

Best Practice in Multinational Programme Collaboration



Report on CISTRANA Workshop
Cologne, 18 January 2006



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TABLE OF CONTENTS

ABOUT CISTRANA	4
INTRODUCTION	5
MULTINATIONAL COLLABORATION: THE RATIONALE	6
The context for multinational research: globalization	
WHAT FORM OF MULTINATIONAL COLLABORATION?	8
Many options are available	
PLANNING MULTINATIONAL COLLABORATION	9
Incompatibilities – and how to address them	
IMPLEMENTING MULTINATIONAL COLLABORATION	11
After the planning ... more planning	
ASSESSING MULTINATIONAL COLLABORATION	14
The benefit of assessment	
Key messages	16
Annex A: Documentation	18
Annex B: Bibliography	19
Annex C: Participants	20
Acknowledgements	21

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ABOUT CISTRANA

*... the European initiative for the **C**oordination of **I**ST Research and **N**ational **A**ctivities*

Cistrana is a project initiated by a European Research Area (ERA) working group of Member States of the European Union and Associated States.

Europe has a remarkably high reputation in Information and Communication Technologies, but fragmentation of efforts, limited cooperation between key players and lack of information exchange about activities in other countries lead to loss of efficiency, duplication of effort and missed opportunities.

The strategic aim of Cistrana is to achieve coordination of national ICT

programmes with each other and with European RTD programmes in the ICT sector in order to improve the impact of all RTD efforts in Europe and to reinforce European ICT competitiveness.

An elementary aim and first step of approach in CISTRANA is a systematic data collection of national and European funding activities and of the prevailing implementing procedures. First results of the conducted survey are available in the CISTRANA RESEARCH PORTAL at <http://www.portal.cistrana.org/>.

"The need for internationalization has increased over the past few years in virtually every area of the economy. There are clear demands to increase international cooperation It is generally considered that there are no more domestic technology or market conditions – competition is increasingly global."

The next steps on the way to the implementation of transnational research activities are the analysis of the collected information, the exchange of best practice, and the development of joint procedures. This is the context for the workshop reported here.

INTRODUCTION

In the workshop "Best Practice in Multinational Programme Collaboration" CISTRANA brought together national programme managers on a European level to analyze the benefits and deficits of existing transnational collaborations and to develop suggestions for improved models of joint research activities.

These managers compared and contrasted a range of approaches to multinational collaboration, drawing on their experiences and stimulated by presentations from experienced managers of current multinational collaborations. The presenters explained the motives behind these joint initiatives and described their procedures for planning, implementation, and programme assessment, indicating their perceptions of the advantages and disadvantages of their various approaches.

Messages

There are messages here for those responsible for national policies – not just science and technology policy, but economic and social policy. Multinational programme collaboration in research and technology development is an important mechanism for realisation of economic and social policy, but the specific needs of each country can and should shape their participation in multinational collaborations.

There are messages for the designers and managers of programmes. Programmes – even multinational programmes – should be designed to support national economic and social policies. Their implementation can help or hinder realisation of those policies, and national

implementation cannot, in general, be considered independently from the implementation approaches of other countries.

There are also, implicitly, messages for companies and research organisations. If they are specifically interested in forming a new multinational project, then the experiences reported here should help them to analyse and articulate their motivation; to guide their choice of programme mechanism; and to inform their discussions with government officials. And even if they are not (yet) involved in multinational collaboration, this report indicates that it is desirable for any organisation to understand the reasons for the growing internationalisation of R&D, and its potential impact on the individual organisation.

Report structure

The structure of this report follows the structure of the workshop in which presentations and discussion focussed on:

- motivations for multinational collaborations
- types of multinational collaborations
- planning of multinational collaborative programmes
- implementation of such programmes, and
- their assessment.

The report concludes with a set of lessons learned from the workshop and some suggestions for further reading.

MULTINATIONAL COLLABORATION: The Rationale

The context for multinational research: globalization

Companies, governments, and research organisations are recognising that research does not stand alone. It is one aspect of an intensively competitive ecosystem of knowledge development and commerce. Recognition of this context and understanding of the position of both countries and their organisations and institutions within that ecosystem is important if multinational collaborations are to be designed and implemented effectively.

National strategies for participation in that ecosystem can have one or more of several bases. They might be based on a desire to develop the country's scientific and technological competence, with a view to its exploitation both internationally as well as domestically. They might be based on developing the attractiveness of the country for inward investment - not just in R&D. Typically, every country will have different motivations in different sectors and different technical fields, because of their perceived relative potential with respect to anticipated developments in science, in technology development, and in markets.

For multinational programmes and projects to be successful, it is important to understand why the country and individual organisations within the country might wish to participate, and to match their participation to the hoped-for benefits.

The first step is to develop a 'richer picture' of the range of reasons for participation so that programme planners can design programmes to best match their national policies and strategies, and so that programme implementers can best match participants to their roles in particular projects.

National motivation for internationalisation

Internationalisation is not an end in itself. There are several reasons for countries and supra-national bodies such as the EU to encourage and facilitate multinational cooperation:

- ▶ multinational enterprises are moving from seeking local manufacturing outlets close to markets, and local R&D centres that are merely adequate, to locating their R&D in the most competent and best supported locations.
- ▶ Domestic industrial producers are increasingly moving from simply exploiting 'home grown' science and technology first locally and then internationally – to accessing the best S&T worldwide.
- ▶ Simply to enhance domestic capability, many countries are now realising that they cannot go it alone: they will do better first to open their researchers to external ideas, and then to compete, internationally, with their peers. This applies to academic science as much as industrial RTD.
- ▶ Some countries are developing capability in anticipation of future demand for world-class competence. Estonia, for instance, has its 'Knowledge-based Estonia strategy'¹.
- ▶ Pooling of resources within a region and competition within that resource pool increases overall quality and facilitates specialisation, just as natural eco-systems give rise to biological specialisation.

"We should take some fresh air from outside"

Organisational motivation for internationalisation

While governmental agencies consider multinational collaboration in terms of national policy, successful implementation of such policies requires that care is taken to address the international aspirations of individual enterprises, whether companies, academic institutions or public-sector organisations.

- ▶ multinational enterprises are both locating and accessing science and technology internationally.
- ▶ Both high-technology SME's and the research organisations that generate new science and new technology use collaborative programmes to connect to international markets

¹ "Knowledge-based Estonia: Estonian Research and Development Strategy" 2002-2006, Tallinn, 2002. See also discussion of this strategy in: "Competitiveness through internationalisation - Evaluation of means and mechanisms in technology programmes" Tekes Technology Programme Report, October 2004, pp 26-27.

- ▶ Excellence in science is almost entirely considered at an international level, and academic researchers recognise that they must perform on the international stage.
- ▶ Most standardisation – whether IPv6 or railway signalling – and regulation to address societal or environmental challenges – such as food standards – requires multinational cooperation and is facilitated by cooperation on the necessary pre-normative research.

Internationalisation to complement competence...

A new lithography tool is to be developed. It needs a completely new source of radiation at a significantly shorter wavelength than has been used before. The tool must be developed from scratch.

Previous tools have used a lens, but at the intended wavelength this is no longer an option.

There is an alternative – a system of mirrors. But this needs the specific competence of a particular company.

The machine development will be in the Netherlands: the mirror competence is in Germany.

By collaborating, the lithography tool developers get access to the latest technology and the developers and suppliers of the new technology gain access to the market.

And the end user gains access to a new product that would not have been possible without the collaboration.

The whole is greater than the sum of the parts.

Collaboration alone is not sufficient

It is not enough for a country to engage in international collaboration in RTD. For real success, the country must establish an ecosystem

with high educational standards, scientific excellence, a rich industrial supply chain, and both physical and knowledge infrastructure. This has been shown to have several effects:

The most obvious – it makes the location more attractive for foreign collaborators and inward investors – "Multinational enterprises (MNEs) as the leading performers of R&D mainly pursue a strategy of presence at precisely those locations where the best conditions worldwide for innovation and generation of knowledge are given today".²

It makes such investments more effective: "... companies that are both highly integrated within [their multinational] corporate group and highly embedded within their environment ... show a significantly higher innovation rate than companies not so strongly embedded in their field of science / technology." Such companies have also proved to have a more sustainable presence in the country.³

The 'absorptive capacity' of the country – the ability of the local economy to take benefit from international collaborations – is enhanced.⁴

Taking the long view

One implication of the role of multinational collaboration is that the programmes through which it is to be achieved should not just be concerned with making specific scientific or technological advances. An important role of such programmes is to build relationships and through them build a reputation that in turn encourages new relationships – a virtuous circle.

The planning of national programmes should also take into account their role in creating the ecosystem that encourages and enables exploitation of international collaboration.

Both of these aims require a long-term view.

² Policies to benefit from the internationalisation of R&D". tip - technology information policy consulting, May 2005

³ "Competitiveness through internationalisation: Evaluation of means and mechanisms in technology programmes" Tekes Technology Programme Report, October 2004, pp 8-9

⁴ Ibid. pp 12-13

WHAT FORM OF multinational COLLABORATION?

Many options are available

Many types of multinational collaboration are feasible:

- ▶ National programmes that are open to foreign participation
- ▶ bilateral
- ▶ multilateral
- ▶ EU – as in the Framework Programme
- ▶ International – by which we mean here 'beyond the EU' including, for instance, the Global Manufacturing Systems initiative

The scope of the programmes can vary, not only with regard to the scientific or technological domain, but with regard to the spectrum from basic science, through applied research and technology development, to technology transfer and even near-market deployment.

The form of the programmes can also vary. Often, the contribution of countries will be linked to and usually funded by their own, different, national programmes, following their own policies, procedures and timescales.

Eureka, is perhaps the most well-known multilateral initiative, with 36 member countries across Europe. Like the Framework Programme it is a 'framework' – rather than a focussed 'programme' – with a relatively light central organisation and a set of processes and procedures for selecting projects that are more market-oriented than those of the Framework Programme. Even within Eureka there is a range of options for participation. In the field of ICT, three 'Eureka clusters' of projects are very evident. Each cluster has its own road map and is

therefore much more like a 'programme', with projects within each cluster being expected to contribute to progress on the road-map. However, projects are not restricted to these clusters, so Eureka offers a general framework for multinational collaboration on specific projects (or even new clusters).

The Framework Programme, which the European Commission manages centrally and in which all participants from all member states must follow the same rules and timescales, is exceptional in that funding for support is also from the EU, and not direct from the member states of participating organisations.

One, two, plenty ...

In the following section that considers 'Planning', we report that it is easier to re-use an existing model for collaboration than to devise a new form of collaboration. One corollary of this is that apart from participation in existing pan-European initiatives such as the Framework Programme and Eureka, most member states will find it easiest to consider either bilateral or, at most, tri-lateral programmes, so as to minimise the difficulty of co-ordinating national processes.

Step by step

It is not necessary to jump straight into multilateral collaboration. The European Commission has recently sponsored a study of approaches to 'opening' of national programmes⁵. One can begin with a bilateral programme and, if successful, consider extending it to multilateral. Again, this is most easily done by fitting new partners around the model established for bilateral co operation. And one German-Dutch programme is 'open bilateral'.

⁵ Increasing the Impact of National Research Programmes through Transnational Cooperation and Opening - GOOD PRACTICE GUIDE" Optimat, VDI/VDE-IT GmbH

PLANNING multinational COLLABORATION

Incompatibilities – and how to address them

National legal structures are not generally prepared for the support of multinational collaborative programmes. Language barriers are the most obvious, and some programmes have had to get changes to national procedures so that joint proposals can be submitted in just one language rather than in each language of the participating countries. (This is often English – even if none of the participating countries has it as their native language.)

Cultural differences can also pose problems for planners. The interpretation of concepts, such as timeliness and 'commitment' for instance, vary from region to region both outside and within Europe, and differences of interpretation can lead to serious misunderstandings that jeopardise programme co operation.

multinational programmes often require governmental support – or at least ministerial support within government. The volatility of the political landscape must be considered and programmes – and the agreements supporting them – designed to be resilient to change.

The problems of past success

Smaller and less-developed economies can align their national priorities to support multinational collaboration with relative ease. A corollary is that larger economies with more developed scientific, technological and industrial policies and strategies can be less flexible.

Countries that have their own national R&D programmes can diminish the support for multinational collaboration by absorbing the R&D capacity of their national R&D organisations and the attention of their own officials, even if those national programmes do not yield equivalent benefits. This is especially the case if the procedures for gaining support within multinational collaborations are much more convoluted and take much longer than those for national programmes: the gain for participants must be worth the pain of the administrative process.

Moreover, if a country has its own national processes to review and revise their policies and strategies, then the difficulty of fitting multinational collaboration into them is compounded by the rigid 'meta-process' within which such matters might be considered.

Re-use agreed approaches

It is very much easier to re-use an existing model for collaboration than to devise a set of new programme-level policies, processes and procedures that fits with each collaborating country's RTD support policies and systems.

The tri-lateral Finnish-Swedish-Norwegian NORDITE programme reports that one of its strengths is the shared culture

Eureka – and, of course, the Framework Programme – provide pre-existing structures. However, the foci of the Framework Programme – and indeed any changes to its processes – are decided through a complex process of multinational consultation. While individual countries might take a more or less proactive role in that process, the outcome of the planning process is beyond the control of any individual country.

Eureka, on the other hand, while more restricted to industrially-oriented research, provides an opportunity for countries – and for industry – to establish a new 'programme' in the form of a Eureka 'cluster'. Smaller scale initiatives might even be supported within Eureka as a single – though still generally rather large – 'project'. Such projects will not have the political and administrative support of the clusters, but they do still have the existing Eureka framework which, for most member countries, means that there is an existing route for engagement of public authorities. To get such a cluster established will require close working between industry and the authorities in the involved countries, but it would then offer considerable flexibility.

Even bilateral programmes can benefit from participating countries 're-use' of their partners' approaches, when the collaborating countries have different approaches. This can be simpler – and very much quicker – than trying to devise a common approach.

Hidden dangers

Even the adoption of a pre-existing scheme is no guarantee of smooth-running success. It is still possible for national rules to be incompatible with the programmes and schemes to which the country has, in principle, subscribed. For instance, Eureka is intended to be relatively near-market (compared, say, to the Framework Programme); yet some countries will not support proposals for such near-market activity from their own national organisations, even when they have already been accepted by Eureka management as compliant with the requirements of Eureka.

Bringing together national programmes

A newly-emerging alternative approach is to align national programmes – or parts of national programmes that are compatible. A number of ERA-Nets, sponsored by the European Commission (both DG Information Society & Media and DG Research), have facilitated the identification of commonalities and complementarities in national programmes, and the harmonization of criteria and processes so that, in effect, a multilateral programme is built from elements of national programmes. On the CISTRANA homepage⁶ a compilation of the IST relevant ERA projects can be found. MNT ERA-Net, one of these projects, will make national programmes accessible to transnational consortia and open calls for proposals for transnational research projects in the area of Micro and Nano Technologies during the next two years⁷.

Clear vision

To overcome the difficulties posed by incompatible policies, processes and procedures it is important, for success, to establish clear visibility of the collaborators' intentions, and of their long-term commitment.

The first step is to establish a clear, shared understanding of WHY the parties want a multinational collaboration, and its technical and sectoral scope.

To avoid confusion – and conflict – the potential actors should be engaged in the appropriate order:

- ▶ first, the problem owners – typically industrial players, but they could also be other 'users' of technology, such as national health ministries – so that they have a clear 'story' to tell to both funding authorities and the research community
- ▶ then the funding authorities, to get 'buy in'
- ▶ and only then the main body of the research community, so that they are not distracted by earlier unclear and undecided intentions.

For applied science, technology and market road-maps can help, as they do with the Eureka clusters and, to some extent, with some of the strategic objectives of the Framework Programme. In more fundamental research, the equivalent is the 'Grand Challenge' as agreed by the majority of the research community. Such visions help to cohere both the community and their funding sources.

Practical advice

- ▶ Be very careful in choosing your partners in the initial programme planning team: if you are unaware of the most appropriate players in the wider world then it is very difficult to ensure that that team is appropriate – and it is very difficult to change it later. Start with a small core team that you can trust and that is manageable.
- ▶ Understand each potential participating country's motivation for participation, taking into account their scientific, industrial, and economic position.
- ▶ Be sensitive to the fear of individuals and organisations of the sense of a loss of autonomy and control that comes from participating in a more broadly based community.
- ▶ Investigate and build on pre-existing contacts, to develop a core of support, but ...
- ▶ ... also actively support the creation of new contacts to enrich the potential collaborative pool.

Consideration of issues such as coordination of multilateral approaches to call schedules, and coordination of evaluation processes, are discussed in the next section on 'Implementation'.

⁶ See <http://www.cistrana.org/projects/98.htm>

⁷ See <http://www.mnt-era.net/call%202006>

IMPLEMENTING MULTINATIONAL COLLABORATION

After the planning ... more planning

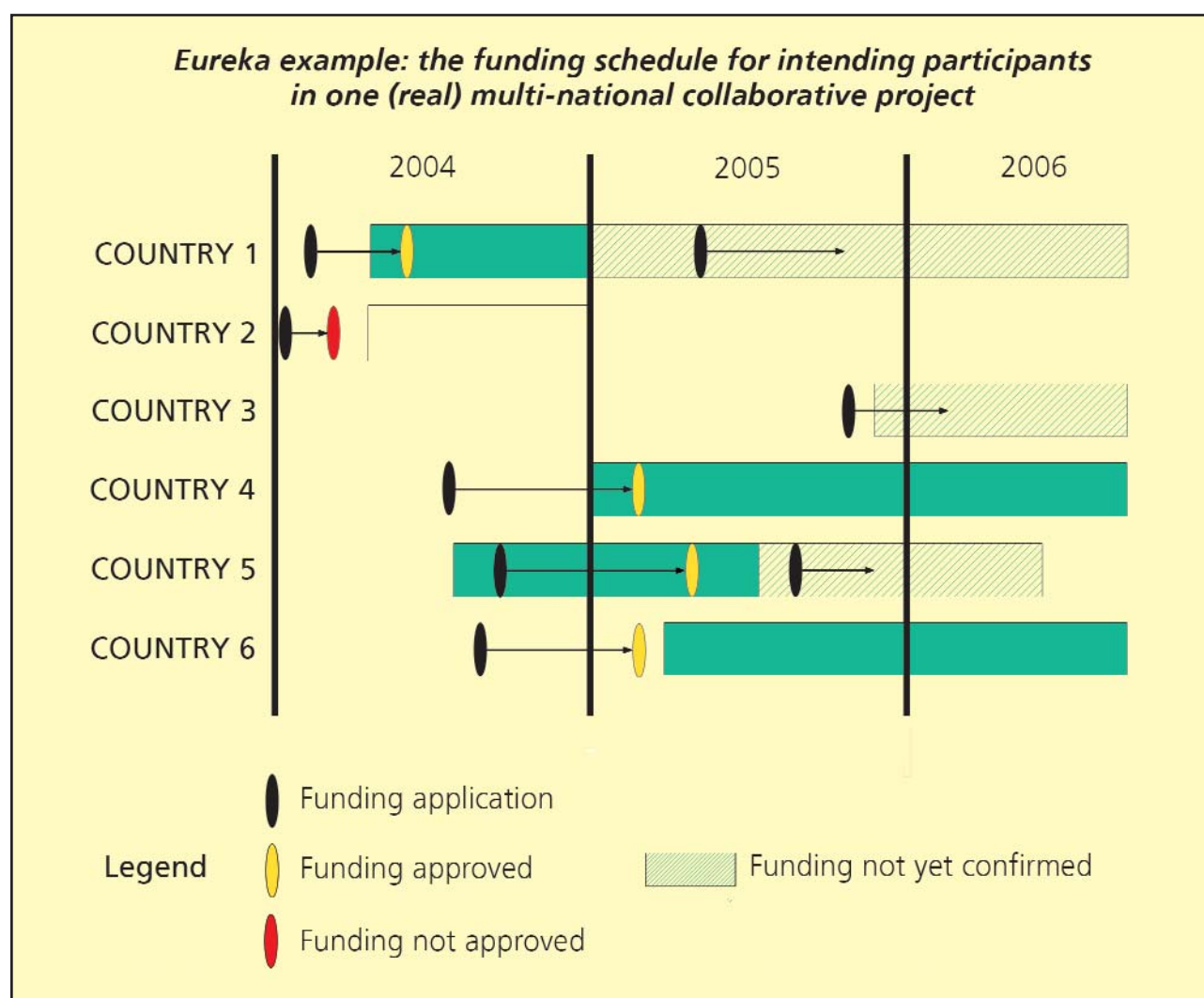
Having agreed a joint programme in principle, and even having decided its main objectives and scope, the execution of the programme requires agreement on many procedural and even policy issues. These include, for instance ...

- ▶ detailed technical objectives
- ▶ classes of allowed participants
- ▶ procedures and scheduling for:
 - calls
 - evaluation of proposals
 - funding decisions
 - funding starts

- ▶ marketing of the programme
- ▶ programme assessment criteria⁸

Sovereignty and cooperation

Usually, each participating country will have their own (different) established policies and procedures for management of their national programmes. The first obstacle to negotiation of a common approach with others is the familiarity that each country's agencies will have with their own national system and the presumption that this is the way it must be. More fundamentally, many of the process issues will be constrained by national policy and practice, such as national



Source: Eureka-Cluster CELTIC, Heinz Brüggemann, Experiences with multinational cooperation, presentation held during the Workshop.

⁸ The MAP Thematic Network publications include a fuller discussion of many aspects of national processes that may not be aligned with partners in other countries. See, for example "roadmap: Good practices for the management of Multi Actors and Multi Measures Programmes (MAPs) in RTDI policy" The MAP-TN Thematic Network, March 2004.

budget cycles: these are much more difficult to change.

Moreover, the Framework Programme is unusual in having pre-committed budgetary contributions from participating countries. Most countries wish to retain sovereignty over the allocation of their taxpayers' funds.⁹ So each intending participant in a multinational collaborative project will, typically, have first to satisfy the requirements of the multinational collaboration, and then seek financial support from their own country's R&D support system.

The combination of separate processes and separate budgets can, if not managed sensitively, give rise to 'double jeopardy' for proposers, and severe project coordination difficulties. (See 'Eureka example' on previous page.)

Avoid 'double jeopardy'

Given the lack of synchronisation of national policies and processes, there is no guarantee that there will be even potential support within a national programme: there may be no programme open, or those that are open may not have an appropriate scope.

Even if there is an open mechanism for national support, the need to satisfy both multinational requirements and national requirements puts the proposers in a situation of 'double jeopardy': they are much less likely to succeed in two competitions than in one. Even if the formal expression of the requirements is the same (and generally it is not), there is a very serious risk that the national proposal evaluators will interpret the requirements differently from the evaluators for the multinational collaboration.

There are two approaches to minimising the problem of double jeopardy (if it cannot be avoided altogether by a common evaluation):

- ▶ guarantee national budgets for participation in multinational collaborations, even if calls are nationally competitive (known as 'earmarking'¹⁰). This is similar to the conventional approach, in the Framework

Programme and in many national programmes, of pre-allocating the majority of RTD budgets to specific themes so that at least some participation in each theme is ensured.'

- ▶ 'calibration' – bringing multiple evaluation processes into line. Programme managers should seek to align:
 - their evaluation criteria, ensuring that within the criteria due weight is given to the political and strategic support for the multinational collaboration
 - the interpretation of the evaluation criteria both by different assessors within a country and by assessors from different countries. (Through, for instance, common training and early detection and open discussion of differences.)

Borrow – or steal!

As with programme planning, it is preferable to use pre-existing models wherever that is possible. Much thought has already been given, in previous programmes, to the design of processes that work and of governance structures that are equitable and fair.

PROACT- RTNL

Joint 3-year Franco-Finnish research programme on Pro-active Computing. Total planned funding: about €2M from each country.

Joint means joint:

- joint planning
- joint programme committee
- joint call for and evaluation of proposals
- joint decisions on projects to be funded (2 steps)
- joint evaluation of programme results.

While it may be politically and practically difficult to change national structures and processes so as to accommodate a multinational collaborative programme, it may – somewhat

⁹ There has been some discussion among member states of the EU about the creation of a 'common pot' of funding, to which each participating country – and perhaps the EU – would, in effect, hand over an agreed budgetary contribution to be disbursed by some agreed agency. However, the difficulty of finding a legally acceptable framework for disbursement coupled with national wishes for sovereignty make this an unrealistic proposition at present.

¹⁰ From the custom of marking the ears of farm animals to indicate their ownership.

surprisingly – be easier for a country to 'adopt' another country's processes for a specific programme. This was the approach taken by France in the PRO-ACT programme (see box), where France adopted the Finnish approach to 2 stage evaluation. This, in turn, enabled harmonisation of timings of calls and of their evaluation.

Intellectual Property Management

Countries' rules differ on the ownership of intellectual property developed with the support of public funds; on who may exploit it; on whether and how IPR can be transferred; and on reversion of ownership if it is not exploited within a given time-frame. This can be a serious obstacle to collaborative participation.

Once again it is usually easier in a bilateral or small-scale trilateral programme for the partners to relinquish their normal national model by adopting a pre-existing model – either by all partners accepting the model of one partner, or by adopting a third-party model. The Eureka IPR model, for instance, is a time-tested model that has been found satisfactory by a range of types of partner – large industry, SME, academic – from a wide range of countries.

The importance of people

Good relationships and good communication between the national co-ordinators are very important for the success of special bilateral and multilateral collaborations. In the case of PRO-ACT the co-ordinators were agreed within two months of agreement on the programme, and thereafter there was efficient cooperation between them.

Longer term solutions

Within the European Union there is ongoing discussion about the possibility of establishing 'Joint Technology Initiatives' – joint, that is, between industry, Member States and the Framework Programme. These may perhaps be designed within the frame of Article 169 or 171 of the EU Treaty so as to help establish more coherent approaches to funding and administration of multinational collaborations. Much of this discussion is in the context of support for the new 'Technology Platforms'. These discussions have not yet come to fruition and there are no models yet established for others to copy.¹¹

¹¹Article 169 enables the Community to participate in research and development programmes undertaken by several Member States and requires a co-decision of European Parliament and Council (like the FP itself). There is only one example so far – the European & Developing Countries Clinical Trials Partnership. Article 171 enables the Community to set up, with industry and other organisations, joint undertakings or any other structure necessary for the efficient execution of Community research, technological development and demonstration programmes. To establish a JTI under Art. 171 requires a Council Decision, in consultation with the European Parliament. There is only one example so far – Galileo.

ASSESSING MULTINATIONAL COLLABORATION

The benefit of assessment

Assessment is not just for audit. Assessment of previous programmes can reveal valuable lessons learned that should be taken into account when designing new programmes, and also for those managing the operation of programmes.¹²

Assessment over the long-term

Whatever form of programme is chosen, assessment of R&D programmes is notoriously difficult. For most programmes the ultimate national motivation is economic gain. But the anticipated gain from most projects and programmes is not expected until a long way in the future – else they would be deemed to be 'too near-market' for public funding support. Some sources estimate that technology transfer from emerging idea to main-stream adoption can take up to 20 years. Even if one does not take such an extreme view, the economic outcomes can certainly not – in general – be measured during or immediately after the programme. And by the time they can be measured, most of the key staff will have moved and only the lead contractor may have the project-wide data. Moreover, so much else will have changed, and so many other factors possibly had an impact – positive or negative – on the intended outcomes, that it will be very difficult to discern the impact of the programme from everything else that has happened.

This difficulty is especially acute in the field of ICT, where developments are so fast and where the whole of industry can be re-structured in just a few years.

Assessment with regard to strategic positioning

However, industry also has to make a decision as to whether to invest or not, and that decision is usually subject to at least as much internal scrutiny as any national funding decision. Given the uncertainty about the actual long-term outcomes, the industrial approach to 'assessment' is often to consider not the direct

economic gain from a project, but the positioning advantage brought by the project – perhaps to build supply-chain relationships; perhaps to build a body of opinion around an emerging standard.

National agencies can similarly consider assessment on the basis not of economic gain per se, but of positioning of their country's organisations – industrial and academic – with a view to long-term economic gain. This approach fits well with the aims of multinational collaboration, many of which are concerned with establishing relationships, rather than direct outcomes. (See conclusion of earlier section on 'Why multinational collaboration?')

Assessment with regard to social and economic impacts

For many programmes, and even for some projects, the support of public funding is justified on the basis of the social or economic benefits for the participating countries. While it is normal to assess each project against its technical objectives, and also to assess programmes in terms of their success as a collection of projects, it is much less common for programmes to be assessed against their intended socio-economic impacts. It is also much more difficult, partly because of the difficulty of identifying suitable measures, and partly because of the long-term effects discussed above.

Nevertheless some attempt should be made during programme assessment to assess the socio-economic impacts of the programme, such as the societal acceptability of the new technology that is the subject of a programme, taking into account broader cultural values.

However difficult it is to measure and to assess socio-economic impacts, especially those arising from a multinational collaboration, if a science and technology programme is to be assessed with regard to them, then the intended impacts must be incorporated in the original objectives of the programme. This has implications for both the planning and the implementation of

¹² For instance, DG Information Society has put in the public domain a range of programme-level assessments and monitoring panel reports on the operation and effectiveness of the IST Theme in the Framework Programme. These address all aspects of the programme from achievement of strategic goals, through effectiveness of the instruments used, to the probity and effectiveness of the programme management processes. (http://europa.eu.int/comm/dgs/information_society/evaluation/) Earlier reports are archived at: http://europa.eu.int/comm/information_society/evaluation/

programmes. A programme is not just a collection of projects: yet each project does not see the 'big picture'. It is for those responsible for programme management to ensure that the programme-level aims are understood by proposers and project managers, and that the contribution of each project to those aims is embodied in proposals, considered alongside the other criteria during proposal evaluation, and kept in mind during programme monitoring.

Re-use previous models

Again: not only do the assessments performed on earlier programmes offer insights into programme management, they offer models of how to perform assessments. While the way in which national programmes have been assessed can be difficult to find, given the distribution of responsibilities and the diversity of mechanisms in different countries, the Framework Programme processes are well-documented; they are in the public domain; and they have been thoroughly scrutinised for their probity and efficacy.

Practical issues

When designing a new programme, consider very early during the planning phase the criteria for assessment and the way in which it will be assessed. This is important to ensure that there can be meaningful and useful ex post assessment: it is

even more important for ex ante assessment, so that ex ante assessment can begin sufficiently early, when options for programme formulation are still open, to have useful impact on decision-making.¹³

Assessment of multinational collaborative programmes must take into account a number of mundane issues:

- ▶ language, language differences, and the near impossibility of in-depth scrutiny, the possibility of which is taken for granted in most national assessment processes. It is therefore necessary to establish a framework in which it is possible to gather data and information in a delegated fashion.
- ▶ while self-assessment cannot be relied upon on its own, it can be used to generate data that complements data from other sources, such as economic data.
- ▶ access to data: the potential constraints caused by national interpretations and implementations of data protection requirements must be anticipated early in programme planning so that they do not become an obstacle to assessment during or after the programme.
- ▶ cultural differences – this is the corollary of the concern over cultural differences discussed above under programme planning.

¹³ "Ex ante evaluation: a practical guide for preparing proposals for expenditure programmes" European Commission, December 2001

Key messages

- ▶ Take the long view: multinational collaboration is about more than specific scientific or technological advances. It is about building relationships and both national and international scientific, technological, industrial and social ecosystems.
- ▶ Pick your partners carefully: start with a small core team that you can trust and that is manageable.
- ▶ Understand each others' motivation for collaboration and why the participating organisations would want it.
- ▶ Establish early a joint programme planning team, with a cooperative team spirit.
- ▶ Establish clear visibility of the collaborators' intentions, and of their long-term commitment, to create a climate in which the difficulties of incompatible national systems can be overcome.
- ▶ Engage the community in the right order: problem owners, funding authorities, and then the research community. Be sensitive to fears of loss of autonomy and control.
- ▶ Focus the community through technology and market road-maps and scientific 'grand challenges'.
- ▶ Take advantage of previous studies of multinational collaboration to identify the range of bilateral and multilateral agreements that must be made.
- ▶ Consider the criteria and mechanisms for assessment – both ex post and ex ante – very early during programme planning.
- ▶ Set the objectives with a view to eventual programme assessment, taking into account socioeconomic ambitions: and assess against the original objectives. But ...
- ▶ ... bear in mind the difficulty of 'allocation' of programme-level objectives to individual projects AND the effects of the long time from programme formation to programme fruition AND the considerable difficulty of disentangling the various factors that ultimately contribute, whether positively or negatively, to the programme goals.
- ▶ 'Do NOT re-invent the wheel'. Learn from previous experience – including previous assessments. If you are intent on a multinational collaborative programme, then adopt and adapt processes and administrative models that have been proven elsewhere. It may even be easier to adopt another country's system than to devise a new, common, multilateral system.
- ▶ If not working within an existing framework (such as Eureka), then start small: begin with a bilateral programme then maybe, if successful, extend it to multilateral.
- ▶ Avoid subjecting programme participants to 'double jeopardy': earmark funds if possible; harmonise evaluation criteria (and evaluators); and synchronise processes. Try to avoid 'the Eureka problem' (see figure, p.11).

And finally...

... The "Seven Deadly Sins"¹⁴



¹⁴ © by Angus Hunter, Optimat Ltd, UK, presentation held on the Workshop to the Study "Increasing the Impact of National Research Programmes through Transnational Cooperation and Opening - GOOD PRACTICE GUIDE" Optimat, VDI/VDE-IT GmbH

Annex A: Documentation

Agenda of the Workshop, held in Cologne, 18 January 2006:

(The presentations given at this workshop are downloadable from the CISTRANA webpage: <http://www.cistrana.org/18.htm>)

Introduction:

Presentation of the Study: "Increasing the Impact of National Research Programmes through Transnational Cooperation and Opening", Angus Hunter, Managing Director of optimat, Ltd., UK

Plenary Session:

Presentations of the aims, procedures, benefits, and deficits of transnational cooperations

ITEA: Prof. Dr. Rudolph Haggenmüller, Chairman of ITEA, Germany

MEDEA+: Dr. Peter Tischer, former Vice Chairman of MEDEA+, Germany

CELTIC: Heinz Brüggemann, Director CELTIC Office, Germany

NORDITE: Morten Ween, Research Council of Norway (RCN), Norway

PROACT: Dr. Alain Brenac, Project Leader Association, Nationale de la Recherche Technique (ANRT), France

Parallel Sessions:

1. Analysis of strengths and weaknesses of transnational cooperations in the three programme phases

- **Planning**
- **Implementation** (legal, administrative, cultural barriers, differences in mentality)
- **Assessment** of success

2. Recommendations for future transnational cooperations, development of flip-chart presentation of results and recommendations

Plenary Session:

Presentation of results and recommendations of the 3 working groups, discussion.

Conclusion of the workshop:
Recommendations for future transnational cooperations

Annex B: Bibliography

The subject of multinational collaboration has been studied by other organisations and projects. Some of their reports have been referenced in the text of this present report, but the reports listed below contain extensive discussion of the issues addressed in this workshop, based on longer-term studies. They also reference other related work.

"roadmap: Good practices for the management of Multi Actors and Multi Measures Programmes (MAPs) in RTDI policy" the MAP-TN Thematic Network, March 2004 (www.map-network.net: this site contains other related reports)

"Competitiveness through internationalisation – Evaluation of means and mechanisms in Technology Programmes". Tekes, October 2004

"Policies to benefit from the internationalisation of R&D". tip – technology information policy consulting, May 2005

"Framing Collaboration Models between National Research and Technological Development Programmes" TAFTIE (The Association for Technology Implementation in Europe), August 2005

"Increasing the Impact of National Research Programmes through Transnational Cooperation and Opening – GOOD PRACTICE GUIDE" Optimat, VDI/VDE-IT GmbH

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Acknowledgements

The project team and workshop organisers would like to thank the following persons for their help and active contribution:

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Dr. Alain Brenac	PROACT	France
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For more information

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