3. Public Road Tour

The most extensive CVIS demonstration in Stockholm was the Public Road Tour where visitors could in one of the two premium vans (figures 3,4,6) enjoy a 30 minute demonstration (5 minute introduction outside the vehicle, 20 minute drive and 5 minute summary) of 8 CVIS application and four technology demonstrations. The demonstrated application were carefully chosen to highlight the benefits of cooperative systems in supporting: Efficient use of existing infrastructure (Road charging, Access control and Fleet management), Safety (Safe drive), Intermodal shifts (Train schedule provided to the driver and Enhanced driver awareness), Social networking (Carpool matcher), and Local advertisement (Gas station announcement).

Figures 4, 5, 6, 7. Several pictures from the CVIS Public Road Tour in Stockholm

To mark the starting point of the CVIS Live! Public Road Tour two identical flags were produced (figure 7). The flags contributed considerably to the visibility of the tour.

The four demonstrated technologies were: Communication technologies, Open platform support and Enhanced positioning.

All visitors received a flier on Public Road Tour containing the map of the tour and short description of each demonstration, we well as contact details for demonstrator companies.

CALM medias

Communication Technology - One of the CVIS key points is the seamless handover between a variety of communications channels used for cooperative systems. The system easily switches between infrared (short range), M5 (medium range, dedicated for ITS use) and 3G (wireless internet) communication media, depending on the specific application's need. This demonstration visualises all active channels communicating with all vehicles and road side infrastructure in range.

**Partners: Makewave, Ramsys, Logica, Q-Free**

Service Provisioning
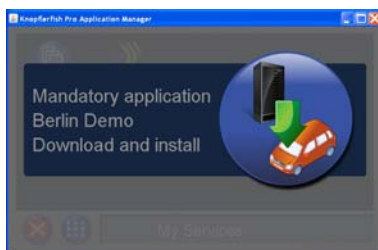
Open Service Platform - The open nature of the CVIS platform enables smooth and easy automatic downloading of applications. New services add dynamically to the car platform during the ride. The Stockholm scenario includes a road side unit announcement for the CVIS Live! application that is mandatory for the area entered. Next, CVIS Live! is downloaded from the Host Management Centre that is located on a server in the Netherlands' test site. The application shows up as soon as available in the application window.

Partners: Kapsch, MakeWave, Q-Free, Logica

Lane Matching
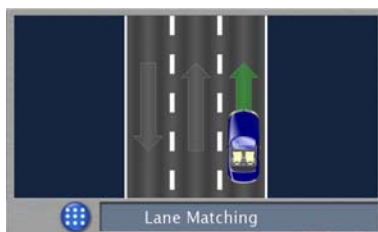
Positioning Technology - Next to new communications and open service deployment, improved positioning provides a major step forward compared to the current technology. Enhanced positioning developed within CVIS creates opportunities for road efficiency, e.g. dynamic hard shoulder use or flexible use of a bus lane. The demonstration shows the car matched to the very lane you are actually driving.

**Partners: Intempora, LCPC, Livic, Makewave, Logica, UTC, LIVIC, Navteq, TeleAtlas**

Road Charging Application

Road Charging - The road charging application allows for free flow tolling based on geo-fences. The cooperative and open nature of CVIS is shown by adding traffic services from a variety of e.g. different vendors and regions. The sole in-car system runs all applications simultaneously. This part of the public road tour shows you the information and tariffs for this part of the ride, calculated by the tolling back office in direct contact with the in-car application.

Partners: Q-Free

Travel Information
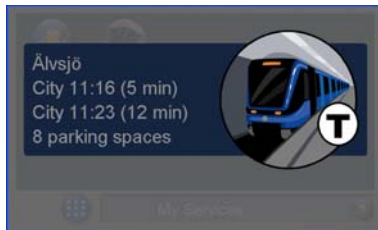
Train schedule - To increase the efficiency of city transport, this application offers the choice to car drivers to park their vehicle at the train station and enter the city by train. The actual train schedule is sent to the car by the road side unit in the station. The actual timetable presents itself dynamically to the driver generating personalised advice for the next appropriate train. In addition, the application handles multimodality by providing nofrmation on the availability of the local parking areas.

Partners: Q-Free, Logica

Green Zone

Access Control - This application demonstrates the sustainable mobility concepts by generating green zones. Avoidance of dangerous goods entering specific city area or accident prevention by limiting use of tunnels or bridges depending on the vehicle characteristics and cargo. The vehicle receives an announcement when it approaches the controlled area (the city of Stockholm for example). Specific rules get downloaded which are valid to the actual local situation, e.g. a truck-free zone. When entering the sensitive area, the rules are applied and matched with the specific vehicle's information to allow or deny access. If no access is allowed navigation recommendations are provided that avoid the area and guarantee smooth continuation of the journey.

Partners: Volvo, Telecom Italia

Wrong way driver alert

Enhanced Driver Awareness - This specific example shows that car to car communication can also be handled by the CVIS communication framework. In our demonstration, we receive a safety warning from another CVIS equiped car (the wrong way driver) which sends warnings to all vehicles in the vicinity. Also the traffic control centre is alarmed. The control centre can immediately inform approaching vehicles on the route for the hazard in advance before they actually encounter the vehicle coming in their direction.
**Partners: Volvo, LCPC**

Carpool matcher

Service Contest Application - Within the CVIS project, the applications team organised an open contest for designing new applications. The carpool matcher shows one of Logica's submissions. To diminish traffic and the corresponding jams, the application suggests inviting passengers to join the same car, as soon as the same destination is cooperatively detected. In addition to reducing traffic, this application saves fuel consumption and at instantly creates opportunities to meet new people!
Contestant: Logica

Gas station announcement
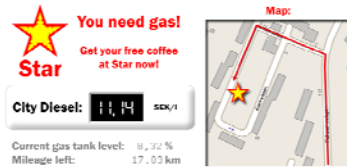
Narrowcasting - During a journey, it can be useful to be informed about various services along the road, either by subscription or for free. While travelling, the system assesses the options you have for fuelling the car. The in-car information of the remaining amount of fuel is present on the CVIS platform. Any personal preferences for a brand of fuel (e.g. due to company fuel policies) can be included seamlessly.
Partners: Logica

Kids going to school

Safe drive - The in-car system also allows for dynamic safety information to be provided to the car. During the journey, you experience two examples of this safe drive application. First, a time-based warning for school kids is sent to the car whenever appropriate. e.g morning and afternoon congestion when children arrive and leave can be presented taking into account weekends and holidays. Second, a warning for a dangerous crossing ahead, enabling you to adapt your speed in advance. The communication between the road side unit and hand held devices could offer possibilities for warning only when persons are actually around.
Partners: Logica

Parking Booking

Fleet Management - This application reserves in advance a truck parking space at the destination or along the road for unloading freight. In addition to saving time and mileage looking for a suitable space it enables compliance with driving time regulations in countries with densely populated parking areas. In this application, a goods delivery vehicle can make a reservation either automatically or as initiated by a fleet operator. A central booking system processes the reservation and informs the vehicle of the parking or delivery location, and time slot. If needed, due to e.g. traffic delays, an updated time or location will be suggested by the system.
Partners: Volvo, Thetis, Verkeerscentrum Vlaanderen

Overall, 80-90 tours were made with approximatelly 400 people enjoying the benefits of the Public Road Tour. One of the drawbacks was that the project could not accomodate all the interested visitors, thus for next demonstration event, e.g. Intertraffic RAI, a larger number of vans will be made available.

Nevertheless there has been a high interest for the public road tour from VIPs. It was indeed challenging keeping pre-scheduled times and accommodating VIP visitors. For the Cooperative Mobility Conference in Amsterdam, there will be dedicated VIP mini vans, which will be kept available for VIPs coming unexpectedly.

After each demonstration drive, the visitors were asked to fill in a questionnaire feedback form. The results from the questionnaire can be found in Annex 3.