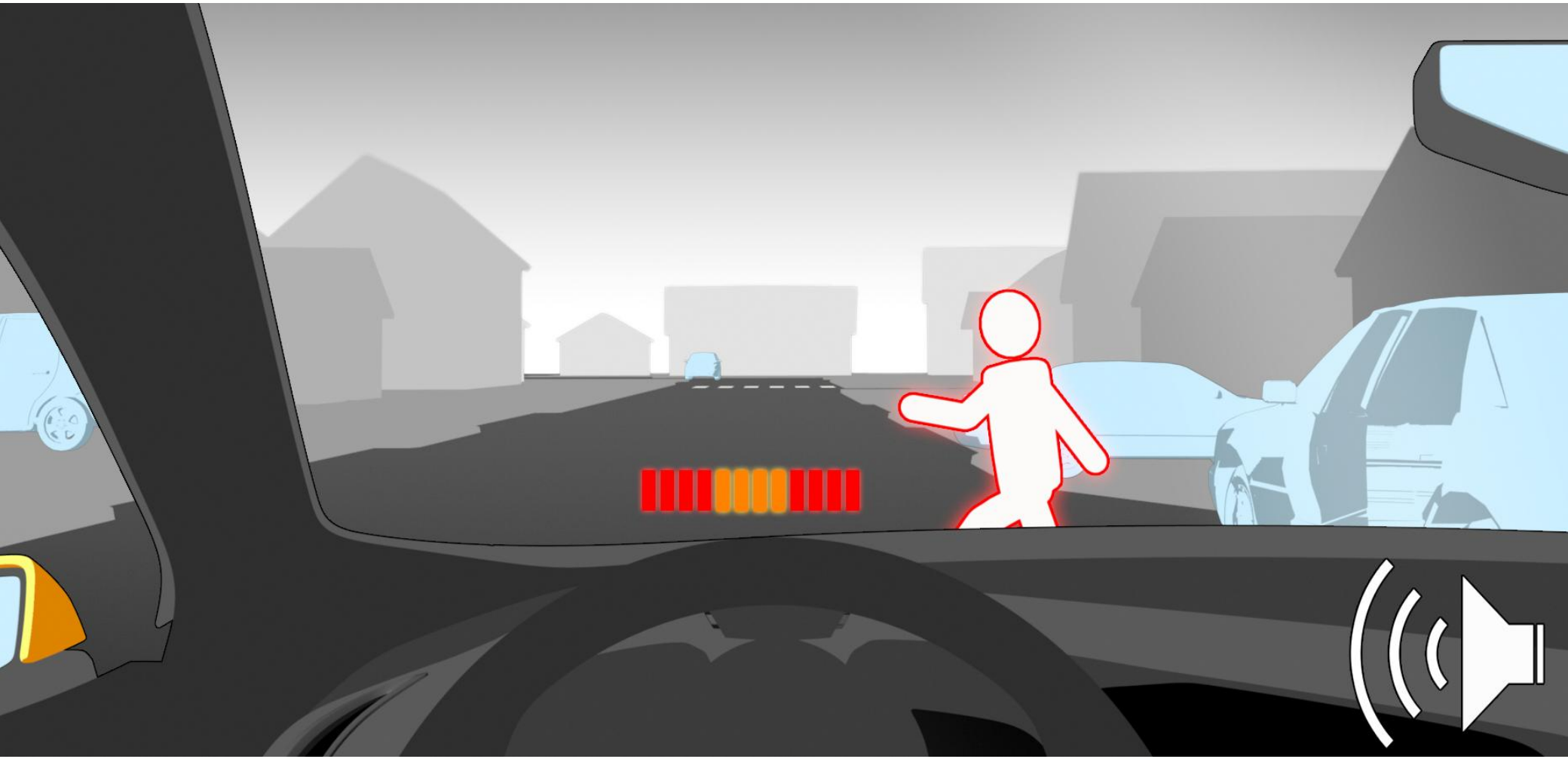
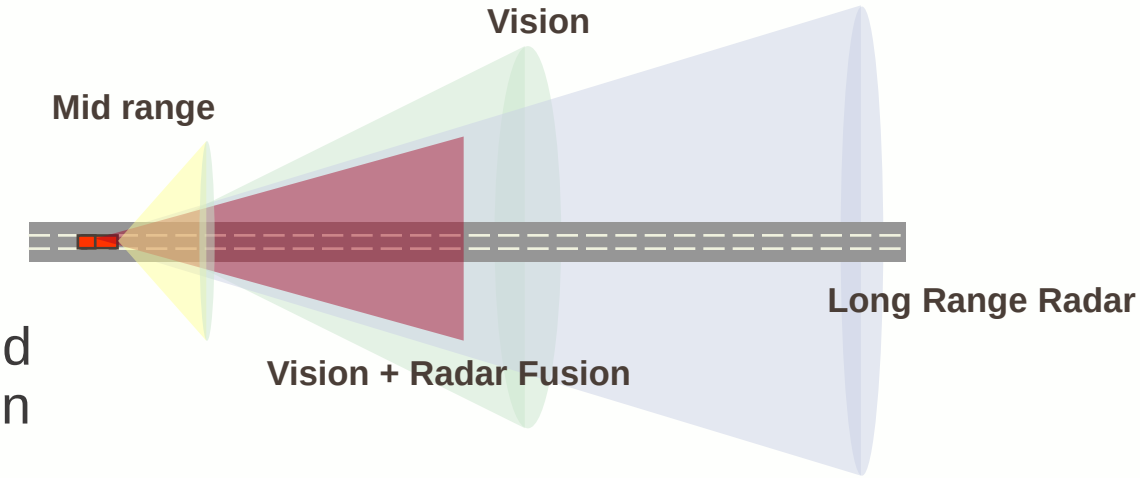
Pedestrian Detection and Braking Systems



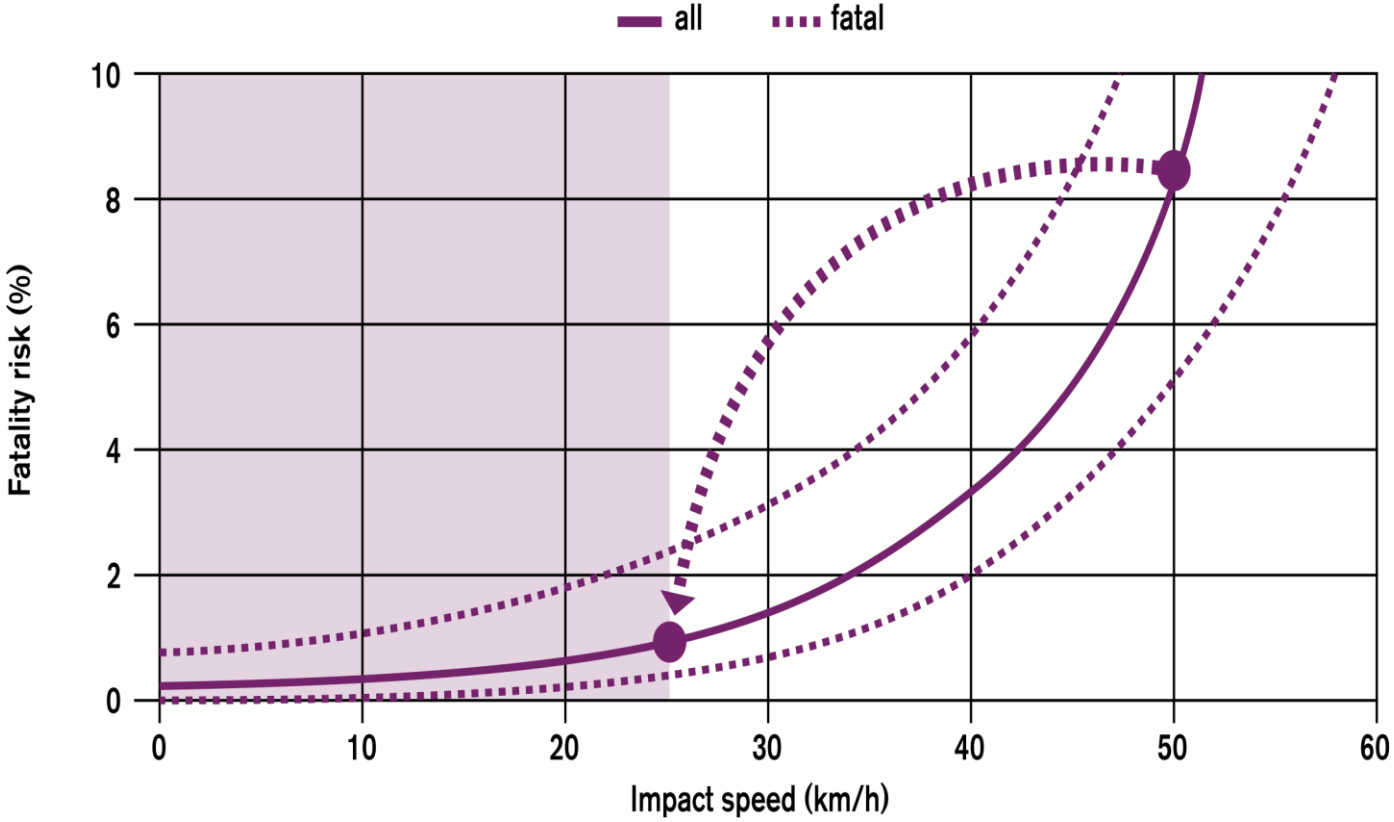
Pedestrian Detection and Full Autonomous Braking System



- The radar and camera scan the area in front of the car
- If the situation becomes critical - red warning flashes on the windscreen
- If you don't react to that warning, the car activates full braking power automatically
- Pedestrian accidents can be avoided for vehicle speeds lower than 25 km/h
- For higher speeds, impact speed can be reduced by 25 km/h

Pedestrian fatality risk

50 % of the pedestrian accidents occur in speeds below 25 km/h
Lowering impact speed from 50 to 25 km/h reduces fatality risk from 8 % to 1 %



*”Pedestrian fatality risk as a function of car impact speed”, Erik Rosén, Ulrich Sander, Accident Analysis and Prevention 2009

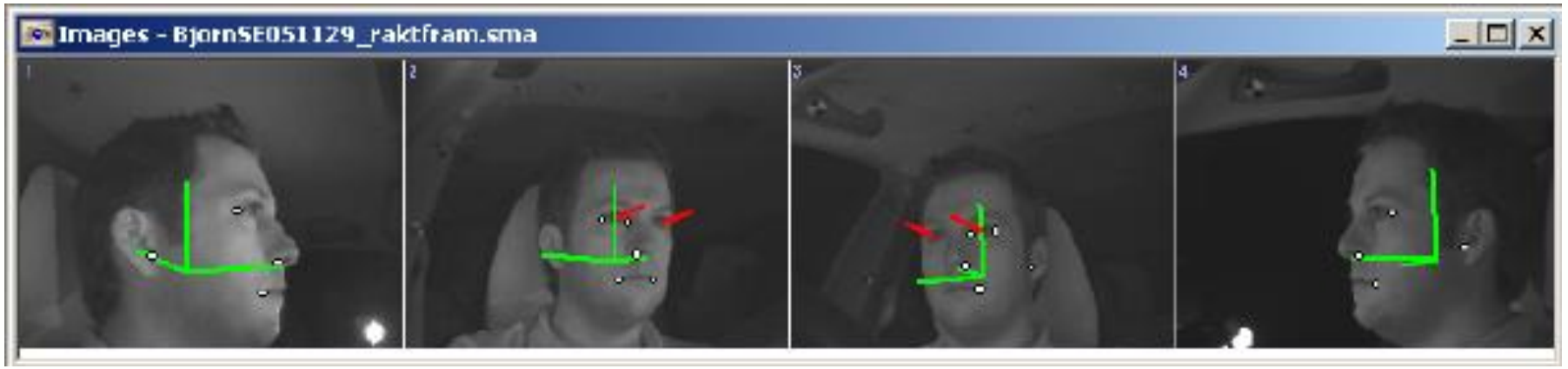

DPH
Scan: 3669
LLane:-0.7m (1)
RLane: 2.9m (1)
Frame No 421 Idx:122698;Time:10019475;ImgAve:54;Tint:5;Gamma:6;


DPH
Scan: 2968
LLane: 0.0m (1)
RLane: 0.8m (1)
Frame No 4 Idx:122281;Time:9984400;ImgAve:64;Tint:5;Gamma:7;


DPH
Scan:11389
LLane:-2.5m (1)
RLane: 1.2m (1)

Preventing Distraction

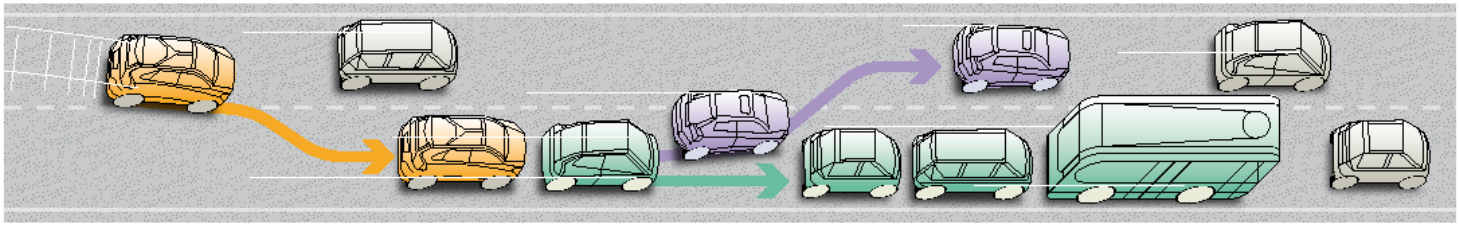
Monitoring of driver attention helps for car to decide on appropriate measures.



Eye and field of view tracking

Platooning

Estimation: 40% reduction in energy use and CO_2 emissions
Increases safety and comfort and reduces risk for congestion



SARTRE project:
SAfe Road TRains
for the Environment

Drive towards Zero Injuries and Fatalities

Conclusions:

- No giant leaps but continue the steps forward.
- Extensive research needed
- Co-operations and standards will be essential
- Incentives and good customer offers are needed.
- Technologies to gradually become cheaper and cascade into less expensive vehicles.