



SAFESPOT European Integrated Project

COOPERATIVE SYSTEMS FOR ROAD SAFETY
"SMART VEHICLES ON SMART ROADS"

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Brussels - November 6, 2008

[The SAFESPOT European Integrated Project



Cooperative Systems for road safety "Smart vehicles on smart roads"

SAFESPOT is working to design cooperative systems based on vehicle to vehicle and vehicle to infrastructure communication to produce a breakthrough in road safety.

SAFESPOT will prevent road accidents developing a:

"SAFETY MARGIN ASSISTANT"

to detect in advance potentially dangerous situations and extend, in space and time, drivers' awareness of the surroundings.

Project type: Integrated Project (IP)

Co-funded by the European Commission Information Society and Media in the 6th Framework Programme

Consortium : 51 partners (from 12 European countries):

- OEM (cars, trucks, motorcycles)
- ROAD OPERATORS
- SUPPLIERS
- RESEARCH INSTITUTES
- UNIVERSITIES

Promoted by: EUCAR

Timeframe: Feb. 2006 – Jan. 2010

Overall Cost Budget : 38 M€
(European Commission funding 20,5 M€)

IP coordinator : Roberto Brignolo C.R.F.

Slide 1

AC1 Add the name of your session

Alessandro Carrotta; 22/10/2008

AC2 Add your name, surname, position and company

Alessandro Carrotta; 22/10/2008

[The Consortium

OEMs

Centro Ricerche FIAT, Daimler, Renault France, Renault Spain, Volvo Technology, Piaggio.

Automotive and technology suppliers

Magneti Marelli, Bosch, SIEMENS, Q-Free ASA, TeleAtlas, MIZAR Automazione, PEEK Traffic, Continental Teves, IBEO Automobile Sensor GmbH, Kapsch TrafficCom, LACROIX TRAFIC, NAVTEQ Europe.

Road operators

ANAS, Autostrada Brescia Verona Vicenza Padova, COFIROUTE, CG Côtes d'Armor, Swedish Road Administration, Provincie Noord-Brabant.

Research Centres

CSST, TNO, Uni. Genova, Istituto Superiore Mario Boella, CREATE-NET, Laboratoire Central des Ponts et Chaussées, Société pour le Développement de l'Innovation dans les Transports, Uni. Athens ICCS, Uni. Chemnitz, Uni. München, Uni. Stuttgart, DLR, Politechnika Warszawska, PTV, VTT, CIDAUT, Hellenic Institute of Transport, Politécnic de Madrid, CETECOM, Uni. Budapest, Centre national de la recherche scientifique, BAST, MIRA.

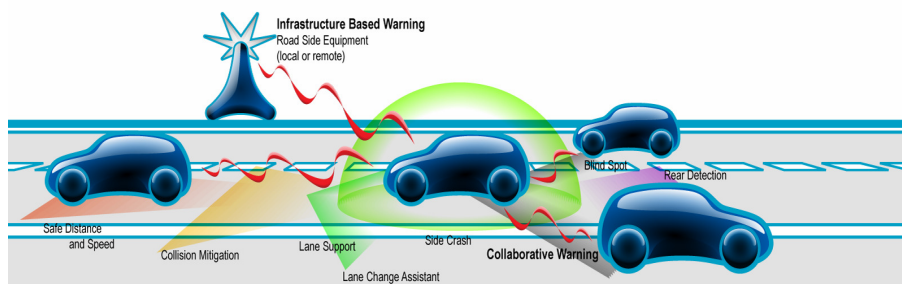
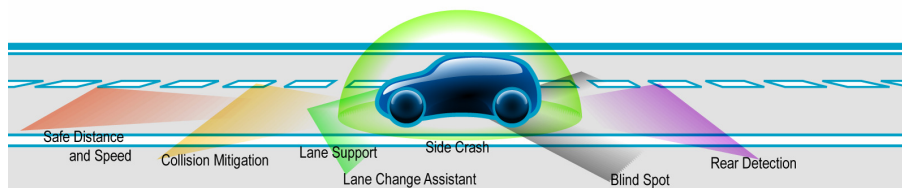
Others

ERTICO, Telefónica, Thomas Miller, Rijkswaterstaat.

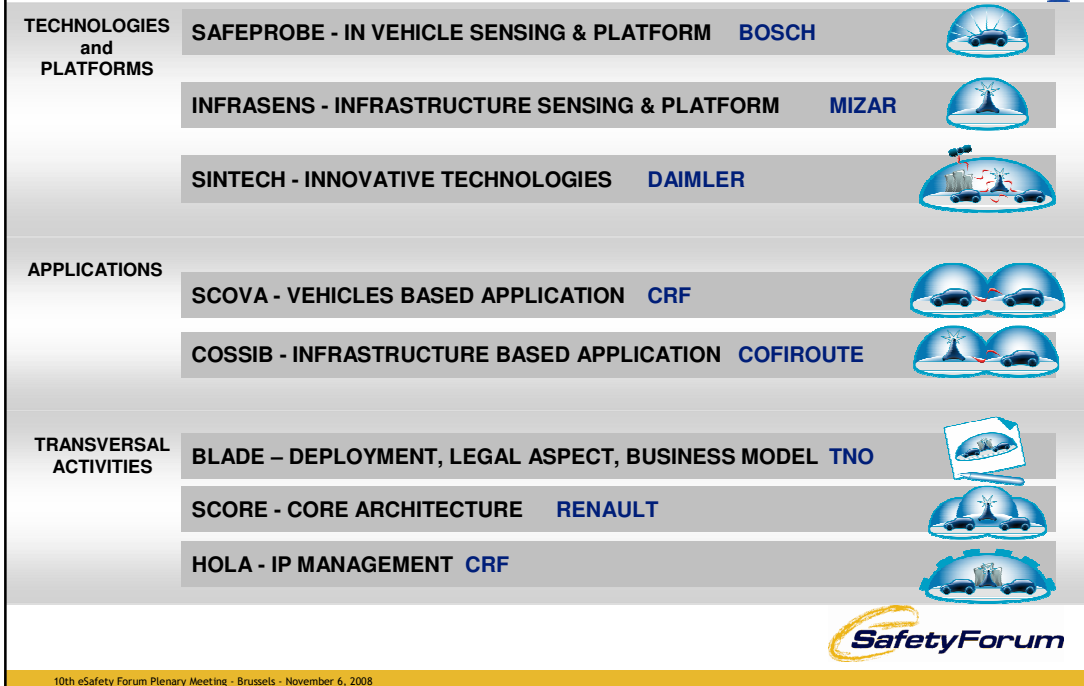


[The SAFESPOT Concept

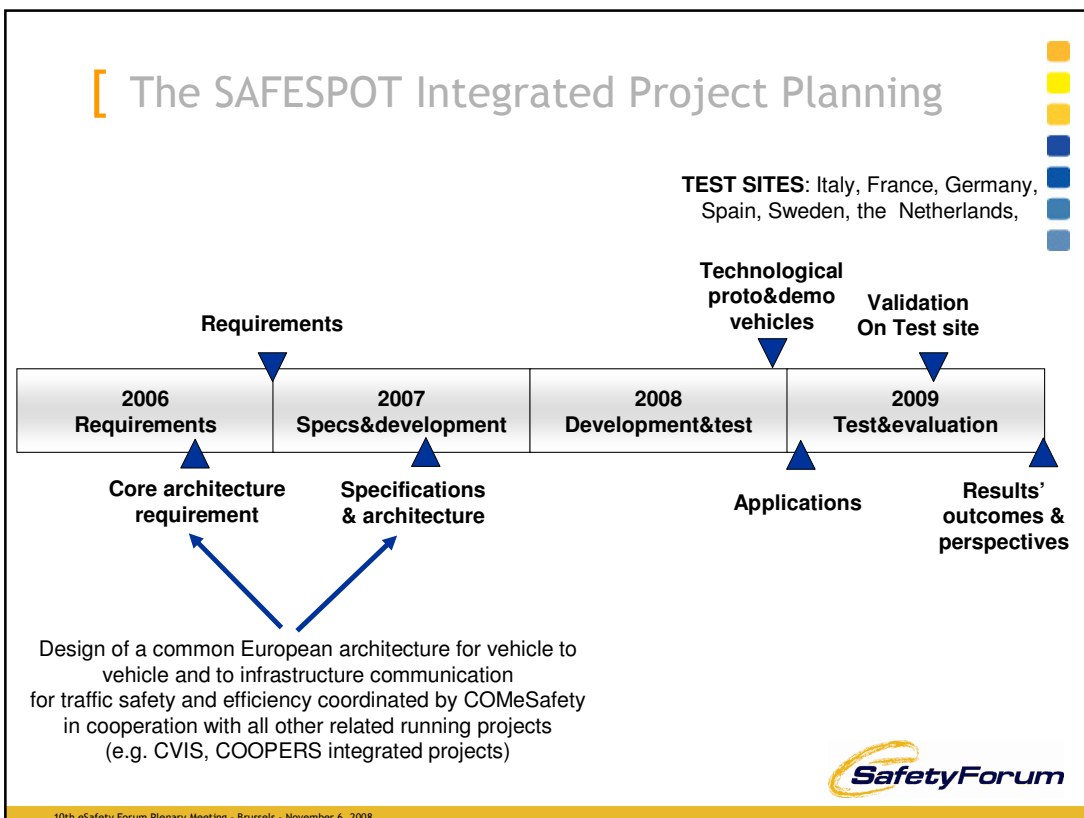
...from autonomous intelligent vehicles to cooperative systems



The SAFESPOT Integrated Project Sub-projects organisation



The SAFESPOT Integrated Project Planning



[The Enabling technologies



LOCAL DYNAMIC COMMUNICATION NETWORK

The candidate communication channel should enable the cooperation among the vehicles and the road infrastructure. Major requirements:

- Reliability, security, low cost
- Need for a dedicated frequency band to avoid interference with existing consumer links (standardization ongoing)
- Routing protocols with multihop forwarding and geo-cast functionalities
- Geographical addressing
- Accessibility with highest priority to exchange time critical safety messages

The selected radio technology is IEEE 802.11p*.

SAFESPOT generated a complete set of messages as an extension of existing C2C - CC messages. This set is offered as contribution to C2C - CC and ETSI standardization processes.

under finalisation

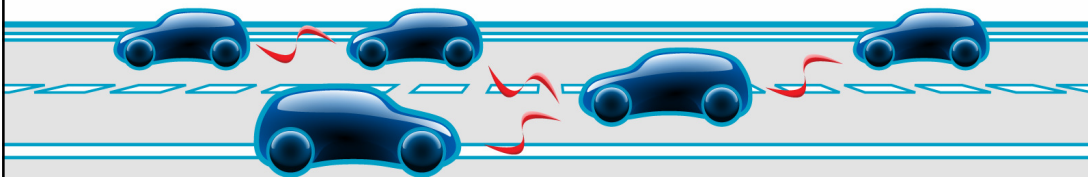


[The Enabling Technologies



RELIABLE, VERY ACCURATE, REAL-TIME RELATIVE POSITIONING

- GNSS-based positioning (GPS,)
- Communication-based positioning (UWB, WLAN)
- Image-based positioning (landmarks recognition)



under finalisation



The Enabling Technologies

LOCAL DYNAMIC MAP

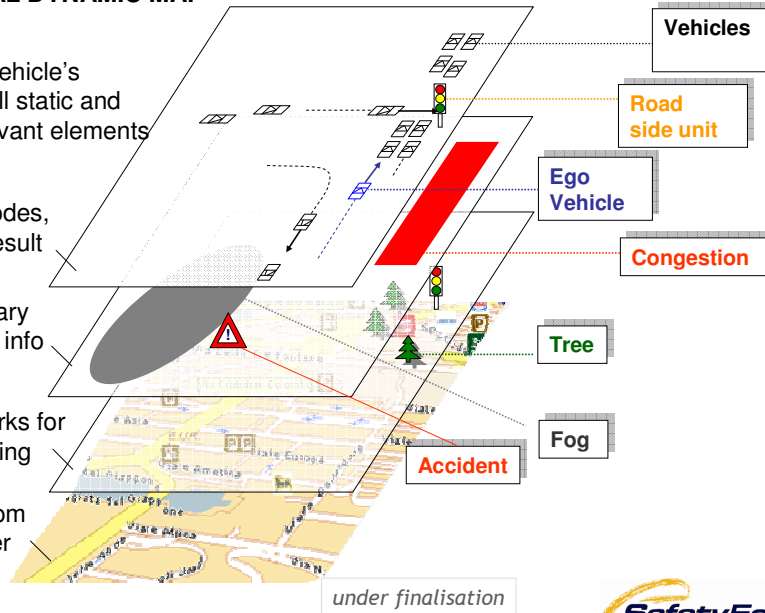
Representation of vehicle's surroundings with all static and dynamic safety relevant elements

Com. nodes, fusion result

Temporary regional info

Landmarks for referencing

Map from provider



under finalisation



10th eSafety Forum Plenary Meeting - Brussels - November 6, 2008

The Applications

Vehicle based

Lateral Collision Prevention
Longitudinal Collision Prevention
Road Departure Prevention
Vulnerable Users Protection

Infrastructure based

Speed Alert
"Safety Margin" for Assistance and Emergency Vehicles
Co-operative Intersection Collision Prevention System
Hazard and Incident Warning

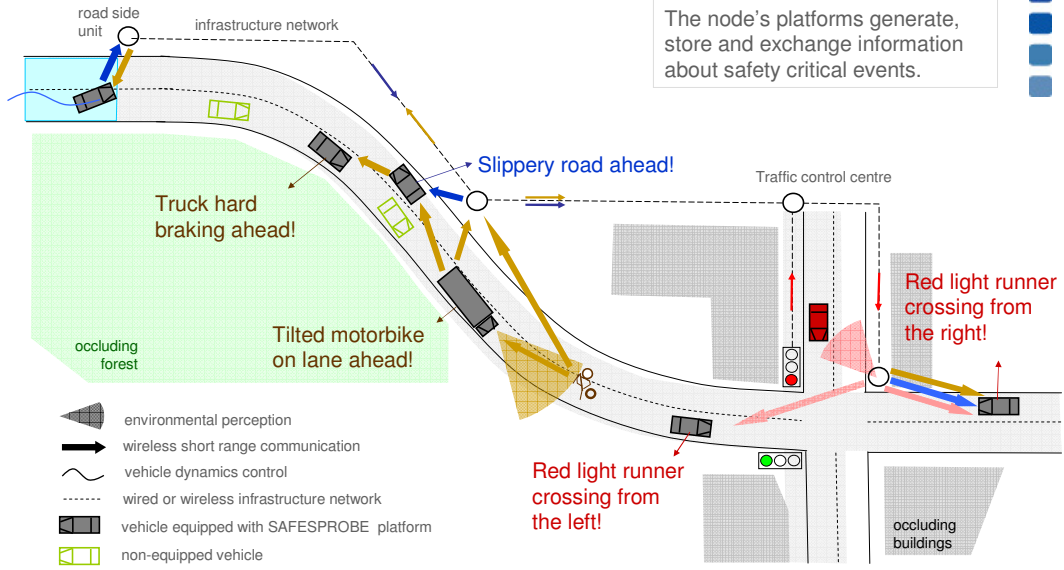


under development



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A cooperative application scenario



The SAFESPOT Test Sites



Alfa test demonstrated in Turin at the 2nd Annual Project Review, May 2008



[The SAFESPOT Perspectives



Definition of sustainable business and service models for all stakeholders involved in the future deployment of SAFESPOT functions including public authorities

Identification of major enabling and disabling factors for future deployment

Cost benefit analysis of SAFESPOT functions and estimation of the impact on traffic safety



work in progress



[REFERENCES



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SP4 SCOVA Leader

SP5 COSSIB Leader

SP6 BLADE Leader

SP7 SCORE Leader

SP8 HOLA Leader

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