



SUGAR <u>Sustainable Urban G</u>oods logistics <u>Achieved by Regional and local</u> policies

FREILOT PROJECT Name- MLC ITS Euskadi Date and Place: 04 May 2011









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Introduction

3 different Urban delivery projects were executed in Bilbao since 2009

PROJECT	LEVEL	STATE	DESCRIPTION
BilDum	Regional	Finished	benchmarking & Bilbao problem analysis/solutions study
OLD	National	Finished	4 selected pilots from BiIDUM executed & tested
FREILOT	European	On-going	5 services were executed and testes

OLD \rightarrow 3 services are already being normalized for its used.

Night time distribution Multy-use line Dedicated delivery spaces











Strategy of Bilbao



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General Information

NAME of the project: Urban Freight Energy Efficiency Pilot **ACRONYM: FREILOT PROGRAM: (ICT) Policy Support Programme CALL:** ICT for energy efficiency and sustainability in urban areas (CIP-ICT-PSP-2008-2) **CALL OBJECTIVE**: ICT for adaptive urban transport management infrastructure and services (CIP-ICT-**PSP.2008.2.2**) BUDGET: 4M €

<u>AWARDED</u> <u>SUBSIDY</u>: 2M €









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Objectives

Reduction of the energy consumption by <u>25%</u> in the <u>urban freight delivery</u> combining 5 services:

- Intersection control
- Acc/Speed limiter
- Eco driving support
- Delivery space booking
- give priority to freight vehicles.
- in specific zones (GPS).
- optimize advice to driver (engine data).
- advance internet booking .

Adaptation of existing technologies to the urban freight delivery:

- There is no development of technology.
- Testing selected services pilot tests.

Facilitate the <u>deployment</u> of these services in other European cities.









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Video

Promotional Video











The pilot cities

Services	Lyon	Helmond	Krakow	Bilbao
Intersection Control	9 nodes infra 1 truck	14 nodes infra 7 trucks	8 nodes infra 3 trucks	NO
Speed/accelerati on limiter	9 trucks	3 trucks	YES	3 trucks
Eco driving support	8 trucks	4 trucks	YES	2 trucks
Delivery space booking	5 spaces 7 trucks	NO	NO	4 spaces 130 trucks

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Services

	Intersection control	Speed/Acc limiter	Eco-driving support	Delivery space booking
Scope	•City	•Vehicle	•Vehicle	•City
Users	•Big vehicles • Special vehicles	• Volvo/Renault	• Volvo/Renault	• Every type of vehicle
Impact	 Traffic Consumption 	1. Consumption	1. Consumption	 Distribution 2. Traffic 3. Consumption

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DSB - Description

Solution developed by GERTEK and based in existing on road parking system. Allows Loading/Unloading (L/U) bays booking via internet.



- Allows real time booking of bays if not reserved.
- The system prioritises companies that can plan their routes in advance.











DSB - Characteristics

It allows 3 types of booking:

Periodical / punctual / real-time.

It is opened to every carrier of the city – should be registered

- Food delivery: can plan their times & routes
- Bar/restaurant delivery: can plan and they can assist by areas
- Packaging delivery: short delivery times
- Housework delivery: not periodic but can do in advance NEW

Slots of 30 minutes are booked– maximum 2 slots

Identifies type of truck (length), not the plate number

Very flexible to change trucks if broken...

2 different systems:

- Lyon information of the next booking by variable signs.
- Bilbao based on existing on road parking solution









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DSB - Objectives

Reduce energy consumption and emissions.

- Reduce illegal parking in the parking sites L/U
- Reduce double line



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Urban Merchandising Distribution Management

• A more Flexible & dynamic urban delivery

» Optimize and reduce time of operations.

Access to all type of delivery vehicles

- » 90% vans 6 meters
- Regulate the operations of L/U dividing the activity along hours











DSB - The zones

The carriers proposed 10 zones.

Later by means of some forms 4 definite sites were chosen:

- » Perez Galdós
- » General concha
- » Santutxu
- » Licenciado poza \rightarrow 18 meter (3 parking bays)
 - \rightarrow 12 meter (2 parking bays)
 - \rightarrow 12 meter (2 parking bays)
 - \rightarrow 12 meter (2 parking bays)











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DSB – Zone configuration



- > 3 or 2 parking bays per each delivery space 6 meter.
- Carrier identification machine on road parking machine.
- Vertical signs of information.
- Signs painted on the road.
- Position sensors (one per bay).
- LED in the road (one per meter).









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DSB – Lights code

> Objective:

- facilitate the enforcement(identification of bad parked vehicles).
- » Assist in the real-time bookings.



- GREEN
- RED
- FLASHING RED
- SWITCHED OFF

- \rightarrow available space to be booked.
- \rightarrow reserved space that cannot be used.
- \rightarrow non-authorized vehicle to park.
- \rightarrow not programmed.
- FLASHING GREEN → correctly parked vehicle











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DSB - On board units

Chip-card for identification



Sticker for trucks



Blackberry for evaluation matters only

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DSB – Back office & Web tools

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Very easy to use.

Allows making and cancellation of bookings.

Punctual & periodical bookings.

The bookings are renewed every 3 months – equal opportunities.









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DSB - Enforcement

Particular people

- Only for the pilot period
- This people only inform & aware of possible penalty

LED with color code

City police will fine trucks if flashing red light

Automatic message to city policy if infraction is identified

- > When flashing red an email sent to the police
- The system cancelled due to the high number of infractions
- > Now only important infractions are identified may put it on







Regione Emilia-Romagna





DSB – Operating way

NUMBER OF STREET OF



面

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Norm for users

All partners should accept the norm before participating in the pilot OBLIGATION CARRIERS

- Performs correct bookings: when needed, according to truck type
- Fulfill made bookings and use assign location
- Respect the circulation regulations
- Inform of any inconvenient to city
- Renew long term bookings (3 months renew)
- Keep logo visible

OBLIGATION CITY

- Make the action public
- Quality of service
- Facilitate new companies to join the pilot

Companies not FULFILLING these norms will be fined by the city police













Results – Locations



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Results – Software tool

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Results – Schedules



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Can they plan if there are enough DSB places in the city?









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Results – Routes



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Driver is a key issue in the route planning











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Results – Problems

Bilbao





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More than 80% of problem is related to illegal occupation of deliver spaces.











Results – Circumstances

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Results – Actions taken (I)

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Park as close as possible to the loading bay and continue with delivery

Drive around the block and return to bay hoping that it is free



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DSB – Execution information

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	PRE-PILOT	STAGE I	STAGE II	STAGE III
Nº VEHICLES	18	37	116	128
Bookings	170	616	719	717
Execute bookings	N.A	413	626	724
Infractions	N.A.	1219	1546	1569
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European Union

CENTRAL EUROPEAN INITIATIVE

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New actions

Action 1

- Meeting with user groups
 - » Food delivery: working ok & try to involve other companies

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- » Bar/restaurant delivery: try harder
- » Packaging delivery: very short time of delivery, some areas can be ok













New actions

Action 2

- Improve better use
 - » A1 limit to 3 chip cards for company
 - » A2 ask back the cards to user that are not using the system
 - » A3 Weakley comm to users
- Improve enforcement
 - » Identify important infractions
- Improve web use
 - » Increase WEB bookings talking to the companies, identify success companies strategy
 - » Include a ranking of best companies in the weekly comm
 - » If a booking is used less than 25% in 2 weeks will be cancelled











Conclusions (II)

It is a difficult problem to solve with

- Different stakeholders with different requirements
- Most of users are not technologically advances
- Normal loading bays are always illegally occupied difficult enforcement

FREILOT DSB areas have

- Involve a big number of carriers with different necessities
- They considered that the system is easy to use and would be great to expand it to more areas 4 areas is not significant however for the companies with short stops in parking zones, the system is not very suitable.
- The use of the system must improve
- Enforcement & web booking need to be improved in order to guarantee success.









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