



**Aspetti della sicurezza stradale relativi
all'introduzione dei veicoli a guida autonoma**
Torino, 24 Febbraio 2017

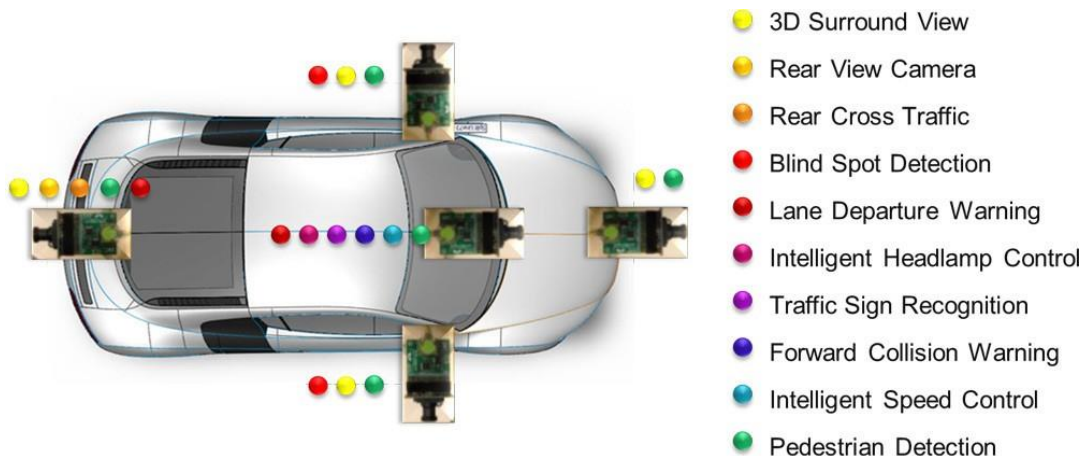
Road infrastructure to support the transition to automated driving

Maria Cristina Marolda, EC – DG MOVE B3

"Assisted and Automated Driving are paving the way to put road accidents into the museum"

Continental CEO Dr. Elmar Degenhart :

"Driver assistance systems and automated driving could make a significant contribution to increasing road safety. With these technologies, road traffic accidents will finally become a thing of the past."

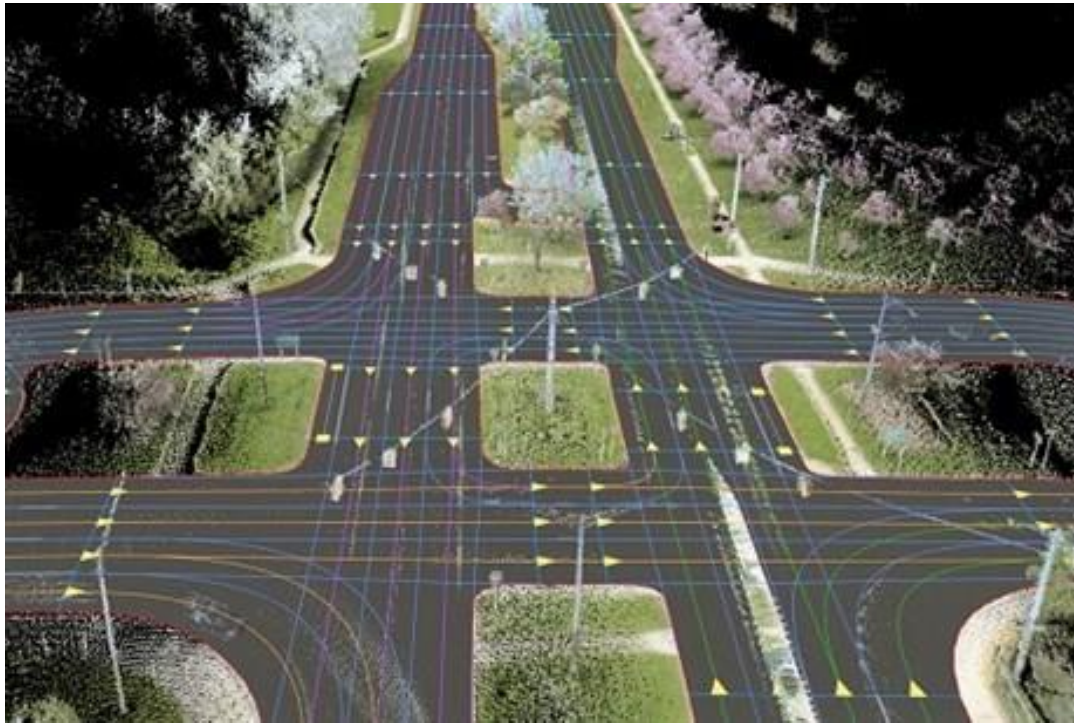


But...

The introduction of automated vehicles in traffic will face a transition period where the coexistence of conventional and highly automated vehicles will have to be managed in order to ensure an uninterrupted level of safety and efficiency.



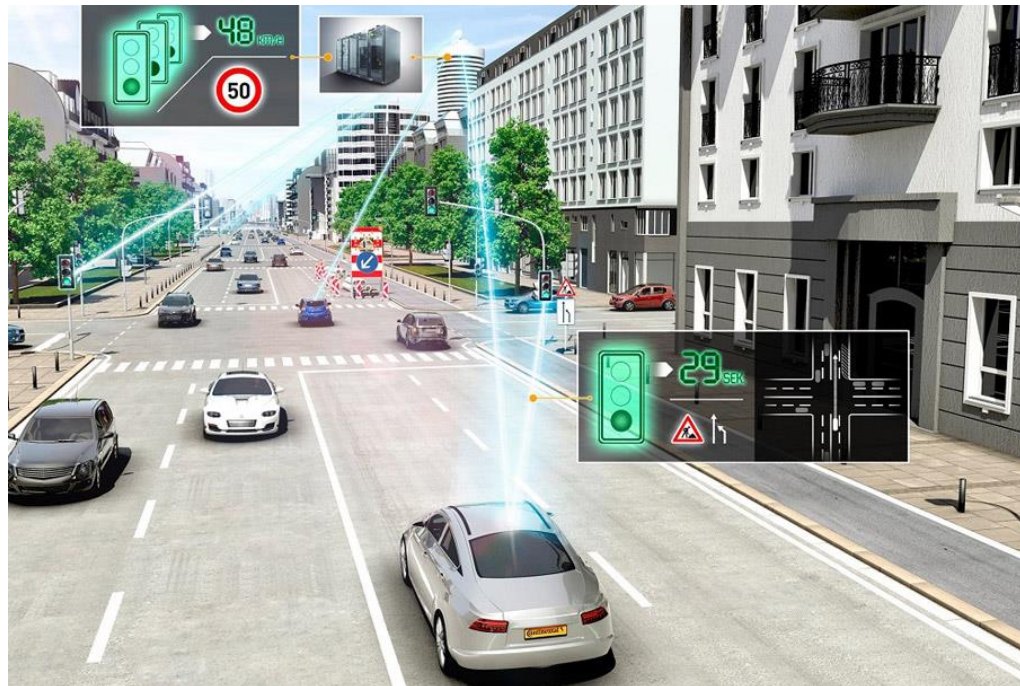
Road infrastructure will play a major role in managing this transition period.



The Horizon 2020 Call **ART-05-2016** included a topic on

Road infrastructure to support the transition to automation and the coexistence of conventional and automated vehicles on the same network

to solicit proposals to face the challenge



Requested aspects to be addressed:

- New methods of **traffic flow modelling** depending from the introduction of automated vehicles
- Design, upgrading and adaptation of **“hybrid” infrastructure**
- Required forms of **visual and electronic signalling** and optical guidance, ensuring readability by both automated and conventional vehicles, also in adverse weather conditions
- **Warnings and information, traffic management plans, up-to-date digital maps**, etc.
- **New safety performance criteria for road infrastructure**, with the goal to set the basis for a timely deployment of automation-appropriate infrastructure network.

Three proposals retained and at present under negotiation:

1. Design, upgrade, adaptation and testing of both physical and digital elements of the road infrastructure ensuring an uninterrupted, predictable, safe and efficient traffic.
Proposal of minimum targeted and affordable adaptations on (physical or/and digital) elements of the road infrastructure: ways to inform all vehicles about control commands, new visual and electronic signals for the needs of mixed scenarios. Focus on 3 specific traffic scenarios; dynamic lane assignment, roadwork zones, bottlenecks.

Three proposals retained and at present under negotiation:

2. Consider automated vehicles of all SAE levels, connected vehicles and conventional vehicles sharing the same roads with varying penetration rates and areas where high automation can be granted, and others missing sensors input where automated cars have to change their level of automation (Transition Areas). The project will develop and demonstrate traffic management procedures and protocols to enable smooth coexistence of automated, connected and conventional vehicles especially in (urban) Transition Areas.

Three proposals retained and at present under negotiation:

- 3.** AV-ready transport modelling: Validated extension of existing microscopic and macroscopic transport models to include different types of AVs (passenger car/ light-freight vehicle, automation levels).
AV-ready road infrastructure: Tool to assess the impact of AVs on safety, traffic efficiency and space demand and development of design guidance for hybrid (AV-/CV-shared) infrastructure.
AV-ready road authorities: Elaboration of eight use cases to evaluate AV impacts on safety, traffic efficiency and road space requirements and to make detailed hybrid infrastructure design recommendations.