



SIXTH FRAMEWORK PROGRAMME

# ***Advanced City Cars***

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# Advanced City Cars

- **Advanced City Cars (ACC)**

- *city vehicles with zero or ultra-low emission and driver assistance systems such as ISA, parking assistance, collision avoidance, stop&go, etc. Access control for car-sharing services*

- **Dual Mode Vehicles (DMV)**

- *As ACC but able to support also automatic driving, limited to platooning for relocation of shared cars or fully automated as Cybercars*



# ***Benefits of Adv. City Cars***

- City-friendly (low emission, small, ...)
- Safer, efficient, reduce congestions, improve manoeuvres
- Improve mobility
  - Elderly and disabled people
  - Historical city centres
- New mobility concepts
  - Advanced car sharing
  - Dedicated e-lanes
  - Cybercars



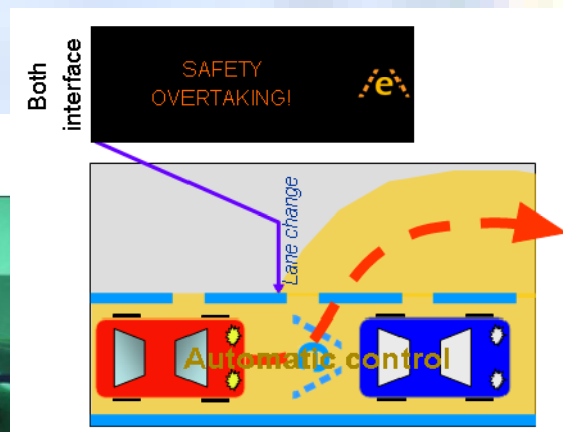
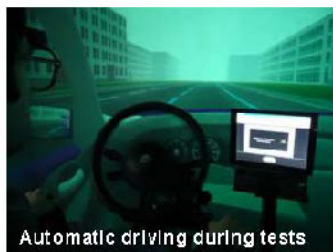
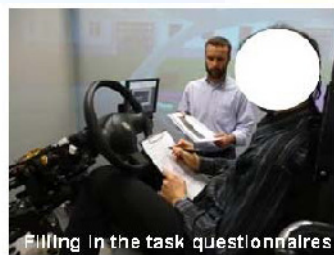
# Advanced Car Sharing

- Vehicle use is optimised, when parked the vehicles are always available
- The same number of vehicles could serve a larger number of users
- Less costs, better services
- Extra costs limited to dedicated lane and platoon drivers



# Human factors

- How does the driver interact with CityMobil vehicles like Advanced City Cars and Dual Mode Vehicles?
- How should the interface design for CityMobil vehicles look like?



- Comparison of two interface design variants for a dual-mode vehicle on an eLane with acoustic and acoustic + vocal commands

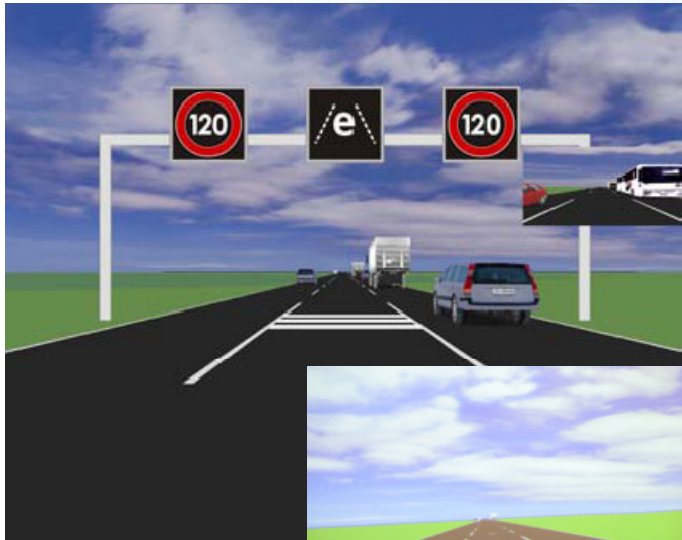
# Human Factors

- How do drivers react to unusual and critical events when driving highly automated on an eLane?



# Human factors

- Interaction design and evaluation for a dual-mode vehicle driving on an eLane in a simulator and on a test track



# Prototypes developed

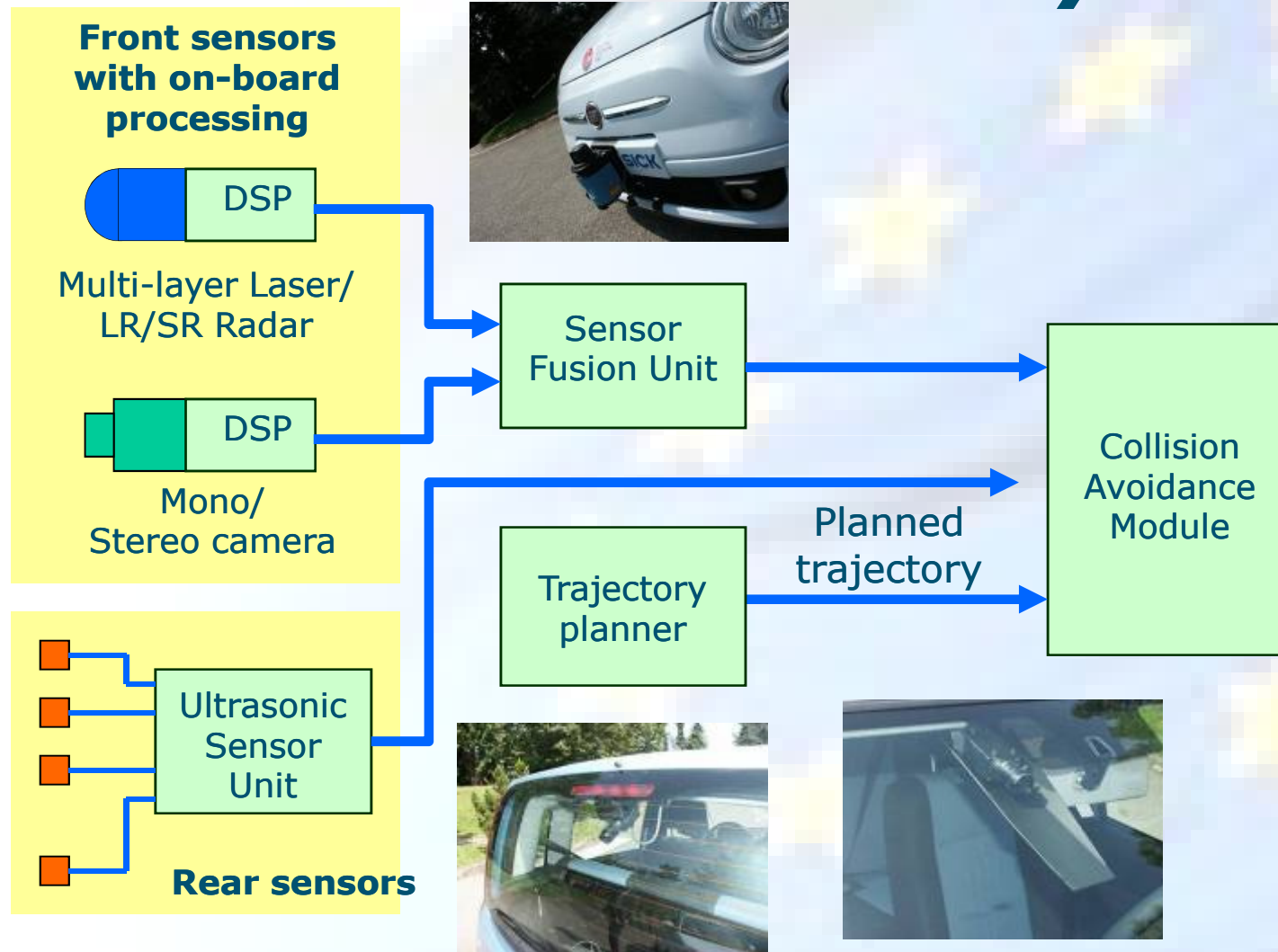


**Based on standard vehicle with modified**

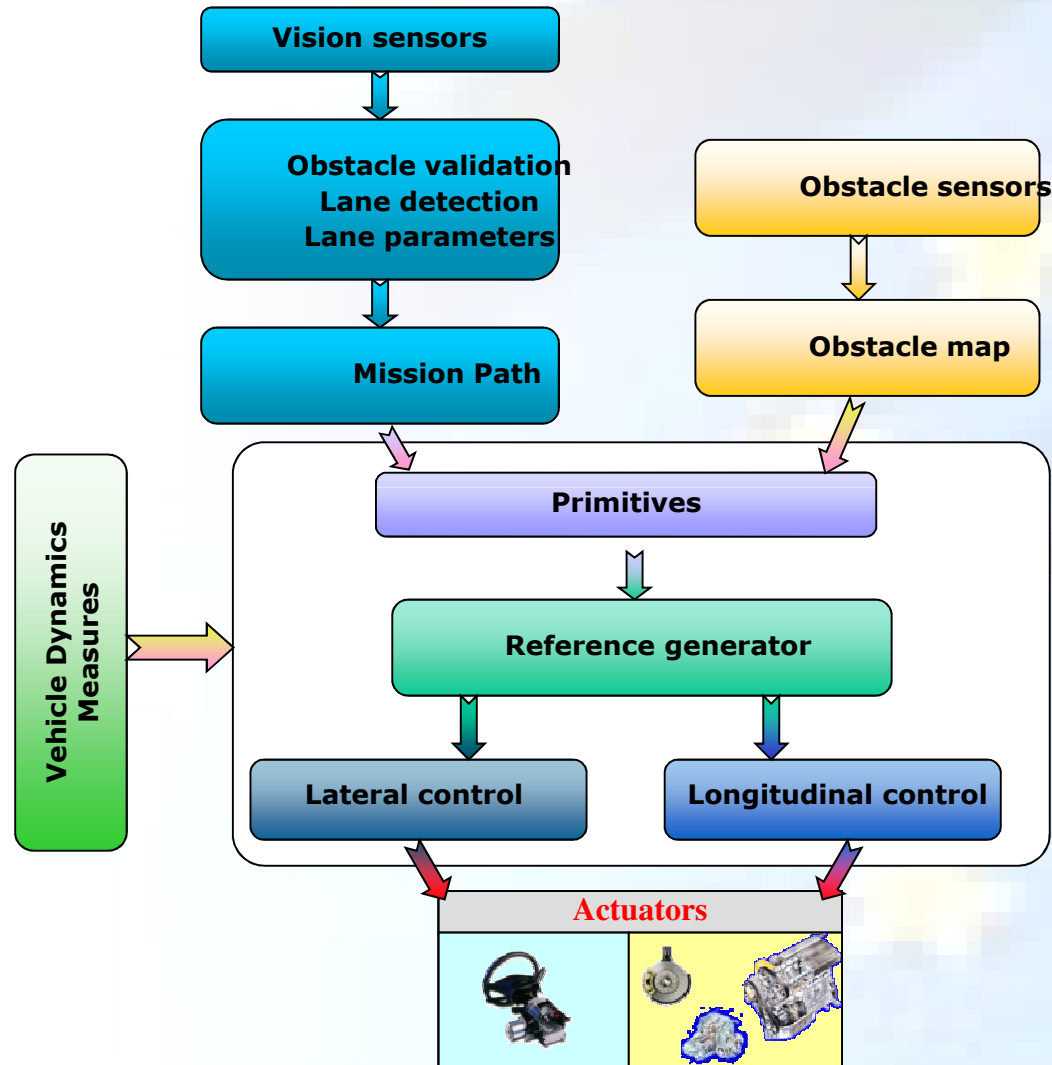
- Power train
- Steering, brake
- ADAS - sensors
- HMI



# Sensing system



# Guidance control



# *Test and showcases*



*Test Track*



*La Rochelle 2008*



*Orta 2010*

# Concept Fiat MIO



- Concept based on 11.000 ideas from 17.000 people from 170 different countries

- Features includes driverless guidance in dedicated lanes, on route charging, four wheels electric drive.



# Thanks for the attention

## Advanced City Cars

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- *Fiat Mio exhibited in Turin for the Italy 150<sup>th</sup> anniversary, until November 2011*

