

BENCHMARKING PROMOTION AND DEPLOYMENT ACTIVITIES REGARDING INTELLIGENT VEHICLE SAFETY SYSTEMS IN THE EU

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I ABSTRACT

This paper presents the results of a Benchmarking study performed in the European Union on Awareness and Promotion & Deployment activities related to Intelligent Vehicle Safety (IVS) systems (1). The study, commissioned by the European Commission under the Intelligent Car Initiative (a i2010 flagship initiative), consisted of three phases: definition phase, data collection and analysis. The definition of the indicators and identification of the stakeholders made use of the translation of the AIDA-concept (Acceptance, Interest, Desire, Action) to the IVS systems context: the AUWE-concept (Awareness, Understanding, Willingness-to-buy, Equipment). It identified potential activities of different stakeholders to influence deployment of IVS systems. In the second phase data for the different stakeholder groups was collected by means of a web questionnaire in the 27 concerned countries. The data revealed that the different countries in the EU have different levels of awareness and are currently working on a wide range of promotion and deployment activities. In the analysis it was shown that promotion and deployment activities addressing the “willingness-to-buy” lacks attention. This resulted in recommendations for the commission in setting up a set of guidelines in order to assist the countries and stakeholders in these countries to raise awareness and to unfold promotion and deployment activities in a efficient manner.

II INTRODUCTION

The Intelligent Car Initiative (ICI) is one of the i2010 flagship initiatives aimed at having an impact on the quality of life. The ICI addresses the European road transport problems of avoiding accidents, improving energy efficiency of vehicles, and reducing congestion, thereby increasing the overall competitiveness of the European market. One pillar of ICI focuses on using Information and Communication Technology (ICT)-based solutions in order to realize the potential offered by these new technologies. This pillar recognizes the potential of ICT to reduce the negative societal impacts of mobility (congestion, safety and pollution). The negative impacts can be found in 40.000 people losing their lives on the roads of Europe every year, but also in the “conservative” estimations of congestion costs of 2% of the EU GDP (2). In contrast to the large potential, IVS systems are not yet widely deployed. The goal of this project is to identify the current status of deployment of IVS systems and to identify potential actions to speed up the deployment of IVS systems.

Goal of the project

To create a baseline in the field of Intelligent Vehicle Safety systems (IVS systems) the European Commission (EC), commissioned a benchmarking study of the activities in raising awareness, promotion and deployment of intelligent vehicle systems in the 25 EU member states (2006) plus Norway and Switzerland. With the results of this benchmarking study in hand the European Commission will be able to target policy measures in this field more effectively, stimulate the exchange of ‘best practices’ between the EU member states and measure the effectiveness of the policy actions. The study was performed over a period of nine months and consisted out of several phases as will be described in the following section.

Structure of the paper

This paper will follow the different steps taken in the study (1). In the first section the methodological framework will be established in order to identify the conceptual map of consumer buying behavior. The classical concept of AIDA (Attention, Interest, Desire, Action)

will be used as a starting point to create a new concept, the AUWE concept. This AUWE concept is a practical adaptation of the AIDA concept to the IVS systems context and consists out of four different steps: Awareness, Understanding, Willingness-to-Pay and Equipment of the Vehicle. The first two steps of this concept can be influenced by different promotion activities from specific stakeholders, the third step is connected to deployment initiatives by specific stakeholders. The second part of the theoretical framework contains the identification of potential stakeholders and their potential actions, which influence the first three AUWE steps. The second section concerns the collection and processing of the data. To identify the different action points data was collected for the different stakeholders on the different activities. The data collection was done by means of a web questionnaire in which specific experts of the EU-25 (+2) were questioned on the different activities they perform. The third section of the paper will be concerned with the analysis of the results per country and per stakeholder group and will make a comparison with other studies recently performed in the EU, like the Conti Safety Study (3) and the Eurobarometer study (4,5). The last section of the paper formulates the conclusions and identifies promising activities for the EC to influence the deployment of IVS systems.

III METHODOLOGICAL FRAMEWORK

The methodological framework consists of two steps (6). In order to understand the effect of awareness, promotion and deployment activities of stakeholders the conceptual map of the driver needs to be developed. Secondly the use of benchmarking is discussed together with potential activities by different stakeholders.

AIDA

The starting point of the methodological framework was the identification of ways to influence the human mental process. This understanding is necessary to be able to identify what activities are needed to convince drivers to equip their vehicles with IVS systems. This is done in cognitive psychology, which studies the mental processes which underlie thinking, reasoning and decision making. To name only a few aspects, cognitive psychology covers memory, attention, perception and knowledge representation.

The mental processes form the basis for a phased approach which is broadly used in advertising and marketing. Concerning the consumer awareness of products, the AIDA approach is a well established concept. It was initially formulated by Strong (7) in the early 20th century. AIDA stands for the different phases a customer goes through before she or he buys a good:

- Attention: attract the attention of a customer,
- Interest: raise customer interest by demonstrating features and benefits,
- Desire: convince customers that the good will satisfy their needs,
- Action: stimulate customers to buy a good.

All phases are equally important and need to be fulfilled. Promotion campaigns are often tailored to one specific phase and followed by another campaign which is directed to the next phase. Next to this approach there is the well known marketing concept of the four P's (Product, Place, Promotion and Price). This concept was not chosen, because a practical translation had to be made from the AIDA concept towards AUWE, which is specifically tailored for IVS systems.

The AUWE concept: an application of AIDA

To be able to use the AIDA concept for IVS systems a translation to a more practical use has to be made, because the underlying mechanisms of deployment of IVS systems are quite

comparable to the AIDA steps. The demand for IVS systems has to be stimulated so that mature systems can be launched and the market takes them up in a sustainable way. In this context, the AIDA phases provide helpful orientation for the execution of the benchmarking exercise in general and particularly for potential benchmarking indicators. With respect to the users, the AIDA phases may then turn into the AUWE concept. AUWE stands for the phases Awareness – Understanding – Willingness to buy – Equipment:

- The first phase represents the consumer's awareness of an Intelligent Vehicle Safety System. Awareness ("Do you know the system XY?") is an indicator which is often covered by a public opinion poll. The recent Eurobarometer surveys (4,5) cover these issues for the European Union member states both qualitatively and quantitatively.
- Next to awareness a potential user should know exactly what a specific system does in his or her vehicle. Otherwise, he or she will not be able to estimate the utility of the system. Such a question on technical understanding has been recently asked by Eurotest (8).
- The correct understanding of the operation should enable the customer to articulate his or her willingness-to-buy on a rational basis (either yes/no or specified in monetary terms). An example for such a stated preference analysis can be found in J.D. Power (9).
- The last phase which corresponds to the action phase within AIDA is equipment. It means that a consumer has equipped his or her car with a particular system. Currently no information on equipment rates are available. In the coming years – as more and more electronic systems will be included in periodical vehicle inspections – such information will become available from institutions which are involved in the deployment and maintenance of vehicles in Europe.

The AUWE concept provides an adequate framework for the modeling of consumer behavior related to IVS systems. However, for completing the conceptual map it is necessary to link the AUWE concept to the stakeholder activities in the field of IVS systems.

Another common analytical tool for mapping the position of new products in a time based

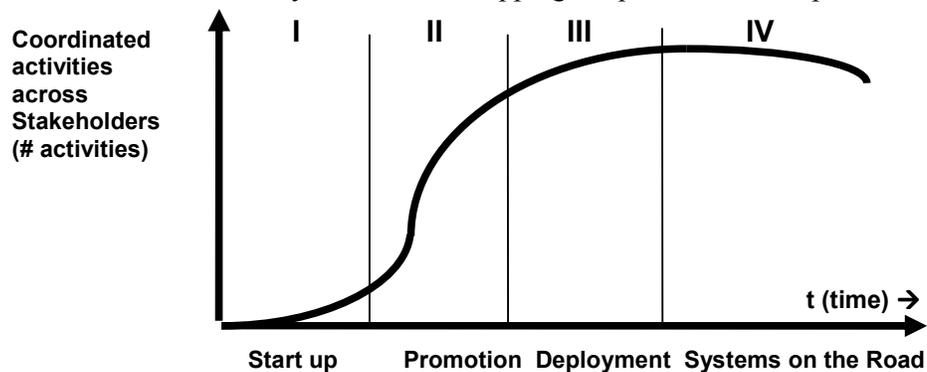


FIGURE 1 Phases of IVS systems deployment

perspective is the product life cycle. Basically, it distinguishes between the four phases; start-up or market introduction, growth, maturity and saturation or decline. Promotion and deployment activities play a major role in the early phase of the product life cycle. In order to penetrate the market a more comprehensive activity coordination across stakeholders is needed. This is illustrated in Figure 1 where it is shown that promotion and deployment activities need coordination of activities between stakeholders in order to get systems on the road.

For Europe it would prove interesting to identify the state of the activities and the corresponding actions by the different stakeholders. In other words a baseline as well as a definition for best practices is needed to understand the differences between stakeholders and countries in the European Union is needed. This definition can be found in the benchmarking theory.

Benchmarking

Benchmarking has been variously defined in dictionaries, by companies and by people involved in strategic management processes. Common definitions identify benchmarking as the search for industry best practices which lead to superior performance. Traditional competitive analyses focus on products, strategies and performance parameters to compare a certain business with its peers and how much it deviates from the customary standards within a particular industry (10). Usually, these key business figures are evaluated in relation to a benchmark company which shows superior results and therefore serves as a point of reference. But this view of benchmarking which has been used earlier is far too limited. Instead of comparing key (financial) figures for the purpose of ranking a company or stakeholder against competitors or best practices, benchmarking can be defined as follows: “Benchmarking is the process of continuously measuring and comparing one’s business products, services and business processes against comparable products, services and processes in leading organizations worldwide to obtain information that will help the organization identify and implement improvements.” (11,12)

This operational definition addresses several key issues and enables the use of benchmarking in the promotion and deployment process of IVS systems in the EU:

- The purpose of a benchmarking study is not only to compare different (implementation) measures for the sake of evaluation, but learning of achievement or improvements and development of new strategies.
- Although performance measures (e.g. realized market penetration rate of IVS systems) are an important element in the comparison, processes, i.e., how certain tasks are performed, are the pivotal element.
- By looking at the leading organizations which perform their processes better, the best available performance level can be imitated or converted to particular conditions.
- The external focus is not limited. Comparison with the best companies or stakeholders on a European (international) level, regardless of sector, expands the variety of possible innovative solutions.
- Benchmarking should not be a one-off event. Rather, it should be treated as a continuous process in which organizations continually try to evaluate and challenge their practices.

As can be seen in the paragraph above benchmarking has a wide variety of uses. It is mainly concerned with the comparison of results of different companies with the goal to learn from the best. The main focus in this study is the identification of promising activities and to find out who achieves the best results. This will give the EC handles to progress in the deployment of IVS systems. Furthermore the goal of the study was to establish a baseline and a methodology to allow for a rerun of the study within a couple of years to allow comparison in time.

Potential promotion and deployment activities

This section discusses the potential promotion and deployment activities as indicators of best practice. The indicators are not only the subject of the Benchmarking study, but also

construct the action frame that can be drawn up by the different stakeholders when looking for possible activities to support the promotion and deployment of IVS systems. These activities are conducted by the stakeholders to support the deployment of IVS systems. The nature, mode of action and effectiveness of single measures shall be evaluated within the Benchmarking process. The indicators for the possible supporting measures are presented below:

- *research projects and activities*

An opportunity to check for the state-of-the-art level of information and awareness of IVS systems or to promote such systems can be research projects and activities. This indicator can be used by several stakeholders involved in the analysis. Manifold forms of research activities can be imagined: on one hand initiatives of single stakeholders to promote own products or to gain useful information are probable, on the other hand consortiums of stakeholders and researchers can be built that are looking for common interests and possibilities to support IVS systems. In this case research does not only serve as information or a knowledge tool, but also as a platform to exchange experiences and to gain network effects.

- *Memorandums of Understanding, voluntary agreements*

An activity to promote IVS systems and to support their deployment can also be bilateral agreements between different parties or stakeholders (companies, governmental institutions, etc.). An example of this might be an agreement of industrial partners for the area-wide equipment of cars in lower market segments with IVS systems. Such agreements (i.e. Memorandums of Understanding, voluntary agreements) express a convergence of will between the co-operating partners. They can be used on company-level, but also national, European and international agreements are imaginable. But the effectiveness of such instruments is strongly related to the commitment of the partners. Voluntary agreements generally lack the binding power of a contract. They indicate a common line of action between the partners rather than a legal commitment.

- *marketing instruments*

Marketing instruments can be used as well by several stakeholders to promote and support the deployment of IVS systems. They offer manifold opportunities: on one hand different promotion activities and public awareness campaigns can be used to enhance the awareness and the attractiveness of IVS systems for end users, on the other hand stakeholders (i.e. OEMs, suppliers) do have the possibility to use instruments of their product and distribution policy (i.e. product packages or bundling of systems with other features, test vehicles etc.) to increase the sales volume of such systems.

- *monetary instruments*

Another important indicator, especially among the activities for deployment of IVS systems, is monetary instruments, i.e. tax reductions for consumers and companies, subsidies, reductions of participation or member fees and insurance premiums. As these examples show, this instrument is not at all limited to one special stakeholder (i.e. government or governmental institutions). Other stakeholders can also make use of such measures to ensure a high attractiveness of IVS systems (or cars equipped with such systems) for car drivers and owners.

- *legal obligations*

Alternatively the government or related institutions can set legal obligations to enhance the deployment of IVS systems. This instrument is of great importance for the support of such systems: legal obligations can force car drivers and owners more than other instruments to make use of the advantages that will be offered by IVS systems in terms of road safety and environmental aid. Legal obligations can be set not only in terms of mandatory car equipment or

performance criteria, but also for IVS systems being part of periodical car inspections etc. After these different kind of activities a mapping of the activities of different stakeholders on the AUWE concept is an interesting next step. This mapping is shown in figure 2.

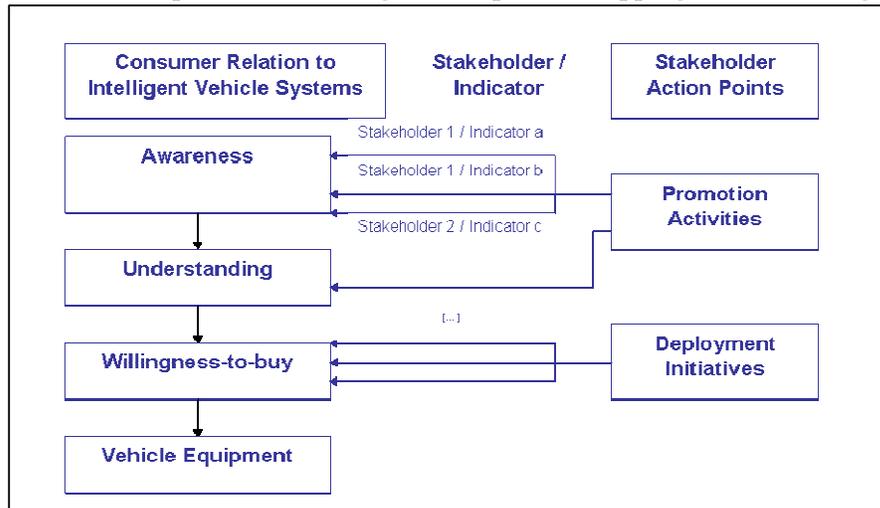


FIGURE 2 Conceptual map of the influence of promotion and deployment activities

In figure 2 it is shown that different stakeholders influence either one of the first three phases of AUWE by means of promotion activities or deployment initiatives. For each phase several different activities can be identified and if stakeholders cooperate progress to the next phase is speeded up. The last phase, equipment of the vehicle is merely a case of supply and demand from the economic point of view. If drivers want a specific system in their car, the car industry will take care these systems will become available. The first three phases however can be influenced by different, but coordinated, activities from different stakeholders. In the study the following stakeholders were used:

- Governmental Institutions
- Road operators
- Road Safety Organizations
- Driving associations, insurance companies, freight organizations
- ITS organizations
- Launching customers, fleet managers
- Car manufacturers and suppliers
- Car maker associations

The last phase of the methodological framework was the identification of these different stakeholders in the concerned countries. Key persons were sought who had an good overview of activities in their specific country. This ended the methodological framework and started the data collection process to find activities related to promotion and deployment.

IV DATA COLLECTION

The data was collected by the means of a web questionnaire and more than 400 stakeholders were contacted. A number of 188 stakeholders responded and these answers were further analyzed. For two countries of the EU-25 no input was received and from 3 stakeholder groups the number of respondents was too low to take their information into account either. First a pure qualitative analysis was performed on the answers given. No statistical evidence could be found in relation to awareness and size of the country, duration of membership (old or new member states) or GDP. The qualitative analysis revealed a certain amount of interesting issues.

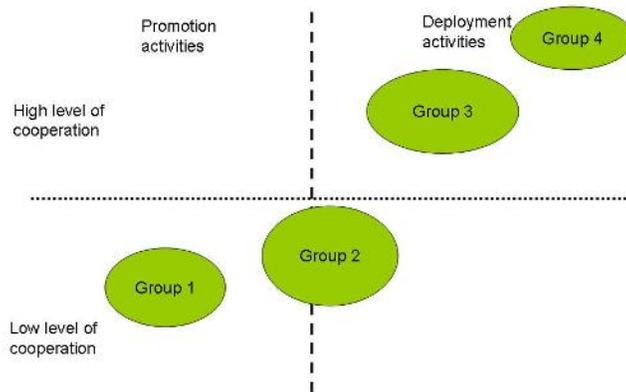


FIGURE 3 Analysis promotion and deployment for the countries

Figure 3 shows that four different groups can be distinguished, by the activity types and the level of cooperation between stakeholders. Group 1 consists of countries that are currently starting their first awareness raising activities. In these countries little cooperation among stakeholders is taking place. The countries in this group are Cyprus, Latvia, Luxembourg, Lithuania and Slovenia. Group 2 contains countries where several stakeholder groups already have progressed from promotional to the first deployment activities, for example demonstrations and tests. However there is not a great deal of cooperation between the stakeholders of these countries and not all stakeholders are evenly aware. The countries in this group are Poland, Portugal, Ireland, Estonia, Switzerland, Greece, Hungary, Czech Republic and Slovakia. In group 3 has countries with stakeholder cooperation in carrying out activities. The cooperation activities include Memoranda of Understanding, FOT's and Public Awareness Campaigns. The countries in this group are Spain, France, Denmark, Finland, Norway, Belgium, Italy, Germany and the Netherlands. The fourth and last group (group 4) is made up of countries that have already progressed beyond the test deployment phase and are currently working on significant promotion to allow for large scale deployment within their countries. There are three countries in this category, namely Sweden, the United Kingdom and Austria.

Secondly several research programs were identified of which the main focus was environmental issues and traffic safety. The research programs covered a wide variety of issues and were not focused on specific systems or drivers. Interestingly no programs were focused on raising awareness, although this was identified as a major issue. It was also found that although research programs lasted for several years, budget commitment by the government were mostly done on a yearly basis.

V ANALYSIS

The next phase is the mapping of the identified activities on the AUWE concept. Results from other relevant European studies regarding deployment of IVS systems were integrated within the survey. First the barriers for market up-take were identified to see if the activities that are performed by the different stakeholders are the right activities. This is followed by a description of the different activities in the different countries. This leads to the last phase of the analysis where a classification of the European countries on the life-cycle scale is being made.

Understanding barriers for market up-take of IVS systems

In order to begin to grasp how the activities can affect the deployment of IVS systems, the AUWE concept was developed. Consumers need to go through the phases of Awareness, Understanding and Willingness-to-buy in order for a vehicle to be equipped with IVS systems. Two European studies (Eurobarometer and Conti Safety Study) identified barriers for the deployment of IVS systems, these barriers are discussed and mapped on the AUWE concept in the next section. In the end a comparison is made between performed activities and the barriers.

Eurobarometer

The respondents were asked about factors discouraging them from having intelligent systems in their cars. Specifically, respondents were asked, “Which reason would put you off having these safety systems in your car?” The reported reasons discouraging EU citizens from purchasing intelligent vehicle systems are, decreasing in order of first choice:

TABLE 1 Which reason would put you off having these safety systems in your car (4)

Reason for putting off IVS systems in your car	Percentage citing this reason as first choice
It's too expensive to buy	34%
Reduced driver's responsiveness alertness by creating an artificially feeling of being protected	13%
DK (don't know)	13%
Fear of unreliable electronic systems	11%
Fear of excessive visual and sound warnings	9%
Undermines driver's freedom	7%
It's difficult to understand how these safety systems work	5%
It's too expensive to service	4%
Cars are already safe enough	2%
Other	1%

Conti Safety Study

The Conti Safety Study (2) found results that support the Eurobarometer study. A thousand randomly-selected motorists having access to a car were interviewed. The results were summarized in the following four issues:

- There is a lack of awareness and understanding of the available safety systems, even of systems in their own car. Furthermore, the names and abbreviations for systems are confusing.
- Safety is very important, controlling systems would be acceptable if this prevents an accident, and introduction of safety systems need to be legally mandated.

- Higher prices for safety systems are acceptable, acceptance increases with understanding of the system. Self explanatory names up the value of the system.
- Information must be tailored to the driver segment (new drivers, older drivers, women)

These barriers are mapped to the three phases of the AUWE concept in figure 4.

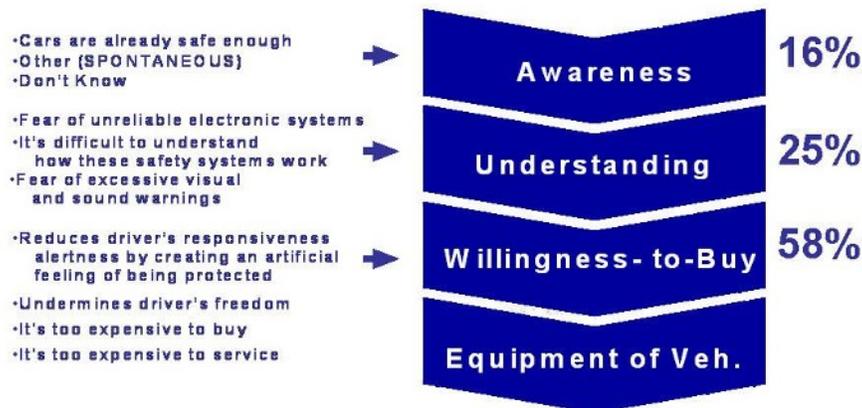


FIGURE 4 Link between AUWE concept and factors that put consumers off

Combining the Eurobarometer information and AUWE concept, the following is concluded regarding the reasons putting consumers off having IVS systems in their cars:

- 16% of the reasons relate to Awareness
- 25% of the reasons relate to Understanding
- 58% of the reasons relate to Willingness-to-buy.

It is shown that 41% of all respondents would put off buying an IVS systems, due to lack of awareness and lack of understanding. Before a rational decision can be made about purchase of an IVS systems, the needs of this population need to be addressed. Willingness-to-buy plays a role in over half of the reasons for not buying IVS systems. Here, rational arguments can be used to convince a consumer to purchase a system. An interesting notice is that 38% of the respondents fear that the systems will cost too much. The different barriers that are identified are now compared with the activities that are identified within the different countries in order to see if the barriers are addressed appropriately.

The collected data revealed that individual activities at the country-level to promote and deploy IVS systems take place. However, the activities are not coordinated, they address predominantly the first two phases in the AUWE concept, and the activities fail to address the major area where most consumers give reasons for NOT purchasing IVS systems: willingness-to-buy. Even if the activities are successful in addressing the first two phases, awareness and understanding, the campaigns may not succeed without activities addressing willingness-to-buy. A consistent and integral approach is necessary to encourage consumers to buy IVS systems. A good example is the Danish case for ESC, where active promotion campaigns and activities were accompanied with tax incentives. The imposed tax on ABS and ESC was lowered for a limited number of years. This resulted in the sudden rise of Denmark to the top European country with regard to the ESC market penetration for new vehicles(13).

The integral policy implies a strategic approach to address and offer activities to address all the AUWE phases. Inversely, the activities require coordination over all stakeholders; some activities form part of the domain of governmental institutions, some of driver associations, and others of car makers. Joint political activities addressing all of the AUWE phases subsequently at the European and national levels need to be implemented. The large differences between member states in language and culture calls for a strong role on coordination and organization at a member state level. To ensure a single European market also the EC should coordinate harmonization and standardization of communications and roadside equipment.

The Intelligent Car Initiative "Raising Awareness of ICT for Smarter, Safer and Cleaner Vehicles" aims to create awareness of ICT-based solutions, support research and technology development and to coordinate and support the work of relevant stakeholders. If this initiative is to be successful, a strategic, coordinated policy or set of guidelines addressing all the three phases of AUWE need to be developed and implemented in order get consumers to equip their vehicles.

The integral approach requires sufficient focus to be successful. This calls for a stepwise approach promoting the deployment of one system or only very few systems at a time, starting with the ones where the existing safety impact evidence is sufficient to convince the relevant stakeholders. Another important possibility for speeding the deployment of systems is the bundling of various systems into a multi-purpose system. This issue hasn't been taken into account during this study, but could push high potential systems through the penetration threshold percentage.

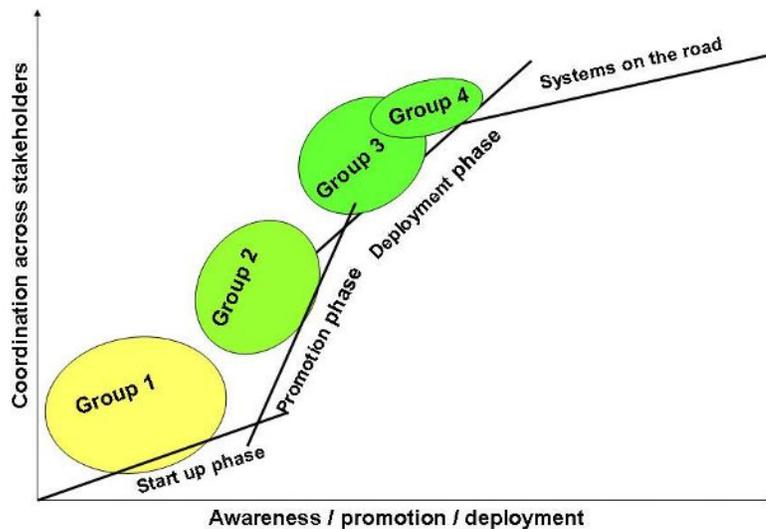


FIGURE 5 EU countries classified by IVS systems deployment phase

Mapping of the countries – Identified phases

Figure 5 shows the classification of countries on the four life-cycle phases. The axes show the major drivers of IVS systems deployment: coordination across stakeholders on the y-axis, and level of awareness / awareness / deployment on the x-axis. The state-of-the-art information on promotion and deployment activities showed that no EU country has fully achieved getting the systems on the road. Seven EU countries have entered the deployment phase: Sweden, Germany, the Netherlands, the UK, Finland, Spain and France. Eight countries currently find themselves in the promotion phase: Denmark, Greece, Italy, Austria, Belgium, Norway, the

Czech Republic and Poland. Finally, ten countries find themselves in the start-up phase: Estonia, Lithuania, Latvia, Slovenia, Slovakia, Hungary, Portugal, Switzerland, Ireland and Luxembourg.

Several countries scored highly on several benchmarks investigated in this study, one of them being Sweden. In Sweden this result can be seen as the result of strong coordinated action and integral policy of all stakeholders involved. Other (foreign) stakeholders are actively approached or welcomed extending the knowledge and strengthening the position. Sweden sets in this way a form of best practice for other European countries.

VI CONCLUSIONS

The analysis of the responses leads to the following conclusions for the level of awareness, promotion and deployment in countries of Europe. The first issue is related to the lack of activities addressing the willingness-to-buy. The second issue relates to the differences among European countries in the deployment of IVS systems.

Willingness-to-buy

The analysis linked the current activities undertaken by European stakeholders to the AUWE concept. This revealed gaps in addressing consumers' needs, specifically in affecting the willingness to buy IVS systems. An integral approach is needed to address the spectrum of consumers, to move them through the phases of Awareness, Understanding and Willingness-to-buy, concluding in buying a vehicle equipped with IVS systems. In order to succeed, the integral approach should most probably be applied in a very focused way, concentrating on one or only very few systems at any one time. These systems should be selected primarily based on their availability for full-scale deployment as well as the availability of objectively and scientifically proven efficiency for reducing road fatalities and solving other transport related problems. The issue of bundling these high-potential systems and the effect of speeding up deployment needs to be further researched.

Differences among European countries

The analysis of responses revealed differences between EU countries. Differences in level of awareness, research programme budgets and duration and level of cooperation among stakeholders on a national level were found. Combining these measures, we classified EU countries into one of four phases: start-up, promotion, deployment, systems on the road. This classification can be used to tailor programmes to increase awareness among all stakeholders, as well as promotion and deployment activities.

VII RECOMMENDATIONS

Recommendations of the study are three-fold: firstly, a strategic coordinated vision on policy measures is needed, secondly, research needs to be streamlined and, thirdly, more benchmarking activities need to be undertaken in order to keep track of the status of the deployment of IVS systems in the European Union.

Provide for a strategic, coordinated vision and policy measures

The EC should provide through the Intelligent Car Initiative a strategic, coordinated policy or a set of guidelines addressing these three phases of AUWE. These phases need to be developed and implemented in order get consumers to equip their vehicles. In implementation, these need to be tailored to target the phase the country is in. Countries in the Start-up phase need

to activate the stakeholders to develop objectives and a common vision and to coordinate their actions. Countries in the promotion phase should focus on filling in the gaps: identify missing stakeholders, refine or develop a common vision, and coordinate activities.

In all phases of deployment, the set of activities to properly address all the phases of the AUWE concept need to be identified, coordinated and implemented. The EC should provide a set of guidelines in the form of a framework that stakeholders and member states can use. As mentioned above, the stakeholders can apply the guidelines selectively, depending on the phase the entity is in.

A comparison of Japan and the USA shows that in the EU there exists a large difference between member states in language and culture. First, to support awareness, a strong role is needed for coordination and organization at member state level. Second, to improve the level of promotion and deployment of IVS systems the EC and the national governments in the EU should have a much stronger role, including the development of standardized and open roadside sensors and communication systems.

Streamline research

Research on IVS systems needs to be coordinated to allow transfer of knowledge from one study to the next, as well as to create comparable results. The transfer of knowledge between the different stakeholders is important, but competition between car manufacturers needs to be taken into account in order to keep them involved as well. The issue of comparable results was encountered during the course of the study. The tender documents for the Benchmarking of promotion and deployment activities in the EU suggested a set of systems. This set differed substantially from the set of systems investigated in the Eurobarometer study (2006). The two studies had 8 systems in common, limiting the comparability of the results. Furthermore, the questions and the wording of the questions should be coordinated to a sufficient extent.

Benchmarking activities

This study identified conditions for successful deployment of systems. General conclusions on “benchmarking” are more difficult to draw. What is needed is the answer to the question: What are effective activities for deploying IVS systems? This study provides the state-of-the-art on promotion and deployment activities in the EU. However, it is not known which activities are effective for guiding consumers through the AUWE phases. To answer this question, a coordinated effort of tracking activities and measuring results over time should be undertaken. Furthermore, continuous benchmarking should be a goal of the EC. This approach will provide measurable results in a temporal perspective. The success of awareness and deployment campaigns can be tracked. This approach leads towards a time series for deployment measures.

Reflections on the project and research method

It is still too early to provide an integral conclusion regarding the level of awareness, promotion and deployment of Intelligent Vehicle Safety Systems in the EU. This study identified conditions for successful deployment of systems. General conclusions on “benchmarking” are more difficult to draw. What is needed is the answer to the question: What are effective activities for deploying IVS systems?

VIII ACKNOWLEDGEMENTS

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