Deliverable 11.5
Running Pilot
Introduction of GST

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This project has received funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreement No 636126

Executive summary

Objectives

- Our proposition to the travelers is “to provide seamless international and cross-border travel using public transit in the Netherlands and German bordering areas using a single ‘ticket’”.
- Use ABT to enable cross-border travelling (within both the Dutch and the German Scheme).
- Get insight in the acceptance of ABT and the new propositions by travelers.

Deviations from these objectives

- All of the former objectives were met.

Work done

- Recruitment and registration of Dutch travellers.
- Installation of GST-ready L1-devices (terminals) in Dutch buses.
- Whitelisting of Dutch and German tokens on Dutch and German L1-devices.
- Distribute Android and iOs app tot participants
- Import fare data into Dutch Central Back Office.
- Implement customer service processes and instruct Customer Care team

Conclusions

- Customer feedback is positive. Account based travelling and invoicing is perceived as ‘care-free’. There is no need for loading credit and checking fares before travelling. The fact that for travelling between The Netherlands and Germany only a single ‘ticket’ is needed, is mentioned repeatedly as a plus.

Contribution to the main goal of the project / Link with other tasks or WPs

- The running pilot (WP11.5) can be seen as the culmination of the effort put into the preceding work packages in WP11. It merges ABT (traveller account), Mobile Travel App and GST into a working solution that has been adopted by 200 actual travellers.

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Purpose of this document

After successfully completing end-to-end testing in GST-Lab (D11.5a) and on-site, preparations for the **introduction** of the **Generic Secure Token (GST)** by means of the **Dutch Pilot** were started.

The purpose of this document is to:
a) Describe the key products that form the deliverable scope
b) Demonstrate the successful completion of the defined products

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Scope of work package 11.5

Completion of the work package is achieved by realizing the products below in cooperation with the consortium partners.

Preparation IT for going live
- Technical production environment must be available and connected

Pilot execution
- Enable cross border travelling for Dutch and German travellers by means of the Generic Secure Token. The Dutch pilot focuses on support of the German account in the Netherlands.

Pilot evaluation
- The pilot successes and learnings will be evaluated and reported.

Defined products

ID	Product	Status
11.5.1	Preparation IT for going live	Complete
11.5.2	Pilot execution	Complete
11.5.3	Pilot evaluation	Complete

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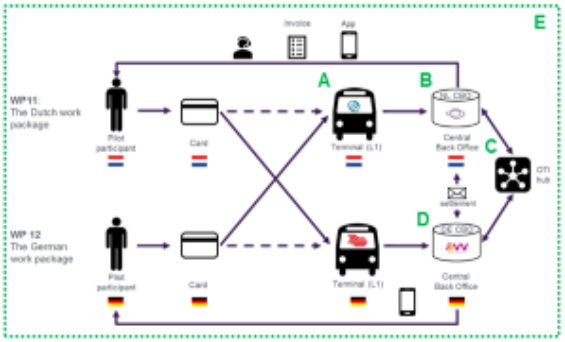
11.5b.1 Preparation IT for going live

Prior to going live with the Dutch pilot, the technical production environment had to be set up and connected.

In order to support the German account in the Netherlands, there are dependencies with other work packages besides WP11. These are included in this report to give a comprehensive overview.

The graphic below shows the general IT-scope of the Dutch pilot, where products **A** and **B** are in scope of WP11.



ID	Product	Status
11.5.1.1 **(A)**	Operational production terminals	Complete
11.5.1.2 **(B)**	Operational production environment NL Back Office	Complete
11.5.1.3 **(C)**	Operational production environment OTI HUB	Complete
11.5.1.4 **(D)**	Operational production environment backoffice AVV (German partner)	Complete
11.5.1.5 **(E)**	Production Intake	Complete

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11.5b.1 Preparation IT for going live

11.5.1.1 - Operational production terminals

Selected buses of public transport operator Arriva in the Netherlands were fitted with terminals that allow for identification and authentication of the Generic Secure Token.

Roll out of terminals on all participating Arriva-buses and the subsequent connection to the Dutch backoffice was **completed** before start of the pilot.

11.5.1.2 - Operational production environment NL Backoffice

To execute the pilot, the following **BO-components had to be set up** and connected to support the GST:

- Import price tables and stations of Arriva
- Enrich Journey reconstruction and fare calculation
- Technical connection to the OTI HUB
- Receive and process German V-receipts
- Send trigger messages to OTI Hub for German travels on Dutch Busses

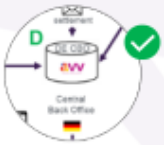
This was **completed** before start of the pilot.

11.5.1.3 - Operational production environment OTI hub

The OTI hub **subscribes the German Card-holder and token** to the Dutch Public Transport service.

Both incomplete (check-in) and complete (check-out) **travels** made by German travellers in the Netherlands are forwarded by the OTI hub to the German backoffice.

Interfaces between OTI hub and the respective Dutch and German backoffices were **successfully connected** before start of the pilot.



11.5.1.4 - Operational production environment DE Backoffice (AVV)

The German backoffice is reponsible for **registering the German cardholder**.

The German backoffice was **available** at the start of the pilot.

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11.5b.1.5 Production intake test

On December 1, 2017, a production intake test was performed to validate availability and integration of all systems.

- A selection of travels with both German and Dutch tokens was made on a number of Dutch and German buses in the field.
- Additionally, supplementary taps were made on a Dutch terminal which was located at Translink office.
- Expected results were verified in the Dutch and German pilot app, thus testing an end-to-end scenario from Dutch and German terminals to mobile app.
- **The production intake test was completed successfully.**

Successful check-in at Arriva terminal December 1, 2017

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11.5.2 Pilot execution

Parallel to the preparation of IT for going live, German and Dutch Public Transport Operators started **recruitment** of pilot participants, with these efforts finally leading to the **operational pilot**.

The Dutch pilot started December 1, 2017, including **104 initial Dutch participants**, while supporting the German participants recruited thus far. At the end of the operational pilot period under the H2020 EU-grant (April 30, 2018), **204 participants** were registered.

Dutch (Arriva) bus equipped with OV-chipkaart (left) and ETC (right) terminals.

Defined products

ID	Product	Status
11.5.2.1	Pilot participants NL	Complete
11.5.2.2	Pilot participants DE	Complete
11.5.2.3	Operational pilot	Complete

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11.5.2.1/2.2 Dutch & German Pilot participants

Recruitment of Dutch participants for the 'European Travellers Club' pilot started in November 2017.

- After initial recruitment of a target 150 participants, it was decided to proceed recruitment until a maximum number of 200 was reached.
- Dutch pilot participants received a personal 'Euregio Travellers Card', containing the GST.

Active recruitment efforts were conducted during November 2017

German pilot participants were recruited by ASEAG, the German public transport operator.

- The number of German travels in the Netherlands is roughly one-third to half of the number of Dutch travels every month.

In-bus marketing display shows ETC-recruitment info

Enrollment form Dutch participants – Page 1, final version

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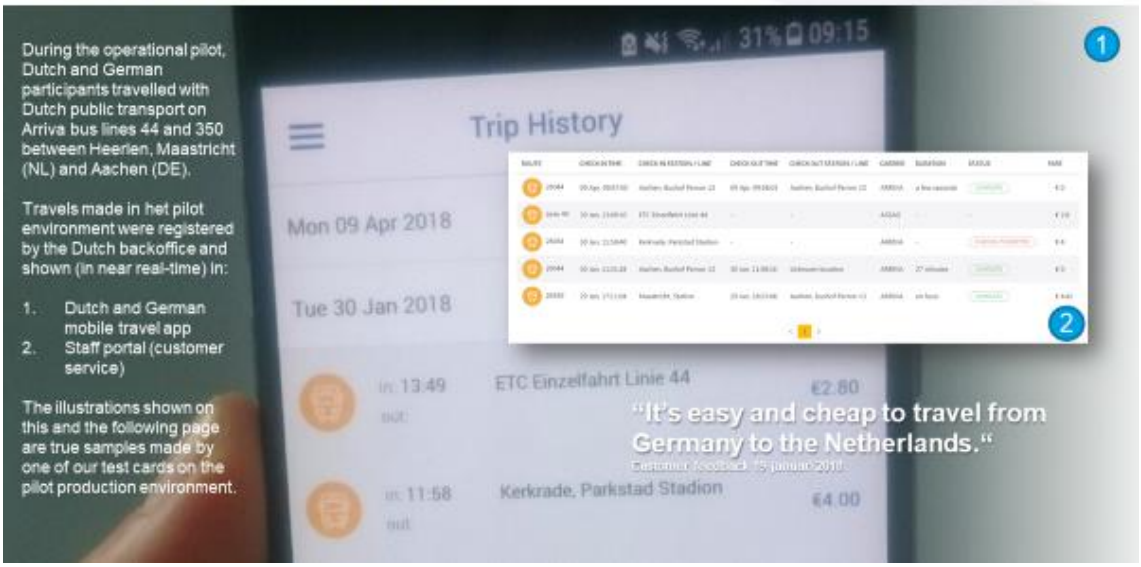
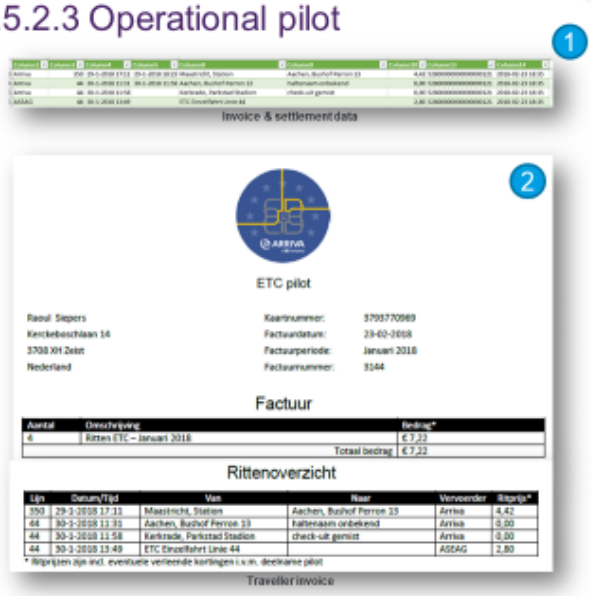
11.5.2.3 Operational pilot



11.5.2.3 Operational pilot



After journey reconstruction and fare calculation, the travel data registered in the Dutch backoffice is used to generate:

1. Settlement and detailed invoice data.
2. Traveller invoices in pdf-format.

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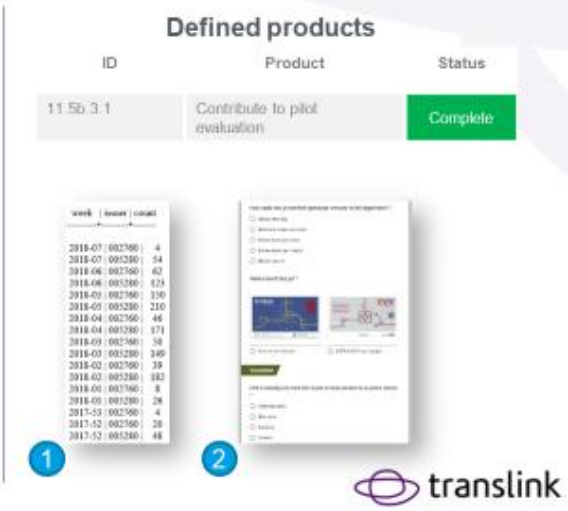
11.5.3 Pilot evaluation

Translink has contributed to the pilot end report (D14.3), which has been led by ACCEPT with support of UL.

The following contributions were made by TLS:

1. Provide transaction data of travels in Dutch buses.
2. Conduct an online survey amongst Dutch pilot participants.



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