

SAFESPOT INTEGRATED PROJECT - IST-4-026963-IP

DELIVERABLE (REVIEWED)



SP5 – COSSIB – Cooperative Safety Systems Infrastructure Based

Common Architecture and Communication

Deliverable No. (use the number indicated on technical annex)		D5.2.2	
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Workpackage No.	WP5.2	Workpackage Title	Needs and Requirements
Task No.	5.2.2	Task Title	Common Architecture and Communication Network
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EXECUTIVE SUMMARY

The COSSIB sub-project (SP5) of the SAFESPOT project aims to specify and develop a set of co-operative system applications based on infrastructure and vehicle-based sensing with the support of roadside equipment for communicating safety-related messages.

This deliverable presents the main communication architectures scenarios for the different parts of the road network considered in SAFESPOT. The document provides a description of the needs in terms of wireless communication coverage, links to other information systems and power constraints. It then formalizes these needs in term of requirements.

This document is complementary to the SP2 deliverable D2.2.2 “Needs and requirements for infrastructure based sensing”, the SP3 deliverables D3.2.1 “Technical Scenario Description for positioning, local dynamic map and vehicular ad-hoc network” and the SP7 deliverable D7.2.1 “Core architecture requirements”.

The work presented here is a follow-up of the deliverable D5.2.1 where user needs and requirement are specified by means of various use cases of the SAFESPOT system. It proposes a confrontation of user needs to real, physical and technical constrains of the deployment of a wireless network in different areas of the road network.

The guideline adopted by the working group to define the road side architecture requirements is as follows:

- Capture user needs related to the network and system architecture from the deliverable D5.2.1.
- Identify the constraints of different parts of the road network in terms of length of the black spot, coverage needs, availability of power and link to other existing traffic information centres.
- Propose different architectures that respond to user needs and that are compatible with environmental constraints.

This document also provides requirements on the architecture. It was made in collaboration with other subprojects SP2, SP3, and SP7. It describes the road side part of the overall SAFESPOT physical architecture description.

The document is structured in a form of 6 chapters and annexes:

- Chapter 1 introduces the document, its role and objectives;
- Chapter 2 as an introduction describes a general view of the SAFESPOT system architecture and communication network.
- Chapters 3, 4 and 5 which represent the core output of the deliverable, outline the architectures and communications of SAFESPOT infrastructure based system in the different parts of the road network.
- Chapter 6 goes back to a unified vision of the system architecture, in order to give the guidelines for the design of a modular system.