MIZAR Automazione S.p.A.

Gino FRANCO

Connecting vehicles and infrastructure
Intelligent Road Infrastructure as integral part of ITS

A Company of the SWARCO Group
VISION

Vehicles fully networked with road infrastructure

Accident warning

Speed profile
TWO POSSIBLE DEPLOYMENT SCENARIOS

Safety-critical applications:

▶ cooperative manoeuvring, automatic braking, ...
▶ required: total reliability, very low latency, V2V communication

Real-time information and navigation:

an evolution of applications already available today BUT

▶ greater reliability
▶ available ANYTIME and EVERYWHERE
▶ alternative communication channels
ALWAYS CONNECTED

Basis: cellular networks (3G, 4G, ... )
  ➤ Complemented by: short range communications
  ➤ for critical spots

WHY? To guarantee continuity and coverage
MUTUAL BEACONING

Step-by-step approach to infrastructure upgrade enhancing existing investment for road operators

- Vehicles broadcast own data (anonymously)
- Roads signs and signals broadcast local data
FOR THE FINAL USER

- Personal device: a key element when in-vehicle
- Short-range communications: part of the vehicle
- “Application store” architecture approach
INTEGRATED IN THE VEHICLE

- Applications can run on personal device
- Driver interaction through in-vehicle commands
VEHICLE AS SENSOR

Data is provided by the vehicle
Traditional sensors less essential

» Benefits:
» Information more precise
» Alerts given only when needed
» Lower operational costs
Expected impacts are encouraging:
26% energy saving, -8% fatalities, -27% emissions (smart logistics), congestion costs reduced (now 2% EU GDP)
(Source: eSafety Forum, Working Group)

• Reduced costs for operators in long term
• Technologies and technical solutions are here already!

Demonstrated at:
Cooperative Mobility Showcase
Amsterdam Intertraffic 2010
Existing roadside equipment will play a crucial role in smooth deployment of cooperative systems, e.g.

- Street lighting
- Road barriers
- ....
NOT A GAME FOR SINGLE ACTORS!

Data sharing is the first step
  ▶ each single actor is independent (beaconing)

Final aim: deliver applications to final users
  Requires cooperation among players:
    road operators, vehicle manufacturers, system suppliers,
    telecom operators, ..... service providers

ALLIANCE of key players needed to kick-off deployment
Thank you for your attention

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