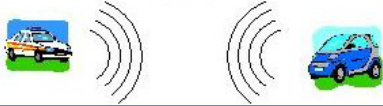


REPOSIT



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Relative POSitioning for collision avoidance systems

REPOSIT develops a novel concept to prevent accidents through collision avoidance based on Vehicle to Vehicle (V2V) communication.

REPOSIT addresses usage of V2V communications and Relative GPS (RGPS) algorithms with existing Collision Avoidance Systems (CAS) on Intersection and Longitudinal cases by

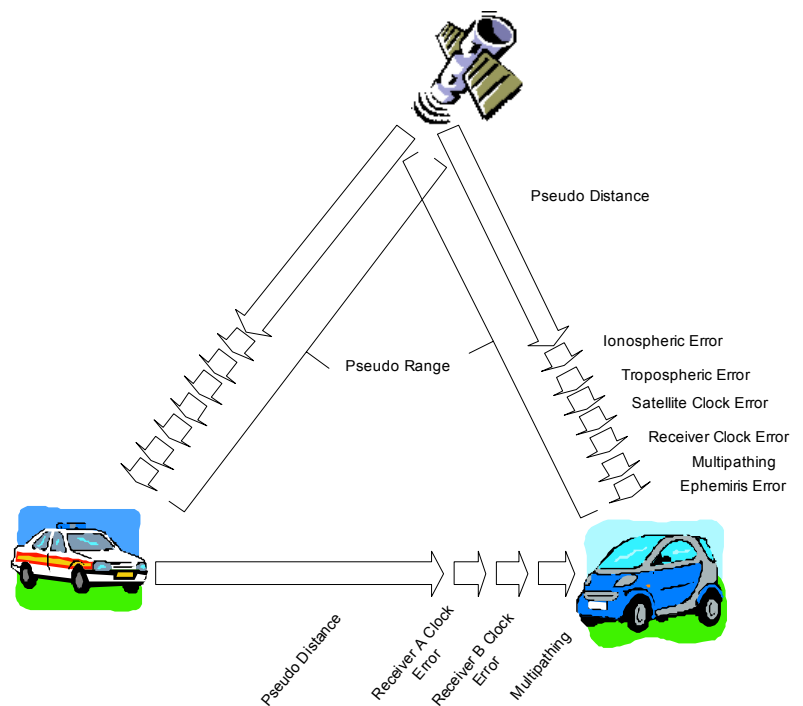
- Enabling RADAR concept as a Warning System in a vehicle.
- Modelling and designing V2V communications algorithms, RGPS algorithms and CAS algorithms.
- Integrating V2V+RGPS+CAS and extracting simulation results.
- Analysing In-Car integration and Product Certification and Standardisation aspects.

More Information:

www.ist-reposit.org

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Description of work

The objective of Collision Warning and Avoidance Systems is to help drivers by warning or intervening when the car is on a collision course with another vehicle or with an obstacle.

The main aim of these systems is improving traffic safety by preventing mainly collisions but a secondary effect may be also improving efficiency by allowing higher density and increasing road capacity by that.

In support to the eSafety initiative for the development, deployment and use of Intelligent Integrated Safety Systems in Europe, **REPOSIT** has the objective of demonstrating the feasibility of a new technology for CAS: the integration of Relative GPS (RGPS) and wireless vehicle-to-vehicle (v2v) communications with existing Collision Avoidance Systems (CAS).

RGPS is based on advanced positioning algorithms allowing a significant relative positioning accuracy enhancement.

The use of RGPS involves using wireless v2v communication for data exchange between vehicles.

The performance of these technologies is to be such that the overall combination is translated into an enhancement of CAS performance.

REPOSIT will concentrate on Intersection and Longitudinal Collisions, where it could provide the most noticeable performance improvements.

To reach its objectives, **REPOSIT** will perform:

- (1) Analysis of user needs and system specifications applicable to v2v, RGPS and CAS.
- (2) Translation into algorithms and models of suitable v2v communications, RGPS and CAS for test and simulation.
- (3) Simulation results will be analysed and conclusions obtained.
- (4) Additionally, in-vehicle integration feasibility analysis, certification procedures and interaction with standardization activities will be addressed, as well as liaison with related initiatives and convenient dissemination of results.

REPOSIT enables in-vehicle RADAR concepts as Warning Systems with future applications in the field of database stored information for assurance companies, urban policemen and others. Future regulations may force vehicles with potential collision problems to be RADAR-detected.

Project Acronym: **REPOSIT**
Project Reference: **IST-2004-026870**
Contract Type: **Specific Targeted Research Project (STReP)**
Start Date: **19/01/2006**
Duration: **18 months**
End Date: **18/07/2007**
Project Cost: **543.098 €**
EC project funding: **543.098 €**

Participants:

The project consortium includes following 5 partners: GMV Sistemas PTM S.A., Centro Ricerche Fiat, Tadiran Spectralink, Jean-Pierre Magny, and Grupo Antolín.

The project is coordinated by GMV Sistemas PTM S.A. and the core group consist of one technical responsible from each company.