SAFESPOT INTEGRATED PROJECT - IST-4-026963-IP

DELIVERABLE

SP2 – INFRASENS – Infrastructure Platform

Interim Report: Needs and Requirements for Infrastructure-based sensing

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EXECUTIVE SUMMARY

This Interim Report presents the results of the initial work carried out by the subproject INFRASENS with the aim of defining the needs and requirements of the SAFESPOT Infrastructure Platform.

The organization of the report follows the guidelines and common workflow provided for the SAFESPOT project by the high level 'core' architecture.

The report is divided into four main parts:

1. The New Role of the Infrastructure: an outline of how 'smart roads' will in the future be able to play a more active role in improving preventive safety. This chapter explains how this can be achieved through the use of innovative techniques for detecting safety-critical conditions via the roadside, and especially through 'co-operation' with equipped vehicles (the exchange of data between vehicles and the infrastructure).

2. Technology Analysis: this section summarises the results of a detailed and systematic review made of sensing technologies. It assesses the strengths and weaknesses of existing systems in detecting safety critical conditions (based on a state-of-the-art survey undertaken by INFRASENS partners) and identifies the ways in which new methods and technologies (including micro-sensors and the creation of wireless sensor networks) can increase the benefits for road safety.

3. The Infrastructure Platform Architecture: this provides an initial view of the basic architecture envisaged for the platform. It describes the main components and the various functionalities required, including the data collection, processing and communication of 'alerts' (warnings) to road users. A number of different Technology Scenarios illustrating different degrees of 'cooperation' with the Vehicle Platform are described.

4. The User Needs: this section presents the first draft of the User Needs for the Infrastructure Platform. These consist of the services, functions and other qualities desired by the main users or 'stakeholders' of the INFRASENS systems or modules. They were derived from the SAFESPOT High Level User Needs which were in turn based on the User Needs listed in the European ITS Framework Architecture.

The report concludes with a summary of the results so far and identifies the next steps to be carried out for the definition of the system requirements.

This report will be circulated to the leaders of the subprojects SAFEPROBE, SINTECH,SCOVA and CoSSIB (as well as the Peer Reviewers), in order to obtain useful feedback to be incorporated in the Final Report D2.2.2.