



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

mizar

Vehicles fully networked
with road infrastructure



Accident warning

Speed profile

TWO POSSIBLE DEPLOYMENT SCENARIOS



Safety-critical applications:

- cooperative manouvering, automatic braking, ...
- required: total reliability, very low latency, V2V communication

Real-time information and navigation: an evolution of applications already available today BUT

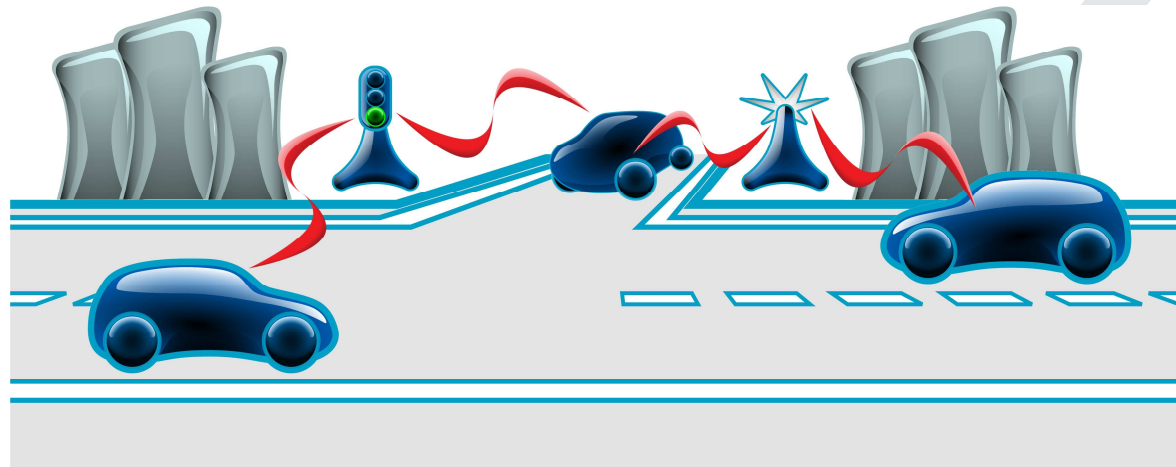
- greater reliability
- available ANYTIME and EVERYWHERE
- alternative communication channels



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)
- Roadsigns 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



Data is provided by the vehicle
Traditional sensors less essential

- Benefits:
- Information more precise
- Alerts given only when needed
- Lower operational costs



NEW GENERATION OF TRAFFIC MANAGEMENT



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

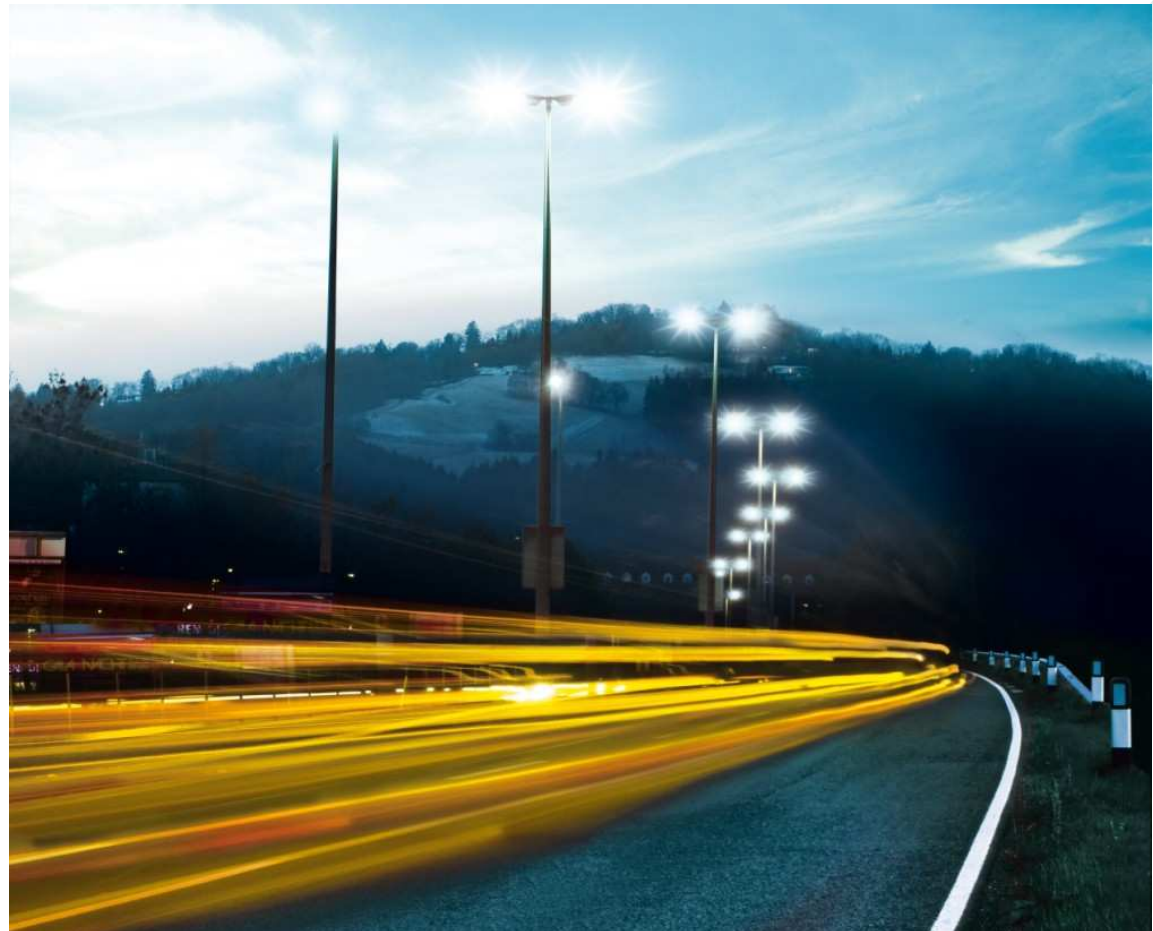


EXPLOIT EXISTING INFRASTRUCTURE



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

Gino FRANCO

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