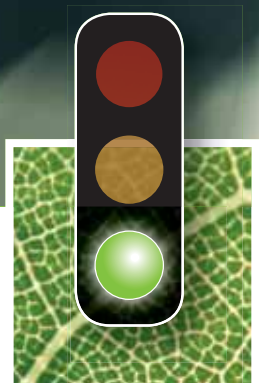




Smart Freight Transport
in Urban Areas



Why Smartfreight?



Freight transport has often been neglected in urban traffic management. Though it is very important for the business and life of a city, commercial traffic has never 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 SMARTFREIGHT project wants to make urban freight transport more efficient, environmentally friendly and safe by answering to challenges related to traffic management, freight distribution management, and a better coordination between the two:

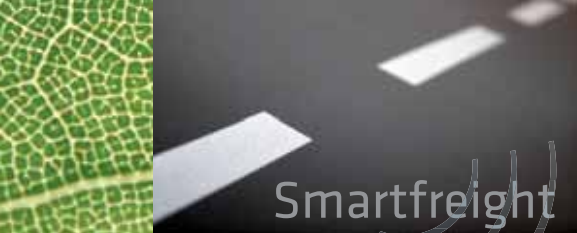
- > Today, it is not possible to take traffic management measures towards freight vehicles, based on information about the current traffic situation, the profile of vehicles, the amount and type of cargo;
- > Traffic management systems do not serve those organising freight transport in the city. Freight distributors do not benefit from more reliable traffic information and are not rewarded for 'desired behaviour' such as the use of back-load and green vehicles. It is also difficult to predict the access to limited resources like loading and unloading areas;
- > Freight distribution management in city centres is usually operated by several commercial companies and there is no coordination of these activities in a way that would benefit the city.

The main aim of SMARTFREIGHT is therefore to 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 and on-cargo equipment.



The **smartfreight** Concept





Objectives

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

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

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 on-board and on-cargo units, for all freight vehicles

- > Routing and re-routing for 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

Smartfreight Sites



> Test site in Trondheim, Norway

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

The SMARTFREIGHT test site in Trondheim will use the wireless infrastructure to:

- > Test the technical solutions specified and implemented by the project;
- > Demonstrate new functionalities for traffic management measures towards individual vehicles and support and control of transport operations;
- > Analyse the technical solutions with respect to capacity and usability.

> Simulations in Winchester, UK

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

To prove the SMARTFREIGHT concepts, the test site in Winchester will be used to:

- > Simulate the functionality provided by the project outcomes;
- > Evaluate how the concepts and technical solutions may affect the traffic flow and freight operations within the city and quantify the benefits to the various users.

> Simulations in Bologna, Italy

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

To prove the SMARTFREIGHT concept, Bologna will:

- > Simulate the new, extended functionalities that can be provided by the solutions specified and implemented in the project;
- > Analyse how the technical solutions may affect urban traffic and transport.

> Desktop Study in Dublin, Ireland

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

Dublin's role in SMARTFREIGHT will be:

- > To assess the information needs and exchange opportunities between different stakeholders in relation to goods and freight;
- > To provide user feedback, via the Dublin based goods stakeholder group;
- > To participate in the evaluation of the Trondheim work, to inform the nature of future IT integration projects in Dublin;
- > To do a survey among users of information needs (drivers, fleet managers, and other logistics interests).

The Smartfreight Team



The SMARTFREIGHT team is composed of a variety of experts in the field of traffic management and freight distribution management. It consists of commercial technology companies, research institutes, freight distribution stakeholders and local/regional authority representatives.



Statens vegvesen



CHALMERS



15 años en continuo movimiento.

**UNIVERSITY OF
Southampton**
School of Civil Engineering
and the Environment

MORE INFORMATION

For more information on the project,
please visit www.smartfreight.info
or contact the project coordinator:

SINTEF
Hans Westerheim
Phone: +47 73 59 29 56
E-mail: hans.westerheim@sintef.no



www.smartfreight.info