

2DECIDE

▶ Toolkit for sustainable decision making in
ITS deployment

CONDUITS Technical and City Pool Workshop
23/24.03.2011 Paris, France
Stefan Schwillinsky / AustriaTech



Agenda

- ▶ The European Perspective of 2DECIDE
- ▶ 2DECIDE – The Project
- ▶ Concept
- ▶ Outlook and Benefits
- ▶ What is requested by the decision makers?
- ▶ Results of the first year of the project
- ▶ Assessment areas and indicators
- ▶ Challenges

ITS Action Plan

Action Area 6:

European ITS Cooperation and Coordination

Action 6.2:

Development of a decision-support toolkit for investment decisions in ITS applications and services. This should include a quantified evaluation of the economic, social, financial and operational impact and cover aspects such as user acceptance, life-cycle cost/benefit as well as the identification and evaluation of best practice for facilities procurement and deployment.

Target Date: 2011

Objectives:

- ▶ **to support decision making processes**
- ▶ **to enable easy accessibility to existing knowledge**
- ▶ **to support EU ITS policy goals as well as national/regional ITS deployments strategies**
- ▶ **to gain the utmost benefit of ITS deployment and the related investments for a sustainable road and public transportation system**

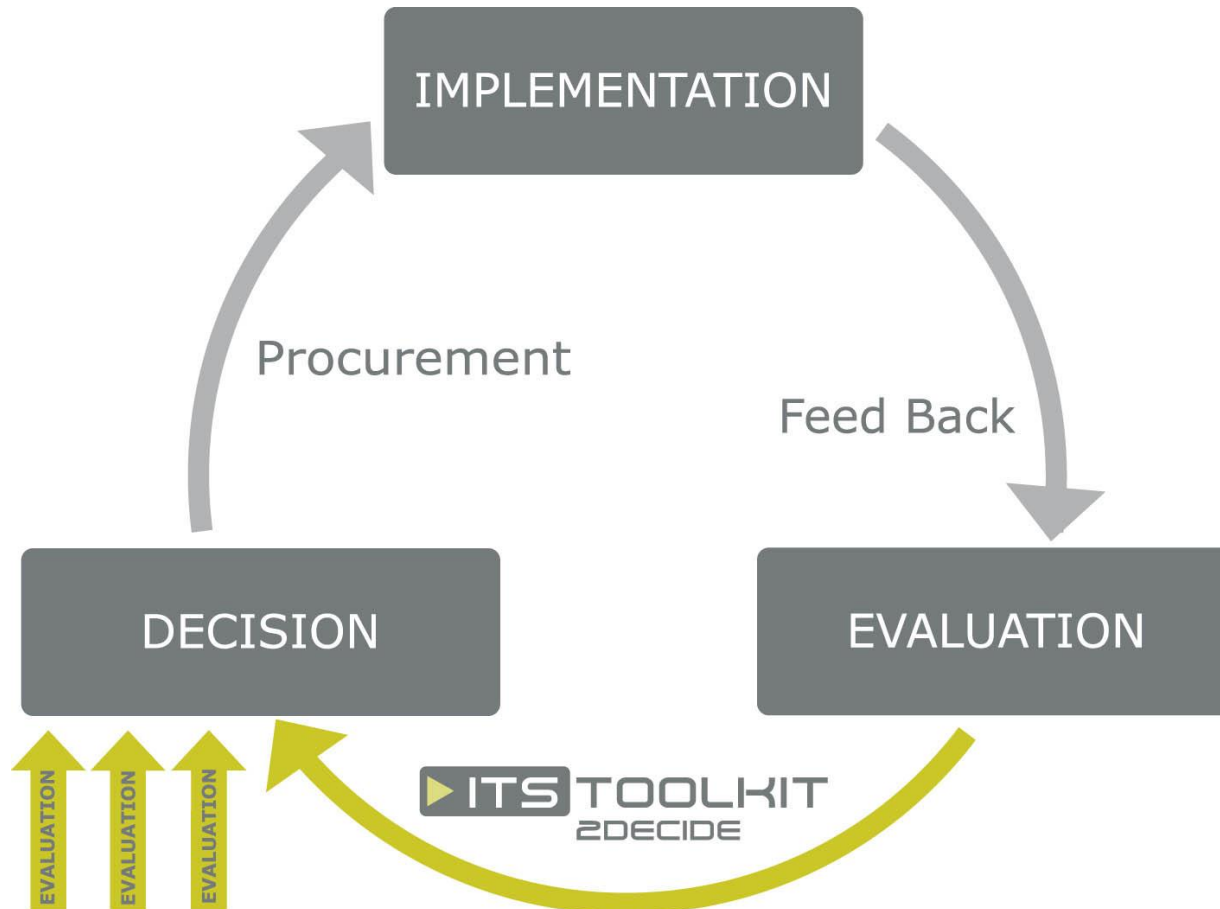
2DECIDE ITS Toolkit:

- ▶ will gather existing experience, provide overview and best practice recommendations
- ▶ supports the decision process on ITS deployment
- ▶ incorporates feed back and evaluations on further implementations
- ▶ will grow with the future ITS experience in Europe
- ▶ takes all modes of transport into account
- ▶ Includes urban and interurban

Benefits for the decision makers

- ▶ Demonstration of existing evaluation results (cost/benefit ratio)
- ▶ Comprehensive knowledge base of experience in the area of ITS deployment based on pre- and post-implementation knowledge
- ▶ Objectivity, transparency and transferability
- ▶ Single point of access
- ▶ Description of technologies → understand the performance of the technologies
- ▶ Reflects the needs of the stakeholders
- ▶ Multi-lingual layout

ITS DEPLOYMENT PROCESS



Evaluation

- ▶ Is usually done ex ante to prove the necessity for an investment project
- ▶ Is many times done for internal decision making

Evaluation – the principles

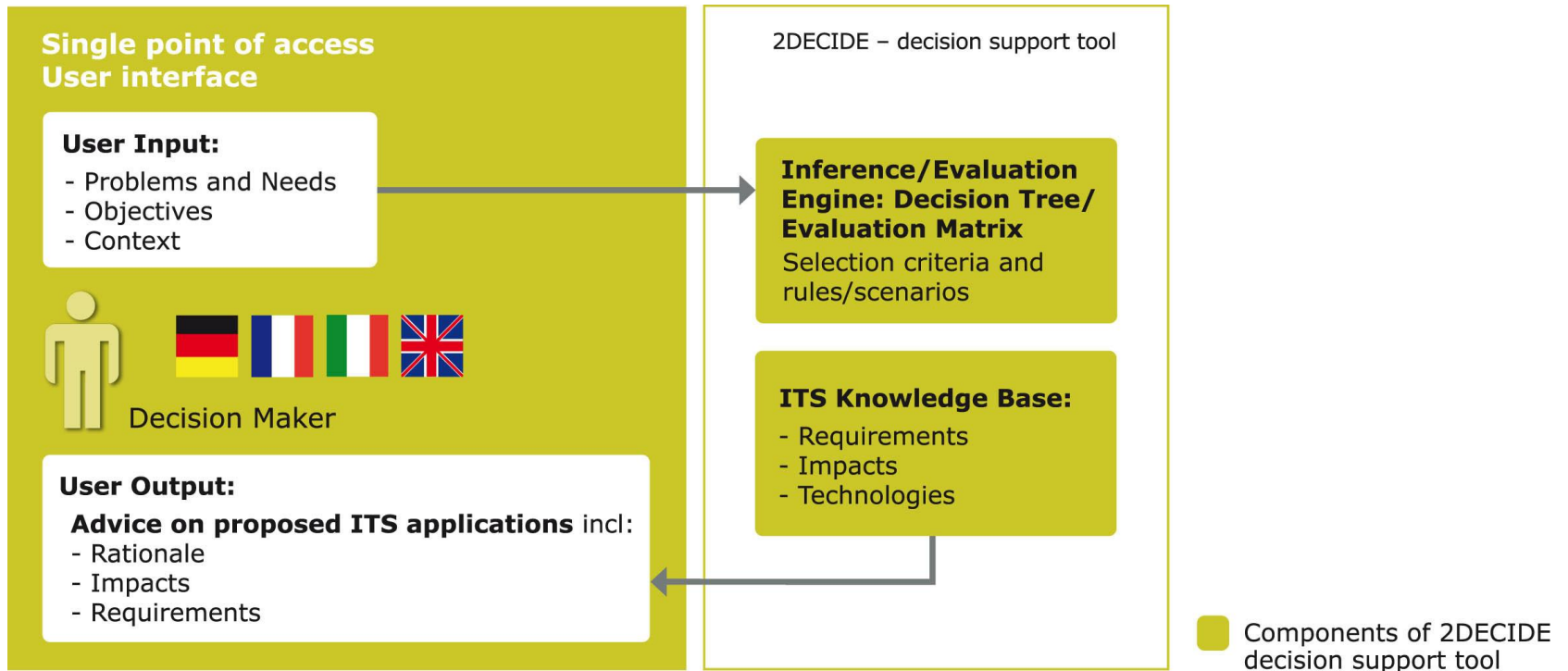
- ▶ Ex-ante (pre-implementation) evaluation is the formal process of reasoned consideration of how goals/objectives/plan might be achieved in theory
 - ▼ can evaluate expected results and process feasibility
 - ▼ often compulsory part of investment selection / approval process
 - ▼ there may be an initial rough evaluation
 - ◆ expert guesses on impact, feasibility
 - ◆ benchmarks etc.
 - ▼ and after conceptual design a full ex-ante evaluation
 - ◆ process, technology, risk analysis – suggest improvements
 - ◆ first costing
 - ◆ Impacts : predictive models, stated-preference surveys etc.
 - ◆ judge absolute sense / relative attractiveness (CBA/MCA etc)

Evaluation – the principles

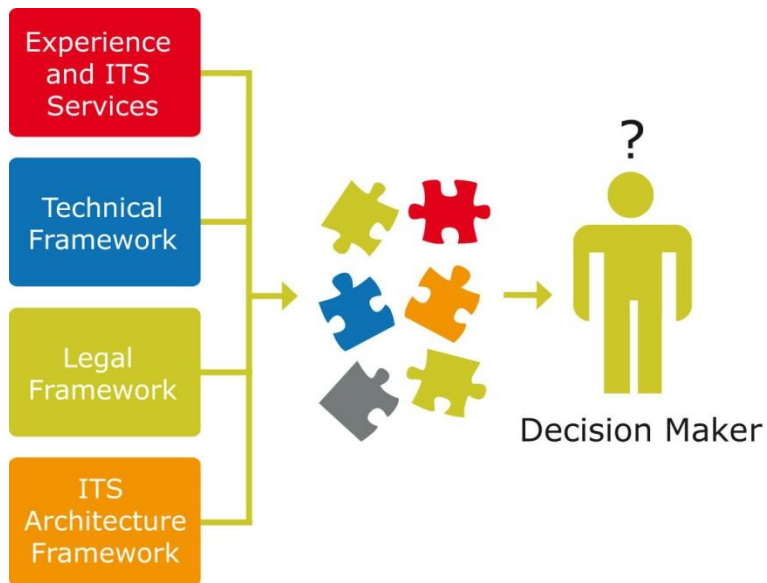
- ▶ Ex-post (post-implementation) evaluation is the formal reasoned consideration of how well project goals and objectives are being achieved in reality
 - ▼ not always easy to separate the two (what is a pilot ?)
 - ▼ rarely compulsory part of investment process
 - ▼ results and process analysis
 - ▼ need before data or without measurement (do nothing)
 - ▼ interviews, surveys, measurement of performance / empirical parameters for models etc.
 - ▼ if costs, performance and impacts really predictable, less necessary
 - ◆ but... reality is complex, especially in ITS
 - ◆ even if it works it doesn't mean that it has (enough) impact

- ▶ HITTING THE 3 Es
- ▶ Efficacy: are we doing what we planned, does it actually work ?
- ▶ Efficiency: are we doing it as cheaply as possible at the necessary quality ?
- ▶ Effectiveness: are we doing things that meet our policy goals and objectives and give us positive/most (discounted) net benefits ?

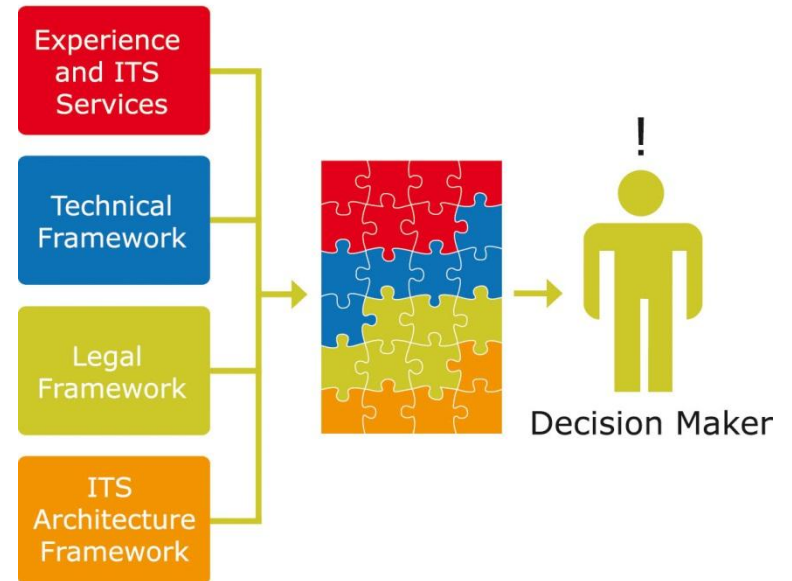
2DECIDE – The concept



Without ITS Toolkit:



With ITS Toolkit:



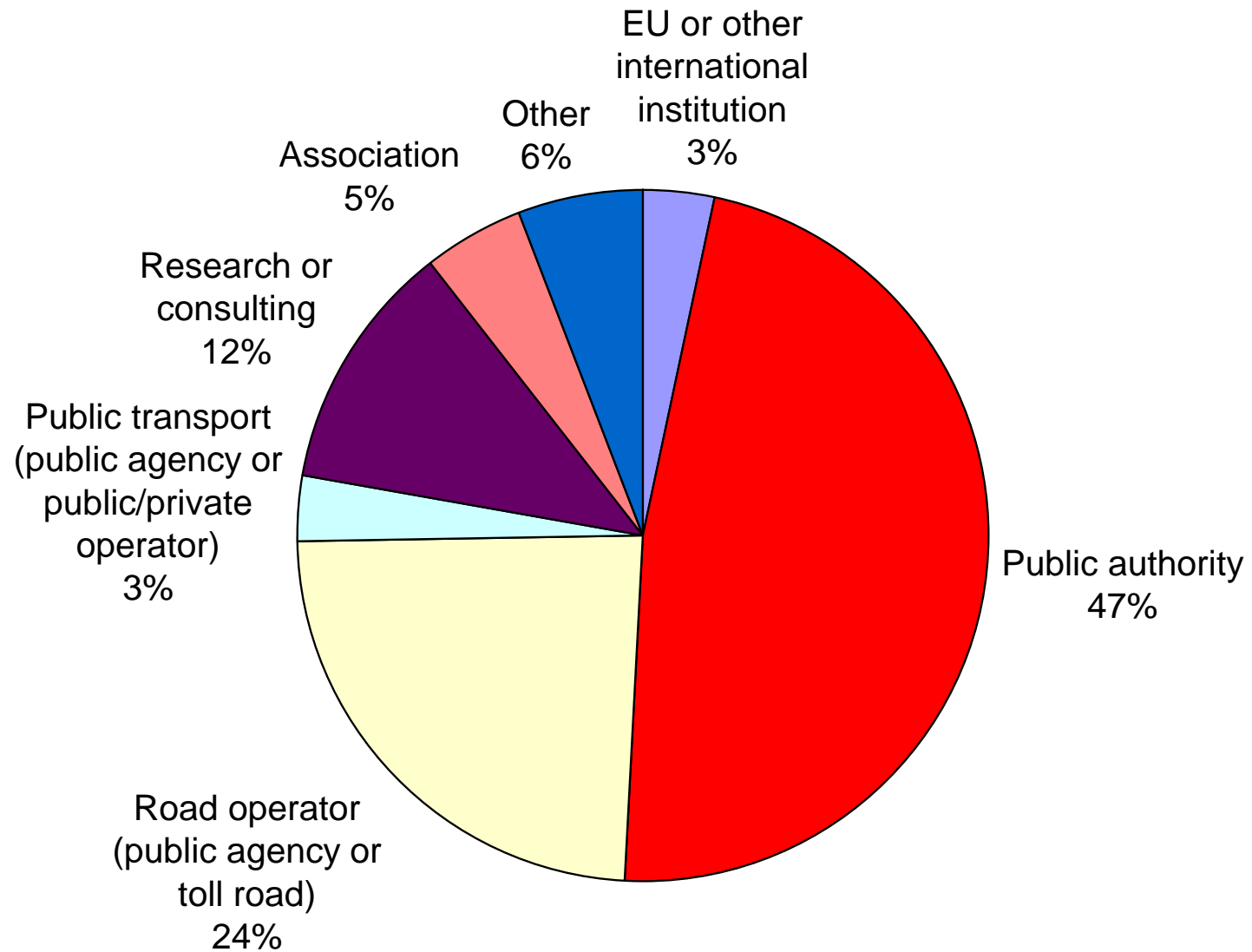
Achievements until now

- ▶ Learn about user needs by a Questionnaire campaign at EasyWay Annual Forum 2009 in Vienna
- ▶ Get in touch with future users at the User Forum at Intertraffic Amsterdam March 2010
- ▶ Research on existing documentation of evaluation documents (evaluation reports and case studies) relevant to the ITS Toolkit
- ▶ Design and development of the data base used for the knowledge base of the ITS Toolkit
- ▶ First data entry campaigns for the knowledge base

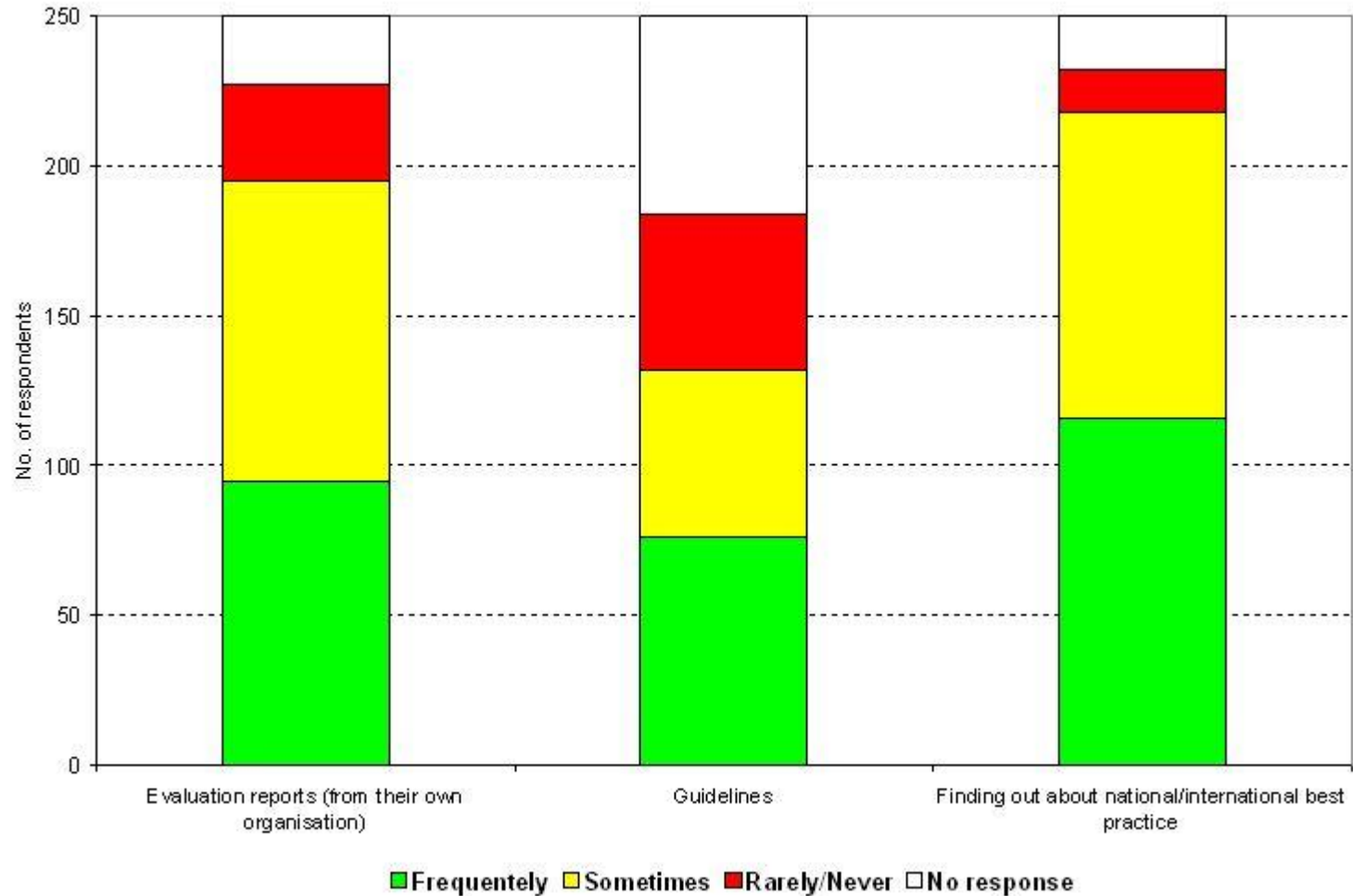
Results of the Questionnaire Campaign:

- ▶ 250 respondents to the questionnaire (electronically and hard copy)
- ▶ 30 personal interviews
- ▶ 26 European Countries covered

ITS Decision makers – who are they?



Tools used to take decision about ITS investment



Research on existing documentation of evaluation documents

- ▶ Research campaign involving all partners
- ▶ Search for existing evaluation reports and case studies
- ▶ Approx. 1200 relevant documents identified until now – results from projects of European and national deployment programmes (Easyway, etc), journals
- ▶ Research will continue until the end of the project
- ▶ Do you have some material you are willing to provide?

Development of the data base for the ITS Toolkit

- ▶ First version of the data base in Access 2007 format
- ▶ Selection of reports for a basic coverage of all ITS-Systems and areas of transport
- ▶ Two focus areas for the provision of more in depth information on VMS and Public Transport
- ▶ Handover the data base of the with approx. 250 evaluation reports to the online tool development

Assessment methodology

- ▶ Description of methodological approach to assess the data collected in the data base
- ▶ Description of indicators for the four assessment domains:
 - ▼ Impacts (Safety, Traffic flow etc.)
 - ▼ Financial (
 - ▼ User Acceptance
 - ▼ Feasibility (Legal, Institutional etc.)

Assessment topics within 2DECIDE

- ▶ Impact assessment
 - ▼ Safety, traffic conditions (travel times etc), environmental etc.
- ▶ Socio economic assessment
 - ▼ Monetary/non monetary benefits and costs
- ▶ User acceptance assessment
 - ▼ User acceptance for different stakeholders (driver, user, operators)
- ▶ Feasibility assessment
 - ▼ Technical, financial, institutional aspects of IST implementations

Indicators

- ▶ List of approx. 220 predefined indicators
- ▶ General indicators for description of context
- ▶ And indicators the four assessment topics
- ▶ Description of the indicators in a more generic way
- ▶ Design of the ITS Toolkit to accommodate new indicators

Achievements until now (2)

- ▶ Design and elaboration of the Knowledge Base
- ▶ Design and elaboration of the Evaluation Matrix
- ▶ Selection of software platform
- ▶ Design and programming of the online tool currently on going

Challenges

- ▶ Usage of indicators in evaluation very heterogeneous
- ▶ No European standards for indicators set
- ▶ Evaluation is many times done ex-ante but not ex-post
- ▶ Ex-post evaluation many times not available to the public
- ▶ Ex-post evaluation should be made after a longer period of operation of an ITS System
- ▶ General: the merit of evaluation is not widely accepted

Lessons learnt & Recommendations so far

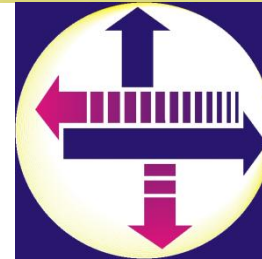
- ▶ ITS Toolkit needs to accommodate (almost) any kind of data & information
- ▶ Only a predefined set of indicators can be used in the evaluation matrix
- ▶ Data input into the ITS Toolkit and the maintenance needs expertise
- ▶ ITS systems, services and technologies in various stages of maturity
- ▶ Establish a European ITS evaluation culture e.g. via deployment projects e.g. EasyWay
- ▶ Agreed KPI's
- ▶ ITS Toolkit shall be start point to do so

Networking with other communities

- ▶ CONDUITS
- ▶ IBEC
- ▶ UK DoT Toolkit
- ▶ US DFT Toolkit

Next steps

- ▶ 2DECIDE Launch of Beta version of the ITS Toolkit for registered users in April 2011
 - ▼ the very first beta version of the ITS Toolkit will go online in mid of April,
 - ▼ testing and validation phase will start with a limited number of testers.
 - ▼ If you are interested please send a short reply to feedback@its-toolkit.eu to become member of the testing group.
- ▶ Please check www.2DECIDE.eu
- ▶ or register for the Newsletter to stay informed



POLITECNICO DI MILANO



DIPARTIMENTO
INDACO



Stefan Schwillinsky

AustriaTech

Gesellschaft des Bundes für technologiepolitische Maßnahmen GmbH

Email: stefan.schwillinsky@austriatech.org

Phone: +43.1.2633444.62

www.austriatech.org

www.2decide.eu