



Report on the development and use of virtual facilities under the Commission Managenergy Initiative on 2001-2002

New means to communicate Community policies

The present note summarises main data and lessons learnt from a Commission trial to develop and use virtual facilities based on new information technology. The trial was born from the impossibility to communicate efficiently through traditional means with a high number of dispersed energy and transport actors at local and regional levels. The objective of the trial was to further improve the communication of Community energy and transport policies to, and with, local and regional level actors.

The trial was implemented within the Commission Managenergy Initiative (<http://www.managenergy.net>). Managenergy supports local energy and transport action in line with the *Green Paper on Security of Energy Supply* and on the *White Paper on European Transport Policy*.

The managenergy trial was inspired by the *White Paper on European Governance* and the European Commission *eEurope* initiative. Learning from the trial contributes with concrete suggestions to the proposed e-Commission implementation strategy 2001-2005 on improved communication with external partners. Furthermore, the results of the trial will guide the formulation of future virtual services foreseen under the Intelligent Energy for Europe. Experiences from the trial have already helped to shape the Commission virtual services (http://europa.eu.int/comm/scic/help/workwithinter_en.htm).

The trial was developed and implemented jointly between DG Energy and Transport, Unit D3 on Demand Management, and Joint Conference and Interpretation Services, Unit B4 on New Information Technologies. The starting point was that DG TREN.D.3 requested specific services in order to better achieve its policy objectives and SCIC.B.4 develop and implemented the suitable technology for the needs of DG TREN.

In addition to aiming at energy policy objectives of DG TREN and the service objectives of SCIC, each event piloted new ways of organising Commission multilingual meetings and events. Every event fed into the next event assuring that each event was systematically improved. The present report deals only with the aspect of virtual facilities in order to keep the report short. Energy policy results from the events are available online on the managenergy web site (www.managenergy.net).

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1. SUMMARY CONCLUSIONS

The Green Paper on Security of Energy Supply put an emphasis on demand side energy action, which is mainly implemented by thousands of local and regional level actors. In order to support the Green Paper DG TREN embarked in reinforcing action in favour of local energy action. To be successful, it would have been necessary to communicate with thousands of local level actors, which is impossible with help of conventional means alone. This dilemma led to the birth of a new Commission Initiative called Managenergy. As part of the first year action within the Initiative, a trial was carried out on the use of new information technology in order to better communicate with external partners.

The use of information technology provided the Commission a tool that allowed to communicate with far more partners that would have been possible otherwise. The trial showed that information technology can bring **important savings** in money, energy, environment and time both for the event organiser and for the user. Multimedia and streaming services based on broadband technology allow the Commission to transmit selected events and information on Internet without the cost of venue, catering and hosting of a conventional event. For the user, streaming services provide a flexible way to participate in Community events regardless time and place. In principle, standard computer equipment and a link to Internet is sufficient to avoid losing time in travelling and queuing in airports, highways and train stations. Reduced travelling leads to lower energy use and CO₂ emissions, less congestion and local emissions and noise, which contributes to better health and life quality.

Information technology can help to **modernise public services** in a cost-efficient way. Normal administrative practices, such as Information and Contract Negotiation Days under Community programmes can be transmitted on Internet. These events showed that the traditional belief that new technology cannot replace conventional meetings and administrative work, is not always true. As a result of the trial, different technologies have been tested and the most suitable ones have been identified and further developed. This will allow the Commission to communicate its policies more cost-efficiently on Internet in the future.

Information technology help to **communicate with external partners**. Virtual Community events provide speeches, presentations and discussions online at any time. A speech of an MEP, Commissioner or a Community expert can be viewed several times and can be seen and heard by far more viewers than in the case of conventional events. Information is available in a more democratic and transparent way, as it is not limited to a given group of people.

Organisation of media-conferences at local level provides a major tool to bring Community messages to local actors. They allow easy European input to local reflection and open a possibility to interactive multilingual communication with the Commission.

However, grass is not necessarily greener in the information society. In an environment of excessive information, the nature and content of information services need to be carefully thought out. Different issues require different technological and human set-up. A traditional speech may not be appropriate on the screen. New skills need to be learnt and particular attention need to be paid on the presentation of messages in order to ensure that they are understood.

Attention need to be paid on the standardisation of streaming technology, presentation and user-friendliness of the online services. Further action is needed to lower the threshold of potential users of streaming technology. This is sometimes even more important at the end where services are produced than among users. Public sector officials can be more conservative than end-users. Awareness raising and information action in the areas of attitudes, behaviour and knowledge on new technology is necessary, if the Commission wants to achieve the eEurope objectives set for 2005. Through its own concrete action, the Commission sets example for public administrations across Europe, as suggested in the e-Commission Implementation Strategy 2001-2005.

2. CONTEXT OF THE TRIAL

2.1. Energy policy

The Green Paper on Security of Energy Supply puts a focus on action in favour of a demand policy and calls for a real change in consumer behaviour. The role of local actors in achieving demand policy objectives is crucial. However, although demand side action appears more promising than the margin of manoeuvre in the supply side would predict, the use of renewable energies can also give an important contribution to cleaner energy production at local and regional level and reduce the dependence on imported energy.

This is why the Commission has been supporting the creation of local and regional energy management agencies during the last ten years. Since the creation of the joint SAVE and ALTENER work programme 2001-2002 the Commission has shifted its support to specific local energy actions, which in many case have been implemented by energy agencies. This has led some energy management agencies to broaden their expertise towards activities on clean urban transport in line with the White Paper on European Transport.

To be efficient, local actors need targeted capacity building actions and information on latest Community policies and technologies, funding opportunities and good practice. This requires increasing communication between the Commission and various energy and transport actors such as energy agencies, municipalities, SMEs, universities etc. Without the use of modern information technology this task becomes unbearable both economically and environmentally.

2.2. Information society

The European Council held in Lisbon on 23/24 March 2000 set the ambitious objective for Europe to become the most competitive and dynamic economy in the world. It recognised an urgent need for Europe to quickly exploit the opportunities of the new economy and in particular the Internet.

As a reaction to the Council requests, the Commission set forth the eEurope Action Plan which aims, among others, to modernise public services, improve communication with external partners and to provide a favourable environment for everyone to participate in the global information society. A key to a more widespread use of Internet is the availability and use of broadband networks, which was recognised by the Barcelona European Council. But there is a problem, availability of more advanced multimedia services depends on the availability of broadband, while broadband infrastructure

depends on the availability of new services to use it. Although governments and actors at various levels in Europe are increasingly connected to Internet with a broadband access, only limited streaming services are available, which is reflected in the limited use of these services and in the number of technical obstacles for the use.

2.3. Administration and governance

The Commission is developing new ways to better and more cost-efficiently manage its responsibilities and to modernise the European governance. Simultaneously to the reform processes and with the eCommission implementation strategy, concrete pilot actions are taking place at Unit and Directorate levels. Managenergy is one of the actions piloting and developing the use of modern information technology (MIT) in the everyday administrative work of the Commission. The trial was implemented in collaboration with SCIC services on New Technologies.

The trial aimed at more cost-efficient and time saving ways of working. When the planning of the trial started 2001 within the Unit D3 on Demand Management, a key question was how to bring Community policies and events on energy efficiency, renewables and clean urban transport closer to local and regional decision makers and final energy consumers. New ways of communication needed to be found, as it was impossible to be in direct contact with thousands of local level stakeholders. This is where the eCommission objective of improving communication with external partners with help of digital technologies became relevant to DG TREN.

3. DESCRIBING VIRTUAL FACILITIES

The concept of virtual facilities within the managenergy trial refers normally to an online European event on Internet, which can be open for participation by anybody (conference, workshop, seminar, information day on calls for proposals) or a closed one (contract negotiations). Normally such a virtual event is linked with a conventional physical event taking place in Brussels or elsewhere in Europe.

Most virtual events are based on a multilingual video and audio transmission (streaming) and on a simultaneous interactive multilingual chat on Internet. A chat normally aims at bringing questions and comments to discussions in the conventional event in order to assure interactivity between 'virtual' audience behind computer screens and the audience in the venue of the event itself.

Virtual facilities aim at bringing Community policies and activities closer to actors at grassroots level with the use of modern information technology. Virtual facilities are designed to save time, money and environment and to increase transparency and involvement of local actors in Community energy and transport activities and events. Thus, virtual events do not aim at replacing conventional meetings but to complement them. Virtual events also allow the participation of actors that are not able to attend the conventional European events. This is particularly relevant for remote European areas and candidate countries.

At the beginning of the trial, there was no fully developed technology at hand for the specific communication needs between the Commission and local actors. To tackle the problem, the trial was composed of a two-headed action to use and further develop the existing technology in real events.

Gradually, during the implementation of the trial, energy management agencies started to organise *media-conferences* at local and regional levels (for further details, see on <http://www.managenergy.net/media.html>). A media-conference can be organised e.g. by an energy agency in its premises or in a conference hall. The Internet streaming is projected on the wall of the venue. The agenda for a media-conference can be composed of a mixture of streams, live presentations by the energy agency, workshops and discussions with the audience. Simultaneously, a media-conference allows the energy agency to provide local energy actors and decision-makers with interactive participation in a European event through an Internet chat. A media-conference can be organised on a live event or on video-recordings.

A conventional event is a 'lost event' after it has taken place, although the production of paper or online proceedings can help to disseminate the messages of the event. A virtual event, on the contrary, can continue online in form of video-recordings for several months or years after the conventional event has ended. Recorded virtual events allow easy and low-cost participation of a many-folded public compared with traditional events.

4. DESCRIPTION OF EVENTS ORGANISED DURING THE TRIAL

The trial on virtual facilities was composed of eight events in total for which streaming services were tendered individually. Six of the eight virtual events were organised in conjunction with conventional European events, which gathered 1049 participants in total. Two of the eight events were organised only on Internet (SAVE and ALTENER Contract Negotiation Day and Managenergy opening chat).

In total, 1409 virtual delegates viewed streaming from virtual events and 284 people participated in the Internet Chats. The number of virtual delegates is somewhat higher in reality as several inter-linked media-conferences were organised at local level. Additionally, a many-folded number of virtual delegates are visiting the video-recordings that are available online on Internet. However, these video-recordings are normally not viewed from the beginning to the end but viewers follow specific presentations from the events.

Main details of each event are as follow (for further details, see annexes 1 and 2) :

4.1. First annual conference on local energy action on 6 November 2001

In total, 330 people participated in the main conference venue in Brussels (for conclusions see http://www.managenergy.net/conference/en_conclusions.htm).

The **virtual conference** was composed of a multilingual six-language streaming and of an interactive chat in English covering the whole one-day event. In this first virtual event there were 40 attendees from the EU and CEECs visiting the virtual multilingual conference 393 times during the conference day. The duration of maximum uninterrupted attendance reached 4,5 hours. In the Internet chat, there were 24 participants discussing with 4 Commission officials.

This was the first time the Commission organised a combined virtual (streaming and chat) and real event. The reason for low attendance in the virtual event was mainly due to the novelty of the tool and the low profile information dissemination. However, the trial allowed the Commission to gather a number of practical lessons for the benefit of the subsequent events, such as :

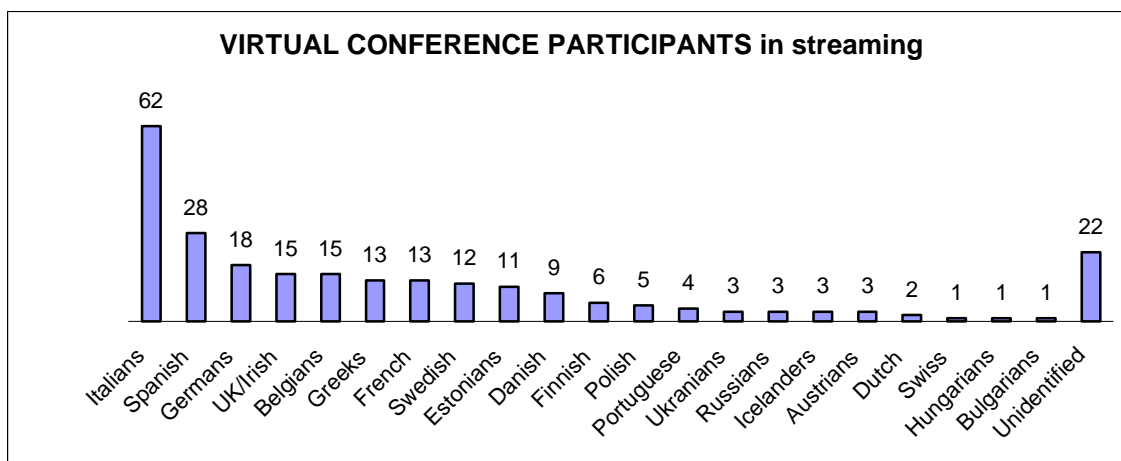
- Further capacity building and information action in the use of information technology is a must;
- Duration of chats to be shortened;
- Fire-wall problems need to be solved;
- Further efforts are needed to create a better link between the real event discussions and the chats;
- After the event, several requests for video-recordings from the event were received from those who could not participate in the conventional nor in the virtual event.

4.2. SAVE and ALTENER information day on 7 February 2002

An information day on SAVE and ALTENER call for proposals was organised in Brussels (http://europa.eu.int/comm/energy/en/pfs_4_en.html). The conventional event in Brussels gathered 220 participants mainly from Brussels based offices but also from Member States and Candidate Countries.

There were 149 computers connected to the streaming in five languages (for distribution of participants per country, see the table below). The maximum number of concurrent connections was 43. The streams for EN, FR, DE, ES, IT languages were 56 kbps (kilobits per second). Additionally, a 128 kbps streaming in English was provided, which was followed by more than half of all virtual participants.

The duration of the chat was two hours and it gathered 92 external participants. The minimum connection time was five minutes and the longest two hours. Five DG TREN experts, assisted by 12 SCIC interpreters and one system specialist, provided answers to the questions. The average length of the connection was about one hour.



Source: SCIC.B.4

A one-hour answering session was organised the day after the event on Internet (based on questions received through an electronic mail box) with participation of two Commission experts and 9 external people.

Two energy agencies organised simultaneous media-conferences at local level inviting people to the premises of the agencies (for an example see on <http://www.managenergy.net/conference/pdfs/bea0202.pdf>). The Internet streaming was projected on the wall of the premises. Local invitees could discuss simultaneously among themselves and with the Commission officials on Internet.

Results of this virtual event were very good both in terms of functioning of technology and in achieving objectives. The event was highly appreciated by external participants. However, it was difficult to catch the attention of candidate country participants (still better information dissemination needed). The 'day after event' showed that learning needs can be satisfied in one main virtual event. Against the expectation of higher quality questions and comments in such a day after event, the additional time for reflection and formulation of comments did not contribute to the quality of discussion.

4.3. Managenergy opening chat on 20 March 2002

The ManagEnergy Initiative was launched with help of a two-hour Internet chat. In total, there were 25 participants from 13 Member States and candidate countries discussing with five Commission officials and two officials from an external service provider (STEM/CPL). Some 260 questions and answers were exchanged (see on <http://www.managenergy.net/openchat1.htm>).

The discussion contained questions ranging from Community policy and legislation to concrete issues on the two calls for proposals. The two-hour transmission could have been shorter given that the discussion became less active during the last half an hour. More specific discussion topics must be defined.

The chat was managed through audio-conferencing allowing the Commission, STEM and CPL officials to run the chat from their office computers in Brussels, Stockholm and London.

4.4. Managenergy workshop on clean urban transport 13 June 2002

The first managEnergy workshop was organised 2002 in Brussels with a simultaneous audio-video streaming in three languages on Internet. For this event PowerPoint slide presentations were available on Internet also in real time. In total, 39 persons participated in the workshop in Brussels and 72 persons visited the virtual event. Additionally, an inter-linked media-conference was organised by Dublin Energy Agency (see on <http://www.managenergy.net/media.html#reports>).

Due to the novelty of the transport issues among local and regional energy management agencies the interactive chat was organised a few weeks later on 5 July hoping for more active participation. However, only 20 persons participated in the Chat (see Chat transcript : <http://www.managenergy.net/conference/chats/transport0702.html>).

The chat was managed through audio-conferencing allowing the Commission, STEM and CPL officials to run the chat from their office computers in Brussels, Stockholm and London.

Video-recordings on the event are available on the managenergy website on <http://www.managenergy.net/conference/transport0602.html>.

4.5. Managenergy workshop on renewable energy at local level on 1 July 2002

The second workshop took place in Brussels gathering 37 participants. Simultaneously, the virtual event gathered 121 attendants over three languages. In the chat, there were only three participants, which was a major disappointment. In the past, several participants had complained that it was difficult to use different applications simultaneously for the chat and the streaming. This problem need to be solved in the future. Also the use of English as the only chatting language caused problems for some people.

This second managEnergy workshop was organised with similar technological set up as the earlier workshop in order to consolidate the technology (i.e. integrated slide presentations).

Video-recordings on the event are available on the managenergy website on <http://www.managenergy.net/conference/renbrussels0702.html>.

4.6. SAVE and ALTENER virtual contractors' negotiation day on 4 July 2002

This contractors negotiation day took place exclusively on Internet. There were 207 participants following the streaming, which indicates that several persons from each would-be-contracting company was participating (there were only 100 would-be-contractors). 80 people participated in the interactive chat, which was organised in English. Slide presentation shown in real time and available for download was given as written support. The event confirmed that chats with direct financial interest attract active participation.

This was the first contract negotiation day the Commission organised on Internet. The event showed that everyday administrative tasks of the Commission can be implemented easily and cost-efficiently with help of new information technology.

4.7. Managenergy workshop on energy efficiency of buildings on 17-18 October 2002

This was the first time a virtual event was organised outside Brussels. There were 28 participants in the workshop, which was organised in Modena, Italy. On Internet streaming, there were 115 different connections in total (49 on Thursday and 66 on Friday). The streaming was transmitted in English only. In the Internet Chat, there were six participants only.

The reason for the low number of participants in the chat was partly because of the transmission problems in the Italian telecom. The screening was cut for several times during the first day. The connection problem discouraged participants from attending the virtual event during the second day also. The event showed that the risks involved in virtual events that are organised from Brussels abroad are rather high. However, the video-recordings from the event were made available after the event and are still consulted regularly.

The use of high quality cameras increased the quality of streaming image considerably.

Video-recordings on the event are available on the managenergy website on <http://www.managenergy.net/conference/buildings1002/streaming/index.html>.

4.8. Second annual conference on local energy action on 28-29 November 2002

The second annual Managenergy conference on local energy action was the last virtual event in the DG TREN and SCIC joint trial to develop virtual facilities in 2002. The conventional conference took place in Brussels and gathered 385 participants. The streaming of the event gathered 705 unique visitors with 2170 clips requested in total and the chat 26 external participants. The event allowed the Commission to consolidate the technology developed in the past within a major European event. It also indicated that once streaming gets known it can attract hundreds or even thousands of viewers in the future.

Nine local and regional energy agencies prepared for media-conferences (for details, see on : <http://www.managenergy.net/conference/2002media.html>).

The statistical data on streaming from the conference (as well as from other events) was very detailed but difficult to interpret and compare, as all service providers used different standards and approaches, despite the efforts of the Commission to harmonise. A standard statistical format need to be developed for the future.

Video-recordings on the event are available on the managenergy website on <http://www.managenergy.net/conference/2002virtual.html>.

CONCLUSIONS AND RECOMMENDATIONS

Main lesson from the managenergy trial on virtual facilities is that new information technology can be used successfully in the communication of Community policies and activities. This technology allowed the Commission to improve communication with external partners but also to create new ways of interactive communication. Internet streaming is particularly useful when interacting with a high number of actors at local and regional levels. Streaming allowed the Commission to communicate in multiple languages with a far higher number of citizens than could be achieved by using conventional events only.

Although the trial did not have the specific aim of calculating the cost-efficiency of the use of new information technology, it was realised that the use of information technology can bring important savings for the event organiser and for the client.

Internet streaming together with chats provided a tool that allowed citizens to solve problems and communicate with the Commission without travelling to Brussels. For example, the SAVE and ALTENER Contract Negotiation Day was conducted entirely on Internet with 100 would-be-contractors. This saved the clients the cost of a flight ticket (on average 800 EUR) and other travelling expenses. The time that would have normally

been lost in travelling could be used for work or other purposes. Further conclusions could be drawn on the impact of reduced energy use, traffic congestion and pollution, if new technologies were applied in all similar programme management activities of the Commission.

In conclusion, the trial provided the Commission and its external partners a cost-efficient communication tool, which is worth developing further. The trial succeeded already in solving a number of obstacles, as set out above and in annex two. However, several challenges still remain both on the 'supply side' (providing streaming and Internet Chats) and on the 'demand side' (clients).

As far as **streaming** (video and audio transmission on Internet) is concerned, following main issues can be raised:

- Internet streaming is still unknown for most people although most people have access to a computer and to Internet with reasonably low cost. Most computers include the minimum technology necessary to join a virtual event. Additional knowledge necessary to use applications that provide higher quality is negligible, although often a challenge for a 'normal' user. Despite the limited number of people using virtual tools today, most of those who successfully followed virtual events found the tool useful. As the minimum technology is already available, a major focus should be put on awareness raising and targeted training in the future;
- There is no consolidated standard streaming technology available. Instead several technologies are used in parallel, which increases costs and lowers efficiency. Main formats that are used currently are Real Player, Windows Media and QuickTime. A new *de jure* standard, MPEG4 (<http://www.m4if.org>), is available for use since the end of 2002 but it will take some time before this new standard is sufficiently developed and widely adopted. The role of the European Commission should be to support and encourage the adoption of widely accepted *de jure* standards. This is why, as part of the development and the use of new technology within the managEnergy Initiative, conference interviews during the Second Annual Conference were made available in MPEG4 standard format, which could be viewed with several different players (Windows Media, Real Player, Quick Time, etc.);
- new technologies are underway, which complicate the choice of technology and there are still remote areas in which modem connections are used;
- The area of the video picture should be 1/9 (i.e. 320x240 pixels) of a screen of 1024x768 pixels. An equivalent or bigger area of the screen should be left for slide presentation, if any. Chat window should be re-sizeable and integrated into the streaming web page.
- Online availability of video-recordings from European events have proven to be important, particularly when indexing (chapterizing) of slide-presentations are well done;
- Further attention need to be paid on the presentation of virtual events on the web, which has been difficult to assure during the trial with use of different service providers for each individual event. Professional web designer and programmer need to be used;

- In the context of virtual events, interpretation needs should be taken into consideration in a particular way. This is why SCIC.B.4 prepared guidelines for interpreters based on the results of the trial (http://europa.eu.int/comm/scic/help/ntstreamchat_en.htm). Slides, presentations and other relevant documents need to be provided in time to assure good quality and full functionality;
- Use of high quality cameras and correct lighting provide more professional image of the services and makes viewing more pleasant;
- Media-conferences provided local actors with a tool to organise meetings related to European events; picking up a European key-note speaker for a local, regional or national event can be done easily over the Internet at any time. In the future, organisation of media-conferences need to be supported by an online Help Desk. To further promote the use of media-conferences, the Commission should think of participating in some of the next events, either via Internet or on the spot;
- Firewall issues must be taken in consideration: several enterprises and institutions have policies that block systematically streaming protocols: information about the necessary set up to allow receiving of streaming for planned events must be given well in advance.

An **Internet chat** organised simultaneously with streaming work well when the topic for discussion is well focused and when there is a financial or other similar interest of direct benefit involved. Reasons for low use of chats in workshops and conferences are mainly based on issues as follow :

- Participating in a chat required the use of a separate application window, which is an obstacle for people unfamiliar with the simultaneous use of several applications. In the future, a specific application need to be developed to allow the use of one application window only;
- History log must be made available for participants who join a chat during the course of the discussion. Present chat applications fail to show the complete list of participants, which gives the impression that there are no participants and that nothing is happening in the chat. This is a discouraging experience for most people. In the future, technology need to be developed, which allows the presentation of this information when logging in;
- Language used in chats is mainly English, which can be cumbersome for many local actors in a context, where quick reactions are required (The chats organised by SCIC for Commissioners show that multilingual chats can provided very good results). However, energy and transport experts are familiar enough to chat in English.

As far as **clients** are concerned, there is a need to provide with client support such as :

- Online Help Desk providing information and support on technology and the use of virtual facilities. Such help can strongly improve the prospects for using virtual facilities (to find free software and appropriate hardware, how to configure and connect, how to organise media-conferences etc);

- Targeted training, which would be beneficial for many users, particularly for those that want to participate in interactive events and who plan to organise media-conferences;
- In the long run, awareness raising on virtual facilities among the general public and citizens would be beneficial. Awareness raising among larger groups should be based on successful concrete examples in the use of modern information technology. However, first a well functioning activity with a sufficiently large group of successful participants need to be established as role models.
- Customers such as energy advisers and experts in municipalities provide a potentially large audience for increased quality communication and information exchange. However, the selection of events, tools and features used (streaming, chats, media-conferences, languages, interactivity, formats etc) need to be done with care and discipline in order to avoid proliferation of too general information.

Finally, as all service providers used slightly different methods to **collect statistical** data during the trial, comparison and analyses of statistical data was very difficult. Standard approach need to be developed for the future. Provision of solid statistical information is easier when one service provider is used for the organisation of several events.

Systematic and punctual **evaluation** on client satisfaction need to be developed, as the trial showed that it is difficult to get client feedback. Also, a standardised method for the calculation of savings in money, energy, environment and in terms of the saved working time of the user need to be built in the future virtual services.

A particular problem during the trial was the **rules of the Commission** in prohibiting the officials from viewing streams on Internet and the fact that only standard computer equipment is available. Officials responsible for the development of new information technology cannot work efficiently with only minimum standards, although the present standards allows the viewing of some streams. Necessary additional equipment would include for example a DVD player and a burner and the right to view streams at least from selected sources.

Despite the remaining challenges, virtual events provided DG TREN and SCIC services and their customers with expertise and knowledge, which will be useful when planning future activities. Learning from the managenergy trial will allow the Commission to purchase targeted services, which have been designed in collaboration with those directly benefiting from the services.

Paradoxically, in remote geographical areas where the use of virtual facilities would provide most savings in energy, environment, time and money, there is often least experience in using new information technology. However, it is particularly in these remote areas where the Union needs to act, if it aims to serve its citizens equally. In this area the Commission e-Europe initiative is supporting the use of new information technology in an important way, which will have a positive impact on the use of virtual facilities on a medium-term.

Table on tested technology and results achieved per event

Event	Tested technologies	Result/lessons learnt
Conference 2001	Streaming of 6 languages in 56 kbps streams and an internet chat.	Basic technology worked well; Interactivity of chat did not work; Firewall problems to be solved.
Information day on call for proposals	Streaming of 5 languages; Six 56 kbps streams and one 128 kbps stream; Video-recordings in English with 56 kbps; Audio level control; Multilingual chat ('interpreted').	Strong interest to participate in chat as money involved; Firewall problems to be solved; Difficult to follow the event without automatically synchronised slides.
Managenergy opening chat	Chat only; Chat co-ordinated through audio-conferencing.	Chat topic to be discussed to be more specific.
WS on CUT	Adaptive 80-200 kbps real-media streams; MS windows media over HTTP to solve the firewall problem; Synchronised slides; Chapterised video-recordings; Chat co-ordinated through audio-conferencing.	Fire-wall problem solved; Slides problem solved.
WS on RES	Fine-tuning and consolidation of technology	Technology worked well but chats linked with workshops need to be improved.
Contractors negotiation day	As above and Interactive chat	First true inter-active virtual event.
WS on EE in Modena	Streaming technology tested for the first time outside Belgium; Use of high resolution cameras.	High resolution cameras are a must in the future; More risks involved when streaming outside Belgium; Maybe only video-recordings to be provided for outside Bxl locations.
Conference 2002	Consolidation of technology and procedures, as well as further testing: Adaptive 40 and 100 kbps Real-Media streams in five languages; 40 and 100 kbps MS Windows Media streams over HTTP in English; MPEG4 Compression algorithms tested for interview VoDs; Transmission of conference interviews during breaks; Mobile camera used in interviews; Parallel sessions available in video-recordings with rotating picture presentation.	MPEG4 streams worked well; Still need Win Media as modems are used, particularly in the candidate countries; Cameras in the Charlemagne building are of unsatisfactory quality; Presentation on web to be user-friendlier.

Annex 2

Table on number of participants per event

Event	Participants in conventional event	Virtual participants in streaming ¹	Virtual participants in chat	Languages streamed	Cost of virtual event ²
Conference 2001	330	40	24	6	4.200
Information day on call for proposals	230	149	101 (92+9)	5	8.652
Managenergy opening chat			25	1	
WS on CUT	39	72	20	3	13.705
WS on RES	37	121	3	3	7787,50 ³
Contractors' negotiation day		207	80	1	7787,50
WS on EE in Modena	28	115 (49+66)	5	1	17.440
Conference 2002 (Two day streaming)	385	705	26	5	42.050
TOTAL	1049	1409	284		101.622

¹ The number of virtual participants includes only those present during the live event. The number of viewers of video-recordings available online on Internet is many-folded.

² Costs include both the purchase of web streaming and Video-on-Demand, as well as further development of technology. With other words, in each event, an important part of the costs was allocated to further development of technology, excluding the first annual conference. The costs for conventional events have not been calculated, nor the costs for organising seven conventional events with 1409 participants in total, nor the cost for hosting conventional events for people who still continue viewing video-recordings that are available on Internet.

³ Web streaming services for WS on RES and Contractors Negotiation Day were purchased as one service package.

Annex 3

Draft table on planned managenergy and other virtual events 2003-2004 (co-ordinated by Unit D3)

Event	Timing	Place	Expected participants on Internet	Number of languages	Comment	Responsible for content of the event
Annual ManagEnergy Conference	11/2003	Brussels	1000	5+Polish	Including interviews, media-conferences and chats	D3 IGS
Annual ManagEnergy Conference	11/2004	Brussels	2000	5-7	Including interviews, media conferences and chats	D3 IGS
First European Energy Conference of Municipalities	Spring 2004	Germany	2000	1		D3 IGS
2 thematic ManagEnergy workshops	2003-2004	Brussels	2 x 300	1-3	Chats	D3 PB
3 thematic ManagEnergy workshops	2003-2004	Outside Brussels	3 x 300	2 (max 6)	Languages to be specified	D3 PB
ManagEnergy workshop on Structural Funds	2003	Brussels	500	3 + Polish		D3 IGS
ManagEnergy workshop on management of agencies	2003	Brussels	500	3 + a few Candidate Country languages		D3 PB

ManagEnergy workshop on virtual facilities	2003	Brussels	1000	3 + a few Candidate Country languages		D3 IGS
3 other Unit D3 events	2003-2004	Brussels	300	1	To be specified	D3 ?
IEE Call for Proposals Information Day	2003	Brussels	500	?		D2/D3 WS/HJM
IEE Call for Proposals Information Day	2004	Brussels	500	?		D2/D3 WS/HJM
IEE Contract Negotiation Day	2003	Brussels	100	1		D2/D3 WS/HJM
IEE Contract Negotiation Day	2004	Brussels	100	1		D2/D3 WS/HJM
6FP Calls for Proposals Information Day on 6FP (Conzerto)	2003-2004?	Brussels	1000	1		D2/D3/D4 AK/BG/JMB/MA/SDR
6FP Calls for Proposals Information Day on 6FP (CIVITAS)	2003-2004?	Brussels	1000	1		D2/D3/D4 AK/BG/JMB/MA/SDR
CIVITAS forum meeting	2003	Outside Brussels	300	3		D4/MA
CIVITAS forum meeting	2004	Outside Brussels	300	3		D4/MA
Campaign for Take-off Award Ceremony, closing conference CTO	Early 2004	?	200-300	1	Number of languages defined by location	D1/MPL/ITU