MORYNE

Enhancement of public transport efficiency through the use of mobile sensor networks

Funding: European (6th RTD Framework Programme)
Duration: Jan 2006 - Mar 2008
Status: Complete with results
Total project cost: €3,832,832
EU contribution: €1,999,208

Background & policy context:

There is a persistent need to improve the safety, the efficiency and the security of public transportation in Europe. New technologies allowing Public Transport Control Centres and buses to communicate voice, video and data is a promising solution to make a step towards these goals.

Operators want to get a real-time picture of the situation of their bus fleets, and especially the passengers and surroundings of any bus they manage. Bus drivers also need to be able to send information by themselves.

- Video is the most demanded application.
- Display of recorded past information is also of much interest.
- Multiple technical solutions exist, but they have to be bound together and then tested in a real situation.

Objectives:

The project objectives were:

- The development of an approach for new safety and efficiency oriented transport management and traffic management;
- The development and validation of technologies for appropriate sensing, information processing, communication, interfaces;
- The development of an in-laboratory demonstrator;
- The validation of the proposed concepts through field testing with Berlin Buses Authority;
- The analysis of potential impacts (social, economic, environmental) and the definition of further steps.

Project MORYNE aims to contribute to greater transport efficiency, increased transport safety and more environmentally friendly transport by improving traffic management in an urban and sub-urban area.

Methodology:

The project work was structured in 8 WPs as follows:

- WP0 – Project management
- WP1 – Requirements
MORYNE provided an effective co-operative system, by:

1. Using public transport vehicles (e.g. buses) as elements of a network of mobile sensors, communicating with the infrastructure;
2. Setting up co-operation between public traffic management and city traffic management;
3. In the proposed Traffic Management System, public transport vehicles were equipped with sensors that collect data on the vehicle environment;
4. Sensor data were processed locally and in real-time to generate information that was sent to a Public Traffic Management Centre through reliable and cost-efficient radio communications;
5. The Public Traffic Management Centre generated decisions that were broadcasted to public transport vehicles and fixed points (like message panels at bus stations);
6. The collected information was also made available to a City Traffic Management Centre to provide an up-to-date picture of the traffic situation;
7. The City Traffic Management Centre derived traffic management decisions that were broadcasted to distributed Traffic Control Devices (e.g. Variable Message Sign panels) and to vehicle drivers (via PDA, Internet).

Parent Programmes:
**FP6-IST - Information Society Technologies - Priority Thematic Area 2 (PTA2)**

Institute type: Public institution
Institute name: European Commission
Funding type: Public (EU)

Lead Organisation:

**Eads Secure Networks**

Address:
Boulevard Jean Moulin, 1 - Zac De La Clef Saint Pierre
78990 Elancourt
France

EU Contribution: €0

Partner Organisations:

**Közlekedési Kutató Intézet**

Address:
Than Karoly utca 3-5
BUDAPEST
107
Hungary

Organisation Website:
http://www.kti.hu
EU Contribution: €0
<table>
<thead>
<tr>
<th>Organisation</th>
<th>Address</th>
<th>EU Contribution</th>
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</table>
| Martec                                | 29 AVENUE DE LA BALTIQUE
91953 LES ULIS
France                              | €0               |
| Temex Ceramics                        | VOIE ROMAINE PARC INDUSTRIELS BERSOL 1
33600 PESSAC
France                              | €0               |
| Stiftung Fachhochschule Osnabrueck    | CAPRIVISTRI. 30A
49009 OSNABRUCK
Germany                             | €0               |
| Berliner Verkehrsbetriebe             | POTSDAMER STRASSE 188
10783 BERLIN
Germany                             | €0               |
| Eads Secure Networks GmbH             | WORTHSTRASSE 85
89077 ULM
Germany                             | €0               |
| Multitel                              | parc Initialis, avenue Copernic 1
MONS
Belgium                               | €0               |
| Ministere De La Region De Bruxelles-Capitale | RUE DU PROGRES 80 BTE.1
1030 BRUXELLES
Belgium                             | €0               |
Key Results:

The MORYNE project proposed solutions to improve the traffic management of public transport vehicles in urban and suburban areas.

MORYNE allowed a Public Transport Control Centre (PTCC) to retrieve at any time the information collected by mobile sensors (e.g. cameras, environmental sensors, GPS) embedded on fleets of public transport vehicles (buses) by means of a smart radio communication system.

The City Traffic Management Centre (CTMC) is then informed in real-time of the traffic surrounding the buses.

Innovations have been applied in the fields of:

- traffic management;
- video sensors and image analysis;
- telecommunications.

A two day demonstration in Berlin on 11 and 12 March 2008 presented these solutions in a real context.

Documents:

- Project Brochure (Other project deliverable)

STRIA Roadmaps:

Cooperative, connected and automated transport, Network and traffic management systems, Smart mobility and services

Transport mode: Road transport
Transport sectors: Passenger transport
Transport policies: Digitalisation, Environmental/Emissions aspects, Safety/Security
Geo-spatial type: Other