

INTRODUCTION TO THE INSTRUMENTS AVAILABLE FOR IMPLEMENTING THE FP6 PRIORITY THEMATIC AREAS

Speaking Notes

These speaking notes are being widely circulated in order to generate an open discussion on the design of the instruments available for implementing the priority themes of the Sixth Framework Programme.

Practical guides to individual instruments are also being made available on the Europa website:

<http://europa.eu.int/comm/research/fp6/networks-ip.html>

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**Unit B.2
Research DG
European Commission**

Fourth edition: 5 August 2002

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Standard disclaimer

These speaking notes express solely the current views of unit RTD.B.2 of the European Commission’s services. Readers should not regard these views as a statement of the official position of the European Commission nor indeed of its Directorate-General for Research.

Instruments for implementing the priority themes of the Sixth Framework Programme

The purpose of this paper is to provide the reader with a brief introduction to current thinking on the design of the instruments available for implementing the priority themes of the Sixth Framework Programme (FP6). It concentrates on the main features of the instruments. It is not intended to be a comprehensive document. It will be regularly updated.

For further details on the instruments, readers are referred to the following website: europa.eu.int/comm/research/jp6/networks-ip.html

A wider range of better differentiated instruments

The following instruments will be available to implement the priority themes:

- ***the “new” instruments***
 - integrated projects
 - networks of excellence
 - Article 169 (for the joint implementation of national programmes)
- ***the “traditional” instruments***
 - specific targeted research projects
 - coordination actions
 - specific support actions

This is a somewhat wider range of instruments than was available for the key actions of the Fifth Framework Programme (FP5), since it now contains a mix of the “new” instruments driven by the concepts of the European Research Area (ERA) and of the more “traditional” instruments similar to those in FP5.

These “new” instruments are characterised by their capacity to mobilise the critical mass of expertise needed to achieve ambitious objectives. They are also characterised by the structuring and integrating effects that they will have on the fabric of European research.

As well as being a wider range of instruments, this paper aims to show that they are also a much better differentiated set. Each instrument has its own distinct character and its own distinct role to play in implementing the priority themes.

Note: This paper is confined to the use of these instruments within the priority themes. It should be noted however that the instruments will also have roles to play elsewhere in the Framework Programme.

Principles guiding their design

Before examining each of these instruments in turn, it is worth reflecting on the principles that are guiding the European Commission in their design.

Simplification and streamlining: These principles are important in helping to minimise the overheads of all concerned at all stages of the process, whether applicants, contractors or the Commission itself.

Applying these principles will also help to speed up procedures, especially the time taken from evaluation to contract and the time taken for the Commission to be in a position to make payments following the receipt of documents from contractors.

Increased legal and financial security: The FP5 instruments have been criticised for providing insufficient legal and financial security for contractors as well as for the European Community. This issue will be carefully addressed in the design of the FP6 instruments, in particular as concerns their financial regimes.

Flexibility and adaptability: From the point of view of programme implementation, the new instruments need to be designed to be applicable throughout the priority themes – in other words they should be applicable equally to the social sciences or to engineering, to basic research or to applied research, as well as to all participants whether from academia or from industry, including SMEs.

Furthermore, from the point of view of the contractors, instruments are needed that better enable projects to adapt to changing circumstances, for example because the research has evolved or because the partnership needs to be modified.

Increased management autonomy: This ability of projects to adapt to changing circumstances is part of a general shift towards increased autonomy for the consortia. The aim is to give consortia more freedom in managing their projects, especially by eliminating all unnecessary micromanagement from the projects. In that light, the follow-up of projects by the Commission services will move still further than in FP5 from the detailed monitoring of inputs to the strategic monitoring of outputs.

Preserving public accountability: In designing these instruments, the Commission will try to push these principles to the limit. However, it must be remembered that projects are being supported with public money and that, as a consequence, there are indeed limits set by the need to preserve public accountability and to protect the interests of the Community.

Integrated projects

Purpose: The integrated project is the instrument that is being designed to generate the knowledge required to implement the priority themes. It will do that by integrating the critical mass of activities and resources needed to achieve ambitious clearly defined scientific and technological objectives.

Each integrated project should be aimed at obtaining specific results relevant either to increasing the impetus to Europe's competitiveness or to addressing major societal needs.

The integrated project is therefore an instrument to support objective-driven research, where the primary deliverable is new knowledge. Of course, by mobilising a critical mass of resources, integrated projects can also be expected to have a structuring effect on the fabric of European research.

Activities: Each project should contain an integrated set of activities within a coherent management framework. The project should include a research component and, as appropriate, technological development and/or demonstration components, as well as perhaps a training component.

A project may be at any point in the research spectrum. A single project may indeed span large parts of the spectrum, i.e. from basic to applied research. Most projects are expected to be multidisciplinary in nature.

The effective management of knowledge, and its dissemination and transfer, will also be an essential feature of each integrated project as well as, where relevant, the analysis and assessment of the technologies developed and of the factors relating to their exploitation. Projects may also include support for the take-up of new technologies, in particular by SMEs.

Scale of the critical mass: Critical mass will differ widely in scale from field to field and, possibly also, from topic to topic inside a field. The over-riding criterion for judging critical mass will therefore be the qualitative one that an integrated project must have ambitious objectives and must mobilise whatever activities and resources are needed to achieve those objectives.

The value of the activities integrated by a project is expected to range up to many tens of millions of euros. However, there will be no minimum threshold, provided of course that the necessary ambition and critical mass are there.

Size of consortium: There must be a minimum of three participants from three different Member States or Associated States, of which at least two should be Member States or Associated Candidate Countries. However, in practice, there

are likely to be significantly more participants and probably somewhat more, on average, than the nine seen in the RTD projects of FP5.

Duration: Integrated projects are expected to have a duration of typically three to five years. However, there will be no pre-set maximum, so a longer duration could be accepted if it is necessary to deliver the objectives of a project.

Financial regime: The financial regime for integrated projects will be built on the following concepts:

- a “grant to the budget”, acting as a ceiling for the Community contribution;
- where the support will be paid as a contribution to costs incurred;
- according to maximum rates of support for the different types of activity within the project.

The grant to the budget will be negotiated on the basis of: (a) the estimated costs of carrying out the various activities of the project; (b) the appropriate cost model for each of the participants; and (c) the rates of Community support for each activity. The maximum amount of the Community contribution will be fixed in the contract.

Such a regime will have many similarities to the current financial regime for RTD projects in FP5, though with several marked simplifications, with increased financial security both for the Community and the consortium, and with a much increased autonomy for the consortium.

Eligible costs: Costs may be charged to the contract provided that they fulfil the following conditions:

- they are actual, economic and necessary for the implementation of the project; and
- they are determined in accordance with the usual accounting principles of each participant; and
- they are incurred within the duration of the project, except when otherwise provided for in the contract; and
- they are recorded in the accounts of the participant or, when provided for in the contract in the case of resources made available by third parties on the basis of a prior agreement, in the corresponding accounts of those third parties; and
- they exclude any indirect taxes, duties, interest, costs incurred in respect of another Community project, and do not give rise to profit.

(Note: As each participant will be expected to follow its own accounting conventions, there will be no pre-defined cost categories, as there were for RTD projects in FP5).

The Commission will issue financial guidelines to inform participants of how eligible costs may be identified and charged to the project as well as to propose good financial practices. Participants will be invited to follow these guidelines when establishing their proposed budget for the project and when preparing financial reports. On the other hand, the Commission services will observe these guidelines in all their dealings with the project, as will any auditor appointed by the Commission.

Cost models: There will be a single family of three closely related cost models:

- **FC:** a full-cost model in which all actual direct and indirect costs may be charged to the contract;
- **FCF:** a simplified variant of the full-cost model, in which all actual direct costs may be charged to the contract, together with a flat-rate rate of 20% of all these direct costs, excluding subcontracts, which will be deemed to cover all related indirect costs;
- **AC:** an additional-cost model, covering all actual direct costs that are additional to the recurring costs of a participant (with the exception of consortium management for which recurring costs would be eligible), together with a flat-rate of 20% of all these direct costs, excluding subcontracts, which will be deemed to cover all related non-recurring indirect costs.

The FC model will be open to all participants, except international organisations and physical persons. The FCF model will be an option available only to SMEs and to public bodies. The AC model will be the only model available to international organisations and physical persons and will be an option open to public bodies.

An organisation may choose only one of these cost models for all its participations in those indirect actions of FP6 where these models are relevant.

(Note: It is intended that the same basic cost methodologies will be used for all FP6 instruments that are implemented through a grant to the budget. This will generate a significant simplification for contractors compared to FP5, where different instruments sometimes used fundamentally different cost methodologies).

Maximum rates of Community support for full-cost participants: For full cost participants (FC and FCF), the maximum rates of Community contribution for each of the four types of activity within an integrated project will be:

- 50% for the research and technological development and the innovation-related activities of the project;
- 35% for demonstration activities;

- 100% for training activities (excluding the personnel costs of those being trained);
- 100% for the management of the consortium.

The model contract will specify which management costs will be eligible for support at the 100% rate. Such costs will include the costs of obtaining audit certificates and of making competitive calls. The model contract will also specify the maximum percentage of the Community contribution that can be used to support these management costs (probably 7% in the case of integrated projects).

Maximum rates of Community support for additional-cost participants: Additional-cost participants will be supported at up to 100% of additional costs for all components of the project (with the exception of consortium management, for which recurring costs may be charged as mentioned above).

Scale of the Community support: The grant from the Community is most likely to fall in the range of several millions of euros to several tens of millions of euros.

Expressions of interest: Calls for proposals may be preceded by invitations to submit expressions of interest to determine topics for the subsequent call for project proposals. This will help focus the calls for proposals, thereby containing over-subscription. It will also assist in proposal-making and consortium-building.

The first invitation to submit expressions of interest was published on 20 March 2002 with a deadline of 7 June 2002. The results of this exercise will be published on www.cordis.lu/fp6/eoi-instruments in September 2002.

Calls for proposals: Calls for proposals will be published in the Official Journal of the European Communities and widely disseminated by other means, especially on the Europa and Cordis websites.

Proposals themselves will be simplified, in particular to reflect the evolutionary nature of an integrated project. For example, proposals will contain a summary description of the activities for the full duration of the project, but a detailed implementation plan only for its first 18 months. Furthermore, not all the participants in the project will have to be identified at the time of proposal-making.

Evaluation system: The evaluation of proposals will be based on the principles of peer review by independent experts. However, the system used for RTD projects in FP5 will be strengthened to reflect the more ambitious nature of the integrated projects.

Possibilities for strengthening the peer review system for integrated projects include: the more systematic use of two-stage submission (where only those applicants whose outline proposals pass the first stage will be invited to submit a full proposal) and hearings of applicants by the panel, in particular to allow applicants to answer questions not covered in the proposal itself. Such hearings would act as an additional means of simplifying proposal-making, since proposals would no longer have to foresee answers to all possible questions that the experts might wish to ask.

When considered necessary, proposals will also be subjected to an ethical review. It should be noted that any proposal contravening fundamental ethical principles will be automatically rejected.

Evaluation criteria: The following basic set of criteria is intended to be common to all priority themes for the evaluation of proposals for integrated projects. These issues will be detailed and complemented as necessary in the relevant calls for proposals.

- **Relevance to the objectives of the programme.** The extent to which:
 - the proposed project **addresses the scientific, technical, socio-economic and policy objectives** of the work programme in the areas open for the particular call.
- **Potential impact.** The extent to which:
 - the proposed project is **suitably ambitious** in terms of its strategic impact on reinforcing competitiveness or on solving societal problems;
 - the innovation-related activities and exploitation and/or dissemination plans are adequate to ensure **optimal use of the project results.**
- **S&T excellence.** The extent to which:
 - the project has **clearly defined objectives**;
 - the objectives represent clear **progress beyond the current state-of-the-art**;
 - the **proposed S&T approach** is likely to enable the project to achieve its objectives in research and innovation.
- **Quality of the consortium.** The extent to which:
 - the participants collectively constitute a **consortium of high quality**;
 - the participants are **well-suited and committed to the tasks** assigned to them;
 - there is **good complementarity** between participants;
 - the opportunity of **involving SMEs** has been adequately addressed.
- **Quality of the management.** The extent to which:
 - the **organisational structure** is well-matched to the complexity of the project and to the degree of integration required;
 - the **project management** is demonstrably of high quality;
 - there is a satisfactory plan for the **management of knowledge**, of intellectual property and of other innovation-related activities.
- **Mobilisation of resources.** The extent to which:
 - the project mobilises the **critical mass of resources** (personnel, equipment, finance...) necessary for success;
 - the **resources** are **convincingly integrated** to form a coherent project;
 - the overall **financing plan** for the project is adequate.

The initial contract and the advance payment: The contract will specify the maximum Community contribution to the project. It will not, however, specify the distribution of the grant between participants nor between activities. This will give a considerable degree of freedom to the consortium in managing its own financial affairs and will also eliminate the source of much of the micromanagement associated with FP5 contracts.

An annex to the contract will contain an overall description of the project and an agreed detailed implementation plan for the first 18 months of the project together with an associated indicative financial plan for those 18 months. This financial plan will provide an estimate of the costs to be incurred by each participant during the period, broken down by type of activity.

An advance payment, equivalent to 85% of the Community contribution to the budget for the first 18-month period, will be made at the start of the project.

Settlement of the Community contribution and updating the contract: Annually, the consortium will provide the Commission with an activity report for the previous 12-monthly period to be accompanied by the following financial documents for that period:

- a summary cost statement prepared by each participant, showing the total eligible costs incurred, broken down by type of activity;
- a cost certificate per participant, furnished by an independent external auditor or, in the case of a public body or international organisation, by a competent public official, certifying the overall total of eligible costs incurred by that participant;
- a management-level justification prepared by each participant of the costs it incurred, linking these costs to the resources deployed and to the activities carried out by the participant;
- a summary financial report prepared by the coordinator, bringing together the costs incurred by all the participants and the requested Community contribution, broken down by participant and type of activity.

Once the Commission has accepted the financial report, an equivalent part of the advance will be converted into an accepted payment and will be considered as a full and final settlement of the payment for the period concerned (subject, of course, to any ex-post audit).

At the same time as the consortium submits its reports for the previous 12-monthly period, it submits for the approval of the Commission its detailed implementation plan and associated financial plan for the 18-month period that follows. Once the two plans have been approved (subject, when necessary, to ethical review), they will be incorporated into the contract through a contract amendment.

Furthermore, once these plans are approved and the payment for the previous period has been settled, the Commission will supplement its outstanding advance to bring the advance up to the equivalent of 85% of its foreseen contribution to the budget of that financial plan. That way, the project should never be operating without an approved detailed plan, nor without a satisfactory advance payment.

Evolution of the consortium: The consortium may itself decide to take in new participants as the project evolves, though **without additional financing** from the Community. The contract will specify when the addition of new participants must involve a competitive call, as for example in those cases where a proportion of the original budget was assigned to a participant that had yet to be identified.

Competitive calls will be organised by the consortium in accordance with guidelines set out in the contract. Costs associated with such calls will be chargeable to the contract as part of its management costs.

In addition, the Commission may decide to launch its own calls for proposals to enable existing integrated projects to expand their scope **with additional financing** to cover new activities, which may involve taking in new participants. This possibility may, for example, be a useful mechanism for stimulating take-up measures, thus enhancing the participation of SMEs.

Output monitoring by the Commission: The Commission will develop a robust scheme for the output monitoring of integrated projects. Such a scheme might consist of:

- **annual reviews:** coinciding with the annual cycle of reporting and planning to act as a sound basis for the settlement of the previous year's contribution;
- **a mid-term (or milestone) review:** which would trigger a go/no-go decision on whether to continue the project to its foreseen end;
- **an end-of-term review:** primarily to assess the impact of the project on enhancing the Community's competitiveness or on addressing major societal needs.

The Commission may involve independent experts in all stages of this monitoring scheme, in particular for any mid-term review.

Networks of Excellence

Purpose: The network of excellence is the instrument that is being designed to strengthen excellence on a particular research topic by networking together the critical mass of resources and expertise needed to provide European leadership and to be a world force in that topic. This expertise will be networked around a joint programme of activities aimed primarily at creating a durable integration of the research capacities of the network participants while, of course, at the same time advancing knowledge on the topic.

The network of excellence is therefore an instrument for strengthening excellence by tackling the fragmentation of European research, where the main deliverable should be a durable structuring and shaping of the way that research is carried out on the topic of the network. Of course, by investing money in partnerships of excellent teams, the networks can also be expected to generate new knowledge, though this is not directly their main purpose.

Furthermore, it is important that these networks do not act as “closed clubs” and strengthen excellence only within the network. Each network will, as a consequence, also be given a mission to spread excellence beyond the boundaries of its partnership. Training will be an essential component of this mission.

What constitutes a joint programme of activities? The joint programme of activities (JPA) is the collective means by which the participants aim to achieve the goals of the network. The JPA should consist of a coherent set of new or reoriented activities that the participants undertake jointly.

A joint programme of activity will have several components:

- first, a set of **integrating activities** aimed at structuring and shaping the way that the partners carry out research on the topic. This will certainly include the coordinated programming of the participants’ research activities in order to enhance complementarity and develop mutual specialisation. Mutual specialisation, of course, implies building on strengths (and shrinking weaknesses).

The integrating activities may also include the sharing of research facilities/tools/platforms, the joint management of the participants’ knowledge portfolio, staff mobility and exchanges, the relocation of staff, perhaps of whole teams and equipment, and the reinforcement of electronic communication networks to support interactive working between the teams involved;

- second, a programme of **jointly executed research** to support the network's goals, for example by developing new research tools and research platforms for common use or by generating new knowledge to fill gaps in or to extend the collective knowledge portfolio;
- third, a set of **activities designed to spread excellence**, the most important element of which will be a joint programme for training researchers and other key staff, since the sustainability of Europe's excellence in the topic will depend on a steady supply of skilled staff. Other activities to spread excellence may include dissemination and communication activities (including raising public awareness and understanding of science) and, more generally, networking activities to help transfer knowledge to teams external to the network.

All the network's activities should be carried out within a coherent management framework, since the activities within the JPA should be mutually reinforcing.

Scale of the critical mass: Each network of excellence is expected to have ambitious goals (particularly in terms of providing European leadership and being a world force on the topic). It must then assemble the critical mass of resources and expertise needed to achieve those goals.

The scale of the critical mass will vary from topic to topic. The larger networks can be expected to involve several hundreds of researchers. Of course, networks may be of a much more limited size, but the necessary ambition and critical mass must be there.

Duration of the Community support: The duration of the Community support is another important aspect of critical mass, since a network must be supported long enough for its integration to take on a lasting nature. Support, in many cases, may therefore be needed for five years and, if justified, for perhaps more. In no case, however, will support be granted for more than seven years.

Size of the partnership: There must be a minimum of three participants from three different Member States or Associated States, of which at least two should be Member States or Associated Candidate Countries. However, as an indication, there should generally not be less than six participants. A minimum number may be specified in the relevant call for proposals.

Expressions of interest: Calls for proposals may be preceded by invitations to submit expressions of interest to determine topics for the subsequent call for network proposals. This will help focus the calls for proposals, thereby containing over-subscription. It will also assist in proposal-making and partnership-building.

The first invitation to submit expressions of interest was published on 20 March 2002 with a deadline of 7 June 2002. The results of this exercise will be published on www.cordis.lu/fp6/eoi-instruments in September 2002.

Calls for proposals: Calls for proposals will be published in the Official Journal of the European Communities and widely disseminated by other means, especially on the Europa and Cordis websites.

Proposals themselves will be simplified, in particular to reflect the evolutionary nature of the networks. For example, proposals will contain an overall description of the network's activities for the full duration of the grant, but a detailed JPA will be requested only for its first 18 months.

Because of the importance of an institutional commitment from the participating organisations to a meaningful and durable integration of their research activities on the topic of the network, applicants may wish to include appropriate declarations of intent from their organisations (and perhaps when relevant from funding or other policy-making authorities).

Evaluation system: The evaluation will be based on the principles of peer review by independent experts. However, the system used for RTD projects in FP5 will need to be strengthened to reflect the more complex goals of the networks of excellence.

Possibilities for strengthening the peer review system include the more systematic use of remote assessment prior to panel meetings and hearings of applicants by the panel, in particular to allow the applicants to answer questions not covered in the proposal itself. A two-stage proposal submission (where only those applicants whose outline proposals pass the first stage will be invited to submit a full proposal) is also a possibility.

When considered necessary, proposals will also be subjected to an ethical review. It should be noted that any proposal contravening fundamental ethical principles will be automatically rejected.

Evaluation criteria: The following basic set of criteria is intended to be common to all priority themes for the evaluation of proposals for networks of excellence. These criteria will be detailed and complemented as necessary in the relevant calls for proposals.

- **Relevance to the objectives of the programme:** The extent to which:
 - the proposed network **addresses the scientific, technical, socio-economic and policy objectives** of the work programme in the areas open for the particular call.
- **Potential impact.** The extent to which:

- Europe has a **strategic need to strengthen S&T excellence on the topic** by means of a structuring and shaping of the way that research on the topic is carried out in Europe;
 - the goals of the network are, in that connection, **suitably ambitious**, particularly in terms of achieving European leadership and acting as a world force on the topic;
 - there is an effective plan for **spreading excellence**, exploiting results and disseminating knowledge to those outside the network;
 - the proposed approach is likely to have a **durable structuring impact** on European research.
- **Excellence of the participants.** The extent to which:
 - the participants are **currently conducting excellent research** relevant to the topic of the network or are capable of important contributions to the joint programme of activities;
 - the participants are **well suited to the tasks** assigned to them;
 - they have **collectively the necessary critical mass of expertise and resources** to carry out successfully the joint programme of activities.
 - **Degree of integration and the joint programme of activities.** The extent to which:
 - the expected **degree of integration** justifies supporting the proposal as a network of excellence;
 - the **joint programme of activities is sufficiently well-designed** to achieve that degree of integration;
 - the participating organisations have made a convincing **commitment towards a deep and durable integration**, continuing beyond the period of Community support.
 - **Organisation and management.** The extent to which:
 - the organisational structure of the network provides a **secure frame for any necessary structural decisions** to be taken;
 - the **management of the network** is demonstrably of high quality;
 - there is a well-considered plan for **promoting gender equality** in the network.

Financial regime: Since a network of excellence has to bring about a durable integration of the research capacities of its participants and that implies change, the financial support from the Community needs to be targeted at overcoming the barriers to that change. These barriers are predominantly organisational, cultural and human. As such, the financing needed to overcome them cannot be quantified in normal accounting terms.

For those reasons, a regime for financial support based on the concept of an incentive to integration has been developed. Such a regime will be built on the following principles:

- a “grant for integration”, as a fixed amount to support the JPA;
- to be calculated taking into account (a) the degree of integration proposed by the consortium, (b) the number of researchers that all participants intend to integrate, (c) the characteristics of the field of research concerned, and (d) the JPA;
- to be disbursed in annual instalments, with payment depending primarily on the network’s progress towards achieving a durable integration and on

condition that the costs incurred in implementing the JPA are greater than the grant itself.

The scale of a grant to a network must be sufficient to overcome the various barriers to integration on the one hand, while avoiding the risk of creating dependence on financial support from the Community on the other. Any such dependence would prejudice the durable nature of the integration, which is of course the Community's main purpose for supporting a network.

As the contract will not fix the distribution of the grant, either between the participants or between the activities of the JPA, the consortium will be free to distribute the grant as it wishes inside the network.

Building “the degree of integration” and “the JPA” into the selection and financing of networks: During the evaluation of proposals, only those proposals that reach a pre-determined threshold for the criterion that covers the “degree of integration and the joint programme of activities” will be considered for selection. This threshold will be set at a high level to ensure that only networks with the potential to deliver the degree of integration required from a network of excellence will be selected.

Furthermore, as already mentioned, the grant awarded to the network can be paid to the consortium only to the extent that the payments are less than the costs incurred by the consortium in implementing the JPA.

Building the number of researchers into the financing of networks: Each call for proposals will contain a table that converts the headcount of the number of researchers that the participants intend to integrate into an annual average grant for the network as a whole. When determining this conversion table, the Commission will ensure that the grants to networks will not exceed 25% of the value of the capacity and resources proposed for integration (when taking one network with another).

Building the characteristics of the field into the financing of networks: In order to take account of the characteristics of the field of research concerned, the table in each call for proposals that converts headcount into the annual average grant will allow for the characteristics of research in the field concerned. In that way, the grant to a network will be calculated to reflect the cost-intensiveness of research in each field.

Calculating the number of researchers: The “number of researchers that the participants intend to integrate” will be calculated on the following basis:

- by “researcher” is meant research staff with at least four years of research experience or those in possession of a doctoral degree;

- a “researcher” must be either an employee of a participant or working under the direct management authority of a participant in the frame of a formal agreement between the participant and that researcher’s employer;
- by “number of researchers” is meant a head-count of those “researchers” that (a) will constitute the research capacities of the participants within the frame of the network should the proposal be successful and that (b) are identifiable by name at the time of the deadline for the relevant call for proposals. This initial set of names must be auditable.

Illustrative calculation of the grant: By way of illustration, a call for proposals might contain a table such as the following to convert the overall number of researchers to be integrated, as defined above, into the average annual grant to a network:

50 researchers	€1 million/year
100 researchers	€2 million/year
150 researchers	€3 million/year
250 researchers	€4 million/year
500 researchers	€5 million/year
1000 researchers and above	€6 million/year

The grant for an intermediate number of researchers would be calculated by linear interpolation.

In this illustration, a network of 200 researchers being supported over 5 years would be granted a fixed amount totalling €17.5 million, which the network would eventually receive provided, of course, that the costs incurred by the consortium in implementing the JPA turn out to be greater than that amount.

In view of the importance of training within a network, a supplementary bonus scheme is being considered in relation to any pre-doctoral scholars engaged on research activities within the frame of the network. The scheme would encompass all such junior researchers, provided that they are enrolled on a recognised course of doctoral studies (and provided that they have less than four years research experience, since otherwise they would qualify to be within the headcount of “researchers” as earlier defined).

Disbursement of the grant: The schedule for the disbursement of the grant will be agreed with the consortium during contract negotiations. There will be some flexibility in the rate of annual payments both to enable the rhythm of disbursements to reflect the JPA’s needs for financial support and to enable the network to reduce disbursements towards the end of the project as a means of minimising the risk of creating dependence on support from the Community.

At the start of the contract, the Commission will make an advance payment for the first one-and-a-half years equivalent to 85% of its foreseen grant for that 18-month period. Then, at the end of the first 12 months, its foreseen grant for

those 12 months would be considered to be a full and final disbursement for the period, provided that the following conditions are fulfilled (subject of course to ex-post audits):

- that the network is making satisfactory progress towards achieving its agreed objectives, in particular the durable integration of the research capacities of the participants, as judged by the annual review arranged by the Commission services with the assistance of independent experts;
- that costs of at least the value of that year's disbursement were incurred in implementing the JPA. A statement to this effect will need to be certified by an independent auditor (or competent public official in the case of a public body or international organisation).

A supplementary advance for the following 18-month period would be paid once this process is complete and once the rolling detailed JPA for that period has been agreed. These subsequent advances could also be adjusted for any earlier underpayments compared with the originally foreseen rhythm of disbursements.

It must be emphasised that, although the grant to the network will have been calculated largely on the basis of a head-count of “researchers” in the participants at the time of the proposal deadline, the distribution of the grant between the participants is for the consortium to decide and would therefore be expected to reflect in some way the actual costs incurred by different participants in implementing the JPA.

Evolution of the joint programme of activities: At the start of the contract, the consortium will have agreed with the Commission an outline JPA for the full duration of the contract together with a detailed JPA for its first 18 months.

The outline JPA is not expected to change during the life of the contract. On the other hand, the detailed 18-month JPA will roll forward each year (subject, when considered necessary, to ethical review).

Evolution of the partnership: The consortium may itself decide to take in new participants as the network evolves, though without additional financing from the Community.

In addition, the Commission may decide to launch calls for proposals to enable existing networks of excellence to take in new participants that may have emerged since the initial proposal was made. The financial regime for adding new participants in this way will be specified in the relevant call for proposals.

Output monitoring by the Commission: Since, in effect, the networks have a results-based payments regime, the Commission will develop a robust scheme

of output monitoring to act as a sound basis for the disbursement of the grant. Such a scheme might consist of:

- **annual reviews:** coinciding with the annual cycle of reporting and planning, to act as a sound basis for the settlement of the previous year's disbursement and to justify the continuation of the grant;
- **an end-of-term review:** to assess the extent, depth and potential durability of the network's integration and its impact on strengthening and spreading scientific excellence in Europe.

The Commission will involve independent experts in throughout this monitoring scheme.

Nature of the annual review process: Each twelve months during the implementation of a network, the Commission will arrange an independent review of the progress towards its agreed objectives and of the plans for the next period. This review will be based on a published set of criteria that will include, in particular, a criterion on "the degree of integration and the joint programme of activities" similar to that used in evaluating the initial proposal. Any network failing to achieve the threshold for that criterion in the review (and any other criterion with a threshold) will be offered a choice between the following:

- having its contract terminated immediately by the Commission and, if necessary, a recovery order made for at least part of that year's grant;
- agreeing to implement the network for a further period of twelve months, though without any further advance payment by the Commission. If in the independent review at the end of this period the network reaches the threshold(s), the Commission will make good its missing contribution in full and the contract will continue as normal. If however the network again fails to reach the threshold(s), the Commission will immediately terminate the contract and, if necessary, make a recovery order.

It should be noted that, in the case of networks that are seriously underperforming, the Commission may exercise its right to terminate the contract on its own initiative at any time.

By these means, only those networks likely to deliver a high degree of integration through an appropriate joint programme of activities will (a) be selected and (b) continue to be supported for the full duration of the contract.

Measuring integration: The main factors that will need to be examined by those assessing progress towards integration in a network (and the quality of that integration) will include the following:

- the extent of mutual specialisation and mutual complementarity, particularly through the regular co-programming of the partners activities, through the building up of strengths and the shrinking of weaknesses, and perhaps through the relocation of resources;
- the sharing and development for common use of research infrastructures, equipment and research platforms;
- the regular joint execution of research projects;
- the pooling of the knowledge portfolio;
- joint programmes of training for researchers and other key staff;
- interactive working between the partners using electronic communication systems;
- a coherent management framework that encourages staff mobility, staff exchanges, the interoperability of data and other systems, common approaches to science and society issues, and gender equality in research.

Governance of the network: Because of the structuring nature of a network, the move towards mutual complementarity and the tendency therefore for the partners to become interdependent, each network must establish an effective system of governance that ensures the active engagement of its partner organisations at the policy-making level.

One way of achieving that would be for each network to establish a “governing board”, consisting of high-level representatives of the partner organisations. The main role of such a board would be to oversee the integration of the partners’ activities.

The network may also wish to establish a “scientific council”, involving external experts, to advise it on the nature of its joint programme of activities in relation to its dual mission of strengthening and spreading excellence in Europe.

Article 169

“Article 169” is a reference to the article in the Treaty that enables the Community to participate in research programmes undertaken jointly by several Member States, including participation in the structures created for the execution of those programmes. States associated to the Framework Programme may also take part in these arrangements.

Article 169 is not strictly a “new” instrument in that it was available to be used in previous framework programmes. However, to date, no use has been made of this article.

In terms of the European Research Area and, in particular, in terms of the need to help integrate and structure research in Europe, Article 169 is potentially a most powerful instrument. For example, whereas integrated projects and networks of excellence tend to integrate the activities of individual performers of research, Article 169 arrangements can integrate the activities of whole national programmes on a particular topic.

Each possible Article 169 arrangement requires a co-initiative between a number of Member States, perhaps represented by their national programmes, and the Commission in order to generate a proposal. Formally, it is then only the Commission that can submit the proposal to co-decision by the Council of Ministers and the European Parliament. The decision-making procedure for each Article 169 arrangement is thus the same as it is for the Framework Programme itself.

The Commission had suggested to replace this heavy and lengthy procedure, where each Article 169 arrangement will need its own co-decision, by a single framework decision of the Council and Parliament that would have enabled individual Article 169 arrangements to be decided at the level of the Commission. This suggestion was not retained.

It has become clear during the run-up to FP6 that, for these reasons, it may be difficult to use Article 169 in large numbers during this framework programme and that its use will be restricted to research initiatives that are beyond the scope of the integrated projects or networks of excellence.

The Council has however invited the Commission to present a small number of “pilot” Article 169 proposals. The Commission intends to present a proposal for the European-Developing Countries Clinical Trial Partnership in Summer 2002.

The “traditional” instruments

Specific targeted research projects

Specific targeted research projects are an evolved form of the shared-cost RTD projects and demonstration projects used in FP5.

Purpose: These projects are intended to aim at improving European competitiveness or meeting the needs of society or Community policies. They should be sharply focused and will take either of the following two forms, or a combination of the two:

- a research and technological development project designed to gain new knowledge, either to improve or develop new products, processes or services or to meet other needs of society and Community policies;
- a demonstration project designed to prove the viability of new technologies offering potential economic advantage but which cannot be commercialised directly.

Scale of activities: The value of the activities carried out within a project may range up to several millions of euros. A project may therefore involve up to several tens of researcher-years.

Duration: Typically, the duration will be 2 to 3 years. Only exceptionally and in duly justified cases, will the duration exceed 3 years.

Size of the consortium: The number of participants can not be less than three independent legal entities established in three different Member States or Associated States, of which at least two shall be Member States or Associated candidate countries. The call for proposals may specify a higher minimum number of participants.

Eligible costs and cost models: The definition of eligible costs and the choice of cost models are the same as those described for integrated projects.

Rates of Community support: For full cost participants, the maximum rates of Community contribution to the costs a participant will be:

- 50% for research and technological development and for innovation-related activities;
- 35% for a demonstration project, or for the demonstration component of a combined project;
- 100% of the costs of any audit certificates of the participants required by the contract.

Additional cost participants will be supported at up to 100% of additional costs for all components of the project.

Coordination actions

Coordination actions are a continuation of the concerted actions/thematic networks used in FP5, in a reinforced form.

Purpose: Coordination actions are intended to promote and support the networking and coordination of research and innovation activities.

They will cover the definition, organisation and management of joint or common initiatives as well as activities such as the organisation of conferences, meetings, the performance of studies, exchanges of personnel, the exchange and dissemination of good practices, setting up common information systems and expert groups.

Community support: The activities of a coordination action will be supported through a grant to the budget of up to 100% of the budget.

Specific support actions

The specific support actions for use in the priority themes are essentially a continuation of the accompanying measures used in FP5.

Purpose: They are intended to support the implementation of the Framework Programme and may also be used to help in preparations for future Community research policy activities. Within the priority themes, specific support actions will support, for example, conferences, seminars, studies and analyses, working groups and expert groups, operational support and dissemination, information and communication activities, or a combination of these as appropriate.

Specific support actions will also be implemented to stimulate, encourage and facilitate the participation of SMEs, small research teams, newly developed and remote research centres, as well as organisations from the candidate countries in the activities of the priority thematic areas, in particular in the networks of excellence and the integrated projects. The implementation of such actions will rely on the information and assistance structures, including the network of national contact points, established by the Member States and the associated countries and will aim at ensuring a smooth transition from the Fifth to the Sixth Framework Programme.

Community support: The activities of a specific support action will be supported through a grant to the budget of up to 100% of the budget or, if necessary, as a lump sum.

Classification of the instruments

It is the Commission's intention to design a range of well-differentiated instruments, each with its own distinct role to play in implementing the priority themes. The following classification is meant to illustrate that:

Integrated projects

- **Main purpose:** to support the objective-driven research needed to generate the knowledge required to implement the priority themes;
- **Primary deliverable:** new knowledge;
- **Other deliverables:** because they mobilise the critical mass of expertise needed to achieve ambitious objectives, integrated projects can also be expected to have a structuring effect on the fabric of European research;
- **Scale of effort mobilised:** medium to high;
- **Community contribution:** from several millions to several tens of millions of euros;
- **Financial regime:** grant to the budget, paid as a contribution to actual costs.

Networks of excellence

- **Main purpose:** to address the fragmentation of European research;
- **Primary deliverable:** the structuring and shaping of the way research is carried out in Europe on a particular topic in order to strengthen excellence in that topic;
- **Other deliverables:** because they support the work of excellent research teams, networks of excellence will also generate new knowledge;
- **Scale of effort mobilised:** medium to high;
- **Community contribution:** from several millions to some tens of millions of euros;
- **Financial regime:** a fixed grant for integration, disbursed in annual instalments on the basis of progress towards achieving a lasting integration.

Article 169

- **Purpose:** to support research programmes undertaken jointly by several Member States and Associated States;
- **Scale of effort mobilised:** high. Because of the heaviness of the procedures envisaged, Article 169 arrangements will be justified only for large-scale initiatives that are beyond the scope of IPs and NoEs;
- **Community contribution:** from some tens of millions of euros upwards.

Specific targeted research projects

- **Purpose:** to support research, technological development and demonstration activities of a more limited scope and ambition than required by the integrated projects;
- **Deliverable:** new knowledge;
- **Scale of effort mobilised:** low-medium;
- **Community contribution:** from several hundreds of thousands of euros to a few millions of euros;
- **Financial regime:** grant to the budget, paid as a contribution to actual costs.

Coordination actions

- **Purpose:** to promote and support the networking and coordination of research and innovation activities;
- **Community contribution:** up to several hundreds of thousands of euros (and in rare cases up to a few millions of euros);
- **Financial regime:** grant to the budget, paid as a contribution to actual costs.

Specific support actions

- **Purpose:** to support the implementation of the Framework Programme;
- **Community contribution:** up to several hundreds of thousands of euros (and in rare cases up to a few millions of euros);
- **Financial regime:** grant to the budget, paid as a contribution to actual costs or, if necessary, as a lump sum.

Instruments to be used in priority

With such a wide range of distinct instruments available, calls for proposals will need to identify for each theme which instruments are to be used, which have priority and for what.

It has been agreed that, from the outset, integrated projects and networks of excellence will be the priority means of implementing those themes where it is already deemed appropriate. However, all themes will, at least initially, keep open the use of specific targeted research projects and coordination actions as a transitional measure.

Then in 2004, once there is practical experience of using the instruments, the Commission will organise an independent evaluation of their use. The result of the evaluation may lead to a subsequent adjustment in their relative weightings.