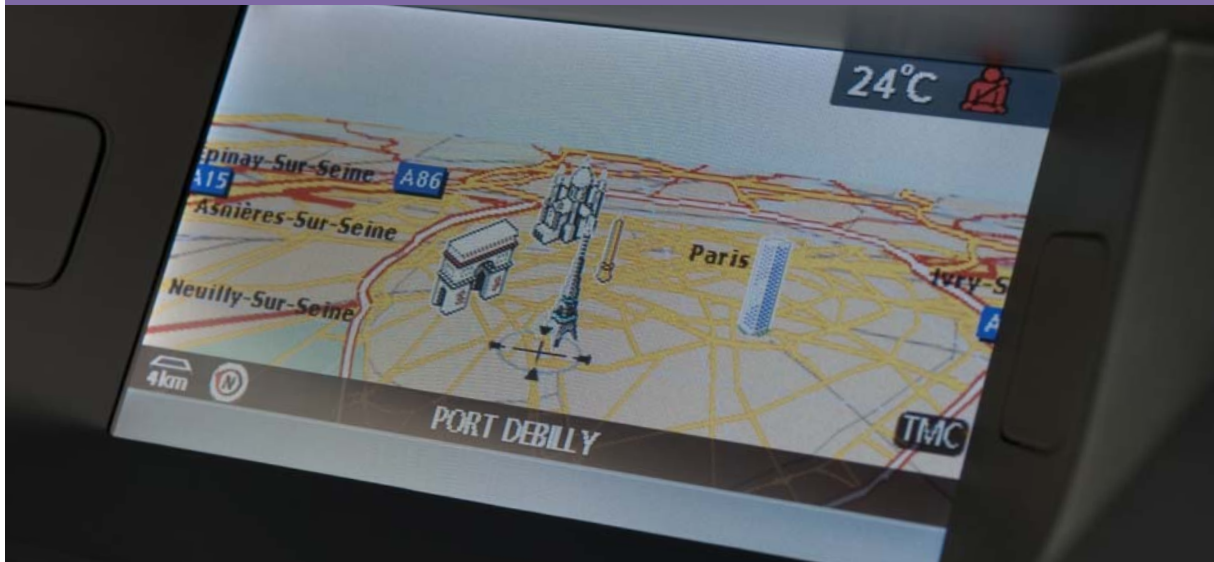




The e-vehicle the communicative car

After the home and the office, **the car has become our third living space**. The idea of the e-vehicle is to offer the driver an environment comparable with that of his living room or office, while adapting it to the requirements of driving. In addition, the fact that the vehicle can become communicative also opens the door to remote management of the state of the vehicle, by permanently monitoring its critical components and alerting the driver in the event of a problem.



RENAULT COMMUNICATION



BASIC FACTS

Cars have become an extension of our homes. However, the current trend of equipping them with technologies which are familiar to us such as telephones, video, computers, etc., is sometimes carried out in an opportunist way, with the risk of distracting the driver from the road. The idea of the e-vehicle is to equip the car with an environment that reconciles techno-

logical evolution, communications, comfort and safe driving. But often, the problem is reduced to management of the priority of information transmitted to the driver, and delivering it to him at a convenient moment without his having to take action. Currently, for example, if a mobile telephone rings in a car, the driver must lower the volume of the car radio, ●●●



●●● adjust his hands-free kit, etc. Already, just equipping the car with a wireless Bluetooth connection to automate the radio/telephone switching function provides the beginning of a solution.

But to play an active part in safety improvement, it is essential that new equipment is capable of “conversing” with the outside world to inform the driver of the existence of a risk before he is even confronted with the danger. Already, devices like Carminat Navigation and Communication (see sheet) are a response to the need to deliver information on the state of traffic and, in particular, on the existence of traffic jams.

For Renault, the concept of an e-vehicle must go much further, integrating the ability to permanently and remotely monitor the operating condition and safety of the vehicle. For a fleet manager, the interest is in being able to optimise fleet tracking processes (maintenance, incident immobilisation); a trial is currently being carried out in collaboration with S2V on some of the taxi pool vehicles at the Technocentre. But there is also an advantage on the quality side – initially for the manufacturer, in tests before the vehicle comes to market and then later for customers, to be able to rapidly detect dysfunctions and understand them as fast as possible. This will

make it possible to quickly make the necessary adjustments and limit the number of vehicles concerned. And to sometimes even be in time to eliminate all risk of an “immobilising” failure.

This remote monitoring of the state of the vehicle may well go hand-in-hand with personalised maintenance – to roll out shortly. Soon, maintenance servicing will no longer be related to the mileage of the vehicle but will be a function of the vehicle’s use. To be able to monitor the state of vehicles remotely is an advantage in terms of this transition.

Finally, the improvement of comfort will involve the installation of specific connections in the cabin, enabling each user to interconnect personal equipment with that on board the vehicle. This may be, for example, connecting an MP3 or personal video player to the car radio or car video screens. Opening the car up to telecommunications will also make it possible to download films or to follow live broadcasts. Lastly, enabling the car for Internet will be as much of interest to professionals who need to keep in touch with their company as to holiday makers who want to reserve a hotel room, or obtain supplementary information delivered by Carminat Navigation and Communication.

> HOW DOES IT WORK?

The basic idea of the e-vehicle is to substitute a single centralised system for stand-alone items of equipment, able to combine their functions either through integration or connection of mobile devices, and to ensure its automatic management. By releasing the driver from manual control and giving priority to essential information, it increases driving safety. For remote monitoring of the state of the vehicle and deployment of personalised maintenance, a computer will recover the data from a CAN bus, which handles all current vehicle electronic management information and, after sorting and memorising the most significant “events”, regularly uploads them to a central server.

IN SHORT >>>

The e-vehicle will exploit the triptych formed by the association of telecommunications, interconnection of electronic products and management of the priority of information supplied to the driver, to optimise comfort and driving safety.