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CyberMove

Cybernetic Transportation Systems for the Cities of Tomorrow

Project Statement

Anyville, like many European cities faces numerous challenges associated with the use of private vehicles. Problems include road congestion, energy expenditure, noise and pollution, all of which degrade the quality of urban life. Therefore, historical cities centres are facing severe problems, traditional commerce in them declines, moving to the periphery, and they become less attractive to tourists.

Technology has the potential to contribute to a sustainable development of our European cities but this should take place within an integrated and global approach, which seeks to balance the social, economical, and environmental impacts of the targeted technological development.

The goal of CyberMove is to assess the potential of novel intelligent transport systems for resolving the most acute mobility problems faced by European cities. Cybermove will compare different new transportation systems based on *cybercars* that will be demonstrated in several European cities. These cybercars will be tested as a complement to public mass transportation to improve the attractiveness and quality of life in *Anyville.* Cybercars are expected to reduce the intensity of use and the parking needs of traditional cars. Cybercars offer a cleaner and safer transportation mode available to everyone, including people who cannot (or should not) drive, for a level of service better than with private cars (door to door, individual, on-demand transportation).

CyberMove's goal is to create a new transportation option for city authorities to move towards sustainability and increase the attractiveness of city centres.

Cybercar Definition

Cybercars are road vehicles with fully automated driving capabilities. A fleet of such vehicles forms a transportation system, for passengers or goods, on a network of roads with on-demand and door-to-door capability. The fleet of cars is under control of a central management system in order to meet particular demands in a particular environment. At the initial stages, cybercars are designed for short trips at low speed in an urban environment or in private grounds.

In the long term, cybercars could also run autonomously at high speed on dedicated tracks. With the development of the cybercar infrastructures, private cars with fully autonomous driving capabilities could also be allowed on these infrastructures while maintaining their manual mode on standard roads.

Cybercars are members of the general family of people movers and close to PRT (Personal Rapid Transit) but they offer the advantage of being able to run on any ground infrastructure which means they are cheaper and more flexible.

A European Research Framework

Cybermove Project is supported by the key action “City of Tomorrow and Cultural Heritage” of the Energy, Environment and Sustainable Development programme of the European Commission (http://www.cordis.lu/eesd/ka4/home.html). It is closely linked to the CyberCars Project that aims at developing the new technologies for cybercar vehicles and infrastructure (www.cybercars.org). The CyberMove approach is to demonstrate the new technologies developed in the CyberCars Project. This demonstration will take place in several European cities, with the aim to identify and overcome barriers such as technology confidence, customs, landscape scenery, user-friendliness, regulations, etc.

Milestones – Demonstrations

CyberMove is a 3 year project which has been launched on December 1, 2001. It started with an analysis of user needs, a definition of operating scenarios and a pre-design phase. The first planned milestone is the selection of sites in the cities which have officially expressed their interest to participate, of which Rome(I), Rotterdam-Cappele aan den Ijssel (NL), Antibes, Biarritz, La Rochelle, Nancy(F), Coimbra (P), Chavannes, Crissier, Lausanne (CH)... The second milestone consists in the establishment of guidelines for the safety design in the selected cities. A design review is the last milestone before the Mid Term Assessment of the project, which will clarify demonstration plans and budget. Demonstrations are expected to take place in at least 3 European sites. The assessment of these demonstrations will be the final deliverable of CyberMove.

A broader effort

CyberMove is part of a cluster of projects aiming to assess how personal rapid transits or cybercars might enhance the sustainability of European cities.

Partners

The CyberCars consortium, led by INRIA, consists of 14 partners: 7 academic research organisations, experts in Transportation Technologies and 7 private industrial companies.

Contact :

Georges Gallais
Action VISA

INRIA Sophia Antipolis
BP 93
F-06904 Sophia Antipolis

Tel 33-4 92 38 50 14
Fax 33-4 92 38 76 43
georges.gallais@sophia.inria.fr

www.cybermove.org

An **E**nergy, **E**nvironment & **S**ustainable **D**evelopment Project

Project officer : Eric Ponthieu

European Commission, DG Research, Unit I.5
EESD
200, rue de la Loi, 1049 Brussels Belgium

Tel: 32-2 296 99 45 Fax: 32-2 296 05 88
eric.ponthieu@cec.eu.int