

## Cercle Royal “Un peage urbain á Bruxelles?”



Friedemann Kirn, Bruxelles 17.11.2008

# Le péage routier intelligent. Objectif mobilité.

Présentation de Satellic

Technologie / Solution

Pilot à Bruxelles  
Satellic's City Tolling

# Satellic



fondée en 2005 riche en expériences avec les systèmes de péage routier et de gestion du trafic. Notre plus grande référence est Toll Collect.

combine une grande expertise du design, du développement, de l'opération et de l'installation des systèmes de péage complexes.

développe actuellement la prochaine génération du système de péage.

a lancé des opérations pilotes en Belgique, Slovaquie, en Hongrie, au Danemark, en Angleterre, en France ainsi qu'en Russie, aux USA et en Chine.



# Satellic façonne l'avenir du péage routier électronique en s'appuyant sur une technologie satellitaire approuvée.



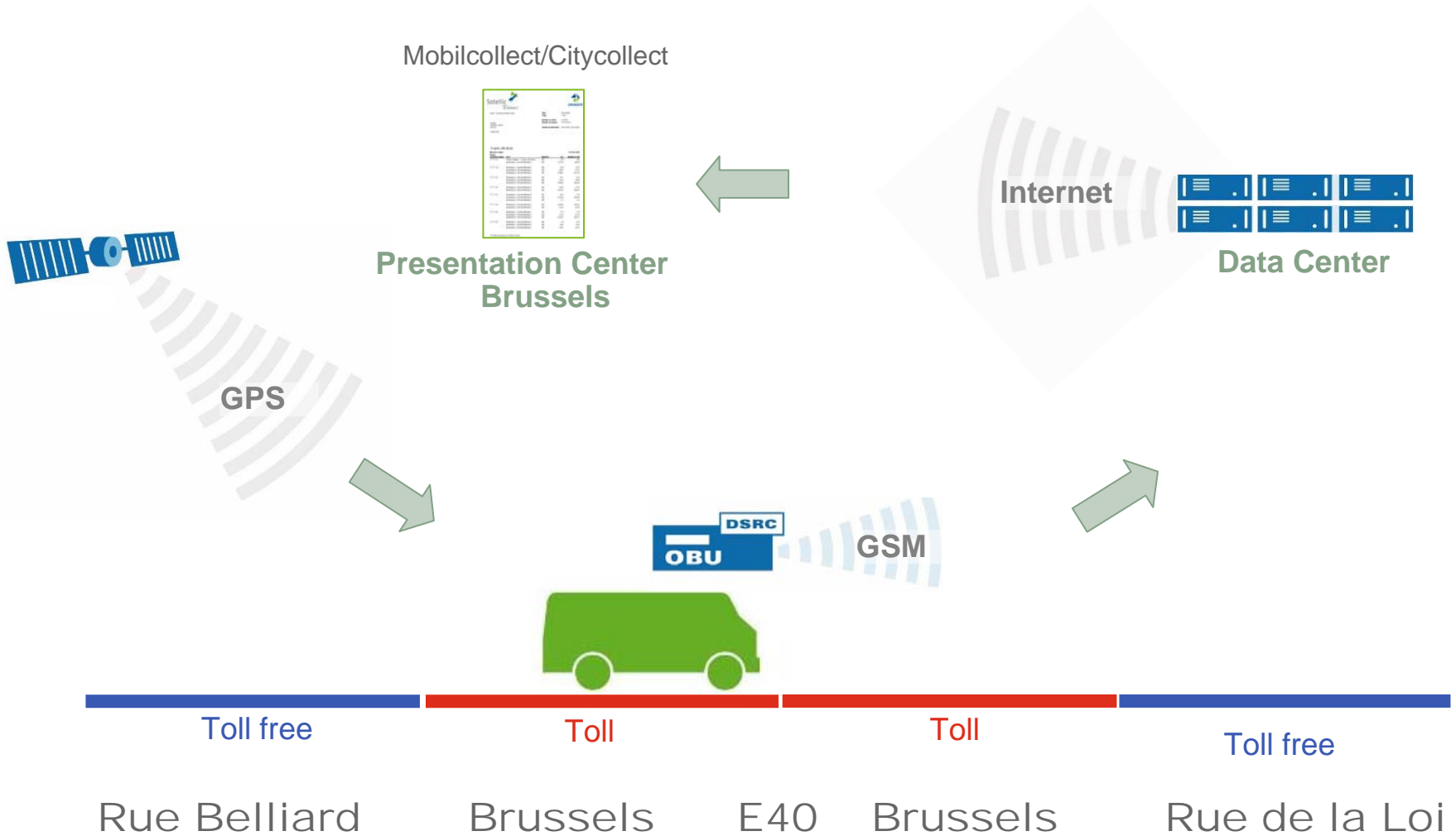
Combinaison novatrice de technologies éprouvées : le positionnement par satellite (GNSS) et la communication mobile (GSM)



GSM

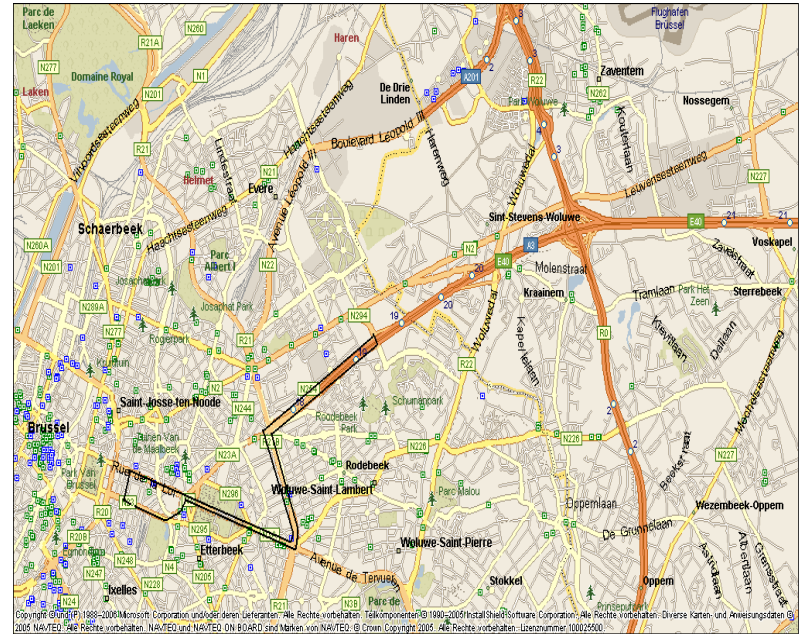


# Télépéage par satellite – à Bruxelles.



# Pilot à Bruxelles

- Démonstration du télépéage sur différents réseaux routiers (600 km)
- Démonstration avec 3 opérateurs de péage (3 régions)
- Démonstration des différents tarifs selon le réseau routier et l'heure
- Différents tarifs selon le type de route





# Satellic's City Tolling Solution.



# Overview.

## 1 Driver for Urban Tolling

## 2 Types of Urban Tolling

## 3 Satellic's City Tolling

- System Overview
- Features





# Satellic City Tolling. Driver for urban tolling schemes.



- **Additional public revenues:**  
fresh money for infrastructure
- **Less total traffic**
- **Less emissions** in the area
- **Improvement of traffic flow:**  
lower travel times, higher efficiency of commercial transport
- **Higher comfort for the individual:**  
improvement of air and quality of life, more parking spaces, higher safety, improved access for the disabled
- **Guidance to public transport**
- **Internalisation of external costs**  
through consumption dependent user fee

# Satellic City Tolling.

## Types of urban tolling solutions.

### Object related Tolling

- Tunnels & Bridges
- Hot Lanes
- Urban corridors and toll rings



### Performance related Tolling

- Distance-based
- Time-based
- Emission-class-based



### Area related Tolling

- Cordon Pricing
- Area Pricing



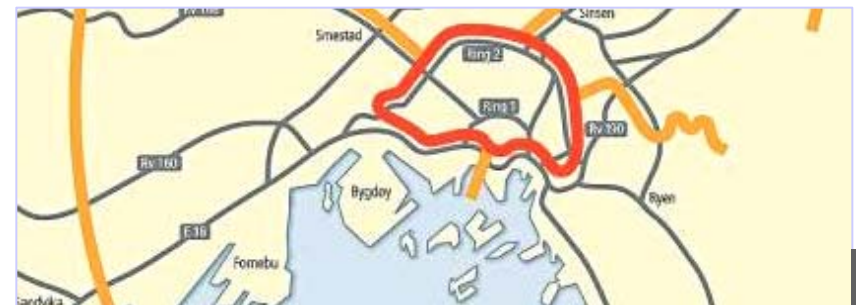
# Satellic City Tolling. Object related tolling.

## Tunnels & Bridges



## Hot Lanes

## Urban corridors and toll rings



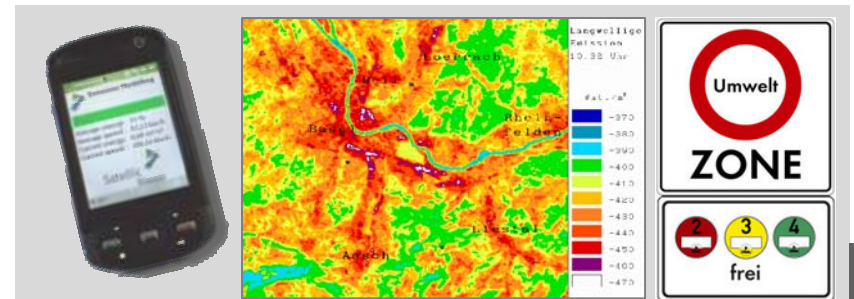
# Satellic City Tolling. Performance related tolling.

## Distance-based



## Time-based

## Emission-class-based

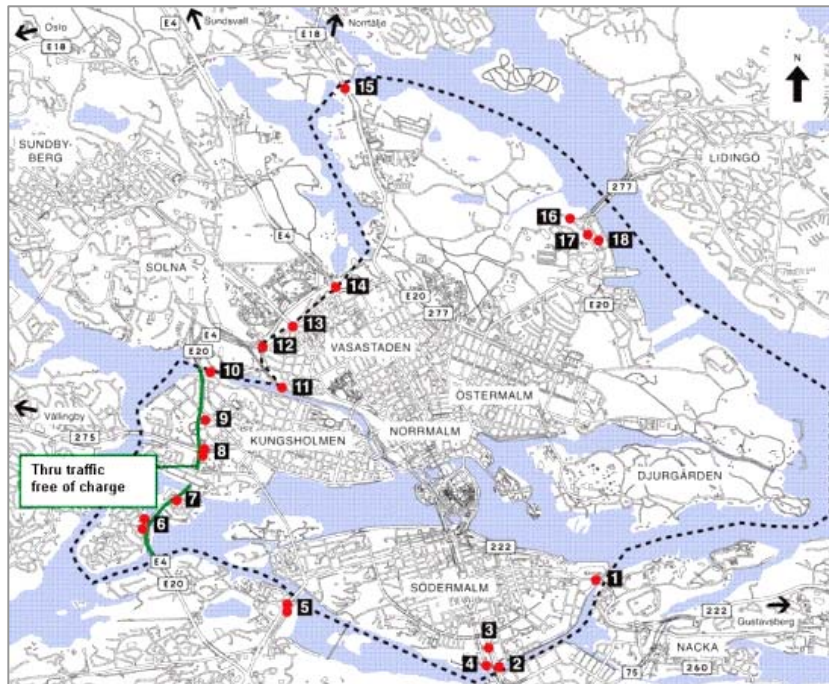




# Satellite City Tolling. Area related tolling.

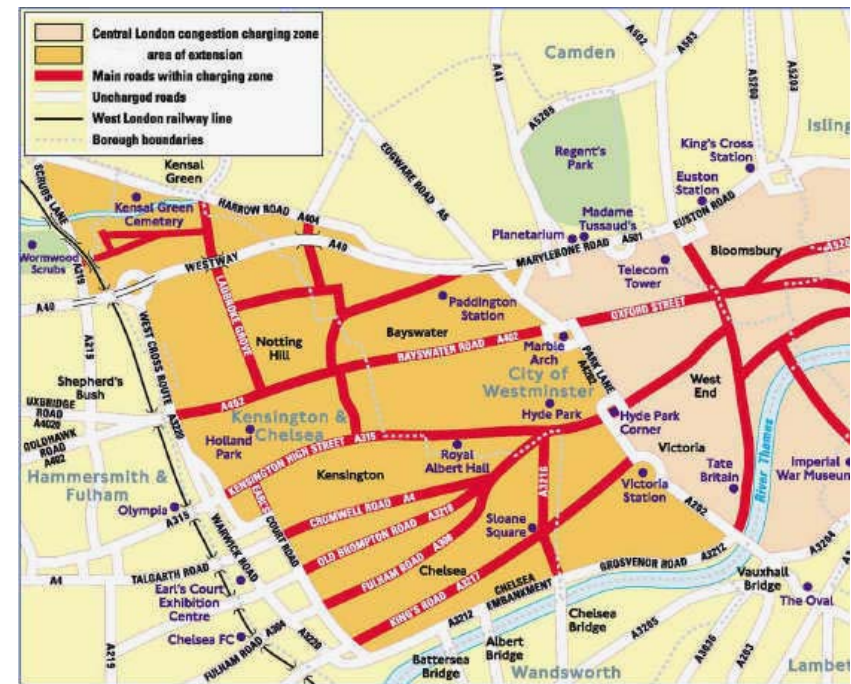
## Cordon Pricing

Cities like Stockholm or Singapore charge a congestion fee every time a user crosses certain cordons of a defined area



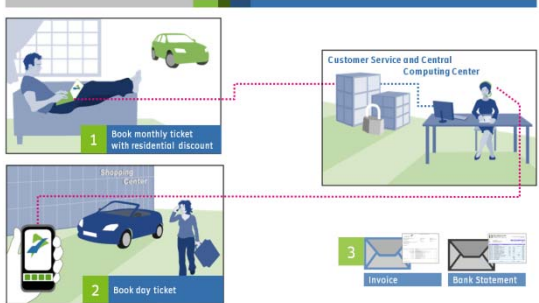
## Area Pricing

Example Congestion Charging London: to charge a fee for any vehicle within a restricted area



# Satellic City Tolling. Use Case Examples.

Satellic Urban Tolling.  
Use Case 1.  
Residential User Registration & Booking.



The diagram shows a residential user at home booking a monthly ticket with a discount, then a day ticket while shopping. The process is managed through a Customer Service and Central Computing Center, which generates invoices and bank statements.

- 1 Book monthly ticket with residential discount
- 2 Book day ticket
- 3 Invoice Bank Statement

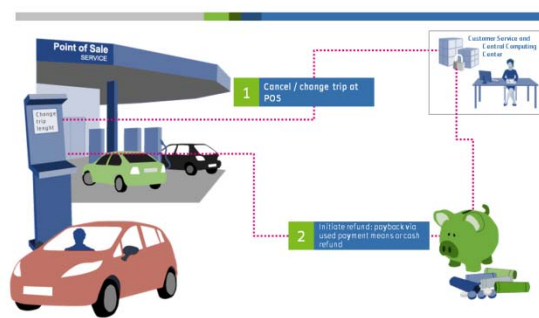
Satellic Urban Tolling.  
Use Case 3.  
ANPR Enforcement: 3 Vehicles – 3 EF Cases.



The diagram illustrates ANPR enforcement for three vehicles. Each vehicle is associated with a specific enforcement case (EF Case) based on license plate status, mud on the license plate, or bad payment history.

- 1 **Whitelist Match:** Check booking. status = ok (0815 Clyde)
- 2 **Backoffice verification:** Double-check of LP in EF Backoffice because licence plate is full of mud (0827 Cynthia)
- 3 **Redlist Match:** Storage of additional evidence information (i.e. color of car = red) because of bad payment history (080 Tourist)

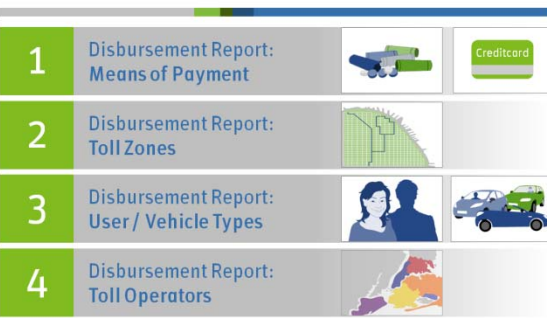
Satellic Urban Tolling.  
Use Case 2.  
Tourist Toll Self-Service & Refund.



The diagram shows a tourist at a Point of Sale Service (POS) canceling or changing a trip. The process is managed through a Customer Service and Central Computing Center, which handles refunds for payments made by credit card or cash.

- 1 Cancel / change trip at POS
- 2 Initiate refund: payback via used payment method or cash refund

Satellic City Tolling.  
Use Case 4.  
Incoming Payments – Disbursement Reports.



The diagram shows four types of disbursement reports generated from incoming payments: Means of Payment (Creditcard), Toll Zones, User / Vehicle Types, and Toll Operators.

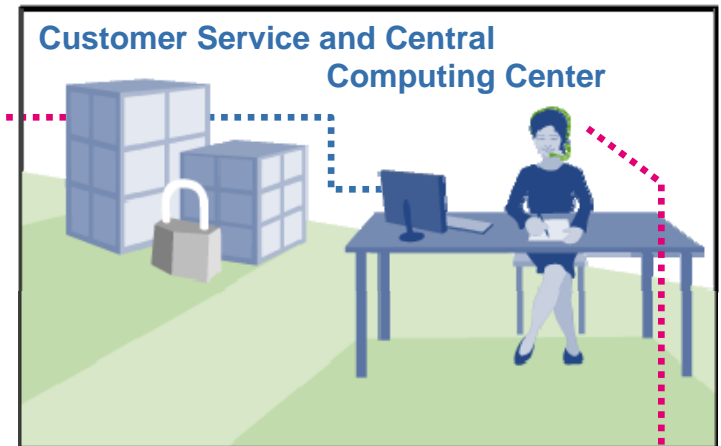
- 1 Disbursement Report: Means of Payment (Creditcard)
- 2 Disbursement Report: Toll Zones
- 3 Disbursement Report: User / Vehicle Types
- 4 Disbursement Report: Toll Operators



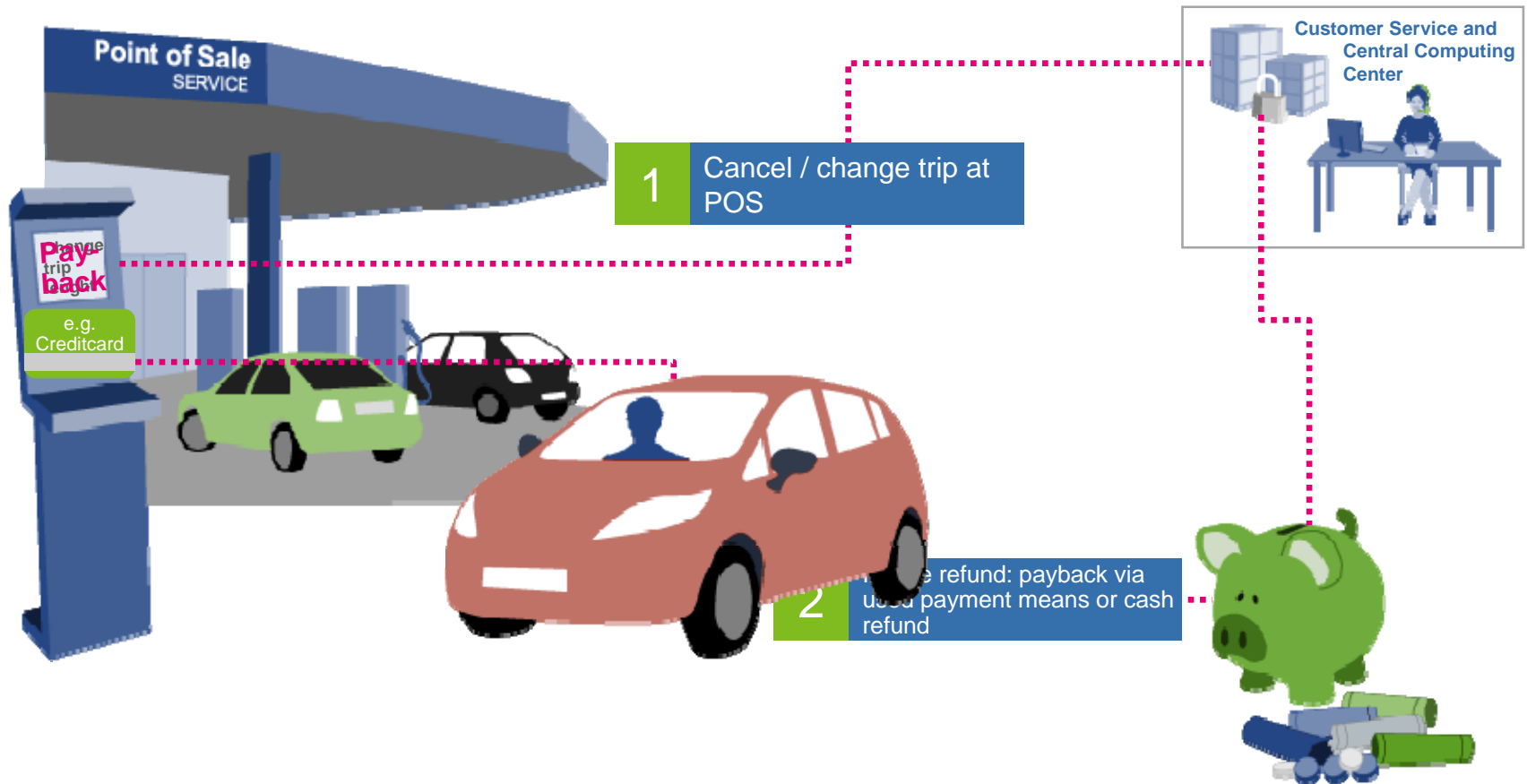
# Satellic City Tolling.

## Use Case 1.

### Residential User Registration & Booking.



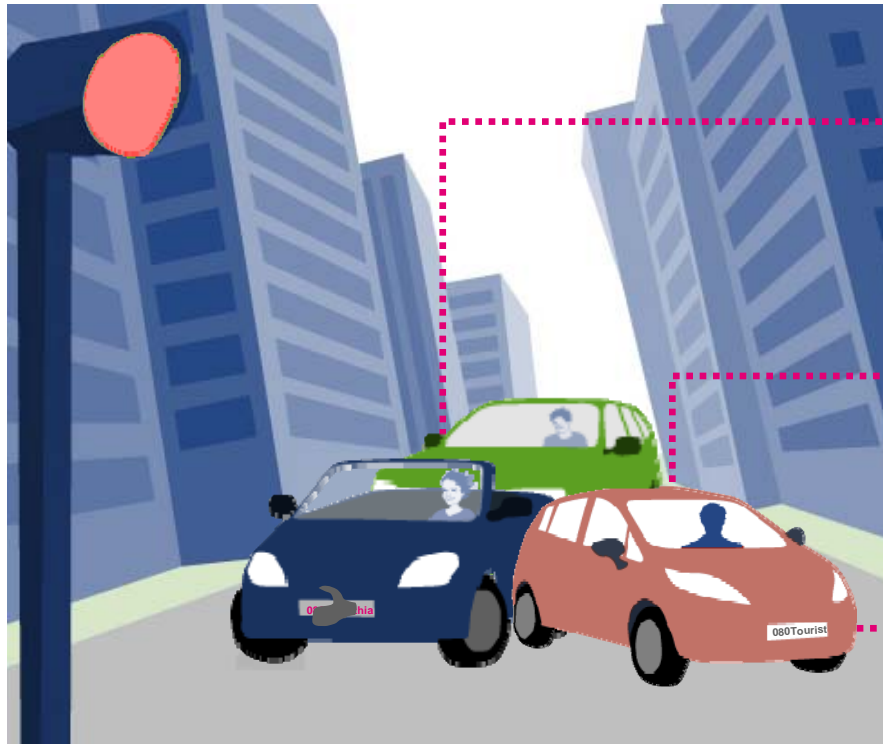
# Satellic City Tolling. Use Case 2. Tourist Self-Service & Refund.






# Satellic City Tolling.

## Use Case 3.

### ANPR Enforcement: 3 Vehicles – 3 EF Cases.



- 1** **Whitelist Match:**  
Check booking,  
status = ok  

- 2** **Backoffice verification:**  
Double-check of LPN in  
EF Backoffice because  
licence plate is full of  
mud  

- 3** **Redlist Match:**  
Storage of additional  
evidence information  
(i.e. color of car = red)  
because of bad payment history  




## Satellic Traffic Management GmbH

Account Director International

Friedemann Kirn

Deutsche Telekom Representative Office

Av. des Arts 53

1000 Bruxelles

Tel: 02 775 05 58

Mobile: 0497 55 10 50

[friedemann.kirn@satellic.com](mailto:friedemann.kirn@satellic.com)