

TOOLKIT FOR SUSTAINABLE DECISION MAKING IN ITS DEPLOYMENT

Martin Böhm

Head of Unit ITS Deployment, AustriaTech GmbH
Donau-City-Str. 1; A-1220 Vienna, Austria
Tel.: +43.1263344463
Fax: +43.1263344410
E-mail: martin.boehm@austriatech.org

Luca Studer

Dip. INDACO - Laboratorio Mobilità e Trasporti
Politecnico di Milano
Via Durando 38/A, 20158 Milano, Italy
Tel.: +39 0223995848
Fax.: +39 0223995847
E-mail: luca.studer@polimi.it

Dick Mans

ECORYS Transport
Watermanweg 44
3067 GG Rotterdam, The Netherlands
Tel.: +31 104538858
Fax.: +31 104523680
E-mail: dick.mans@ecorys.com

ABSTRACT

A number of EU-communications have addressed the fact that slow and uncoordinated decision making for ITS deployment on urban, regional and national level is the most urgent problem to be solved in order to utilise the benefits ITS deployment can gain for a sustainable European transportation system.

As lack on easy and efficient access to a wide spread ITS knowledge as well as decision making for the deployment is recognised as the key factors for slow down investment on ITS on administration level.

The toolkit solution presented in this paper addresses one of the most important ITS deployment related challenges on European level: Support and speed up consistent decision making related to ITS deployment for road and public transport (timely, cost-effective, interoperable, positive impact to urban and interurban mobility, positive cost/benefit ratio). It is planned to implement that solution in the 2DECIDE project, which is funded by the European Commission.

INTRODUCTION

The complexity of the transportation system in Europe is still increasing; therefore new functionalities need to be offered to the citizens for a proper travel choice (e.g. transport mode, time of departure...). On the other hand new skills in many different aspects are needed to handle the system in an efficient and safe way. Beside the circumstance that the market of transport services and solutions is becoming more heterogeneous, more competitive and more consumers driven, a major demanding element is the mobility behaviour of persons and goods.

CURRENT ITS DECISION MAKING

Knowledge on cost and benefit for possible ITS implementations is essential for decision makers to perform robust investment decisions. After more than 10 years of active investment in ITS applications and services numerous post-implementation experiences are available in the different regions throughout Europe.

Highlighted by the given examples, currently decision makers use the available ITS knowledge only at a fraction in the decision making process as illustrated in Figure 1:

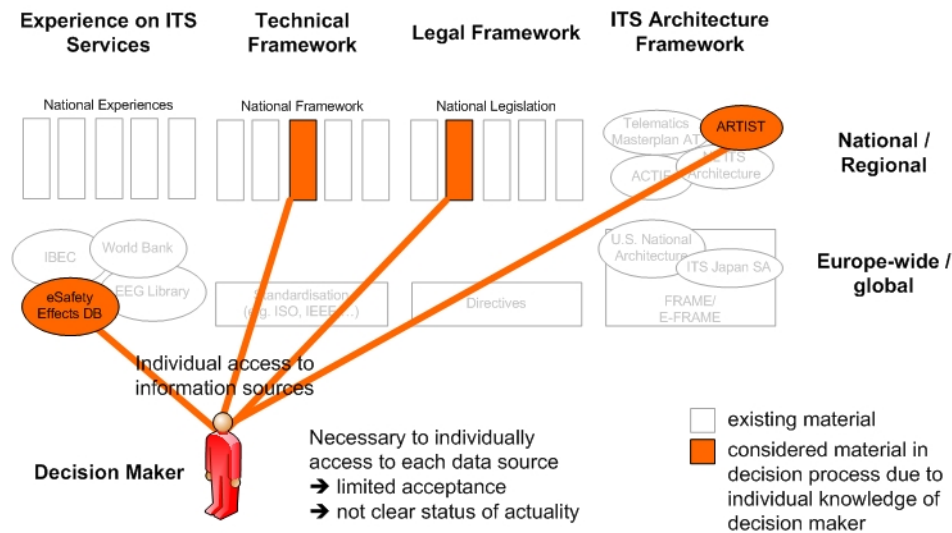


Figure 1 - Data acquisition within decision making process based on individual previous knowledge

The major drawback in the existing process is missing knowledge on what is available. Each source has to be addressed individually, guidelines to collect all necessary and available data for an individual decision making process based on the users' context are missing, the up-to-date status of sources is most of the time not indicated, etc. All these facts are hindering the decision process for harmonised deployments in the ITS domain.

THE TOOLKIT APPROACH

MISSION AND OBJECTIVES

The mission of the 2DECIDE toolkit is to improve harmonization, interoperability and effectiveness of ITS deployment in road and public transport by introducing a single entry approach for a new ITS toolkit for better decision making.

By doing so it is committed to provide an essential contribution to rapid and consistent decision making for ITS deployment to support users - which will be national and regional administrations, infrastructure operators, etc. - to gain full benefit of the advantages of road and public transport related ITS deployment.

The Toolkit will suggest different solutions, depending on the problem or situation encountered by the user. Solutions include the deployment of systems integrating telematics with transport engineering in order to plan, design, operate, maintain and manage transport systems, in the road and public transport sectors. There are typically three steps in the decision making, planning and evaluation of a project. The following graph shows that the ITS Toolkit supports the decision making process of a project by giving access not only to internal information but enhancing the knowledge with external information by taking case studies, evaluation reports, guidelines and best practise examples into account.

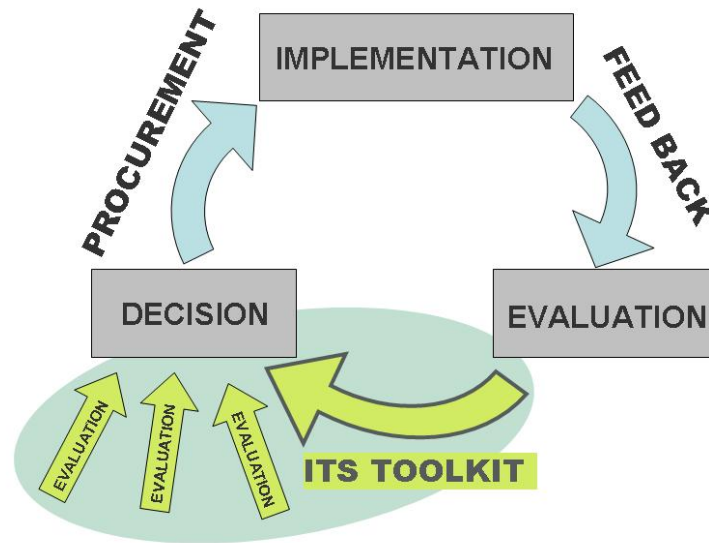


Figure 2 - How the ITS-Toolkit supports the decision making

During the course of the 2DECIDE project several hundreds of reports will be integrated in the ITS Toolkit and so become available. As this experience and knowledge is available for the single decision maker it can easily obtain information on possible ITS solutions suitable for his/her problems and needs.

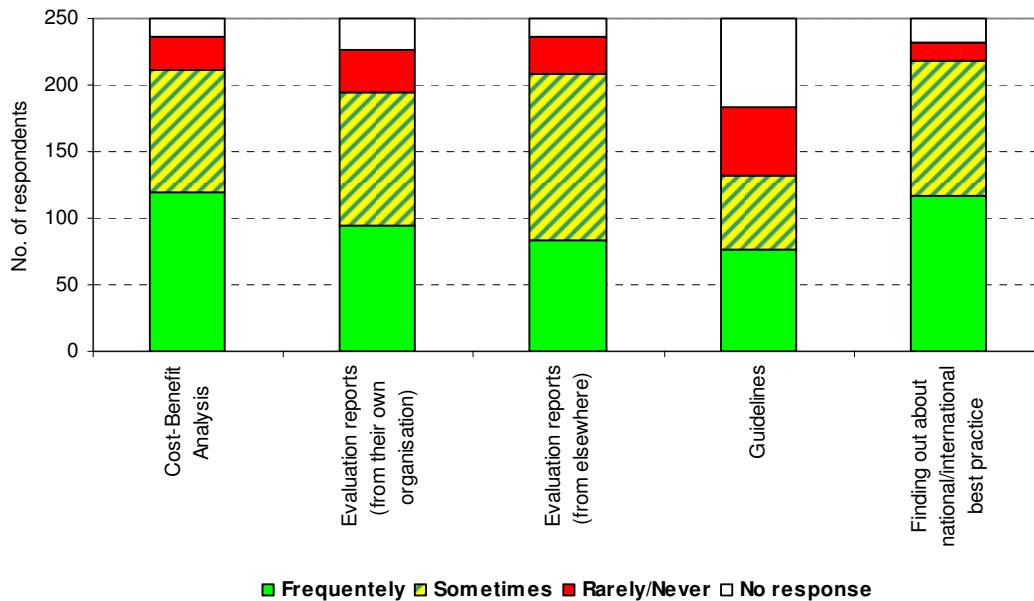


Figure 3 - Tools used by stakeholders to take decisions regarding ITS investment (1)

THE ROLE OF EVALUATION FOR DECISION MAKERS

Evaluation serves as a first step in convincing ITS programme decision makers of the rationale for project investments. The first pre-investment decision assessment step allows a clear justification for future investment based on generally accepted evaluation procedures and criteria.

In the second step, evaluation generates an “after the fact” feedback on the investment’s success. This confirms or corrects how and which investments will be made in further activities and programmes. The decision-making process cannot ignore the results of these evaluations without coming into conflict with the surrounding public representatives.

Therefore evaluation is an essential part of all national and European ITS deployments in all modes of transport. One basic requirement for the usefulness of evaluation is a methodical approach to how evaluations can be made to be significant and comparable.

Evaluation is required in order to (2):

- justify the expenditure on ITS deployment of your organisation company or organisation
- demonstrate the benefits (financial and socio-economic) of individual applications;
- demonstrate the benefits of increased information sharing between projects.

It is important, therefore, that evaluation results are:

- transparent;
- easily understandable; and
- can be compared easily with other results.

Providing evaluation results make processes clear, transparent and comprehensible. This will allow projects and overall inclusive programmes to become more irrefutable against quick changing political attitudes and non-technical arguments and discussions.

USER GROUPS

Related to objectives and added value it is important to define the potential users/ user-groups that will make use of such an ITS toolkit. The following groups have been identified as major target groups:

- Regional and Local Authorities: City or district authorities that plan and manage the transport needs in their area, and that issue regulations concerning ITS on the local, district or regional level.
- Ministries: National Authorities that plan and manage the transport needs for the Member State, and that issue regulations concerning ITS at that level.
- Companies providing/using ITS: Information providers, motorway companies, public transport operators, etc. that will provide their customers with information produced by ITS as part of their overall service portfolio.
- Authorities: Authorities that plan and support ITS deployments

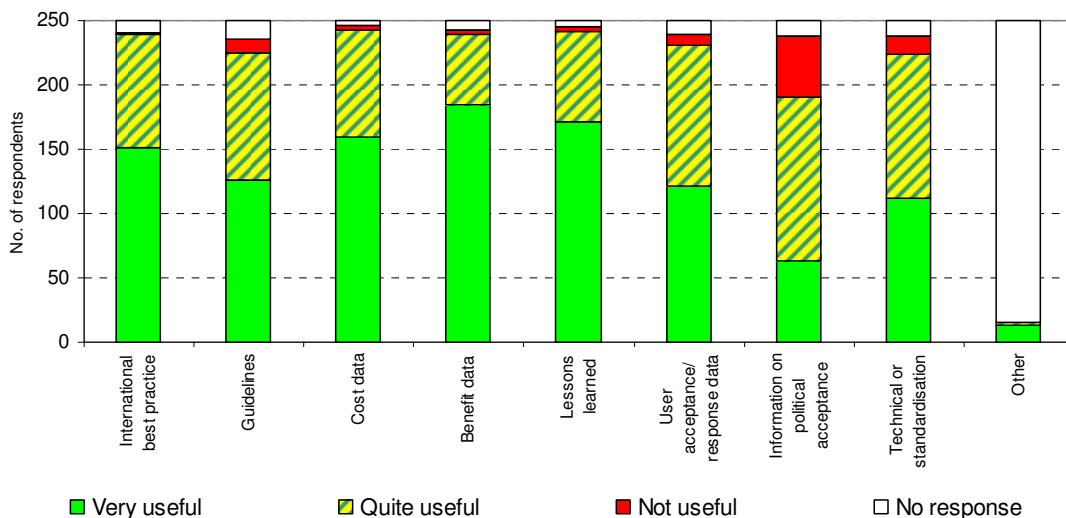


Figure 4 - Information that stakeholders would find most useful in an ITS Toolkit (1)

A survey (1) among potential users of the ITS toolkit (for details see figure 3) showed, that the lack of information on different experience, lack of impartial information and the existence of legal obstacles are seen as frequent or major problems. Beside the access to information especially the lack of sufficient information on costs and benefits is seen as a frequent difficulty or major problem when making decisions on ITS investment.

THE SOLUTION

The knowledge provided by the ITS Toolkit is based on practical experience made all over Europe. Experiences are condensed in evaluation reports that give a deep insight into the details of the ITS deployment / project and displaying the achieved impact of each measure. The knowledge data base of the ITS Toolkit will store information on technical/legal architecture frameworks and generic information about the various technologies. The ITS-Toolkit will search and summarize information from the evaluation reports and the knowledge data base according to the user's problems and needs. The technical design of the ITS Toolkit will automatically match user input like context, objectives problems and needs to the data available in the Toolkits data and knowledgebase. The design of the IST Toolkit as free web based application guarantees the easy 24/7 access to its users without the need of downloading of software and installation on local computers.

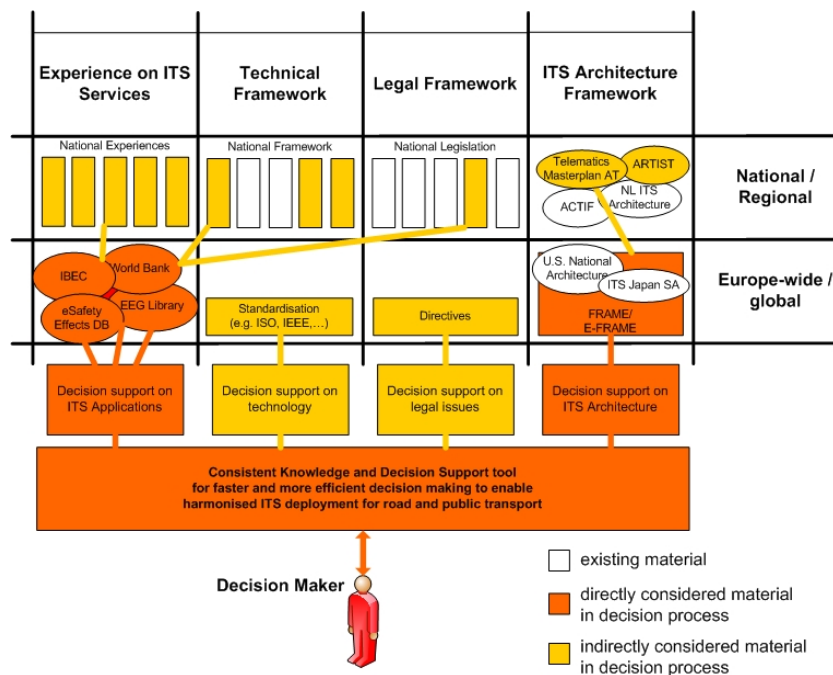


Figure 5 - Improved data acquisition within decision making process with the help of the toolkit

In order to reach the vision as sketched in figure 5, the toolkit solution will build on the existing state-of-the-art in ITS evaluation, but will significantly advance it in several respects, such as:

- improvement, extension and harmonisation of existing evaluation indicators for ITS applications and services;
- focus on transport characteristics and needs in European countries (rather than at solely national level), although taking into account the different situations in different parts of Europe (e.g. national values weighted for user context);
- attention given to budgets of administrations and others deploying ITS and how best to prioritise scarce resources (“quick win” solutions, etc);
- provision of a multilingual interface (both for evaluation results and selected additional information) to enhance potential audience and user-friendliness. Provide the toolkit and available information in English, German, French and Italian. In

addition, basic information on the toolkit (an overview of what it does and how to use it as well as a glossary of key terms) will be provided other in languages as well.

The ITS toolkit will be free to users and aims to provide:

- Best practice examples of ITS deployments
- Information about costs, benefits and impacts of ITS solutions
- A database of evaluation reports on ITS projects
- Information on technical and legal aspects for ITS solutions
- Targeted information in response to a user query.

The user interface is designed to provide a single point of entry and will be available in seven languages. The summaries of the content of the ITS Toolkit will be presented in four languages to ensure the easy access of the knowledge for users from all European countries.

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