

SMARTFREIGHT

Smart Freight Transport in Urban Areas



The SMARTFREIGHT project wants to make urban freight transport more efficient, environmentally friendly and safe through the smarter use of distribution networks and better delivery and return freight systems.

At a Glance

Project Acronym:
SMARTFREIGHT

Project Reference:
ICT-2007-216353

Project Type:
Collaborative Project (STREP)

Programme:
7th Framework Programme

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Partners:
SINTEF (co-ordination), Q-FREE, ETRA I+D, NPRA, DTO, SOTON-TRG, COBO, CHALMERS, POLIS, ADL

Start Date:	January 2008
Duration:	30 months
Total cost:	3,012.000 €
EC project funding:	2,200.000€

Project Website:
www.smartfreight.info

Why SMARTFREIGHT?

Freight transport has often been neglected in urban traffic management. Though it is very important for both business and life of a city, commercial traffic has seldom been given much attention in the transport planning process. Traffic congestion, scarcity of loading and unloading areas in city centres, and sub-optimal delivery routes negatively influence the efficiency. In addition, freight transport contributes to environmental problems and traffic congestion, as well as to safety concerns.

The main idea

SMARTFREIGHT will specify, implement and evaluate Information and Communication Technology (ICT) solutions that integrate urban traffic management systems with the management of freight and logistics in urban areas. The actual transport operations carried out by the freight distribution vehicles will be controlled and supported by means of wireless communication infrastructure and on-board/on-cargo equipment. The solutions will arrange for:

- More safe, efficient and environmentally friendly freight transport in urban areas by means of a new traffic management approach: Specific traffic management measures can be taken towards individual freight vehicles based on information about the current traffic situation, the profile of vehicles and the cargo type, weight and dimensions.

- More efficient freight distribution by making more reliable traffic information available to transport organisers: Desired behaviour like return freight and use of green vehicles can be detected by the traffic management system and rewarded. Timeslots for access to limited resources like loading and unloading areas will be assigned to make the distribution process more predictable.
- New ways of organising the freight distribution and pick-up in cities improving efficiency and reducing environmental impacts: All freight distribution and pick-up in an urban area will be coordinated for higher efficiency compared to a situation where many commercial companies operate independently of each other.

The project objectives

Develop new traffic management measures towards individual freight vehicles by open ICT services, on-board equipment and an integrated wireless communication infrastructure:

- Assign different service levels to freight vehicles, depending on their environmental profile, type of goods and destination
- Grant priorities and access rights depending on service level and traffic situation
- Allocate routes and time slots to freight vehicles minimising conflicts and congestion
- Track and monitor vehicles carrying dangerous goods
- Improve awareness in case of incidents
- Collect information for statistics
- Support control that enables enforcement

Improve the interoperability between traffic management and freight distribution systems:

- Provide information that improves route planning for transport companies, such as more accurate transport network information, traffic and travel time information, through open ICT services

Coordinate all freight distribution operations within a city by means of open ICT services, on-board equipment, wireless communication infrastructure and CALM MAIL implementation in onboard and on-cargo units, for all freight vehicles:

- Route and re-route scheduled freight and service vehicles
- Provide information that improves the efficiency of these fleets
- Manage the use of loading and unloading areas
- Track freight vehicles
- Track cargo
- Monitor the status of cargo

The test sites

LIVE TEST IN TRONDHEIM, NORWAY:

SMARTFREIGHT will cooperate with the “Wireless Trondheim Network Lab“, which is offering physically a city-wide high bandwidth communication network. It makes the city a living laboratory for innovative transport services connected to the CALM standard.

SIMULATIONS IN WINCHESTER, UK:

Winchester has its own traffic control centre operating the SCOOT urban traffic control (UTC) system. It is of particular interest in a confined, historic street setting how to improve scheduling of freight vehicles on a daily basis.

SIMULATIONS IN BOLOGNA, ITALY

The City of Bologna plans to develop a new ITS system that will further integrate transport monitoring and management, electronic enforcement, data collection and traffic simulation and modelling.

DESKTOP STUDY IN DUBLIN, IRELAND

Dublin has a strong ITS investment to date and is re-assessing its ITS activities across various stakeholders involved in goods management.

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