Will our cities become more and more congested, polluted, and unsafe? Or can Cybernetic Transport Systems (CTS) help reverse this trend? Can such novel systems solve mobility problems in any city? Can they be integrated into the urban structure and conventional transport networks? How would users react?

To help answer these questions, the European Commission has funded since 2000, a series of projects to study both the technology needed for CTS and their feasibility in urban environments. They are, in chronological order, CyberCars, CyberMove, EDICT, NetMobil, CyberCars2, CityMobil, and CityNetMobil, launched in late 2008.

CityNetMobil aims to raise awareness of CTS in order to increase their acceptance. The project hopes to convince politicians, local mobility planners, and the general public that CTS can provide better access to public transport for all and that they are environmentally friendly, can reduce urban transport’s share of energy consumption and CO₂ emissions, and are safer than conventional transport modes.

**CityNetMobil Project Objectives**

- to explore and promote the potential of developments in CTS for future sustainable urban transportation systems,
- to disseminate knowledge of CTS, and
- to provide advice and guidance on the options for decision makers.
The best way to convince people of the value of CTS is to show them what it can do. Accordingly, CityNetMobil will organise five demonstrations, each in a different European city, between summer 2009 and spring 2011. Each event, which will last between two days and two weeks, will feature a small showcase of moving automated vehicles, a conference, and an exhibition with audiovisuals and poster display. People will be able to ride the vehicles and ask questions and can take home some printed material and souvenir gadgets. To maximise visibility, the events will be held, where possible, at the same time as other scientific or cultural events in the same city.

The first step is to select the five cities. The selection process begins with invitations to the reference group of cities formed under the previous project, CityMobil, and a call to other cities that are interested in being candidates. Selection criteria include:

- technical suitability of the site to host a showcase,
- willingness of the city to help organise the event,
- potential for implementation of CTS after the event,
- size and geographical coverage of the expected audience,
- other events at the same time,
- compliance with CityNetMobil schedule.
How your city can participate

The project invites all interested cities to join a group of cities sharing an interest in CTS. This group is called the Reference Group. Elected city officials or members of technical services interested in driverless transport for their cities are invited to join this Reference Group to participate in activities proposed by the project (such as international meetings), or to propose their city as a venue of one of the five CityNetMobil events.

The support of local authorities and transport planners will be an important criterion in site selection. It is very easy to become a member of the CityNetMobil Reference Group. The first step is to fill in an online questionnaire at www.citynetmobil.org. Members may suggest one or more sites in their cities where CTS would be most effective. The website provides guidance and the CityNetMobil project partners are all available to help the candidates.

“Cybercars” are small vehicles with automatic driving capabilities for collective, semi-collective, and personal public transport. They are ideally suited to providing feeder and shuttle services to connect, say, a parking lot with a terminal building, hospital, or even a city centre. They can easily provide taxi-like, door-to-door service for individuals or a group, between homes and main public transport lines (feeder service) to replace large, slow, and infrequent suburban buses. When demand is low or pick-up points are far apart, cybercars are much more effective than conventional transport systems.

There’s really no driver? Are they safe?

Yes, they can really drive themselves. Cybercars are operated automatically with state-of-the-art obstacle-avoidance technology. Although it’s too soon for them to have a real safety record (but so far so good), they are expected to offer the same safety as a rail system, in other words, excellent. Most accidents are caused by drivers, not by cars. With no driver, there’s nobody to fall asleep at the wheel, answer a phone call, or decide it’s safe to speed down a street where children play. Automated vehicles go strictly by the book. And each vehicle is equipped with at least three different safety systems; even if one malfunctions, another will guarantee safety.
**Can they go in traffic? They look like toys.**

They won’t race in Formula 1 any time soon, but, when permitted, they can travel at 40 km/h. The main barrier to their mixing in traffic is the law. At present, the technology is set to keep them at low speed (up to 10 km/h) around pedestrians and cyclists since the road-vehicle certification procedure does not yet contemplate driverless vehicles sharing the road with cars, trucks, and buses. Cybercars can, however, be certified as a complete transport system, like a metro, and are thus allowed to operate with protected and segregated infrastructures (that is, dedicated paths and lanes). A more permissive type of certification is in the pipeline. The vehicles CityNetMobil uses remind many people of golf carts, but the same technology can move any vehicle, even buses.

**Are they environment friendly? How are they fuelled?**

Most emissions are caused not by the car but by the driver. Just removing the driver is a big step towards cleaner vehicles. These vehicles were created to be clean; they are either electric or hybrid or have very low environmental impact. They consume about half the energy per passenger needed by a bus and a fourth of that needed by a car.

**How does the system work?**

The passenger summons the vehicle either from a stop or from home and gives his destination. The vehicle is provided with an optimised route to take the caller and other passengers to their destinations as directly as possible. Waiting time at stops is usually less than three minutes.
Partners and contacts

CTL
Centro di Ricerca per il Trasporto e la Logistica
Università degli Studi di Roma La Sapienza
via Eudossiana 18
00184 Roma
Italy
Contact: Adriano Alessandrini
Tel. +39-0644585148
Fax +39-0623323074
adriano.alessandrini@uniroma1.it
www.ctl.uniroma1.it

GEA
Vallotton et Chanard SA
Rue de Bourg 28
Case Postale 6326
1002 Lausanne
Switzerland
Contact: Thierry Chanard
Tel. +41-213100140
Fax +41-213100149
info@geapartners.ch
www.geapartners.ch

INRIA
Institut National de Recherche en Informatique et en Automatique
BP 105
78153 Le Chesnay Cedex
France
Contact: Michel Parent, Program Manager
Tel. +33-139635593
Fax +33-139635491
michel.parent@inria.fr
www.inria.fr

POLIS
Promotion of Operational Links With Integrated Services aisbl
Rue du Trône 98
1050 Brussels
Belgium
Contact: Suzanne Hoadley, Membership Services Coordinator
Tel. +32-25056750
Fax +32-25056750
shoadley@polis-online.org
www.polis-online.org
In cities around the world, historical centres are losing residents, visitors, and business while private cars are causing pollution, congestion, noise, accidents, and dependency on oil. Yet despite improvements in public transport, people are still reluctant to give up their cars to take the bus, cycle, or walk, making the development of urban transport unsustainable.

The solution may lie in a new approach: small fully or partly automated vehicles as part of the public transport system providing passenger service for any location at any time.

**A new approach**

**Cybernetic Transport Systems (CTS)**

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**Cybernetic Transport Systems (CTS)**

Cyber systems shine in low- to medium-demand short-distance transport services both as feeders for the main public transport network and as shuttles linking car-parks to one or many destinations. Unless you live along a metro line or near a major public transport node, you probably use a feeder bus to reach the main line. These buses are infrequent except at peak time, when they are crowded and get stuck in traffic. Most people would prefer to travel by car.

With no drivers, cyber systems can use many smaller vehicles instead of one big bus to provide faster, more reliable service. On the down side, if you've been using your daily commute to read War and Peace, you may never finish it.

When can I expect to see a Cybernetic Transport System in my city?

There are several systems running or under construction. They are not as widely used as they could be both because they are not known and because they require a change in behaviour on the part of citizens and city administrators.

But CityNetMobil is here to help you get a Cybernetic Transport System for your city as soon as possible.