

The automobile of the future on the way

January 21 2005

ROBOTIKER-TECNALIA Technological Centre is currently developing the project known as TANGER (Technologies for New Generation Automobiles). These technologies will integrate novel and innovative solutions into new automotive products centred at the point of driving. Within its strategy of product and processes design and development, ROBOTIKER-TECNALIA have taken a clear decision to technologically enhance the point of driving, this being the centre of control of the vehicle, taking in both the driver and the elements with which the main decisions for its optimum operation are taken.

This initiative from ROBOTIKER-TECNALIA is in line with the concept of Environmental Intelligence for the Automobile, the vehicle being considered an item which has to be equipped with high levels of connectivity and intelligence and which also interacts with its environment in a conscious manner. Thus, the automobile of the future will be a receiver of information that will respond accordingly and provide the necessary means for the response, but it will also fulfil the function of advising its surroundings and causing others to respond to possible adverse circumstances.

The project will be designed starting with that which is closest to the driver (seating module, controls, etc.), which will enable all the basics for subsequent development to be defined, and then going on to more overall systems such as air conditioning and communications, and finally the physical limitations of the floor, roof, doors, and so on).

This method, applied at ROBOTIKER-TECNALIA, takes into account

both virtual and real design and, in order to test the technologies, an evaluation platform for both physical and virtual demonstration is currently being constructed, thus becoming a meeting point for the demonstration of developments carried out in our industrial environment.

The innovations provided are basically threefold:

- **Security:** Design of the product for the protection of the driver and passengers, application of technologies regarding active safety, vehicle communications via secure manufacturing processes (quality control).
- **Comfort:** More options and more freedom of action. Electronics for entertainment, more comfortable air-conditioning systems, ergonomics, enhanced features and performance, user recognition and location. Enables the complete adaptation and customisation of the vehicle. Greater freedom of decision-making and action through the incorporation of vehicle communications systems with other, outside, systems that provide an interchange of information that is useful to the driver and passengers (route information, telephone connection, ITV, etc.).
- **Sustainability:** Life cycle of systems and components, lightweight systems and ensembles, advanced concepts of energy efficiency (e.g. regenerative brake energy system), life cycle and sustainable operation processes, concurrent engineering and other methodologies as regards the efficiency of design processes.

To tackle all these objectives, ROBOTIKER-TECNALIA will work in the following fields:

- **Mechanical systems:** design of devices and their dynamics and cinematics, fluid dynamics and its application to hydraulics and

pneumatics

- Control systems: electronic systems, control systems for components and their sensors, informatics and software
- Electrical systems: motors, wiring, electrical circuits and distribution
- Connectivity elements: bluetooth, radio, infrared, etc.

Source: Elhuyar Fundazioa

Citation: The automobile of the future on the way (2005, January 21) retrieved 27 April 2024 from <https://phys.org/news/2005-01-automobile-future.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.