

# 5G as an enabler for the safety of vulnerable road users

Nigel Jefferies (Huawei, WWRF  
Chair)

Klaus David (Kassel University)



# Introduction: Problem

- According to the latest report on road safety of the World Health Organization (WHO) [1], pedestrians comprise 22% of all road traffic deaths, approximately 275,000 worldwide
- About 80% rectangular crossing of street (30% with obfuscation)



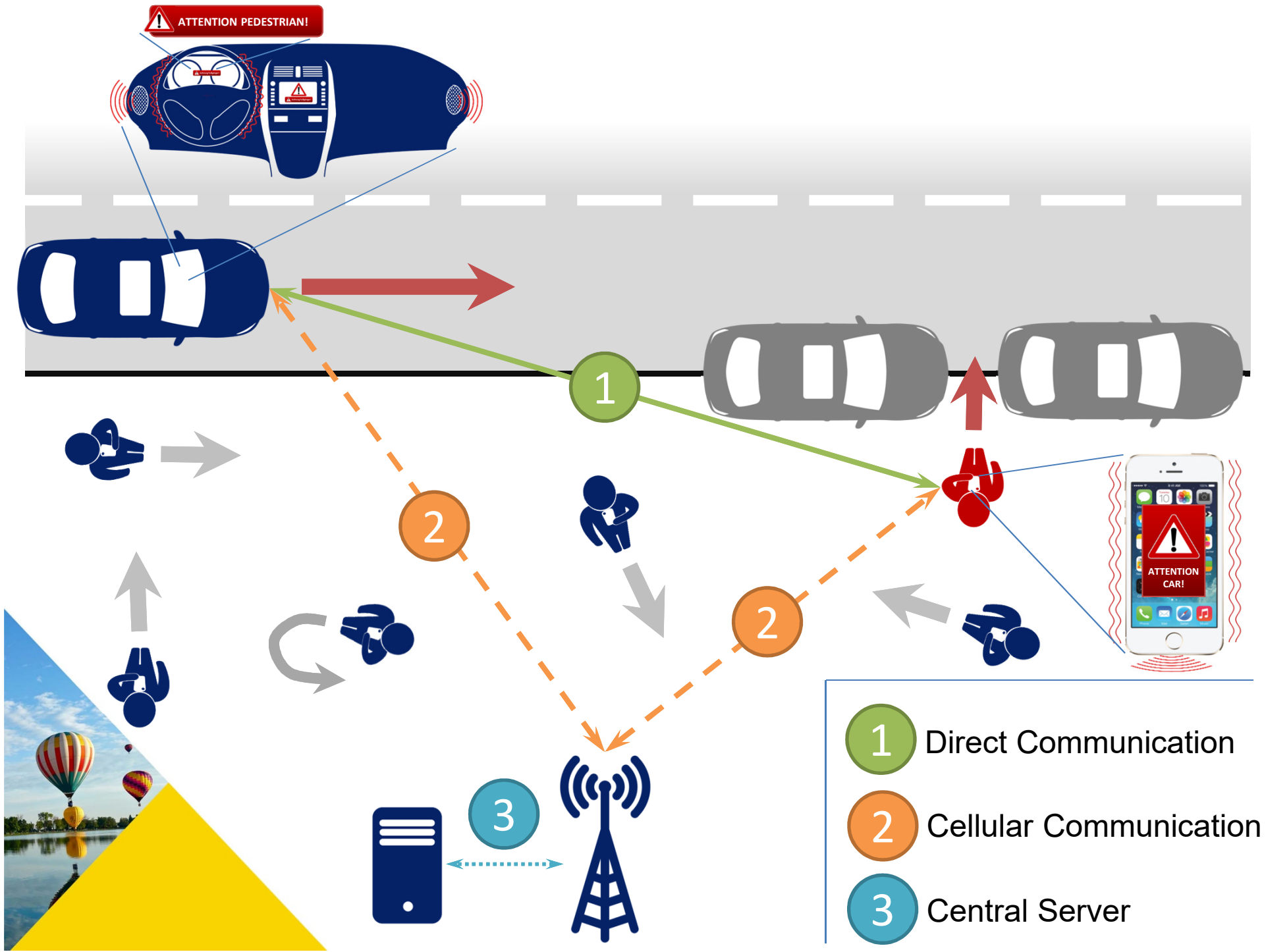
[1] Global status report on road safety 2015. Geneva, Switzerland: World Health Organization, 2015.

# Passive and active Approaches in Products

WIRELESS WORLD  
RESEARCH FORUM®

- Passive: Optimized design of the car, so that collisions harm pedestrians less
  - Automatic opening and lifting of the bonnet
  - Suspension of the windscreen wiper hidden under the front part
  - Concepts of outside the car “air-bags”
- Active:
  - Radar
  - Cameras
  - Infrared
  - LIDAR (Light Detection and Ranging)

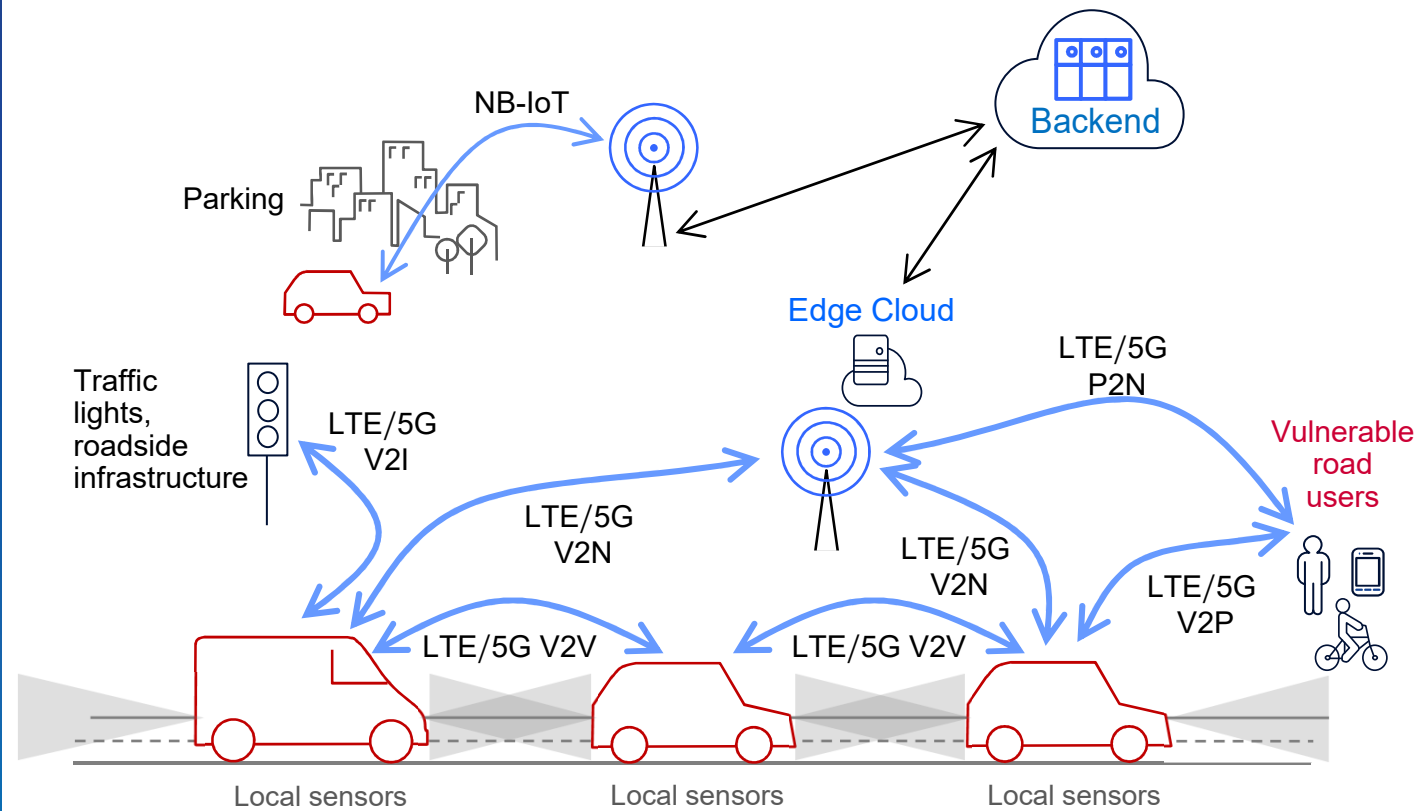




# Cellular V2X

C-V2X is a unified technology platform which includes:

- **Short-range**, network-less, direct communications (LTE-V2X **PC5**)
- **Long-range** cellular network communications (LTE-V2X **Uu**)



# Conclusion

- Pedestrian Safety is an important Challenge!
- Various passive and active approaches
- An “Ideal Solution” is possible and has been presented here
- 5G with
  - low latency
  - direct communication
  - high capacitywould be an ideal network to realize this

