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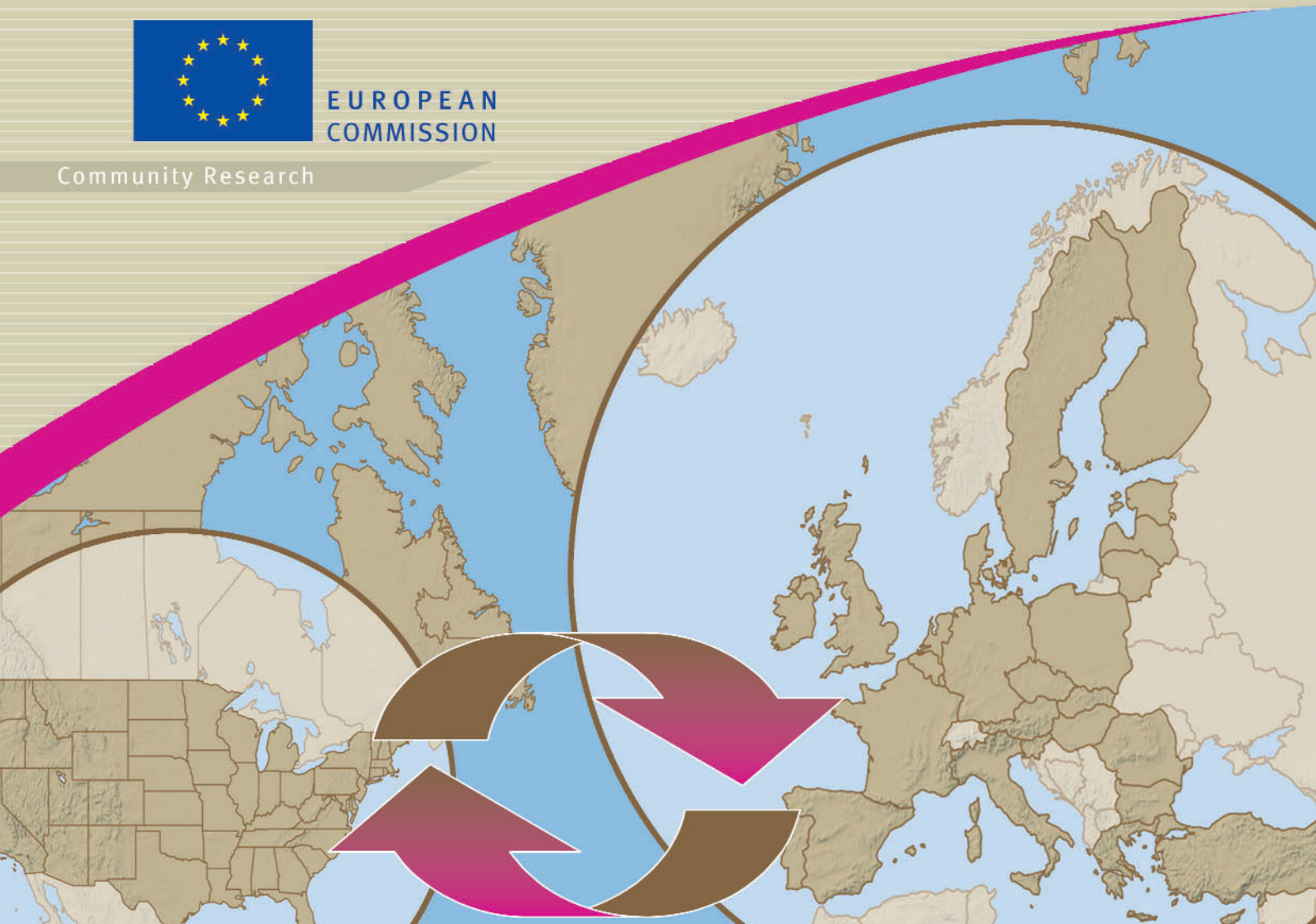

Impact assessment

of the

S&T agreement

concluded between

the European Community and

the United States of America

ASSESSMENT

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EUROPEAN COMMISSION

An impact assessment of the science and technology agreement concluded between the European Community and the United States of America

A Report by an Independent Panel of Experts

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2003

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AN IMPACT ASSESSMENT OF THE SCIENCE & TECHNOLOGY AGREEMENT CONCLUDED BETWEEN THE EUROPEAN COMMUNITY AND THE UNITED STATES OF AMERICA (Contract IEAOCT2002-6003)

An interim report focusing on strategic aspects of work undertaken by a Panel of Experts

CONTENTS

Executive Summary

(i) The text of the EU-USA S&T Agreement requires that its performance and impact be reviewed prior to its renewal later this year. A Panel of three external experts has therefore undertaken this task and its findings are set out in this report. The Panel made use of desk studies, structured interviews, and two independent missions to the USA in making its assessment of the Agreement and its subsidiary implementing arrangements put in place to facilitate its operation in certain sectors and with particular USA agencies. In essence the Panel's task as defined in its terms of reference was to assess what the Agreement was adding to S&T cooperation between the EU and the USA in relation to what was intended at the outset.

(ii) The number of projects in FP5 with USA collaborators is disappointingly low at around 140. A majority of these were considered in the review process. Detailed project information provided by the Commission was analysed in various ways - for example the nature of the project topics and those contracted organisations involved in them. Despite the fact that the Panel members were scientists and engineers they were not primarily scientific evaluators – their role was rather to assess the processes put in place as a result of the Agreement and their effectiveness. Policy-oriented and managerial aspects were a particular focus of the Panel's work. This aspect also encompassed other activities such as workshops, information meetings and the operation of the Joint Consultative Group (JCG) that has managerial responsibility for the Agreement.

(iii) Particular attention was paid to the ***awareness*** of the Agreement both in the EU and the USA. The outcome was generally disappointing especially in Europe. At departmental and agency level in the USA, particularly where implementing arrangements had been put in place, it was of a higher order albeit limited in the main to such audiences. Particular initiatives need to be put in place to improve this situation both *ex ante* to portray the opportunity that is available and *ex post* to communicate the outputs achieved to appropriate audiences. Certain suggestions are made in the report.

(iv) Undoubtedly awareness of the Agreement would be increased if its ***attractiveness*** to the scientific community and other stakeholders could be enhanced and be seen as more tangible. One way of doing this would be to attribute some form of funding to the operation of the Agreement perhaps as a 'Seedcorn fund' that would catalyse involvement. Another approach would be for the Parties to the Agreement to work together to identify research agendas that represent a shared scientific position for the EU and the USA in coming years. Some progress is being made here and specific suggestions are also set out in the report. Such approachs would increase the European added value of the Agreement which at present is not maximised in part because awareness of the opportunities available is of such a low order.

(v) The ***JCG meetings*** are seen as instrumental for discussing and deciding areas for cooperation, the need for specific implementing arrangements and other initiatives designed to make the Agreement operational. However the meetings do not achieve a high profile and there is scant awareness of them outside those involved. The Panel was disappointed with the performance of the JCG. It needs a more iterative action-based or task force orientation so that at annual meetings its role is to decide on options presented to it because the necessary preparative work has been done. This would lead to more exciting initiatives and their communication to the right scientific audiences would create more involvement and hence awareness of the Agreement as a whole particularly if opinion had been canvassed widely in the first place.

(vi) The ***differentiation*** between the EU–USA S&T Agreement and other analogous agreements with individual Member States needs to be clarified as there is some confusion about this in the USA. Although real efforts have been made 'on the ground' in the past Member States still need to be better briefed and to 'buy-in' to the existence of the EU-USA S&T Agreement and particular initiatives and activities undertaken within it. This is particularly pertinent to the delivery of ERA and the aspirations of the Lisbon Council.

(vii) The Panel were able to identify ***positive benefits*** from the Agreement though it would have liked to have seen more identifiable gains that could be directly linked to its existence. The benefits were mainly science-led in nature and derive in many instances from the negotiation of specific implementing arrangements. They involve factors such as increased critical mass, experience of different ways of doing things, and accessibility of different datasets. Whether or not such features might have happened anyway is difficult to judge but the impression was gained that in many instances the Agreement had a direct impact on the extent of scientific cooperation achieved. However the Agreement is not a research funding instrument but a legalistic one so at a project level it provides a facilitation that might not always be appreciated by those directly involved in the science. There is no doubt though that this facilitation purpose is important in the USA and appreciated as such by those involved administratively

(viii) The most easily recognisable ***impacts*** were the benefits accruing at a scientific level as a result of involvement in projects. However the Agreement embraces other forms of activity such as workshops, conferences and other forms of dialogue which the scientific community appears to appreciate. Impacts on industrial research were more problematical and direct awareness of the Agreement anyway seemed somewhat mixed – on occasion to the extent that bilateral agreements seemed to be more appreciated. However where there were projects involving industrial collaboration those organisations involved appeared to be components of global companies and the overall level of involvement did not seem greatly out of line with FP experience in general.

(ix) The Agreement has the potential to achieve ***downstream impacts*** on relationships for example in industry and in terms of government policy in addition to those directly at a scientific level. From an industrial standpoint it takes time to convert S&T outcomes to marketable products or services and in the main such outcomes were not yet clear or capable of assessment. In a policy domain there has to be recognition of the differentiation between the scientific enterprise and the policy decision-making process and the different nature of this interace in different countries. Nevertheless some effects in this area could be realised in future in areas such as environmental impact.

(x) A further question for the performance and operation of the Agreement concerns the ***reciprocity*** of the respective involvements and whether these are in balance. Although this does not appear to be a significant issue there are some ambiguities in relation to certain USA departments and agencies that would benefit from clarification. Another operational issue that has caused difficulty is that of ***contract negotiation*** involving matters such as liability, audit, and jurisdiction. These should diminish significantly in FP6 and as a result of implementing arrangements now in place. In the future there is a management requirement for the performance of the Agreement to be better ***benchmarked*** internally using agreed criteria so that it is more clearly understood what is expected and how well this is being accomplished. Such an approach would also greatly facilitate future external assessments such as that undertaken by the Panel.

(xi) In the first five years under review the ***potential impact*** of the Agreement has not been fully exploited and in the future more dynamic approachs are required. This re-invigorated activity will need some strategic development and should relate to new policy perspectives that are emerging in both the EU and the USA. With greater awareness there is the opportunity not simply to build on and consolidate present knowledge but to embrace through dialogue those new frontiers that might establish scientific agendas in particular fields for the next 25 years. Researching of research needs through activities such as foresight and similar predictive exercises in a pragmatic way should prove a fruitful area for collaboration. In more typical research areas delivering activity under the Agreement in certain programmes of the FP might require particular specification of research Calls or ring-fenced elements of funding in order to maximise the Agreement's potential.

(xii) Key ***RECOMMENDATIONS*** made as a result of the study are summarised below:

Renewal and strategic development

- ***The Agreement should be renewed but as part of this process of renewal a strategy should be established that builds effectively on the foundations laid in the first five years in order to better exploit its potential. Every effort should be made to accelerate the cooperative process. The range of available activities covered under the Agreement also needs to be capitalised on.***

Operational management

- ***The goals of the Agreement should be made more overt from a management standpoint and criteria for assessing delivery of these goals agreed. Further elucidation is also needed on particular aspects of the reciprocity achievable in the USA in specific circumstances.***

Communication

- ***Target areas for communication should be identified in relevant sectors and initiatives put in place. In particular (i) the JCG needs to be better exploited as a communication vehicle so that scientific and other communities are aware of its deliberations; (ii) the Commission should ensure that Member States are better briefed and are encouraged to 'buy-in' to the Agreement as stakeholders; (iii) the EU Delegation in Washington DC, in conjunction with the Embassies of Member States, should make renewed efforts to communicate to USA government agencies the essential differentiation between the EU-USA S&T Agreement and those of Member States.***

High profile contact

- ***The Commission should ensure that it has put in place the appropriate level of direct communication with key USA government departments - and in doing so that the Agreement has a champion at a senior level on both sides. The relevance of high profile functions should be assessed continuously for opportunities that might be available to enhance relationships and involvements under the Agreement so that it is publicised and communicated to appropriate audiences.***

A new initiative

- ***Attributed funding should be established from both Parties as a 'Seedcorn fund' for use in specific initiatives.***

1 Introduction

1.1 The European Community (EC)-USA Science & Technology Agreement (S&TA)(now generally known as the EU-USA S&T Agreement) was signed over five years ago (5 December 1997 and approved by the Council on 13 October 1998) after around two years of somewhat laborious negotiations. Several Member States of the European Union (EU) themselves had bilateral arrangements, formal agreements or memoranda of understanding in various forms with the USA prior to the establishment of the S&TA and these were therefore taken account of during the course of negotiations. The Agreement was seen as offering the prospect of a new chapter in transatlantic cooperation creating a bridge between research and development (R&D) systems on both sides of the Atlantic. The hopes and aspirations for it are embodied in its text (see Annex 1) and it was considered to be a solid example of the enhanced cooperation between the USA and the EU. These aspirations for the S&TA were portrayed in two launch conferences held in June 1998 in Washington and in June 1999 in Stuttgart. Their purpose was not simply self-congratulatory but was intended as a means of assessing current progress and focussing the attention of the scientific community on the opportunities represented by expanding transatlantic S&T cooperation.

1.2 After five years the S&TA is now due for renewal and a requirement of the original text is that such renewal be subject to a review by the Parties in the final year (Article 12). It is for this reason that the present impact assessment was undertaken. A Panel of three external experts was therefore established chaired by a Finnish scientist and comprising two further scientific members, one from France and one from the UK acting as rapporteur (see Annex 2 for membership and terms of reference for the work required).

1.3 The S&TA was viewed as a broad framework for cooperation that would enable distinguished scientists and research institutions from both sides of the Atlantic to collaborate on a wide range of scientific endeavours and initiate new joint programmes (1). This was seen to be important in an era of globalisation, critical for economic and trade interests for example in matters such as information databases, intellectual property (IP) and agreed standards, as well as being an important political signal that the building of stronger transatlantic bridges was in the interests of both Parties. In political terms the S&TA was the fulfilment of a commitment made by Presidents Santer and Clinton in 1995 when they signed a new transatlantic agenda.

1.4 Even so from the beginning some asked why a S&TA between the EU and the USA was necessary (2) when many Member States had extensive and long-standing cooperative links with the USA. The answers really revolved around the EU Framework Programme (FP) which increasingly played an important role in addressing the strategic questions that society faces. Many of these problems are similar on both sides of the Atlantic. At the outset several research agreements involving the EU and the USA already existed – for example in nuclear fission, thermonuclear fusion and biotechnology. The focus of the S&TA though was topic-related. The mutual interest in a much

wider cooperation was recognised at a high political level in the new transatlantic agenda by specifically requesting a comprehensive S&T cooperation agreement. So at the time this agreement was but a component of a much wider political initiative.

1.5 In the then positive and constructive scenario in which the Agreement had to be negotiated it might be seen as surprising that the negotiation process was so arduous lastly some two years. Largely this was due to the different characteristics of the research endeavours in the two Parties to the Agreement. USA RTD systems are highly de-centralised with many different authorities whereas the European FP has a single authority working on the basis of harmonised rules operating exclusively through open competitive Calls for proposals. Furthermore there were different views on arrangements relating to IP, and there were doubts on whether foreign participation in respective RTD activities on both sides of the Atlantic was a desirable thing – the rules of USA legislation and practice appearing more restrictive as regards access to federal S&T programmes than those of the EU FP. There were also differences of emphasis in top-down and bottom-up approachs. For example on the one hand, officials on both sides might have decided on those fields in which cooperation is deemed to be desirable (a 'top-down' approach). However cooperation activities can also be proposed spontaneously by scientists without previous encouragement from policy officials to formulate an initiative that would be welcomed (a 'bottom-up' approach).

1.6 In practice in order to make the ST&A effective operationally there was a need to negotiate subsidiary implementing arrangements under the umbrella of the Agreement with various bodies in the USA dealing with different topics so that collaboration under the agreement could become a practical reality rather than wishful thinking at a policy level. One outcome of these implementing arrangements is co-funding whereby each side uses its own money to finance the parties to a candidate collaborative project. Considerable efforts have be made with the relevant agencies involved to agree this type of implementing arrangement through which collaborative activities can be put in place.

1.7 After five years the scenarios that provided the background to the establishment of the S&TA have of course changed. At the outset FP4 was about to be replaced by FP5 with its more relaxed rules for the involvement of scientists outside the EU. Now FP6 has commenced and should be seen as an important tool of the European Research Area (ERA) and its international dimension. So an intended involvement of international players in research projects is cast even more widely. Perhaps in contrast at a policy level the concept of transatlantic bridge-building between Europe and the USA has recently been more open to debate and the traditional view by successive USA administrations of supporting or fostering a cohesion in Europe is now questioned to the extent that some commentators apparently believe that the policy imperative of the USA now embraces an aim of dis-aggregation in Europe rather than so overtly supporting a coherent, credible and equal buttress on the other side of the Atlantic. This is an evolving situation at the present time but it is in such a context that any renewal of the EU-USA S&TA will have to be contemplated.

2 Methodology

2.1 The provision of a quantitative analysis of the performance and impact of the EU-USA S&TA in the first five years of its existence was beyond the resources available to the Panel of external experts. Such an approach would anyway have been particularly difficult in the absence of any benchmarking indicators specified in the Agreement that could be used to monitor its performance and progress. Such benchmarking criteria would therefore have had to be devised and desirable though this may be it is a process that cannot be undertaken quickly. The analysis undertaken therefore had to be somewhat subjective in the hope of establishing some pointers as to the performance of the Agreement, where the difficulties might lie, and where potential development could occur in the future (see Annex 2).

2.2 The Panel therefore relied on (i) desk studies of documents and papers provided by Commission officials and from other sources, (ii) structured interviews and questionnaire of those involved within the Commission, and where appropriate outside it, in a range of scientific, industrial and policy sectors, and in relevant projects and (iii) two individual missions to the USA involving discussions with government officials, implementing agencies and departments, and a selection of individual scientists with involvements in projects under the umbrella of the S&TA. Unfortunately the financial resources available for the study did not allow for similar face-to-face discussions at European contracting laboratories.

2.3 In the early stages of the study the Cordis database was used as a source of information on current projects involving USA collaborators. This was enhanced and later virtually replaced by information provided and organised from Commission sources directly and later still from interview of individual contractors. Supported by this information people to interview in various programme areas were organised for the Panel by Commission officials dependent on the availability of the appropriate personnel. The persons interviewed therefore ranged from Programme Directors to more junior officials. Other relevant people outside the Commission were also contacted as available including for example university rectors,, research institute directors and S&T officers as well as persons working on projects in contracted organisations in Europe. A considerable amount of information was also derived from telephone and e-mail communication and from direct contact with organisations such as the European Industrial Research Management Association (EIRMA) and the USA Industrial Research Institute Inc (IRI). A list of categories of persons interviewed in Europe and the structure used for this is provided at Annex 3. It should be noted that requests for preserving anonymity of some of those people interviewed have been honoured.

2.4 The missions to the USA undertaken by two individual Panel members were each heavily dependent on support from the staff in the EU delegation in Washington DC for identifying appropriate government agency officials with whom to hold discussions. This is gratefully acknowledged as is the time spent

with the Panel members involved by the various persons interviewed in the USA. Their contribution added significantly to the work of the Panel. At the initiative of the individual Panel members a small number of institutions where project involvements had been identified from desk study were visited and discussions held with individual scientists. Examples of the interview structure used in the USA for different categories of interviewee are provided in Annex 4.

3 A portrayal of the work undertaken

3.1 From the outset the Panel really undertook its work at two levels. On the one hand two members took the lead on the projects intrinsic to the work being undertaken in the context of the S&TA whereas the third member concentrated effort on the policy context in which such activity should be viewed. These two approaches were then brought together towards the end of the study on the one hand by those involved initially at the project level seeking more information on the strategic position in which the projects should be seen and on the other hand by ensuring that the initial policy-led approach was complemented by seeking specific project information as examples.

3.2 The projects selected for more detailed study were first identified from Commission information provided to the Panel Chairman sourced as different types of project. Subsequently a more refined spreadsheet analysis was available to complement earlier searching undertaken on the Cordis database. This database needs to be updated more frequently especially concerning changes in personnel. At present it is not as reliable as might be desired for the purposes of a study such as this.

3.3 One Panel member initially took the lead in analysing the nature of the entire range of candidate projects, specific aspects of the project information and aggregating the data. This involved recognition of the FP programme area/sub-area scientific topic, type of action and the relevant Calls, the degree of coordination of Calls between the USA and EU sides, success rates, the type of organisations submitting proposals, and the various contractors involved and their locations. (see Annexes 5 and 6). However a systematic analysis of the sort of proposal with USA participation that was rejected in the evaluation process was not possible. Assessment of ‘top-down’ effectiveness was therefore limited.

3.4 From a policy standpoint information was obtained on the influence of other activities under the Agreement such as workshops and information meetings, the identification of particular scientific areas constituting particular candidate initiatives (e.g. nanotechnology, hydrogen) and the role of the Joint Consultative Group (JCG) (see 4.1, 4.2) as laid down in the Agreement in bringing these about. Attempts were made subjectively to determine whether or not contact had been stimulated as a result of the S&TA or had existed beforehand. Overall to maximise effective working one Panel member concentrated on policy and regulation-related areas such as environment, one

concentrated primarily on industrial projects and their delivery and another paid particular attention to scientific collaboration and its outputs.

3.5 In addition to analysing the various *ex ante* activities covered by the Agreement which might generate collaborative work in the form of project submissions both in the FP and relevant implementing agency in the USA attempts were made to assess the *ex post* activity achieved such as the types of output and their dissemination undertaken as a result of the research work in hand or completed. In fact many projects were still current but even so it was usually possible to develop an understanding of the likely output features and how they could be of relevance in a particular context whether internationally, in Member States or in the USA.

3.6 The outcomes from these analyses were very different in type as a result of examining the activities either at a project level or from an overall standpoint. Not surprisingly those involved with work at a project level looked at the value of the cooperation achieved under the umbrella of the S&TA very much in terms of the science involved in their own project and there were some notable positive attributes here. Discussions with policy officials and senior managers such as Programme Directors in the main tended to emphasize the merits or drawbacks of the collaboration in a wider context. Although there were identifiable areas that were regarded as valuable and productive components there were others in which constraints and various operational difficulties were real factors and where more active intervention could be required to solve problems.

3.7 Particular attention was paid to awareness of the existence of the Agreement both in Europe and the USA. The feedback here was generally disappointing – especially in Europe where the Agreement has achieved only limited recognition to the extent that discussions with some Member States led to requests for briefing on it. In the USA at the government department and agency level greater awareness existed but even here the Agreement is seen more as a legally-based facilitation mechanism or tool rather than a scientific initiative that might be built on. It seems that the S&TA has not achieved a very high profile in the scientific community because its benefits are not sufficiently tangible to those who have to undertake scientific research and seek funding in order to carry it out. Rather it is regarded as a tool for officialdom that it is beneficial to have in place though it does not directly achieve particular added-value to the delivery of science itself.

3.8 Indications of the feedback on the awareness, merits, and successes of the S&TA are set out at Annex 7. It is admitted that such analysis could not be systematic or large sample sizes used as a result of the resource constraints of the Panel. It would be unwise therefore to attach particular significance to the analyses undertaken. Rather they constitute anecdotal information from which some lessons might be learnt.

4 Assessing the impact of the Agreement

Administrative and governmental factors

4.1 The key vehicle for the administrative operation of the Agreement between the two Parties at a strategic level is the JCG as descibed in the S&TA document itself. The JCG meets yearly alternately in Europe and the USA. The most recently scheduled meeting was postponed at the request of the European side and is still outstanding but there have been at least two previous meetings. The JCG consists of a limited equal number of official representatives of each Party. As with the coordination and facilitation of cooperative activities under the Agreement overall the JCG is serviced according to location in the USA by the Department of State and in the European Community by the European Commission.

4.2 JCG meetings are instrumental in discussing and deciding areas for cooperation and the necessity of appropriate implementing arrangements with relevant USA agencies to make such areas operational. However the meetings overall do not achieve a high profile and there is scant awareness of them or their impact outside those immediately involved. This is a pity because it is the JCG meetings that can define the breadth and depth of the S&TA operationally in addition to providing a longer-term strategic view. The impact of this in the scientific community, and indeed for policy-making, could be very real and needs to be capitalised on. Better communication of JCG meetings, their agendas, outcomes from discussions, and identified actions would also increase awareness of the S&TA in Member States in Europe. (see 3.7, 4.4).A further indication that these meetings were not achieving sufficient profile was the apparent difficulty of identifying comprehensive documentation relating to them.

4.3 In the main the awareness of the S&TA itself in the USA at agency and departmental level was reasonably high and at individual agency/ departmental level where particular implementing arrangements were in place this awareness was further enhanced. The Annex to the main Agreement on intellectual property seems to be particularly appreciated. Some confusion exists however in the USA in differentiating between the EU and Member States and more particularly this Agreement and those, or analogous memoranda of understanding, which might exist between individual Member States and the USA and indeed at more specific regional levels. If the S&TA is to realise its true impact potential this differentiation needs to be clear and emphasize the added value achievable through the EU dimension.

4.4 In Europe at an EU level it appears likely that in FP6, especially with the prominence given to ERA, the S&TA will achieve greater recognition. However in general it has been difficult to detect significant awareness in Europe and there is particular ignorance at Member State level where lack of information on the Agreement was the subject of complaint. At a contractor level however, as might be expected where particular projects were in place, awareness of the facilitation provided by the existence of the S&TA could be

found especially among project coordinators. For projects having USA partners/collaborators it can be noted that France has the most coordinators, followed by Germany and then the UK; participation in such projects is greatest in Germany, followed by France, then the UK.

Operational factors

4.5 At a project level the S&TA provides a facilitation that might not always be recognised by those involved directly in the science as it is perfectly possible for scientists with a history of international collaboration to involve USA partners/collaborators in proposals to the FP without the *raison'd'être* provided by an implementing arrangement established under the Agreement. However implementing arrangements are valuable tools for maximising the potential offered by the existence of the S&TA. They recognise interests in particular areas of science and create awareness in such areas for maximising cooperative activities whether through meetings, workshops or joint projects. Most importantly they provide a conduit through which coordinated Calls for proposals in identified topic areas can be achieved thereby bringing together independent funding lines on either side to the benefit of science at a project level.

4.6 In some instances there appears to be a conscious decision of non-involvement with the S&TA or its subsidiary implementing arrangements by some USA organisations (e.g. NASA, NIH). Such a strategic positioning is of course for each individual agency or department to decide but reaching a view on non-involvement or inappropriateness of the arrangements that exist under the S&TA while disappointing should not be seen as devaluing the Agreement overall. Agencies and departments that have concluded implementing arrangements under the Agreement are listed in Annex 8.

4.7 Positive benefits of the Agreement on the development of scientific knowledge can be identified. This is especially so within the scientific community, in particular as represented in academia and public sector research institutions where often there was prior involvement in collaborating with EU partners in FP contracts. These benefits seem to be a result of factors such as increased critical mass, experience of different ways of doing things, and accessibility of different datasets. The S&TA may not have directly stimulated such effects but rather more passively facilitated their achievement. Different activities have also resulted in different forms of impact. Working scientists appear to appreciate the opportunities provided through workshops, conferences, and other forms of dialogue prompted or facilitated by the S&TA in their own right. Sometimes collaborative projects were derived from such exchange activities. On the other hand outcomes from projects could be required as a catalyst for workshop-style activities which otherwise may only be available at a science policy level. The S&TA launch workshops/conferences, one in the USA and one in Europe are also events worthy of note.

4.8 Not surprisingly during the lifetime of projects various constraints or other issues affecting the collaborative scientific work can emerge in addition to

those identified at the outset. The role of the coordinator in managing the project is vital in dealing with such issues. But it is also important for the participants to meet, address any difficulties together and review progress on the project and its likely outputs. Impacts resulting from such mobility of individual project scientists appear to be of a lesser order. This may simply be a matter of prompting greater awareness of the need for appropriate budgetary planning so that it can occur more readily. Enhancing mobility here would also mean that those involved scientifically in collaboration could spend reasonable periods of time in partner laboratories.

4.9 Impacts on industrial research were more problematical and direct awareness of the S&TA in industry seemed somewhat mixed. Where it did occur appreciation of its existence did not seem to be of a high order. However where there were projects involving industrial collaboration those contractors involved often seemed to be components or branches of global companies (e.g. IBM, Motorola, Siemens, Thales) rather than SMEs in exclusively high-growth, high technology sectors which one might imagine would potentially benefit most from the type of cooperation on offer. Overall it is perhaps the case that bilateral agreements were more readily understood by companies and so better appreciated than an agreement at an EU level. Possibly the principal motivation for industrial involvement here is the funding available which can help to save time and so secure market position. The possibility for, and extent of, complementarity between these two forms of agreement (EU and bilateral) needs to be further explored. It is also worth noting that research relevant to legislation and regulation, on standards and measurements, and relating to international convention obligations and similar areas of responsibility itself has an impact on industrial sectors and commercial development. These could be viewed as downstream impact factors.

Downstream factors

4.10 Whether added impact value occurs as a result of the existence of the S&TA is a key element for its justification. Assessing added value in relation to scientific research however always poses difficulty as comparability factors cannot easily be taken into account. However the increased critical mass and diversity of involvement achieved are significant factors in FP projects that have USA collaborators – as implied above (4.7). In addition exposure to different approaches and different ways of doing things between Europe and the USA has the potential to stimulate innovation and advance knowledge more rapidly than might otherwise occur as a result of dependence only on scientific communication in its more conventional modes.

4.11 A further question that is often posed concerns the reciprocity achieved under the S&TA and whether this is in balance between the involvements on the EU and USA sides. Overall this does not appear to be a significant issue. The existence of the various implementing arrangements signed up to by both sides might be seen as evidence of interested involvement in particular areas – both those anticipated and in hand. This in itself implies a reciprocity of interest and indeed expectation. However at an operational level it should be recognised that for certain USA agencies and departments that do not solicit

research proposals through the type of 'bottom-up' procedures used by NSF there appears to be an implicit requirement that the research funded must address a USA domestic agenda whether or not foreign collaboration is involved. Indeed under US legislation the usual practice would be for such research work to be performed in the USA. However indications were found that if an overseas contractor came into a research project supported by outside funding such difficulties were minimised. Some ambiguities seem to remain here. It is also only realistic to recognise that enhanced mobility of scientists might result in recruitment of younger European scientists by USA organisations. But the reciprocal, or counter-balancing, movement potentially exists within the context of the S&TA and it is for the EU to maximise opportunities for achieving this in delivering ERA.

4.12 The S&TA has the potential to achieve downstream impacts on relationships both in industry and in terms of government policy in addition to those resulting directly at a scientific level. It is difficult to find evidence so far of impact in this broader context . The value of S&T cooperation in terms of hoped for improvements in transatlantic dialogue is difficult to assess and any downstream aspirations in relation to policy commonalities may just be wishful thinking There has to be recognition of the differentiation between the scientific enterprise and the policy decision-making process and indeed the interface here may itself be different in character between the Parties involved. However some effects in this area could perhaps be realised for example in fields such as environmental impact notwithstanding interpretations of the present international legislative position. Moreover science and technology is an activity that invariably achieves a positive impact in the context of professional people working together even in more difficult political scenarios. Whatever the current interpretations in terms of international policy judgements in Europe and the USA there appears to remain a genuine enthusiasm in the respective scientific communities for collaborative work. More specifically it should also be noted that this S&TA has an impact as a result of the unique way in which operationally it can bring together funding from both Parties to underpin jointly-identified scientific endeavours. In this respect the S&TA provides a legally-based foundation that can be built on.

Future potential

4.13 In the first five years under review the potential impact of this S&TA has not been fully exploited. This however provides an opportunity to put in place approaches and processes that in future can build on the early experience and so provide something really worthwhile. Existing networks whether as negotiated between officials in implementing arrangements or as exist at project level between scientists need to be enhanced and new networks provided in the future at a level of international scientific excellence that is the norm for both the USA and Europe. The values and priorities of the EU and the USA may be different but key principles are common, the need for scientific investigation still exists whatever the differences are, and it can only lead to better information and benefit from the interpretations that result. More particularly the two strongest scientific research communities in the world need to seize the opportunity of defining new avenues of scientific

investigation through foresight or predictive activities that will set a future scientific agenda and define the rules of future engagement in it. Such an approach will not only maximise impacts resulting from the collaborative activities under this S&TA in the future but will generate new ones.

4.14 Finally and most importantly the potential for the S&TA in the future must be realised by creating greater awareness of the Agreement both as a result of the work done under it as well as the opportunities that it provides so that a dramatic increase in its impact is an inevitable outcome. This will need a more action-based or "Task Force" orientation to create initiatives and deliver outcomes from them. It will also require increased iterative dialogue and less dependance on formal pre-ordained meetings of the JCG.

5 The present position and future aspiration

The Agreement overall

5.1 The EU-USA S&TA took around two years to negotiate but the outcome is a document that allows for broad areas of cooperative activity, uses flexible principles, but specifies functions and operations somewhat loosely though with a good specific Annex on IP. Its looseness in terms of operational approach is compensated for by the various implementing arrangements as subordinate agreements put in place to further cooperation activities in particular areas with particular agencies in the USA. From an EU standpoint the ST&A with the USA might arguably be seen as one of its most important agreements of this type as it provides a shared commitment with perhaps the most powerful and successful S&T-based democratic economy in the world. From the outset it held out the prospect of a new chapter in transatlantic cooperation. However by the time the S&TA was signed the then current FP (FP5) was in fact open to the outside world – a process now further extended in FP6 enhanced by the underlying concept of ERA. So in a sense the Agreement struggled to find some justification for its existence that was more than a legal facilitation of what could occur already.

5.2 The number of projects involved having USA collaborators in FP5 is disappointingly low at around only 140 - around 1% of FP5 projects. A list of those considered in this study (about 120) is provided in Annex 9. However as more implementing arrangements come into force some increase in projects and other collaborative activities can be anticipated. This is to be welcomed as the S&TA provides a good parapet for establishing broader and deeper collaboration particularly in relation to research projects. One reason why this potential has not been exploited as fully as might have been hoped is a relative lack of awareness of the Agreement (particularly in Europe) but also of the FP itself in the USA and the opportunities for involvement in it as facilitated by the S&TA. This situation is further aggravated by the fact that for working scientific researchers the Agreement actually provides no identifiable funding that could enhance its facilitation role and provide some catalytic effect to initiating joint projects.

5.3 In the future then effort needs to be made not only to stimulate considerably more awareness of this Agreement on both sides of the Atlantic in tangible ways but relationships should be developed that would allow increased identification of a research agenda that represents a shared scientific position for Europe and the USA in coming years (assistance to developing countries through research effort; societal needs requiring research effort; defining new scientific agendas). Post-11 September 2002 the political backcloth to the S&TA changed markedly in the USA and indeed at the interface between the USA and Europe. At a practical level visa application for the USA is now a more rigorous procedure which itself might constrain mobility. In fact in the immediate aftermath of 11 September mobility by air travel was undoubtedly constrained as a result of fear of terrorist attack. In terms of focus of interest bioterrorism and homeland security are now elevated issues in the USA and increasingly so in Europe though here food safety still remains a higher priority so exemplifying some difference in emphasis. In this new scenario the Agreement has particular potential as a lever for strengthening relationships with the USA and the commonality of interest here between the two major democratic scientifically-literate capitalist economies in the world should be obvious.

Scientific context

5.4 Despite the fact that the Panel were scientists and engineers they were not scientific evaluators but were rather concerned with the process put in place as a result of the S&TA, its performance and the impact that it had had so far. Nevertheless as a result of some visits to research institutions a small number of projects were looked at in more detail in order to sample views at a working level. In the main these were positive and on occasion real enthusiasm was found for developing collaboration still further under the auspices of the Agreement and identifying areas of involvement and scope for initiatives that would take this forward. The USA certainly has its own priorities some of which, as indicated above, have been influenced by recent events but so too has Europe and through debate and better tasking outside the JCG it should in future be possible to generate particular initiatives under the label of the S&TA that will be exciting for the scientific community and valuable in policy domains. Some of these are already being put in place or emerging and are undoubtedly exciting on a scientific basis (e.g. nanotechnology, the hydrogen economy, cybersecurity) so the acceptance of each other's influence on the science involved is occurring as contact facilitated by the ST&A progresses. However there is the opportunity not simply to build on and consolidate present knowledge but to embrace through dialogue those new frontiers that might establish scientific agendas in particular fields perhaps for the next 25 years or more.

5.5 Making the implementation of the S&TA more *dirigiste* however can be difficult in the present modes of operation. Certainly implementation agreements can be established with the appropriate partner agencies in the USA to move forward particular areas of mutual interest. But beyond that with the bottom-up nature of the need to generate proposals to the FP and to USA

organisations such as NSF (essentially 'curiosity-driven' research) it is difficult to see how pre-identified areas of activity might result in cooperative work 'on the ground' if there is no identifiable funding available. With those USA agencies that, unlike NSF, do not operate proposal submission systems from the scientific community for peer review but rather make funding available for certain areas of work (essentially 'problem-oriented' research) due notice needs to be taken of areas that are key to the USA domestic agenda so that pre-identifiable funding might be available.

5.6 From an EU standpoint delivering activity under the S&TA in certain areas of the FP might require better specification of particular Calls or ring-fenced elements of funding that could be used in a "seedcorn" sense to spawn the type of projects that are sought. In such a scenario the temptation should be resisted of framing implementing arrangements too widely in order to capture more potential candidate areas. Rather it would be more profitable to define somewhat tightly the areas of involvement for particular initiatives and give them wide publicity. Otherwise no specific advantages or disadvantages to project proposals within the FP should be identified – except for appropriateness to the specification of a particular Call which could in practice openly welcome USA collaboration.

Industrial context

5.7 The present position industrially in relation to the S&TA is more difficult to portray despite the fact that transatlantic industrial R&D collaboration continues to grow (3). In certain industrial sectors there may be a distinctive agenda in contrast to the purely science-driven perspectives found in universities or public sector research institutes. In contrast to the public sector companies are more conscious of markets than the countries involved and there may be unease about collaboration from the standpoint of market competition or market acceptability. Areas where such factors might have an influence include aeronautics, GMOs, human genomics, and some aspects of IT. Even though factors such as gaining an entré to information of commercial value may play a negative role in industrially-sensitive sectors maintaining S&T involvement and cooperation should still be seen as important and effective (e.g. telecommunications standards) and this is exemplified in a number of FP5 industrially-based projects with USA collaborators. In fact the extent of industrial involvement in the context of the Agreement is not particularly out of line with that of the FP overall.

5.8 It takes time to convert S&T outcomes to a marketable product or service and in the main such outcomes are not yet clear or capable of assessment in the context of the EU-USA S&TA. Nevertheless there are areas such as biotechnology where dialogue and exchange are highly valued and effective as a result of a Biotechnology Task Force that in fact pre-dates the S&TA. Although in many ways this should be seen as an excellent model it does not in itself aim to generate collaborative projects. This gives some credence to the fact that those cooperative activities envisaged in the Agreement such as

task forces, joint studies, joint organisation of seminars, conferences, symposia and workshops, and training of scientist and experts are themselves valuable in addition to involvement in coordinated and joint research projects.

Policy aspects

5.9 The way in which research effort might be delivered collaboratively under the S&TA under areas where there are common policy aims and a desire to work together has been alluded to above (5.3, 5.4). In many cases the difficulties here stem from the 'bottom-up' approach pursued by certain USA agencies in the provision of research funding and indeed through the various Calls of the FPs. Although workshops and other forms of interchange can catalyse relevant 'bottom-up' approaches there are other avenues open to policy-makers such as compliance with domestic agendas in the USA and proper specification of Call priorities in FP6. Government officials in the USA claim that all its research has policy implications and where the emphasis is clear from publicly-available information the bottom-up researcher will usually respond. But a further important factor in generating such responses is the excellence of the networking in existence. Workshops in themselves may not be sufficient to generate projects of appropriate quality but the calibre of the individual scientists involved and the extent of their professional networking can do so. So the fostering of these is a valuable factor in achieving scientific proposals in compliance with policy objectives.

5.10 For the future the researching of research needs through foresight and similar predictive exercises at a pragmatic level as mentioned above should prove a fruitful area for collaboration between two of the most powerful scientifically-based economies in the world. Agreement on the importance of such future scientific agendas is likely in itself to result in political decisions that will provide funding and so attract scientific endeavour. Such an approach would also provide the S&TA with the high profile awareness that it desperately requires. An implementing arrangement with an appropriate USA department at a high level of government dedicated to activities in this area would be an exciting development.

Operational matters

5.11 Early problems with contract negotiation involving USA organisations are steadily being overcome and in FP6 should diminish significantly for those projects undertaken within the context of an implementing arrangement. Implementing arrangements remain a key element for the successful delivery of the S&TA at an operational level as a result of moves to coordinate Calls in identified topic areas of common interest and hopefully developing eventually to truly joint Calls. *Ex ante* information on coordinated Calls through mechanisms such as 'Dear colleague' letters (NSF) and Cordis announcements advertising the work programmes have improved during the life of the Agreement but much still remains to be done particularly in Europe where access to information on the S&TA is still too circumspect. Furthermore as already mentioned joint Calls with some USA agencies are not possible as such procedures to canvas scientific proposals are not used. Other approaches

seeking USA funding for the USA participant in a given proposal through implementing arrangements with such organisations will have to be clearly defined alongside successful applications to the FP.

5.12 Information and awareness promotion *ex post* is very scant and represents a major defect in the delivery of the S&TA at present. Particular initiatives need to be devised to increase this awareness for example (i) through use of recognisable logos or styles that create recognition of work undertaken under the Agreement; (ii) provision of a sufficiency of information on JCG meetings; (iii) publicising of particular conferences and workshops held under the auspices of the S&TA - for example through involvement of relevant professional societies and scientific and technical journals; (iv) nomination of particular laboratories or persons by means of an Agreement label (e.g. EU-USA S&TA Fellow; EU-USA S&TA participating laboratory); and (v) promotion of dialogue via a dedicated website between the various collaborators in FP projects in order to create a community of such stakeholders and encourage expansion of this community.

Added value and benchmarking

5.13 Both taxpayers and policy officials frequently need to know the added value achieved as a result of particular initiatives that have involved effort and resources. Public sector initiatives involving international cooperation are no strangers to such a requirement and it is legitimate to ask what added value is being achieved through an EU-USA S&TA both *ab initio* and by comparison with analogous bilateral arrangements with Member States. This is difficult to measure or even to assess in a subjective way. Certainly in particular sectors and notably in those with industrial involvements there seems to be greater awareness of bilateral arrangements than there is of the EU-USA arrangements in place under the S&TA.

5.14 Because this S&TA awareness is often of such a low order added value can be insufficiently tangible and so virtually impossible to determine even though it might exist even when awareness is not apparent. On the other hand improved critical mass, new types of expertise and variety of involvements, exchange of data, and stimulation of contact by collaboration with a range of different countries might be expected to provide an added component to intellectual activity which in turn enhances the sum of human knowledge, the quality of life for people, and economic gain. Assessment of such impacts is easier when targetting is well-specified and fortunately within the various implementing arrangements of the S&TA this is an increasing feature. There is also an opportunity for significant added value to be achieved at a policy level by fostering a robust scientific involvement between the EU and the USA in an increasingly difficult and challenging world for democratic countries with market economies. The S&TA needs to play a key role in seizing such challenges, providing avenues for dialogue, and novel modes of joint action. It is encouraging therefore that a first ‘Perspectives’ meeting along these lines is to be held in Cambridge UK on genomics later this year.

5.15 In addition the performance of the S&TA needs to be better benchmarked so that it is more clearly understood what is expected, what criteria should be used to assess the degree of accomplishment of that expectation, and how any shortfalls should be addressed. This can be an internalised process subject only to external audit at Agreement renewal. But such external audit would be greatly facilitated by the availability of some benchmarking or scorecard on which the on-going performance of the Agreement has been judged. A range of criteria needs to be agreed that embraces science, policy, administration, management, inputs and outputs and the various professional skills that are required to deliver these.

6 Conclusions and Recommendations

6.1 The Terms of Reference provided to the Panel for this impact assessment of the S&TA stated that it must indicate what the Agreement is adding to S&T cooperation between the EU and the USA in relation to what was intended. This prompts a relevant question: Has there been an increase in cooperation with the country involved or has there been no change in which case what has been the impact of the Agreement? It was also anticipated that the study would contribute to preparing a position for the Commission at the renewal date of the Agreement and indicate whether it required change or improvement or whether it was satisfactory in its present form. The particular objectives of the study briefly included *inter alia* assessing the on-going S&T cooperative activities in relation to the different specific programmes; assessing how far the on-going cooperative activities have created the basis for a more intense and closer relationship so as to envisage developing new forms of partnership ('From participation to cooperation and partnership'); drawing both strategic and specific conclusions regarding further needs; formulating recommendations relevant to implementation of future impact assessments; ascertaining the extent of European Member State collaboration as the EU component of an S&T agreement and hence its particular contribution to ERA; analysing the extent and quality of the reciprocity achieved. (Annex 2).

The Panel has reached a number of conclusions and made ***RECOMMENDATIONS*** in relation both to the objectives provided and more generally. These are set out in the following paragraphs:

6.2 There are tangible gains that can be identified as a result of the existence of the S&TA which at present are mainly science-led in character and derived in large part from the negotiation of particular implementing arrangements under the Agreement. The key role of the Agreement should be seen in terms of its facilitation of the involvement of USA collaborators but mention should also be made of the value of exchanging data, involvements with laboratories in a variety of different countries, experience of new approaches and other factors stimulating innovation. Whether these would have happened anyway is difficult to judge but the impression has been gained that in a number of instances the existence of the Agreement had a direct impact on the scientific cooperation achieved (for examples as a result of the NSF 'Dear Colleague' letter). Industrial or policy-related impacts were more difficult to determine. In

the former case tangible marketable outputs such as products or services take time to evolve so are perhaps more likely to be seen in succeeding years. Policy-led gains may become apparent rather sooner particularly in areas such as environmental science where increasing activities under a more recent implementing arrangement can be predicted. However the likelihood of downstream impacts should not be forgotten as impacts cannot be seen just in terms of new products and services. Policy shifts that can result in buying into new concepts and ideas should also be recognised.

6.3 Overall however the Panel would have liked to have seen more identifiable gains that could be linked directly to the existence of the Agreement. Undoubtedly the foundation is in place to achieve more and it is ***RECOMMENDED that every effort is made to accelerate the cooperative process under the Agreement, build on the opportunity that it offers, and exploit its potential more actively.*** It also needs to be remembered that the range of activities covered by the S&TA is one of its valuable features. The Agreement is not just about joint cooperative projects. Examples were found where other types of activity were appreciated by the scientific community. Here again the potential offered needs to be exploited so it is ***RECOMMENDED that the range of activities covered under the Agreement needs to be capitalised on for example by establishing relevant task forces and action groups to advance thinking and involvement in mutually advantageous areas - and indeed monitor the implementation of the various recommendations of this impact assessment report.***

6.4 Lack of awareness of the Agreement especially in Europe is a significant finding and a source of disappointment. There were particular concerns that the awareness of the Agreement in Member States of the EU was of a low order. The relevance of the EU-USA S&TA and the involvement with it of Member States in relation to ERA and the conclusions of the Lisbon Council emphasize the need for better complementarity here. For Europe in respect of both the Union and its Member States open methods of coordination are important to the delivery of international scientific cooperation. Although real efforts have been made 'on the ground' in the past Member States still need to be better briefed and to 'buy-in' to the existence of the S&TA and particular activities or initiatives undertaken within it. ***It is RECOMMENDED that target areas for communication be identified in relevant sectors (science, industry, government) and a range of initiatives put in place as exemplified in 5.12. The Commission needs to ensure that Member States are better briefed on the S&TA and are encouraged to 'buy-in' to it as stakeholders.***

6.5 The question of reciprocity between the USA and EU sides as Parties to the Agreement has been raised in the past but was not found to be a particularly serious cause of concern. The existence of the various implementation arrangements themselves serve to indicate the commitment from both sides to enter into cooperative work through nominated organisations in agreed topic areas. This commitment is itself reciprocal so it might be assumed that there is no risk of uni-directional flow or imbalance in cooperative gain.. However for some agencies or departments that are signatories to an implementing arrangement it appears that there is a requirement that the R&D put in place

entirely addresses the USA domestic agenda so how foreign collaboration can play an essential role in this might need further analysis of the areas of work involved. In addition it seems that in the main US legislation requires any such cooperative research to be undertaken within the USA. It may be possible to accommodate such a requirement for USA contractors but there are ambiguities here and ***it is RECOMMENDED that further elucidation under the auspices of the JCG is needed to clarify particular aspects of the reciprocity achievable under the Agreement in specific instances.*** Furthermore clearly USA research institutions are able to attract young European scientists to work in the USA initially under the aegis of the S&TA – but so too can the EU attract young USA scientists to work in Europe and indeed this mobility is relevant to the ERA concept. It is for the EU therefore to ensure that such reciprocal mobilities are effective by creating awareness of them.

6.6 A further aspect of awareness relates to the Joint Consultative Group (JCG) as established under the S&TA. The Panel was disappointed with the performance of the JCG and concerned that information on its meetings was apparently so difficult to retrieve. The impression has been gained that the JCG is too formalised and is meaningful in the main only to those who have direct involvement with it. It is ***RECOMMENDED that the JCG be better exploited as a communication vehicle so that scientific and other relevant communities are aware of its agendas and the outcomes of its deliberations. The JCG should encourage input to these deliberations from a wider audience so that it is able to sample a range of opinion.*** There is real 'on the ground' evidence of willingness to cooperate in research institutions in the USA – ways need to be found of involving such people. In the industrial context effectiveness might well be improved by more active consultation with industrial R&D organisations such as IRI and EIRMA. In terms of management of the Agreement annual JCG formal meetings are not sufficiently effective. Effectiveness must be improved by more iterative contact and communication together with use of small working groups or task forces reporting back to the JCG with options for courses of action on which decisions can be based. Similarly steering committees with responsibilities for the various implementing arrangements must include representation of each scientific field by active specialists and publicise widely their agendas and outcomes of meetings.

6.7 Undoubtedly awareness of the S&TA would be increased if its attractiveness to the scientific community and other stakeholders could be enhanced. This is unlikely to occur without recognised attribution of funding available to those seeking involvement. There are perhaps three modes in which attribution of funding to activities under the S&TA might be considered. One is to agree under a particular implementing arrangement to 'ring-fence' in a FP Call, and simultaneously designate from the USA partner agency involved, a specific budget envelope for work of a particular type that would result in cooperation with USA partner(s) in order to fund 'Implementing arrangement projects'. Secondly to make available funding to attend workshops or action planning groups from which joint projects in pre-identified areas could emerge as proposals. Thirdly in establishing a contract from a successful proposal to

ensure that sufficient funding was available for mobility of scientific personnel in the course of the contracted work – particularly in relation to USA personnel attending project planning or other management meetings in Europe. It is ***RECOMMENDED that such attribution of funding equally from both Parties within the context of the S&TA be established as a 'Seedcorn Fund' that would facilitate such initiatives.*** Because there appears to be willingness on the ground in the scientific community in the USA to cooperate with European colleagues in research projects it is likely that such an availability of catalytic funding would stimulate greatly increased activity.

6.8 The EU-USA S&TA is one of several S&T Agreements between the EU and other countries. The Agreement however has a uniqueness on two counts. Firstly it is an Agreement with one of the most successful S&T-based economies that the world has seen and as such the opportunity for collaboration in ground-breaking high calibre science exists at an order, and to an extent, that could not necessarily be achieved elsewhere. Secondly it has a uniqueness that particularly through its subsidiary implementing arrangements embraces a process in which the two parties to the Agreement each contribute funding to a joint cooperative scientific endeavour.

6.9 As already indicated the S&TA constitutes a platform with significant potential that requires more dynamic exploitation. The form of this re-invigorated activity needs some strategic development and should relate to new policy perspectives that are emerging in both the USA and Europe. Because of the calibre of the scientific communities in the Parties involved the opportunity for what might be called 'Identification of New Frontiers' in science is real and potentially significant and where these are identified both Parties would be seen as natural long-term stakeholders. So pragmatic foresight-style or predictive activities of this type should be regarded as candidate areas for future S&T initiatives that would tend to bind the parties together. Other research might be more a matter of 'Consolidation Activity' in areas that are already well-established in the world of science but require increased resources and improved focus. Research solutions to the needs of developing countries are one such category as are new and improved research directions for addressing societal issues and concerns in industrialised countries – such as the USA and those of the EU. For all these reasons and others set out in this whole Section it is ***RECOMMENDED that the Agreement should be renewed but that as part of the renewal process commitment is made to establishing a strategy that will build effectively on the foundations laid in the first five years and better exploit the potential of the Agreement on its renewal.***

6.10 Concerns have been expressed in the USA about some operational constraints experienced in establishing joint projects under the S&TA particularly in relation to contracts, audit arrangements, legal requirements and liabilities in FP contracts. Such operational issues on occasion have been deeply felt, put project initiation at risk, and come to the knowledge of senior officials in the USA government. It is important that in future such process or procedural issues do not constitute any threat to the strategic development and S&T value of the Agreement. Progress has been made in FP6 and in relation to the

relevant implementing arrangements to resolve such matters and it is likely that they will not achieve such a high profile in the future. Nevertheless the potential for difficulty here does exist and the importance of iterative contact as a substitute for reliance on the annual deliberations of the JCG cannot be over-emphasized in dealing with concerns of this type.

6.11 Also at an operational level there is a lack of involvement of some highly-regarded USA science organisations (e.g. NIH, NASA) under the umbrella of the Agreement and it is ***RECOMMENDED that attempts should be made to establish links here through implementation arrangements that are specific and well-targeted towards common problems and relevant scientific interests***.

6.12 The differentiation of the EU-USA S&TA from various bilateral and similar agreements of the USA with individual European Member States needs more effective communication. A certain lack of understanding can be detected in relation to the EU and its interface with its Member States to the extent that the two were often regarded as distinct and unconnected entities, and indeed perhaps of equivalent stature, whereas in terms of scientific resourcing and expertise one should be portrayed as a valuable component of the other. Added value from a European standpoint (European Added Value – EAV) will not be easy to assess if there is difficulty in recognising it. ***It is RECOMMENDED therefore that the EU Delegation in Washington DC, in conjunction with the Embassies of the Member States, makes particular efforts to communicate to USA government agencies the essential differentiation between the EU-USA S&TA and those of Member States.***

6.13 There is a need for better benchmarking of the Agreement so that its on-going performance can be monitored internally in relation to particular criteria. This would be both beneficial in its own right and of significant benefit to future impact assessment studies. ***It is RECOMMENDED that the goals of the Agreement are made more overt from a management standpoint and the criteria for assessing the delivery of these goals through monitoring procedures are decided on so that internal performance measurement becomes more practicable.*** This will involve effective databasing of all activities undertaken under the S&TA. So records relating to the delivery of activities under the Agreement need to be refined in order to make internal benchmarking exercises and external impact assessments at renewal dates easier to implement.

6.14 Dialogue with the USA government at the right level of seniority is seen as vital to the effective delivery of the S&TA objectives. Here there needs to be differentiation between working contact for operational reasons with officials in key departments of USA government and strategic contact at a senior level with such departments that would help to further the aims and effectiveness of the cooperation between the Parties. ***It is RECOMMENDED that the Commission ensures that it has put in place the appropriate level of direct communication with key USA government departments and in doing so that the Agreement has a champion at such a senior level on both sides.*** Personalities are of course important in fostering involvements at senior

management levels but the Commission should not hesitate to provide the appropriate social context for this. So ***it is also RECOMMENDED that the relevance of high profile functions should be assessed continuously for opportunities that might be available to enhance relationships and involvements under the S&TA so that it is publicised and communicated to appropriate audiences as a consequence.***

ANNEXES

ANNEX 1 Text of the EU-USA S&T Agreement and Council Decision

1.1 ***Text of the Agreement***

(8 pages)

agreement 284-37.pdf

1.2 ***Council Decision***

(2 pages)

agreement cooperation.pdf

ANNEX 2 The study task and panel membership

2.1 Terms of reference

Definitions and references regarding the Task

An impact assessment of the S&T Agreement concluded between the European Community and the United States of America

1. Background

Several S&T cooperation or association agreements are in force with countries such as Australia, Canada, China, Russia, South Africa, the United States of America and Israel. They represent the most appropriate instruments to create a political, legal and administrative framework for the visible and transparent organisation of science and technology cooperation between the European Union and such countries. They allow researchers from these countries to participate in EU projects and *vice versa* generally without any financial participation – though in the case of association agreements with non-EU countries (currently only with Israel) funding is available to partners in a third country in return for a contribution based on GDP from that country to the Framework Programme (FP). Both forms of agreement – cooperation and association – cover the main cooperation arrangements, questions relating to intellectual property, and reciprocal access to programmes.

2. Objectives

The EC-US S&T Co-operation Agreement entered into force on 14 October 1998 for a 5-year period ending on 13.10.2003. It covers a list of areas of non-nuclear research falling under the thematic programmes of FP5.
[A separate agreement on the pacific uses of atomic energy (including research) between EURATOM and the USA entered into force in 1996.]
The forms of co-operative activities foreseen under its Article 5 are essentially twofold: co-operation at intergovernmental level (i.e. between government-controlled or funded research entities and programmes) and co-operation through joint research projects (i.e. participation in each other's research programmes on a project-by-project basis).
Of particular importance are the initiatives taken in the form of **"Implementing Arrangements"**, one of the modalities provided for in the Co-operation Agreement to better organise collaboration in specific areas of research : A complete list of current and foreseen implementation agreements is *annexed* hereto.

Assessment of the impact of the EC-US S&T Agreement (and the implementing Arrangements) must indicate what it is adding to S&T cooperation in relation to what it was intended to add so analysis is required to see whether the Commission got what it expected when it was negotiated. A relevant question would therefore be: Has there been an increase in cooperation with the country involved or has there been no change - in which case what has been the impact of the agreement? This study will therefore contribute to preparing a position for the Commission at the renewal date for the S&T agreement and indicate whether it requires change or improvement or is satisfactory in its present form.

Within the scope and relevance of the present specific programme activities the particular objectives of this study are:

- to **assess the on-going S&T cooperative activities** in relation to the different specific programmes so as to draw up a pattern of cooperative activities : science led, technology led, trade led, global issues led, etc.
- to assess how far the on-going cooperative activities have created the basis for a more intense and closer relationship so as to envisage developing new forms of partnerships including coordinated calls for proposals and possibly joint calls for proposals with similar criteria of evaluation ("From Participation to Cooperation and Partnership")
- to **draw both strategic and specific conclusions** with regard to further needs in the field
- to **formulate recommendations** relevant to effective implementation of future impact assessments of S&T agreements as they come close to renewal, require change or improvement, or have to fulfil new external policy purposes.

- to **ascertain the extent of European Member State collaboration** (by examining for example stimulation/promotion of projects, numbers involved, contribution from Member State bilateral agreements, influence of other European organisations such as ESF and of model schemes or organisations in particular sectors or regions, identified EAV to achieve critical mass, extent of stimulus from international cooperation to enhancing Member State cooperation) as the EU component of an S&T agreement, and hence its particular contribution to the European Research Area – ERA.
- to **analyse the extent and quality of the reciprocity achieved** under an agreement by use of agreed indicators (e.g. which areas, conditions applying, IPR provisions, publicity used, perceptions of value as basis for stability)

These specific objectives taken together can also make an input to the definition of activities within ERA and its attractiveness to the best scientists based outside Europe.

3. TASKS to be undertaken:

In order to produce satisfactory assessment of the impact and performance of the EU-US S&T agreements to be addressed certain tasks need to be undertaken. These include:

- provision of an outline of performance using information from Commission databases, different agencies and the EC Delegation where there are known contact personnel.
- interpretation of performance as a result of preparation and submission of an appropriate ***questionnaire*** to relevant scientists and policy-makers both in Europe and the US, supported by undertaking face-to-face and/or telephone interviews as a result of planned and structured visits to the US. This work will elucidate the reasons behind high or low performance (for example degree of awareness, culture gap, bureaucracy, availability of public money, governmental support, motivation, involvement of champions and so forth) and elucidate the reasons behind the timescale of performance (to include for example critical mass, fatigue, learning curve, among other parameters).
- the degree of European integration achieved between the Member States involved will be assessed through ***questionnaire and/or interview*** in order to establish the quality and number of partnerships, any preferential EU country, historical effects in relation to EU partners or more widely.
- the degree of academic or enterprise networking. This can again be established by ***interview and questionnaire*** in order to determine whether the agreement was instrumental in promoting such networking, the range of enterprises embraced by the networking and the extent of this within the US using appropriate examples
- the limitations or constraints which might create either insurmountable obstacles or in other ways limit progress in implementing joint RTD activities.

4. Indicative timetable of activities

The work involved in implementing this study will be undertaken from November 2002 until June 2003. The following stages are envisaged in the implementation and delivery of the required work. Chronological sequence is provisional and some overlap is envisaged in timing of the various Stages.

Stage 1	Information Acquisition (Planning) - requirements, sources, access; preparation of ***questionnaire and interview*** structure; establishment of contact with US contact points; establishment of contact with projects leaders and policy officials in EU member states and the US (November 2002 - January 2003)
Stage 2	Information Acquisition (Operations) - ***questionnaire*** electronic distribution, receipt of responses, collation of information received; planning of visit itineraries and interviews in the US - establishing appointments and meeting dates and agenda; devising project impact assessment criteria and related benchmarking. (December 2002- February 2003)
Stage 3	Collation and analysis of data and provision of report - interim overview draft report (March 2003), final draft overview report (June 2003)

Continuing contact will be maintained with the Commission nominated project officer throughout the study with the provision of management/progress reports and/or presentations as appropriate.

2.2 Panel membership

Jyrki Kettunen Panel Chairman

Professor, Corporate Futurist of M-real Oyj.

Graduated from Helsinki University of Technology (wood chemistry). In charge of different teaching and research tasks in the University before transferring to industry as laboratory manager of Oy Metsäliiton Paperi. Research Manager of Metsäliiton Selluloosa Oy 1968-73, Research Director of Metsäliiton Teollisuus Oy and latterly Vice President, R&D of Metsä-Serla Oyj then Corporate Futurist before retiring in 2002.

Has many connections to international research within the pulp and paper industry as well as in international research management. Member of Academy of Technical Science in Finland since 1973. Actively participated in process and product development of many new mills and modernizing of mills as well as in product development. Recently he has been involved in monitoring the interdependence between values and other changes in the business environment and technology structures for developing anticipated technology strategies, new logistic solutions and sustainable development in forest industry. Outside pulp and paper technology his professional interest has been in environmental, energy and future research. Member of Monitoring Group of FP IV 1998-99.

K A Harrap Rapporteur

Keith Harrap is managing director of Science Consultancy Ltd which he founded ten years ago and also holds a Visiting Professorship in Science Policy at the University of Derby UK. Originally graduating in microbiology at Birmingham University he pursued a doctoral research career in virology at Oxford for nearly 20 years achieving D.Phil. and D.Sc degrees and where he was latterly also a Fellow and Tutor for Admissions at Wolfson College. He also undertook research on aspects of virus transmission at Rutgers Medical School in New Jersey, USA in the mid-1970s.

In the early 1980s he moved to government aspects of scientific research as Head of Commissioned Research for the Natural Environment Research Council at its UK headquarters where he had wide-ranging scientific research responsibilities involving several government departments in Whitehall, London. Leaving government service he established a scientific consultancy business assessing research, its management and its impacts for a wide range of government, European and other international public bodies. In recent years he has been particularly involved in advisory work at the interface of scientific research and policy concerns with particular emphasis on international cooperation issues. He has undertaken a number of studies for European and wider international agencies in this sector. He is a Fellow of the Institute of Biology and the Royal Society of Arts

Claude Wolff **Member**

Honorary Chair Professor (Macromolecular materials) at the **C**onservatoire **N**ational des **A**rts et **M**étiers (**CNAM**) and formerly Director, Center for applications and studies of industrial materials, CNAM; President (Dean), Faculty of engineering, and Chair Professor (Macromolecular Materials) at CNAM; Guest Scientist at NIST, Gaithersburg, USA; Honorary Visiting Professor of Science and Technology Policy, University George Mason, Fairfax, Va, USA.

At one time Counsellor for Science and Technology, Head of the French scientific and technological mission, French Embassy, Washington DC, USA

Previously held positions of Dean, Ecole Nationale Supérieure des Industries Textiles (Faculty of Textile Engineering), Mulhouse, France; Director, Laboratory of Textile Physics and Mechanics; Professor (tenure), Université de Haute Alsace, Mulhouse; Director, Laboratory of Molecular Hydrodynamics, Brest

Member of International Committee of Rheology; Chairman, Committee of Rheology, Ministry of Research and Technology; Committee of Mechanics, Ministry of Research and Technology; Academic Association of Mechanics;
French Group of Rheology; Consultative Committee of the French Universities

Scientific interests include mechanical properties and processing of plastic materials, science and technology policy; solid state physics (ferromagnetism), polymer physics, textile physics and mechanics. Has undertaken referee and/or expert roles for Courts of Justice, NATO, European Commission, J.Rheology, Rheology Acta, J.N.F.M., J.Polymer Sci. and similar

ANNEX 3 Examples of interview structures used in Europe

3.1 Some of the over-arching topics covered in discussions

Present situation
Reciprocity
FP6
Renewal of the Agreement

3.2 Examples of topics covered in discussion with research contractors

1 Which team first initiated the subject of the proposal ?
2 How was the EU group of contractors constituted :
- by coopting
- by personal relationships
- by progressive growth
- other (explain)
- how long was the period between first draft of the proposal and signature of the contract by the Commission

3 How was the principal contractor (coordinator) chosen ?
4 Who, or which team brought the US team to the group ?
5 What did this US team bring specifically to the project (besides more internationalisation)? If there was a specialism, could it not be found within EU ?
6 During the project, how did the cooperation between the EU teams work ?
7 During the project, how well did the cooperation between the EU and US teams work ?
8 Did the benefit of having a US team within the group match your expectations ?
9 Have you heard about an EU-US agreement on S&T cooperation (signed in 1998)? If yes, how did you learn it ? How did it help you ?
10 Have you heard about EU-US specific implementation agreements on S&T cooperation between EU and the R&D US agencies (NSF, NASA, DOE,...)? If yes, how did you learn about them ? How did they help you ?
11 Have you heard about bilateral agreements on S&T cooperation between large Member State institutions (CNRS, CEA, INRA,...) and R&D US agencies? If yes, how did you learn about them ? How did they help you ?
12 Have you already tried to present a proposal, or been involved in a group presenting a proposal, in answer to a call for proposals of an US agency ?
13 Will you seek active involvement of USA partners in a subsequent project?
14 What kind of improvement do you feel is necessary to boost such EU-US S&T cooperation?

3.3 Other target groups with whom discussions were held

- S&T administrators in government and in connection to government
- Institute directors and university rectors and deans
- Project coordinators - prime contractors
- Researchers in FP v project with US participation
- Research directors in industry

3.4 Examples of interview questions by group

- S&T administrators:

Do you know about the substance of the agreement,or just that it exists?
Compared to bilateral S&T agreements with US, what kind of added value is the EU-USA Agreement giving?
How would you improve the USA-EU cooperation at a European level?
Has your organisation taken any specific action to inform the research community of the Agreement?

Are there some special areas for effective cooperation with the USA?
What are the major problems in cooperating with the USA?

- <u>institute directors and university rectors and deans</u>
  Do you know about the Agreement?
  Has your institute been active in using it to build networks to the USA? How successfully?
  Has your institute developed exchange of researchers with the USA in connection with FP5 projects?
  Is the decision-making to participate organized top down or bottom up?
  If you decide to participate what is the major reason: expertise, labour, research tools or financing.
  What are the major problems in cooperation with US counterparts?

- <u>researchers in FP5 projects with USA participation</u>
  Did you know about the Agreement?
  Do you know if an implementing arrangement exists in your area (e.g. that assists with ipr-questions?)
  Did the initiative for joint projects come from USA or from European groups?
  How long did it take before the financing was secured?
  Did US-participation add to the complexity of the project management?
  What was the major benefit of US-participation: expertise, labour, research tools or financing?
  Did the US-participation add to the status-value of the project?
  Did your organization undertake exchange of research personnel with US-partners during the project.
  Do you feel that your contacts will last after the project?
  What kind of improvement does the existing cooperation system need?

- <u>project coordinators - prime contactors (questions as for researchers with following additions)</u>
  Are there any special problems in coordinating USA-EU projects compared to an ordinary FP project?
  Are there any special, even unexpected, benefits of USA participation?
  What special topics need improvement in the administration of cooperation?
  Are there some infrastructure issues to improve cooperation possibilities i.e. transfer and mobility of researchers?

- <u>industrial rtd-directors</u>
  Do you know about the Agreement and the content of it ?
  Is your enterprise participating in FP5 projects with USA participants?
  If yes, what is the major benefit: - knowledge, labour, apparatus or money?
  Is the cooperation in these kinds of project more complex than in ordinary FP projects?
  What is your opinion of the necessity for this kind of document? Most countries have already a bilateral agreement with the USA.. Do you feel that your country's bilateral agreement with the USA is still necessary?
  Any other comments concerning S&T-cooperation between EU and USA?.

ANNEX 4 Examples of interview structures used in USA

Example 1 – overall use

1 Do you know about the S&T EU-USA agreement ?

2 Do you know about the EU-USA S&T implementation arrangements ?

3 If yes, do you think that they have been worked out and agreed to:
- policy needs
- political needs
- the glory of the department of international relations of your, or another, institution, or a way to demonstrate that your, or another, institution is strong enough to negotiate international partnerships at large ?
- to ease and improve cooperation ? In what ways?
- to have an umbrella in case of difficulties ?

4 If yes, did you disseminate the information about the Agreement and its implementing arrangements ? How ?

5 Generally speaking, what do you think about reciprocity in relation specifically to the access of EU institutions or companies to US R&D programmes ?

6 Within the new EU R&D programme, FP 6 - which gives significant emphasis to "excellence networks" and to "integrated projects" (30-40 million €or $), and its major goals (life sciences (incl. genomic and biotechnology. for public health), IT, nanotechnology., aeronautics and space, food quality and security, sustainability (incl. global change and ecosystems), citizens and governments - how do you see the evolution of the cooperation ?

7 Do you think that we can organize joint EU-USA calls, joint evaluations of projects, and joint assessments of the results ?

8 What is your opinion about the joint steering committees? Should they be "vertical" i.e. organized by FP 6 major goals, or "horizontal", i.e. at the level of federal US agencies; in this case, how do we take into account universities and industries?

9 How can we assess and measure the impact of the cooperation (with or without the Agreement and/or implementation arrangements) on scientific mobility (i.e. exchange of students, post-docs and scientists), innovation, and economic factors (e.g. job creation)? Generally speaking, is it possible to say in this specific case that "cooperation improves competitiveness "?

10 Do you think that there could be a specific role in the EU-US S&T cooperation Agreement for Academies, for the European Science Foundation and for other non governmental bodies ? Which ones?

11 Do you think that the best process to organize S&T cooperation between the EU and USA is to start with a task force on a given topic (e.g. nanotechnologies), then a workshop to elaborate the programmes, then a joint call for project proposals, then joint evaluation, and funding + action? How do you think that we could manage important questions like :
- funding
- IPR
- liability (personal and institutional)

12 What is your opinion, within the Agreement framework, and on the major topics of the FP 6, of funding "advanced summer institutes" for graduate students and young scientists ?

13 Generally speaking, how can we work together better?

14 *Specific for NSF* : How can we standardize USA and EU S&T indicators? How can we exchange benchmarking and best practices ?

15 *Specific for NIST* : What about an implementation arrangement on "intelligent manufacturing" ?

16 *Specific for NASA + OSTP and others* ? How to improve cooperation in the fields of space, aeronautics and ground transportation ?

Example 2 - Policy use

1 What were your aspirations for this Agreement? Have they been fulfilled?

2 What have been the particular benefits in your case? Why would these not have occurred anyway?

3 In what respects has the Agreement proved disappointing?

4 Has the existence of the Agreement emphasized European research as distinct from the research undertaken in individual European countries such as UK, France, Germany, Spain etc

5 Are the individual implementation arrangements vital for meaningful operation of the Agreement? How specific do these have to be?

6 What major impacts are identifiable as a result of the Agreement? Should we be looking for more?

7 What benchmarks should we use to indicate impact? Do you think we should be more systematic about this?

8 How are candidate areas for particular activity identified and does the process work effectively? If not how do you suggest it is improved?

9 Should areas identified for activity be science-led or policy-led – or is this not a valid distinction?

10 Where should the Agreement go in the future? In particular can it adapt to changing USA or European S & T priorities and are these diverging?

11 Should the Agreement be built on and developed further – perhaps with pre-identified designated funding or with other initiatives?

12 What operational problems occurred e.g. achieving coordinated Calls, disseminating information, resolving IP issues, contractual matters, management issues?

13 Does the Agreement bring about reciprocity or are activities or benefits weighted too much towards one side or the other?

14 If you had to briefly summarise the strengths, weaknesses, opportunities, and threats for the Agreement what would they be?

Example 3 Scientific use

A <u>Science</u>

1 How was the science in the project first conceptualised? For example was there prior joint work, professional contact, workshop/meeting involvements etc

2 How do you feel about the science being undertaken? - stimulating; satisfying; innovative; disappointing etc

3 What has been the scientific added value of this EU-USA project? For example would the science being pursued have been done anyway e.g. in your own organisation or in collaboration with others (USA alone or more widely) in which case the added value of the collaboration might be seen as low.

B <u>Management</u>

4 Scientific management of multi-collaborator international projects can be very demanding. What has the scientific management of the project been like?

5 How was the management structure of the project and its collaborator inputs conceived and then planned for? E.g. at a workshop; on the initiative of the prime contractor; derived from another collaborative project.

6 What are the arrangements for reviewing progress and/or planning further work or changes of emphasis?

C Administrative matters

7 What have the administrative procedures been like? For example the processes of producing a proposal; time to decision on funding; contractual processes; start-up requirements.

D Awareness

8 Were you aware of the EU-USA S&T Agreement and its relevant implementing arrangements for collaborative work under the EU Framework Programme in your scientific area? If so how did you find out?

9 How easy was it to get the necessary information about the possibility for such collaborative work and the procedures involved?

10 Should the possibilities for collaborative work under the EU-USA S&T Agreement be given greater publicity/recognition for the scientific community in the USA or more substance - such as clearly identified funding lines for such collaborative work?

Any other comments – favourable or unfavourable?

ANNEX 5 Characteristics of the projects involved

5.1 All candidate projects available for study

Prog.name	Prog. Detail	Contract #	Type	Title	Cost	EU funding	Dead line	Duration	# participant	# EU partic	# US particip	Type	EU country part.	Type/EU	Coord. acronym	Coord. name	Country
AUSTRIA																	
IHP	IHP-6-Supporting Sciences and Technology Policies	HPV1-CT-1999-00005	Thematic Network	SOCIO-ECONOMIC EVALUATION OF PUBLIC RTD POLICIES	450446	450446	26-Jan-04	24	13	11	1	ind	AT 2BE 2DE 3GB IE IT NL	3gov 8univ	COMC.IPTS	COMMISSION OF THE EUROPEAN COMMUNITES	BE
IST		IST-1999-20021	Research Projects		2954206	1599537	09-Sep-04	30	14	12	1	univ	3AT 3DE ES FR GB 3IT	2ind 2gov 8univ	UNI	LEOPOLD FRANZENS UNIVERSITAET INNSBRUCK	AT
BELGIUM																	
EESD-ENVIRONMENT	EESD-ENVIRO-4-The city of tomorrow and cultural heritage	EVK4-CT-2000-00024	Research Projects	TOWARDS SUSTAINABLE TOWN DEVELOPMENT : A RESEARCH ON DEPLOYMENT OF URBAN SUSTAINABLE TRANSPORT SYSTEMS (STARDUST)	1773471	1093850	27-Feb-05	36	6	4	1	univ	BE 2FR GB	1ind 2gov 1univ	STRAT	STRATEC S.A.	BE

IST		IST-1999-10367	Classical Accompanying Measures		7866360	2665970	29-Dec-03	12	11	4	6	ind	BE DE 2NL	4ind	IMEC	INTERUNIVERSITAIR MICRO-ELECTRONICA CENTRUM VZW	BE
IST		IST-1999-10744	Research Projects		2985078	1462962	28-Dec-03	24	7	5	2	gov	BE 2GB 2FI	1ind 4gov	IPC	IPC TECHNOLOGY SC	BE
IST		IST-1999-20363	Classical Accompanying Measures		5321741	2415010	18-Sep-04	18	6	4	1	ind	BE DE 2NL	3ind 1univ	IMEC	INTERUNIVERSITAIR MICRO-ELECTRONICA CENTRUM VZW	BE
IST		IST-2000-28046	Thematic Network		414015	350000	28-Jun-05	24	7	5	1	ind	2BE DE 2GB	4ind 1univ	IMEC	INTERUNIVERSITAIR MICRO-ELECTRONICA CENTRUM VZW	BE
DENMARK																	
EESD-ENVIRONM	EESD-ENVIRO-2-Global change, climate and biodiversity	EVK2-CT-2000-00095	Research Projects	COMPREHENSIVE INVESTIGATIONS OF POLAR STRATOSPHERIC AEROSOLS (CIPA)	1516385	999870	09-Nov-04	33	10	8	2	univ	2DE DK 3FR 2IT	1 ind 5 gov 2univ	DMI	DANISH METEOROLOGICAL INSTITUTE	DK
QOL	QOL-4-Environment and Health	QLK4-CT-1999-01422	Research Projects	INCREASING INCIDENCE OF HUMAN MALE REPRODUCTIVE HEALTH DISORDERS IN RELATION TO ENVIRONMENTAL EFFECTS ON GROWTH- AND SEX STEROID-INDUCED ALTERATIONS IN PROGRAMMED DEVELOPMENT.	5453094	2449915	01-Feb-04	48	9	6	1	univ	DK ES 2FR 2GB	2gov 4univ	RHC	RIGSHOSPITALET KOBENHAVN	DK

QOL	QOL-5-Sustainable Agriculture, Fisheries and Forestry,and Integrated Development of Rural Areas including Mountain Areas	QLK5-CT-2001-00596	Research Projects	CARBON-NITROGEN INTERACTIONS IN FOREST ECOSYSTEMS	2670878	1397321	27-Jul-05	36	11	8	1	gov	DE DK FI 2GB 2NL SE	1ind1gov 6univ	FEA	FINNISH ENVIRONMENTAL INSTITUTE	
SPAIN																	
QOL	QOL-5-Sustainable Agriculture, Fisheries and Forestry,and Integrated Development of Rural Areas including Mountain Areas	QLK5-CT-1999-01357	Research Projects	NEW ENVIRONMENTALLY-SOUND METHODS FOR PITCH CONTROL IN DIFFERENT PAPER PULP MANUFACTURING PROCESSES	3070645	1477759	31-Dec-03	36	10	9	1	ind	DK 2ES 3FI FR NL	2ind 3gov 4univ	CSIC.CIB.DMM	CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	ES
GERMANY																	
EESD-ENERGY	EESD-ENERGY-6-Economic and efficient energy for a competitive Europe	ENK6-CT-2001-80576	Classical Accompanying Measures	DEVELOPMENT OF TEST PROCEDURES FOR BENCHMARKING COMPONENTS IN RES, IN PARTICULAR ENERGY STORAGE SYSTEMS - "BENCHMARKING"	2906167	1800000	18-Dec-05	36	12	10	1	gov	BE 3DE DK FR GB GR NL PT	1 ind 9gov	FHG.ISE	FRAUNHOFER-GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	DE
EESD-ENERGY	EESD-ENERGY-5-Cleaner energy systems, including renewables	NNE5/173/1999	Demonstration Projects	DEMONSTRATION OF A MWE CLASS POWER SYSTEMS USING HIGH TEMPERATURE FUEL CELLS (SOFC) COMBINED WITH MICRO-TURBINE GENERATO	11127908	3894765	28-Sep-04	48	6	5	1	ind	AT 2DE 2FR	5 ind	ENBW	ENERGIE BADEN WURTTEMBERG	DE

EESD-ENVIRONM	EESD-ENVIRO-2-Global change, climate and biodiversity	EVK2-CT-1999-00012	Research Projects	PHENOLOGICAL OBSERVATIONS AND SATELLITE DATA (NDVI): TRENDS IN THE VEGETATION CYCLE IN EUROPE	692600	594200	26-Jan-04	24	5	3	1	gov	AT DE FR	1 gov 2 univ	TUMUC.LBI	TECHNISCHE UNIVERSITAT MUNCHEN	DE
EESD-ENVIRONM	EESD-ENVIRO-Support to Research Infrastructures	EVR1-CT-2001-40014	Research Projects	ATLANTIC NETWORK OF INTERDISCIPLINARY MOORINGS AND TIMESERIES FOR EUROPE	2977631	2258676	27-Nov-05	36	6	4	1	ind	2DE ES GB	2gov 2univ	IMEER	INSTITUT FUER MEERESKUNDE AN DER UNIVERSITAET KIEL	DE
GROWTH	GROWTH-1-Innovative products, processes and organisation	G1RD-CT-2000-00455	Research Projects	DEVELOPMENT OF ADVANCED MICROWAVE AND LIGHT-WEIGHT HIGH-SPEED THERMO-RESPONSE MOULD TECHNOLOGY FOR WOVEN TEXTILE-REINFORCED THERMOPLASTIC COMPONENTS	7029547	2410543	01-Mar-05	36	10	5	2	ind	BE 2DE NL SE	4ind 1univ	KBEINER	KUNSTSTOFFTECHNIK BEINER KG	DE
GROWTH	GROWTH-1-Innovative products, processes and organisation	G1RD-CT-2001-00564	Research Projects	DEVELOPMENT OF SUPER VACUUM INSULATING PANELS AND PRODUCT INTEGRATION SERVICES	3786065	1999740	21-Sep-05	36	11	8	1	ind	2DE ES 3FR GB IT	6ind gov 1univ	FHG.FEP	FRAUNHOFER-GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	DE
GROWTH	GROWTH-4-New perspectives in aeronautics	G4RD-CT-2001-00507	Research Projects	IMPROVED NDE CONCEPTS FOR INNOVATIVE AIRCRAFT STRUCTURES AND EFFICIENT OPERATIONAL MAINTENANCE (INCA)	7748202	3742420	18-Aug-05	48	24	22	1	ind	7DE 2ES 6FR 2GB 3IT 2SE	14ind 4gov 4univ	EADSDA	AIRBUS DEUTSCHLAND GMBH	DE
GROWTH	GROWTH-2-Measurements and testing	G6ST-CT-2001-50099	Cooperative Research	HIGH-TEMPERATURE MICROMATERIAL TESTING TECHNOLOGY (HIT)	1673826	836913	28-Jul-05	24	8	6	1	ind	4DE 2SE	5ind 1univ	IMAGEI	IMAGE INSTRUMENTS GMBH	DE

IHP	IHP-1-Research Training Networks	HPRN-CT-2000-00166	Research Training Network	RESEARCH AND TRAINING OF YOUNG SCIENTISTS ON THE MAGNETIC PROPERTIES OF THE HE BY MEANS OF NEUTRON DIFFRACTION	1056400	1056400	01-Sep-04	36	7	6	1	univ	2DE 2FR 2GB	3gov 3univ	HMI.NE	HAHN-MEITNER-INSTITUT BERLIN GMBH	DE
IST		IST-1999-10602	Research Projects		1843642	998235	21-Jun-05	24	7	6	1	ind	3DE FR GB GR	2ind 2gov 2univ	DIW	DEUTSCHES INSTITUT FUER WIRTSCHAFTSFORSCHUNG E.V.	DE
IST		IST-1999-11305	Research Projects	2732764	973199	22-Oct-01	28	7	5	1	ind	2DE ES 2IT	3ind 2univ	FHG-IAO	FRAUNHOFER GESELLSCH	LEONRODSTRASSE 54	
IST		IST-1999-11345	Research Projects		1941931	1100000	12-Oct-04	24	7	5	2	ind	DE DK FR 2IT	4ind 1univ	U-STUTT	UNIVERSITAET STUTTGART	DE
IST		IST-1999-20585	Classical Accompanying Measures		569004	244654	06-Dec-04	18	6	5	1	ind	2DE FR GB SE	5ind	CAD-UL GMBH	CAD-UL AG	DE
IST		IST-2000-25104	Research Projects		1796609	930001	24-Mar-05	24	8	6	1	ind	AT 3DE FI GB	3ind 3univ	KLETT	ERNST KLETT VERLAG GMBH	DE
IST		IST-2000-25197	Research Projects		6151706	3498258	23-Dec-04	36	8	7	1	univ	5DE 2IT	3ind 4univ	IMST GMBH	INSTITUT FUER MOBIL- UND SATELLITENFUNKTECHNIK GMBH	DE

IST		IST-2000-26005	Research Projects		1353450	956000	01-Dec-04	36	7	6	1	univ	3DE 2FR IT	1gov 5univ	FSUJ	FRIEDRICH-SCHILLER-UNIVERSITAET JENA	DE
IST		IST-2000-26173	Research Projects		4547349	1744960	22-Dec-04	24	8	6	1	ind	3DE GB GR IT	6ind	FHG	FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	DE
IST		IST-2000-28077	Thematic Network		275000	221000	01-Jul-05	36	10	6	3	univ	AT 2DE ES 2GB	1ind 1gov 4univ	TUM	TECHNISCHE UNIVERSITAET MUENCHEN	DE
IST		IST-2000-28754	Thematic Network		2017372	1750000	20-Jun-05	24	28	22	2	univ ind	9DE DK 2ES 2FI GB 5IT 2SE	12ind 1gov 9univ	FHG	FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	DE
IST		IST-2000-28764	Research Projects		3445523	1350903	22-Jun-05	36	7	4	1	univ	BE DE FR NL	2ind 2univ	SIEMENS	SIEMENS AKTIENGESELLSCHAFT	DE
QOL	QOL-4-Public-health and Health-services Research (including drug-related problems)	QLG4-CT-2001-01496	Concerted Actions	GENDER, CULTURE AND ALCOHOL PROBLEMS: A MULTI-NATIONAL STUDY (GENDER AND ALCOHOL)	1027718	611233	05-Dec-05	36	20	8	2	univ	AT DE FI FR GB IT NL SE	3gov 5univ	FUBE.MIBE	FREIE UNIVERSITAET BERLIN	DE

QOL	QOL-2-Control of Infectious Diseases	QLK2-CT-1999-01215	Research Projects	SIV/HIV VACCINES : DETECTING EFFICACY AND EXPLAINING INEFFICACY	2854978	1778342	14-Jan-04	36	10	6	1	univ	AT 4DE IT	1ind 5univ	BNOCHT	BERNHARD NOCHT INSTITUT FUR TROPENMEDIZIN	DE
FINLAND																	
GROWTH	GROWTH-1-Innovative products, processes and organisation	G1RT-CT-2002-05082	Thematic Network	LIFETIME ENGINEERING OF BUILDINGS AND CIVIL INFRASTRUCTURES	1264559	1075200	30-May-06	36	97	73	1	ind	AT 3BE 10DE 4DK 8ES 9FI 4FR 9GB 9GR 2IE IT NL PT 7SE	17ind 15gov	VTT.BTR	TECHNICAL RESEARCH CENTRE OF FINLAND	FI
QOL	QOL-1- Food, Nutrition and Health	QLK1-CT-2002-00372	Research Projects	NUTRITIONAL PRIMARY PREVENTION OF TYPE 1 DIABETES	2668443	1585037	01-May-06	48	16	11	1	univ	DE 2ES 4FI 2IT NL SE	2gov 9univ	UH.ICM	UNIVERSITY OF HELSINKI	FI
FRANCE																	
	EESD-ENERGY-5-Cleaner energy systems, including renewables	ENK5-CT-2000-00301	Research Projects	EUROPEAN GEOTHERMAL PROJECT TO UTILISE HOT DRY ROCK/HOT FRACTURED ROCK RESOURCES: FIRST PHASE OF THE CONSTRUCTION OF THE SCIENTIFIC PILOT PLANT. (HOT DRY ROCK ENERGY)	25706115	6498949	10-Jan-05	36	10	8	1	ind	5DE 3FR	2 ind 1 univ 5 gov	GEIE.EMC	GROUPEMENT EUROPEEN D'INTERET ECONOMIQUE	FR

EESD-ENVIRONMENT	EESD-ENVIRO-3-Socio-economic aspects of environmental change in the perspective of sustainable development (the impact on society, the economy and employment)	EVG1-CT-2001-00041	Research Projects	FIRE STAR : A DECISION SUPPORT SYSTEM FOR FUEL MANAGEMENT AND FIRE HAZARD REDUCTION IN MEDITERRANEAN WILDLAND-URBAN INTERFACES	2859375	1463878	07-Dec-05	36	16	13	2	gov	3ES FI 7FR 2PT	9gov 4 univ	INRA.AV.PIF	INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE	FR
EESD-ENVIRONME	EESD-ENVIRO-2-Global change, climate and biodiversity	EVK2-CT-2001-00113	Research Projects	PRESENT AND RETROSPECTIVE STATE OF ORGANIC VERSUS INORGANIC AEROSOL OVER EUROPE : IMPLICATION FOR CLIMATE	1734318	1299965	22-Nov-05	36	8	5	1	gov	AT 2DE FR PT	1 gov 4 univ	CNRS.LGGE	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE	FR
EESD-ENVIRONM	EESD-ENVIRO-2-Global change, climate and biodiversity	EVK2-CT-1999-00054	Research Projects	PARAMETERIZATION OF THE AEROSOL INDIRECT CLIMATIC EFFECT	1717600	618000	19-Feb-04	28	9	4	3	univ ind	2DE FR GB	2gov 2univ	DMN.CNRM	METEO-FRANCE	FR
EESD-ENVIRONM	EESD-ENVIRO-Support to Research Infrastructures	EVR1-CT-2001-40015	Research Projects	TERRESTRIAL AND ATMOSPHERIC CARBON OBSERVING SYSTEM INFRASTRUCTURE	2133934	1469966	02-Oct-05	36	10	8	1	gov	2DE 2FR 2IT 2NL	2ind 2gov 4univ	CEA.DAP.LSCE	COMMISSARIAT A L'ENERGIE ATOMIQUE	FR
EURATOM	EURATOM-2- Nuclear Fission Security	FIKI-CT-2001-20183	Concerted Actions	REVIEW OF MOLTEN SALT REACTOR TECHONOLY (MOST)	633678	580638	01-Nov-05	24	17	13	1	gov	2BE 3DE 5FR 2IT SE	3ind 6gov 4univ	CEA.DEN.DDIN	COMMISSARIAT A L'ENERGIE ATOMIQUE	FR

EURATOM	EURATOM-2- Nuclear Fission Security	FIKS-CT-2001-00131	Research Projects	STRUCTURAL MARGIN IMPROVEMENTS IN AGED-EMBRITTLED RPV WITH LOAD HISTORY EFFECTS (SMILE)	1725052	787526	08-Dec-05	36	13	12	1	gov	BE 4DE 5FR 2GB	7ind 5gov	EDF.PI.PN.CA	ELECTRICITE DE FRANCE	FR
EURATOM	EURATOM-2- Nuclear Fission Security	FIKS-CT-2001-20147	Thematic Network	EUROPEAN EXPERT NETWORK FOR THE REDUCTION OF UNCERTAINTIES IN SEVERE ACCIDENT SAFETY ISSUES (EURSAFE)	513090	400000	30-Nov-05	24	19	14	1	gov	BE 4DE 2ES FI 3FR 2GB SE	6ind 5gov 3univ	CEA.IPSN.DRS	COMMISSARIAT A L'ENERGIE ATOMIQUE	FR
GROWTH	GROWTH-1- Innovative products, processes and organisation	G1MA-CT-2001-04002	Classical Accompanying Measures	GLOBAL CAPE-OPEN SUPPORT	310930	170000	29-May-05	24	6	4	1	ind	DE 3FR	1ind 1gov 2univ	GERTH	GROUPEMENT EUROPEEN DE RECHERCHES TECHNOLOGIQUES SUR LES HYDROCARBURES	FR
GROWTH	GROWTH-4- New perspectives in aeronautics	G4RD-CT-2000-00241	Research Projects	TECHNOLOGY APPLICATION TO THE NEAR TERM BUSINESS GOALS AND OBJECTIVES OF THE AEROSPACE INDUSTRY (TANGO)	84616599	42631311	18-Jul-04	48	39	36	1	ind	2BE 3DE 3ES 2FI 3FR 8GB 3GR IE 6IT 2NL 2SE	27ind 6gov 3univ	EADSA	AIRBUS FRANCE SAS	FR
GROWTH	GROWTH-4- New perspectives in aeronautics	G4RD-CT-2002-00778	Research Projects	INSTRUMENTATION SYSTEMS FOR ON-BOARD WAKE-VORTEX AND OTHER HAZARDS DETECTION WARNING AND AVOIDANCE (I-WAKE)	5903737	3292522	30-Apr-06	36	9	8	1	ind	BE 5DE FR NL	3ind 2gov 4univ	THALESA	THALES AVIONICS S.A.	FR
GROWTH	GROWTH-1- New materials and their production and transformation (including steel)	G5RD-CT-2001-00537	Research Projects	IMPROVEMENT OF DIESEL QUALITY BY CATALYTIC PROCESESS	2277489	1302354	01-Dec-05	36	7	6	1	univ	2ES FR GB 2IT	3ind 2gov 1univ	CNRS.LAMMI	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE	FR

IHP	IHP-1-Research Training Networks	HPRN-CT-2000-00092	Research Training Network	CROSS CORRELATION BETWEEN THE FLUCTUATIONS OF DIFFERENT INTERACTIONS: A NEW AVENUE FOR BIOMOLECULAR NMR	1200000	1200000	21-Jul-04	48	7	6	1	univ	DE FR GB IT NL SE	6univ	ENSUP.DC	ECOLE NORMALE SUPERIEURE	FR
IHP	HPRN-CT-2000-00130	HPRN-CT-2000-00130	Research Training Network		1500000	1500000	01-Sep-04	36	12	11	1	gov	BE 2DE DK ES 2FR GR 2IT NL	4gov 7univ	CEA.DAP.SPN	Commissariat à l'Energie Atomique	FR
IST		IST-1999-10593	Research Projects		4997563	2199873	16-May-05	36	8	6	1	ind	2DE ES 2FR NL	1ind 1gov 4univ	MOTOROLA	MOTOROLA S.A.	FR
IST		IST-1999-11565	Research Projects		3058047	1744940	24-Dec-03	36	7	6	1	ind	DE DK 2FR 2GB	2gov 4univ	CNRS-DR14	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE	FR
IST		IST-1999-11628	Research Projects		4814490	2500000	28-Dec-03	28	7	6	1	ind	2FR GB IE NL PT	2ind 2gov 2univ	INA	INSTITUT NATIONAL DE L'AUDIOVISUEL	FR
IST		IST-1999-20199	Classical Accompanying Measures		2863404	1802016	16-Nov-05	25	7	4	1	ind	DE 2FR IT	3ind 1univ	STM	STMICROELECTRONICS SA	FR

IST		IST-1999-20590	Research Projects		7082694	2796569	01-Sep-04	36	9	7	1	ind	2DE 4FR SE	4ind 2gov 1univ	MOTOROLA	MOTOROLA S.A.	FR
IST		IST-2000-26019	Research Projects		2685995	1600000	30-Dec-04	36	9	7	2	univ	ES 4FR GB IT	2gov5univ	ENS	ECOLE NORMALE SUPERIEURE PARIS	FR
IST		IST-2000-28385	Research Projects		6176904	2469967	30-Jun-05	24	14	11	1	ind	2DE ES 2FR 3GB IE IT PT	6ind 1gov 4univ	MOTOROLA	MOTOROLA S.A.	FR
IST		IST-2000-28587	Classical Accompanying Measures		5219207	3669362	03-Aug-05	18	5	4	1	ind	BE FR 2NL	3ind 1univ	ST	STMICROELECTRONICS SA	FR
IST		IST-2000-30091	Research Projects		3373602	1625209	22-Sep-05	20	10	9	1	ind	BE 2DE 5FR NL	9ind	CB	GIE - GROUPEMENT DES CARTES BANCAIRES "CB"	FR
IST		IST-2001-32027	Classical Accompanying Measures		877448	863197	27-Oct-05	32	10	9	1	ind	BE 2DE 5FR NL	9ind	CB	GIE - GROUPEMENT DES CARTES BANCAIRES "CB"	FR
IST		IST-2001-32115	Research Projects		3856808	1638000	21-Oct-05	48	8	6	1	univ	4FR 2GB	3gov 3univ	INRIA-UMR-GRAVIR	INSTITUT NATIONAL DE RECHERCHE EN INFORMATIQUE ET EN AUTOMATIQUE	FR

IST		IST-2001-32183	Research Projects		2367480	1169213	30-Oct-05	18	9	8	1	ind	2BE 3DE 2FR NL	8ind	CB	GIE - GROUPEMENT DES CARTES BANCAIRES "CB"	FR
QOL	QOL-5- Research relating to Persons with Disabilities	QLG5-CT-2001-30119	Classical Accompanying Measures	HEALTH RELATED QUALITY OF LIFE EDUCATION ON DIABETES (HRQOLED)	78976	60000	19-Dec-05	11	8	7	1	univ	2FR 4GB NL	2ind 5univ	MRIF.RD	MAPI RESEARCH INSTITUTE	FR
QOL		QLK1-1999-00634	Research Projects		2170225	1145958	05-Jan-04	36	8	7	1	univ	ES 3FR 2NL SE	6gov 1univ	IFREMER.DEL.MP.LM	IFREMER - DEL/MP, Laboratoire de Microbiologie	FR
QOL	QOL-3- The Cell Factory	QLK3-CT-2001-00506	Research Projects	RESEARCH, SELECTION AND MECHANISM OF ACTION OF POTENTIAL THERAPEUTIC AGENTS AGAINST FLAVIVIRIDAE (HEPATITIS C VIRUS, DENGUE VIRUS, WEST NILE VIRUS,)	3350972	1902308	05-Dec-05	36	10	9	1	univ	DE 6FR 2IT	1ind 3gov 5univ	CNRS.COBS	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE	FR
QOL	QOL-Support to Research Infrastructures (SRI)	QLRI-CT-2000-00551	Research Projects	INTERNATIONAL HEALTH-RELATED QUALITY OF LIFE OUTCOMES DATABASE	902968	514927	01-May-05	30	10	8	1	univ	BE 2ES 3FR GB SE	3ind 5univ	UGOT.ICM.DRM	GOETEBORG UNIVERSITY	

UNITED KINGDOM

EESD-ENVIRONMENT	EESD-ENVIRO-2-Development of Earth observation satellite technologies	EVG1-CT-2000-00033	Research Projects	SUB-GRIDSCALE PARAMETERISATION THROUGH THE VALIDATION AND DATA ASSIMILATION OF CLOUD PROPERTIES FOR WEATHER PREDICTION AND CLIMATE MODELLING FROM FUSION OF EO AND GROUND-BASED INSTRUMENTS (CLOUDMAP2)	3756063	2251713	16-Jan-05	36	10	7	1	univ	2DE 3GB NL SE	5gov 2 univ	UCLON.DGE	UNIVERSITY COLLEGE LONDON	GB
EESD-ENVIRONM	EESD-ENVIRO-2-Global change, climate and biodiversity	EVK2-CT-1999-00001	Research Projects	SOLAR INFLUENCES ON CLIMATE AND THE ENVIRONMENT	1689300	1088900	17-Mar-04	36	9	6	2	gov univ	DE FR 3GB GR	4gov 2univ	ICST.BL	IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE	GB
EESD-ENVIRONM	EESD-ENVIRO-2-Global change, climate and biodiversity	EVK2-CT-1999-00027	Research Projects	A FORTY-YEAR EUROPEAN RE-ANALYSIS OF THE GLOBAL ATMOSPHERE	2525700	1584900	25-Mar-04	36	7	6	1	gov	DE FR 3GB NL	4 gov 2 univ	ECMRWF	EUROPEAN CENTRE FOR MEDIUM-RANGE WEATHER FORECASTS	GB
EESD-ENVIRONM	EESD-ENVIRO-2-Global change, climate and biodiversity	EVK2-CT-2001-00116	Research Projects	CRYOSPHERIC STUDIES OF ATMOSPHERIC TRENDS IN STRATOSPHERICALLY AND RADIATIVELY IMPORTANT GASES	3041986	1743252	23-Jan-06	36	11	7	2	gov univ	DE 2FR 4GB	3gov 4univ	UEANG.SES	UNIVERSITY OF EAST ANGLIA	GB
EURATOM	EURATOM-2- Nuclear Fission Security	FIKS-CT-2000-00090	Research Projects	VALIDATION OF CONSTRAINT-BASED ASSESSMENT METHODOLOGY IN STRUCTURAL INTEGRITY ('VOCALIST')	1653571	699285	08-Sep-04	36	11	10	1	gov	BE 3DE FI 3FR 2GB	6ind 3gov 1univ	AEA	AEA TECHNOLOGY PLC.	GB

EURATOM	EURATOM-2- Nuclear Fission Security	FIKW-CT-2000-00105	Research Projects	BUILDING CONFIDENCE IN DEEP DISPOSAL : THE BOREHOLE INJECTION SITES AT TOMSK-7 AND KRASNOYARSK-26 ('BORIS')	1043926	500000	26-Oct-04	18	11	9	1	univ	BE 2DE ES FR 4GB	5ind 3gov 1univ	GALSON	GALSON SCIENCES LTD.	GB
IHP	IHP-1-Research Training Networks	HPRN-CT-2000-00143	Research Training Network	COMPUTATIONAL MAGNETOELECTRONICS	1500000	1500000	09-Sep-04	48	10	7	1	univ	AT 2DE FR GB NL SE	4gov 3univ	CLRC.DL.TCS	COUNCIL FOR THE CENTRAL LABORATORY OF THE RESEARCH COUNCILS	GB
INCO II	INCO II-2-NIS and CEECs not in the pre-accession phase	ICA2-CT-2000-10015	Research Projects	DESERTIFICATION AND REGENERATION : MODELLING THE IMPACT OF MARKET REFORMS ON CENTRAL ASIAN RANGELANDS	1019781	980620	08-Nov-04	36	12	6	1	ind	BE DK FR 3GB	2ind 2gov 2univ	MLURI	MACAULAY LAND USE RESEARCH INSTITUTE	GB
INCO II	INCO II-2-NIS and CEECs not in the pre-accession phase	ICA2-CT-2000-10020	Research Projects	SILICON NITRIDE BASED LAMINAR AND FUNCTIONALLY GRADIENT CERAMICS FOR ENGINEERING APPLICATION	990098	618098	22-Sep-04	36	8	2	1	univ	DE GB	1ind 1univ	UWAR.DP	UNIVERSITY OF WARWICK	GB
IST		IST-1999-10561	Research Projects		11523278	5008000	27-Mar-05	36	15	11	1	univ	4DE 2ES FR 2GB GR NL	8ind 3univ	UCL	UNIVERSITY COLLEGE LONDON	GB
IST		IST-1999-11131	Research Projects		1717542	849999	24-May-05	24	6	5	1	ind	2DE 2GB IE	5ind	TOG	THE OPEN GROUP LLC	GB
IST		IST-1999-11583	Research Projects		5098269	2499913	31-Dec-03	36	6	5	1	ind	DE FR 2GB PT	1ind 1gov 3univ	UNEW	UNIVERSITY OF NEWCASTLE UPON TYNE	GB

IST		IST-1999-20758	Research Projects		3599650	2266402	28-Oct-04	24	8	7	1	ind	3GB GR IE 2IT	3ind 4univ	FDE	FRETWELL-DOWNING EDUCATION	GB
IST		IST-1999-29078	Research Projects		2666951	1560000	17-Oct-04	36	7	6	1	univ	DE 2GB 2IT SE	1ind 5univ	EDIN	THE UNIVERSITY OF EDINBURGH	GB
IST		IST-2000-25187	Research Projects		5167706	2567490	21-Apr-05	30	12	9	1	ind	2DE ES GB 2GR IE IT PT	6ind 3univ	QMW	QUEEN MARY & WESTFIELD COLLEGE	GB
IST		IST-2000-26061	Research Projects		1457824	874684	28-Dec-04	30	5	4	1	univ	DE 2GB IT	4univ	USG	UNIVERSITY OF STRATHCLYDE	GB
QOL	QOL-2-Control of Infectious Diseases	QLK2-CT-1999-00445	Research Projects	NOVEL CIRCOVIRUS INFECTIONS OF PIGS: A TARGET FOR VACCINATION. PORCINE CIRCOVIRUSES	2069410	939956	25-Jan-04	42	7	4	1	univ	BE DK FR GB	1 ind 1gov 2univ	UBELF.DVS	THE QUEEN'S UNIVERSITY OF BELFAST	GB
QOL	QOL-4-Environment and Health	QLK4-CT-2000-00279	Research Projects	PLACENTAL UPTAKE AND TRANSFER OF ENVIRONMENTAL CHEMICALS RELATING TO ALLERGY IN CHILDHOOD YEARS	2091912	1566192	28-Feb-05	36	8	4	1	univ	2BE FI GB	4univ	UBRL.MPRC	UNIVERSITY OF BRISTOL	GB
QOL	QOL-4-Environment and Health	QLK4-CT-2000-00293	Research Projects	NOISE AND INDUSTRIAL CHEMICALS: INTERACTION EFFECTS ON HEARING AND BALANCE	1474980	1474980	20-Mar-05	36	8	5	1	gov	DK FI FR GB SE	4gov 1univ	UCLON.MS.ILO	UNIVERSITY COLLEGE LONDON	GB

QOL	QOL-5- Sustainable Agriculture, Fisheries and Forestry,and Integrated Development of Rural Areas including Mountain Areas	QLK5-CT-1999-01554	Research Projects	RISKS ASSOCIATED WITH TILLETIA INDICA, THE NEWLYLISTED EU QUARANTINE PATHOGEN, THE CAUSE OF KARNAL BUNT OF WHEAT	2219766	1312000	29-Jan-04	48	9	6	1	gov	2DK GB IE 2IT	3gov 3univ	MAFF.CSL.PHG	MINISTRY OF AGRICULTURE, FISHERIES AND FOOD	GB
QOL	QOL-3- The Cell Factory	QLK3-CT-1999-00875	Research Projects	IDENTIFICATION, LEAD GENERATION, STRUCTURAL BIOLOGY AND VALIDATION OF TARGETS FOR CANCER THERAPY. AN INTEGRATED METHODOLOGICAL APPROACH	3744654	2412247	18-Feb-04	36	14	12	2	ind	4DE 2ES 2FR 4GB	5ind 2gov 5univ	UCAM.DBC	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE	GB
QOL	QOL-6- The Ageing Population and Disabilities	QLK6-CT-2000-00320	Research Projects	THE MEASUREMENT OF QUALITY OF LIFE IN OLDER ADULTS AND ITS RELATIONSHIP TO HEALTHYAGEING	2805574	1929770	18-Apr-05	36	17	7	1	ind	DE DK ES FR 2GB SE	1ind 1gov 5univ	UEDIN.PSY	UNIVERSITY OF EDINBURGH	GB
	GREECE																
EESD-ENVIRONMENT	EESD-ENVIRO- Support to Research Infrastructures	EVR1-CT-2001-40019	Research Projects	ESTABLISHMENT OF A EUROPEAN RADAR ALTIMETER CALIBRATION AND SEA-LEVEL MONITORING SITE FOR JASON, ENVISAT AND EURO-GLOSS	2291959	1128967	23-Nov-05	36	9	7	1	univ	AT DK 2FR 3GR	3gov 4univ	TUC.MRE.GGEL	TECHNICAL UNIVERSITY OF CRETE	GR
GROWTH	GROWTH-1- New materials and their production and transformation (including steel)	G5RD-CT-2002-00744	Research Projects	MICROMETER SCALE PATTERNING OF PROTEIN AND DNA CHIPS	3332410	2147589	25-Apr-06	40	10	7	1	univ	AT BE DE DK ES 2GR	1ind 2gov 4univ	NRCSD.IM	NATIONAL CENTRE FOR SCIENTIFIC RESEARCH 'DEMOKRITOS'	GR

IST		IST-1999-11337	Research Projects		2550983	1202000	25-Dec-03	36	6	5	1	ind	2FR 2GR SE	1gov 4univ	UoC	UNIVERSITY OF CRETE	GR
IST		IST-2000-28495	Research Projects		5512056	2606021	26-Oct-05	36	9	8	1	ind	2BE 2DE FR GB GR IT	3ind 2gov 3univ	NCSR "D"	NATIONAL CENTRE FOR SCIENTIFIC RESEARCH "DEMOKRITOS"	GR
IST		IST-2000-29216	Thematic Network		220000	220000	31-May-05	24	6	5	1	ind	DE DK 2GB GR	2ind 3gov	FORTH	FOUNDATION FOR RESEARCH AND TECHNOLOGY - HELLAS	GR
IST		IST-2000-30116	Research Projects		3822101	2070562	24-Aug-05	24	8	7	1	ind	2ES FR GB 2GR NL	5ind 2univ	ICCS	INSTITUTE OF COMMUNICATION AND COMPUTER SYSTEMS OF THE NATIONAL TECHNICAL UNIVERSITY OF ATHENS	GR
IRELAND																	
IST		IST-1999-29111	Research Projects		1971895	1059000	28-Jun-04	36	4	3	1	ind	GB IE SE	1gov 2univ	NMRC-UCC	NATIONAL MICROELECTRONICS RESEARCH CENTRE	IE
QOL	QOL-3- The Cell Factory	QLK3-CT-2001-00101	Research Projects	TESTING INTEGRATED GM-RHIZOREMEDIATION SYSTEMS FOR SOIL BIOREMEDIATION	1513887	1186457	31-Oct-05	36	8	6	1	ind	DE 2DK ES 2IE	2ind 4univ	AWRTC.ABC	INSTITUTE OF TECHNOLOGY CARLOW	IE

ITALY

EESD-ENERGY	EESD-ENERGY-6-Economic and efficient energy for a competitive Europe	ENK6-CT-2000-80130	Classical Accompanying Measures	LARGE BIOETHANOL / ETBE INTEGRATED PROJECT IN CHINA AND ITALY	638883	319442	01-Feb-05	18	13	10	1	ind	3BE 2DE 3IT 2SE	9 ind	ETAC	ETA - ENERGIA, TRASPORTI, AGRICOLTURA	IT
EESD-ENVIRONMENT	EESD-ENVIRO-2-Global change, climate and biodiversity	EVK2-CT-2000-80001	Classical Accompanying Measures	A NETWORK FOR: HARMONISATION OF CLIMATE PREDICTION FOR MITIGATION OF GLOBAL CHANGE IMPACT IN SUDANO-SAHELIAN WEST AFRICA (CLIMAG-WEST AFRICA)	491736	299000	16-Feb-05	30	10	3	1	ind	GB IT NL	2ing 1univ	FMAIT	FONDAZIONE PER LA METEOROLOGIA APPLICATA	IT
GROWTH	GROWTH-4-New perspectives in aeronautics	G4RD-CT-2002-00764	Research Projects	FRIENDLY AIRCRAFT CABIN ENVIRONMENT	34717021	17995064	01-May-06	48	36	36/36 !	1	ind	BE 10DE DK FI 9FR 2GB 2GR 4IT 4NL 2SE	32ind 2gov 2univ	AASPA.EAE	ALENIA AERONAUTICA SPA	IT
IHP	IHP-3- Access to Research Infrastructures	HPRI-CT-1999-40005	Thematic Network	NMR STRUCTURAL BIOLOGY IN LIFE SCIENCES IN THE POST-GENOMIC ERA	1370192	250000	11-Nov-04	48	12	10	2	univ	3DE ES FR 2GB IT 2NL	1ind 3gov 6univ	UFIR.DC	UNIVERSITA DEGLI STUDI DI FIRENZE	IT
IHP	IHP-3- Access to Research Infrastructures	HPRI-CT-2000-40018	Thematic Network	LABORATORIES ON SCIENCE AND TECHNOLOGY FOR THE CONSERVATION OF EUROPEAN CULTURAL HERITAGE	600000	600000	16-Dec-04	36	12	11	1	univ	BE DE 2FR GB GR 4IT PT	1ind 10gov	INCM.DCPER	INSTM - CONSORZIO INTERUNIVERSITARIO NAZIONALE PER LA SCIENZA E TECNOLOGIA DEI MATERIALI	IT
IHP	IHP-1-Research Training Networks	HPRN-CT-2000-00125	Research Training Network	PREPARATIONS AND APPLICATIONS OF QUANTUM-DEGENERATE COLD ATOMIC/MOLECULAR GASES	1690116	1500000	10-Aug-04	48	9	7	1	gov	AT 2DE FR GB IT NL	7univ	INFM.DFUPS	ISTITUTO NAZIONALE PER LA FISICA DELLA MATERIA	IT

IST		IST-1999-10151	Research Projects		5137282	1699995	30-May-04	36	6	5	1	ind	DK FR GR 2IT	5gov	JRC	EUROPEAN COMMISSION - JOINT RESEARCH CENTRE	IT
IST		IST-1999-11994	Research Projects		4966158	2100000	24-Dec-03	30	13	10	1	univ	2DE 2FR GB 3IT 2NL	3ind 5gov 2univ	CNR - IEI	CONSIGLIO NAZIONALE DELLE RICERCHE	IT
IST		IST-1999-13352	Research Projects		2874392	1784656	31-Dec-03	36	9	7	1	ind	2DE ES 2GR 2IT	2ind 5univ	HP	AGILENT TECHNOLOGIES ITALIA S.P.A.	IT
IST		IST-2000-29474	Research Projects		1577686	899980	29-Jun-05	30	5	4	1	univ	2AT 2IT	1ind 3gov	ITC-irst	ISTITUTO TRENTINO DI CULTURA	IT
IST		IST-2000-31002	Classical Accompanying Measures		585927	387450	28-Sep-05	30	6	4	1	gov	DE ES FR IT	2gov 2univ	IEI-CNR	CONSIGLIO NAZIONALE DELLE RICERCHE	IT
IST		IST-2001-33057	Research Projects		3753029	1544000	06-Nov-05	36	6	5	1	ind	BE DE 2FR IT	2goiv 3univ	CNR-ISM	CONSIGLIO NAZIONALE DELLE RICERCHE	IT

NEDERLAND

EESD-ENERGY	EESD-ENERGY-6-Economic and efficient energy for a competitive Europe	ERK6-CT-1999-20002	Concerted Actions	DEVELOPMENT OF A STANDARD METHOD (PROTOCOL) FOR THE MEASUREMENT OF ORGANIC CONTAMINANTS "TARS" IN BIOMASS PRODUCER GASES	325388	257428	18-Mar-04	28	17	14	1	gov	AT BE DE DK ES 2FI FR GB GR 2NL 2SE	5 ind 4gov 5univ	ECN.FCE	NETHERLANDS ENERGY RESEARCH FOUNDATION	NL
EESD-ENVIRONMENT	EESD-ENVIRO-2-Global change, climate and biodiversity	EVK2-CT-2001-20011	Concerted Actions	EUROPEAN FORUM ON INTEGRATED ENVIRONMENTAL ASSESSMENT	1211998	824000	28-Feb-06	36	36	29	1	univ	AT BE 4DE 3DK ES FI 2FR 7GB 2GR IT 6NL	3ind 5gov 21univ	VUA.IMV	VRIJE UNIVERSITEIT AMSTERDAM - VERENIGING VOOR CHRISTELIJK WETENSCHAPPELIJK ONDERWIJS	NL
GROWTH	GROWTH-2-Measurements and testing	G6RD-CT-2001-00658	Research Projects	THERMAL EMISSIVITY OF ENERGY-SAVING COATINGS ON GLASS - PRESERVATION OF THE MEASUREMENT INFRASTRUCTURE OF THE GLAZING INDUSTRY (THERMES)	821646	473512	11-Dec-05	36	10	9	1	ind	BE DE 2FR 2GB IT NL SE	5ind 2gov 2univ	TNO.TPD.M	NETHERLANDS ORGANISATION FOR APPLIED SCIENTIFIC RESEARCH	NL
IHP	IHP-6-Supporting Sciences and Technology Policies	HPV1-CT-1999-00001	Classical Accompanying Measures	STUDY AND CONFERENCE ON IMPROVING PUBLIC ACCESS TO SCIENCE THROUGH SCIENCE SHOPS.	236625	212630	27-Jan-04	18	10	6	1	ind	AT DE DK GB 2NL	6univ	RUUTR.FB.SSB	UTRECHT UNIVERSITY	NL
IST		IST-1999-11234	Research Projects		1174842	839842	04-Jan-04	36	13	5	1	univ	DK FR 2GB NL	5univ	CWI	STICHTING CENTRUM VOOR WISKUNDE EN INFORMATICA	NL

IST		IST-1999-11288	Research Projects		5002993	2649438	31-Dec-03	24	12	9	1	ind	BE 2DE FR GB IT 3NL	8ind 1univ	Philips	PHILIPS ELECTRONICS NEDERLAND B.V.	NL
IST		IST-1999-14192	Research Projects		2931786	1592273	31-May-04	24	5	3	1	ind	DK GB NL	3univ	MESA	UNIVERSITEIT TWENTE	NL
IST		IST-1999-19005	Research Projects		1530361	1101060	04-Jan-04	36	7	6	1	univ	DE 2ES GB 2NL	1ind 2gov 3univ	UvA	UNIVERSITEIT VAN AMSTERDAM	NL
QOL	QOL-5-Sustainable Agriculture, Fisheries and Forestry,and Integrated Development of Rural Areas including Mountain Areas	QLK5-CT-2000-00722	Research Projects	IMPROVED USE OF GERMPLASM COLLECTIONS WITH THE AID OF NOVEL METHODOLOGIES FOR INTEGRATION, ANALYSIS AND PRESENTATION OF GENETIC DATA SETS	2801365	1337950	09-Dec-04	42	10	7	1	gov	2DE 2GB IT 2NL	4ind 3univ	PRIBV.BDI	PLANT RESEARCH INTERNATIONAL B.V.	NL
PORTUGAL																	
QOL	QOL-2-Control of Infectious Diseases	QLK2-CT-2000-01020	Research Projects	EUROPEAN RESISTANCE INTERVENTION STUDY - REDUCING RESISTANCE IN RESPIRATORY TRACT PATHOGENS IN CHILDREN	2102722	1717459	29-Aug-04	36	8	5	1	univ	DE FR 2PT SE	2gov 3univ	ITQB	INSTITUTO DE TECNOLOGIA QUIMICA E BIOLOGICA	PT

SWEDEN																	
EESD-ENERGY	EESD-ENERGY-6-Economic and efficient energy for a competitive Europe	ENK6-CT-2001-00541	Research Projects	ALTERNATIVE FUEL FOR HEAVY DUTY (AFFORHD)	3514727	1815826	13-Dec-05	36	7	6	1	ind	AT DKGB NL 2SE	3 ind 2gov 1 univ	VGP.VD	VOLVO POWERTRAIN CORPORATION	SE
EESD-ENVIRONM	EESD-ENVIRO-3-Sustainable marine ecosystems	EVK3-CT-2001-00055	Research Projects	TRANSFER AND FATE OF HARMFUL ALGAL BLOOM (HAB) TOXINS IN EUROPEAN MARINE WATERS	2429132	1946020	19-Dec-05	36	9	6	1	gov	DE ES 2FI GR SE	2gov 4univ	UNIKAL.BE S	UNIVERSITY OF KALMAR	SE
EURATOM	EURATOM-2- Nuclear Fission Security	FIKS-CT-1999-00011	Research Projects	ASSESSMENT OF REACTOR VESSEL INTEGRITY ((ARVI)	1042422	700000	30-Dec-03	36	9	6	1	univ	DE 2FI 2FR SE	2ind 2gov 2univ	RIT.EGI.EKS	ROYAL INSTITUTE OF TECHNOLOGY	SE
EURATOM	EURATOM-Support to Research Infrastructures	FIR1-CT-2000-20023	Concerted Actions	CLUSTER REPOSITORY PROJECT - A BASIS FOR EVALUATING AND DEVELOPING CONCEPTS OF FINAL REPOSITORIES FOR HIGH LEVEL RADIOACTIVE WASTE (CROP)	747449	500000	26-Jan-05	36	10	7	1	gov	BE DE ES FI FR 2SE	2ind 5gov	SKB	THE SWEDISH NUCLEAR FUEL AND WASTE MANAGEMENT COMPANY	SE
IHP	IHP-4- Socio-Economic Research	HPSE-CT-1999-00009	Research Projects	NEW UNDERSTANDING OF EUROPEAN WORK ORGANIZATION	848102	848102	01-Feb-04	36	5	4	1	gov	ES GB NL SE	4univ	UGOT.DBA.SECL	UNIVERSITY OF GOTEBORG	SE
IST		IST-1999-10033	Research Projects		2308058	1290360	25-Dec-03	36	8	6	1	gov	AT DE FR 2GB SE	2ind 4univ	KTH	KUNGLIGA TEKNISKA HOGSKOLAN	SE

IST		IST-1999-11313	Research Projects		1593920	899862	30-Dec-03	36	8	7	1	univ	DE FI 2FR GB IT SE	2ind 1gov 4univ	LiU-MAI	LINKOEPINGS UNIVERSITET	SE
NO COORD																	
IST		IST-1999-10279	Research Projects		2869396	1597589	31-Dec-03	24	9	7	1	univ	2DE 2IE IT NL PT	5ind 2univ	NO COORD	IPL CONSULTANTS B.V.	NL
QOL	QOL-2-Control of Infectious Diseases	QLK2-CT-2000-00336	Research Projects	TOWARDS CONTROL OF SEPTIC SHOCK INDUCED BY GRAM- POSITIVE BACTERIA: HOST PATHOGEN INTERACTIONS	1766870	1300000	29-Dec-04	36	6	3	1	univ	DE IT SE	3univ	NO COORD	STOCKHOLMS UNIVERSITET	SE

5.2 Project-based information used for more detailed analysis or contact

A) *Examples of some projects selected for direct contact*

Cordis Record Control Number	Project Acronym
*67941	CLIME
*60377	FATE
*67490	STIRRINGANDMIXING
*60929	YONGNET
*82853	DIABETESPREVENTION
*67426	BACDIVERRS
*51823	TAR
*60377	FATE
*61220	FIRE STAR
*61947	European Forum to IEA
*67410	TOMERED
*62914	LIFETIME
*57212	ESERNET
*57449	SAMPLE
*60810	IMPACT
*63241	MOBILEARN
*63248	WWRI
*51538	ENVIR.REPROD.
*52670	PITCH
*58813	CNTER
*59039	NOISECHEM
56888	QUCOMM
51823	No acronym (measurement of organic contaminant tars)

B) *An approximate breakdown of FP5 projects with USA participation*

Sector	Number
EU participants	
Higher education	300
Industry	100
Research	400
Others – often private companies	250
Governmental institutions	500
Industrial research	300
Public companies	50
Joint research centre	10
Non-profit organisations	150

Sector	Number
USA participants	
Higher education	45
Industry	10
Research	40
Others – often private companies	50
Governmental institutions	60
Industrial research	50
Public companies	10
Non-profit organisations	25

Figures are approximate but show that around 30% of the EU contractors are from industry

C) Project information by FP sub-programme

	Total	**Res proj**	**Coop Res**	**Class Acc Meas**	**Them net**	**Conc action**	**Res train netw**	**Dem. proj**	**Av Proj cost**	**EC contrib**
EESD ENERGY	6	2		2		1		1	6317027	2033773
EESD ENVIR.	16	14		1		1			2062974	1690340
EURATOM	7	4			1	2			1051313	595350
GROWTH	12	9	1	1	1				12347045	6191362
IHP	11	1		1	4		5		1074734	851598
INCO II	2	2							1004940	799359
IST	54	42		8	4				3458702	1649914
QOL	21	19		1		1			2278567	1366007
TOTAL/AV.	129	93	1	14	10	5	5	1	3699412.8	1897213
GROWTH without friendly aircraft									6324582	3154700
New Average									2946605	1517630

ANNEX 6 Information on the contractors

6.1 The contractors involved

ORGANISATION NAME EU	#	ORGANISATION NAME USA	#
AEA TECHNOLOGY PLC.	3	ADVANCED MICRO DEVICES INC.	2
AIRBUS DEUTSCHLAND GMBH	3	BAYLOR COLLEGE OF MEDICINE	2
ARISTOTELEIO PANEPISTIMIO THESSALONIKIS	4	CARNEGIE MELLON UNIVERSITY	2
ASSOCIATION POUR LA RECHERCHE ET LE DEVELOPPEMENT DES METHODES ET PROCESSUS INDUSTRIELS	4	INTERNATIONAL BUSINESS MACHINES CORP., RESEARCH DIVISION, T.J. WATSON RESEARCH CENTER	4
CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE	26	INTERNATIONAL BUSINESS MACHINES CORPORATION, FORSCHUNGSLABORATORIUM	3
CENTRE SCIENTIFIQUE ET TECHNIQUE DU BATIMENT	4	LOS ALAMOS NATIONAL LABORATORY	2
COMMISSARIAT A L'ENERGIE ATOMIQUE	14	LUCENT TECHNOLOGIES	2
COMMISSION OF THE EUROPEAN COMMUNITES	7	MOTOROLA INC	3
CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	7	NASA - NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	2
CONSIGLIO NAZIONALE DELLE RICERCHE	6	NATIONAL CENTER FOR ATMOSPHERIC RESEARCH	2
COUNCIL FOR THE CENTRAL LABORATORY OF THE RESEARCH COUNCILS	4	NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY OF THE US DEPARTMENT OF COMMERCE	3
DAIMLERCHRYSLER AEROSPACE AIRBUS GMBH	3	NATIONAL RENEWABLE ENERGY LABORATORY	2
DEUTSCHES ZENTRUM FUER LUFT- UND RAUMFAHRT E.V.	3	OAK RIDGE NATIONAL LABORATORY	3
ECOLE NORMALE SUPERIEURE	5	SIEMENS CORPORATE RESEARCH	1
ELECTRICITE DE FRANCE	5	SIEMENS WASTINGHOUSE POWER CORPORATION	1
FINNISH ENVIRONMENTAL INSTITUTE	3	THALES AVIONICS INFLIGHTS SYSTEMS, LLC	1
FORSCHUNGSZENTRUM JUELICH GMBH	3	THE ROCKEFELLER UNIVERSITY	3
FORSCHUNGSZENTRUM KARLSRUHE GMBH - TECHNIK UND UMWELT	4	UNIVERSITY OF CALIFORNIA, OAKLAND	3
FOUNDATION FOR RESEARCH AND TECHNOLOGY - HELLAS	3	UNIVERSITY OF PENNSYLVANIA	2
FRANCE TELECOM SA	4	UNIVERSITY OF WYOMING	3
FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	15	VISA INTERNATIONAL SERVICE ASSOCIATION	3
FREIE UNIVERSITAET BERLIN	5		
GIE - GROUPEMENT DES CARTES BANCAIRES "CB"	3		
GMD - FORSCHUNGSZENTRUM INFORMATIONSTECHNIK GMBH	3		
IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE	5		
INFINEON TECHNOLOGIES AG	3		
INFORMATIKZENTRUM DER SPARKASSENORGANISATION GMBH	3		
INGENICO SA	3		
INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE	3		
INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE	3		
INTERPAY NEDERLAND B.V.	3		
INTERUNIVERSITAIR MICRO-	6		

ELECTRONICA CENTRUM VZW			
ISTITUTO NAZIONALE PER LA FISICA DELLA MATERIA	3		
ISTITUTO TRENTINO DI CULTURA	3		
KATHOLIEKE UNIVERSITEIT LEUVEN	3		
KUNGLIGA TEKNISKA HOGSKOLAN	5		
LEOPOLD FRANZENS UNIVERSITAET INNSBRUCK	3		
LINKOEPING UNIVERSITY	3		
MAPI RESEARCH INSTITUTE	3		
MAX-PLANCK-GESELLSCHAFT ZUR FORDERUNG DER WISSENSCHAFTEN E.V.	9		
MOTOROLA S.A.	4		
NATIONAL TECHNICAL UNIVERSITY OF ATHENS	4		
NATURAL ENVIRONMENT RESEARCH COUNCIL	4		
SECRETARY OF STATE FOR DEFENCE - MINISTRY OF DEFENCE	4		
SIEMENS AG	5		
SOCIETE FRAMATOME	3		
STMICROELECTRONICS SA	3		
SWEDISH INSTITUTE FOR INFECTIOUS DISEASE CONTROL	3		
TECHNICAL RESEARCH CENTRE OF FINLAND	8		
TECHNISCHE UNIVERSITAET MUENCHEN	3		
TECHNISCHE UNIVERSITAT WIEN	5		
TECHNISCHE UNIVERSITEIT DELFT	3		
THALES AVIONICS S.A.	3		
THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE	7		
THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD	5		
THE OPEN UNIVERSITY	5		
THE QUEEN'S UNIVERSITY OF BELFAST	3		
THE VICTORIA UNIVERSITY OF MANCHESTER	3		
UNIVERSIDAD POLITECNICA DE MADRID	3		
UNIVERSITA DEGLI STUDI DI FIRENZE	3		
UNIVERSITA DEGLI STUDI DI NAPOLI FEDERICO II	3		
UNIVERSITAET KARLSRUHE (TECHNISCHE HOCHSCHULE)	4		
UNIVERSITAET STUTTGART	8		
UNIVERSITAT POLITECNICA DE CATALUNYA	4		
UNIVERSITEIT MAASTRICHT	3		
UNIVERSITEIT TWENTE	4		
UNIVERSITY COLLEGE LONDON	7		
UNIVERSITY OF BRISTOL	3		
UNIVERSITY OF EAST ANGLIA	3		
UNIVERSITY OF HELSINKI	3		
UNIVERSITY OF STRATHCLYDE	3		
UPPSALA UNIVERSITY	3		
UTRECHT UNIVERSITY	4		
VRIJE UNIVERSITEIT AMSTERDAM - VERENIGING VOOR CHRISTELIJK WETENSCHAPPELIJK ONDERWIJS	5		

6.2 Nature of the cooperation

COORDINATING COUNTRY	COOPERATING EU COUNTRIES	COOP. COUNTRIES OUT OF EU & US
AT : AUSTRIA	4AT 2BE 5DE ES FR 3GB IE 4IT NL	N
BE : BELGIUM	6BE 3DE 2FI 2FR 5GB 4NL	CH 2JAPAN
DK : DENMARK	3DK 3DE ES FI 5FR 4GB 2IT 2NL SE	JAPAN 2N
DE : GERMANY	6AT 3BE 64DE 3DK 8ES 4FI 22FR 15GB 2GR 18IT 3NL PT 7SE	CYPR 2CZ ESTONIA 2 HU ICEL ISRAEL MEXICO 3 N RUSSIA
ES : SPAIN	DK 2ES 3FI FR NL	
FI: FINLAND	AT 3BE 11DE 4DK 10ES 13FI 4FR 9GB 9GR 3IT 2NL PT 8SE	AUSTRALIA BUL Canada 3CH CHINA CYPR CZ 3EST 2HU ICEL INDIA LITH 3N 4PO ROMANIA SLOVENIA
FR : France	AT 14BE 50DE 2DK 10ES 4FI 89FR 29GB 4GR 2IE 20IT 16NL 5PT 8SE	AUSTRALIA 4CH 2JAPAN SOUTH KOREA
GB : GREAT BRITAIN	AT 4BE 5DK 22DE 7ES 3FI 17FR 45GB 5GR 4IE 8IT 4NL 2PT 5SE	ARMENIA 2AUSTRALIA 2Canada 4CH CHINA CZ ISRAEL 2JAPAN HU 3N 2POLAND 2ROMANIA 2SLOVAKIA SLOVENIA 3UKRAINIA
GR : GREECE	2AT 3BE 2DK 4DE 2DK 3ES 6FR 4GB 11GR IT NL SE	CH CZ N
IE : IRELAND	DE 2DK ES GB 3IE SE	CZ
IT : ITALY	3AT 4BE DK 21DE 3ES FI 19FR 6GR 25IT 9NL PT 4SE	3CH ISRAEL POLAND
NL : NETHERLAND	3AT 4BE DK 12DE 4ES 3FI 7FR 17GB 3GR 4IT 20NL 2SE	4CANADA CH CZ 5ISRAEL 2LATVIA N ROMANIA SOUTH AFRICA SOUTH KOREA
PT : PORTUGAL	DE FR 2PT SE	ICEL ISRAEL
SE : SWEDEN	2AT BE DK 5DE 2ES 6FI 6FR 5GB GR IT 2NL 9SE	CH ESTONIA N
NO COORDINATOR	3DE 2IE 2IT NL PT SE	3N
TOTAL	23AT 44BE 23DK 205DE 52ES 40FI 180FR 137GB 41GR 12IE 86IT 66NL 13PT 48SE	ARMENIA 4AUSTRALIA BUL 7CANADA 18CH 2 CHINA 2CYPR 7CZ 2ESTONIA 5HU 3ICEL INDIA 9ISRAEL 7JAPAN LITH 2LATVIA MEXICO 18N 7PO 4ROMANIA RUSSIA 2SLOVAKIA 2SLOVENIA SOUTH AFRIKA 2SOUTH KOREA 3UKRAINIA
Grand total	1079	108

6.3 An example of details of participation by organisations from USA (Research Infrastructures)

Contract Number	Proposal Number	Proposal Title	US Organisation	Activity/Legal Status	Comment
HPRI-CT-1999-4005	HPRI-1999-40003	NMR Structural Biology in Life Sciences in the Post-Genomic Era	NY Structural Biology Center	REC/PNP	Infrastructure Cooperation Networks are designed to bring together all the major European parties in the subject. Including these non European organisations on a self financing basis adds to the international perspective of this action.
			University of California	HES/GOV	
HPRI-CT-2000-40018	HPRI-2000-40029	Laboratories on Science and Technology for the conservation of European Cultural Heritage	The Getty Conservation Institute	Other/PNP	
HPRI-CT-2001-50037	HPRI-2001-50069	Suppression over a High dynamic range of Ase at the Rising edge of ultra-intense femtosecond	The University of Michigan - Center for Ultrafast Optical Science	HES/GOV	The primary objective of this project is the suppression of the Amplified Spontaneous Emission (ASE) surrounding ultra-intense femtosecond laser pulses. The Centre for Ultra fast Optical Science (University of Michigan) is a leading laboratory in this field and joins the proposal as a self-financing contractor.
Proposal not selected	HPRI-2000-40034	European Network of Marine Research Infrastructures	Monterey Bay Aquarium Research Institution - California	REC/PNP	
			Oceanographic Institution – Woods Hole	REC/PNP	
			Harbor Branch Oceanographic Institution Inc. – Fort Pierce	REC/PNP	
Proposal not selected	HPRI-2001-40047	European Network of Marine Research Infrastructures	Harbor Branch Onceanographic Institution Inc. – Fort Pierce	REC/PNP	
Proposal not selected	HPRI-2001-40053	NMR Spectroscopy in Structural Biology and Structural Genomics	University of California	HES/GOV	
			New York Structural Biology Center	REC/PNP	
			University of Wisconsin	HES/GOV	

Total number of proposals received : 6 (5 networks, 1 RTD; Total number of US partners involved in proposals received: 11; Total number of proposal selected : 3 (2 networks, 1 RTD) – Success rate : 50%; Total number of US partners involved in proposals selected : 4

ANNEX 7 Analysis of feedback on the S&T Agreement

IMPORTANCE OF THE AGREEMENT

The Agreement (STA) and the implementation arrangements (IA) are considered as very important for the following reasons :

- the STA & IA are strong catalysts of cooperation
- they facilitate the obtaining of US visas for foreign scientists (*This is not really the case at the present time (after 9/11))*
- they facilitate the signature of the contracts with EC *(however this is not certain : very few contracts have been signed by the real legal authorities, and only for fundamental research contracts)* but they facilitate the participation, because STA & IA provide a parapet.
- an IA, if intelligently drafted, can cover a much larger field than the one designed initially, which may facilitate future enhanced cooperation *(but at NIST too large an IA is not favoured because it likes to keep control of the incoming demands (NIST, with about 3,300 " permanent" staff members, receives about 1,200 visiting scientists/year)).*
- For NSF, the IA allows « joint calls for proposals », but it should be remembered that NSF is more flexible than FP, and also has different priorities.
- the existence of the STA demonstrates the influence of S&T within the DoS *(this argument was also given elsewhere for IA).*
- the existence of the STA and IA seems better know, at least at the level of S&T administrators and policy makers, than in EU. But, like in EU, it is little known within the universities, and not much in industry .

DISSEMINATION

NSF and NIST have tried their best to disseminate the STA and IA. DoS has left this task to the agencies. Generally, the Universities have done a poor job in this domain *(but they may have assumed that academics were informed through NSF or NIH as major funding providers).* DoE has apparently also not greatly advertised the STA and IA.

DIFFICULTIES

- the number of funding agencies, dissemination vehicles and think tanks (academies) leads to confusion and management difficulties.
- FP is a « top-down » process whereas in the US calls are more « bottom-up » ; moreover, the timings are different, which makes it difficult to organise « joint-calls ». However, the peer review process at NSF is longer than at EC, whereas the contract writing work is much longer at EC – so overall these can balance out.
- it is stupid to claim the signature of the EC contract by a partner who is not financed by EC. However, the cooperation could be jeopardised by the absence of US signatures on the EC contracts, so the US participants may be considered as 2nd tier participants
- in addition to IPR difficulties, and to those, specific to US universities related to the Boyd-Dole Act (which gives the universities the right for patenting and taking profit of inventions originating from R&D financed by the federal government and its agencies ; this Act, together with the human rights problem (concerning the patents of medicines) is the topic of a large study just starting at AAAS), there is also one concerning data and databases. The raw data should be public and immediately available to anyone ; if they have been processed, there is a 2 year ownership period, with the exception of genome and ocean R&D data, which have to be immediately public.
- the US participation in « research training networks » seems insufficient; an explanation may be that there are already many similar informal networks existing within US, and that the bureaucracy in EU network participation is not worth-while.
- basically the attorneys of the NSF, do not seem to think that IPR is a difficulty : IPR could and should be shared among the scientists of the different countries, according to the local regulations and institutions...
- according to politicians, FP5 is not transparent...

RECOMMENDATIONS

- new priorities : bio-terrorism, security, US participation to EC programmes towards and with developing countries, surface coatings, foresights studies (priorities setting), policies studies (more innovation – a better economic driver than productivity), drug abuses, OGM (the last suggested by the « House Science Committee), university-industry relationship
- joint (or parallel, i.e. simultaneous) funding and joint peer review ; however, management of such joint arrangements may be expensive. Moreover the selection criteria are different in USA and in EU.
- creation of a foundation financed by industry, governments, international and non profit organisations for funding international R&D projects
- creation of a federal inter-agency coordination group to facilitate the discussions with foreign countries and to manage inter-agency finance transfer.
- the EU-USA task force on biotechnology is considered by several people as a model, despite the fact that it is not within the STA and IA. On the other hand, some others have said that the purposes are neither clear nor specific, and are not assessed.
- a signed draft « consortium agreement » should be sufficient to finalize a R&D project between EU and USA partners (*this is already often the case*). According to NSF, the « ideal scheme » could be :
  a) within the IA between EC and NSF, joint calls for proposal are organised ; the funding will be committed by each side but at the same time
  b) for each project a consortium agreement will be signed between the contractors
  c) this process leaves bilateral relationships totally open.
- according to the USA priorities, it is necessary to anticipate activity for the next FP - the NEST FP6 programme could be a excellent instrument therefore. But foresight workshops will also be necessary
- summer schools will be an useful tool for EU-USA cooperation (similar to the summer schools organised by NATO)
- organisation of a workshop on IPR with attorneys, scientists, industry.
- improving dissemination of STA and IA and calls for proposals by advertising in S&T journals, and in bulletins of scientific and technological societies.

OTHERS

- reciprocity : federal funding can support only research done in the USA (with exception of some USAID funding) - this is obviously a barrier to reciprocity
- a programme concerning « infrastructures », for nanotechnologies (or for fuel cells R&D) seems not very attractive to US scientists and S&T administrators, because the cost of nanomaterials manufacturing equipment is several orders of magnitude less than for nuclear physics *(and perhaps also for patents rights)*
- S&T indicators : working together could be extremely fruitful, but there was some disappointment on the USA side because the goal of an OECD group (NEST) was to provide a database on international patents, and EC, despite some promises, was not committed and didn't provide staff and/or finance for this project. But the project has really started (with the participation of Japan) and will also include international licences. Another project of common interest (besides the « standardisation » of the indicators) could be the creation of a centre for the study of the publications (with a lower cost and a higher reliability than ISI)

ANNEX 8 Implementing arrangements in place

- Administrative Arrangement (1990) for the EC-US Task Force on Biotechnology Research: the Task Force held its 9th meeting in Arlington (US), September 16-17, 1999. "Biotechnology for a clean environment" was on the Stuttgart Conference programme*. The 10th meeting of the Task Force will take place in Europe in October 2000.
- ESPRIT-NSF Understanding on Co-operation in Information Technology: under this second understanding (first one in 1992) both sides plan a series of strategic research workshops supervised by a high level strategic Workshop Review Committee; in addition a joint ESPRIT-NSF Working Group was established**.**
- Implementing Arrangement between the Commission (Research DG) and NIST on Metrology: signed in Brussels on 5 October 1999 by Director General Jorma Routti and Ray Kammer, Director, NIST. A co-ordinated call for proposals is planned for Summer 2000.
- Implementing Arrangement in Materials Sciences between DG Research and the USA National Science Foundation (NSF). It was signed on 16 December 1999 by Prof. Routti and J. Bordogna (NSF).
- Understanding on co-operation with NSF on digital libraries research co-operation signed on 15 March 2000.
- Implementing Arrangement in Environment Research: signed on 18 October 2001 between DG Research and NSF. The first Steering Group meeting has taken place on 26-27 March 2002 in Brussels. It involves different subjects: North Atlantic ecosystem dynamics, earthquake research and volcanics, the north atlantic carbon cycle, air chemistry – climate interactions and harmful algal blooms.
- Implementing Arrangement on non-nuclear and renewable energy research is signed on the 14th of May 2001 between USDoE and Research DG/Transport and Energy DG/JRC. First meeting of the steering group took place on 12 December 2001 in Brussels.

New Initiatives in Nanotechnology and Fuel Cells

European Commission

EUR 20872 — An impact assessment of the science and technology agreement concluded between the European Community and the United States of America

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The EU-USA S&T Agreement has resulted in European and United States collaboration in some significant areas of science in Framework Programme projects. Several noteworthy US government agencies and Departments are involved in implementing the Agreement. The arrangements in place are valued in the USA both by the scientists involved in the projects and at a governmental level.
Tangible beneficial impacts can be identified so the Agreement should be renewed. However the administrative arrangements in place to support it need to become more dynamic with less focus on formalities and better involvement of the scientific community.

The key lessons from this assessment include the need for more awareness so that the opportunities provided are better known - especially in Europe; the development of novel implementation strategies, through for example use of seedcorn funding to stimulate innovative initiatives that will set future scientific agendas collaboratively; and identification of further areas of mutual interest where a deepening of joint efforts will advance and consolidate existing knowledge.

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