

SiVIC, a virtual platform for ADAS and PADAS prototyping, test and evaluation

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ABSTRACT - The LIVIC¹ develops devices improving the safety of driving. The implementation of these devices is done on several vehicles equipped with perception, decision and control systems. However, simulation of these systems is crucial when real data are not available or for scenarios that are too dangerous or too difficult to realize. This simulation must allow developing and prototyping of different types of ADAS or PADAS based on local or extended environment perception. It is necessary to be able to test and to evaluate the embedded algorithms with very accurate references. For this the SiVIC platform has been developed. SiVIC models a virtual road environment including the vehicle, the infrastructure and the sensors. In order to test embedded software applications, an interconnection has been developed between SiVIC and ^{RT}Maps². ^{RT}Maps is a modular environment used in LIVIC to embed the LIVIC's software applications in real vehicles. SiVIC has successfully been used for prototyping ADAS and PADAS. Some of these applications will be presented in the last chapter of this paper.

¹ Laboratory on the interactions between Vehicle-Infrastructure-Drivers

² Real Time Advanced Multi-sensor Prototyping Software