

SUPPORT FOR RESEARCH INFRASTRUCTURES IN THE
FP6 SPECIFIC PROGRAMME ON
"STRUCTURING THE EUROPEAN RESEARCH AREA"

WORKING DOCUMENT

This document is being widely circulated in order to generate an open discussion on the provisions for supporting research infrastructures in the Specific Programme on *Structuring the European Research Area* of the Sixth Framework Programme (2002-2006)

It is available on the DG Research web-site:

<http://europa.eu.int/comm/research/nfp/infrastructures.html>

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Standard Disclaimer

This document expresses solely the current views of unit RTD-B.4 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.

This document provides a general description of the action in support of research infrastructures in the Specific Programme on ***Structuring the European Research Area***, itself part of the Sixth Framework Programme for Community R&D, 2002-2006 (FP6). It also describes how this action could be implemented.

It should be noted, however, that the principles underpinning the implementation of the different schemes available to this action might still be modified in the light of the ongoing legislative process concerning the Framework Programme and its Rules of Participation. This document will therefore be regularly updated.

1. INTRODUCTION AND OBJECTIVES

The ability of Europe's research teams to remain at the forefront of their field of science and technology depends on their being supported by state-of-the-art infrastructures. Recognising this dependence, the main objective of the Research Infrastructures action in FP6 is to ensure that Europe's researchers may avail themselves of research infrastructures of the highest quality and performance in Europe. Specifically the action will aim at:

- ensuring that European researchers may have access to the infrastructures they require to conduct their research, irrespective of the location of the infrastructure;
- promoting the optimum development of new and upgraded research infrastructures of European significance to reflect the needs of the research community.

In this context, the term “research infrastructures” refers to facilities and resources that provide essential services to the research community in both academic and industrial domains. Research infrastructures may be “single-sited” (single resource at a single location), “distributed” (a network of distributed resources, including infrastructures based on Grid-type architectures), or “virtual” (the service being provided electronically). Examples include singular large-scale research installations, collections, special habitats, libraries, data-bases, integrated arrays of small research installations, networks of computing facilities, as well as infrastructural centres of competence which provide a service for the wider research community based on an assembly of techniques and know-how.

Support for research infrastructures in the present action is open to infrastructures throughout the fields of science and technology in a “bottom-up” manner, i.e. without any preference for one field over another. Likewise, access to supported infrastructures will be available on a “bottom-up” basis, i.e. independently of the specific research priorities of potential users. In this way, the present action is complementary to the forms of support available under the thematic priorities of the Framework Programme (e.g. *Integrated Projects* and *Networks of Excellence*¹).

¹ Working documents describing these two instruments are available on the DG Research web site, at: <http://europa.eu.int/comm/research/nfp/networks-ip.html>.

2. SUPPORT S CHEMES

Five schemes for support will be implemented: 1. *Transnational Access*, 2. *Integrated Infrastructure Initiatives*, 3. *Communication Network Development*, 4. *Design Studies*, and 5. *Construction of New Infrastructures*.

Other measures will also be supported under this action in order to promote a more co-ordinated approach to research infrastructures in Europe, within the general context of realising the *European Research Area*.

2.1. TRANSNATIONAL ACCESS

2.1.1 Characteristics

The objective of this scheme is to sponsor new opportunities for research teams (including individual researchers) to obtain access to individual major research infrastructures they require for their work. Such infrastructures must be rare in Europe, must provide a world-class service essential for the conduct of top quality research, and must have investment or operating costs that are relatively high in relation to those costs in their particular field. The infrastructures must also be able to provide adequate scientific, technical and logistic support to external, particularly first-time, users.

In this scheme, access to a given infrastructure is to be granted following a peer reviewed selection of potential users. Access may be made available to external users, either in person ("hands-on") or by suitable electronic communications. It may also take the form of provision of remote scientific services, such as the provision of reference materials or samples, the performance of sample analysis, of specific measurements, of experiment-based consultancies. Access based on free communications, for instance access to databases via Internet, is excluded from this scheme to the extent that such access is independent of any peer-reviewed selection.

2.1.2 Community support

Community support is intended to cover up to 100% of the costs of providing access to an infrastructure for research teams working in Member States and Associated States other than the state where the operator of the infrastructure is located. Access costs will normally be calculated on the basis of the User Fee system, which includes a composite rate (*Unit Cost*) to be negotiated with each infrastructure operator and to be derived from its average operating costs. Alternatively, access costs may be calculated on the basis of the actual additional costs connected with making the access to the infrastructure available to the research teams. Community support will also cover up to 100% of the travel and subsistence costs related to visits of those research teams, where visits are necessary.

Community support will exclude all contributions to the capital costs of the infrastructure. The level of community support for an infrastructure is expected to lie within a range of EUR 100,000-750,000 per year. The scheme will not finance more than 20% of the annual operating costs of an infrastructure, so as to avoid any undue

dependence on the scheme in the running of the infrastructure itself. The duration of support will be typically of 3 to 4 years.

2.1.3 Participants

Participants in this scheme will be legal entities, situated in the Member States or Associated States, which operate major research infrastructures. Normally, infrastructures will be located on a single site. A geographically dispersed group of smaller complementary infrastructures could also be considered for support, provided they offer a coherent service under a unified management structure. In this case however, applicants should consider whether an Integrated Infrastructure Initiative (see section 2.2) might not be a more appropriate mode of support.

International organisations of European interest operating major research infrastructures (e.g. CERN, EMBL, ESA, ESO, ESRF, ILL) may participate with financing from this scheme, in accordance with the conditions specified in the “Rules of Participation” of FP6. Community support would be limited to access costs that would not normally be covered by the organisation’s own financial resources.

2.1.4 Publication of opportunities for potential users

The list of infrastructures selected will be published on the Internet home page of the Research Infrastructures action, in order to inform potential users, i.e. researchers who wish to have access to one of these infrastructures in the context of this action, that they should address themselves directly to the infrastructure operator concerned. Selected infrastructure operators will also be required to make regular publications, e.g. on the Internet, describing the opportunities available.

The choice of users will be made by each infrastructure operator by a peer review on the basis of the scientific/technical merit of proposals from prospective users, while giving priority to first-time users and to users in countries without a similar infrastructure.

User groups from the same country where the operator of the infrastructure is located will be excluded from access, meaning that the leader of a selected user group and the majority of the users in the group must come from a Member State or an Associated State other than the state where the operator of the infrastructure is located. Where different facilities are offered simultaneously under a unified management structure (e.g. a group of facilities on a single site, which are operated by different national organisations but managed by one of them for the purpose of the contract), this eligibility condition for user groups will be applied separately on each facility.

Users will be expected to publish their results within a reasonable time in the open literature, according to guidelines established by the Commission services. As a general rule, users conducting proprietary research will not be supported under this scheme. An exception will, however, be made in the case of SMEs who wish to use a particular infrastructure for the first time.

2.1.5 Evaluation Criteria

The selection of proposals to be financed, and the level of support to be awarded, will be established on the basis of the following criteria:

- *Is the infrastructure of European interest?* The quality of the infrastructure, in particular whether the infrastructure is offering access to state-of-the-art equipment, facilities or services;
- *Does the infrastructure enable users to perform high quality research?* The quality of the research that external users are able to carry out thanks to the access provided by the infrastructure and, where relevant, the quality of the research environment;
- *Is the support to users of the highest standard?* The quality of the scientific, technical and logistic support provided for these external users, including, where relevant, the quality of plans to use and disseminate knowledge;
- *Is there a widespread interest to use the infrastructure?* The scale of interest being demonstrated in using the infrastructure by new transnational users coming from countries where no similar infrastructure exists;
- *Does the infrastructure offer value-for-money?* The cost-effectiveness of Community support in relation to the access to be provided by the infrastructure.

For those infrastructures already involved in contracts for similar activities carried out under earlier Framework Programmes, the selection of proposals and the level of finance awarded will also take account of any technical reviews or ex-post evaluations conducted under those Programmes.

2.2. INTEGRATED INFRASTRUCTURE INITIATIVES

2.2.1 Characteristics

The objective of an Integrated Infrastructure Initiative (in short: *I3*) is to support the integrated provision of infrastructure related services to the research community at a European level. It is also intended to have a structuring effect on the fabric of European research by promoting a coherent use and development of infrastructures in the fields it covers. To that end, the main characteristic of an *I3* will be its capacity to mobilise a large number of stakeholders in a given class of infrastructure.

The ambition of an *I3* should be to induce a long-term integrating effect on the way research infrastructures operate, evolve and interact with similar infrastructures and with their users, thereby contributing to structure the European Research Area.

- Operators of similar infrastructures in a given class should for instance find it easier, through an *I3*, to develop synergies and complementary capabilities in such a way as to offer an improved access to researchers.
- Likewise, infrastructure operators and users should be in a better position to tackle new or unexpected developments in their field, for instance in relation to state-of-the-art instrumentation, with a more co-ordinated approach.
- More generally, a closer interaction between a large number of scientists active in and around a number of infrastructures will facilitate cross-disciplinary fertilisations and a wider sharing of knowledge and related technologies across fields and between academia and industry.

In general, each *I3* will be concerned with a specific class of research infrastructures of Europe-wide interest. However, *I3s* that include research infrastructures from different classes, with a view to generate new interdisciplinary fields or to encourage interaction between different research communities, will also be supported provided they can demonstrate a wide European interest.

2.2.2. Activities

Each *I3* shall combine, within a single contract, several activities essential to reinforce research infrastructures and to provide an integrated service at the European level. More specifically, each *I3* will cover: (i) networking activities (including consortium management); (ii) provision of access to transnational users; and (iii) joint research activities. The latter will in particular aim at raising the level of the performance of the infrastructures concerned. The first of these categories is mandatory in an *I3* and underpins the other two, which are optional.

- i. *Networking activities.* The central component of an *I3* will be a networking action, which will help catalyse the mutual co-ordination and the pooling of resources among participants, with the aim of fostering a culture of co-operation between them. This should serve, e.g., to generate critical mass by co-ordinating research into new instrumentation, new methods, concepts and technologies.

Networking activities will also aim at spreading good practice, promoting common protocols and interoperability, encouraging complementarity, and stimulating the creation of “distributed” and “virtual” large facilities. Activities in this context will include, where relevant, publicity concerning new opportunities for access, dissemination of knowledge to potential users, including industry (e.g. SMEs), foresight studies, etc.

This networking action will also support the co-ordinated implementation and management of the whole *I3*. This internal management will include, where appropriate, monitoring the impact of the various activities of the *I3* (e.g. through statistics on transnational users and related projects).

- ii. *Transnational access.* The activities of an *I3* may cover the support of transnational access to one or more infrastructures among those operated by participants. The characteristics of this type of activity should be similar to those outlined for the scheme in support of individual Transnational Access (as described in section 2.1), though with a more collective and co-ordinated approach to the provision of access to different infrastructures. In this context, a group of smaller complementary infrastructures located in different countries and wishing to act collectively as a major research infrastructure may offer a unified service under the coherent management structure of the *I3*.

As in the individual scheme, and subject to the same type of peer reviewed selection of potential users, access will typically imply research teams visiting an infrastructure in person or by electronic means. Likewise, it may include, where appropriate, the provision of remote scientific services (e.g. provision of reference materials or samples, performance of sample analysis, etc.).

- iii. *Joint research activities.* *I3s* may support the implementation of one or more joint research projects aimed at improving, in quality or quantity, the service provided by infrastructures in a particular field in Europe (e.g. joint research into higher performance techniques, instrumentation or technologies). Joint research projects should be widely applicable to the different infrastructures in the given class covered by an *I3*.

Research projects should be innovative and explore new fundamental technologies or techniques underpinning the use of infrastructures in a given class (e.g. development of new generation equipment, testing of new experimental techniques or methodologies). Attention should be given to potential exploitation of the results, e.g. participation of SMEs.

The activities of an *I3* will exclude design studies or construction of new infrastructures, which can only be financed through the corresponding schemes (see sections 2.4 and 2.5).

2.2.3. Participants

Participants in this scheme will be operators of research infrastructures, research teams in universities and other public research organisations as well as in industry, and equipment manufacturers (e.g. SMEs). *I3s* will contain at least two independent legal entities established in two different Member States or Associated States, of which at least one shall be a Member State or an Associated candidate country. At least one of these legal entities must operate a research infrastructure. Likewise, each of the joint research projects within an *I3* will be undertaken by a minimum of two different participants, which must be located in at least two different countries.

As stated earlier, the main characteristic of an *I3* will be its capacity to mobilise a large number of stakeholders in a given class of infrastructure. On the basis of the experience obtained in previous Framework Programmes, it is possible to anticipate that the number of infrastructures in an *I3* will typically be around 5-10 though, in certain fields, it could be larger. Likewise, the total number of participants, including other stakeholders, will naturally tend to be much larger than the above minimum thresholds.

Not every participant needs to have an active role in each of the activities of an *I3*. Different activities will be implemented according to a variable geometry approach, although of course under a unified management.

In addition to entities from Member States and Associated States, organisations from third countries may participate in an *I3*, with or without Community support, in accordance with the conditions specified in the “Rules for Participation” of FP6. As far as access is concerned, however, the conditions will be the same as those outlined for the individual Transnational Access scheme (see § 2.1.3).

2.2.4. Proposals

Proposals submitted for evaluation must contain a draft *Project Programme* for the *I3*, outlining, for each type of activity being proposed:

- (a) the *objectives* and their intended impact (e.g. in terms of improved co-ordination, increased access, better instrumentation, etc.);
- (b) a multi-annual *execution plan*, with the corresponding milestones and deliverables, and including a detailed plan for the first 18 months.

The proposal will also outline how the various activities will be integrated with one another, anticipating the intended overall structuring and integrating effect of the *I3* on the class of infrastructure under consideration.

The proposal will specify, for each activity, an indicative distribution of tasks among the different participants, identifying for each of them their role and resources to be contributed, and indicating, where relevant, the extent and depth of the co-operation effort pursued.

From the financial point of view, proposals will identify and clearly justify, for each type of activity, the overall budget with its indicative distribution among the various tasks and the relevant partners, and the level of Community contribution requested. Where relevant, the proposal will also estimate the resources dedicated by the members to the implementation of the *I3*.

2.2.5. Evaluation Criteria

The selection of proposals to be selected, and the level of support, will be made on the basis of a wide range of criteria. Some of these criteria are related to the overall and fundamental objectives of an *I3*, whereas others are specific to each of the types of activity proposed.

Fundamental objectives of the I3:

- *Is the I3 providing an integrated service of Europe-wide relevance in its field?* Relevance of the proposed programme of activities to the objectives of the scheme to raise the level of performance of the infrastructures concerned and to support the integrated provision of services to the corresponding research community(ies);
- *What is the structuring effect of the I3 and is it sustainable in the long-term?* Ability to successfully carry out the *I3*, assessed in terms of the collaborative structures put in place as a result of the *I3* and of the perspectives for their long-term sustainability.

Proposed activities of the I3:

(i) *Networking activities* (mandatory):

- *Will there be an impact on the performance of infrastructures?* The potential of the networking activities to enhance the services provided by research infrastructures in the *I3* under consideration, including the overall coherence of the proposed activities and the quality of plans for the use and dissemination of the knowledge;

- *Is there a proper management structure?* Ability to successfully manage the contribution of all participants and their utilisation of Community support, assessed in terms of resources, competence and organisation of the overall consortium management;
- *Are the costs justified?* Clear description and justification of the corresponding budget, divided by tasks and by participants.

(ii) *Transnational access* (optional)

- The criteria to be applied for transnational access activities will be the same as the criteria for individual Transnational Access (see section 2.1) with the only difference, here, that the emphasis is on a more collective and co-ordinated approach to the provision of access to different infrastructures.

(iii) *Joint research projects* (optional):

- *Is the proposed project technologically innovative?* Scientific originality of proposed projects and capacity to reach new S/T capabilities that do not exist yet in Europe;
- *Is the project of interest to Europe's research infrastructures?* Potential impact on the performance of related infrastructures in Europe and on the quantity or quality of their utilisation, as judged also by the involvement of infrastructures that are potential beneficiaries;
- *Is the work plan and methodology adequate?* Ability of the proposed research approach and technical programme to adequately support the stated objectives, in a clear and justified way;
- *Is there a good project management and are the partners competent?* Competence and capacity of the project management and of each partner for the intended work, including, where relevant, in terms of plans to use and disseminate knowledge;
- *Are the costs justified?* Clear description and justification of the corresponding budget, divided by tasks and by participants.

2.2.6 Contract negotiation

Following the evaluation, a contract will be negotiated with the Commission. Based on the evaluation, the Commission might decide to accept or reject parts of the proposed activities. The networking element of the *I3* will be the underlying element of the *I3*, integrating and effectively stitching together its different components through appropriate co-ordinating and management activities.

The contract will include a *Project Programme*, outlining, for each type of activity:

- (a) the overall *objectives*, which the *I3* is expected to reach;
- (b) a multi-annual *execution plan* with the distribution of tasks among the different participants, including a detailed plan for the first 18 months of implementation, with the corresponding milestones and specific deliverables.

Likewise the contract will specify, for each of the three types of activity, the overall budget and the financial regime of Community contribution (see § 2.2.8.).

Clearly, the objectives, execution plan and related milestones and deliverables will be expressed in different ways in the context of the different activities:

- i. The objectives of the *networking activities* will be expressed in terms of, e.g. a better S/T co-operation among participants, better inter-operability of facilities, improved inter-comparability of results, better connectivity. Moreover, the objectives will include an effective mode of operation for the *I3* as a whole, in particular in terms of its overall management.
- ii. The objectives for *transnational access* will be expressed in terms of providing adequate access to a number of infrastructures (with an indication of their respective Unit Costs) and of the minimum overall amount of access to be provided. The corresponding execution plan will contain a distribution of access to be provided by the participating infrastructures (using the same units, or at least comparable units).
- iii. The objective of a *joint research project* will be expressed in terms of, e.g. instrumentation development or other technical achievements. Within such objectives, the execution plan will typically indicate a series of tasks and, where appropriate, a number of options that may be taken on the basis of results and of other unexpected S/T developments. Specific deliverables will take the form of reports, publications, designs, prototypes, etc., as relevant.

2.2.7. Illustrative financial regime

The Community financial contribution to an *I3* may represent an amount of up to several million of Euro per year. Smaller amounts can be foreseen, however, in the case where the participants wish to limit their activities to a simple networking dimension. Similarly, the duration of contracts will in general be for a period of four to five years. This should ensure a bridge to the following Framework Programme and hence the appropriate continuity of service to the research community, who are the ultimate beneficiaries of the scheme. Contracts for a shorter duration, though, can be contemplated in appropriate circumstances.

A contract will be signed between the Commission and the participants implementing the *I3*. It will specify the level of funding to each activity of the *I3*, as a grant to the corresponding budget. In particular:

- i. *Networking activities*, will be supported to a maximum of 100 % of the corresponding budget. In general, these costs will be the same as for the *Co-ordination Actions* of FP6. Management costs, however, may cover the same management costs of the *Integrated Projects* of FP6. In particular they will include, where necessary, the costs related to launch calls, as described in the next section on implementation.
- ii. *Transnational access* to one or more of the participating infrastructures will be supported to a maximum of 100 % of the corresponding budget. It will follow the same costs outlined for individual Transnational Access contracts (see section 2.1).
- iii. *Joint research activities* will be supported to a maximum of 50% of the budget of each project, and may be progressively lower the nearer the project is to the

market place. The costs for joint research projects will be the same as for *Specific Targeted Research Projects* of FP6.

In all three types of activity, specific legal entities, particularly public bodies, may receive funding of up to 100% of their marginal/additional costs. Community funding for an *I3* will exclude all contributions to capital costs.

2.2.8 Implementation

In order to ensure efficient operations within the implementation of the contract, the participants will have a degree of flexibility and autonomy when executing their work plan:

- annual review and update (after the first 12 months) of the execution plan and of the relevant milestones and deliverables, taking into account the progress of the research, scientific developments, and other relevant factors;
- flexibility to modify the allocation of the Community financial contribution among partners, where appropriate and compatible with the objectives of each type of activity;
- autonomy regarding the internal organisation and management of the *I3* and the initial partnership.

In particular, under certain conditions and subject to the agreement of the Commission, the partnership of an *I3* may evolve as new participants join the *I3* in accordance with their interests and the objectives of the consortium. Examples of such partnership evolution include cases where one of the original partners needs to withdraw and be replaced, or where new scientific developments require additional expertise not originally present within the consortium. Except in the case of changes in the contract leading to a modification of the Community financial contribution, which require the Commission to publish a new Call, the consortium may itself recruit new partners. Procedures for recruiting new partners will be specified in the model contract.

As a necessary complement to the increased flexibility and autonomy enjoyed by *I3*, participants will bear joint and several liability for the technical and financial execution of the project and the use made of the Community financial support. Such arrangements will exclude financial responsibility for that part of Community funding allocated to participants who are public bodies and cannot for legal reasons be held jointly and severally liable.

At the start of the contract, the Commission will pay the participant designated in the contract an advance equivalent to 85 % of the foreseen contribution for the first 18 months of the contract, based on the approved financial plan. The period covered by the advance may be reduced for contracts with duration of less than three years.

After each 12-month period, the contractor(s) will submit to the Commission:

- a detailed execution plan for the coming 18 months with milestones and specific deliverables, if necessary including the re-orientation of certain existing tasks to be carried out by the participants and the launching of new tasks in the context of the overall objectives (which can not change);
- a revised budget for the coming period, broken down by task.

At the same time, the contractor(s) will also submit to the Commission:

- an activity report for the previous 12 months, describing the tasks carried out by the participants and identifying the results achieved;
- a financial report establishing the total cost for that period, broken down by task and certified by the participants' own external auditors or, in the case of public organisations, a competent public officer.

After approving the periodic reporting documents mentioned above, the Commission will adjust the payment of the advance for the following 18-month period. The Commission will then also settle in full its contribution for the previous twelve months.

2.3. COMMUNICATION NETWORK DEVELOPMENT

The objective of this scheme in support of existing research infrastructures is to create, in conjunction with the priority thematic research area on Information Society Technologies (IST), a denser network between related initiatives, in particular by establishing a high-capacity and high-speed communications network for all researchers in Europe (GEANT) and specific high performance Grids and test-beds (GRIDs), as well as electronic publishing services.

A budget of up to EUR 200 million has been earmarked out of the total available for support of research infrastructures (plus a further EUR 100 million from the priority thematic area on IST), for the further development of GEANT and GRIDs. Details of this scheme and of related calls are to be provided in a separate document².

2.4. DESIGN STUDIES

2.4.1. Characteristics

The objective of this scheme is to contribute to feasibility studies and technical preparatory work concerning new infrastructures of European significance, which may be undertaken by one or a number of national or international authorities. Studies related to future facilities of world-wide relevance not existing in Europe, but to which European organisations intend to participate are included. The upgrading of existing infrastructures may also be considered, when the end result is intended to be equivalent to, or be capable of replacing, a new infrastructure.

- *Feasibility studies* will aim at laying the conceptual foundations of a potential new or enhanced infrastructure. This could include the basic feasibility study of a specific new facility or in exploring a new fundamental technology or technique underpinning a whole new concept. Alternatively, a feasibility study could cover the detailed engineering design of a proposed infrastructure, in particular in relation to its most technologically advanced aspects (i.e. excluding the detailed design of standard elements of the new infrastructure).

² See the relevant web pages of the IST thematic area on Internet (<http://www.cordis.lu/ist/>).

- *Technical preparatory work* will cover the development and testing of components, subsystems, materials and/or techniques that are critical for the future development of a new or enhanced infrastructure. Support will however not be provided for preparatory work based on existing or proven techniques or technologies, nor when it aims at reproducing available components or materials.

Both the feasibility studies and technical preparatory work should endeavour to take into account the needs of potential users of these infrastructures. They should also systematically explore also at the regional and transregional impact of the proposed infrastructure, as well as the possibilities of future financial contributions from other European sources, in particular the European Investment Bank (EIB) and the Structural Funds.

2.4.2. Participants

Design studies should guarantee a level of European participation and interest beyond purely national or bilateral co-operations. Proposals submitted by a small number of participants (e.g. a proposal involving one national, or international, organisation), may however be considered for support provided they are duly justified by a clear European interest of the proposed infrastructure. Such interest would normally be assessed in terms of the needs of potential users within a Europe-wide context.

In addition to entities from Member States or from Associated States, organisations from third countries may participate, with or without Community support, in accordance with the conditions specified in the “Rules for Participation” of FP6. Such extended partnerships would be particularly suited to design studies related to future facilities of world-wide relevance, or when initiatives to design similar infrastructures exist also outside Europe, with which useful synergies might be established.

2.4.3. Evaluation criteria

Proposals for a design study will be evaluated on the basis of the following criteria:

- *Is the infrastructure of European interest?* European significance and interest of the proposed infrastructure, in particular in terms of the needs of potential users.
- *Would it advance the state-of-the-art in its field?* Scientific and technical originality and innovative character of the proposed infrastructure.
- *Is the design study necessary?* Justification of the scientific or technological need for the proposed feasibility study or technical preparatory work.
- *Is the design study scientifically well organised?* Scientific and technological structure and methodology of the proposed study or work.
- *Is the study going to properly address the funding and socio-economic dimension of the infrastructure?* Capacity of the proposed study or work to explore the funding and, where appropriate, the legal, regional and environmental dimensions of the proposed infrastructure.
- *Is the design study well managed?* Management of the proposed study or work and competence of the partners, including, where relevant, in terms of plans to use and disseminate knowledge.
- *Are the costs of the study justified?* Justification of financing requested for the proposed study or work.

2.4.4. Community support

The Community financial contribution to a design study is expected to be in the range of EUR 1-10 million. Design studies will typically have duration of two to four years. A longer duration could exceptionally be accepted if duly justified in terms of achieving the objectives of the study.

Community support will take the form of a grant to the budget of the study, paid as a contribution to actual costs at the maximum rate of 50%. The financial regime for design studies will be broadly similar to that for a *Specific Targeted Research Project* of FP6. Specific legal entities, particularly public bodies, may receive funding of up to 100% of their marginal/additional costs.

Contributions to capital investments will be excluded as they can only be provided through the scheme to support the construction of new infrastructures (see section 2.5).

2.5. CONSTRUCTION OF NEW INFRASTRUCTURES

2.5.1. Characteristics

This scheme may provide limited support aimed at optimising the European nature of key new infrastructures of Europe-wide interest. Support may also be granted for a major enhancement or upgrading of existing infrastructures, in particular where this would represent a possible alternative to the construction of a new infrastructure. The scheme may also contribute, where appropriate, to the construction of an infrastructure of world-wide relevance not existing in Europe, provided that organisations established in the Member States or Associated States are active participants and to the extent that a clear European interest exists in the use of that infrastructure.

The contribution from the Community should serve to enhance and optimise the European added value of the whole infrastructure. Such added value should be demonstrated in terms of an improved attractiveness for, and/or improved services to, the research community in Europe (e.g. in terms of a wider accessibility of the proposed infrastructure, of a more advanced technology, of a more flexible adaptability to interdisciplinary studies, of a better connectivity to the research community, etc.).

Community support, moreover, shall only apply to those new (or enhanced) infrastructures where a decision to start constructions has already been firmly established by national or other relevant authorities. Construction of infrastructures where decisions have not been taken yet or where the relevant financial plan is still tentative, will not be supported. In those cases, Community funding may be available only for the support of design studies (see section 2.4).

2.5.2. Participants

A proposed project will guarantee a level of European participation and interest beyond purely national or bilateral co-operations. Proposals submitted by a small

number of participants (e.g. a proposal involving one national, or international, organisation), may however be considered for support provided they are duly justified by a clear European interest of the proposed infrastructure. Such interest would normally be assessed in terms of the needs of potential users within a Europe-wide context.

In addition to entities from Member States or from Associated States, organisations from third countries may participate, with or without Community support, in accordance with the conditions specified in the “Rules for Participation” of FP6. Such extended partnerships would be particularly suited to the construction of future facilities of world-wide relevance, or when initiatives to construct similar infrastructures exist also outside Europe, with which useful synergies might be established.

2.5.3. Evaluation Criteria

Proposals to support the construction of new or enhanced infrastructures will be evaluated on the basis of the following criteria:

- *Is the infrastructure of European interest?* European significance and interest of the proposed infrastructure, in particular in terms of the needs of potential users.
- *Is the infrastructure original and innovative?* Scientific and technical originality and innovative character of the proposed infrastructure.
- *Are the funding and socio-economic dimensions of the infrastructure properly established?* Feasibility and long-term sustainability of the proposed infrastructure from the funding, legal and, where relevant, regional and environmental standpoint, both in terms of initial investments and subsequent operation.
- *What is the European added value of the proposed project?* Catalytic and optimising effect of the proposed construction project in terms of improved attractiveness/services of the overall infrastructure.
- *Is the construction project scientifically well organised?* Scientific and technological structure and methodology of the specific construction project, also in relation to the necessary links with the overall construction plans.
- *Is the specific project well managed?* Management of the specific project and competence of the partners.
- *Are the costs of the project justified?* Justification of financing requested for the specific construction project.

2.5.4. Community support

Community support to the construction of new or enhanced infrastructures will be limited to the minimum necessary to improve the whole infrastructure construction in terms of European added value. The major part of construction, on the other hand, and the long-term sustainability of the infrastructures in question shall be assured by national and/or other sources of finance (e.g. by national or international funding authorities and other private organisations). For this reason, Community support will only be provided on the basis of a detailed justification based on European added value, addressing the scientific, legal and financial dimensions of the proposed project.

The Community contribution for projects to be funded under this scheme is expected to fall in the range of EUR 5-15 million. This support, taking due account of Member States' opinion, may supplement contributions from the EIB or the Structural Funds to the funding of the new infrastructures. The latter will take into account, where relevant, the regional and transregional impact of the proposed infrastructure. Projects will have duration of typically three to five years. A longer duration could exceptionally be accepted if duly justified in terms of achieving the objectives of the construction project.

Community support will take the form of a grant to the agreed budget of the construction project, up to a maximum of 10% of the total, paid as a lump sum. In calculating the budget, only the technologically advanced elements of the proposed infrastructure should be included.

2.6. OTHER SPECIFIC SUPPORT MEASURES

Support for research infrastructures in this action should, where relevant, take into account existing or future mechanisms, at the national or international level, that could foster a more co-ordinated approach to infrastructures in the context of the *European Research Area*. To this end, appropriate measures could be made available to strengthen and sustain such mechanisms. They will aim, for instance:

- to facilitate the creation, circulation and maintenance of information and databases that are relevant to the research community or to policy makers in the domain of research infrastructures, either in a given class or across different classes;
- to support existing European and international organisations wishing to undertake independent studies on science and technology issues related to policy making in the field of research infrastructures, including socio-economic and comparative analysis.

More specifically, four types of support measures will be available in the present context:

- a) *Database Studies* will explore the feasibility of, or will actually implement, the creation, maintenance and distribution of Internet-based databases, either specific to a scientific domain or of transdisciplinary nature, which are relevant to policy makers involved with research infrastructures. Databases related to classes of infrastructure already covered by an *I3* will be excluded, as they can be supported within the corresponding *I3*.
- b) *Foresight Studies* will investigate the scientific needs in relation to a given class of infrastructure in Europe, in particular how best to make use of them, if necessary to improve them or to develop new ones, on the basis of the needs expressed by the relevant scientific community. Such studies, which should involve the participation of a panel of independent experts, may also explore, where relevant, the possible role of the Framework Programme in relation to specific classes of research infrastructure, where appropriate in the context of specific research areas.
- c) *Exploratory Workshops* may enable potential participants in aspects of research infrastructure that have little history of transnational co-operation to explore, in one or a series of meetings, strategies for a better co-ordination of their activities.

This may lead, where appropriate, to the elaboration of a proposal for Community support under one of the schemes available in this action (e.g. an *I3* or a *Design Study*).

- d) *Round-Table Workshops* will bring together, in one or a series of meetings, operators of similar infrastructures financed individually for transnational access by this action for the purpose of co-ordinating work under the contracts and in order to exchange experience. Round-Tables will also seek to expand the research efforts of individual contractors so as to reach a critical mass, and to interact with representatives of users, including users from industry where relevant. On the other hand, Round-Tables that concern areas where an *I3* is already active will be excluded, as they can be supported as part of the corresponding *I3*.

Subject to a peer review of proposals following a call, Community support for the above measures will take the form of a grant to the study or workshop (or series of workshops), up to a maximum of 100% of the total expenses agreed, paid as a lump sum. The Community contribution will typically fall in the range of EUR 30,000-70,000 per study or per workshop.

3. CALLS FOR PROPOSALS AND SELECTION

3.1. ROADMAP OF CALLS

Subject to the provisions of the Framework Programme, the total budget appropriations for this action will amount to EUR 465 million (excluding EUR 200 million for the support of GEANT and GRIDS, as outlined in section 2.3). The total budget available for support to selected proposals will be somewhat reduced to take into account the overheads and administrative costs for the management of the action. As a result, calls will be published on a periodic basis (according to the timetable, objectives and themes defined in the Work Programme), on the basis of an overall budget of about EUR 450 million. Within this indicative budget, the indicative distribution of funds among the different support schemes and among the various calls would be as follows:

- (a) *Transnational Access* and
Integrated Infrastructure Initiatives (I3s): a minimum of EUR 250 million;

<i>Call No.</i>	<i>Publication date</i>	<i>Indicative budget</i>	<i>Indicative start of contracts</i>
Call a.1	End 2002 – early 2003	EUR 190 million	End 2003 – early 2004
Call a.2	End 2004	EUR 60 million (minimum)	Late 2005

(b) *Design Studies and Construction of New Infrastructures:* a maximum of EUR 198 million.

<i>Call No.</i>	<i>Publication date</i>	<i>Indicative budget</i>	<i>Indicative start of contracts</i>
Call b.1	Mid 2003 (Open call, with proposals evaluated at regular intervals)	EUR 198 million (maximum)	- Early 2004 - Early 2005 - Early 2006

(c) *Other specific support measures:* a maximum of EUR 2 million.

<i>Call No.</i>	<i>Publication date</i>	<i>Indicative budget</i>	<i>Indicative start of contracts</i>
Call c.1	Mid 2003 (Open call, with proposals evaluated at regular intervals)	EUR 2 million (maximum)	- Early 2004 - Early 2005 - Early 2006

3.2. EVALUATION AND SELECTION

The Commission will ensure a transparent, fair and impartial evaluation of proposals. The scientific and technical evaluation will have due regard to the criteria set out in Chapter 2, and will be carried out under the responsibility and co-ordination of the Commission services, assisted by external independent experts chosen by the Commission services, according to the “peer review” method. This may include, where appropriate, experts from outside Europe, an external referee system, and direct interviews.

During the peer review, experts will be asked to comment on the adequacy of resources and the reasonableness of the budget from a value-for-money point of view. They may also propose negotiation recommendations for the Commission, where relevant, including recommendations to reject some of the proposed activities (e.g. some of the activities proposed in the context of an *I3*).

Following the evaluation, the Commission services responsible for the activity will conduct detailed negotiations, once again assisted by external experts if necessary, prior to the formal selection of proposals and to establishment of contracts. These negotiations may involve hearings of applicants, site visits, etc.

Proposal for actions to be supported will have to comply with fundamental ethical principles, particularly those set out in the Charter of Fundamental Rights of the European Union. Moreover, any participant having committed an irregularity in the implementation of a Community supported action may be excluded from the evaluation and selection procedure at any time.

4. CONTRACTS , MONITORING AND INTELLECTUAL PROPERTY

Subject to the final provisions of the *Rules for Participation* and of the *model contracts*, a contract will be signed by the Commission and:

- with the *contractors*; or
- with a *common structure* established by and involving the participants (i.e. a single legal entity, e.g. a *European Economic Interest Group* or other).

The Commission services will monitor each contract so as to ensure proper work execution according to the terms of the contract, to protect the Community's financial interests and to ensure maximum synergy and coherence with other actions within the specific programme.

The contract may foresee the following reviews by the Commission services, as appropriate, each with the possible assistance of external experts:

- yearly reviews, which will coincide with the yearly reporting and approval schedule;
- a mid-term (or a milestone) review at which overall progress and prospects will be assessed and a go/no go decision as regards continuation of Community support may be taken;
- an end-of-term review, addressing all the tasks carried out and identifying the results achieved in the light of the specified overall objectives and deliverables.

The Commission may also launch more specific technical audits on the participants to a supported action, as well as financial, technological and ethical audits, where necessary with the help of external assistance. The aim is to ensure that the action is being or has been carried out under the conditions claimed and in accordance with the terms of the contract. Each *I3* (see section 2.2) can expect to be the subject of at least one financial audit during the auditable period.

The rules regarding the protection dissemination and use of knowledge have been simplified with respect to the previous Framework Programme and a larger flexibility is granted to the participants:

- rules are identical for all participants;
- rules concentrate on the principles and provisions considered necessary for an efficient co-operation and the appropriate use or dissemination of the results;
- participants may define among themselves the arrangements that fit them the best within the framework provided in the model contract.

In the case of activities related to transnational access, it will be up to the contractor, i.e. the infrastructure operator, to agree with its users appropriate rules for the protection of the intellectual rights deriving from the activities carried out by them in the context of the Community funded actions and to ensure the exploitation of those results).

Participants will own the intellectual property of the knowledge resulting from the supported actions. Where appropriate, the owner of knowledge will provide adequate and effective protection for knowledge that is capable of industrial or commercial application.

The Commission may adopt protective measures:

- where it considers it necessary to protect knowledge in a particular country, and,
- where such protection has not been applied for or has been waived.

