

# INFORMATION SOCIETY TECHNOLOGIES (IST) PROGRAMME



**AIDE**

**IST-1-507674-IP**

## Annual Activity Report: Year 1

Deliverable No.			
SubProject No.	<b>SP4</b>	SubProject Title	<b>Horizontal activities</b>
Workpackage No.	<b>WP4.1</b>	Workpackage Title	<b>Consortium management</b>
Task No.	<b>T4.1.1</b>	Task Title	<b>Administrative management</b>
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## **Executive summary**

### **Project general objectives**

The general objective of the AIDE IP is to generate the knowledge and develop the methodologies and human machine interface technologies required for safe and efficient integration of multiple driver assistance and information functions into the driving environment. In order to realise this, three sub-goals have been defined:

- 1. Development of a model for prediction of behavioural effects of driver assistance and information systems.* This model will be the basis for the design of the adaptive integrated driver-vehicle interface.
- 2. Development of a generic, industrially applicable, methodology for the evaluation of road vehicle human-machine interfaces with respect to safety.* This methodology will be used for verifying the quantified goals stated above.
- 3. Design, development and evaluation of an adaptive integrated driver-vehicle interface which will be implemented. into three prototype vehicles, one city car, one luxury car and one heavy truck.*

These sub-goals constitute the specific objectives for each of the three main sub-projects in the IP, SP1-3. The fourth sub-project contains a number of horizontal activities with independent objectives, such as IP management, dissemination and exploitation, guidelines and standards and review and assessment.

The work performed during the first year has involved all contractors of the IP, listed below

<b>Industry</b>	<b>Research Institutes and others</b>
Volvo Technology	European Commission Joint Research Centre (JRC)
BMW Group Forschung und Technik	INRETS
DaimlerChrysler	TNO
Ford-Werke	Institute of Communications and Computer Systems (ICCS)
Adam Opel	German Federal Highway Institute (BAST)
Peugeot Citroën Automobiles	CIDAUT
Renault Recherche Innovation	Swedish National Road and Transport Research Institute (VTI)
Centro Ricerche Fiat	VTT Technical Research Centre of Finland
Seat Centro Técnico	Centre for Research and Technology – Hellas
Robert Bosch	University of Stuttgart
Johnson Controls	University of Leeds
Siemens VDO	Linköping University
Motorola	University of Genova (DIBE)
KITE Solutions	ERTICO

## **Work performed and results achieved during the reporting period**

### ***General***

The current reporting period covers the first 12 months of the project. This period roughly corresponds to the *review, requirements and specification phase* of the project. The general objective for this period was to perform reviews of relevant models, methodologies and technologies and provide initial requirements and designs/specifications for the experimental work, the DVE model, the evaluation methods and tools and the general functionality of the AIDE system itself. Moreover, most of the development activities were launched during this period. The work has involved all 28 contractors of the project. In general the objectives for the reporting period have been achieved.

During this reporting period a gap was identified in I/O device development which was considered critical for the project. This problem was created due to the change of interest of some partners which were originally planned to work on this field. Thus, during the reporting period an action plan was put into operation, where an invitation was made for additional partners specialising in specific types of I/O devices, mainly, haptic inputs, speech and head-up displays. After a selection procedure, a preliminary solution was found where two new partners specialising on speech (Scansoft) and haptic inputs (Telenostra) had signed a letter of intent. In addition developers of innovative automotive displays were identified and solutions were found to cover also this need of AIDE demonstrators. The work to finalise the contract with these partners, will continue during the next reporting period and is expected to strengthen the consortium of AIDE thus supporting the achievement of its objectives.

### **SP1 Behavioural effects and DVE modelling**

The general objective of SP 1 is to develop a basic understanding of the DVE interaction and the behavioural effects of IVIS and ADAS and develop this into a model and computer simulation for predicting these effects. The sub-project will also develop the general conceptual framework to be used throughout the project, including the definition of taxonomies for IVIS/ADAS functions and their behavioural effects.

During the first year, a major focus has been on reviewing the literature on existing results on behavioural effects and driver behaviour models. The results are documented in D1.1.1a and D1.2.1. Thus, by the end of the first year of work the major modelling paradigms that support design of HMI and the major variables that characterised behavioural adaptation have been identified. Moreover, plans for the experimental work have been devised and documented in D1.2.2.

The actual development of the DVE model has been started as well, both of the more generic (G-) DVE model and the more detailed Electronic (E-DVE) model. This work is described in D1.1.1b and the draft D1.1.2. Finally, the work on the implementation of the DVE interaction has also been started. The initial work in this reporting period focused on the analysis of the methods and software tools for simulation development.

In general, there are no substantial deviations from the work plan.

### **SP2 Evaluation and assessment methods**

The overall objective of SP 2 is to develop a generic methodology for evaluating the behavioural and risk implications of integrated adaptive systems, and to apply it to the three prototypes that

will be handed down from SP 3. Thus, the plans for SP 2 are directed towards having the methodology ready – and validated – by the end of year 3 of the project.

The elements that have been worked on in Year 1 are:

- The development of relevant test scenarios.
- The development of off-line workload assessment tools, which should be incorporated in the final methodology.
- The developments of tools and models that permit the estimation of risk (reduction) effects of integrated adaptive systems, again to be incorporated in the final methodology.

Like in SP1, some initial effort was spent on reviewing the state-of-the-art on evaluation methods and tools (D2.1.1), as well as metrics for workload and distraction assessment (D2.2.1). A generic taxonomy for IVIS and ADAS was also developed (D2.1.2).

Overall, the progress has been according to plan. At the start of year 2 the AIDE SP2 team can claim that is ready for the major step of developing the candidate methodologies.

### ***SP3 Design and development an adaptive integrated driver-vehicle interface***

The objective of SP3 is to design, develop and validate an adaptive integrated driver-vehicle interface for road vehicles (including both cars and heavy trucks) for the safe integration of multiple IVIS and ADAS functions, including nomad devices. The design and development of the HMI is partly based on the achievements of previous European funded projects but the ambition is to develop a wide range of innovative HMI features which will drive the development of the future automotive environment.

The work during the first year mainly involved the definition of the general scope and functionality of the AIDE system, based on an analysis of user needs, previous projects and the SoA. This was accomplished through the definition of scenarios and use cases documented in D3.1.2. Moreover, a benchmarking of AIDE-related technologies was performed and documented in an internal report. Also, a Nomadic Device Forum has been launched during this reporting period and a workshop was held in Brussels 20/1/2005 with the participation of all major stakeholders from automotive and telecom industries, as well as authorities. The main aim of this Forum is to bring together all stakeholders in the are of Nomadic devices and their safe use within the vehicle. The Forum is open to participants outside AIDE.

Another important activity initiated during this period was the work on defining the requirements on the AIDE system, based on the scenarios and use cases. This work was originally planned to finish within the reporting period but due to the problems described above (need for additional partners on I/O devices), it had to be postponed to M15 (with the EC consent). The parallel work on defining the AIDE system architecture was launched as well and a major workshop was held in Brussels in January 2005. This also included the launch of the AIDE Architecture Forum. This Forum is also open to participants outside AIDE and its main focus is to present an HMI SW architecture concept which will gain a general consensus and approval by all interested parties.

During the reporting period, the requirements and specifications of the DVE monitoring modules (Modules able to monitor the driver the Vehicle and the Environment in order to enable the AIDE HMI adaptivity) have been finalised and the sensor array is defined (each module and associated sensors are described in detail). The development of the modules work has started as well. A

problem identified here was the lack of map attributes and positioning data for DVE modules and ICA. An action plan was defined and the issue is expected to be resolved within the next reporting period.

Finally, first discussions have been initiated between the T3.4.1 partners on the HMI design and the general logic of the Interaction and Communication Assistant (ICA). This also included the work on the integration of Nomadic Devices. The main part of the HMI- and ICA development is scheduled for the next reporting period, however. Thus, the problem described above regarding missing I/O suppliers was not considered critical for the work in this reporting period as the main part of this work is scheduled for year 2.

### ***SP4 Horizontal activities***

This sub-project differs from the others in that it contains a rather heterogenous set of activities with relatively independent objectives of a horizontal nature:

#### *WP4.0 Technical coordination*

The objective of this WP is to perform the technical management of the sub-project as well as of the IP as a whole. The most important task is to manage interactions between the AIDE SPs as well as with external project. During the first year, this work involved monitoring of the technical progress in the IP but also regular meetings with leaders of other relevant initiative, in particular HUMANIST, PREVENT and the other projects in the EUCAR Integrated Safety Program. An Interaction Management Plan was developed and documented in an internal report.

#### *WP4.1 Consortium management*

The objective of this WP is to perform the administrative management of the project. Work during the initiation phase included setting up the administrative management routines, the consortium management team, the quality processes and the online collaboration tool. Another important activity was the signing of all relevant contracts. Moreover, a analysis of the gender balance in the project was performed. After the initiation phase daily administrative coordination was performed. The Core group met every quarter to follow up progress on both partner and SP quarterly reports, to decide and initiate actions on any problems. The Core Group is now a well established working group that works in fruitful and well managed way. Another important activity in this WP was to find a solution to the missing I/O device partner problem described above.

#### *WP4.2 Dissemination and exploitation*

During the first year of the AIDE project a solid basis for the dissemination and Exploitation tasks was developed. The dissemination roadmap was set in order to efficiently direct all publications presenting AIDE's results while various types of dissemination material were produced including a, leaflets, posters, newsletters etc. Moreover, the project website ([www.aide-eu.org](http://www.aide-eu.org)) was implemented and launched. Also, the project was presented at a number of workshops and conferences and a substantial number of papers were published. In order to better manage and monitor the publications emanating from the project, a publication strategy was defined. A User Forum was established where participants outside AIDE were invited and a first Workshop was scheduled for March 2005. With respect to exploitation, a template was issued to collect from each partner information about exploitation and socio economic impact. The aim is to collect information by partner every year, where the exploitation plan contains a public part as well as a private part. The data assembly and documentation process described in the exploitation plan will start in April 2005, following the AIDE project plan. Finally within this WP an

Innovation Observatory is under preparation which will publish in between other thinks new developments in the area, a Glossary and interested papers and articles.

#### *WP4.3 Guidelines and Standards*

During the first year, a review of existing relevant guidelines and standards were conducted, which is documented in D4.3.1. Furthermore, input from the task was given by supporting partners that participate the eSafety ESoP-WG. The project was also represented in relevant ISO working groups.

#### *WP4.4 Review and assessment*

The methodology of assessing the AIDE project was defined during the first year. This methodology is aiming in assessing internally the AIDE IP in a measurable way and is related to all aspects of the AIDE IP. The first two assessment reports (D4.4.1a and b) indicated a viable project with no significant deviations to planned workplan or resources.

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