



SIXTH FRAMEWORK



**IN SAFETY
NEWSLETTER
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About this Issue

The “In Safety” Newsletter aims to disseminate the concept, goals, findings and results of the project to a wide range of interested readers and to establish a two-way communication link between the Consortium and members people to which this newsletter is addressed. This is the first issue of the Newsletter. It presents the project objectives, provides a description of the first project results as well as the future work plans and includes contact details concerning the Consortium.

The Consortium

This challenging task is undertaken by 29 partners and from 12 European countries, including among others 18 research institutes and universities, 3 industries, 5 industrial and design SME's, 2 road operators, a network of 65 cities (POLIS) and an association of 90 automobile clubs (FIA), under the auspices of FERSI.

For more information regarding the Consortium please visit:
<http://www.insafety-eu.org/web/consortium.html>.

The problem

Over 42,000 road users are killed in European Union (EU) countries annually and around 3.5 million are injured, when under-reporting is taken into consideration. This accounts for an annual cost of over 160 billion Euros and untold pain and suffering of the victims and their relatives. Car occupants comprise 57% of total EU road deaths, with the majority of car occupant casualties sustained in side and frontal impacts. Looking at fatality risk however, the traffic system is less safe for the more vulnerable road users, where the risk of death on EU roads for pedestrians and cyclists is 8-9 times higher and for motorcyclists it is 20 times higher.

The rather small impact of road and infrastructure related measures on accident reduction until now may be well attributed to the high cost of such measures. Thus, infrastructure improvements and enforcement campaigns are not expected to significantly contribute towards the 50% reduction of road fatalities, as is the target by EU for 2010.

The use of new technologies may become the catalyst towards achieving this goal, especially since the combination of new technologies with existing infrastructure, or with limited improvements of it, may lead to much more cost-effective solutions.



The IN-SAFETY project

Road safety engineering measures may reduce casualties by 6.5%. However, the rather high cost of traditional infrastructure construction / adaptations is a prohibiting factor. The combination of new technologies with existing infrastructure may lead to much more cost-efficient solutions.

The project work will be based on an amalgam of previous work results and innovative concepts, realized and extensively tested in 4 inter-related pilots Europewide, covering all road types and including key drivers' cohorts, such as tourists, elderly and novice drivers.

The project is a 3-year EC co funded project, which started on February 2005.

Objective

IN-SAFETY project aims to use intelligent, intuitive and cost-efficient combinations of new technologies and traditional infrastructure best practice applications, in order to enhance the forgiving and self-explanatory nature of roads, by:

- Building consensus on priorities for regulation and standardization processes and assessing the potential and cost-effectiveness of combined use of such new technologies (ADAS, IVIS) and innovative HMI concepts.
- Developing and testing new simulation models (micro and macro) and risk analysis tools, to estimate the safety of road environments.
- Developing training tools and curricula for road and TMIC operators, focusing on the use of new technologies.
- Harmonizing / optimizing vertical and horizontal signing and personalizing their information to the specific needs and wants of each user.
- Issuing priority implementation scenarios, guidelines for further research and policy recommendations for cost-efficient road environment development, road safety assessment and inspection, including new technological.

Forgiving Road Environments

Loosely formulated “forgiving road environments” are road infrastructures that are designed and constructed to avoid and / or mitigate negative consequences of driving errors. Forgiving road environments are in fact driving environments that will support the driver in case of an error, for instance, rumble strip sound or haptic feedback in case of lane departure. These graceful environments also support the driver during driving errors, i.e. as long as the errors, once started, last until the problem is solved, for instance, haptic feedback or automatic adjusting speed to an optimal level in relation to the error.

The first activity that we are faced with in the consortium is to define forgiving road environments, i.e. to define a set of quantitative and qualitative characteristics that constitute a forgiving road environment. In more detail, we will try to assess the potential of all kinds of available and new ADAS, IVIS, new infrastructure elements, in particular standard VMS and newer, modern full color versions, and their combinations in enhancing road safety in highway, rural and (peri) urban areas, including tunnels. We will propose new, intuitive and innovative combinations of existing and new technologies, so as to make the road environment of forgiving nature. The work package will

culminate in a first set of implementation scenarios and priorities towards forgiving roads.



Cost-Efficient Road Environments

There are a number of measures in the fields of road design, of traffic management as well as of co-operative and autonomous driver assistance systems that will increase road safety.

The effectiveness of a single measure or a bundle of measures can be analysed by estimating their achievements to a defined target ("benchmark") of road safety.

But all measures that can be taken to improve safety on roads will result in costs. Thus the effectiveness has to be confronted with the initial investment costs and operating costs of the measures.

Road environments are cost-efficient if the measures have been selected and combined in such a way that the defined benchmark of road safety can be reached and benefits exceed investment and operational costs.

Some road safety effects can be achieved either by road design measures or ITS solutions. For better synergetic effects a combination of road design and new technological elements will be more suitable. Therefore measures of road design have to be balanced with technical solutions - roadside and in-vehicle - within a scenario analyses.

Finally the assessment of the cost-efficiency of the scenarios - using a variety of new tools of economic analysis - will lead to a prioritisation of measures and policy recommendations.

Self-Explanatory Roads

The focus of WP2 is on self-explanatory road environments and on innovative combinations of horizontal and vertical signing employing traditional and advanced technologies. Emphasis will be on signing and related standardization and the use of best practice in developing and applying pictograms in the TERN (Trans-European Road Network). Pictograms displayed on static message boards will be complemented by others which are to be shown on VMS (Variable Message Signs) in either traditional or dynamic respectively animated form.

Tests will be carried out in Austria, Hungary and the Czech Republic. The optimization of verbal messages will be taken care of whenever "referents"

cannot be translated into pictograms. A typeface family, harmonized in style with the proposed pictograms will be elaborated too plus an easily comprehensible and legible content structure for displaying combined pictogram and verbal messages.

Provisions of information to drivers - in a comprehensive and coherent way - by alternative means will be considered. Most important of all, an information personalization scheme will be developed that is based on intelligent agent's technology. This will make it possible to provide input to specific driver cohorts (i.e. elderly, disabled, tourists) or to meet particular driver wishes and preferences.

How to Learn more

One of the main objectives of In Safety is to widely disseminate the outcome of this project. One way is this newsletter but for further information one can address to the site of the project. The address is:

<http://www.insafety-eu.org/>

A visit at project's website will guide you through IN Safety's world, including all its technological achievements, current and future work and related links and contacts.

For more information you may contact the Project Coordinator:

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*Visit the website of the
IN-SAFETY project*

