

Accident avoidance by active intervention for Intelligent Vehicles



interactIVe - Challenges

Aria Etemad Ford Research & Advanced Engineering Europe



Vienna, 26 October 2012

## Project overview: Facts

Budget: EUR 30 Million

European Commission: EUR 17 Million

Duration: 47 months (January 2010 – November 2013)

Coordinator: Aria Etemad, Ford Research and Advanced

**Engineering Europe** 

• 10 Countries: Czech Republic, Finland, France, Germany,

Greece, Italy, Spain, Sweden, The Netherlands,

UK







### Consortium

OEMs

















Suppliers













Research





































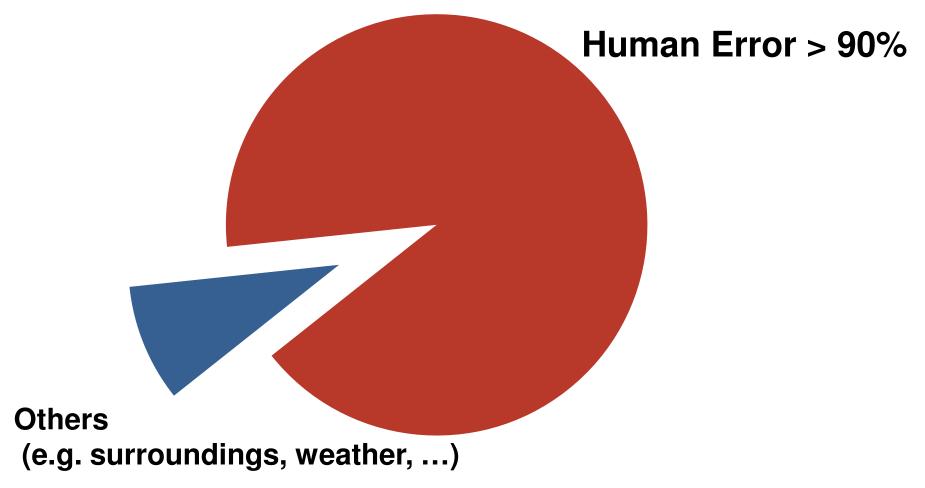
## Mission

The interactIVe vision: Accident-free traffic and active safety systems in all vehicles.

- Overcome the obstacle of independent functions and high system costs:
  - Integrated solutions
  - Affordable systems
- Consider all vehicle classes:
  - Build up seven demonstrator vehicles: six passenger cars & one truck



## Causes of accidents



Source: GIDAS Database



## Research concept







Increasing Hazard





Crash



#### **SECONDS**

Continuous driver support

#### INCA

Collision avoidance

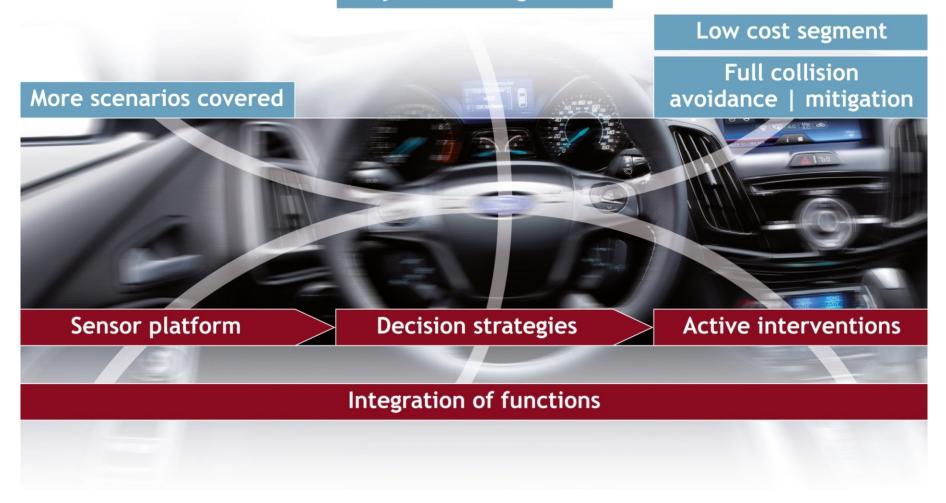
#### **EMIC**

Collision mitigation



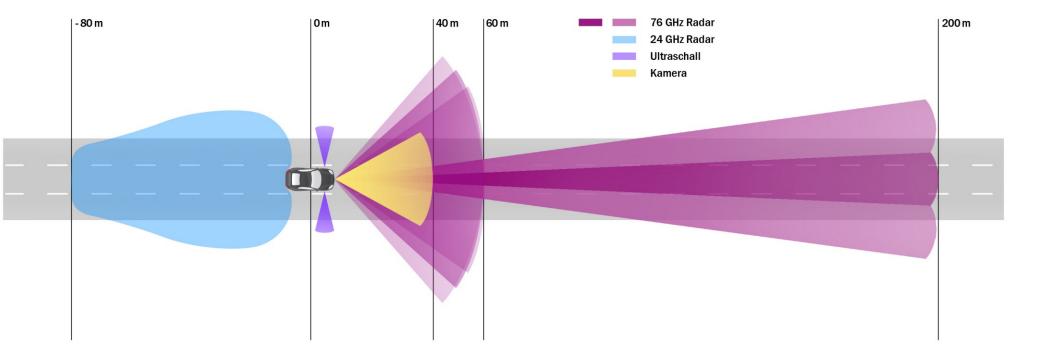
## Objectives

### System intelligence



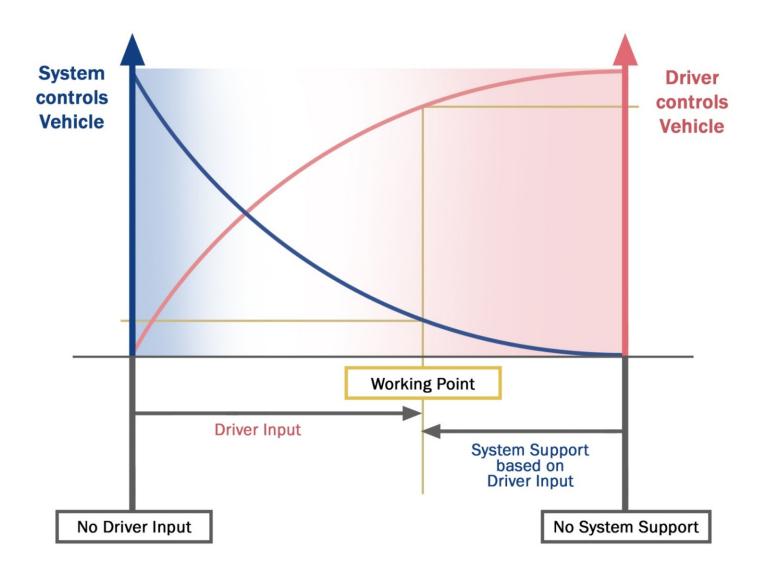


## Sensor concept





## Support: splitting driving task between driver and vehicle





## Seven demonstrator vehicles

BMW

Enhanced dynamic pass predictor

Fiat

Continuous support with focus on haptic HMI solutions

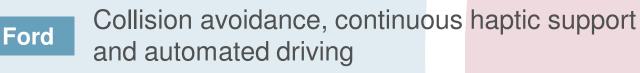
Volvo car

Collision avoidance, continuous support and SafeCruise











Collision avoidance and run-off road prevention by braking and steering, stability considerations for heavy vehicles





Collision mitigation with focus on cost-efficient sensors and algorithm approach



Emergency steering assistance with focus on radar/vision combination





## Timeline

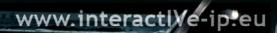
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Year 1 Year 2 Year 3 Year 4 Proposal and Product interactIVe Negotiations Development Use cases **Equipment of** Final event based on target demonstrators scenarios **Demonstrators** System ready for specifications evaluation System Results architecture



# Interactive ( )

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Thank you.

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