PROVISIONAL[1] WORK PROGRAMME 2007

CAPACITIES

PART 1

RESEARCH INFRASTRUCTURES

(European Commission C(2006) 6849)

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[1] This provisional work programme is subject to formal confirmation following the entry into force of the 7th EC Framework Programme and the Specific Programme Capacities

The overall objective of the Research Infrastructures part of the "Capacities" specific programme is to optimise the use and development of the best research infrastructures existing in Europe, and to help to create in all fields of science and technology new research infrastructures of pan-European interest needed by the European scientific community to remain at the forefront of the advancement of research, and able to help industry to strengthen its base of knowledge and its technological know how.

I.   CONTEXT

Policy context

Research infrastructures play an increasing role in the advancement of knowledge and technology and their exploitation. For example, radiation sources, data banks in genomics and data banks in social science, observatories for environmental sciences, systems of imaging or clean rooms for the study and development of new materials or nano-electronics, are at the core of research and innovation processes. By offering unique research services to users from different countries, including from the peripheral and outermost regions, by attracting young people to science and through networking of facilities, research infrastructures help structuring the scientific community and play therefore a key role in the construction of an efficient research and innovation environment. Because of their ability to assemble a 'critical mass' of people and investment, they contribute to national, regional and European economic development. They are therefore at the core of the knowledge triangle of research, education and innovation.

The development of a European approach with regard to research infrastructures, including computing and communication based *e*-infrastructures, and the carrying out of activities in this area at a European level, can make a significant contribution to boosting European research potential and its exploitation, as well as to reinforce European research communities. Indeed, since such infrastructures are expensive and need a broad range of expertise to be developed, they should be built, used and exploited on a European or even larger scale.

While Member States remain central in the development and financing of infrastructures, the Community can and should play a catalysing and leveraging role by helping to ensure wider and more efficient access to, and use of, the infrastructures existing in the different Member States. The Community actions should also stimulate the coordinated development and networking of these infrastructures, and foster the emergence of new research infrastructures of pan-European interest within a medium to long term vision.

Approach

Within the scope of this Community action, the term "research infrastructures" refers to facilities, resources and related services that are used by the scientific community to conduct top-level research in their respective fields. This definition covers: major scientific equipment or set of instruments; knowledge based-resources such as collections, archives or structured scientific information; enabling ICT-based infrastructures such as Grid, computing, software and communications; any other entity of a unique nature essential to achieve excellence in research. Such research infrastructures may be "single-sited" or "distributed" (a network of resources).

This Community action will only consider the optimisation, or emergence, of research infrastructures with a clear European dimension and added value in terms of performance and access. These infrastructures must contribute significantly to the development of European research capacities. The activities to be supported are identified under three main lines of actions as described below.

1 - Support to existing research infrastructures

The objective is to optimise the use and development of existing research infrastructures, in all fields of science and technology, including ICT-based infrastructures, and to ensure the access of research teams from across the EU to these infrastructures. This line of action represents the majority of the efforts (more than 60% of the operational funds) to be carried out under this part of the Specific Programme. Support will be provided for:

- *Integrating Activities:* to ensure that European researchers may have access to the best research infrastructures to conduct their research by supporting the integrated provision of infrastructure related services to the research community at a European level and at international level when appropriate. Integrating activities should also aim at structuring better, on a European scale, the way research infrastructures operate, and at fostering their joint development in terms of capacity and performance. Emphasis should be given to the efficient and coordinated implementation of trans-national access and service activities.

This action will follow both a bottom-up and a targeted approach:

  - *bottom-up* to respond to the needs of the scientific community in all fields of science and technology, without any preference for one field over another;

  - *targeted* to respond to the strategic research needs of the thematic priority areas and thereby strengthen the consistency of actions within FP7.

- *e-Infrastructures*: e-Infrastructures aim at developing a new research environment, building upon the ICT capabilities of existing infrastructures, in which all scientists have an easy-to-use controlled access to unique or distributed scientific facilities, regardless of their type and location in the world. Such an environment requires the emergence of "communities of practice" involving scientific users together with the computing and communication technologists to make the infrastructure layer transparent and adequately serving cross-disciplinary needs. e-Infrastructures foster the emergence of new working methods, based on the shared use of resources across different disciplines and technology domains. Therefore, a major benefit of the e-Infrastructure concept is the strengthening of more intense collaboration between research centres and their researchers in "virtual research communities", enabling worldwide sustainable partnerships in all e-Science fields. The e-Infrastructures activity supports the further development and evolution of high-capacity and high-performance communication (GÉANT) and grid empowered infrastructures, including the reinforcement of world class distributed supercomputing facilities, data storage and advanced visualisation facilities. Furthermore, this activity will open the path to the deployment of a scientific data infrastructure resulting from the coordination, at pan-European level, of data storage, archiving, access, management and curation activities. Finally, it aims at fostering the adoption of e-Infrastructures by user communities where appropriate, enhancing their global relevance and increasing the level of trust and confidence from their users.

2 - Support to new research infrastructures (or major upgrades of existing ones)

The aim is to help to create in all fields of science and technology new research infrastructures of pan-European interest needed by the European scientific community in order to remain at the forefront of the advancement of research, and be able to help industry to strengthen its base of knowledge and its technological know-how. This action would also examine the opportunities to exploit the potential for scientific excellence of the convergence and outermost regions through new infrastructures. This line of action represents about one third of the total financial resources available for this part of the Specific Programme.
Support will be provided for:

- *Design Studies:* to contribute to conceptual design studies for new research infrastructures, that demonstrate a clear European dimension and interest.

- *Construction of new infrastructures (or major upgrades of existing ones):* to provide a catalytic and leveraging support for the construction of critical new facilities building primarily upon the work conducted by the European Strategy Forum on Research Infrastructures (ESFRI)[1]. This activity will follow a two stage-approach:

    - *Stage 1 - support to the preparatory phase*: This first phase will involve, in particular, the finalisation of the legal organisation, of the management and multi-annual financial planning. Some technical work could also be considered.

    - *Stage 2 - support to the implementation phase*: this phase involves the actual construction, building on the technical, legal, administrative and financial agreement achieved during the preparatory phase between all stakeholders.

Community support will concentrate on the preparatory phase.

Only projects which have sufficiently progressed in the preparatory phase could proceed to the Stage 2. Community financial support for the implementation phase will be limited to cases where there is a critical need for such a support. Decisions for a Community financial support to the implementation phase of these projects (Stage 2) will be taken through the periodic revision of this work programme, where the projects, the form of support and beneficiaries will be identified.

3 - Support for policy development and programme implementation, including support to emerging needs

To enhance the effectiveness and coherence of national and Community research policies, international cooperation and the analysis of emerging needs in the field of research infrastructures.

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[1] http://cordis.europa.eu/esfri/home.html

Other activities

- *Risk Sharing Finance Facility (RSFF)*

  In addition to direct financial support to participants in RTD actions, the Community will improve their access to private sector finance by contributing financially to the 'Risk-Sharing Finance Facility' (RSFF) established by the European Investment Bank (EIB).

  The Community contribution to RSFF will be used by the Bank in accordance with eligibility criteria set out in section V.5 of this Work Programme. RSFF support is not conditional on promoters securing grants resulting from calls for proposals described herein, although the combination of grants and RSFF-supported financing from EIB is possible. Further information on the RSFF is given in section V.5.The Commitment Appropriations for to RSFF in 2007 will be 40 M€

- *Programme Impact Assessment*

  It is foressen to publish, before mid-2007, one call for tender for the ex-post impact assesment of the research infrastructures activities under the 6th Framework Programme for a maximum amount of EUR 400.000.

- *External expertise*

  - The use of external assistance (by "Project Technical Assistants") as necessary to enable detailed, prompt, pro-active, and scientifically competent following of the projects by the Commission (to be implemented through public procurement).
  - The use of appointed external experts for the evaluation of project proposals and, where appropriate, for the reviewing of running projects.
  - The set up of groups of external experts to advise on or support the design and implementation of Community research policy.

II.   CONTENT OF CALLS IN 2007 AND 2008

1.1   Support to existing research infrastructures

1.1.1 Integrating Activities

Integrating Activities aim to provide a wider and more efficient access to and use of, the research infrastructures existing in the different Member States, Associated States and third countries when appropriate. This will ensure that European researchers may have access to the high performing research infrastructures they require to conduct their research, irrespective of the location of the infrastructure. Integrating Activities also aim to structure better and integrate, on a European scale, the way research infrastructures operate and to foster their joint development in terms of capacity and performance. The main characteristic of an Integrating Activity will be its capacity to mobilise a comprehensive consortium of stakeholders in a given class of infrastructures. In this way, operators of similar infrastructures should find it easier 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 technologies across fields and between academia and industry. Normally, an Integrating Activity is expected to include several research infrastructures providing access. Exceptionally, the consortium may include only one facility providing access, if this facility is of a truly unique nature. An Integrating Activity shall combine, in a closely co-ordinated manner, following the FP6 Integrated Infrastructures Initiatives (I3) model: (i) *Networking activities,* (ii) *Trans-national access and/or service activities* and (iii) *Joint research activities.* All three categories of activities are mandatory as synergistic effects are expected from these different components. Further details about the I3 model is provided in section V.3.

Funding scheme: A combination of *Collaborative projects* and *Coordination and support actions*.

Expected impact: The main objective is to have a structuring impact on the European Research Area and on the way research infrastructures operate, evolve and interact with similar infrastructures and with their users. This should optimise the functioning and development of research infrastructures, on a European scale, and improve the services provided to researchers. This should also optimise the consistency of the Community actions between the "Capacities" and the "Cooperation" Specific Programmes.

Integrating Activities may address the following topics:

- o **INFRA-2008-1.1.1: Bottom-up approach: Integrating Activities in all scientific and technological fields.** Open to all fields of science and technology without any preference for one field over another. The specific topics defined under the targeted approach below are excluded from this topic.

- o **INFRA-2008-1.1.2.x: Targeted approach: Integrated Activities to support the specific needs of thematic priority areas**. Integrating Activities to be considered under this topic should correspond to strategic research needs of the thematic priority areas of the Cooperation specific programme, as defined in section V.1.

1.1.2 ICT-based e-Infrastructures

The e-Infrastructures activity supports a number of interrelated topics designed to foster the emergence of a new research environment in which "virtual communities" share and exploit the collective power of the European landscape of scientific and engineering facilities. Such topics include further development and evolution of the world leading pan-European research network GÉANT; deployment, extension in time and evolution of core e-Science Grid infrastructures; expansion of e-Infrastructures to address the specific needs of new scientific and engineering communities; coordinated deployment of scientific digital repositories, leading to the deployment of a European scientific data infrastructure; development of common policies and cooperation with similar initiatives in other continents.

e-Infrastructures will ensure a further breadth and depth to the collaboration amongst researchers in Europe (and beyond) by the provision of a new generation of more sophisticated and reliable global infrastructures, in close articulation with national initiatives. By hiding the complexity of the underlying computing and communication layers, researchers can concentrate on their scientific and engineering domains, having a transparent access to a panoply of relevant research facilities of all kinds (such as communications, computing, instrumentation, data). Facilities not located in Europe can be integrated in the e-Infrastructures when there is a clear value added for Europe. e-Infrastructures implement, therefore, a more efficient way for all scientists to work on global research challenges that would otherwise be difficult to address, rationalising at the same time the investments in expensive resources and fighting digital divide. If the provision of such e-Infrastructures requires the engagement of the broad ICT community and operators of specific infrastructures (such as the National Research and Education Networks or the operator of Computing of Grid support Centres), the beneficiary communities should be as widespread as possible, tackling all scientific and engineering domains (including the research community on ICT). These "communities of practice", exhibiting the right blend of scientific communities providing and benefiting from e-Infrastructures, implement a virtuous cycle of innovation in which new scientific and technological paradigms can emerge, shape and stabilise.

Activities of a typical "*e-Infrastructure*" project are centred on the provision of data and/or computing and/or communication infrastructures and services to the research community at the European level. The project must implement (i) *Networking Activities*, (ii) *Service Activities* and (iii) *Joint Research Activities* under a unified management (see section V.3).

Funding scheme: A combination of *Collaborative projects* and *Coordination and support actions*.

e-Infrastructure projects may address the following topics:

○ **INFRA-2007-1.2.1: Scientific Digital Repositories.** This topic fosters a coordinated approach to the deployment of digital repositories for the scientific communities by pooling existing resources at European level and supporting data storage, archiving, access, interpretation, interoperability, management and curation activities. This will enable scientists to effectively aggregate and combine information to generate and share knowledge, profiting from a transparent underlying data infrastructure across different communities, institutions and geographic boundaries. The contribution to common open standards and their widespread adoption is an essential element of this activity, to bridge heterogeneity and ensure long term preservation.

Expected impact: The activity on Scientific Digital Repositories is expected to play a catalytic role in the way data repositories for the scientific communities and future generations of scientists are organised, preserved, accessed, and support interoperability on the data level. This should optimise the way the e-Infrastructure is used to stock knowledge, add value to primary research data and information (making secondary research more effective), provide a valuable asset for industry and help bridging research and education. In this context, the data layers should emerge as a key aspect of the evolution towards a more advanced knowledge-based e-Science.

- o **INFRA-2007-1.2.2: Deployment of e-Infrastructures for scientific communities.** This topic aims at reinforcing the impact, adoption and global relevance of the e-Infrastructure across various areas of science and engineering. It supports its continuous consolidation and expansion by addressing the specific needs of new scientific communities within a coherent pan-European model, regardless of the location of their research facilities. This will provide advanced applications and capabilities to more researchers, capturing commonalities, fostering interoperability, promoting open standards and federating approaches across disciplines. Some user communities may require the adaptation of methods and scientific practices (e.g. software tools, simulation models) to exploit the extended capabilities of the e-Infrastructure (e.g. low latency, parallelisation of processes).

Expected impact: The e-Infrastructure services will be expanded to more user communities and the needs of new application areas will be addressed. In parallel, common approaches will be reinforced, interoperability aspects will be addressed in an effective way across various disciplines, and the global relevance of the e-Infrastructure will be increased. It is envisaged that a diversity of user communities will tailor and further deploy services for their specific domain of research, exploiting the relevant layers of e-Infrastructures, from the low levels of networking to grids, middleware and data.

- o **INFRA-2007-1.2.3: e-Science Grid infrastructures.** This topic supports the further deployment, extension in time and evolution of core European grid-empowered e-Infrastructures, exploiting the sharing of more computing resources (including distributed supercomputing), scientific instrumentation and data facilities across multiple scientific disciplines. These e-Science Grid infrastructures should provide persistent, cross disciplinary services to pan-European virtual research communities, with increased levels of trust and confidence. This activity aims at maintaining the world class performance of European Grid infrastructures and their global relevance. e-Science grid infrastructures should aim, in particular, to promote open standards and interoperability, guarantee the fast adoption of new research results and innovate and consolidate middleware technology. These infrastructures should adopt robust, reliable and scalable authorisation and authentication schemes, implement attractive mechanisms for the pooling of further resources across a very broad range of user communities and evolve towards the adoption of more sustainable organisational models for the provision of services.

Expected impact: This topic will bring the benefits of new technological developments into a new generation of e-Infrastructure services, foster the pooling of more resources and the use of grids by new research communities, drive the further integration of national initiatives, increase international collaboration in the field, and support the emergence of new Grid-based work and business models for science and engineering. Availability of repositories of easy-to-install middleware components, combined with consistent training and education programmes, would increase the impact of e-Science grid infrastructures on industry and society in general.

○ **INFRA-2008-1.2.4: GÉANT.** This topic supports the further deployment and evolution of the pan-European high-capacity and high-performance communication network (GÉANT), in close articulation with the National Research and Education Networks (NRENs), building upon the current world leadership and addressing the ever growing requirements of advanced scientific communities. GÉANT should reinforce the provision of end-to-end connectivity and services (user-to-user) by ensuring a high level of cohesion and coordination of priorities amongst the interconnected NRENs. GÉANT should represent an instantiation of the "Internet of the future" by making timely use of state-of-the-art communication technologies and considering solutions that may emerge from innovative research done in the context of "Experimental Facilities". GÉANT should strive for world leadership by undertaking the necessary technical research activities and reinforce Europe's position as a hub for global research networking, by promoting intercontinental connectivity. (*NB: given the specific objective of this topic, the proposal must be collectively submitted by legal entities operating the NRENs. Legal entities created by the NRENs to contribute to the deployment of connectivity and services on a pan-European scale (e.g. DANTE, TERENA, NORDUnet) can also participate*).

Expected impact: This topic will be the fundamental underlying enabler for the realisation of e-Science and the European Research Area. The advanced communication capabilities of GÉANT and the associated NRENs will foster new paradigms of collaborative research across Europe and globally. This topic will strive to provide a harmonised and pan-European e-Infrastructure bridging the digital divide and enabling all scientists in Europe to participate in collaborative work on equal terms independent of their location.

○ **INFRA-2008-1.2.5: Scientific Data Infrastructure.** This activity supports the deployment of a broad European multidisciplinary scientific data infrastructure able to be easily federated with other knowledge infrastructures in other parts of the world, building upon the achievements of network and grid infrastructures and opening its benefits to other potential research areas such as e-health, e-learning and others. This activity addresses the rapidly increasing use of digital content in research and in the generation and dissemination of scientific and technical knowledge. The increasing availability of primary sources of data in digital form (e.g. experimental raw data, social sciences data) has the potential to shift the balance away from research based on secondary sources (such as publications), thus positioning data as the central element in the scientific process. This activity should provide an integrated set of services exploiting the middleware and grid capabilities to federate data in an eco-system of digital resources. These services should enhance the ability of researchers to extract further meaning from masses of data stored in institutional, national or community repositories, by supporting the deployment of standardised mechanisms to store, archive, authenticate, access, transfer, preserve, curate, certify and interpret scientific data. Furthermore, the deployed scientific data infrastructure will require adaptation in cultures and new approaches and competences, given the intrinsic relation between data and associated software to read, interpret and process it.

Expected impact: This topic will increase of scale of federation and interoperation of digital repositories, consolidating synergies with the underlying e-Infrastructures. The widespread implementation of strategies for curation and preservation will lead to more robust data infrastructures profiting from the interconnection and access to distributed and high-end computing and storage resources. The adoption of common management strategies will reduce costs, increase the users' base and bridge across multidisciplinary communities, enabling cross-fertilisation of scientific results and favouring innovation.

1.2   Support to new research infrastructures

1.2.1 Design Studies

The aim is to support conceptual design studies for new research infrastructures, which are of a clear European dimension and interest. Such studies should address all key questions which will help to assess the scientific and technical and financial feasibility of the proposed new facility. Major upgrades 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. All fields of science and technologies could be considered. This activity would also foster the emergence of new organisational models designed to consolidate a sustainable approach to e-Infrastructures, in particular in the domain of grids and data repositories, facilitating new service provisioning schemes, more application neutral and open to all user communities and resource providers. Projects identified as "emerging" by ESFRI are also welcome. However, projects on the ESFRI roadmap, eligible for support under activity 1.2.2 "Construction – preparatory phase", are not expected to apply for Design Studies.

Funding scheme: *Collaborative projects* or *Coordination and support actions* (whenever appropriate).

Expected impact: Contribution of the proposed infrastructures to technological development capacity and to the scientific performance and attractiveness of the European Research Area. The funded projects should address the key questions concerning the assessment of the technical and financial feasibility of new facilities, leading to a "conceptual design report" allowing policy makers and their advisors to prepare relevant strategic decisions for the development of new research infrastructures of European interest.

Design Studies may address the following topics:

o   **INFRA-2007-2.1.1: Design studies for research infrastructures in all S&T fields.**

o   **INFRA-2007-2.1.2: Design studies for e-Infrastructures.**

1.2.2 Construction of new infrastructures (or major upgrades) - preparatory phase

The purpose of this activity is to provide catalytic and leveraging support for the preparatory phase leading to the construction of new research infrastructures or major upgrades of existing ones. Only research infrastructures projects which are included in the 2006 ESFRI Roadmap (see section V.2) will be eligible for support at the first call. The preparatory phase aims at bringing the project to the level of legal and financial maturity required to implement the project. This preparatory phase may also include technical work. Project consortia should involve all the stakeholders necessary to make the project move forward, to take decision and to make financial commitments before construction can start (e.g. national/regional ministries/governments, research councils, funding agencies). Operators of research facilities, research centres, universities, and industry may also be involved whenever appropriate. During this preparatory phase the European Commission may act as a "facilitator", in particular with respect to the financial engineering needed for the construction phase. This preparatory phase could include (non exhaustive list):

- Legal work, i.e. (1) for the construction and operation of the research infrastructure; and (2) the draft agreement, in the form of a "signature-ready" document for the actual construction.

- Governance and logistical work, i.e. (1) plans, in terms of decision-making, management structure, advisory body, IPRs, access rules for researchers, etc.; (2) planning (timing, resources) of staff recruitment to operate the new facility; (3) organisation of the daily support for researchers, including informatics, etc.;

- Strategic work, i.e. (1) the plan to integrate harmoniously the new infrastructure in the European fabric of related facilities in accordance, whenever appropriate, with the Community objective of balanced territorial development; (2) to create or consolidate centres of excellence; (3) the identification of the best possible site to set up the new facility(-ies) and its next generations; (4) the planning of research services to be provided at international level;

- Financial work, i.e. (1) the financial arrangements for the construction, operation and decommission of the facility, using notably the complementarities between national and Community instruments (such as the Structural Funds or the European Investment Bank); (2) studying new mechanisms, e.g. pre-commercial procurement processes, by which public authorities may develop new approaches for financing innovative solutions;

- Technical work, i.e. (1) the draft engineering plans for the construction, as well as final prototypes for key enabling technologies and implementation plans for transfer of knowledge from existing prototypes to the new research infrastructure; (2) the technical work to ensure that the beneficiary scientific communities exploit the new facility from the start with the highest efficiency, including the introduction of new processes or software.

Funding scheme: A combination of *Collaborative projects* and *Coordination and support actions*.

Expected impact: This activity should help the majority of identified projects for new research infrastructures to reach the level of technical, legal and financial maturity required to enable the construction work to start. The final objective is to be able to get Consortium Agreements signed by as many consortia as possible leading to the emergence of a new generation of research infrastructures at European and/or international level.

Proposals for the preparatory phase may address the following topics (see section V.2):

o **INFRA-2007-2.2.1.x**: **Preparatory phase for the projects in the 2006 ESFRI Roadmap.**

o **INFRA-2007-2.2.2.1: Preparatory phase for "Computer and Data Treatment" research infrastructures in the 2006 ESFRI Roadmap.**

1.3   Support for policy development and programme implementation, including support to emerging needs

The aim is to support, in the context of building up the European Research Area, the co-ordination of national and/or regional policies and programmes in the field of research infrastructures, as well as the work of ESFRI and e-IRG (e-Infrastructure Reflection Group). This will help providing the necessary conditions for pooling talent, maximising resources, and ensuring the best outcome of rationalised research investments in Europe. While it is vital for Europe to strengthen and consolidate intra-European co-operation, it is also essential to do so with a global perspective in mind, so that European science can have an impact on, and contribute to, world class scientific achievements. It is also important to support emerging needs for research infrastructures, to ensure the effective implementation of this programme by fostering cooperation among National Contact Points (NCPs) and the continuity of FP6 actions. Support measures may address the following topics:

o   **INFRA-2007-3.1: ERA-NET supporting cooperation for research infrastructures in all S&T fields.** In line with the objectives of the ERA-NET scheme, projects to be supported under this topic should aim at developing and strengthening the cooperation and coordination of national and/or regional and programmes for research infrastructure. This topic is open to all fields of science and technology. An ERA-NET may be specific to a type of research infrastructures or generic. Eligible partners are only programme owners, which are typically national/regional ministries/governments responsible for defining, financing or managing research programme and programme managers such as research councils or funding agencies.

o   **INFRA-2008-3.2: Studies, conferences and coordination actions supporting policy development, including international cooperation, in all S&T fields.** The monitoring and further development of a European policy for research infrastructures, including international cooperation, needs the development of specific actions, such as impact studies, surveys, development of a catalogue of research services or conferences. This helps to take stock of the advancement of knowledge in the various areas covered, as well as of the development of access and IPR policies for pan-European research infrastructures.

o   **INFRA-2007-3.3: Studies, conferences and coordination actions supporting policy development, including international cooperation, for e-Infrastructures.** Measures will aim at encouraging the coordination between National and pan-European e-Infrastructure initiatives, namely through the support of policy oriented groups such as the e-IRG. Support would also be given to specific studies and conferences on e-Infrastructure related topics, complementing and paving the way to improved multidisciplinary ICT-based infrastructures. Furthermore this action would promote international interoperation between similar infrastructures with the aim of reinforcing the global relevance and impact of European e-Infrastructures

o   **INFRA-2008-3.4: Coordination actions to support emerging needs.** Coordination actions covering networking activities are provided for research infrastructures in areas where strategic needs are emerging and for which a culture of cooperation is less developed. Examples of networking activities are given in section V.3

- o **INFRA-2007-3.5: Trans-national co-operation among NCPs**. Reinforcing the network of National Contact Points (NCP) for Research Infrastructures in the Seventh Framework Programme, by promoting trans-national co-operation. The action will focus on identifying and sharing good practices. This may entail various mechanisms such as benchmarking, joint workshops, training, and twinning schemes. Practical initiatives to benefit cross-border audiences may also be included, such as trans-national brokerage events. The specific approach should be adapted to the nature of the theme and to the capacities and priorities of the NCPs concerned.

- o **INFRA-2007-3.6: Support to ensure the continuity of FP6 actions.** This topic is restricted to the FP6 I3 consortia whose contracts are ending before March 2008 allowing continuation of networking and transnational access for a maximum of one year.

Expected impact: Support measures are expected to help the development of a European policy for research infrastructures and to address specific needs for international cooperation in this field, thus achieving critical mass and driving global policies. Furthermore, support measures for e-Infrastructures are expected to contribute to the emergence of sustainable approaches for the provision of cross-disciplinary research services. Coordination actions are expected to provide support to some emerging fields, whenever necessary. Notably, they should aim to encourage the pooling of resources between infrastructure operators at European level in order to face future challenges and to foster a culture of co-operation between them, spreading good practices and encouraging infrastructures to develop in complementary ways. The NCP network should improve the service across Europe, therefore helping simplify access to FP7 calls, lowering the entry barriers for newcomers, and raising the average quality of submitted proposals.

Funding scheme: *Coordination and support actions.*

Indicative budget for the 2007 Work Programme

	Budget 2007*
Call FP7-INFRASTRUCTURES-2007-1	164,4 M€(**)
Other activities • Risk Sharing Finance Facility (40 M€) • FP6 Programme impact assessment (0,4 M€) • Evaluation (0,7 M€)	41,1 M€
Estimated total budget allocation	**205,5 M€**

* Under the condition that the preliminary draft budget for 2007 is adopted without modifications by the budget authority.

** An amount from the 2008 budget is expected to be added to this call for which a new financing decision to cover the budget for that year will be requested at the appropriate time.

III. IMPLEMENTATION OF CALLS

- Call identifier: FP7-INFRASTRUCTURES-2007-1

- Date of publication[1]: 22 December 2006

- Deadline[1]: 2 May 2007, at 17.00, Brussels local time.

- **Indicative budget[2]**: 164,4 million EUR

- Topics called

Line of action/Activity	Topics called	Funding scheme(s)	€(million) indicative
1.1 Support to existing research infrastructures			
1.1.2 ICT based e-Infrastructures	INFRA-2007-1.2.1: Scientific Digital Repositories	Combination Collaborative projects & Coordination and support actions	15
	INFRA-2007-1.2.2: Deployment of e-Infrastructures for scientific communities.		27
1.2.Support to new research infrastructures			
1.2.1 Design studies	INFRA-2007-2.1.1: Design studies for research infrastructures in all S&T fields	Collaborative projects or Coordination and support actions	29
	INFRA-2007-2.1.2: Design studies for e-Infrastructures		6
1.2.2 Construction of new infrastructures - preparatory phase	INFRA-2007-2.2.1.x: Preparatory phase for research infrastructures in the 2006 ESFRI Roadmap	Combination Collaborative projects & Coordination and support actions	63,4[3]
	INFRA-2007-2.2.2.1: Preparatory phase for "Computer and Data Treatment" research infrastructures in the 2006 ESFRI Roadmap		10
1.3 Support to policy development and programme implementation			
INFRA-2007-3.1: ERA-NET supporting cooperation for research infrastructures in all S&T fields		Coordination and support actions (CSA)	8
INFRA-2007-3.5: Trans-national cooperation among NCPs			2
INFRA-2007-3.6: Support to ensure the continuity of FP6 actions			4

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[1] The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication. Also, at the time of the publication of the call, the Director-General responsible may delay this deadline by up to two months.

[2] Under the condition that the preliminary draft budget for 2007 is adopted without modifications by the budget authority.

[3] An amount from the 2008 budget is expected to be added to this call for which a new financing decision to cover the budget for that year will be requested at the appropriate time.

- Evaluation procedure:

  - The general eligibility, selection and award criteria are set out in annex 2 to this work programme.
  - Specific selection and award criteria for activities 1.1.2 and 1.2.2 are set out in section V.4 replacing those of annex 2.
  - A one stage submission procedure will be followed, with possible hearings for the activities 1.1.2 and 1.2.2.
  - Proposals may be evaluated remotely.

- Indicative evaluation and contractual timetable:
  - Evaluation results: estimated to be available within some 4 months after the closure date.
  - Contract signature: it is estimated that the first contracts related to this call will come into force before the end of 2007.

- Consortia agreements: Participants in activities 1.1.2 and 1.2.2 are required to conclude a consortium agreement.

- Particular requirements for participation, evaluation and implementation:
  - The minimum number of participating legal entities required, for all funding schemes, is set out in the Rules for Participation.
  - For activity 1.2.2, all the stakeholders necessary to make the project move forward, to take decision and to make financial commitments before construction can start are required e.g. national / regional ministries / governments, research councils, funding agencies.

- The forms of grant and maximum reimbursement rates which will be offered are specified in Annex 3 to the Capacities work programme

- A reserve list may be produced of projects that pass the evaluation but fall below the available budget in case additional budget becomes available

IV. INDICATIVE PRIORITIES FOR FUTURE CALLS

The indicative planning for the various calls for the period 2007-2013 is given below

Activity	Call 1 (03.05.07)	Call 2 (Fall 2007)	Call 3 (Spring 2008)	Call 4 (Fall 2008)	Call 5 (Spring 2010)	Call 6 (Spring 2012)
Integrating activities			X		X	X
e-Infrastructures	X	X		X	X	X
Design studies	X				X	
Construction – support to the preparatory phase	X				X	
Support to policy development and programme implementation	X	X	X		X	X

* Dates indicated are tentative call closing date

Call N° 2 in 2007 will address the following topics:

INFRA-2007-1.2.3	e-Science Grid infrastructures
INFRA-2007-3.3	Studies, conferences and coordination actions supporting policy development, including international cooperation, for e-Infrastructures

Calls in 2008 will address the following topics:

INFRA-2008-1.1.1   Integrating Activities in all scientific and technological fields

INFRA-2008-1.1.2.x   Integrated Activities to support the specific needs of thematic priority areas

INFRA-2008-1.2.4   GÉANT

INFRA-2008-1.2.5   Scientific Data Infrastructure

INFRA-2008-3.4   Studies, conferences and coordination actions supporting policy development, including international cooperation, in all S&T fields

INFRA-2008-3.5   Coordination actions to support emerging needs

More detailed information will be provided in the first revised edition of this work programme expected mid 2007.

V.   INFORMATION SPECIFIC TO RESEARCH INFRASTRUCTURES

1.   Integrating Activities under the targeted approach

Integrating Activities are implemented through targeted calls to respond to the strategic research needs of the thematic priority areas of the Cooperation specific programme. They follow all the objectives and characteristics described under section II.1.1.1.

A consortium whose proposal falls under one of the priority topics listed below should apply under the targeted approach. All other topics are covered within the bottom-up approach. Integrating Activities should be comprehensive on a European scale. Therefore competing proposals are not expected under the same topic. However, there will be competition between the various priority topics. This list of topics will be revised before future calls in subsequent editions of this work programme.

Health-related specific 2007 objectives: to bring together existing research infrastructures to support the efficient provision of essential research services:

- **INFRA-2008-1.1.2.1:** providing access to human genotyping facilities;
- **INFRA-2008-1.1.2.2:** providing access to hadron therapy facilities for particle therapy research;
- **INFRA-2008-1.1.2.3:** providing access to high performance imaging (PET, MRI, SPECT) applied to clinical research on human pathologies;
- **INFRA-2008-1.1.2.4:** providing advanced support for the development of new vaccines;
- **INFRA-2008-1.1.2.5:** for the production of mouse Knock-Out mutants;
- **INFRA-2008-1.1.2.6:** based on databases and resources on cellular differentiation/developmental gene expression in mammals in support of systems biology approaches.

Food, Agriculture and Biotechnology- related specific 2007 objectives: to bring together existing research infrastructures to support the efficient provision of essential research services:

- **INFRA-2008-1.1.2.7:** enabling investigation of impacts of food on health, including development of tools for cross compatibility and networked usage, of standards and codes of practice;
- **INFRA-2008-1.1.2.8:** European diagnostic / test / validation infrastructure for animal diseases (including zoonoses);
- **INFRA-2008-1.1.2.9:** Biological Resources Centres (BRCs) for micro-organisms;
- **INFRA-2008-1.1.2.10**: Aquaculture facilities (inland, coastal, offshore), fisheries research vessels, equipments, data bases.

Information and Communication Technologies-related specific 2007 objectives: to bring together existing research infrastructures to support the efficient provision of essential research services:

- **INFRA-2008-1.1.2.11:** for ICT experience and application research, based in particular on methods, tools and platforms to involve the user early in the R&D process;
- **INFRA-2008-1.1.2.12:** for nano-electronics and integrated micro-/nano-systems research, based in particular on networking of and transnational access to clean rooms;
- **INFRA-2008-1.1.2.13:** for embedded systems research based in particular on sharing methods, tools and platforms for design, evaluation and testing.

Nanosciences, Nanotechnologies, and Materials- related specific 2007 objectives: to bring together existing research infrastructures to support the efficient provision of essential research services, including but not limited to the characterization, exposure and toxicology (human and environmental) of nano-materials:

- **INFRA-2008-1.1.2.14:** for nano-bio-technology, in particular for simulation, design and control of biomaterial structure and reactions at nano-level;
- **INFRA-2008-1.1.2.15:** for nano-materials research, linked with the European nanotechnology Action Plan, and in the context of a broad international cooperation.

Energy-related specific 2007 objectives: to bring together existing research infrastructures to support the efficient provision of essential research services, including the provision of advanced simulation models when appropriate:

- **INFRA-2008-1.1.2.16:** aiming at the development of the next generation bio-fuels;
- **INFRA-2007-1.1.2.17:** integrating European testing and analysis research infrastructure for hydrogen and fuel cell energy-chains;
- **INFRA-2008-1.1.2.18:** for ocean energy research;
- **INFRA-2008-1.1.2.19:** for concentrating solar power research;
- **INFRA-2008-1.1.2.20:** for research on Smart Energy networks, to develop advanced electricity networks architectures and/or for testing of power components.

Environment (including Climate Change)-related specific 2007 objectives: to bring together existing research infrastructures to support the efficient provision of essential research services:

- **INFRA-2008-1.1.2.21:** establishing an European e-Infrastructure for earth system's understanding and modelling;
- **INFRA-2008-1.1.2.22:** for seismic engineering research and testing infrastructures;
- **INFRA-2008-1.1.2.23:** establishing an efficient network of hydrological observatories, river basin networks and databases, for water resources research;
- **INFRA-2008-1.1.2.24:** integrating, for efficient polar research, existing observation and monitoring stations in both Arctic and Antarctic regions;

Transport-related specific 2007 objectives: to bring together existing research infrastructures to support the efficient provision of essential research services:

- **INFRA-2008-1.1.2.25:** enhancing the test capabilities, quality and productivity of European wind tunnels of strategic importance;
- **INFRA-2008-1.1.2.26:** to establish a European capability on in-flight testing and research suitable to meet the RTD requirements for the next generation of air transport.

Socio-economic Sciences and Humanities – related specific 2007 objectives: to bring together existing research infrastructures to support the efficient provision of essential research services:

- **INFRA-2008-1.1.2.27:** promoting European wide access to microdata sets of officials statistics for research and leading to a European statistical system open to researchers;
- **INFRA-2008-1.1.2.28:** through the development, harmonisation and optimal use of indicators and data for economic and innovation research;
- **INFRA-2008-1.1.2.29:** developing improved access to historical archives and cultural collections for research purpose.

2.   List of projects identified for the "preparatory phase" call[1]

Social Sciences and Humanities
- **INFRA-2007-2.2.1.1:** CESSDA (Council Of European Social Science Data Archives)
- **INFRA-2007-2.2.1.2:** CLARIN (Common LAnguage Resources and technology INitiative)
- **INFRA-2007-2.2.1.3:** DARIAH (DigitAl Research Infrastructure for the Arts and Humanities)
- **INFRA-2007-2.2.1.4:** EROHS (European Resource Observatory for the Humanities and Social sciences)
- **INFRA-2007-2.2.1.5:** ESS (European Social Survey)
- **INFRA-2007-2.2.1.6:** SHARE (Survey of Health, Ageing and Retirement in Europe)

Environmental sciences
- **INFRA-2007-2.2.1.7:** AURORA BOREALIS (European Polar Research Icebreaker)
- **INFRA-2007-2.2.1.8:** EMSO (European Multidisciplinary Seafloor Observation)
- **INFRA-2007-2.2.1.9:** EUFAR (European Fleet of Airborne Research)
- **INFRA-2007-2.2.1.10:** EURO ARGO (Global Ocean Observing Infrastructure)
- **INFRA-2007-2.2.1.11:** IAGOS-ERI (In-service Aircraft for a Global Observing System – European Research Infrastructure)
- **INFRA-2007-2.2.1.12:** ICOS (Integrated Carbon Observation System)
- **INFRA-2007-2.2.1.13:** LIFE WATCH (Research Infrastructures Network for Research in Biodiversity)

Energy
- **INFRA-2007-2.2.1.14:** HIPER (HIgh Power Experimental Research facility)

Biological and Life sciences
- **INFRA-2007-2.2.1.15:** EATRIS (European Advanced Translational Research Infrastructure for medecine)
- **INFRA-2007-2.2.1.16:** European Bio-Banking and Biomolecular Resources
- **INFRA-2007-2.2.1.17:** INFRAFRONTIER (Infrastructure for Phenomefrontier and Archivefrontier)
- **INFRA-2007-2.2.1.18:** Infrastructure for Clinical Trials and Biotherapy
- **INFRA-2007-2.2.1.19:** Integrated Structural Biology Infrastructure
- **INFRA-2007-2.2.1.20:** Upgrade of European Bio-Informatics Infrastructure

Material sciences
- **INFRA-2007-2.2.1.21:** ELI (Extreme Light Infrastructure)
- **INFRA-2007-2.2.1.22:** ESRF Upgrade (European Synchroton Radiation Facility)
- **INFRA-2007-2.2.1.23:** ESS (European Spallation Source)
- **INFRA-2007-2.2.1.24:** European XFEL (X-ray free Electron Laser)
- **INFRA-2007-2.2.1.25:** ILL 20/20 upgrade (Institute Laue Langevin)
- **INFRA-2007-2.2.1.26:** IRUVX-FEL (from Infrared to Ultraviolet and soft X-rays Free Electron Lasers)

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[1] Please refer to the ESFRI roadmap report for more precise information about these projects (http://cordis.europa.eu/esfri/home.html)

- **INFRA-2007-2.2.1.27:** PRINS (Pan-European Research Infrastructures for Nano-Structures)

Astronomy, Astrophysics, Nuclear Physics and Particle Physics
- **INFRA-2007-2.2.1.28:** ELT (The European Extremely Large Telescope)
- **INFRA-2007-2.2.1.29:** FAIR (Facility for Antioproton and Ion Research)
- **INFRA-2007-2.2.1.30:** KM3NET (Cubic Kilometre NEutrino Telescope)
- **INFRA-2007-2.2.1.31:** SKA (The Square Kilometre Array)
- **INFRA-2007-2.2.1.32:** SPIRAL 2 (Système de Production d'Ions RAdioactifs en Ligne)
- **INFRA-2007-2.2.1.33:** Projects in the European strategy for particle physics (CERN Council)

Computer and data treatment
- **INFRA-2007-2.2.2.1:** EU-HPC (European High-Performance Computing Service)

3.   The Integrated Infrastructure Initiative (I3) model

Integrated Infrastructure Initiatives (I3) should combine, in a closely co-ordinated manner: (i) *Networking activities,* (ii) *Trans-national access and/or service activities* and (ii) *Joint research activities*. All three categories of activities are mandatory as synergistic effects are expected from these different components.

(i) Networking activities. To foster a culture of co-operation between the participants in the project and the scientific communities benefiting from the research infrastructure. Networking activities could include (non exhaustive list):

- joint management and pooling of distributed resources;
- development of common standards, protocols and interoperability;
- benchmarking;
- development and maintenance of common databases for the purpose of networking and management of the users and infrastructures;
- spreading of good practices;
- provision of consultancy and training courses to new users;
- foresight studies for new instrumentation, methods, concepts and/or technologies;
- promotion of clustering and concertation actions amongst related projects;
- coordination with national or international related initiatives and support to the deployment of global approaches to science;
- dissemination of knowledge;
- internal and external communication.

(ii) Trans-national access and/or service activities.

<u>*Trans-national access activities*</u>

To provide trans-national access to researchers or research teams to one or more infrastructures among those operated by participants. These access activities should be implemented in a coordinated way such as to improve the overall services available to the research community. Access may be made available to external users, either in person ("hands-on") or through the provision of remote scientific services, such as the provision of reference materials or samples or the performance of sample analysis.

Community financial support should never exceed 20% of the annual operating costs of the infrastructure to prevent it from becoming dependent on the Community contribution and should not include capital investments. This financial support will serve to provide access "free of charge" to external users, including all the infrastructural, logistical, technological and scientific support (including training courses, travel and subsistence for users). Access costs will be defined on the basis of "user fees" related to the operating costs of the infrastructure.

The research infrastructures must publicise widely the access offered under the contract to ensure that researchers who might wish to have access to the infrastructure are made aware of the possibilities open to them. They must maintain appropriate documentation to support and justify the amount of access reported. This documentation shall include records of the names, nationalities, and home institutions of the users within the research teams, as well as the nature and quantity of access provided to them.

The selection of researchers or research teams shall be carried out through an independent peer-review evaluation of their research projects. The research team, or its majority, must come from countries other than where the operator of the infrastructure is established (when the infrastructure is composed of several research facilities, operated by different legal entities, this condition shall apply to each facility) except in the case of a distributed set of resources or facilities offering remote access to the same services. Only research teams that are entitled to disseminate the knowledge they have generated under the project are eligible to benefit from research services to the infrastructure under the contract. The duration of stay at a research infrastructure shall normally be limited to three months.

Service activities

To provide specific research infrastructures related services to the scientific community. This may include:

– scientific services freely available through communication networks (e.g. databases available via Internet). Only services widely used by the community of European researchers will be supported. In such case, projects of potential users would not normally be subject to peer review. However, in such cases, the services offered to the scientific community will be periodically assessed by an external board.
– procurement and upgrading communication infrastructure, network operation and end-to-end services;
– Grid infrastructure support, operation and management; integration, test and certification; services deployed on top of generic communication and computing infrastructures to build and serve virtual communities in the various scientific domains;
– deployment, quality assurance and support of middleware component repositories;
– data and resources management (including secure shared access, global scheduling, user and application support services) to foster the effective use of distributed supercomputing facilities; federated and interoperable services to facilitate the deployment and wide use of digital repositories of scientific information.

(iii)Joint Research activities. These activities should be innovative and explore new fundamental technologies or techniques underpinning the efficient and joint use of the participating research infrastructures. To improve, in quality and/or quantity, the services provided by the infrastructures, these joint research activities could address (non exhaustive list):

– higher performance methodologies and protocols;
– higher performance instrumentation, including the testing of components, subsystems, materials, techniques and dedicated software;
– integration of installations and infrastructures into virtual facilities;
– innovative solutions for data collection, management, curation and annotation;
– innovative solutions for communication network (increasing performance, improving management, exploiting new transmissions and digital technologies, deploying higher degrees of security and trust) and introduction of new end-to-end services (including dynamic allocation of resources and innovative accounting management);
– novel grid architecture frameworks and policies, innovative grid technologies, or new middleware solutions driving the emergence of high level interoperable services;
– advanced Service Level Agreements and innovative licensing schemes, fostering the adoption of e-Infrastructures by industry;
– innovative software solutions for making new user communities benefit from computing services.

4.   Evaluation for criteria Integrating Activities, ICT-based e-infrastructures and construction of new infrastructures--preparatory phase

4.1   Integrating Activities and ICT based e-Infrastructures

1. Scientific and/or technological excellence (award)

- Clarity of the objectives and quality of the concept.
- Contribution of the overall project to the provision of integrated services and to the co-ordination of high quality research.
- Quality and effectiveness of the Trans-national Access and Services, and associated work plan: The extent to which the activities will offer high quality services, access to state-of-the-art infrastructures, and will enable users to conduct high quality research.
- Quality and effectiveness of the Joint Research Activities and associated work plan: The extent to which the activities will contribute to quantitative and qualitative improvements of the services provided by the infrastructures.
- Quality and effectiveness of the co-ordination mechanisms and associated work plan: The extent to which the Networking Activities will foster a culture of co-operation between the participants, and enhance the services to the users.

2. Quality and efficiency of the implementation and the management (selection)

- Appropriateness of the management structure, the management procedures, and the implementation plan to achieve the objectives of the project. Quality and relevant experience of the individual participants and quality of the consortium as a whole (including complementarity, balance, critical mass).
- Appropriate allocation and justification of the resources to be committed (budget, staff, equipment), by task and participant.

3. The potential impact (award)

- Contribution at the European level of the access and service activities towards an improved access to - and use of - the pool of research infrastructures and new opportunities of access and use for researchers from across the EU.

- Contribution at the European level of the Joint Research Activities towards an optimum development of research infrastructures.

- Contribution at the European level of the collaborative arrangements put into place and the perspectives for their long-term sustainability, towards a structuring impact on the pool of research infrastructures in Europe.

- Appropriateness of measures envisaged for the management of intellectual property and for the dissemination and/or exploitation of project results among operators/users of research infrastructures.

Note:
- Evaluation scores will be awarded for each of the three criteria, and not for the sub-criteria. Each criterion will be scored out of 5. No weightings will apply. The threshold for individual criteria will be 3. The overall threshold, applying to the sum of the three individual scores, will be 10.

- The second criterion corresponds to the **selection criteria** in the meaning of the financial regulations [ref] (article 115). It will be the basis for assessing the 'operational capacity' of participants. The remaining criteria and sub-criteria correspond to the **award criteria**.

4.2   Construction – preparatory phase

1. Scientific and/or technological excellence (award)

- Clarity and appropriateness of the proposal to reach the fundamental objective of offering a world-level service in response to needs of users from the research community.
- Contribution to scientific European excellence and to the co-ordination of high quality research in Europe.
- Quality and effectiveness of the co-ordination mechanisms, and associated work plan, for the construction of the proposed infrastructure.

2. Quality and efficiency of the implementation and the management (selection)

- Appropriateness of the proposed management structure, procedures and implementation plan to achieve the objectives of the project.
- Quality of partnership: the extent to which the proposal demonstrates the relevant commitment and experience of participants, and brings together all relevant parties that need to work together in order to realise the proposed infrastructure.
- Appropriate allocation and justification of the resources to be committed (budget, staff, equipment), by task and participant, having due regard to the whole project life-cycle.

Criterion 3:   Impact (weight: 1; threshold: 3/5)

- Contribution to the realisation of the infrastructure (for example, the proposal directly addresses those critical questions that urgently need to be resolved in order to reach a European / international agreement on the joint implementation of the infrastructure).
- Contribution of the proposed infrastructure to technological development capacity, the attractiveness of the ERA and the Community objective of balanced territorial development , taking into account the potential of the convergence regions as well as the outermost regions; contribution to the reinforcement of research-based clusters of excellence around such new infrastructure(s).
- Added Value of the Community financial support: the extent to which the proposal demonstrates a catalytic and leveraging effect of the EC involvement and the inability of existing mechanisms at national level to achieve the objective.

Note:

- Evaluation scores will be awarded for each of the three criteria, and not for the sub-criteria. Each criterion will be scored out of 5. No weightings will apply. The threshold for individual criteria will be 3. The overall threshold, applying to the sum of the three individual scores, will be 10.

- The second criterion corresponds to the **selection criteria** in the meaning of the financial regulations [ref] (article 115). It will be the basis for assessing the 'operational capacity' of participants. The remaining criteria and sub-criteria correspond to the **award criteria**.

5.   Risk-Sharing Finance Facility

In accordance with Annexes II and III of the Specific Programme, the Community will provide a contribution to the European Investment Bank (EIB). This contribution will contribute to the Community's objective to foster private sector investment in research, technological development and demonstration (RTD) as well as innovation through a Community contribution to a Risk-Sharing Finance Facility (RSFF), a financing instrument established by the European Investment Bank.

Private investment in research and innovation in Europe is below the level necessary to achieve the ambitions of the Lisbon agenda and the Barcelona objective. In addition to grants, other mechanisms are being increasingly used to leverage private investment by firms, to mobilise the financial markets and to diversify funding sources for European RTD actions, including research infrastructures.

Improving access to loans for RTD actions requires public support to overcome market deficiencies for the financing of riskier European RTD actions.

<u>Approach</u>

The Community will provide a contribution (Coordination and Support Action) to the EIB for RSFF. The Bank will be the sole beneficiary of this Community action. Pursuant to a decision by the EIB Board of Directors, endorsed by the Bank's Governors on 9 June 2006, the EC contribution will be matched by an equivalent amount from the EIB (up to EUR 1 billion). The Governors approved the immediate appropriation from the Bank's surplus of EUR 250 million for RSFF operations.

The level of the Community risk coverage for each operation shall depend on the financial risk evaluation carried out by the EIB. The level of total provisioning and capital allocation for the majority of RSFF operations is expected to fall within the range of 15%-25% of the nominal value of such operations. In no case shall the level of total provisioning and capital allocation amounts of the Community contribution exceed 50% of the nominal loan or guarantee value. There will be risk sharing under each operation, according to the methodology established in the Agreement to be concluded between the Commission and the EIB.   The percentage of risk covered by the Community contribution for each operation will be variable and will depend, inter alia, on the risk grading of such operation as well as its maturity.

In accordance with this Work Programme part, the Commission and the EIB will conclude an Agreement, defining terms and conditions related to RSFF and, in particular, to the use of the Community contribution in RSFF, the risk-sharing methodology, the indicative annual budget, the reporting conditions, the governance, the rules for establishment of network of financial intermediaries in all Member States and associated countries and its relating conditions, etc.

As the interest builds up and financing applications emerge, the EIB will launch the appraisal of potential projects according to its usual rules and criteria.

International Co-operation

In accordance with the provisions of the Specific Programme, the EIB may only use the Community contribution to RSFF to cover risk of operations limited to those borrowers or beneficiaries of guarantees from legal entities from third countries other than Associated countries who participate in FP7 projects and whose costs are eligible for Community funding.

Dissemination actions

Throughout 2007 the EIB will continue an intensive awareness raising campaign which has been launched with the Community financial assistance in 2006.

RSFF will involve development of financial engineering solutions adapted to the needs of European research infrastructures. Such solutions will be implemented and tested by the EIB and its financing partners.

Case studies of such solutions, i.e. risk-sharing arrangements with financing partners and new products developed specifically for RSFF will be published on the EIB dedicated RSFF website.

A workshop for representatives of the banking sector in Member States and Associated countries will be held in the 2nd quarter of 2007 to disseminate such financial engineering solutions and seek other co-operation opportunities.

Contacts with potential clients

The launch of RSFF dedicated website and other awareness raising activities started in 2006 are expected to result in applications for financing from promoters of European research infrastructures. In parallel, the EIB loan officers will launch contacts with research infrastructures explaining the existence of new financing options made possible by RSFF.

RSFF will be offered in all Member States and associated countries in order to ensure that all legal entities, irrespective of size (including SMEs and research organisations, including universities) in all Member States and associated countries, may benefit from this facility for the funding of their activities in eligible actions. This will entail the identification by the EIB of at least one financial intermediary partner in each Member state and Associated country. While there is no reason to anticipate in difficulty in this regard, the Member states and associated countries' attention is drawn to the fact that, in case of such difficulty arising (meaning, no financial intermediary partner interested to join EIB network for RSFF purpose), there will be a dependence on the best efforts of the Member states and associated countries themselves to ensure that there is no consequential damage to the interests of participants in their countries.

Governance

RSFF will be managed by the EIB in accordance with its own rules and procedures, with due regard to terms and conditions of the Agreement between the Commission and the Bank. RSFF implementation and in particular the use of the Community Contribution will be supervised by a Steering Group, consisting of three representatives, at the Director level, from the Commission and the Bank respectively.

The Commission will closely monitor the effective use of the Community Contribution, including ex-post assessments of the successful features of the action, and regularly report to the programme committee. In addition, the Commission will include main findings in this respect to the annual report on research and technological development activities which it will send to the European Parliament and the Council pursuant to Article 173 TEC.

In addition, and in compliance with the mid-term evaluation referred to in Annex II of the Framework Programme, the Commission will provide at that time a report containing information on the participation per type of legal entities, the fulfillment of the FP7 selection criteria, the kind of projects supported and the demand for the instrument concerned, the duration of the authorisation procedure, the project results, and the funding distribution.

<u>Selection of Projects for Financing and the Eligibility Criteria</u>

The EIB has been recognised as a beneficiary of the Community action in the Council and Parliament decision adopting the 7th Framework Programme.

In accordance with the principles established in the Specific Programme the EIB will use the Community contribution on a "first come, first served basis," as provisions and capital allocation within the Bank to cover part of the risks associated with its operations supporting eligible research infrastructures.

The development of research infrastructures funded by the Community shall be automatically eligible.

Other research infrastructures, located within or outside the territory of the European Union, shall be eligible if they demonstrate that their ownership or operation (will) involve entities in at least three Member states or associated countries and that their services are used or requested for use by research communities from at least three Member states or associated countries.

The EC contribution to RSFF may only be used to support activities which can be classified as "fundamental research", "industrial research" or "experimental development" as defined in the Community Framework for State Aid for Research and Development and Innovation (to be adopted by the Commission). Prototypes and pilot projects, which are part of "experimental development", may be eligible if they fulfill the conditions specified therein. Innovation activities intended to prepare the commercial use of research results (such as training, technology management and transfer) are eligible if they are linked to and complementary to research, technological development and demonstration activities, the later constituting the bulk of any eligible European RTD action. Other innovation activities of a commercial nature are eligible for RSFF only via the use of the EIB's own contribution.

The Agreement with the Bank will comprise a list of investment costs consistent with the above mentioned definitions in the Community Framework for State Aid for Research and Development and Innovation.

The Agreement with the Bank will also comprise a list of exclusions from financing with support of the Community contribution, reflecting political agreement between the Commission; the Member States and the European Parliament as documented in the Seventh Framework Programme and the Specific Programme "Capacities".

The Commission Right to Object to the Use of the Community Contribution

The Commission has a right to express its opinion on each and every financial operation proposed by the EIB to its Board for decision under (Article 21 of the EIB Statute). Where the Commission delivers an unfavourable opinion, the EIB Board may not grant the loan or guarantee concerned, unless it votes unanimously in its favour, the Commission nominee abstaining. Should the Bank proceed with financing despite the Commission's negative opinion the Community contribution to RSFF may not be used.

In accordance with Rules of Participation, the Commission may object, in duly justified cases, the use of the Community contribution for provisioning and capital allocation against a loan or a guarantee proposed by the EIB. If such a case arises the Commission may conduct an independent, internal or external, review of such a case.

Under the Capacities Programme, only the Research Infrastructures actions contribute to RSFF.

In compliance with Annex II to the 7th Framework Programme, the Community financial contribution to RSFF from the Research Infrastructures actions of the Capacities Programme will be of an amount of up to EUR 100 million until 2010.

This planning will be revised, and, if appropriate, adapted each year, taking into account the evolution of demand for RSFF operations and the results of the evaluation of the Council and the European Parliament under the procedure described in Article 7(2) of the 7th Framework Programme on the basis of a report by the Commission containing information on the participation of SMEs and universities, the fulfilment of the FP7 selection criteria, the duration of the authorisation procedure, the project results, and the funding distribution. The Community financial contribution to RSFF from the Research Infrastructures actions of the Capacities Programme may reach a maximum amount of EUR 200 million for 2007-2013.

Subject to necessary budgetary approvals, the first payment to the EIB will be made in the first quarter of 2007.

From 2009 on it is foreseen to proceed annually with an equal amount of commitment and payment of the Community contributions to RSFF, based on an the EIB's activity and forecast report and its request for the amount of the contribution estimated necessary for the following year. Following mid-term evaluation, however, the payment may be made in (several) instalments to ensure the maximum match between funds paid to the EIB and used for provisions and capital allocation.

<u>Community Contribution to RSFF in 2007 and 2008</u>

In order to send a strong signal of the Community commitment to RSFF in line with the mandate from the Council the Commission will commit, in 2007, an amount of EUR 40 million for the period 2007-2008.

<u>Process for Recovering and Reallocating Unused Community Funds</u>

In order to mitigate the risk of accumulation of unused funds the multi-annual planning will be adjusted on the basis of reports including pipeline report (summary of information on projects considered for financing) and demand forecasts. Amounts committed but not paid to the EIB – i.e. not used for the operations of RSFF – will be reallocated to other activities of the contributing themes. The mid-term evaluation will include an external assessment of the impact of the RSFF.

Notwithstanding the above and unless the Council adopting the 8th Framework programme decides otherwise the Commission will recover from the Bank any unused funds of the Community contribution (including interest and income) which on the 31 December 2013 have not been used or committed to be used or are required to cover eligible costs.