STRAIGHTSOL

Strategies and measures for smarter urban freight solutions

Issue 1, February 2012

INTRODUCTION

Urban areas are a challenging environment for freight transport, both in terms of logistics and environmental impact. A wide range of regulatory, technological and logistical measures have been applied, most of them suffering from a lack of systematic evaluation and assessment related to their short and long-term effects which impedes knowledge transfer and the adoption of best practice. There is a clear need for a comprehensive approach to urban freight solutions, particularly linking urban and inter-urban freight movements. The three-year, EU-funded Straightsol project, which commenced 1 September 2011, aims to meet this need by:

- Developing new assessment methods for urban-interurban freight operating practices which take all stakeholders and their different objectives explicitly into account within a common assessment framework.
- Supporting a set of innovative field demonstrations showcasing latest developments in freight operating practices in Europe.
- Evaluating these field demonstrations using the new assessment methods and providing recommendations for future freight policies and operating practices.

IMPACT ASSESSMENT

Each demonstration will be evaluated by use of the new STRAIGHTSOL impact assessment framework. The framework combines multiple methodologies, including multi-actor multi-criteria analysis (MAMCA), cost-benefit analysis, business models, and key performance indicators. A particular strength of this framework is the emphasis on the multiple actors that are involved in or affected by various urban logistics solutions. Each demonstrated solution will be evaluated individually and there will be cross-demonstration evaluation where appropriate. Based on the evaluation of the demonstrations, specific recommendations will be developed for policy makers at local, regional, national and international levels, as well as industry stakeholders such as shippers, logistics service providers, and receivers of goods. Transferability possibilities of the demonstrated solutions will also be studied, and roadmaps towards industrial roll-out will be established.

DEMONSTRATIONS

The Straightsol project includes seven field demonstrations which represent latest developments from leading logistics companies such as Kuehne + Nagel, TNT and DHL Supply Chain. They are summarised below with further details available from:

www.straightsol.eu/demonstrations.htm

SEVENTH FRAMEWORK PROGRAMME

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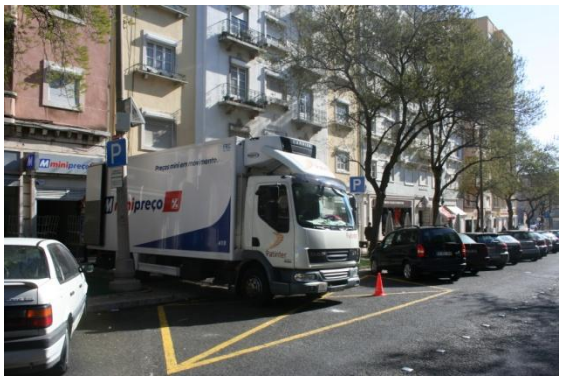
EMEL, Lisbon

Freight loading/unloading monitoring and control.



EMEL are responsible for regulating traffic and parking in Lisbon. They will demonstrate the use of alternative technologies for monitoring and controlling freight loading and unloading to support the development and application of a city-wide municipal regulation policy for urban freight activities. Technologies that will be used include adapted parking meters which will issue special tickets for freight activity and vehicle loop detection to identify freight vehicles. This demonstration is underway and will be the subject of the Straightsol project's first local workshop:

Invitation to attend

27 March 2012, Lisbon demonstration workshop

Who should attend: *Anyone with an interest in urban freight loading/ unloading regulation and enforcement*

See www.straightsol.eu for full details of this event.

TNT Express, Brussels

City logistics mobile depot

TNT Express will demonstrate the use of a mobile depot – a specially designed truck and trailer equipped with a loading dock and warehousing facilities – supported by the use of environmentally-friendly vehicles. The mobile depot will be filled with parcels at TNT's hub at Brussels airport once a day, and transported to a central location from which electric vehicles and electrically-assisted tricycles will be used for the 'last-mile' deliveries in the centre of Brussels.

Kuehne + Nagel, Thessaloniki

Rail tracking and warehouse management

Part of Kuehne+Nagel's operations include the movement of goods from Austria, through the Balkan countries to Greece where they operate a complex cross-docking facility close to Thessaloniki which acts as a transfer point for freight moving to its final destination in Greece. Around 110,000 tonnes of freight arrives here by train annually.

The demonstration will evaluate the logistical benefits that can be gained from providing real-time location information and anticipated rail freight arrival time updates to the warehouse management system used at the logistics centre. This will be achieved by equipping rail freight wagons with tracking technology so that the various parties involved can have better visibility of where their products are in the supply chain.

GS1 Norway, Oslo

Information standardisation

GS1 (Norway) will demonstrate the use of automatic data capturing techniques (e.g. using bar codes, RFID tags) to provide urban transportation authorities, logistics service providers and retailers with a better insight into the ways in which sharing last-mile logistics information can lead to more harmonised, collaborative and efficient systems being adopted in the future. The demonstration will take place at a shopping centre in Oslo, where deliveries come in from various warehouses around the city.

Oxfam, Milton Keynes

Remote monitoring of donation banks

Oxfam, one of the UK's largest charities, will demonstrate the use of remote monitoring sensors in donation banks to improve visibility of collection requirements and to optimise transport operations. This will be demonstrated in a region just north of London covered by 19 vehicle rounds per week, servicing around 40 banks and 50 shops.

DHL Supply Chain, L'Hospitalet de Llobregat

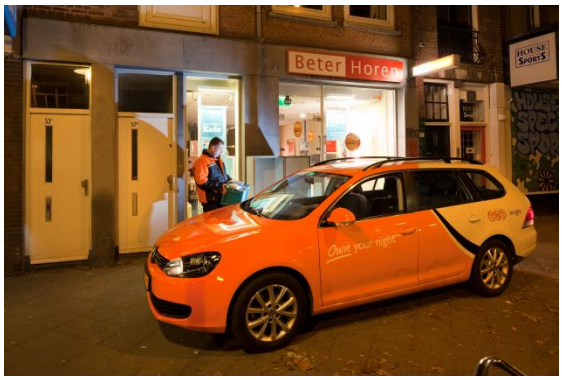
Freight consolidation

To improve the performance of urban freight deliveries within the metropolitan area of Barcelona, DHL Supply Chain will operate an urban consolidation centre to reduce the number of vehicles entering the defined area (last mile distribution) while maintaining service levels. The main 'smart' concept is based on consolidating the demand and the adaptation of regulations in a flexible manner, depending on full-truckload or less-than-truckload carriers.

TNT Innight, Utrecht

Night-time deliveries

TNT already operates a night time delivery service for their customers in the city of Utrecht. In this demonstration, TNT will extend and enhance their existing network of night-time freight deliveries by introducing RFID technology and additional secure pick-up/drop-off intelligent lockers to encourage potential customers who are concerned about liability and safety issues when receiving unattended deliveries at night, to accept night- time deliveries.



State-of-the-art review

A review of past, existing and emerging freight initiatives relevant to the STRAIGHTSOL demonstrations has just been completed. Key findings for each demonstration were:

EMEL - implementation of EMEL's concept is expected to reduce traffic, lessen environmental impacts, lead to faster and more reliable deliveries and reduce conflicts between road users. Developed municipal regulations will ensure that loading/unloading activities are performed under a robust framework. Nevertheless, the concept may initially be disapproved of by truck operators, as they are used to the old system, and car drivers, as parking may become more difficult. The implementation of the concept should be coupled with other urban mobility policies (e.g. traffic management and on-street parking charging). An information campaign may stimulate stakeholders' (operators, receivers, citizens, road users) support.

TNT Express - will provide an environmentally-friendly solution along with economic benefits. However, the technical characteristics of the vehicles (e.g. low load factor) may limit the range of activities that can be undertaken and may steer scientific and industrial research to address the problem. Additional mobility regulations and financial incentives may attract private investment.

Kuehne+Nagel - use of tracking technologies to locate vehicles and cargo will result in enhanced visibility and better planning of subsequent transport legs. Cost effectiveness will depend on purchasing and instalment costs and on the value of the cargo to be monitored. Moreover, future research and actions should focus on interoperability and standardization issues that may occur because of the international nature of Kuehne+Nagel's demonstration as well as on the technical stability of the whole system.

Oxfam - implementation of remote monitoring enhances visibility of goods in donation banks and provides direct information on unexpected incidents (e.g. thefts). The extent to which this information aids vehicle scheduling will depend on variability of bank fill rates (the more variable the more useful) and minimum servicing

requirements. Dynamic fleet scheduling is inherently hard and may be difficult to implement. Collection strategies will depend on the density of the collection points.

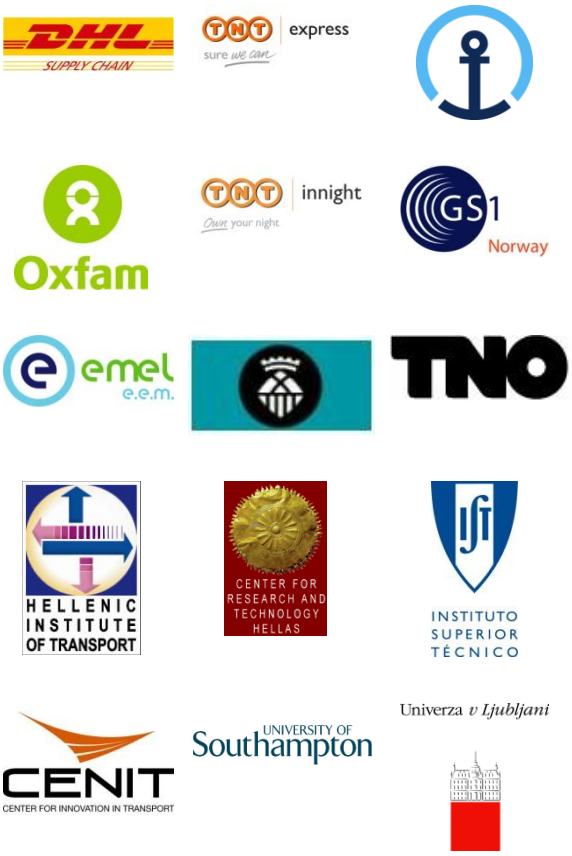
GS1 Norway - use of ICT platforms could facilitate information exchange and supply chain visibility between stakeholders but its implementation may be expensive and of limited interest to some stakeholders with financing issues to overcome. Information campaigns highlighting business benefits could persuade public authorities to foster the use of ICT platforms. Mechanisms to maintain stakeholders' interest after the demonstration period are needed.

TNT Innight - permitting delivery activities at night-time gives greater flexibility and potentially faster and more accurate distribution activities. However, noise nuisance produced by trucks, loading equipment and opening/closing premises is considered the main drawback. Introduction of corresponding law enforcement and labour regulations are the cornerstone of the concept's success as well as the adoption of low-noise equipment.

DHL Supply Chain - urban consolidation centres provide an interface between interurban and urban freight transport and can facilitate combined transport options. In contrast, they are considered a costly investment, not so affordable for small-scale LSPs and with monopoly issues. A sound legal framework, involving stakeholders from the outset and situating UCC facilities close to big cities are considered some of the fundamental requirements for success.

Project partners

The project partners comprise a mix of freight logistics providers, municipal authorities, research institutes, a major charity and a global standards organisation:



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European Reference Group

An advisory panel of people with considerable freight expertise (European Reference Group) has been established to provide independent advice and constructive criticism of the Straightsol project's activities. The first consultation with the group took place in Brussels on 30 January 2012. The panel members are:

- Gabriela Barrera (POLIS)
- Frans de Keyser (Brussels Enterprises Commerce and Industry)
- Edoardo Marcucci (University of Roma Tre)
- Toril Presttun (Norwegian Roads Administration)
- Stephen Steele (Transport for London)
- Marianne Thys (Bruxelles Mobilité)

Events

The Straightsol project will host a number of workshops from now until the project ends in August 2014. They will be open to all interested parties to learn about and discuss outputs from the project and will provide networking opportunities and discussion of related EU projects. Members of the ERG and all identified stakeholders will be invited to ensure that the meetings have a strong practical focus.

Each demonstration will host a local workshop and there will be three project-level workshops.

The **first local workshop will be hosted by EMEL, in Lisbon, on Tuesday 27 March.** All are welcome to attend. See our website for details.

Staying in touch

If you would like to keep up to date with news or attend one of our events you can:

- **Join** 'Straightsol' group on LinkedIn
- **Visit** **www.straightsol.eu**
- **Subscribe** to a Straightsol video channel on You Tube **http://www.youtube.com/user/straightsol/videos**

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