

IBEC Secretariat



Proceedings of the Special Session on ITS Benefits, Evaluation and Costs at the 5th ITS European Congress, Hannover, June 2005

Draft 3

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Abbreviations

ARTS	Advanced Road Telematics in the South West – project co-ordinating ITS implementation in south western Europe under the TEMPO programme
CENTRICO	Project on for Central European Region Transport Telematics Implementation Co-ordination - under the TEMPO programme
CONNECT	Co-ordination and Stimulation of Road Traffic Innovative ITS Activities in Central and Eastern European Countries - under the TEMPO programme
CORVETTE	Co-ordination and validation of the deployment of advanced transport telematics in the alpine area - under the TEMPO programme
DATEX	Protocol for exchange of data between traffic centres
DOT	Department of Transport, US, also referred to as USDOT
EC	European Commission
EEG	Evaluation Expert Group
FHWA	Federal Highway Administration, United States Department of Transportation (USDOT)
IBEC	International Benefits, Evaluation and Costs Working Group
ITS	Intelligent Transport System
R & D	Research and Development
RDS-TMC	Radio Data Service – Traffic Message Channel
SERTI	Southern European Road Telematics Implementation – project coordinating implementation of traffic and traveller information in TEMPO programme
STREETWISE	Project for Seamless TRavel Environment for Efficient Transport in the Western ISles of Europe - project in TEMPO programme
TEMPO	Trans-European intelligent transport systems PrOjects
TRB	Transportation Research Board, USA
VIKING	Project for Co-ordination of ITS implementation in northern Europe – in TEMPO programme
VMS	Variable Message Signs

Executive Summary

Background

IBEC is the International Benefits Evaluation and Costs working group. The objectives of the group are set out in its Charter. These concern providing support to decision-makers on cost-benefits and cost-effectiveness analysis of ITS, promoting consistent and reliable evaluation methodologies, providing information to a wide range of stakeholders on ITS costs and benefits, and sharing information across the profession on non-technical and institutional issues and lessons learned. The group organised a "Special Session" as a workshop as part of the ITS European Congress held in Hannover in June 2005.

The session followed a series of workshops organised each year at the ITS World Congress. Previous workshops had been organised by members of the IBEC group in Turin in 2000, Sydney in 2001, Chicago in 2002, Madrid in 2003 and Nagoya in 2004; the Sydney and Chicago workshops being organised as a joint effort with the EU-sponsored ATLANTIC project. The workshops aim to develop links between evaluation communities around the world, and are one of the ways in which the objectives of the IBEC charter are met.

IBEC organises the workshops by setting out the main themes to be covered, and then inviting specific individuals who are known to be able to present high quality material, to present their ideas and findings. This introduces an element of 'peer review' to ensure that the workshops are of a high quality.

Overview of Content

This report summarises the proceedings of the Hannover workshop, in which experts in ITS evaluation and decision-makers from France, United States, UK and Germany were brought together to present results and share ideas and experiences

The workshop was divided into four main themes, each tackled by a single presenter:

- What is ITS meant to deliver?
- Who has invested and what has been achieved?
- Where is the evidence of what has been achieved?
- What can be learnt from the experience of others?

For each theme, the report describes the specific topic tackled and lists the presentations, which includes hyperlinks to enable the reader to view the presentations that were made to the audience. The text which follows summarises each of the presentations, and the discussions which were generated. The final section of the report presents some overall conclusions.

The written version of the papers presented, and the leaflet used to promote the workshops are included in annexes to the report.

Conclusions

As in previous years the workshop was highly successful. It was attended by a wide range of professionals from inside and outside Europe, and overall 30 people attended the session despite it being early morning after the Congress Dinner. The speakers provided a programme of varied and thought provoking presentations and were of a consistently high standard. As in previous years, this was achieved by designing sessions in advance, and identifying presenters to speak to a brief.



1 Introduction

1.1 Background

IBEC is the International Benefits Evaluation and Costs working group. The objectives of the group are set out in its Charter. These concern providing support to decision-makers on cost-benefits and cost-effectiveness analysis of ITS, promoting consistent and reliable evaluation methodologies, providing information to a wide range of stakeholders on ITS costs and benefits, and sharing information across the profession on non-technical and institutional issues and lessons learned. The group organised a "Special Session" as a workshop as part of the ITS European Congress held in Hannover in June 2005.

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IBEC organises the workshops by agreeing the main themes, and then inviting specific individuals who are known to be able to present high quality material, to present their ideas and findings. This introduces an element of 'peer review' to ensure that the workshops are of a high standard.

1.2 Overview of Content

This report summarises the proceedings of the Hannover workshop, in which experts in ITS evaluation and decision-makers from France, United States, UK and Germany were brought together to present results and share ideas and experiences

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- What is ITS meant to deliver?
- Who has invested and what has been achieved?
- Where is the evidence of what has been achieved?
- What can be learnt from the experience of others?

1.3 Structure of Proceedings

For each theme, the report describes the specific topic tackled and lists the presentations, which includes hyperlinks to enable the reader to view the presentations that were made to the audience. The text which follows summarises each of the presentations, and the discussions which were generated. The final section of the report presents some overall conclusions. The written papers and the promotional flyer used to invite people to attend the session are included in annexes.

2 Summary of session and individual presentations

Moderator: Mr Keith Keen, Head of Sector ITS, European Commission, DG TREN

Time: Friday June 3rd 9:00 am – 10:30 am

Approximately 30 people attended Special Session 9

Presentation title	Speaker	Topic	Hyperlink to presentation
Statement of the BMVBW to ITS-Investments of the public sector in Germany	Georg Stern	Determining the role of ITS in policy delivery and selection of appropriate tools	PDF
ITS Deployment in Europe – Evaluation of the EuroRegional projects	Steve Morello	Achievements from the European TEMPO programme of ITS deployment	PDF
Guiding decision makers on ITS	Barbara Staples	Collating and disseminating useful information on the costs and benefits of ITS	PDF
Experience sharing – The role of IBEC	Steve Tarry	The role of IBEC and associated initiatives, including the European Expert Group on evaluation	PDF

2.1 Theme 1: What is ITS meant to deliver? – Georg Stefan Stern (Federal Transport Ministry, Germany)

Specific Topic: Determining the role of ITS in policy delivery and selection of appropriate tools

Due to external factors, Mr Stern arrived at the session too late to make his presentation. The following is a summary of his written presentation:

In Germany a program for traffic control on federal motorways has been established since 1970. The first phases of the program contained predominantly measures with a regional character limited on the responsibility areas of the single state highway authorities which administer federal interstate highways and autobahns on behalf of the federal government. As a result of increasing co-operation in the field of traffic management the current program contains, for the first time, cross-border measures, in particular network control for neighbouring regions.

Due to task-sharing between the private and the public sector in Germany collective traffic management, e.g. by Line and Network Control Systems, falls within the responsibility of the public administration. Their main objective is improvement of the traffic by re-routing and control measures in general and these need to provide sustainable and evident benefits.

Under German regulations, proposals of the Laender for traffic control measures on motorways can only be realised on the basis of preceding detailed studies using a prescribed methodology. This approach also applies to ITS.

Experience has shown that the use of traffic control systems, e.g. systems with flexible speed regulation, results in a significant reduction in the number of all types accident by 20 to 30 percent and in specific types of accident, for instance rear-end collisions, by even higher percentages.

Further examples are provided in the paper, which is reproduced in the Annex to this report (see Section 4.1)

2.2 Theme 2: Who has invested and what has been achieved? – Steve Morello, ISIS France

Specific Topic: Achievements from the European TEMPO programme of ITS deployment

This presentation began with a brief history of ITS beginning with research in the 1980s and 1990s to demonstration and proof of technical concepts and now into implementation and commoditisation of “off-the-shelf” ITS sub-systems. After 10-15 years of ITS research and development each nation state has its own ITS application, however the EU encourages both standardisation and interoperability.

There was then a description of TEMPO which is a group of Euro-Regional projects funded by the EC and Member States: STREETWISE, VIKING, CORVETTE, SERTI, ARTS, CENTRICO now joined by CONNECT. TEMPO is promoting its “Evaluation Lifecycle” to bring together 25 countries with a wide array of cultures, languages and approaches to ITS and ITS evaluation. It also supports an Evaluation Expert Group (EEG) to develop and share best practice in evaluation across the Euro-Regional projects. They have been developing supporting documents including evaluation and reporting guidelines and these help, particularly, to demonstrate European “added value” and continuity of services across national borders.

The presentation went on to describe specific examples from the themes within the evaluation action plan, developed by the EEG, including:

- Traffic management using line control, controlled motorways and variable speed limits e.g. third lane management
- Traffic management using re-routing e.g. use of the hardshoulder
- Automatic Incident Detection e.g. E12 in Belgium
- Journey time prediction for traffic management and traveller information e.g. travel time information V30, Spain
- Impact of Variable Message Signs e.g. now putting time to specific location on VMS signs
- Traveller information services using radio and RDS-TMC e.g. France, 107.7 nationwide radio broadcasts which give up to date travel information. Information also provided in English.
- Traffic information exchange through DATEX

To conclude the evaluation expert group is looking across projects for issues of comparability, and the possibility of aggregating results is further enhanced by using common reporting formats. Evaluation has been a driving force for the development of ITS over the years and looks to continue this way.

Questions:

Q: How to show European added value when undertaking national products?

A: Cross-border services are not fully possible until there are good national systems. First there has to be national projects and then these should try to harmonise approaches and influence other countries.

Q: To what extent are projects evaluated in a quantitative way?

A: It is impossible to be entirely quantitative. Detailed socio-economic analysis is extremely complex and expensive, so TEMPO does not force quantitative evaluation of every aspect.

2.3 Theme 3: Where is the evidence of what has been achieved? – Barbara Staples, Mitretek Systems Inc, US

Specific Topic: Collating and disseminating useful information on the costs and benefits of ITS

SUMMARY

For over 10 years the United States Department of Transportation's Intelligent Transportation Systems Joint Program Office has been actively collecting information from Federally-funded evaluations, state and local ITS programs and projects, and sharing this information with others to assist in planning, deployment, and operations of ITS. This information has been assembled into several decision making resources. These resources are available on-line on the ITS Joint Program Office website (www.its.dot.gov).

ITS EVALUATION RESOURCES

The Joint Program Office website provides links to the many ITS decision maker resources. An overview of the U.S. Evaluation Program along with specific guidelines for conducting evaluations is available at www.its.dot.gov/evaluation. Direct links aiding in deployment support can be found for the four major knowledge resources: ITS Costs Database (www.itscost.its.dot.gov), ITS Benefits Database (www.itsbenefits.its.dot.gov), Deployment Statistics (www.itsdeployment.its.dot.gov), and Lessons Learned (www.itslessons.its.dot.gov). Reports and documents containing information on intelligent transportation systems as well as the results of evaluation projects can be found in the Electronic Document Library (EDL) at www.its.dot.gov/itsweb/library.htm.

ITS BENEFITS AND COSTS DATABASES

The ITS Costs Database and ITS Benefits Database help decision makers decide whether or not to deploy ITS based on comparisons of benefits versus costs. Database content is drawn from federally-funded evaluations, state/local project reports, and conference papers and presentations. When available, direct links to source documents are provided. Potential source documents must meet certain review criteria, namely, documentation that supports states benefits/disbenefits and cost information, and articulates how the data was collected. Although the majority of the information is from U.S. sources, international data can be found in the databases. There is a review process and contribution of additional data was invited through the on-line "contribute data" facility.

ITS DEPLOYMENT STATISTICS

The Deployment Statistics database which helps decision makers decide whether or not to deploy ITS by availing them of information about the degree to which ITS technologies are being deployed in comparable, sister-cities. Gather data from public sector agencies through surveys. Each state and 108 metropolitan areas are surveyed. Surveys have been conducted in 1996, 1997, 1999, 2000, 2002, and 2004. Data are available via the web and in the form of paper reports. The 2004 survey results will be available on-line in July.

LESSONS LEARNED KNOWLEDGE RESOURCE

Currently, the ITS JPO is developing a fourth tool – Lessons Learned Database – which will help decision makers who have already decided to deploy ITS by giving them specific positive and negative lessons about how to deploy ITS.

OUTREACH

In addition to these databases, the ITS JPO supports outreach to the ITS community via development of technical reports, case studies, and other special reports. This session will provide an overview of the USDOT ITS evaluation resources.

Questions:

Time did not permit public questions

2.4 Theme 4: What can be learnt from the experience of others? – Steve Tarry, Faber Maunsell, UK

Specific Topic: The role of IBEC and associated initiatives, including the European Expert Group on evaluation

This presentation began by describing potential barriers to full exploitation of ITS including the difficulty of specifically identifying the benefits and developing business cases. Evaluation was described as still not a mainstream activity and more ad-hoc in Europe than in the US. Even though the power of ITS is in integration, this factor makes perception of ITS-specific benefits even more problematic.

The presentation described how IBEC plays a role in promoting both knowledge and, more importantly, understanding. IBEC has run special sessions in association with ITS congresses and other conferences and has future events planned including a study tour. Its key is international co-operation and involvement of knowledgeable practitioners providing access to evaluation results, professional information and honest discussion. It also has established links with other relevant groups and activities.

Finally, the presentation described the structure and constitution of IBEC which has over 200 members from 28 countries and is an open organisation particularly seeking new active members. The IBEC charter sets out the objectives which involve providing support on costs-benefits and cost-effectiveness analysis, promoting development of consistent and reliable methods for evaluation and deployment of ITS, providing information to professionals, decision-makers and the general public, sharing information and “lessons learned”, and promoting the importance of professional evaluation.

Questions:

There was no time available for public questions but individual discussions continued in the session room and during the subsequent break.

3 Summary and Conclusions

As in previous years the IBEC session was successful. It was attended by a wide range of professionals from Europe and a number of people from outside Europe, attendance being around the 30 persons despite it being early morning after the Congress Dinner. Not all of the attendees were previous IBEC members and it is anticipated that follow-up actions by the Secretariat will result in a number of new members.

The session contained three comprehensive and interesting presentations within the overall topic of ITS evaluation which were of a particularly high standard. As in previous years, this was achieved by designing sessions in advance, and identifying presenters to speak to a brief.

The presentations demonstrated the possibilities of summarising and aggregating results through common reporting formats and by inclusion in a common database. Differences between Europe, where there is no mandated approach, and in the US are reducing, with the development of European common templates and further European advice.

A new "Lessons Learned" database within the US electronic library is a welcome addition as a means of sharing implicit and unstructured practical knowledge concerning implementation of ITS.

Evidence for clear sustainable benefits is an important factor in ITS implementation. So, evaluation has been and is a driving force in ITS and IBEC can play a substantial role in promoting both knowledge and, more importantly, understanding.

4 Annex 1: Written papers

4.1 Georg Stern: Statement of the BMVBW to ITS-Investments of the public sector in Germany

SUMMARY

In Germany a program for traffic control on federal motorways has already been set up 1970. Due to the extremely sharp traffic increase since the mid-1980s and the positive effects of traffic control systems this program has been actualised and prolonged several times. The Federal Ministry of Transport, Building and Housing updated for the last time 2002 the existing program and extended its duration until 2007.

The first phases of the program contained predominantly measures with a regional character limited on the responsibility areas of the single state highway authorities which administer federal interstate highways and autobahns on behalf of the federal government. As a result of increasing co-operation in the field of traffic management the current program contains first cross-border measures, in particular for network control, for neighbouring regions. Due to the task-sharing between the private and the public sector in Germany collective traffic management, e.g. by Line and Network Control Systems, falls in the responsibility of the public administration. Main objective is the improvement of the traffic by re-routing and control measures in general. Any kind of measures are only legitimated if a proved and sustainable benefit is evident.

STATE OF THE ART

Highways always have been and still are the most important transport routes for people and goods. No realistic forecasts or scenarios would reflect a world without highways or motor vehicles. Although a meaningful modal split and strong support of public transport are called for more than ever before, no basic change is expected in the long term. Average daily traffic rose on the motorways of West Germany of about 22,000 vehicles/day in the year 1970 on today over 50,000 vehicles/day (in the year 2000). Up to the year 2015 an increasing of around 60 % of the passenger traffic and around 20 % or even more of the goods traffic is to be expected.

Highways will continue to carry most of the transport volume, also in the future.

In Germany, the limits of what can be done in terms of constructing new transport infrastructure and upgrading existing infrastructure have almost been reached, due, inter alia, to the high population density, aspects of landscape conservation and environmental protection and, not least, as a result of scarce financial resources. Nevertheless, the necessity for the removal of congestions on the motorway network stands completely in front. This is one of the most important tasks of the German Road and Traffic Administration.

For this reason it is necessary on the one hand the further development of roads and the elimination of bottlenecks. Therefore the Federal Ministry of Transport, Building and Housing has conceived the anti-congestion program with an amount of 1.9 billion EURO up to the year 2007.

Beyond that, the Federal Cabinet adopted in July 2003 the Federal Transport Infrastructure Plan (FTIP) 2003. This updated framework investment plan contains measures for the road, rail and waterway modes with an amount of around € 150 bn as total level of funding for the period from 2001 to 2015. Around € 66 bn is earmarked for the construction of new and the upgrading of existing federal railway infrastructure, federal trunk roads and federal waterways. Maintenance of the existing networks accounts for around € 83 bn. The share of the total level of investment earmarked for maintenance has increased from 46 % in the FTIP '92 to almost 56 %.

On the other hand we must strongly use the already existing technical achievements, the possibilities of the information and communication technology, in order to reach a better distribution of the traffic volume by the aid of traffic control and traffic telematics systems. In Germany, about 30 % of all road traffic is motorway traffic. Slow-moving traffic, congestion and the resultant greater risk of accidents are increasingly coming to represent the normal state of affairs on the busiest sections of the German motorway network at peak periods. Model calculations carried out in 1993 revealed that around 2,000

km of the German motorway network can be classified as congestion-prone. In this context, congestion-prone means that there are traffic disruptions - in the sense of congestion as defined above - for over 200 hours per annum. One way of enhancing road safety and improving the flow of traffic is the use of traffic control systems, an approach that has been vigorously pursued in Germany for several years. In Germany the Federal Government already invested approx. 600 million Euros into automatic systems for traffic control.

The implementation of such systems will remain also in the future an important emphasis of the traffic policy of the Federal Government. Therefore, the Federal Ministry of Transport, Building and Housing updated the existing program for traffic control on federal motorways and extended its duration until 2007.

ORGANISATIONAL AND LEGAL FRAMEWORK: National Transport Policy Strategy

The introduction of transport telematics in Germany is based on a clear task-sharing coordinated between political and industrial circles, the transport modes and service providers.

Within the framework of the Economic Forum on Transport Telematics (Wirtschaftsforum Verkehrstelematik) leading representatives of all parties concerned from politics and industry under the guidance of the Federal Ministry of Transport, Building and Housing have developed a coordinated approach based on the following principles:

- The planning, organization and operation of individual customer oriented telematics systems and services are primarily the responsibility of the private sector. Collective measures and sovereign measures which, de jure, have to be taken by the public sector, are the responsibility of the public sector.
- the aim is not an isolated improvement of individual modes of transport, but the optimization of the overall transport system;
- industry, on the basis of broad competition, will develop terminal equipment to enable the telematics user to choose the desired services individually;
- the government has the task of creating - depending on the progress made in the development of telematics services and on actual needs - the necessary outline conditions for the establishment of the market.

Germany has created the outline conditions which have been required up to now. They promote private initiatives and at the same time take account of the public-sector interests in the development of transport telematics systems and services.

The structure of the public sector and the competencies and responsibilities of the bodies representing it are regulated in the Basic Law for the Federal Republic of Germany. According to Article 90 (Federal highways) of the Basic Law.

“(1) The Federation shall be the owner of the former Reich highways and superhighways.

(2) The Länder, or such self-governing corporate bodies as are competent under Land law, shall administer the federal superhighways and other federal highways used by long-distance traffic on federal commission.

(3) On application of a Land, the Federation may assume the administration of federal superhighways and other federal highways used by long-distance traffic insofar as they lie within the territory of that Land.”

The Federal Government is responsible for the construction and maintenance of federal trunk roads, which currently comprise around 12,029 km of federal motorways and around 41,419 km of federal highways in particular in terms of financing, network design, preparation of trunk road upgrading programmes and highway engineering research. The task of the 16 Federal States is the administration of this road network, enclosing traffic control, in commission of the federal government. The organisation of this administrative work falls into the exclusive competence of the federal states.

CONSEQUENCES

Due to the above mentioned task-sharing the Road and traffic administrations of the Laender - on behalf of the Federal Ministry - may install traffic control devices, e.g. for monitoring of the traffic situation, for traffic guidance or for network control on those road sections, where an improvement of the traffic safety is needed and a proved and sustainable benefit is evident. Due to the German regulations proposals of the Laender for traffic control measures on motorways can only be realised on the basis of preceding detailed studies (e.g. of traffic value, amount and duration of incidents, caused damages, predicted re-direction potential and savings of travel time, etc.). New technical developments in the field of traffic telematics (e.g. new information panels) or collective measures financed only by the Laender as traffic or construction site information dissemination by new media) will not effect the necessity of respective cost effectiveness appraisals. The methodology therefore is laid down in the Recommendations for Detailed Studies for Traffic Control Systems (Muster-RE-Entwurf für Verkehrsbeeinflussungsanlagen), BMV, 1993.

Experience has shown that the use of traffic control systems, e.g. systems with flexible speed regulation, results in a significant reduction in the number of accidents. Where such systems are in operation, there has been a 20 to 30 percent decrease in the number of accidents of all kinds. It is particularly noteworthy that there has been a drop in the number of accidents involving injuries, especially serious injuries, and in specific types of accident, for instance rear-end collisions, where even higher percentages have been achieved.

Such results have been produced, for instance, by a system on the A 3 federal motorway between Nuremberg and Erlangen. This system, which was installed in one direction only (towards Frankfurt/Main), is 24.6 km long and was commissioned on 1 August 1991. The analysis was based on a three-year before-and-after period. On the stretch covered by the system, there was a 37 percent decrease in the number of accidents involving personal injuries, whereas on Bavarian motorways as a whole there was a 5 percent increase. A look at a single control stretch (the opposite carriageway plus stretches before and after the traffic control system), where there were 15 percent fewer accidents, leads to a somewhat different comparison, but nevertheless basically confirms the sharp drop in the number of accidents on the stretch covered by the traffic control system.

4.2 Other papers to be added

5 Annex 2: Session Flyer



International Benefits, Evaluation and Costs (IBEC) Working Group Session

ITS Europe, Hannover
June 3 2005, 09:00 – 10:30

Special Session 9 Deutsche Messe Convention Centre, Room 16

Come and join us in our Special Session!

Guiding Decision Makers on ITS Investment – The Power of Evaluation

Session Content

Project evaluation and the clear and concise reporting of project outcomes is important, as it can:

- Justify future expenditure on ITS
- Demonstrate the benefits of individual applications to who may wish to invest in ITS
- Highlight where deployment is more or less successful and the reasons why, so that improvements can be made in the future.
- The session will help ensure that evaluation remains towards the top of the agenda for those involved in ITS deployment and that international as well as European-wide project experiences will be available to decision makers in the future.

Speakers

Speakers include representatives of those involved in making investment decisions on ITS, Euro-Regional projects which are deploying ITS as part of the TEMPO Programme, and those involved in collating and publicising results. The IBEC Working Group will present information on its role in providing a worldwide perspective and in guiding decision makers.

Chair – Keith Keen, European Commission

Theme 1: What is ITS meant to deliver

- Specific Topic – Determining the role of ITS in policy delivery and selection of appropriate tools
- Presenter – Georg Stefan Stern, Federal Transport Ministry, Germany

Theme 2: Who has invested and what has been achieved?

- Specific Topic – Achievements from the European TEMPO programme of ITS deployment
- Presenter – Steve Morello, ISIS, France

Theme 3: Where is the evidence of what has been achieved?

- Specific Topic – Collating and disseminating useful information on the costs and benefits of ITS
- Presenter – Barbara Staples, Mitretek Systems Inc, US

Theme 4: What can be learnt from the experience of others?

- Specific Topic – The role of IBEC and associated initiatives, including the European Expert Group on evaluation
- Presenter – Steve Tarry, Faber Maunsell, UK

Timetable

09.00 Welcome and Introductions – Keith Keen
09.05 Role of ITS in delivering transport policy – Georg Stefan Stern
09.25 ITS Achievements – Steve Morello
09.45 Questions on Sessions 1 and 2
09.50 Making information accessible – Barbara Staples
10.10 Experience sharing – the role of IBEC – Steve Tarry
10.20 Questions and discussion
10.30 Closing remarks – Keith Keen

What is IBEC? IBEC is a cooperative working group to coordinate and expand international efforts to exchange information and techniques, to evaluate benefits and costs of ITS. IBEC brings together the best knowledge and evaluation experience and is the focal point for discussion and debate of interest to the international evaluation community. There are over 250 IBEC members around the world.

Membership is free and open to anyone with an interest in ITS evaluation. **Email** ibec@trl.co.uk