



44TH ASECAP STUDY & INFORMATION DAYS 2016

**Electronic toll service on motorways via
NFC smartphones**

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Organized by



THE IDEA: TOLL GATES CROSSING WITH YOUR SMARTPHONE



PROJECT PURPOSE

- Experiment of contactless payment via smartphone
- Test NFC technology applied to toll gates crossing on motorways
- Facilitate daily commutes, even for non frequent users
- Anticipate and provide new services to clients
- In partnership with:

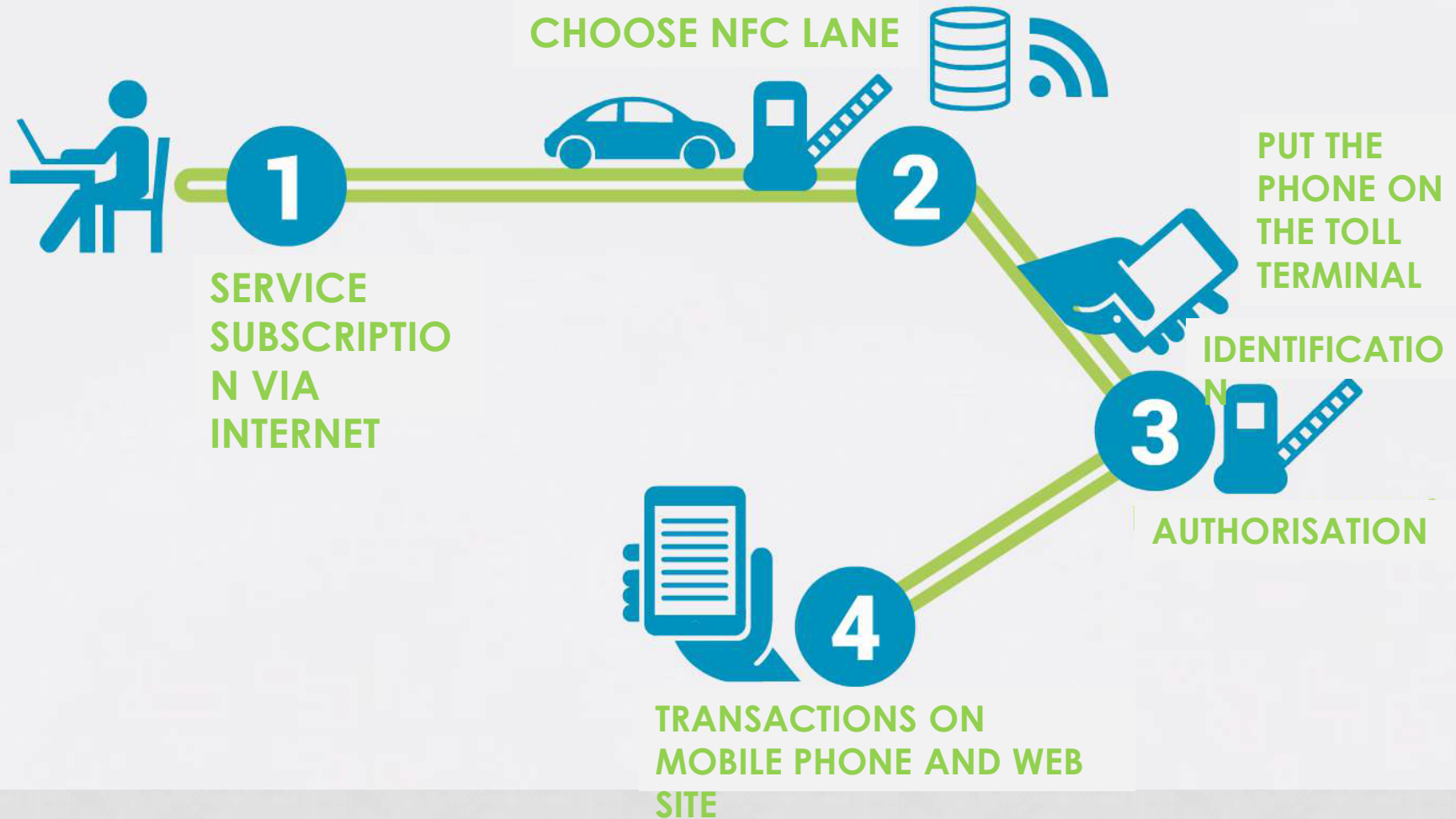


BIP & GO

PROJECT OBJECTIVES

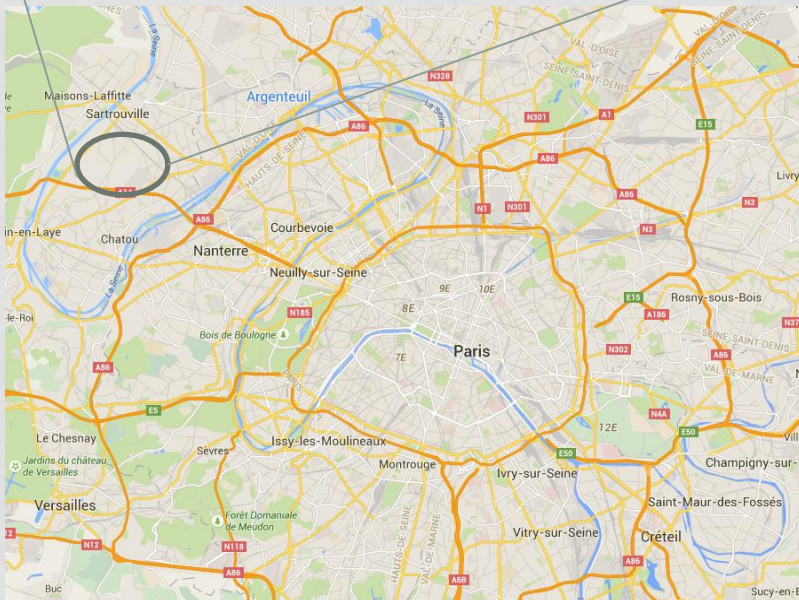
1. Test the functioning of the whole technical chain, from service subscription to invoicing; detect and solve the potential technical issues
2. Test the ergonomics (subscription easiness, transaction time at the toll terminal, transaction gesture, etc..)
3. Assess the interest and the "appetite" of users for the new toll payment method
4. Study the business model for the payment of motorway services with the NFC mobile
5. Evaluate the benefits and possible extensions to new payment and / or loyalty services on motorways

PROJECT DESCRIPTION: NFC TOLL SERVICE



PROJECT DESCRIPTION: IMPLEMENTATIONS

- Where : Montesson Toll Plaza on the A14 motorway
- What : 10 lanes equipped (5 per direction)
- How: NFC reader under the credit card reader



THE TOLL PLAZA OF MONTESSON (A14)



PROJECT DESCRIPTION: WEB IMPLEMENTATION



1. Website: www.saneflab.com
2. Mobile application

sanef lab
Péage sans contact mobile

CONSUMMATION PRÉSENTATION FAQ

Depuis le 1er Novembre 2014

< 13,2€ >

Suivi au mois

Novembre 2014 13,2€

13-11-2014 / 10h41	Montesson	1.2€
13-11-2014 / 10h38	Montesson	1.2€
13-11-2014 / 10h38	Montesson	1.2€
13-11-2014 / 10h38	Montesson	1.2€
13-11-2014 / 10h38	Montesson	1.2€

Contactez-nous

BIP&GO

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Péage sans contact mobile

ESPACE ABONNÉ

EN PARTENARIAT AVEC BIP&GO

PARTICIPER COMMENT CA MARCHE NOUS CONNAÎTRE FAQ & CONTACT

« 30€ DE PEAGE OFFERT AUX 200 PREMIERS INSCRITS EN TESTANT LE PEAGE SANS CONTACT MOBILE* »

Envie d'une nouvelle expérience pour passer au péage de l'autoroute A14 ?
Soyez parmi les premiers à tester le paiement du péage avec votre smartphone NFC !

* crédit de péage de 30 € offert aux 200 premiers inscrits, décompté sur votre facture. En contrepartie, vous acceptez de répondre aux interviews ou questionnaires qui vous seront adressés pour nous aider à améliorer le service. Sous réserve de remplir les critères d'éligibilité.

00:53

IIII HD ::

QU'EST-CE QUE C'EST ?

sanef et Orange se sont associés pour vous proposer de tester le passage au péage de Montesson sur l'A14 en payant en sans contact avec votre téléphone mobile. Ce service de péage est possible grâce à la technologie NFC (Near Field Communication, communication en champ proche) qui est largement déployée aujourd'hui, chez de nombreux fabricants de téléphones mobiles.

LES CRITERES POUR DEVENIR TESTEUR

QUI ?

Les usagers utilisant le péage de Montesson possédant un mobile Android compatible NFC et une carte SIM Orange compatible NFC

OU ?

En gare de péage de Montesson sur l'A14

QUAND ?

A PARTIR DE JANVIER 2015

JE PARTICIPE >

LES AVANTAGES

SIMPLE RAPIDE PRATIQUE INTELLIGENT

- C'est simple : ouvrez votre vitre, passez votre téléphone sur la borne de péage. La barrière se lève
- C'est plus rapide qu'avec une carte bancaire
- Le montant du péage est prélevé le mois suivant par notre filiale Bip&Go (RIB à fournir). Ce service ne comporte pas de frais de gestion
- Suivez votre consommation depuis votre mobile

COMMUNICATION AND ENROLLMENT

Communication and enrollment actions:

1. A press release led to many articles in websites such as : l'informaticien, Challenges, commentçamarche, proclubic, zone-numérique etc...)
2. Presentation on a national TV channel (France 2, TéléMatin)
3. Advertisement on sanef 107.7
4. Flyers at Montesson toll plaza
5. 1 day stand in Orange Shop at Paris La Défense shopping centre
6. More than 70 000 SMS sent
7. 2000 emails sent



sanef lab 
Péage sans contact mobile

30€ DE PÉAGE OFFERT POUR DEVENIR TESTEUR
de la première expérimentation en Europe du passage au péage avec votre smartphone sur l'autoroute A14

<p>Empruntez les voies signalées CB !</p> 	<p>Présentez le dos de votre mobile sur la borne de péage !</p> 	<p>Consultez votre consommation sur l'application mobile !</p> 
RAPIDE,	SIMPLE,	PRATIQUE

ET INTELLIGENT !

POUR PARTICIPER, MUNISSEZ-VOUS DE VOTRE RIB ET RENDEZ-VOUS SUR www.saneflab.com

MOBILE PHONES ELIGIBILITY

Eligibility criteria are numerous

- Potential testers shall:
 - use A14 motorway and in particular, pass at the Montesson toll plaza
 - be an Orange client
 - have a smartphone NFC
 - have a NFC compatible SIM card
- Number of expected testers: 100 to 200 people
- Average daily traffic in Montesson:
 - 14000 vehicles (cars)/direction (Liber-T: 50%)
- Potential maximum target for the experimentation:
 - Less than 1000 people

PROJECT OUTCOMES: TECHNICAL FIGURES

96%

of successful
service
installations

>400

NFC toll
transactions
performed in
a naturalistic
mode

$1s < x < 3s$

X = transaction
time(*)

85%

Of NFC phones
compatible with
sanef service

5mn

Max time to
install the
service on the
SIM card

(*) : The transaction time was measured between the moment the phone is presented next to the reader and the moment the barrier opens

PROJECT OUTCOMES: TECHNICAL ISSUES

The technical challenges and issues:

- The adaptation of the NFC antenna in the toll terminal
 - Due to metal housing of the toll terminal, the antenna characteristics had to be adapted and tested in the final environment
- The service installation test location
 - The service installation on the SIM card requires the exchange of technical messages. Despite a good 3G or 4G reception, in one particular location, the service installation tests suffered failures. In many locations, it worked perfectly.
- The compatibility of the service with a maximum number of NFC compatible smartphones
 - Up to 40 different NFC ready smartphones: Time and resource consuming to carry out the tests with all type of mobile phones, in lab and on the field



PROJECT OUTCOMES: FIGURES AND USER FEEDBACK

1. 85% internal users claimed they had no difficulty at all during the subscription process
2. 76% internal users found the subscription process simple
3. Some users expressed their fear of dropping the phone while putting it on the toll terminal through their window
4. Some users want to have a dedicated NFC lane to avoid queues
5. More than 4000 people visited the website
6. 4,5% of the potential target started a subscription
7. Some users did not finalize the subscription process. The main identified reasons are:
 - Too much information to enter
 - Bank account number (RIB/IBAN) requested for payment
 - Responsive designed Web site available only in the course of the experimentation

PROJECT OUTCOMES: LESSONS LEARNED AND IMPROVEMENTS

Future Improvements:

- Shortened as much as possible the subscription process
- Mitigate the fear of dropping the phone
- Propose alternative payment means to Direct Debit such as Credit Card payment, Paypal, etc.
- Dedicate important resources in the NFC antenna integration and test with all NFC smartphone types
- Investigate the use other technologies to pay the toll (Bluetooth, WiFi)
- Undertake special care to the communication and service promotion (in order to avoid confusion with the Liber-T service)
- Implement the Smartphone toll payment service on a complete highway section