1st Newsletter

26 October 2004

AIDE PROJECT
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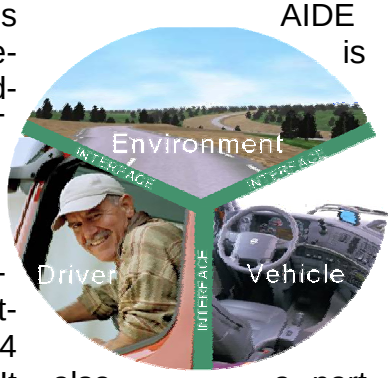
AIDE Integrated Project co-funded by 6th FW

"Adaptive Integrated Driver-Vehicle Interface" (AIDE) project is an EC co-funded research project, addressing the IST strategic objective of "e-Safety of road and air transport". AIDE research activities last 4 years starting from March 2004 until February 2008. It is composed by a consortium of 28 partners from all over Europe, equally shared between the industrial and the academic sector. AIDE is also a part of the EUCAR Integrated Safety Program and is closely linked to other initiatives of the EC 6th Research Framework.



As part of the joint industry-public e-Safety initiative and the EUCAR Integrated Safety Program, AIDE, gathers the leading European vehicle manufacturers, automotive suppliers and research institutes in a joint effort to develop the driver-vehicle interaction concepts of the future.

AIDE vision and scope

The driving vision behind the project is the concept of the Adaptive Integrated Driver-vehicle InterfacE. This is a unified, natural and intuitive interface between the driver and the vehicle that integrates multiple in-vehicle functions in a safe and efficient way. The interface enables interaction in multiple sensory modalities (visual, auditory and haptic) and should be adaptive in real time to the current driving situation and the individual driver. In order to realise this vision, the AIDE IP integrates behavioural research, development of evaluation methods and the development of HMI technologies.

adaptive integrated driver-vehicle interface

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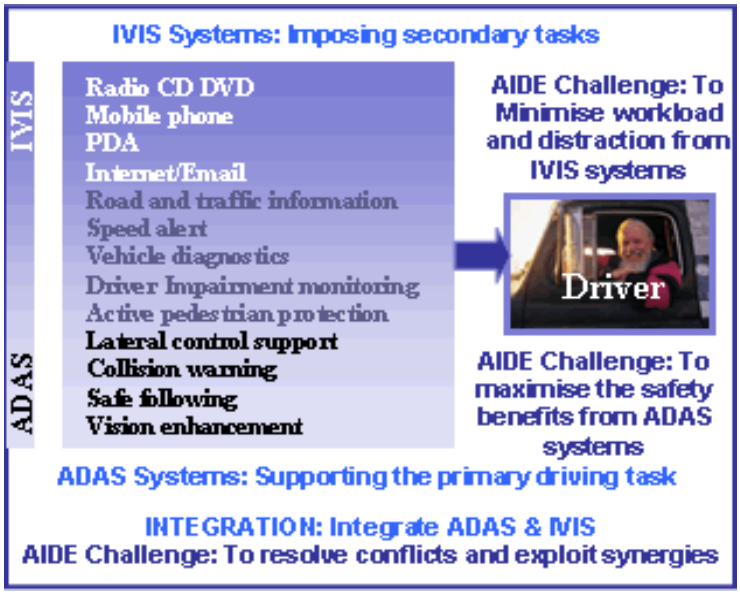
Created by AIDE Dissemination Manager

ICCS

AIDE Challenge

Road safety is a major European health problem. In the "White Paper on European Transport Policy for 2010", the European Commission declares the ambitious objective to reduce by 50% the number of fatal accidents on European roads by 2010.

While conventional vehicle safety measures (e.g. seatbelts and airbags) have contributed significantly to the reduction of accidents in the last decades, their contribution is reaching its limits and currently further improvement is difficult to achieve at a reasonable cost. Today, the development of new Advanced Driver Assistance Systems (e.g. collision avoidance-, lane-keeping aid- and vision enhancement systems) offers great potential for further improving road safety.



In order to accelerate the research and development and deployment of these technologies, the eSafety initiative has been set up. This is a European joint public-industry initiative aimed at promoting the development and deployment of Intelligent Road Safety Systems.

Human-Machine Interaction (HMI) is identified as one of the key building blocks for integrated safety. The AIDE Integrated Project (IP) has been set up to address HMI issues within a general European joint effort towards the large-scale deployment of Intelligent Road Safety Systems and, ultimately, a significant reduction of road accidents.

Automotive Human Machine Interaction (HMI) – key future challenges

The AIDE integrated project (IP), has been set up to address a number of key challenges in for future automotive Human Machine Interaction (HMI) design:

- New Advanced Driver Assistance Systems (ADAS) offer great potential for preventing accidents related to driver error. A critical challenge is to design the HMI in order to maximise the efficiency (and hence the safety impact) of these systems.
- In-vehicle Information Systems (IVIS), including nomad systems (i.e. systems brought into the vehicle by the driver or passengers), are major potential distractors in future vehicles. The key challenge here is to develop methods and HMI concepts that minimise the distraction imposed by these systems.
- As the number and complexity of in-vehicle systems increase, a key challenge concerns the integration of these systems into a functioning whole, resolving conflicts and exploiting synergies between systems in their interaction with the driver.

AIDE Objectives

The goal of the IP is **to design, develop and validate a generic** Adaptive **Integrated Driver-vehicle InterfacE (AIDE) that…**

…maximises the efficiency of individual and combined advanced driver assistance systems by means of innovative, integrated and adaptive, human-machine interface concepts that prevent negative behavioural effects (e.g. under-load, over-reliance and safety margin compensation) and maximises positive effects (e.g. enhanced situational awareness), thereby enhancing the safety benefits of these systems. **AIDE should demonstrate significantly enhanced safety benefits compared to existing solutions.**

..reduces the level of workload and distraction related to the interaction with individual and combined in-vehicle information and nomad devices, thereby reducing the number of road accidents. **AIDE should demonstrate a significant reduction in the imposed workload and distraction compared to existing solutions.**

…enables the potential benefits of new in-vehicle technologies and nomad devices in terms of mobility and comfort, without compromising safety. **AIDE should demonstrate that the benefits of new in-vehicle technologies could be enjoyed without increased accidents risk.**

The AIDE Integrated Project: European automotive industry and research institutions join forces towards the driver-vehicle interaction concepts of the future

AIDE Work Structure

AIDE work is organised in four sub-projects (SPs):

SP 1: Behavioural effects and driver-vehicle-environment modelling

SP 2: Evaluation and assessment methods

SP 3: Design and development of an Adaptive Integrated Driver-vehicle Interface

SP 4: Horizontal activities

The main technical output of the 4-year project will be three demonstrator vehicles implementing the AIDE concepts, a city car, a luxury car and a heavy truck.

Sub-project 4: Horizontal activities (VTEC)

SP4 role is to gather activities that are common to SP1-3 such as the IP management, the dissemination and exploitation, the Guidelines and standards and the review and assessment of project results.

Main technical output: General design guidelines and proposal for standards for adaptive integrated interfaces.

Sub-project 1: Behavioral Effects and Driver-Vehicle-Environment Modeling

Leader: JRC

Vice leader: PSA

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.

Main technical output: Model and simulation of behavioural

Sub-project 2: Evaluation and Assessment Methods

Leader: TNO

Vice leader: BMW

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.

Main technical outputs: Generic methodology for evaluating adaptive integrated interfaces.

Sub-project 3: Design and development of an Adaptive Integrated Driver-vehicle Interface

Leader: ICCS

Vice leader: CRF

Design and development of an adaptive integrated HMI which will be implemented and demonstrated into a city car, one luxury car and one heavy truck. The AIDE HMI will be supported by a number of driver-vehicle and environment modules while it will integrate Nomad devices.

Main technical outputs: A fully adaptive and integrated HMI based on an intelligent management and communication system. 3 demonstrators (city car, luxury car and heavy truck). A modular

User Forum

The AIDE User Forum aims to bring together all stakeholders in the area of the Automotive HMI and to create a community where AIDE concepts and developments will be discussed, reviewed and updated.

The User Forum will involve external organizations including end users, unions, NGOs, Industrial and Research organizations that are not participating to AIDE etc. This forum will play a major role not only to the dissemination of AIDE but also to the exchange of information, to the evaluation of AIDE concepts, designs and later results. Members of this forum can be invited to review public deliverables and documents of AIDE, as well as to meetings and workshops. AIDE User Forum will be done in close cooperation with the AIDE NOMAD Forum that will focus to the nomad devices and their inclusion to the vehicle environment.

Within User Forum two major European Workshops will be organized in order to discuss a number of issues regarding HMI architecture, Design scenarios for an adaptive HMI, Standards and Guidelines, Driver-vehicle-environment modeling for HMI design, behavioural adaptation to ADAS and IVIS and HMI evaluation issues.

1st User Forum Workshop

The AIDE consortium is pleased to announce the realization of the first AIDE User Forum workshop that is going to be held at BAST premises, in Cologne, Germany, 15-16 of March 2005.

The first day of the workshop will include plenary and keynote presentations and a round table discussion where key stakeholders will participate (EC, EUCAR, CLEPA, ERTICO, FIA, public authorities etc).

The second day will have several parallel sessions as the above mentioned items.

"1st User Forum workshop
15-16 March 2005
Cologne, Germany"

The AIDE results on architectural concepts and HMI designs will be presented and discussed.

The draft workshop agenda and the registration form will follow soon. For more information on the workshop please visit AIDE's website (www.aide-eu.org) or contact AIDE Dissemination manager:

Dr. Angelos Amditis

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Architecture Forum

Since all architectural aspects are highly important already at an early stage of the project, an Architectural forum is established with the participation of OEMs, suppliers, and all interested parties, which will follow the state-of-the-art on automotive standards, buses and in-vehicle networks to ensure a common and high-level design and performance. A core team comprised of OEMs and other partners of AIDE consortium will be responsible for the creation of a common architectural platform for AIDE.

The forum will operate as a communication and decision platform for all important steps and results of the system architecture development. Moreover, close links will be established with the EASIS STREP, which is also part of the Integrated Safety Program, and aims at the development of general electronics architecture for vehicle safety functions. Links will also be formed, through the project partners, with ongoing projects in this area, e.g. EAA-EAST.

For more information on AIDE Forums visit AIDE website: www.aide-eu.org

Nomadic Devices Forum

If Nomad Devices are not well designed, controlled and installed they could pose a safety threat. There were calls for more research to understand their risks, the need to extend existing guidelines (e.g. ESOP) to include nomad devices, and for a wide-ranging safety charter to include the full range of stakeholders. Working towards this end within the AIDE project, a Nomad Device Forum is organised as a focus group for all issues relating to nomad devices in the project, leading to the validation of user and stakeholder requirements at the start of the project, and of the AIDE solution that emerges.

A broader aim of the Nomad Forum is to establish itself as the principal European body in the area of Nomad Devices, continuing its work after the end of the AIDE project and supporting the take-up of the AIDE results and application of future guidelines for nomad systems. Many stakeholders such as vehicle manufacturers, automotive suppliers etc are involved or interested in nomad devices.

The aim is to attract the most active and influential participants, who are willing to help create and validate a cross-industry consensus for a sin-

Nomadic Devices Workshop

AIDE consortium and ERTICO – ITS Europe is organizing the Nomad Devices workshop that is going to be held on the 20th of January 2005, Brussels Belgium. The objectives of the workshop are to:

• convene a cross-sector working group concerned with all aspects of nomadic device integration and use in the vehicle, as a first step towards creating a standing Nomadic Device Forum

• Identify key issues for nomadic devices: safety, design, integration/installation, use etc

• Present the AIDE project and its work on nomadic device integration

- Verify use cases and user/ stakeholder requirements for the AIDE solution.

Programme highlights

Presentation of AIDE project and its work on nomad device issues

Nomadic devices: safety issues; benefits and market outlook; in-car integration issues

Nomadic device use cases and draft user/stakeholder requirements

"Nomadic Devices workshop
20 January 2005
Brussels, Belgium"

Preliminary AIDE approach for nomadic device integration and management

Breakout groups: safety issues; industry requirements; convergence towards one solution

Who should attend?

This workshop will be of interest to:

• vehicle manufacturers;

• automotive suppliers;

• digital map suppliers;

• device manufacturers;

• application software suppliers;

• mobile phone operators;

• service providers;

• public authorities & agencies;

• users' representatives;

• the road safety community;

• insurance industry;

• inspection/certification bodies.

Contact

For more information on the workshop please contact Paul Kompfner, ERTICO

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e-mail: p.kompfner@mail.ertico.com

AIDE Forums

AIDE Consortium invites all interested people and companies to subscribe to AIDE Forums. AIDE Forums aims to bring together all stakeholders in the area of the Automotive HMI and to create a community where AIDE concepts and developments will be discussed, reviewed and updated.

If you wish to participate to AIDE User Forums kindly fill in the following form and send it to:

Angelos Amditis

E-mail: angelos@esd.ece.ntua.gr

AIDE Forums

I want to participate to the following AIDE Forums:

❒ AIDE User Forum

❒ AIDE Architecture Foruk

❒ AIDE Nomadic Devices Forum

I understand that I will have no obligations whatsoever and every possible participation to the project's activities will be strictly voluntarily. I can also withdraw my participation at any time with a simple E-mail to: a.amditis@iccs.gr

First Name:	
Last Name:	
	Mr ❒ Ms ❒
Company:	
Function in Company:	
Interest in AIDE:	
E-mail	
Telephone:	
Address:	

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Sixth Framework Programme (FP6)

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For more info visit AIDE website:

www.aide-eu.org

AIDE Partnership

The project consortium includes 28 partners with a 50-50 % split between industry and research institutions. The consortium includes the majority of the key players in previous EU-funded activities in the HMI area namely; VTEC, BMW, DC, FORD, Opel, PSA, REGIENOV, CRF, SEAT, Bosch, JCI, SV, JRC, INRETS, TNO, ICCS, BASt, CIDAUT, USTUTT, VTI, VTT, CERTH/HIT, UNIVLEEDS, LIU, DIBE, ERTICO , Motorola Ltd and KITE.

The project is coordinated by Volvo Technology Corporation (VTEC) and is led by a core group consisting of VTEC (S), BMW (D), Bosch (D), CRF (I), ICCS (EL), JRC (EC), PSA (FR) and TNO (NL).

The project is part of the EC's eSafety framework and the EUCAR Integrated Safety Program, and has close links to other related FP6 initiatives.