SAFESPOT INTEGRATED PROJECT - IST-4-026963-IP

DELIVERABLE

SP3 – SINTECH

Algorithmic and performance simulation results

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1. EXECUTIVE SUMMARY

The subproject 3 of SAFESPOT, SINTECH, develops new technologies for cooperative road safety systems in three fields: As the knowledge of the exact current position of a vehicle is crucial for any safety application, much effort is spend on the development of accurate and reliable technologies which enable vehicle localization in highway, rural, and urban environments.

For the representation of the vehicles surrounding, local dynamic maps (LDM) are developed which provide higher accuracy and an enhanced set of features, containing also dynamic objects.

The core of cooperative systems is the communication between vehicles (V2V) and between vehicles and infrastructure (V2I). For that, fast, reliable, and low-cost routing algorithms for vehicular ad-hoc networks (VANET) are investigated.

After having specified the requirements of those technologies, appropriate algorithms have been selected and simulated. This document describes the functionality of those algorithms and illustrates how they can contribute to the SAFESPOT goals. Furthermore, the methodology of the simulations is explained. The main part of this document consists of the results of the performance simulations. The different algorithms are evaluated with respect to their suitability for SAEFSPOT. Those evaluations are an important prerequisite for the implementation phase of the SAFESPOT system.