members it is in the best position to deploy an independent, and technology agnostic, approach for facilitating Account-Based Travelling. Almost by definition the ETC exists next to other e-ticketing systems, both card-centric and account-based. The ETC however can also deliver a standalone solution for ABT to its members.

In the ETC statutes document[4] from October 2015, it was concluded that "… *a voluntary not-for-profit entity (ETC) with existing e-Ticketing schemes as members, with the ability to organize the integration of journey planning, e-Ticketing and real-time in-journey information represents a unique opportunity to set standards for a speedy introduction of Account-Based Travelling that is truly interoperable, open and traveller-centric.*"

This document was discussed in the ETC-Council and was the basis for the follow-up document: "*04042017 Memo Next steps support centre.pdf*", dated 4th of April 2017.

This business plan describes how the ETC can set up his business in a sustainable way and under the condition that there is no need for external funding.

[1] e-TSAP, e-Ticketing Schemes Association in Public Transport, see www.e-tsap.net
[2] ETC program is an EU funded project under the Horizon2020 program. The consortium exists out of the following entities: Trans Link Systems (The Netherlands), Verkéiersverbond (Luxembourg), VDV-ETS (Germany), UL Transaction Security (The Netherlands), NXP (Austria) and the Open Ticketing Institute.
[3] OTI, Open Ticketing Institute, see www.openticketing.eu
[4] See: *D3.1 ETC Statutes, version 1.1 20102015 final.*

3. What ETC can add to the market for mobility services

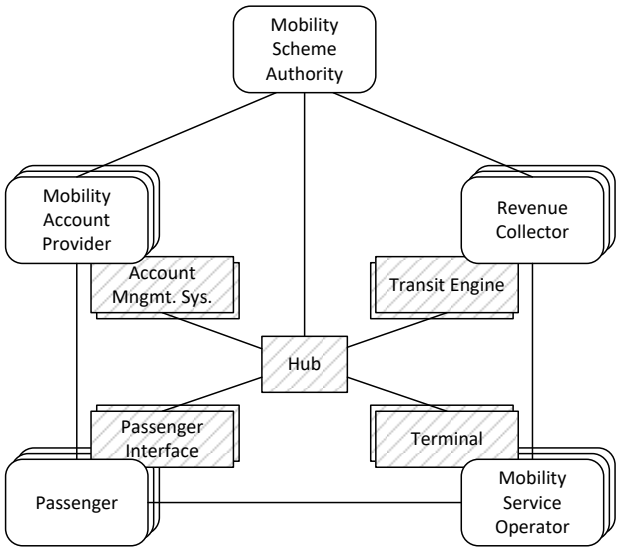
3.1. Market analysis and prospective clients of the ETC

The ETC offers a service to reduce barriers in the market place where passengers acquire mobility services. Traditionally the following roles can be distinguished in this market place:

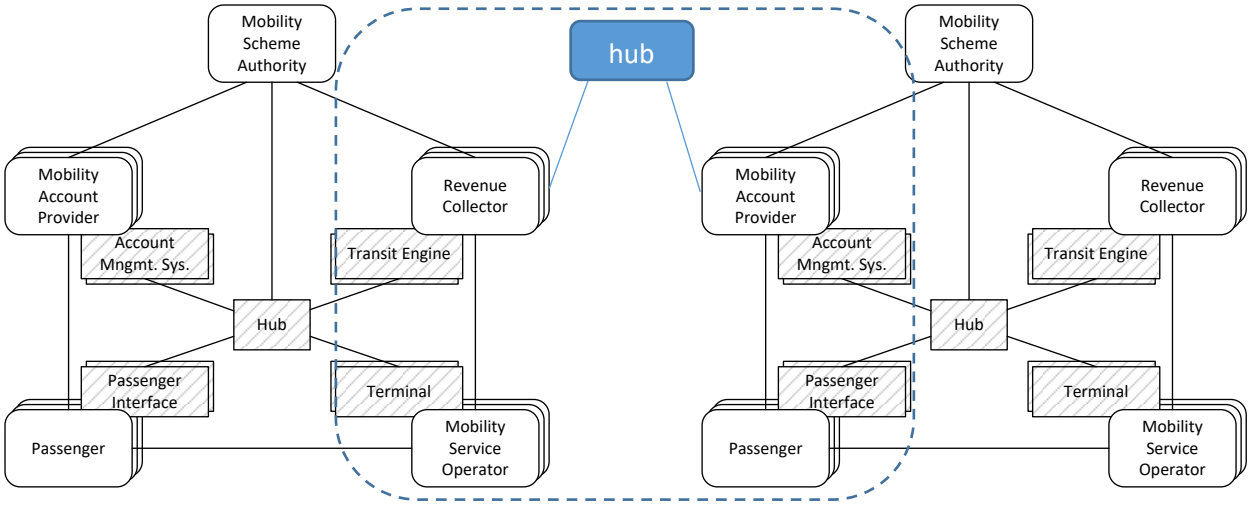
1) The passenger;
2) The Mobility Service Operator (in most cases this is a Public Transport Operator (PTO) but it could also be a provider of bike rental services or parking);
3) The Revenue Collector (the proposition owner for mobility products and 'acquirer' of the fare. This can be the mobility service operator itself, but also an organisation offering tickets which are for example valid in several modalities).

When the system is based on an advanced form of e-ticketing, such as Account Based Travelling, two additional roles are introduced.

4) The Mobility Account Provider (the 'Issuer' of the account and retailer of mobility products).
5) The Mobility Scheme Authority (which is the party governing the scheme as a whole).



The ETC offers to connect multiple of those schemes by creating a hub.



The roles which benefit from the product of the ETC are therefore the Mobility Service Operator (with more passengers entering its market), the revenue collector (because it makes it easier to collect the revenue from these new passengers), the mobility account providers (because the can offer an interoperable product to their travellers) and the passenger (which receives easy access to more mobility service operators). The Mobility Service Operator and the Revenue Collector have the strongest incentive. The Mobility Account Provider however has to participate as well. The ETC therefore focusses on parties fulfilling these roles. The actual clients could therefore be scheme authorities (who often fulfil the role of Revenue Collector and Mobility Account Provider) or ventures who this role is contracted to.

3.2. Value proposition of the ETC and activities

To mobility service providers and revenue collectors the ETC offers the following value:

- enable 'roaming' of alien travelers within their own scheme;
- open up a sales channel for alien travelers on which any proposition can be sold;
- access to knowledge on development of ABT.

To mobility account providers the ETC offer specific values too. The ETC:

- enables 'roaming' of home travelers';
- improve the value proposition to their customers (the traveler, e.g. it make seamless travel under different schemes possible for them, offer additional services as well);
- access to knowledge on development of ABT.

This means the ETC will offer the following services. This is also set out in the ETC statutes.

1. Set-up and maintenance of technical standards for cross border interoperability.
2. Central services for interoperability, like ID management (for side tokens) and interoperable transaction handling.
3. Implementation support for new member schemes.
4. IP management.
5. Knowledge sharing with respect to current practices and future development[5].

[5] The ETC originated out of the e-TSAP association. This association was set-up by OTI to provide a platform for e-ticketing schemes to discuss issues, innovation, security etc. amongst each other, without the presence of suppliers.

It *may* also offer such services as:

- A common consumer logo/brand associated with a uniform trust or quality level towards the travellers.
- Audit (requirements) regarding financial reliability, privacy and certification for specific equipment and interfaces used in the e-ticketing system.
- Joint procurement for development and supply of non-commodity software and products for e-ticketing systems (like reader modules, or authentication and routing hub, etc.).

The key activities of the ETC arise from the above mentioned scope:

1. Offering a connection to the hub and support for enabling transactions;
2. Acquiring new members;
3. Innovation, research and development.

The secondary activities arise from the above mentioned items:

1. Define and maintain a common logo/brand.
2. Define audit requirements for equipment and interfaces.
3. Perform audits on financial reliability, privacy and certification

3.3. Market size

ETC is offering its services on a not-for-profit bases and is fulfilling a need. It is therefore assumed that each member state in the EU will connect. To be able to connect the following must be supplied:

1) A local hub for every scheme that connects to make it possible to route transactions to the mobility account provider of the alien traveller.
2) A token (GST) for every traveller, which is generic and is accepted across Europe.

These markets are estimated to have the following sizes:

1) 2 hubs in every member state are assumed. 27 member states multiplied by 2 hubs results in a market size of 54 hubs.
2) Europe is quickly moving towards electronic fare collection and it is expected that the majority of European travellers will soon be in the possession of some identifier from some scheme. Every one of those travellers is a potential carrier of a GST. A market demand is assumed of 350 million GST's (see chapter 5 for assumptions).

3.4. The business model canvas

Based on the findings in this chapter a business model canvas can be created. This summarizes the value creation of the ETC and how this finds its way to its clients.

<table>
<tr><th colspan="5">BMC for the European Travellers Club</th></tr>
<tr><td rowspan="2">Key Partners:
PT sector
Schemes</td><td>Key Activities:
Connect to the hub;
Acquire new members;
Disseminate knowledge.</td><td rowspan="2">Value Proposition:
Make e-ticketing schemes across Europe interoperable</td><td>Key Relations:
B2B</td><td rowspan="2">Key Customers:
Rev. Collector(s) with Mob. Serv. Operators, Mobility Account Providers → scheme authorities or contractors for</td></tr>
<tr><td>Key Resources:
Staff
IT Systems</td><td>Key Channels:
Direct contact</td></tr>
</table>

				the separate roles.
Costs: Staff (legal, financial, technical) IT costs			*Revenues:* Use of GST or fee-per-transaction	

4. Business case of the ETC

4.1. Future situation

By the end of 2023 the ETC should have reached full market saturation. This means a deployment of an average of 2 hubs per member and having activated 30 M GST's (based upon the middle scenario of the Business Case Model (see chapter 5).

4.2. Costs associated with the ETC

Start-up costs:	**Cost (€)**	**Charged to**
License for use of the hub	H2020	
Development GST	H2020	
Statutes and draft contracts	H2020	
Accountancy etc.	H2020	
Organisational costs		
Personnel and Housing		
Management	See chapter 5	members
Support staff, Accountancy	See chapter 5	members
Housing	See chapter 5	members
Systems		
IT Hub operator	See chapter 5	members
Hosting of the hub	See chapter 5	members
Implementation support for new member	Based upon actual costs	members

4.3. Revenue streams from the clients of the ETC

If the ETC offers value to its members and other clients, it should be able to capture part of that value. This results in revenue streams for each of the key activities:

Key Activity	**Revenue stream**
Connect to the hub	A fee for implementation (equal to the costs) A fee for every transaction made through the hub A fee for activating a GST
Acquire new members	Membership fee (Accept)
Disseminate knowledge	Membership fee (e-TSAP)

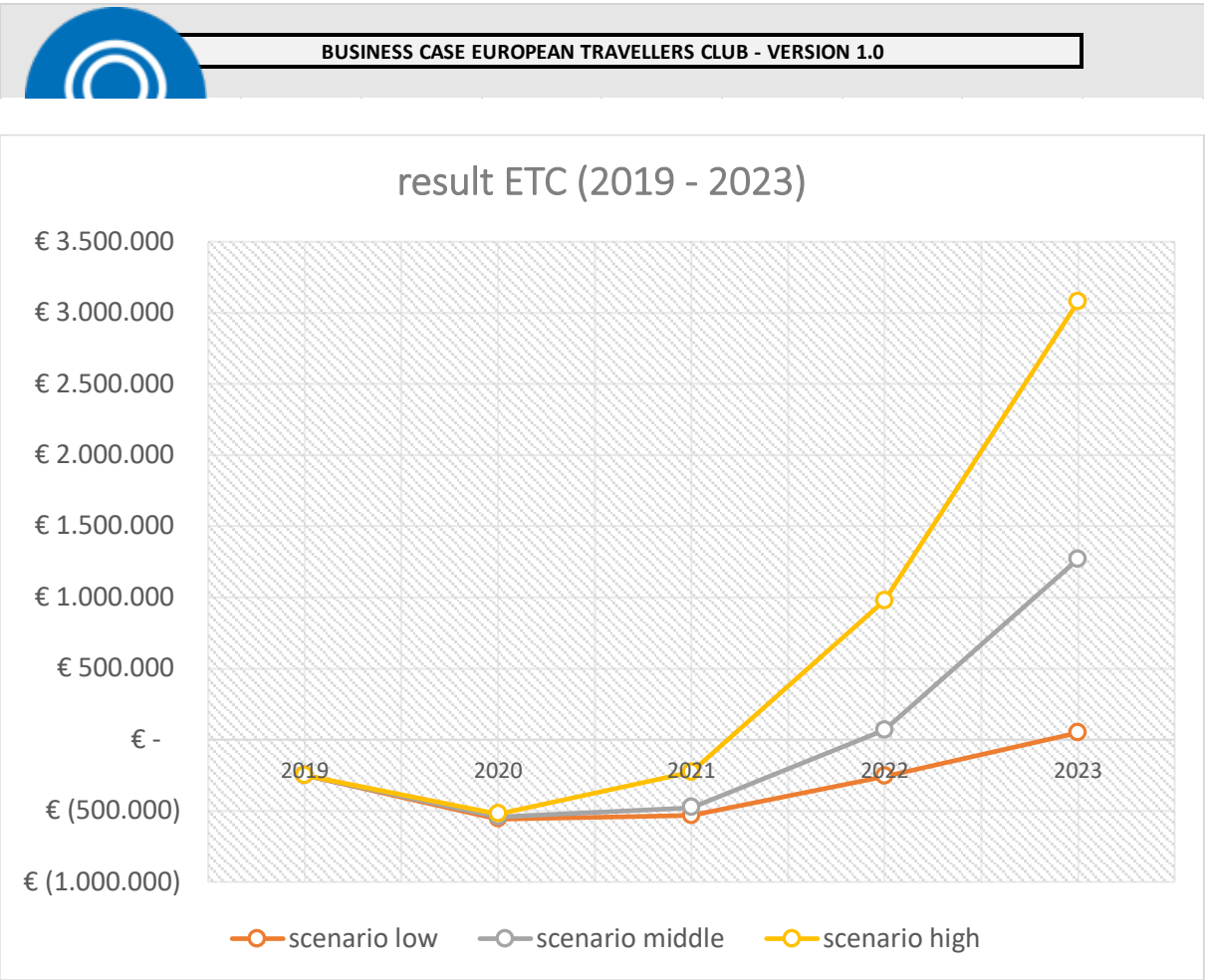
4.4. Additional revenue options

If the key activities do not recover the costs of those activities, secondary revenue streams could be used to close the business case. The following options exit (based on the statutes):

Key Activity	Revenue stream
Audits	Charge a commercial rate per audit
Joint procurement	Retain part of the savings

4.5. The first years (until 2023)

(see Business Case Model, chapter 5 to this document)



4.6. Financing need

The financing need is in total approximately between € 1 million and € 1.5 million. This is further explained in the Business Case Model in chapter 5 of this document.

4.7. Proposal for financing

In the coming period, June 2018 to June 2019, the necessary financing needs to be arranged. The following sources have been identified for this:

1. Additional subsidies from national or European governments. In the so-called CEF program from Europe there is the possibility to finance new pilots against a 50% contribution from EU funds.

2. External financing through:
   - subordinated loans from the ACCEPT members;
   - investors / financial institutions.

In both cases, a return of 5% on the investment is made, which costs will affect the aforementioned result.

5. Business Case Model

Below an overview is presented of the model that is used to calculate with: the Business Case for cross-border ABT. This Business Case is Deliverable 3.5 of the ETC project.

In the model we have worked with 3 scenario's (see 5.1), assumptions (see 5.2) and tariffs (see 5.3) that lead to projected roll-out volumes (see 5.4), revenues (see 5.5) and cost (see 5.6). Finally, the result is presented in paragraph 5.7.

5.1. Scenario's

For the roll-out of the ETC three scenario's are used:

a) a low scenario
b) a middle scenario
c) a high scenario

The period covered is 2018 – 2023.

5.2. Assumptions

Principles for the above-mentioned scenarios are:

- A market size of 350 million.
  This is calculated as follows: the total European public transport market is considered as its potential market. About 500 million people live in Europe, of which about 70% can potentially use public transport. The 70% is chosen because it concerns the age categories between 12 and 80 years. The potential market to which a token (identifier) can be issued is therefore 350 million.

- The number of trips this group makes per year is 52, so on average 1 trip per week.
  Account has been taken of persons who make little or no use of public transport and travellers who frequently use public transport.

- The percentage of cross-border (ie interoperable) journeys is 7.5% of the total number of journeys.

- Each journey generates 1.5 transactions, assuming that it concerns both check-in / check-out journeys and travel on the basis of a ticket (check-in only).

The principles lead to the following figures, which are used in the model:

- total number of persons for distribution of identifiers (tokens) 350.000.000
  (70% of 500.000.000)
- total number of cross-border trips per year 1.365.000.000
  *(7,5% * (350.000.000 * 52))*
- total number of cross-border transactions per year 2.047.500.000
  *(1,5 * 1.365.000.000)*
- average number of transactions per identifier (token) 5,85

(2.047.500.000 / 350.000.000)

5.3. Tariffs

The following tariffs are used in the model:

1. Transaction fee (interoperable or cross-border transaction) € 0,0075
2. Identifier (token) distribution fee € 0,015
3. Membership fee per year:
   i. e-TSAP € 2.500
   ii. ACCEPT € 10.000
4. Implementation support / or consultancy support daily fee

5.4. Roll-out Volume

Token roll-out

token roll-out (volume)					
	2019	2020	2021	2022	2023
scenario low	15.000	100.000	500.000	5.000.000	10.000.000
scenario middle	25.000	150.000	1.000.000	10.000.000	30.000.000
scenario high	25.000	500.000	5.000.000	25.000.000	60.000.000

The low scenario is based on a slow growth and finally in 2023 a volume of 10 million issued tokens. The middle scenario assumes a slightly faster growth and a volume of 30 million per 2023. The high scenario assumes a rapid growth and a total volume of 60 million per 2023. This volume represents approximately 17% of the total number of potential passengers in public transport in Europe.

Interoperable transactions

The number of interoperable transactions is calculated by multiplying the average number of transactions per token (identifier) by the number of tokens provided.

interoperable transactions (volume)					
	2019	2020	2021	2022	2023
scenario low	87.750	585.000	2.925.000	29.250.000	58.500.000
scenario middle	146.250	877.500	5.850.000	58.500.000	175.500.000
scenario high	146.250	2.925.000	29.250.000	146.250.000	351.000.000

Membership volume

Memberships are regarding (a) the e-TSAP associations (knowledge sharing) and (b) Accept (account-based ticketing).

membership fees (volume)					
	2019	2020	2021	2022	2023
scenario low e-TSAP	16	16	17	17	18
scenario low Accept	7	7	7	8	9
scenario middle e-TSAP	16	17	19	21	23
scenario middle Accept	7	8	9	10	12
scenario high e-TSAP	16	17	21	24	28
scenario high Accept	7	8	10	12	15

5.5. Revenues

Revenues:

a) fee per transaction (€ 0,0075)

interoperable transactions (revenue)					
	2019	2020	2021	2022	2023
scenario low	€ 658,13	€ 4.387,50	€ 21.937,50	€ 219.375,00	€ 438.750,00
scenario middle	€ 1.096,88	€ 6.581,25	€ 43.875,00	€ 438.750,00	€ 1.316.250,00
scenario high	€ 1.096,88	€ 21.937,50	€ 219.375,00	€ 1.096.875,00	€ 2.632.500,00

b) fee per identifier (token) provided (€ 0,015)

token roll-out (revenue)					
	2019	2020	2021	2022	2023
scenario low	€ 225	€ 1.500	€ 7.500	€ 75.000	€ 150.000
scenario middle	€ 375	€ 2.250	€ 15.000	€ 150.000	€ 450.000
scenario high	€ 375	€ 7.500	€ 75.000	€ 375.000	€ 900.000

c) membership fee (€ 2.500 and € 10.000)

membership fees (revenue)					
	2019	2020	2021	2022	2023
scenario low	€ 110.000	€ 110.000	€ 112.500	€ 122.500	€ 135.000
scenario middle	€ 110.000	€ 122.500	€ 137.500	€ 152.500	€ 177.500
scenario high	€ 110.000	€ 122.500	€ 152.500	€ 180.000	€ 220.000

d) implementation support / consultancy services

Total revenues are:

TOTAL REVENUES	2019	2020	2021	2022	2023
scenario low	€ 110.883	€ 115.888	€ 141.938	€ 416.875	€ 723.750
scenario middle	€ 111.472	€ 131.331	€ 196.375	€ 741.250	€ 1.943.750
scenario high	€ 111.472	€ 151.938	€ 446.875	€ 1.651.875	€ 3.752.500

5.6. Costs

The cost components can be divided into 3 categories:

(1) personnel
Personnel concerns management, support, scheme management, implementation / pilot support. The minimum costs are approximately € 475,000 per year. Depending on the rollout volume, the costs for deployment support and management of the scheme increase.

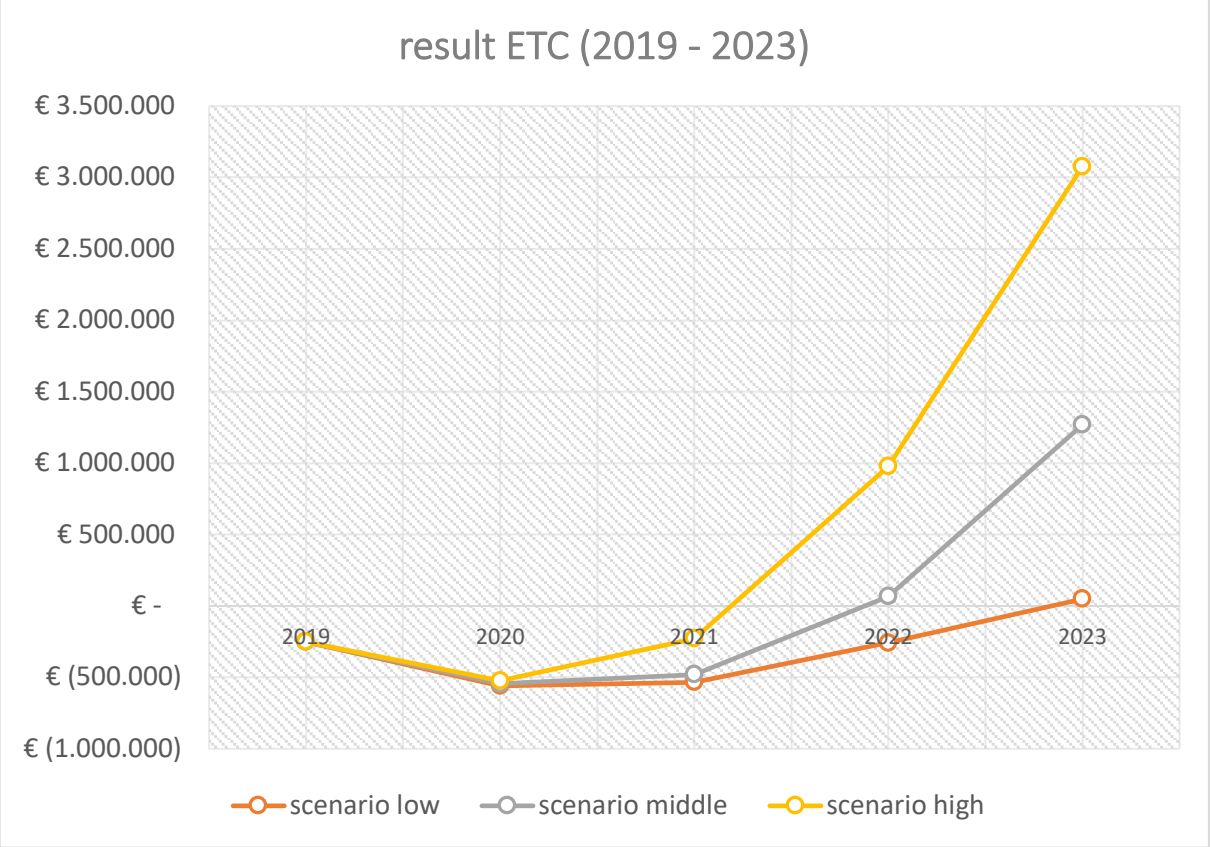
(2) housing
Housing is approximately € 50,000 per year. These costs are stable over the years and almost independent of the growth in rollout.

(3) system costs
The system costs amount to approximately € 150,000 per year. These costs increase if the system is rolled out further.

TOTAL COSTS	2019	2020	2021	2022	2023
personell	€ 237.500	€ 475.000	€ 475.000	€ 475.000	€ 475.000
housing	€ 50.000	€ 50.000	€ 50.000	€ 50.000	€ 50.000
systems	€ 75.000	€ 150.000	€ 150.000	€ 150.000	€ 150.000
total	€ 362.500	€ 675.000	€ 675.000	€ 675.000	€ 675.000

5.7. Result

result	2019	2020	2021	2022	2023
scenario low	€ (251.617)	€ (559.113)	€ (533.063)	€ (258.125)	€ 48.750
scenario middle	€ (251.028)	€ (543.669)	€ (478.625)	€ 66.250	€ 1.268.750
scenario high	€ (251.028)	€ (523.063)	€ (228.125)	€ 976.875	€ 3.077.500



The above revenues and costs lead in all scenarios to a loss in the first years and a positive result after 5 years (low scenario) and 4 years (high scenario). To bridge the first years, an additional financing of € 1 to € 1.5 million is required.