

SIXTH FRAMEWORK PROGRAMME
PRIORITY 6.2
SUSTAINABLE SURFACE TRANSPORT



Freight: Innovative Delivery
of goods in European Urban Spaces

FORUM LYON, 09-04-2008

BARCELONA SITE & TEST DESCRIPTION


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Contract no.: 012405


FIDEUS - a project of high interest to Barcelona

2) Micro-carrier concept

3) Sant Andreu transhipment, 2006



En busca de la carretilla ideal
BARCELONA DE PLANTA LIMPIAR EL USO DE CAMIONES Y FURGONETAS EN LOS SECTORES PARA DESGLOSEN EN EL TRÁFICO



empresa	clients Carrer Gran
Aragonés	2 de 15
AZKAR	2 de 15
DHL	4 de 20
Linea 10	1,38 3
TNT	4 de 40

1) FIDEUS Forum Nº1, Oct 2005

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FIDEUS Barcelona: goods traffic regulation & QND

- Some 10,000 on-street spaces are reserved for un/loading between the hours of 08.00 and 20.00, handling a high % of the 100,000 roadside deliveries made daily in the city.
- Supermarket operators have a special interest in supplying fresh foodstuffs ready for when the stores open.
- To allow this, the Municipality introduced experimental exemption (6 months) to the noise regulations*.
- Initially traffic police collaborated to measure noise levels in residences close to the supermarket sites, now the Noise Unit and Mobility Department work with the Districts to manage the QND (Quiet Night Delivery) programme.




* Residential/commercial mixed: 22.00 – 07.00: 60dB(A)

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FIDEUS Barcelona Municipality noise measurements – an on-going programme

Titular	Establiment	Districte	Num. mesura	Data
Condis	Bruc, 166	Eixample	1	10/04/07
	Roger de Llúria, 47	Eixample	2	11/04/07
	Bailen, 56	Eixample	3	11/04/07
	Aragó, 520	Eixample	4	08/03/06
Mercadona			5	18/04/07
	c/Bilbao-Pi.Uluis	Sant Martí	6	16/04/07
	Sant Pere de Abanto,4-12	Sants-Montjuic	7	17/04/07
	Valencia,531	Eixample	8-9	01-02/03/06
			10	18/04/07
	Calabria, 129	Eixample	11	17/04/07
	Ausias Marc, 101	Eixample	12	23/04/07
Pi.Bonanova-c/St.Gervasi Cassoles 104	Sarriá-St.Gervasi	13	25/04/07	
LID'L	Pg. Valldaura, 122	Nou Barris	14	29/03/06

The programme has so far involved 3 operators, and 5 of the 10 Districts, making some 15 tests

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FIDEUS **Barcelona demonstration**

- Condis Supermercats uses Renault Truck's prototype Midlum 12T truck for Quiet Night Delivery & Direct daytime delivery (2 outlets, plus measurements around depot)
- A first set of measurements with a prototype vehicle / collaboration with manufacturer
- A first experience with telematic tools with special focus on noise abatement.

The aim of this trial, both for the Municipality and Condis, is to consolidate the night delivery experience, and to examine how the low pollution mode can work as part of a scheme for serving controlled access areas.

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FIDEUS **Intensive trials - overview**



Condis used the Renault truck intensively (day & night) during March, except during the peak pre-easter delivery period, with additional measurements at the depot

Incidents:

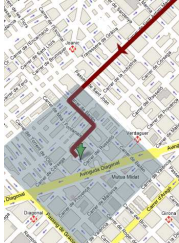

- 1 day lost for repairs
- Tracking difficulties:
 - Kaputt power & UMTS re-boot
 - Entry / exists not always registered at Platform
 - Renault registrations (1 day)
 - Handy as "Kaputt" alternative

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FIDEUS **BCN QND scenario: Bruc**

The scenario consists of a journey from Condis logistic platform, 15 km outside Barcelona, to one of the outlets authorised to make night deliveries: carrer Bruc, where a small, zone is defined to operate under Low Noise Mode (LNM).

The itinerary is realised in 60-75 min at night, compared to 90-120 min during the day

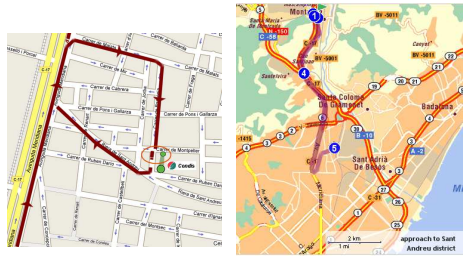



Basic standard trip:
Merchandise: dry goods (+ fruit)
Time schedule: 23:00 to 00:00
Frequency: daily (5 trips per week)
Load (average): 7 8T (19 combis^[1])

[1] Combi: type of roll-container with a platform of 80x60cm –half a standard pallet– and an average height of 180 cm when loaded.

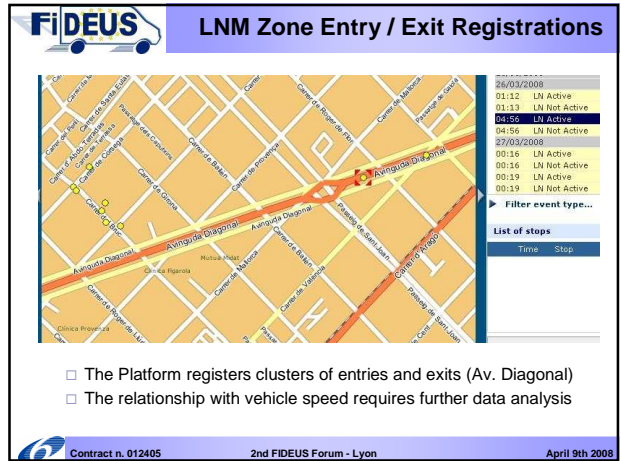
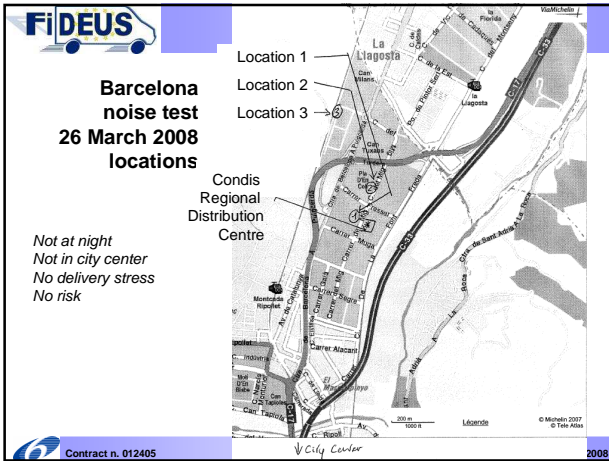
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FIDEUS **BCN Direct daytime scenario: St Andreu**



For the daytime scenario the vehicle runs in Low Pollution Mode for the whole itinerary from Condis depot to the supermarket and the way back. The route includes sections with 3 different speed limits: 80 Km/h on the motorway from Condis depot to Barcelona, 50 Km/h from the entrance to the city until arriving Sant Andreu district and 30 Km/h for the trip inside this area.

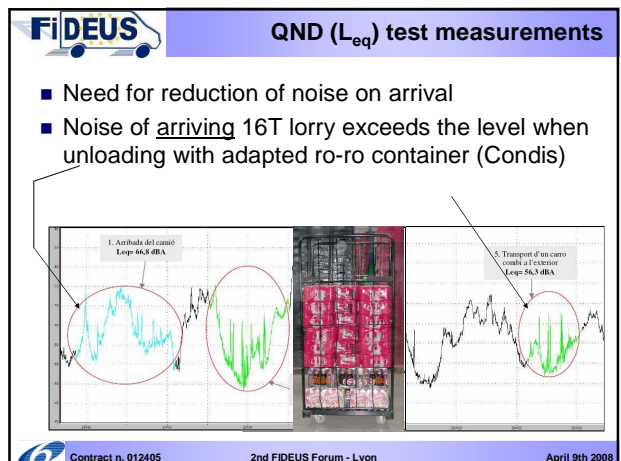
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Evaluation

- Noise:**
 - Carrer Bruc: delivery noise profile measured by both Barcelona Municipality & Uni. Westminster.
 - Pass-by noise measurements around depot (Uni. Westminster)
- Delivery performance**
 - Logs of fuel consumption, journey times, emissions (Renault / Condís)
- Operator acceptance:**
 - drivers' views of driving / unloading performance & dual-mode interface (Renault / Condís)

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Some preliminary conclusions from BCN test

- High noise recorded in last test days in Lyon- solved in BCN; multiple site test design + quick reaction of vehicle manufacturer (classical trial and error produces measurable improvements at the next stage).
- Activated Low Noise Mode reduces truck noise
- Fideus truck is less noisy than other trucks of the same category
- Lower speed reduces vehicle noise and have positive side effects (emissions, security, traffic)
- Vehicle + equipment + driver behaviour = low noise
- Equipment can register that dual mode vehicles are operating using the correct mode
- High efficiency in logistics and less traffic in the night leads to (preliminary) positive results for energy intensity and CO₂ emissions per delivery



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**Thanks for the team collaboration
& for your attention!**



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