



### Consortium:

The **EXPERT** consortium brings together a team of European leaders in software development (Easytech, Cluetec), engineering (THAUMAT), and business consulting (Inmark); along with a top research institute worldwide (Fraunhofer IOSB).



For further information about **EXPERT**, please refer to our webpage or contact us by email.

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**EXPERT** system for a more energy  
Efficient Road Transportation



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# Ecodriving complete solution for goods and passenger transport companies

## EXPERT OPERATION

The EXPERT system will operate as follows:

Data acquired from different sources, both on board vehicles, and arriving from the transportation company's information system, will be processed in real time and presented to drivers by a user friendly interface named the "EXPERT Co-Pilot". Alarms will be presented to drivers when inefficient driving situations are detected, and hints will be offered to improve performance.

Results obtained on board trucks and buses will be sent to company headquarters using wireless communication so immediate actions can be taken if required. Finally, all data received at company headquarters will be stored in a central database that will provide detailed information on performance per truck and driver, leading to an overall best practices attitude within the company.

**EXPERT (EXPERT system for a more energy Efficient Road Transportation)** is a research project carried out under the EU EUROSTARS umbrella aiming to develop a proactive system that reduces fuel consumption in transportation companies, thus promoting the Driving Efficiency, a concept that refers to the use of behaviors and techniques that drivers can apply to optimize their automobile fuel economy.

## THE ROAD TRANSPORTATION SECTOR

The professional road transportation sector is essential to guarantee Europe's growth, and to achieve a better territorial cohesion. Nevertheless, the sector's energy consumption has an outstanding impact on the global energy consumption, on companies cost structure, and on CO2 and other pollutant emissions.

It is therefore essential to boost this sector's energy efficiency and reduce its energy consumption, in order to improve competitiveness and to guarantee sustainability. Besides alternative fuels, many studies emphasize the importance of 3 factors to achieve this objective: :

- Adapting new driving habits, as many scientific papers conclude that up to 20% fuel savings can be obtained by a more efficient driving.
- Proper mobility management, optimizing routes and resource assignment
- Following maintenance plans rigorously, assuring vehicles always in optimal conditions.

The EXPERT project focus on these 3 key aspects, developing a set of proactive tools that will help in achieving an optimization in the performance of road transportation as well as minimizing its harmful effects.

## EXPERT COMPONENTS

**CAN-Bus:** (Controller Area Network) is a high-integrity serial data, and current standard in the automobile and professional vehicle industry. A significant part of the vehicle data (RPM, speed and gear, among others) is available in the CAN-BUS, though as specific pieces of data in a continuous flow of bytes.

**TACHOGRAPH:** It offers key information on driver identification and activity, speed, and distance covered. As with CAN-Bus, EXPERT is developing a hardware interface to the Tacograph bus.

**GREEN BOX:** Located in the vehicle cabin, it is wire connected to the Can-Bus Interface and the Digital Tacograph Interface, providing a GPS module, and wireless two-way communications.

**Co-PILOT:** An interface designed for the driver to aid in achieving fuel efficiency by analyze information obtained from other system components stored in the Green Box, and display warnings and hints to drivers when inefficient driving situations are detected.

**INFORMATION SYSTEM:** Located at company headquarters, it is responsible for the two way communications with vehicles. Its goal is to promote a positive corporate attitude towards fuel efficiency, leading to continuous involvement of all company members.



EXPERT represents an effective way for partial reduction of CO2 emissions with immediate possible effects to the environment.

