Automated Urban Transport
CityMobil Project (2006-2011)

Michel Parent
INRIA-IMARA
michel.parent@inria.fr

CityMobil (2006-2011)

- Integrated Project (11M€ from EC-DG12)
- Analyses of Automation in Transit
- 3 major demonstrations:
  - Heathrow (PRT)
  - Rome (Cybercars)
  - Valencia (ABRT)
- Showcases

Cybercars Story

- Premiers concepts en 1990's (Serpentine, Dedale, Frog, ULTra,...)
- Premiers prototypes en 1990's
- Première exploitation en 1997
- CyberCars/CyberMove en 2001
- Demonstrations Antibes en 2004
- MobiVIP (2004)
- CyberC3 (2005)
- CyberCars2 (2006)
- CityMobil (2006)
- Cristal (2007)
- CityNetMobil (2008)
- CityMobil2 (2012?)

Demonstration ABRT - Castellon - Spain

Castellion ABRT

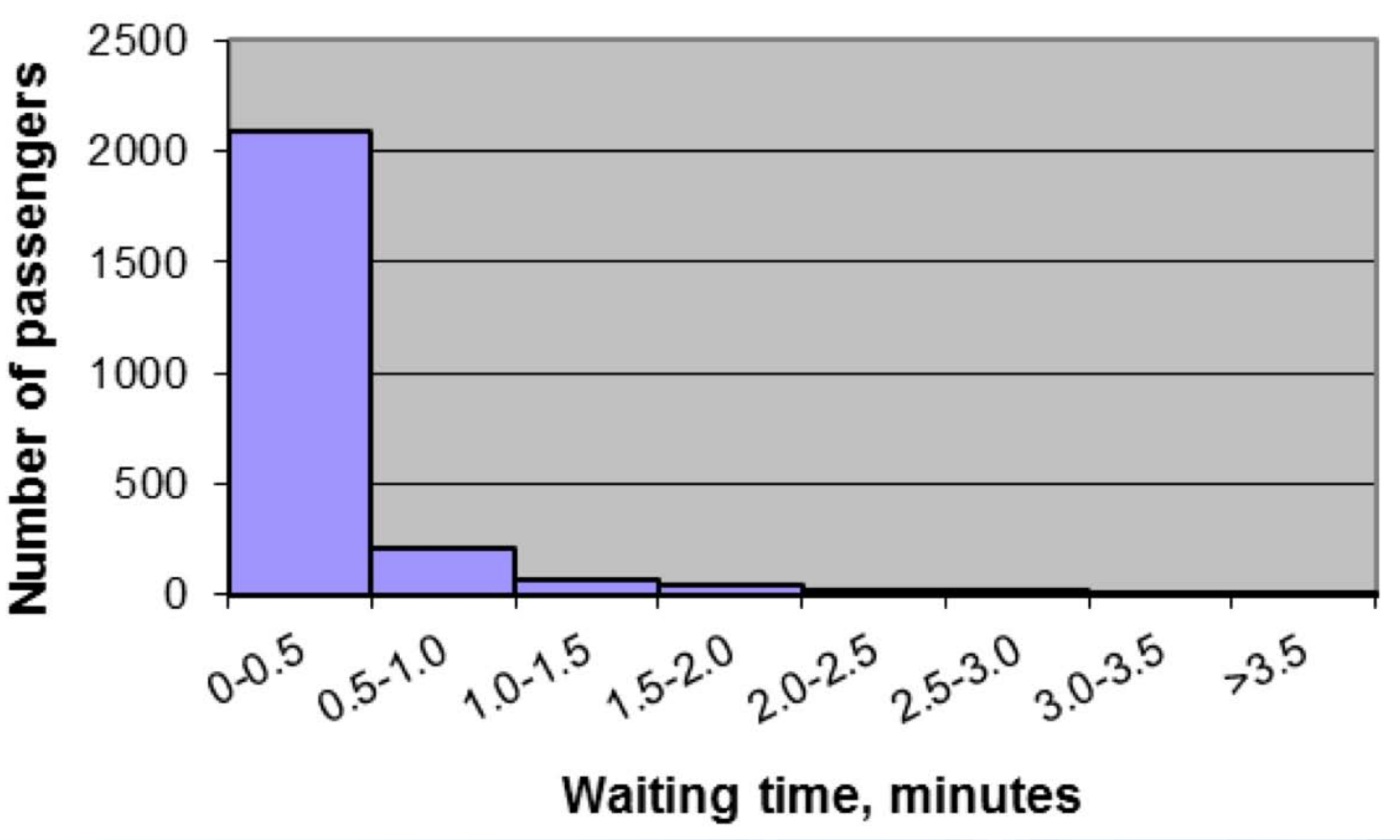
Lessons Learned

- High cost due to city remodelling but cheaper than a tramway
- Flexibility in the implementation and in the route
- Excellent acceptation by the public
- High quality of service
- Good acceptation by the drivers

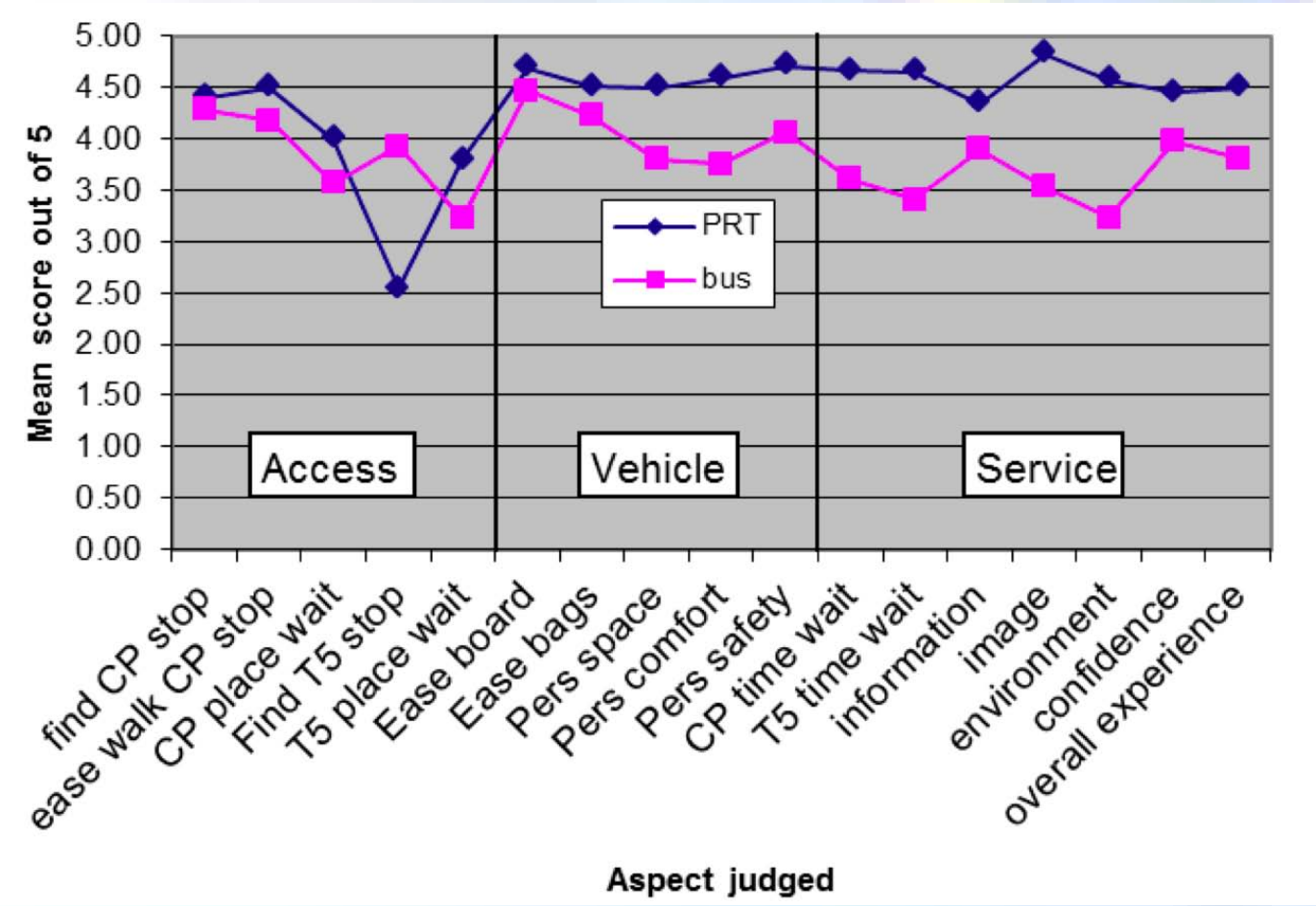
ULTra in Heathrow

Terminal 5 Station

Heathrow waiting times



Heathrow Quality of Service



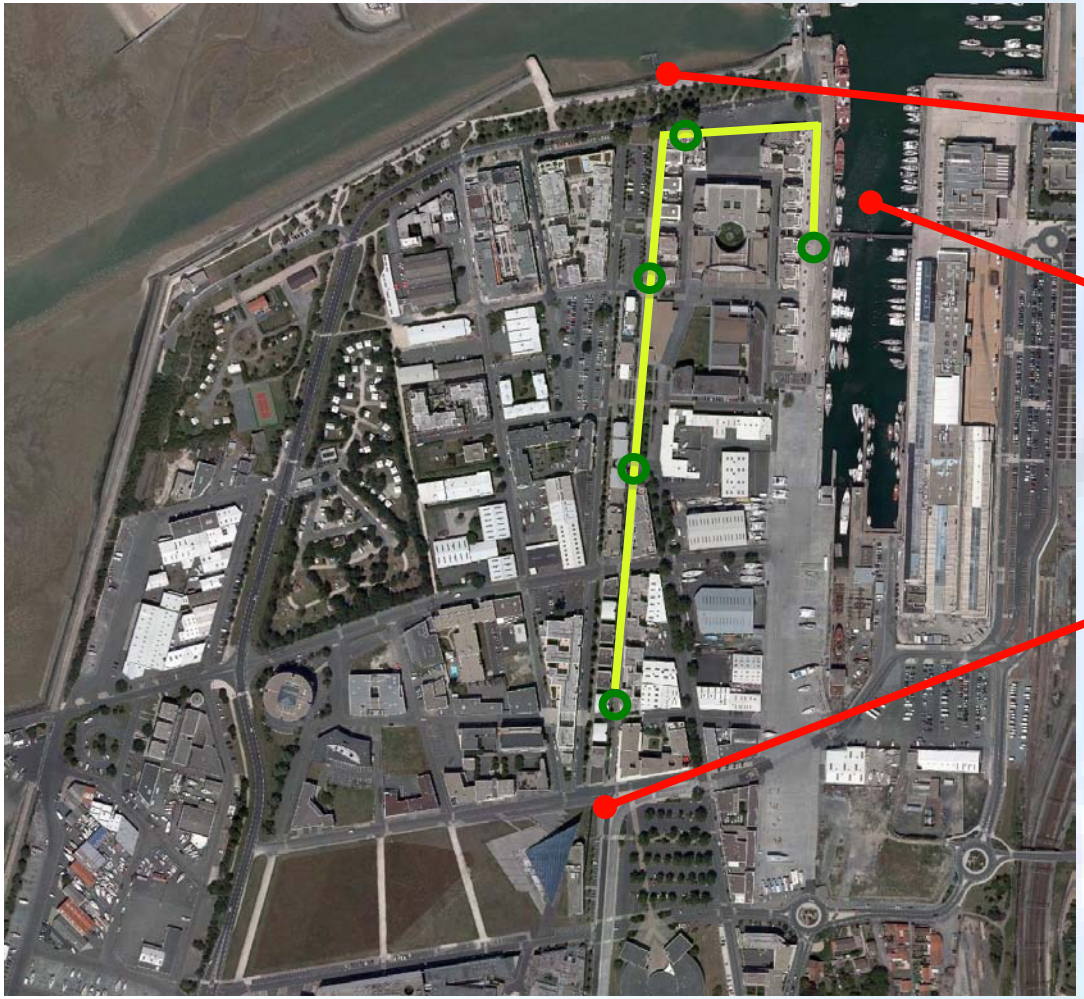
Lessons learned

- Long development on the site (technology was immature)
- Difficulties in the certification
- Ease of deploying the infrastructure
- Excellent quality of service
- Excellent image for Heathrow

Cybercars

Rome demonstration

La Rochelle: site



Electric boat harbour

Museums area

Technoforum (University area) / BRT line

SAUF BUS
BUS

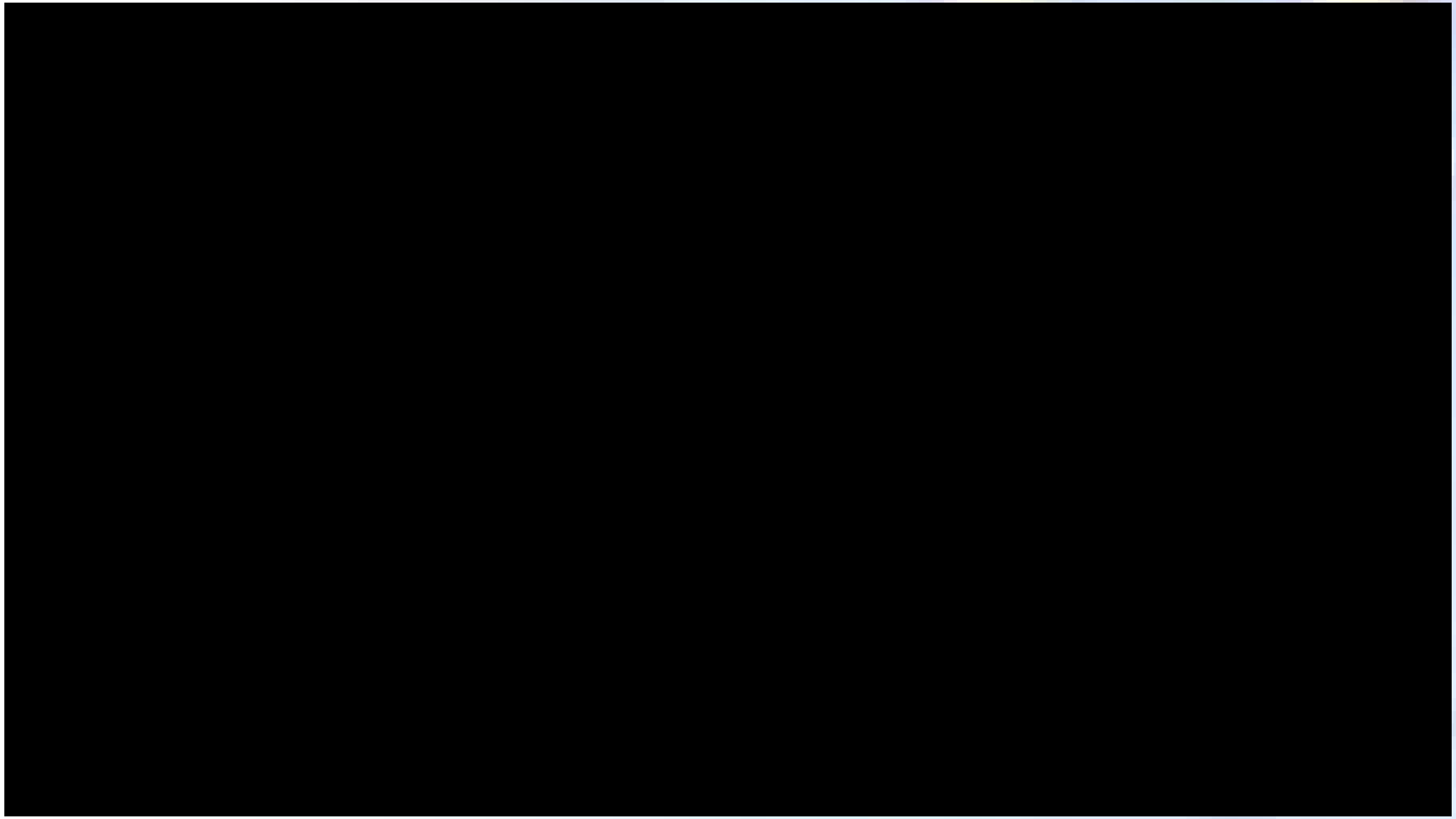
mov'eo
mov'eo
mov'eo

Floriades (Amsterdam)

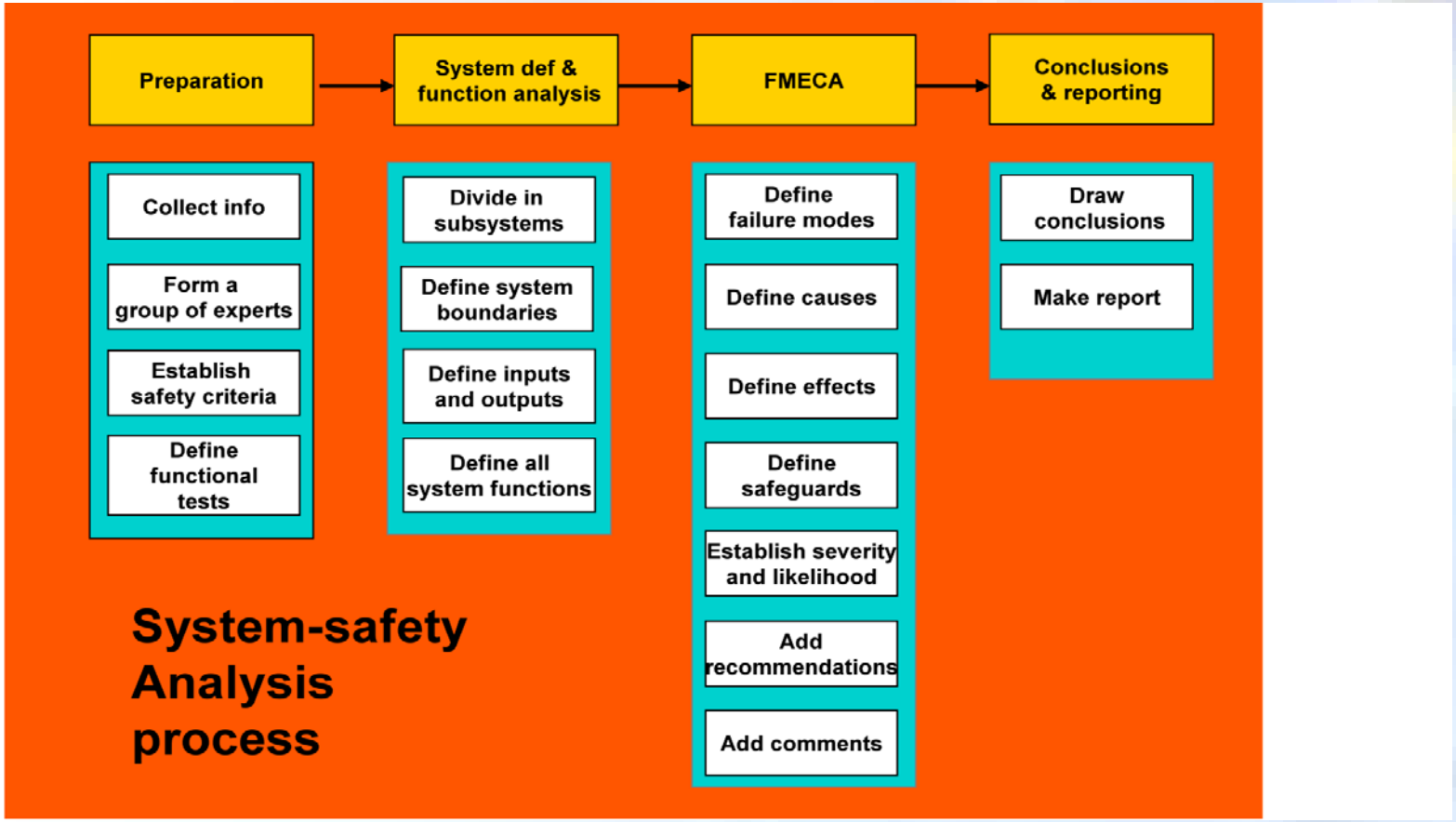
La Rochelle

CityMobil
Hallberg-Rassy
5242 YF 17
STO

INRIA CyBus



Safety Analysis

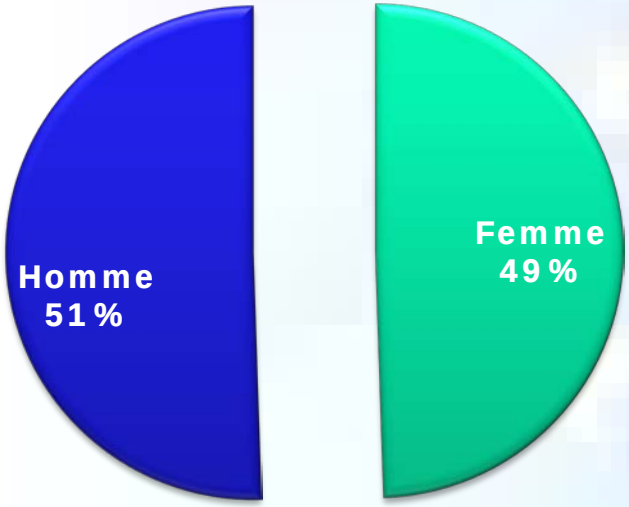


Accident

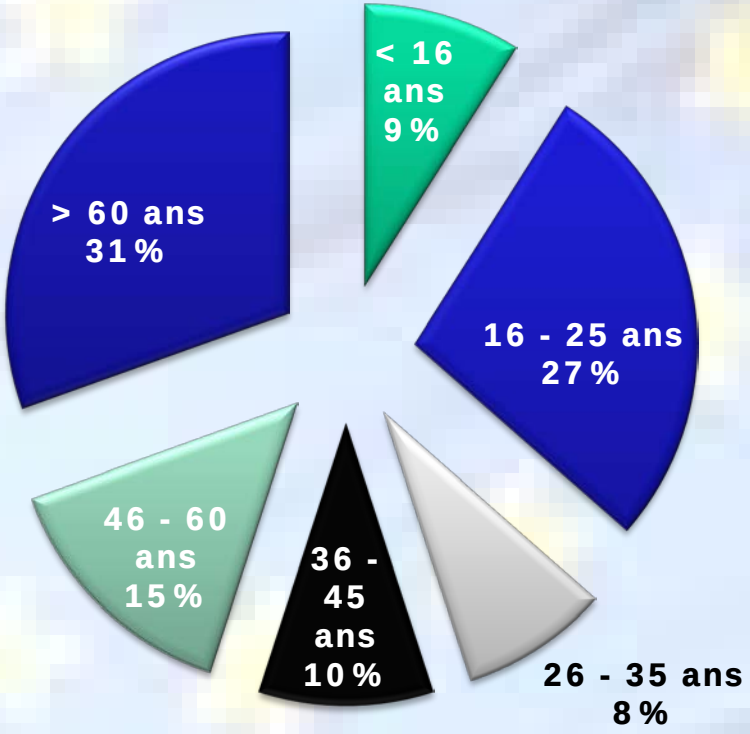
- **DATA COLLECTED MAI 20 TO JULY 30**
- **NB OF PASSENGERS *899***
- **NB OF INTERVIEWS *200***

USERS

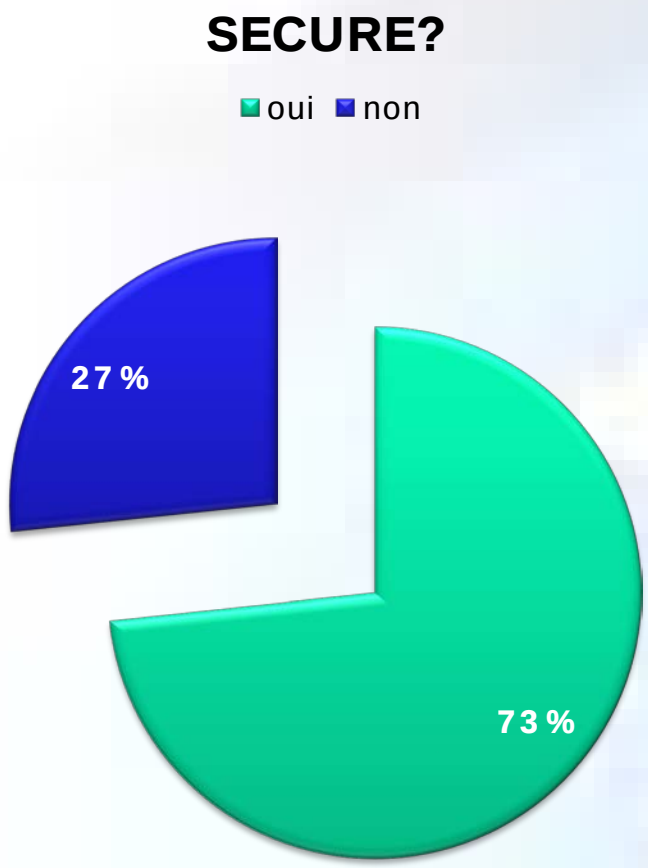
SEXE

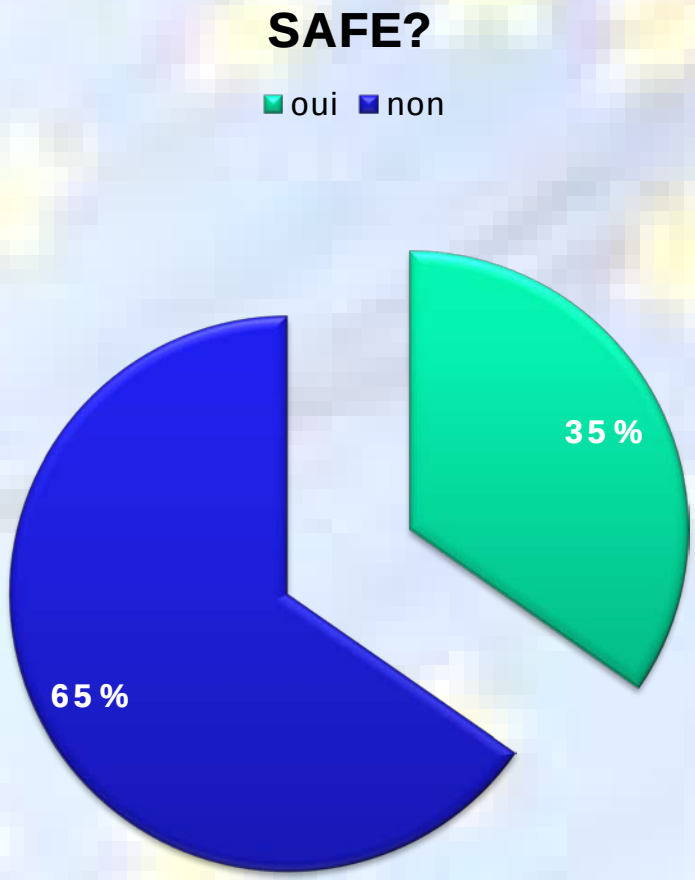


AGE

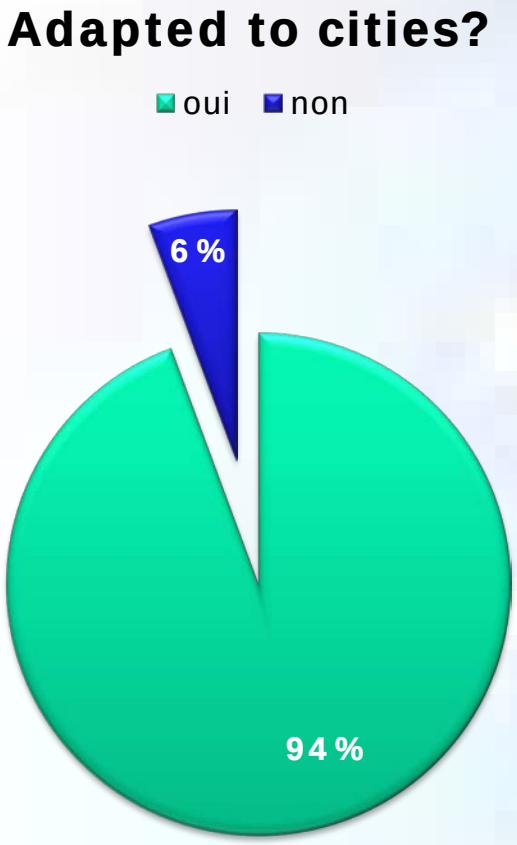


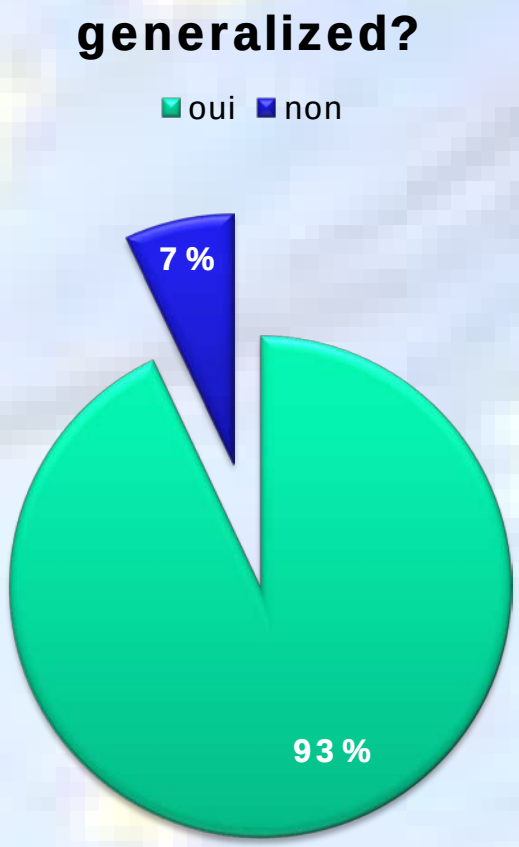
Feeling by Passengers





Cybercars in Cities?





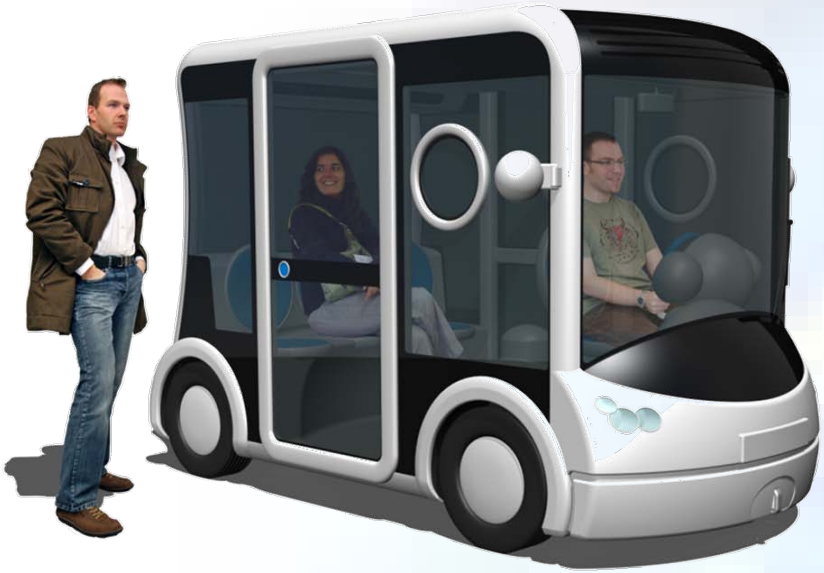
Lessons learned

- Cybercars are still under development but products exist
- Users are willing to use them
- Certification difficult
- No problem with insurance
- Need infrastructure adaptation
- Should segregate from most other vehicles

New Generation Urban Vehicles

- Well adapted to car-sharing
- Strong Drivers' assistance
- Full automation for:
  - Relocalisation (platooning or automated tracks)
  - Parking
  - Dedicated track network
  - Fleet Management

Cristal - Lohr



SST.2012.3.1-4. Automated urban vehicles
Level 2 - CP-IP - Call: FP7-SST-2012-RTD-1
Funding: Possibly 10M€

Content and scope: The aim is to develop a real scale test and validation platform showing that automated urban transport systems have the potential to become a self-sustaining service which can really attract car users and be an efficient passenger transport solution which is complementary to conventional public transport. A link to previous and on-going research activities (e.g. CITYMOBIL, CIVITAS, CYBERCARS II, EDICT, HAVE-IT and INTERACTIVE) should be established. The proposals should also consider the European ITS communication architecture. The following research actions will be covered:
Implement a large-scale pilot platform for technical and socio-economic test and validation in an urban environment.
Perform research activities using the pilot demonstration test bed; research into technical, financial/funding, and cultural aspects, ex-post evaluation, behavioural research (accessibility, pricing elasticity, preferences), effects on land use, effects on policy and how new systems could fit into existing infrastructures, the development of a common evaluation methodology, and ideally, investigation into how different system options could fit in different environments, e.g. Ground Rapid Transit (GRT) and Personal Rapid Transit (PRT) in new towns, historic, large and small cities, etc.
Carry out awareness campaigns. Awareness campaigns are seen as an integral component of the research to develop automated and space-efficient transport systems in order to promote the sustainability benefits of such schemes.

Merci

Michel.Parent@inria.fr

www.lara.prd.fr

www.citymobil-project.eu