

WORK PROGRAMME 2009

CAPACITIES

PART 1

RESEARCH INFRASTRUCTURES

(European Commission C(2008)4566 of 26 August 2008)

FP7 Capacities Work Programme: Infrastructures

This work programme sets out the following activities for 2009:

- 1) Page 9: New topic under the ICT-based e-Infrastructures activity to support the establishment of a Scientific Information Repository for FP7.
- 2) Page 12: Sub-actions under the Support for policy development and programme implementation activity to support international cooperation for e-Infrastructures and to support ERA-NETs
- 3) Page 14: Detailed information on the Call FP7-INFRASTRUCTURES-2009-1
- 4) Page 16: Addition of one grant to named beneficiaries for EUR 130 000 for the Czech Presidency Conference on Research Infrastructures
- 5) Page 17: Needed support from independent experts (EUR 600 000).

In addition, it complements the 2008 work programme COM (2007)5759 adopted on 29 November 2007 by adding the following funding to supporting strategic actions:

- 6) Page 18: Addition of EUR 191.84 million from the 2009 budget to the Call FP7-INFRASTRUCTURES-2008-1.
- 7) Page 18: Addition of EUR 93 million from the 2009 budget to the Call FP7-INFRASTRUCTURES-2008-2.

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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 via FP7 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 vision¹.

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

¹ Moreover, the Community also supports the development and construction of research infrastructures via Cohesion Policy.

and communications; any other entity of a unique nature essential to achieve excellence in research. Such 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. FP7 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 FP7 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 support² 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.

¹ <http://cordis.europa.eu/esfri/home.html>

² Synergies with the support offered through Cohesion Policy for research infrastructures might be sought by the project promoters by contacting the relevant national or regional Managing Authority for financial support (see: http://ec.europa.eu/regional_policy/manage/authority/authority_en.cfm). Cohesion Policy may also provide technical assistance for the preparation of major projects, including for research infrastructure projects, to national authorities from Convergence regions (see: <http://www.jaspers.europa.eu/>).

Strategy for 2009 and for the future

Taking into account the limited budget available under FP7 the first work programme 2007 focussed on e-infrastructures and Support to new research infrastructures; whereas the work programme 2008 focused on the support to existing research infrastructures with the calls for Integrating Activities and e-Infrastructures.

Considering the budgetary needs for the calls FP7-INFRASTRUCTURES-2008-1 and call FP7-INFRASTRUCTURES-2008-2, a large part of the 2009 resources will be used to support the proposals recommended under these calls.

The WP 2009 mainly considers an additional call (FP7-INFRASTRUCTURES-2009-1) with an indicative budget of EUR 9.6 million, foreseen for publication in late 2008 to cover the establishment of a Scientific Information Repository for FP7 as well as the international cooperation aspects of e-Infrastructures.

As for the future, the strategic approach both for the existing and new research infrastructures will be continued. In the autumn 2009, based on the WP 2010, it is intended to launch again calls for proposals covering both support to existing research infrastructures, *support to new research infrastructures and Policy Support Actions*. As of 2010, a main challenge will be to determine for which projects of the ESFRI list, the Commission will provide support for the actual construction phase.

II. CONTENT OF CALLS IN 2009

1.1 Support to existing research infrastructures

1.1.1 Integrating Activities

Integrating Activities have been covered under **call 3 in 2008**, aiming 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. It is reminded that 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 VI.

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.

The next call for proposals is expected to be published at the end of 2009

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 (including in the area of social sciences and humanities); coordinated deployment of scientific digital repositories, leading to the deployment of a European scientific data infrastructure; launching of socio-economic impact studies, development of common policies and cooperation with similar initiatives in other continents.

e-Infrastructure activities related to the further deployment and evolution of the pan-European high-capacity and high-performance communication network (GÉANT) have been covered by **call 2 in 2008**. The actions supporting the deployment of a broad *European multidisciplinary scientific data infrastructure* were also covered by the WP 2008.

The **WP 2009** will concentrate on additional activities centred on the provision of data 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 VI).

Funding scheme: combination of *Collaborative Projects* and *Coordination and Support Actions*.

- **INFRA-2009-1.2.3: Scientific Information Repository supporting the European FP7 Research Programme.** This activity supports the establishment and operation of a technical infrastructure of digital repositories, *with European footprint*, to deposit and access scientific articles and data produced in the context of the FP7 Research, Technological development and Demonstration activities, as well as those of the European Research Council (ERC). Building on existing work on repositories, this e-Infrastructure facility should among other services provide:
 - A helpdesk and a 24/7 operational service.
 - A post print authoring tool to allow researchers to convert articles into more readable and user friendly formats.
 - Monitoring data and statistics on use on a regular basis.
 - Information and guidance to scientific communities on the use of the infrastructure (e.g. through workshops, training actions, communication events, etc).
 - Preparatory action towards the extension of the e-infrastructure ability to cope with storage, management and access of scientific data.

Expected impact: Reliable and easy access to and dissemination of data and scientific publications can stimulate research innovation and excellence and is an important element in the development of an increasingly competitive knowledge-based European economy. Improved access can accelerate the research and discovery process, thereby leading to increased returns on R&D investment. This experiment will enhance access to scientific information produced in the context of FP7. It will also demonstrate the feasibility of linking many different repositories as a service and e-Infrastructure.

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.

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.

The next call for proposals for 'Design Studies' is expected to be published at the end of 2009.

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. 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.

The next call for proposals for 'Construction of new infrastructures - preparatory phase' is expected to be published at the end of 2009.

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.

- **INFRA-2009-3.1: 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 agencies¹.

3.2: Studies, conferences and coordination actions supporting policy development, including international cooperation, in all S&T fields. This helps to take stock of the advancement of activities in the various areas covered, as well as of the development of access and IPR policies for research infrastructures of pan-European interest.

The next call for proposals is expected to be published at the end of 2009

- **INFRA-2009-3.3: Studies, conferences and coordination actions supporting policy development in the context of international cooperation for e-Infrastructures.** This action would promote international interoperation between the e-Infrastructure and similar infrastructures from other regions (e.g. USA, China, India, Mediterranean etc) with the aim of reinforcing the global relevance and impact of European e-Infrastructures.

Expected impact: Support measures are expected to strengthen 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 in the field of e-services are expected to contribute to the emergence of sustainable approaches for the provision of cross-disciplinary research services.

Funding scheme: *Coordination and support actions.*

¹ Where Structural Funds managing authorities are funding agencies, they can of course participate.

1.4 Other activities

- ***Grants to named beneficiaries: Conferences on Research Infrastructures***

In the context of the rotating Presidency of the Union, the Research Infrastructure action would support major European conferences on research infrastructures. These events, to be jointly organised with the European Commission, are outside the scope of call for proposals. They will be supported using Coordination and *Support Actions*.

III. IMPLEMENTATION OF CALLS

3.1. Call 5 (call identifier: FP7-INFRASTRUCTURES-2009-1)

- Date of publication¹: 09 December 2008
- Deadline¹: 17 March 2009, at 17.00.00, Brussels local time.
- **Indicative budget**²: EUR 9.60 million³
- Topics called

Line of action/Activity	Topics called	Funding scheme(s)	EUR million indicative
1.1 Support to existing research infrastructures			
1.1.2 ICT based e-Infrastructures	INFRA-2009-1.2.3: Scientific Information Repository supporting the European FP7 Research Programme	Combination Collaborative projects and Coordination and Support Actions (CP-CSA-INFRA)	4.00
1.3 Support to policy development and programme implementation	INFRA-2009-3.1: ERA-NET ⁴ supporting cooperation for research infrastructures in all S&T fields	Coordination and Support Actions (CSA-CA)	1.60
	INFRA-2009-3.3: Studies, conferences and coordination actions supporting policy development in the context of international cooperation for e-Infrastructures	Coordination and Support Actions (CSA-CA or CSA-SA)	4.00

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 The final budget awarded to this call, following the evaluation of projects, may vary by up to 10% of the total value of the call. The repartition of the sub-budgets awarded within this call, following the evaluation of projects, may vary by up to 10% of the total value of the call.

³ Under the condition that the preliminary draft budget for 2009 is adopted without modifications by the budgetary authority.

⁴ Complete and detailed information on funding scheme, special eligibility criteria and expected impact of ERA-NET and ERA-NET Plus can be found in Annex IV of the Cooperation work programme.

- Evaluation procedure:
 - The general eligibility, selection and award criteria are set out in Annex 2 to this work programme.
 - A one stage submission procedure will be followed, with possible hearings.
 - Proposals may be evaluated remotely.
- Indicative evaluation and grant agreement timetable:
 - Evaluation results: estimated to be available within some 4 months after the closure date.
 - Grant agreement signature: it is estimated that the first grant agreements related to this call will come into force during the second half of 2009.
- 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 the topic '3.1 ERA-NET', the project duration is expected to be 24 to 36 months.
 - ERA-NETs are aimed at developing and strengthening the cooperation and coordination of national and/or regional and programmes for research infrastructures. Activities eligible for funding should correspond to: (1) information exchange, (2) Definition and preparation of joint activities and (3) Implementation of joint activities (for more details on these activities please look at Annex 4 of the 'Cooperation' work programme).

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. For the evaluation of ERA-NET the general criteria and thresholds applicable to Coordination and Support Actions given in Annex 2 are supplemented by the following sub-criteria and thresholds:

1. Scientific and/or technological excellence - Quality of coordination (Threshold 3/5)

- The management should be supported by a suitable governance structure involving the participating organisations at an appropriate level.

2. Quality and efficiency of the implementation and the management (Threshold 3/5)

- In reference to the applicable work programme, does the proposed ERA-NET / ERA-NET Plus action pool the necessary resources between national programmes and the Community and does it represent the most appropriate type of public funding for this pre-defined area?

3. Potential impact (Threshold 3/5)

- The participants should be the key actors within their national or regional research systems.
 - The ERA-NET activities should lay the foundations for a durable cooperation between the partners involved. Is there a clearly identified and agreed European added value through a variable geometry approach?
- The forms of grant and maximum reimbursement rates which will be offered are specified in Annex 3 to the Capacities work programme.
 - Reserve lists may be produced of projects that pass the evaluation but fall below the available budget in case additional budget becomes available.
 - In case the budget of EUR 1 600 000 for the topic 'INFRA-2009-3.1: ERA-NET' can not be consumed (totally or partially) the corresponding budget will be transferred to the Activity 'INFRA-2009-3.3: Studies, conferences and coordination actions'.

IV. Other Actions

- **Grants to named beneficiaries: Conferences on Research Infrastructures**

Following the *Slovenian Presidency Conference*, which took place in March 2008, and the *French Presidency Conference*, related to ECRI 2008, in the context of the rotating Presidency of the Union, the Research Infrastructure action would support in 2009 a major European conference on research infrastructures. These events, jointly organised with the European Commission, are outside the scope of call for proposals. They are supported using Coordination and Support Actions (support actions). The general eligibility, selection and award criteria are those set out in annex 2 to this work programme.

- The beneficiary of the grant¹ *for the Czech Presidency Conference* will be the Ministry of Education, Youth and Sports of the Czech Republic, Karmelitská 7, 11812 Prague. The conference will take place in March 2009 in the Prague Congress Centre. It should be a two days event for around 250 participants. The rate of co-financing will be up to 75 % for a maximum EC funding of EUR 130 000. The objectives expected to be fulfilled are: (1) to continue analysing the impact of RIs (including e-infrastructures) on the development regions of ERA and their impact on the forming of knowledge triangle communities; (2) to continue strengthening the development of a comprehensive strategy for RIs at pan-European level; (3) to analyse the first results of an orchestrated funding to support an harmonious development of ERA through the structuring of RIs at pan-European level; (4) to support the integration of Western Balkan countries into the RIs strategies of building ERA.

- **External expertise**

- 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.

- **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 6.4 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 6.3. The Commitment Appropriations for the RSFF in 2009 will be 30.72 M€.

¹ In compliance with Article 14(a) of the Rules of Participation and Article 168 of the Implementing Rules of the Financial Regulation.

Indicative budget

	Budget 2009 EUR million
Call 3 (FP7-INFRASTRUCTURES-2008-1 see WP 2008)	191.84 *
Call 4 (FP7-INFRASTRUCTURES-2008-2 see WP 2008)	93.00 **
Call 5 (FP7-INFRASTRUCTURES-2009-1)	9.6
Other activities <ul style="list-style-type: none"> • RSFF (EUR 30.72 million). • Independent experts (EUR 0,6 million) • Grants to named beneficiaries: <ul style="list-style-type: none"> - Czech Presidency Conference on Research Infrastructures (EUR 0,13 million) 	31.45
Estimated total budget allocation	325.89

* This amount will be added to the already available EUR 90.08 million from the 2008 budget to support proposals to be selected under **call 3**, thereby making the total indicative allocation **EUR 281.92 million**, under the condition that the preliminary draft budget for 2009 is adopted without modifications by the budget authority.

** This amount will be added to the already available EUR 20.00 million from the 2008 budget to support proposals to be selected under **call 4**, thereby making the total indicative allocation **113 M€**, under the condition that the preliminary draft budget for 2009 is adopted without modifications by the budget authority.

Budget figures in this work programme

All budgetary figures given in this work programme are indicative. Following the evaluation of proposals the final budget awarded to actions implemented through calls for proposals may vary:

- by up to 10% of the total value of the indicated budget for each call, and
- any repartition of the call budget may also vary by up to 10% of the total value of the indicated budget for the call.

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The final budgets for evaluation, monitoring and review may vary by up to 20% of the indicated budgets for these actions. The final budget awarded for all other actions not implemented through calls for proposals may vary by up to 10% of the indicated budget for these actions.

V. INDICATIVE PRIORITIES FOR FUTURE CALLS

The table below provide information about calls already published and indicative priorities for futures calls. Dates indicated for future calls are tentative call deadline.

Activity	Call 1 (02.5.07)	Call 2 (20.9.07)	Call 3 (29.2.08)	Call 4 (11.9.08)	Call 5 (17.3.09)	Call 6 (Autumn 2009)	Call 7 (Spring 2010)	Call 8 (Spring 2012)
Integrating activities			272.9				X	X
e-Infrastructures	42	50		113	4	X	X	X
Design studies	31						X	
Construction – support to the preparatory phase	146.7						X	
Support to policy development and programme implementation	8	14	9		5.6	X	X	X
Budget (EUR million)	227.7	64	281.9	113	9.6			

Call N° 6 and 7 in 2009/2010 will address the following topics:

- INFRA-2009-1.2.x ICT based e-Infrastructures (grid infrastructures, virtual research communities)
- INFRA-2009-3.2 Studies, conferences, coordination actions supporting policy development, incl. international cooperation, for e-Infrastructures
- INFRA-2010-1.1.1 Integrating Activities in all scientific and technological fields
- INFRA-2010-1.1.2.x Integrating Activities to support the specific needs of thematic priority areas
- INFRA-2010-1.2.1 ICT based e-Infrastructures (scientific data infrastructures)
- INFRA-2010-2.1.1 Design Studies for research infrastructures in all S&T fields
- INFRA-2010-2.2.1.x Preparatory phase for research infrastructures
- INFRA-2010-3.1 Studies, conferences, coordination actions supporting policy development, including international cooperation, in all S&T fields

VI. COMPLEMENTARY INFORMATION

6.1. 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;
- strengthening of virtual research communities;
- 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, consultancy and training courses to new users;
- foresight studies for new instrumentation, methods, concepts and/or technologies;
- promotion of clustering and coordinated 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*.

Trans-national access activities. 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 grant agreement 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 grant agreement. 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.
- vertical integration of the different services in support of specific virtual research communities, including virtual laboratories for simulation and specific workspaces.

(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.

6.2. Evaluation criteria for Integrating Activities and ICT based e-Infrastructures

1. *Scientific and/or technological excellence (relevant to the topic addressed by the call)* (award)

- Soundness of concept and quality of objectives
- Progress beyond the state-of-the-art
- Quality and effectiveness of the methodology to achieve the objectives of the project, in particular the provision of integrated services.
- Quality and effectiveness of the Networking Activities and associated work plan. : The extent to which the co-ordination mechanisms will foster a culture of co-operation between the participants, and enhance the services to the users.
- Quality and effectiveness of the Trans-national Access and/or Services, and associated work plan. The extent to which the activities will offer access to state-of-the-art infrastructures, high quality services, 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.

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

- Appropriateness of the management structure and procedures.
- Quality and relevant experience of the individual participants
- 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 work package and participant.

3. *The potential impact through the development, dissemination and use of project results* (award)

- Contribution at the European level towards structuring the European Research Area and optimising the use and development of the best research infrastructures existing in Europe.
- Appropriateness of measures for the dissemination and/or exploitation of project results and knowledge, for the management of intellectual property and for spreading excellence

Notes:

- 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 (OJ L248 16.9.2002, p1., 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**.

6.3. 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 support 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 the Risk-Sharing Finance Facility (RSFF), a new financing instrument established by the European Investment Bank with the support of the EC.

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.

Approach

Within the framework of a maximum contribution of EUR 1 billion for the period 2007-2013, the Community has provided its first contribution (Coordination and Support Action) to the EIB for RSFF for a maximum amount of EUR 200 million for the period 2007-2008, EUR 40 million of which coming from the Research Infrastructures Programme. For the period of 2009 it is expected that the EU will transfer EUR 153.6 million to the EIB, out of which EUR 30.72 million from the Capacities Specific Programme (Research Infrastructures). The Bank is 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 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.

The co-operation agreement between the European Community (EC) and the European Investment Bank (EIB) in respect of the Risk-Sharing Finance Facility (RSFF) – the RSFF Co-operation agreement – was approved by the Commission (Commission Decision C(2007)2181 – 25/05/2007) and signed on 5 June 2007 by Commissioner Janez Potočnik and President Philippe Maystadt.

This Agreement, defines 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 has launched 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 or, in the case of Research Infrastructures, if the beneficiary is able to demonstrate that either the infrastructure(s) ownership or operation(s) (will) involve independent legal entities in at least three Member States or Associated Countries, or the infrastructure(s) services are (will be) used or requested for use by research communities from at least three Member States or Associated Countries.

Dissemination actions

Throughout 2007 the EIB has carried out an intensive awareness raising campaign which has been launched with the Community financial assistance in 2006 (FP6 SSA). Awareness raising will continue in 2009, with special focus on the most research intensive sectors in Europe and, in the case of Research Infrastructures, on the ESFRI Roadmap.

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 web-site.

A workshop for representatives of the banking sector in Member States and Associated countries has been held in July 2007 to disseminate such financial engineering solutions and seek other co-operation opportunities. Initiatives of this kind will be continued in 2009, both at European and national level.

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 active in each Member state and Associated Country. While there is no reason to anticipate any difficulty in this regard, the attention of the Member States and Associated Countries 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 is managed by the EIB in accordance with its own rules and procedures, with due regard to terms and conditions of the RSFF Cooperation 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 at least four representatives, at the Director level, from the Commission and the Bank respectively.

The Commission will continue to closely monitor the effective use of the Community Contribution, including ex-post assessments of the successful features of the action, and to 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 fulfilment of the FP7 selection criteria, the kind of projects supported and the demand for the instrument concerned, the duration of the authorization procedure, the project results, and the funding distribution.

Selection of Projects for Financing and the Eligibility Criteria

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. Prototypes and pilot projects, which are part of 'experimental development', may be eligible if they fulfil 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 RSFF Cooperation Agreement with the Bank comprises 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 RSFF Cooperation Agreement with the Bank also comprises 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.

Community Contribution to RSFF in 2009

The Commission will commit, in 2009, an amount of EUR 153.6 million, of which EUR 30.72 million coming from the Research Infrastructures Programme.

The first payment to the EIB was launched at the beginning of the summer 2007 for an amount of EUR 50 million, EUR 36 million of which coming from this Programme. In compliance with the provisions of the RSFF Co-operation agreement, an additional payment from the Specific Programme Cooperation was carried out before the end of 2007 justified by the level of the demand. As far as the Research Infrastructures Programme is concerned the remaining payment appropriations for the period 2007-2008 is equal to EUR 4 million.

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.

Process for Recovering and Reallocating Unused Community Funds

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.

FP7 Capacities Work Programme: Infrastructures

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.