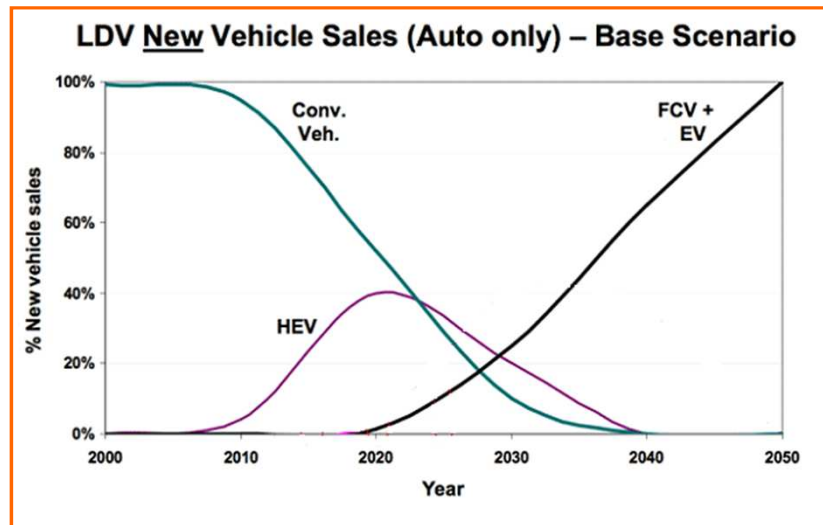


GC.SST.2011.7-2.
*Specific safety issues of electric
vehicles*

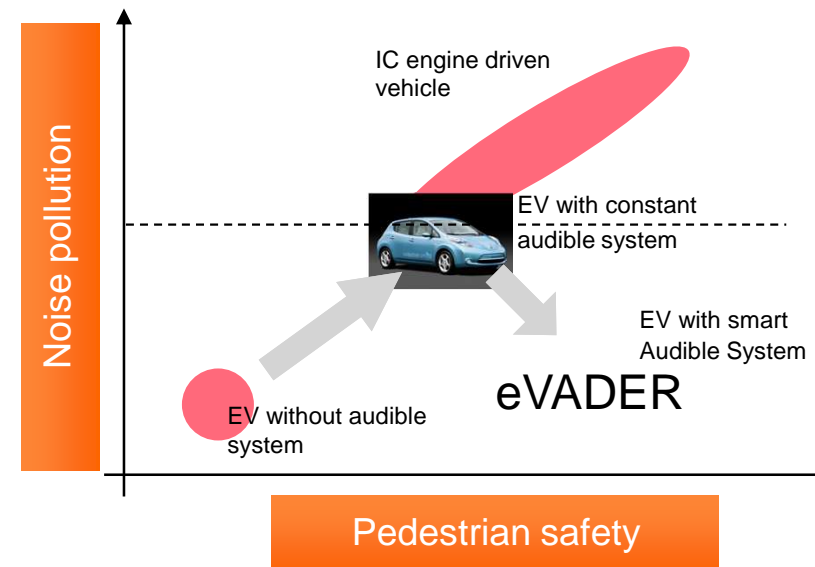
Electric Vehicle Alert for Detection and Emergency Response (eVADER)

An EARPA Project Initiative for FP7

Background: Current European research situation



A significant growing in the EV sales is expected



The objectives of the eVADER projects are to improve the pedestrian safety without to increase of noise pollution for the next EV generation

•Project Objectives

- Investigate the Interior and Exterior Sound Scape of Electric vehicles for safe operation, considering Driver's feedback, feasible pedestrian reactions, driver and pedestrian warning systems and Pedestrian Safety.
- **To get a comprehensive knowledge of the sound criteria for interior and exterior noise of EV with special emphasis on driver's feedback and pedestrian safety**
- **To achieve a high level of pedestrian safety in terms of the additional risk associated to the low exterior noise of EV**
- **Integration of IVSS data with warning signals for close-to accident pedestrian safety.**
- **The knowledge gained to be used for future applications on real traffic conditions**

•Project Innovations

- The eVADER consortium wants to provide all users (children, elderly, blind,...) a positive and concrete answer to highly reduce the safety risk that electrical and silent vehicles might cause for pedestrians
- **Project developed thinking in user's needs**
- **Project based on jury tests results and IVSS testing**
- **Search of optimal warning signal**
- **Optimisation of warning signal performance v.s. acoustic landscape**
- **Integration between IVSS, environment information and acoustic warning signal**

•PARTNERS – Consortium as a whole

Current partners

- IDIADA
- LMS International
- AIT
- TNO

R&D Centers

- INSA-Lyon
- Technical University of Darmstadt

Universities

- RENAULT
- NISSAN NTCE
- PSA

OEM's

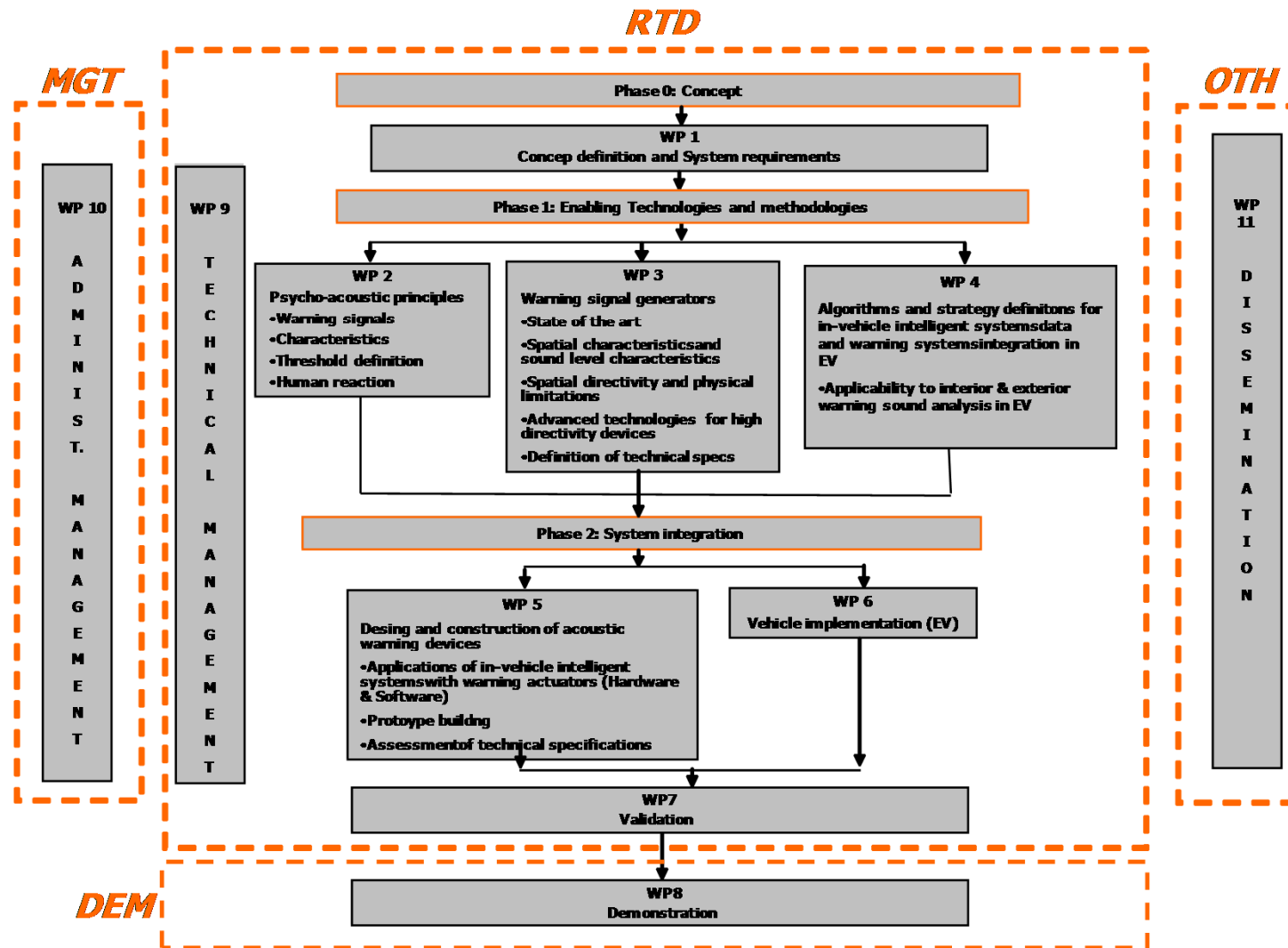
- CONTINENTAL

Tier-1's

- European Blind Union

End users

Project structure



Some effects of eVADER

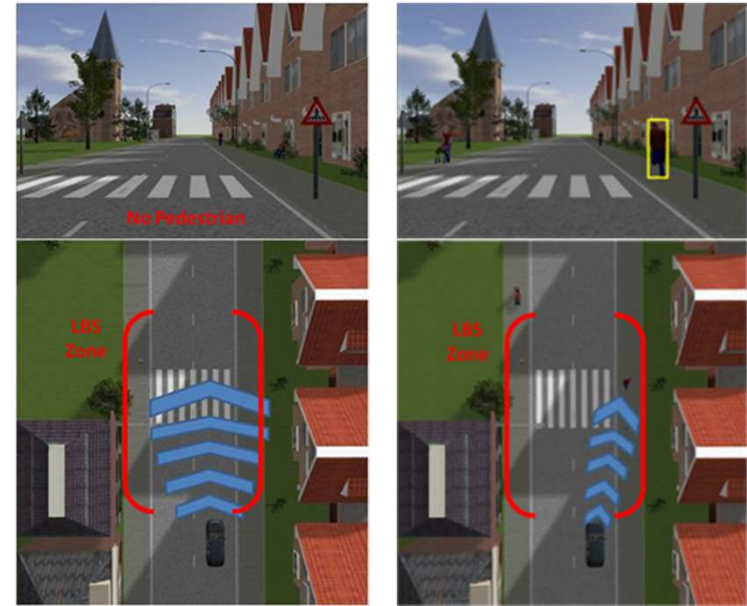
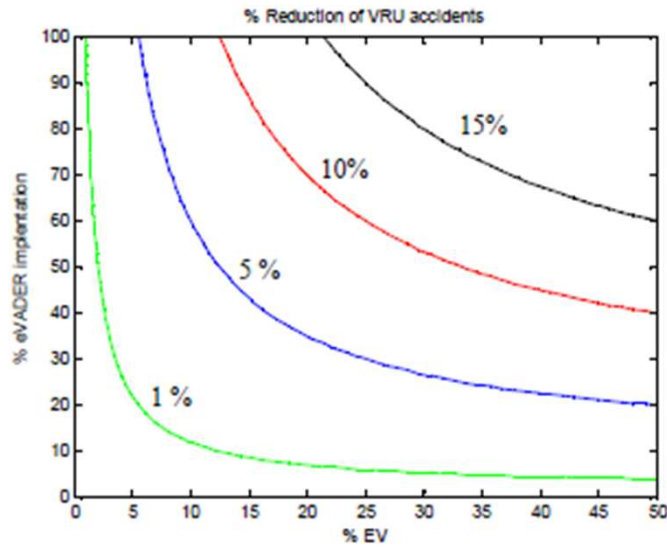
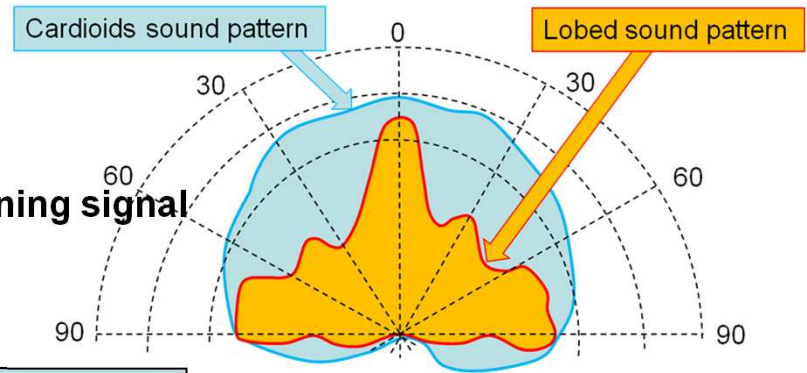
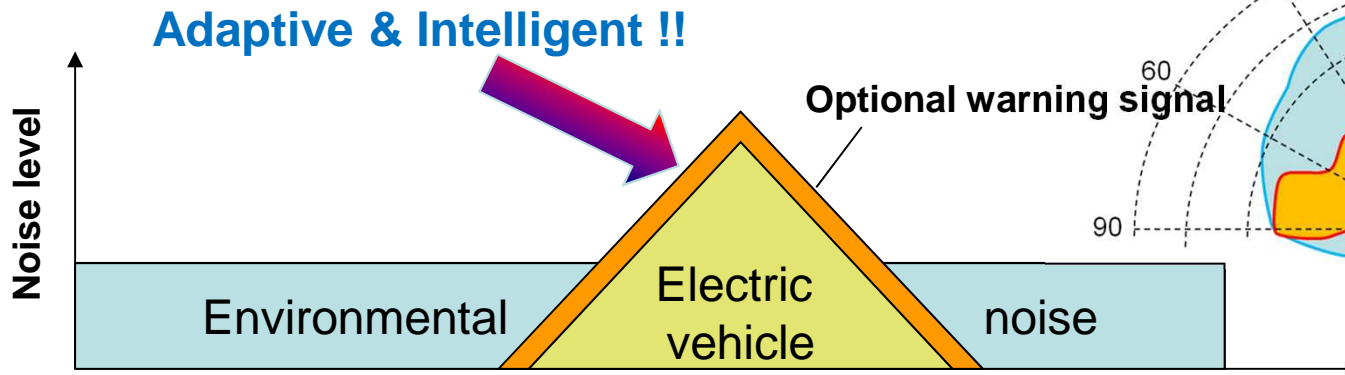


Figure 12: Contour plot of figure 11. Reduction of VRU accidents as a function of $(\%)_{EV}$ and $(\%)_{EV(+eVader)}$ for $K = 2$



Thank you very much for your kind attention

