INFORMATION SOCIETY TECHNOLOGIES (IST) PROGRAMME

AIDE

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General experimental plan for short and long term behavioural assessment

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Workpackage No.	**WP 1.2**	Workpackage Title	**Behavioural effects of driver assistance system**
Activity No.	**T 1.2.2**	Activity Title	**General experimental plan for short and long term behavioural assessment**
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Executive Summary

The review of the literature on the Behavioural Effects of Driver Assistance Systems (Deliverable D1_2_1, Saad et al, 2004) has highlighted the lack of knowledge about learning processes and the long-term effects of driver assistance systems. It is thus important to develop research into these aspects so as to be able to formulate sound recommendations for the design and development of the AIDE system. This is the overall objective of the research studies to be carried out in Work Package 1.2 (Behavioural Effects of Driver Assistance Systems). More specifically, the aims of these research studies are:

- To assess safety critical variables that describe the learning process when using ADAS and IVIS systems such as AIDE.
- To determine the critical parameters that sustain modelling architectures.
- To define a set of safety critical parameters that describe long-term behavioural effects when using ADAS and IVIS systems such as AIDE for inclusion in the design process of the system and its interface.

The purpose of the present deliverable is to outline the main characteristics of the research studies to be carried out by the partners or group of partners and to highlight their specificities and complementarities.

We start by giving a general presentation of the research studies carried out by each partner or group of partners for the learning (short-term effects) and the integration (long-term effects) phases. In a second section, in order to put into perspective and to compare the main characteristics of these studies, several tables have been established. These tables present:

- The main characteristics of the system studied (isolated support system dedicated to a given driving task, combination of two types of support system dedicated to different driving tasks, level of adaptability of the systems).
- The contribution of the studies to the objectives of the AIDE project (identifying the main phases of the learning and integration processes; studying drivers' mental models of and trust in the support system; providing input into the design of support systems and into modelling).
- The main characteristics of the method used (context of the study, drivers' characteristics, main variables used for assessing short and long term behavioural effects - behavioural and situational variables; subjective variables).

On this basis, the specificities and complementarities of these studies are discussed.

The systems studied are Advanced Drivers Assistance Systems (ADAS) dedicated to the main safety critical driving tasks, i.e. time-headway control, speed control and lateral control tasks. The systems varied according to their modes of action (warning or direct intervention) and their degree of adaptability to the situational context or to the drivers' situation and characteristics. Furthermore, the planned studies provide an opportunity for examining the effects of combining several ADAS during the driving process. Thus, the studies to be carried out have the degree of variety required for dealing with the critical issue of Behavioural Adaptation. At the same time, the planned studies have sufficient similarities and complementarities to permit relevant comparisons of the results obtained and to provide sufficient evaluation data for use in the models developed in Work Package 1.1.