SAFETRIP

Satellite application for emergency handling, traffic alerts, road safety and incident prevention

**Funding:** European (7th RTD Framework Programme)

**Duration:** Oct 2009 - Mar 2013

**Status:** Complete with results

**Total project cost:** €11,580,567

**EU contribution:** €7,890,199

**Call for proposal:** FP7-SST-2008-RTD-1

**CORDIS RCN:** 92596

**Background & policy context:**

In the past decade a lot of research has been dedicated to develop driver assistance systems based on autonomous sensor technologies that are able to perceive the traffic situation surrounding the vehicle and, in case of danger, to properly warn the driver. Moreover, a lot of research has been dedicated to improve the quality of the infrastructure, giving weight to “an intelligent road infrastructure” concept.

The SafeTRIP project “added value” is to seek the “combination” of the information from vehicles and from the infrastructure to users, taking benefits from a new satellite technology, and adopting an original holistic approach “infrastructure / vehicle / drivers”, where all of these actors have a key role to play in the safety chain.

**Objectives:**

The general objective of SAFETRIP is to improve the use of road transport infrastructures and to improve the alert chain (information / prevention / intervention) in case of incidents by offering an integrated system from data collection to transport safety service provision. SAFETRIP directly contributes to the achievement of the EC objectives regarding road transport safety, road mortality reduction and environment protection.

**Methodology:**

SAFETRIP benefits from a new satellite technology: the S-band supported by the W2A satellite that was launched in April 2009. Opening new perspectives for European telecommunications, the S-band transmitter is optimized for content delivery and two-way communications for on-board vehicles units interoperable with Galileo and UMTS systems. This new satellite technology gives the opportunity to progress beyond the state of art allowing communicating in both directions with mobile units (down link and up link). It presents determinant advantages, including global and full coverage on the European scale, multicast data transmission, quick and easy deployment, ecologic energy as the satellite operates through solar panels.

Low price on-board-units (GREENBOX receiver) will be installed in vehicles to provide personalised services: emergency calls and messages, traffic alerts, incident / accident warning, speed alert, floating car data, vehicle monitoring, vehicle tracking and tracing, eco driving monitoring, driver behaviour monitoring, etc. These customer-oriented applications dedicated to cars drivers & passengers, buses / coaches drivers & passengers and road operators will be tested in the field, by French and Spanish road operators and road users. SAFETRIP is probably one of the most innovative projects of the last decades due to its holistic approach integrating: infrastructure / vehicle / drivers. Within the SAFETRIP consortium, transportation actors and services providers will work together to predict road conditions.

The concept of the SAFETRIP project is:
• to provide an integrated system platform that will allow any third party company to develop applications for the road market;
• to promote innovative satellite technologies and communication features:
  1. accurate satellite positioning (GPS / EGNOS / GALILEO);
  2. 2-way data communication via satellite;
  3. digital radio broadcast via satellite in the new S-band;
• to integrate in vehicles a device called “Greenbox” offering a universal two-way communication system:
  1. providing two-way real-time IP data connectivity for the emergency and disaster recovery situations;
  2. receiving IP multicast data, video and audio streams;
  3. exchanging non real-time IP data packets at few KBPS information rate;

**Parent Programmes:**
**FP7-TRANSPORT - Transport (Including Aeronautics) - Horizontal activities for implementation of the transport programme (TPT)**

**Institute type:** Public institution
**Institute name:** The European Commission
**Funding type:** Public (EU)

### Lead Organisation:

**Sanef**

**Address:**
Boulevard Galliéni 30
92130 Issy Les Moulineaux
France

**Organisation Website:**
http://www.sanef.com

**EU Contribution:** €556,969

### Partner Organisations:

**Retevision I Sa**

**Address:**
Avenida Del Parc Logistic 12-20
8040 Barcelona
Spain

**EU Contribution:** €165,793

**Inter Mutuelles Assistance**

**Address:**
Avenue De Paris 118
79 033 Niort
France

**EU Contribution:** €220,201

**Fraunhofer Gesellschaft Zur Foerderung Der Angewandten Forschung E.v.**

**Address:**
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80686 MUNCHEN
Germany

**Organisation Website:**
http://www.fraunhofer.de
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<td>Budapest University Of Technology And Economics</td>
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**Technologies:**
- Infrastructure management
- Field testing of the road infrastructure management systems

**Development phase:** Research/Invention

**Key Results:**

*Motorists driving open platform road safety satellite communication*

Autonomous driver assistance and intelligent road infrastructures are helping to make Europe's highways and byways safer and more navigable. An EU-financed project has developed a hybrid, open source satellite platform to make the most of these and future advances.

In recent years, significant progress has been made towards developing user-centred autonomous driver-assistance technologies, in-vehicle platforms & applications and intelligent road infrastructures. However, many of these advances have yet to be linked together in one holistic 'package'.

With EU funding, the 'Satellite Application For Emergency handling, Traffic alerts, Road safety and Incident Prevention' [http://www.safetrip.eu](http://www.safetrip.eu) (SAFETRIP) project strove to develop an integrated, satellite
enabled ITS open platform with the ability to support a wide range of safety, navigation and infotainment applications for the road market. Some demonstrator applications developed in the project include real-time traffic information and warnings aggregated from other vehicles, an enhanced emergency call system and real-time tracking of vulnerable passenger and goods transport vehicles.

The integrated system combines two major strands of satellite technologies: robust satellite positioning (using GPS, EGNOS and GALILEO) and data communication via satellite in S-band frequency (using the satellite Eutelsat 10A). Due to the innovative use of the S-band, a small form factor antenna was required to communicate with satellites, which is a major step for the acceptance of such technology paving the way for future commercialisation. The in-vehicle platform and communication module is housed in an on-board unit known as the GreenBox.

With 20 partners from 7 European countries, from the outset SafeTRIP was designed to deliver an open ITS platform to enable third parties to develop applications that will enrich the system and address the demands of road users. The SafeTRIP platform can also host entertainment services, such as digital radio, mobile TV and video on demand, which can help make journeys less stressful by entertaining the passengers and, hence, safer.

By the time SafeTRIP concluded its activities in the spring of 2013 it had successfully trialled and demonstrated the system integrated with both new innovative and existing applications. The project also found that there is a lot of unexploited potential for satellite communication enabled automotive telematics market and has identified promising avenues for future development.

http://youtu.be/SecYmoikX1I (Safetrip video)

Documents:
SafeTRIP_D2.1.1_User_Requirements_Initial_v1.0 (Other project deliverable)

STRIA Roadmaps: Cooperative, connected and automated transport
Transport mode: Road transport
Transport sectors: Passenger transport, Freight transport
Transport policies: Safety/Security, Digitalisation
Geo-spatial type: Other