DRAFT

WORK PROGRAMME 2010

CAPACITIES

PART 1

RESEARCH INFRASTRUCTURES

(European Commission)

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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 vision[1].

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 e-Infrastructures such as Grid, computing, software and communication networks; any other entity of a unique nature essential to

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

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 facilitate the access of research teams from all over 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:* these projects bring together and integrate, on a European scale, key research infrastructures in a given class, in order to promote their coordinated use and development. Integrating Activities provide researchers with a harmonised and optimised access to the best research infrastructures of a given class, independent of where the research infrastructures are located and by whom they are operated. In particular, they will provide users with harmonised and enhanced interfaces, improved processing methods and optimised procedures. Integrating activities create the basis for a more rapid advancement of science in Europe, enabling the development of new advanced technologies and the associated growth of the European technology market as well as the creation of a new generation of researchers ("*generation TA*"), ready to exploit in the best way all the essential tools needed for their research. Lastly, by integrating major scientific equipment (telescopes, synchrotrons, research vessels, …) or set of instruments (sensors, microscopes, radars, …), as well as knowledge based-resources such as collections, archives or structured scientific information, they harmonise and organise the continuous flux of data collected or produced by these facilities and resources.
- *e-Infrastructures*: Relentless progress in ICT makes it now possible to deploy integrated computing and communication environments that radically transform the process of scientific and engineering research. In *eScience*, computer simulation and knowledge extraction from unprecedented amounts of data help to address scientific and global challenges of enormous complexity and scale. These ICT-based environments, commonly called e-Infrastructures, empower researchers by offering them access to facilities and resources regardless of their location. They foster the emergence of new working methods, based on the shared use of resources across different disciplines and technology domains enabling sustainable collaboration and partnerships between researchers in 'virtual research communities' in all e-Science fields. e-Infrastructures include high-capacity and high-performance communication networks (GÉANT), grid-empowered resource sharing infrastructures and supercomputing facilities, combined with scientific application software, data repositories and advanced visualisation. The further development and adoption of e-Infrastructures requires structured interaction between computational scientists and ICT engineers and an ever broader range of scientific disciplines as well as catering for the specific needs of scientific and industrial user communities.

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)[2]. 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.

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.

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

II. CONTENT OF CALLS IN 2010

1.1 Support to existing research infrastructures

1.1.1 Integrating Activities

The aim of *Integrating Activities* is to bring together and integrate, on a European scale, key research infrastructures in a given class, in order to promote their coordinated use and development. This will ensure that European researchers may have a wider and more efficient access to the high performing research infrastructures they require to conduct their research, irrespective of the infrastructure location. The main characteristic of an Integrating Activity will be its capacity to mobilise a comprehensive consortium of several research infrastructures[3] in a given class and other stakeholders (e.g. technological partners, research institutions), from different Member States, Associated States and third countries when appropriate.

An Integrating Activity shall combine, in a closely co-ordinated manner, following the FP6 Integrated Infrastructures Initiatives (I3) model:

(i) *Networking activities,* to foster a culture of co-operation between research infrastructures and scientific communities and help developing a more efficient and attractive European Research Area;

(ii) *Trans-national access and/or service activities,* to support scientific communities in their access to the research infrastructures in the consortium;

(iii) *Joint research activities*, to improve, in quality and/or quantity, the services provided by the infrastructures.

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.

Consortia should, whenever appropriate, give due attention to international related initiatives, foster the use and deployment of standards, and build on e-Infrastructure services, when available.

Expected impact: Integrating Activities are expected 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. Operators of similar infrastructures will develop synergies and complementary capabilities in such a way as to offer an improved access to researchers. Likewise, a more co-ordinated approach between infrastructure operators, users and public authorities will enable to optimise the development and sustainable operation of the research infrastructures. In addition, 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.

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

[3] Exceptionally, the consortium may include only one research infrastructure providing access, if this facility is of a truly unique nature.

Topics opened in Call FP7-INFRASTRUCTURES-2010-1 (call N°6):

Environmental Sciences and Non-nuclear Energy

- **INFRA-2010-1.1.1: Research Infrastructures for Atmospheric Research.** *A project under this topic should aim at integrating the key ground-based facilities for long-term observation of aerosols, cloud-aerosol interactions, and trace gases, in Europe.*
- **INFRA-2010-1.1.2: Research Infrastructures for experimental hydraulic research.** *A project under this topic should aim at integrating the key research infrastructures in Europe: water circulation flumes, offshore wave basins, wave channels, ice engineering facilities, etc. The project would support experimental hydraulic research on interaction of water with environmental elements, on structures, on ice engineering and sediment dynamic, on floods and on other hydraulics research. Further integration of EU Member States and Associated States policies in the field is expected, including the establishment of sustainable funding structures.*
- **INFRA-2010-1.1.3: Sites and experimental platforms for long-term ecosystem research.** *A project under this topic should aim at integrating the key research infrastructures in Europe for multidisciplinary research and data collection and would in particular include facilities for long-term observation of anthropogenic impacts on ecosystems functioning and biodiversity.*
- **INFRA-2010-1.1.4: Research Infrastructures for native seed conservation.** *A project under this topic should aim at integrating the key native seed banks in Europe. Seeds would be made available to scientists as research material for a wide range of disciplines: physiology, molecular biology, biotechnology, crop research, plant population studies, research on adaptation to climate change, etc.*
- **INFRA-2010-1.1.5: Research Infrastructures for Polar research.** *A project under this topic should aim at integrating the key research infrastructures for polar research: interdisciplinary observation and monitoring stations for atmospheric, terrestrial and/or marine studies.*
- **INFRA-2010-1.1.6: Research Infrastructures for Coastal Research, including for Integrated Coastal Zone Management and Planning.** *A project under this topic should aim at integrating the key research infrastructures in Europe for coastal observation of physical, geophysical, chemical and biological parameters. This topic is related to the coastal segment of in situ continuous measurements within GMES, in complement of the EuroARGO coastal profiling floats.*
- **INFRA-2010-1.1.7: Research Infrastructures for water resource observation, water resource management, hydrological observation.** *A project under this topic should aim at integrating the key research infrastructures in Europe: hydrological observatories, instrumented river basins and catchments, etc., as well as datasets, e.g. runoff data, data on precipitation, on water levels, water quality, groundwater, etc. The project would support the provision of hydrological data, the development of standards, the development and testing of methods and instruments as well as research in the fields of climate modelling, water resource research, the impact of climate change and the development of adaptation policies.*
- **INFRA-2010-1.1.8: Research Infrastructures for Solar Energy: Photovoltaic Power.** *A project under this topic should aim at integrating the key research infrastructures in Europe for all aspects of photovoltaic research: integration in buildings, in transport,*

new materials, grid connection, efficiency, etc. This topic would support the European Strategic Energy Technology Plan (SET-Plan, COM (2007)723).

- **INFRA-2010-1.1.9: Research Infrastructures for offshore renewable energy devices: ocean-, current-, wave- and wind energy.** *A project under this topic should aim at integrating the key research infrastructures in Europe for research on marine current power, tidal stream energy, tidal power, wave power, open questions concerning the transfer of energy, grid integration. Partners offering transnational access should include existing pilot and demonstration plants to be used as research infrastructures as well as laboratory scale installations like wave basins to large scale open sea test sites. This topic will support the European Strategic Energy Technology Plan (SET-Plan, COM (2007)723).*

- **INFRA-2010-1.1.10: Infrastructures for research on biomass conversion and biorefinery.** *A project under this topic should aim at integrating the key research infrastructures in Europe for the advanced conversion technologies of biogenic feedstock. Research Infrastructures to be integrated would be laboratory and pilot-scale installation as well as demonstration plants (facilities like furnaces, gasifiers, fermenters, biorefineries, etc.) for carrying out research in the fields of: Combustion and thermal gasification of solid fuels, modelling, gas cleaning, second and third generation biofuels, anaerobic digestion, biomethane production from organic waste and green biorefinery (sustainable processing of biomass into a marketable spectrum of products). The issue of the use of new feedstock is an integral part of the topic. This topic will support the European Strategic Energy Technology Plan (SET-Plan, COM (2007)723).*

Life Sciences

- **INFRA-2010-1.1.11: Plant genetic Resources Centres.** *A project under this topic should aim at integrating the key European research infrastructures for genetic resources from crops. It would cover gene banks and germplasm collections as well as their related data resources, to improve access to and use of the collections for further research and breeding. To ensure maximum efficacy the project shall complement previous and on-going efforts to rationalise European genetic resources.*

- **INFRA-2010-1.1.12: Bio-NMR facilities.** *A project under this topic should aim at integrating the key research infrastructures in Europe operating in the field of Nuclear Magnetic Resonance spectroscopy for structural biology. It is expected that such a project would be structured in coordination with the European Strategy Forum for Research Infrastructures "INSTRUCT" project. Further integration of EU Member States and Associated States policies in the field is also expected, including the establishment of sustainable funding structures.*

- **INFRA-2010-1.1.13: Non-human primate centres**. *A project under this topic should aim at integrating the key non-human primate centres in Europe. The project will contribute to the objective of 3Rs, i.e. replacement, reduction, and refinement. The topic would reinforce the implementation of good practices at European level, and the protection of animals used in scientific experiments, as framed by the directive 86/609/EEC, and by the Commission proposal for its revision, COM(2008)543.*

- **INFRA-2010-1.1.14: Animal genetic Resources Centres.** *A project under this topic should aim at integrating the key research infrastructures in Europe in this field, for*

agricultural research. It would cover gene banks and their related data resources, for further research and breeding (e.g. through the characterisation of genetic material).

- **INFRA-2010-1.1.15: Aquaculture research facilities.** *A project under this topic should aim at integrating the key research infrastructures in Europe: cage, recirculation and hatchery aquaculture systems, land or sea based, fresh and salt water installations.*
- **INFRA-2010-1.1.16: Large-scale bio-banks for clinical and epidemiological studies.** *A project under this topic should aim at integrating the key large-scale bio-banks in Europe and will provide access to samples and data for clinical and epidemiological studies. It is in particular expected that the project will enhance cataloguing (e.g. of samples, tools and methods), will develop tools for enhancing access to data and samples, and will address the harmonisation of Ethical, Legal and Social Issues (ELSI). It is also expected that such a project will be structured in coordination with the European Strategy Forum for Research Infrastructures "BBMRI" project.*
- **INFRA-2010-1.1.17: Facilities for high throughput DNA sequencing and human genotyping.** *A project under this topic should aim at integrating the key research infrastructures in Europe. This topic would in particular ensure an optimal use of bio-banks.*
- **INFRA-2010-1.1.18: High throughput facilities for proteome analysis.** *A project under this topic should aim at integrating the key high throughput facilities in Europe for proteome analysis, based on state-of-the-art proteomics techniques and tools for data handling. The project should ensure access to service facilities and sharing of best practices among the scientific community.*
- **INFRA-2010-1.1.19: Good Manufacturing Practices (GMP) facilities for advanced gene and cell therapy research.** *A project under this topic should aim at integrating the key facilities and resources in Europe for the preparation of GMP-lots of clinical grade vectors and genetically-modified cells. This project should enhance the academic-led development of innovative biotherapies.*

Mathematics, Computer-related Sciences, Data

- **INFRA-2010-1.1.20: Theoretical Mathematics resources and applied mathematics services.** *A project under this topic should aim at integrating the key theoretical mathematics resources like advanced study centres, databases, etc., for mathematicians, as well as applied mathematic services for other scientific communities, including industry. The latter services constitute the topic of a new European Science Foundation forward-look.*
- **INFRA-2010-1.1.21: Advanced Digital Visualisation Facilities.** *A project under this topic should aim at integrating the key virtual reality visualisation facilities, holographic image processing facilities and other computer graphics and animation facilities for advanced visualisation of scientific information.*

Social Sciences and Humanities

- **INFRA-2010-1.1.22: European Social Survey (ESS).** *A project under this topic would support the European Social Survey infrastructure for research on European public opinion.*

- **INFRA-2010-1.1.23: Survey of Health, Ageing and Retirement in Europe (SHARE).** *A project under this topic would support the Survey of Health, Ageing and Retirement in Europe for research on population ageing and its implications to health, social and economic policies.*
- **INFRA-2010-1.1.24: European Social Science Data Archives (CESSDA) and remote access to Official Statistics.** *A project under this topic would support the development of CESSDA, and should aim at a further improvement of the consistency of a European system of Social Science Data Archives as well as of the access of researchers to official statistics. It could also address new technologies for data collection.*
- **INFRA-2010-1.1.25: Archives for Historical research.** *A project under this topic should aim at integrating the key data collections and services in Europe for modern European History. Collaboration is expected with the Digital Research Infrastructure for the Arts and Humanities (DARIAH).*
- **INFRA-2010-1.1.26: Towards a European Research Infrastructure for Modelling & Methodologies.** *A project under this topic should aim at integrating key datasets and at developing the provision of better research services and models for the comparison, analysis, and development of economic, social and other policies in Europe.*
- **INFRA-2010-1.1.27: Research Infrastructures for the study of globalization and European integration.** *A project under this topic should aim at integrating the key existing datasets and research services regarding European studies and the wider world, for example with regards to the relations between Europe and Asia, Africa, Latin America and more generally other continents.*

Physics, Astronomy, Nuclear- and Particle Physics

- **INFRA-2010-1.1.28: Research Infrastructures for Nuclear Physics.** *A project under this topic should aim at integrating the key research infrastructures in Europe for studying the properties of exotic nuclei, and turning advances in nuclear physics experimentation into new applications.*
- **INFRA-2010-1.1.29: Detectors for future accelerators.** *A project under this topic should aim at integrating the key research infrastructures in Europe for the development of advanced detector technologies.*
- **INFRA-2010-1.1.30: Research Infrastructures for dark matter search, neutrinos, gravitational waves.** *A project under this topic should aim at integrating the key deep underground laboratories in Europe, for dark matter search, double beta decay, low energy neutrino physics, long-baseline neutrino beam experiments, and gravitational wave physics, including theory.*
- **INFRA-2010-1.1.31: Research Infrastructures for high energy astrophysics.** *A project under this topic should aim at integrating the key research infrastructures in Europe, in particular space-based instruments and related data resources.*

Analytical Facilities and Engineering

- **INFRA-2010-1.1.32: Research Infrastructures and services for engineering and improved production processes.** *A project under this topic should aim at developing a key distributed research infrastructure in Europe, to support research for engineering and improved production processes. Integrated research services should offer*

multidisciplinary tools to study issues such as energy fluxes simulations, fluid-structure dynamic interactions, dynamics of physical-chemical reactions, multi-site design of complex products, etc. The project would ultimately contribute to the improvements of the production processes and their engineering. The project is expected to include activities for standardisation.

- **INFRA-2010-1.1.33: Research Infrastructure for advanced spectroscopy, scattering/diffraction and imaging of materials.** *A project under this topic should aim at integrating the key research infrastructures in Europe offering electronic, X-ray, optic and magnetic inspection techniques, and their combinations, for the analysis and engineering of new materials. Such infrastructures would allow the detailed understanding and optimization of physical, chemical and biological materials and processes, using advanced spectroscopy, scattering/diffraction and imaging techniques. A project would in particular respond to specific needs for energy and health applications.*
- **INFRA-2010-1.1.34: Research Infrastructures for processing, analysis and characterisation (physico-chemical properties, health and environmental impact) of engineered nanomaterials, nanoparticles and nanostructures.** *A project under this topic should aim at integrating the key processing and analytical research infrastructures in Europe. This project will in particular respond to specific needs for health applications.*
- **INFRA-2010-1.1.35: Research Infrastructures for earthquake hazard.** *A project under this topic should aim at integrating the key research infrastructures in Europe to monitor, assess and prevent earthquake hazards. In addition, the project will cover analytical vulnerability assessment tools and mobile facilities for site characterisation of constructions (buildings, pipelines, etc.). Further activities would be the development of instruments, hazard and risk assessment, data processing, data dissemination. The topic would contribute to supporting the reduction of vulnerability of European citizens and constructions to earthquakes. International collaboration activities and the further integration of the research field are encouraged.*

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' of scientists and engineers are empowered to share and exploit the collective power of the European ecosystem of scientific and engineering facilities. Such topics in 2010 include the deployment of sustainable service provisioning schemes of core e-Science distributed computing infrastructures; further development, deployment and evolution of software and simulation infrastructures and services; and expansion of e-Infrastructures to address the specific needs of new scientific and engineering communities (including in the area of social sciences and humanities).
Projects 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*.

Topics opened in Call FP7-INFRASTRUCTURES-2010-2 (call N°7):

INFRA-2010-1.2.1: Distributed computing infrastructure (DCI)

Recognising that a distributed computing and software infrastructure is a key enabler of eScience, this action aims at the development and sustainable provision of services, underlying middleware and access to Distributed Computing Infrastructures (DCI), including actions in support of the European Grid Initiative (EGI). More specifically:

1.2.1.1– European Grid Initiative (EGI)

The main objective is to set up an organisation that will enable the sustainable provision of grid services to the European scientific community. The EGI should also provide appropriate user support, certify as well as maintain and operate repositories of middleware/software components – developed by the EGI or others, facilitate the launch of cooperative grids development projects and should plan and prepare the future evolution of grids by innovating in services, technological approaches and business models.

The stakeholders of the EGI should be the National Grid Initiatives (NGIs) as well as other entities that are willing to significantly contribute to the aims of the EGI. The majority of the stakeholders should be NGIs; the latter must be legal entities with a public service mission aiming at integrating resources on a national level for "one-stop-shop" efficient provision of grid-based services to the research community. The EGI should be inclusive in membership. Its services should be extended, where possible and appropriate, also to countries not participating yet in the EGI through an NGI.

The EGI should ensure a seamless and progressive transition in service provision from the current arrangements to a new scheme that is more sustainable organisationally and financially, demonstrating economies of scale with respect to the current situation as well as progressively increasing financial commitment from its stakeholders.

The EGI should promote close collaboration and interoperability with similar infrastructures in other parts of the world. It should follow a clear policy for open source software, adherence to open standards and for licensing.

1.2.1.2 – Service deployment

The aim is to deploy services for user communities that are heavy users of DCIs and have a multi-national dimension. Software components should be integrated in platforms as needed for service provision. Where appropriate, new service provision models should be explored and harmonised interfaces to DCI resources should be ensured. This activity should ideally be articulated with the EGI (sub-topic1.2.1.1).

1.2.1.3 – Middleware and repositories

- Develop middleware that strengthens European presence and consolidates existing DCIs while improving their stability, reliability, usability, functionality, interoperability, security, management, monitoring and accounting, measurable quality of service, and energy efficiency.
- Create user-friendly and comprehensive repositories of software components that complement the middleware services. Harvested components should be slightly adapted,

if necessary, to become of interest to as many user communities as possible. Once created, the future maintenance of DCI-related repositories could be ensured by the EGI.

1.2.1.4 – Access to DCI platforms

Enable user communities to more easily access existing European DCI platforms through science gateways. Support complex workflows needing combinations of capacity and capability computing and access to data and networks, emphasizing interoperability.

1.2.1.5 – Extension of DCI platforms

Extend existing DCIs to incorporate remote operation of scientific instruments like already existing research facilities of European interest and emerging ones (e.g. ESFRI roadmap projects).

All DCI proposals are encouraged to consider the international dimension of their activities, incorporate education and training, as well as foster the use and deployment of standards. Integrating innovation in services and technology is also encouraged.

Expected impact: Work on DCI will achieve broader and deeper inter-disciplinary scientific collaboration in Europe. It will ensure coordinated, strengthened and focused software deployments in the context of e-Infrastructures and across the broadest range of fields in science and engineering. Also expected are an improved usability of DCI platforms for a larger user base and for conducting inter-disciplinary research; the strengthening of the ability to exploit the rapidly changing hardware environments through appropriate software deployments; and the reinforcement of the European world position in software development and deployment with a resulting impact on innovation. Regarding the EGI in particular, it will create a sustainable environment for the provision of grid-based computing services to a wide range of research fields, based on a stable collaborative European and National co-funding scheme. It will enable the easy sharing of resources (computation, storage, data) across national and administrative boundaries and will ensure the technological interoperability of global grids. Such a development will provide a new dimension to the realisation of the European Research Area (ERA).

INFRA-2010-1.2.2: Simulation software and services

Scientific application software is a key enabler of eScience and a fundamental element of e-Infrastructure. It allows to replace traditional experimentation, which is often impossible or undesirable, for "*in silico*" experimentation in order to address major scientific, industrial and social challenges, from climate change to design of aircraft. Multi-disciplinary and multi-scale simulation will be one of the major challenges of the next decade.

The aim is to integrate scientific application software in the European e-Infrastructure and to ensure that it is able to fully and timely exploit high-performance and distributed computing capabilities. More specifically, this topic addresses:

- The development, adaptation and maintenance of scientific software on dynamically evolving hardware platforms for highly demanding applications of high scientific, societal or industrial importance;

- The deployment of a computational science infrastructure through the deployment of models, tools, algorithms and simulation and visualisation techniques addressing extreme scale, heterogeneity, performance and productivity; and
- The promotion of appropriate software standards that allow scalability, evolution and interoperation of software components in integrated platforms.

All proposals are encouraged to consider the international dimension of their activities, incorporate education and training in their activities, as well as foster the use and deployment of open standards and appropriate licensing schemes for open source software. Communities are also encouraged to work together for Europe to best prepare for the extreme computing challenges.

Expected impact: The provision to the European research community of a leading edge software infrastructure that will exploit the highest quality computational and data resources enabling Europe to address the emerging grand challenges in science and engineering. In parallel, the strengthening of Europe's international role as software producer and user as well as the forming of a unified community of computational scientists on e-Infrastructures that will address in the most effective way the continuously emerging computing needs of the research community.

INFRA-2010-1.2.3: Virtual Research Communities

The main objective is to enable an ever increasing number of users from all science and engineering disciplines and beyond to access and effectively use e-Infrastructures in order to increase their participation in research of global relevance and/or to allow them to access and share facilities, instruments, software and data from wherever they are based. Removing the constraints of distance, access and usability as well as the barriers between disciplines should lead to more effective scientific collaboration and innovation processes and therefore increase the effectiveness of the European research. The deployment and further evolution of e-Infrastructures addressing the research infrastructures (and related scientific communities) of the ESFRI-roadmap is particularly encouraged. Integrating regional e-Infrastructures and linking and providing access to resources on a global scale is also encouraged. An indicative list of activities that are supported by this action is the following:

- Deployment of e-Infrastructures in scientific communities in order to enable multi-disciplinary collaboration and address the specific needs of new user groups.
- Deployment of new types of e-infrastructure services and tools to integrate research efforts across diverse user communities.
- Training in the use of advanced information and communication tools and virtual research environments in order to enable researchers to use e-Infrastructures.
- Addressing human, social and economic factors influencing the creation of sustainable virtual research communities as well as the take up/maintenance of e-Infrastructure services by communities.

Proposals should incorporate users from academia and industry from one or more scientific or engineering communities, computational scientists and e-infrastructure providers.

Expected impact: Increased effectiveness of European research through the broader use of e-Infrastructures by research communities; the emergence of virtual research communities of European and international dimension that cannot be achieved by national initiatives alone; easier development and adoption of standards, common tools, procedures and best practices; use of e-Infrastructure services and tools by actors from new disciplines and scientific communities; increased quality and attractiveness of e-Infrastructures.

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 concerning the assessment of the technical, legal 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. 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.

Expected impact: This activity will contribute to the technological development capacity and to the scientific performance and attractiveness of the European Research Area.

Funding scheme: *Collaborative Projects* or *Coordination and Support Actions* (whenever appropriate).

The next call for proposals for 'Design Studies' is expected to be published at the end of 2010.

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 setting-up, construction and operation of the research infrastructure; and (2) the draft agreement, in the form of a 'signature-ready' document for the setting-up and 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) analysis of the socio-economic impact of the new infrastructure; (2) 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; (3) to create or consolidate centres of excellence; (4) the identification of the best possible site to set up the new facility(-ies) and its next generations; (5) 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.

Expected impact: This activity should help the majority of projects for new research infrastructures identified in the 2008 ESFRI roadmap to reach the level of technical, legal and financial maturity required to enable the construction work to start. Thereby it will contribute to the technological development capacity and to the scientific performance and attractiveness of the European Research Area.

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

Topics opened in Call FP7-INFRASTRUCTURES-2010-1 (call N°6):

- **INFRA-2010-2.2.1: EISCAT_3D Upgrade** (Upgrade of the EISCAT facility for ionospheric and space weather research).
- **INFRA-2010-2.2.2: EPOS** (Infrastructure for the study of tectonics and Earth surface dynamics).
- **INFRA-2010-2.2.3: SIAEOS** (Upgrade of the Svalbard Integrated Arctic Earth Observing System).
- **INFRA-2010-2.2.4: ECCSEL** (European Carbon Dioxide and Storage Laboratory infrastructure).
- **INFRA-2010-2.2.5: EMBRC** (European marine biological resource centre).
- **INFRA-2010-2.2.6: EU-OPENSCREEN** (European Infrastructure of Open Screening Platforms for chemical biology).
- **INFRA-2010-2.2.7: EuroBioImaging** (Research infrastructure for imaging technologies in biological and biomedical sciences).
- **INFRA-2010-2.2.8: High Security BLS4** Laboratory (Upgrade of the High Security Laboratories for the study of level 4 pathogens).
- **INFRA-2010-2.2.9: EMFL** (European Magnetic Field Laboratory)

- **INFRA-2010-2.2.10: CTA** (Cherenkov Telescope Array for Gamma-ray astronomy).

1.2.3 Construction of new infrastructures - implementation phase

Following the successful completion of the preparatory phase, the purpose of this activity is to support the actual implementation of new research infrastructures (or major upgrades of existing ones). The implementation phase should include all appropriate coordination activities as well as the relevant technical work. Project consortia should involve all the stakeholders necessary for this implementation phase (e.g. national/regional ministries/governments, research councils, funding agencies, operators of research facilities, research centres and universities, as well as industry whenever appropriate).

Topics opened in Call FP7-INFRASTRUCTURES-2010-2 (call N°7):

INFRA-2010-2.3.1: First implementation phase of the European High-Performance Computing (HPC) service PRACE

The eco-system of HPC resources comprises[4]:

(a) Hardware components and platforms (current and future national and European HPC installations);

(b) A networking and middleware infrastructure interlinking the computational resources (already largely available through the GÉANT network and DEISA) with the aim to provide a seamless and efficient service to users;

(c) System software and tools, from operating systems and software accelerators to parallelising compilers, which are adapted to multi-peta-flop performance;

(d) Software tools, algorithms and standards for modelling, simulation and related pre- and post-treatment (e.g. visualisation) for state-of-the-art supercomputing environments, including tools for the validation and verification of application programmes;

(e) Scientific software for a broad range of applications that runs efficiently on machines for state-of-the-art supercomputing environments;

(f) A framework to conduct technology evaluations and prototyping of hardware components, systems and software;

(g) Training that enables both the academic and industrial research communities to stay at the forefront of scientific breakthroughs;

(h) Mechanisms to share best practice and operational procedures across HPC systems.

In line with the ESFRI roadmap, the overall objective is to deploy a new eco-system of computational resources with peta-flop performance by 2010 and gradually move to exa-scale computing by 2020. This supercomputing infrastructure should address the ever growing computational and simulation requirements of advanced scientific communities to allow them to stay at the forefront of research; as well as those of industry to boost its innovation capabilities.

[4] This call does not make funding available for all of these resources as explained at the end of this topic

Support to the implementation will be provided in several phases. The present action and budget concern 2010; additional support would be provided in 2011 and/or 2012 depending on progress.

Work in this area should aim to set up a new organisational structure to integrate and manage the above eco-system of resources at the EU level, building on the results of the preparatory phase of PRACE (Partnership for Advanced Computing in Europe) and fostering an effective and efficient utilisation of European supercomputing resources. It should also aim at integrating existing HPC-resources shared at European level (notably DEISA) with the new petascale facilities of PRACE and providing access to them.

The proposal should cover all strategic, policy, technical, financial and governance aspects of providing the above supercomputing capability. It should address in particular: the articulation of the European supercomputing infrastructure with national HPC installations and their evolution in time; effective mechanisms of access to the infrastructure and peer-review procedures for the allocation of computing time; policies for the upgrade, maintenance and sharing of scientific and system software and tools, as well as for ensuring interoperability between software components where necessary; policies for the provision of services, notably simulation; the approach for attracting and involving both large industry and SMEs - as users, suppliers or technology providers - and attracting private funding; an approach to international cooperation; and any other issue deemed essential for the long term success and sustainability of this infrastructure.

Work proposed for funding should concern: (1) the set up and operation of new organisational structures, including for the maintenance and operation of repositories of software and tools and the integration of all shared HPC resources; (2) the development, adaptation and maintenance of software mentioned under points c and d above; (3) technology and system evaluations to ensure that European supercomputing stays at the forefront of technology as under point f above; (4) mechanisms for industry involvement as partners – be it vendors, users or technology providers; and (5) training and sharing of best practice as under points g and h above.

Proposals should address financial and environmental sustainability ("green computing").

Expected impact: The deployment of a state-of-the-art HPC capability in Europe (at petascale level from 2010, moving to exascale by 2020). This new infrastructure will help Europe stay at the forefront of scientific breakthroughs, strengthen its international position in computational sciences and intensify the exploitation of the benefits of computing by its scientific and industrial communities.

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-2010-3.1: 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[5].

- **INFRA-2010-3.2: 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 needs in 2010 the development of specific actions, in particular:
  - Supporting **impact assessments** of Research Infrastructures
  - Supporting important **policy developments** at Community level, in particular the coordination between national and pan-European Research Infrastructure initiatives
  - Supporting international cooperation and policy initiatives related to research infrastructure projects at global level

- **INFRA-2010-3.3: Coordination actions, conferences and studies supporting policy development, including international cooperation, for e-Infrastructures.**

  Proposals will aim at providing support to the e-Infrastructures programme, including:

  - the coordination between national and pan-European e-Infrastructure initiatives, e.g. through the support of policy oriented groups such as the e-IRG;
  - actions to strengthen the innovation potential and impact of e-Infrastructures, e.g. through the elaboration of prospective scenarios for using the high speed networking infrastructure (GÉANT) as the basis for the internet of 2020;
  - establishing a new scientific software strategy in Europe in the context of e-Infrastructures aiming at reinforcing the global position of Europe in scientific software development, deployment and use;
  - actions to coordinate a European eco-system of data repositories for preservation and sharing of scientific information including potential ERANET actions;
  - specific studies and/or conferences on e-Infrastructure related topics, encouraging multidisciplinarity and/or to evaluate the impact of the e-Infrastructure programme through the establishment of appropriate indicators;
  - international cooperation, including (a) further extension of e-Infrastructures to International Cooperation Partner countries (ICPC); (b) joint roadmap activities with developed countries; and (c) promotion of the interoperation between similar

[5] Where Structural Funds managing authorities are funding agencies, they can of course participate.

infrastructures on the global scale 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 as well as 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..

Funding scheme: *Coordination and support actions.*

III. IMPLEMENTATION OF CALLS

Call 6 -call identifier: FP7-INFRASTRUCTURES-2010-1

- **Date of publication**[6]: 30 July 2009
- **Deadline**[6]: 3 December 2009, at 17.00.00, Brussels local time.
- **Indicative budget**[7]: EUR 217 million [8]

Line of action/Activity	**EUR million indicative**
1.1 Support to existing research infrastructures	
1.1.1 Integrating Activities	161
1.2 Support to new research infrastructures	
1.2.2 Construction of new infrastructures (or major upgrades) - preparatory phase	45
1.3 Support to policy development and programme implementation	11

- **Topics called**

Line of action/Activity	**Topics called**	**Funding scheme(s)**
1.1 Support to existing research infrastructures		
1.1.1 Integrating Activities	Environmental Sciences and Non-nuclear Energy ° INFRA-2010-1.1.1: Research Infrastructures for Atmospheric Research. ° INFRA-2010-1.1.2: Research Infrastructures for experimental hydraulic research. ° INFRA-2010-1.1.3: Sites and experimental platforms for long-term ecosystem research. ° INFRA-2010-1.1.4: Research Infrastructures for native seed conservation.	Combination of Collaborative projects and Coordination and Support Actions (CP-CSA-INFRA)

[6] 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.

[7] 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. All budgetary figures given in this call are also indicative. 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.

[8] Under the condition that the preliminary draft budget for 2010 is adopted without modifications by the budget authority.

1.1.1 Integrating Activities	° INFRA-2010-1.1.5: Research Infrastructures for Polar research. ° INFRA-2010-1.1.6: Research Infrastructures for Coastal Research, including for Integrated Coastal Zone Management and Planning. ° INFRA-2010-1.1.7: Research Infrastructures for water resource observation, water resource management, hydrological observation. ° INFRA-2010-1.1.8: Research Infrastructures for Solar Energy: Photovoltaic Power. ° INFRA-2010-1.1.9: Research Infrastructures for offshore renewable energy devices: ocean-, current-, wave- and wind energy. ° INFRA-2010-1.1.10: Infrastructures for research on biomass conversion and biorefinery. Life Sciences ° INFRA-2010-1.1.11: Plant genetic Resources Centres. ° INFRA-2010-1.1.12: Bio-NMR facilities. ° INFRA-2010-1.1.13: Non-human primate centres. ° INFRA-2010-1.1.14: Animal genetic Resources Centres. ° INFRA-2010-1.1.15: Aquaculture research facilities. ° INFRA-2010-1.1.16: Large-scale bio-banks for clinical and epidemiological studies. ° INFRA-2010-1.1.17: Facilities for high throughput DNA sequencing and human genotyping. ° INFRA-2010-1.1.18: High throughput facilities for proteome analysis. ° INFRA-2010-1.1.19: Good Manufacturing Practices (GMP) facilities for advanced gene and cell therapy research. Mathematics, Computer-related Sciences, Data ° INFRA-2010-1.1.20: Theoretical Mathematics resources and applied mathematics services. ° INFRA-2010-1.1.21: Advanced Digital Visualisation Facilities. Social Sciences and Humanities ° INFRA-2010-1.1.22: European Social Survey (ESS). ° INFRA-2010-1.1.23: Survey of Health, Ageing and Retirement in Europe (SHARE). ° INFRA-2010-1.1.24: European Social Science Data Archives (CESSDA) and remote access to Official Statistics. ° INFRA-2010-1.1.25: Archives for Historical research. ° INFRA-2010-1.1.26: Towards a European Research Infrastructure for Modelling & Methodologies. ° INFRA-2010-1.1.27: Research Infrastructures for the study of globalization and European integration.	Combination of Collaborative projects and Coordination and Support Actions (CP-CSA-INFRA)

1.1.1 Integrating Activities	Physics, Astronomy, Nuclear- and Particle Physics ° INFRA-2010-1.1.28: Research Infrastructures for Nuclear Physics. ° INFRA-2010-1.1.29: Detectors for future accelerators. ° INFRA-2010-1.1.30: Research Infrastructures for dark matter search, neutrinos, gravitational waves. ° INFRA-2010-1.1.31: Research Infrastructures for high energy astrophysics. Analytical Facilities and Engineering ° INFRA-2010-1.1.32: Research Infrastructures and services for engineering and improved production processes. ° INFRA-2010-1.1.33: Research Infrastructure for advanced spectroscopy, scattering/diffraction and imaging of materials. ° INFRA-2010-1.1.34: Research Infrastructures for processing, analysis and characterisation (physico-chemical properties, health and environmental impact) of engineered nanomaterials, nanoparticles and nanostructures. ° INFRA-2010-1.1.35: Research Infrastructures for earthquake hazard.	Combination of Collaborative projects and Coordination and Support Actions (CP-CSA-INFRA)
1.2 Support to new research infrastructures		
1.2.2 Construction of new infrastructures (or major upgrades) - preparatory phase	° INFRA-2010-2.2.1: EISCAT_3D ° INFRA-2010-2.2.2: EPOS ° INFRA-2010-2.2.3:SIAEOS ° INFRA-2010-2.2.4:ECCSEL ° INFRA-2010-2.2.5: EMBRC ° INFRA-2010-2.2.6: EU-OPENSCREEN ° INFRA-2010-2.2.7: EuroBioImaging ° INFRA-2010-2.2.8: High Security BLS4 ° INFRA-2010-2.2.9: EMFL ° INFRA-2010-2.2.10: CTA	Combination of Collaborative projects and Coordination and Support Actions (CP-CSA-INFRA)
1.3 Support to policy development and programme implementation		
1.3	° INFRA-2010-3.1: ERA-NET supporting cooperation for research infrastructures in all S&T fields	Coordination and Support Actions (CSA-CA)
1.3	° INFRA-2010-3.2: Studies, conferences and coordination actions supporting policy development, including international cooperation, in all S&T fields.	Coordination and Support Actions (CSA-CA or CSA-SA)

- Evaluation procedure:
  - The general eligibility, selection and award criteria are set out in Annex 2 to this work programme. In addition to these, for activity 1.1.1 (Integrating Activities), the maximum EC funding requested must not exceed EUR 10 million.
  - Specific selection and award criteria for activities 1.1.1 and 1.2.2 are set out in section VI.2 and VI.3, respectively, replacing those of annex 2 to the Capacities work programme.
  - A one stage submission procedure will be followed.
  - 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 2010.

- Consortia agreements: Participants in activities 1.1.1 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 and presented in the table below.

Funding scheme	**Minimum conditions**
Combination of Collaborative projects and Coordination and Support Actions (CP-CSA-INFRA)	At least 3 independent legal entities, each of which is established in a MS or AC, and no two of which are established in the same MS or AC.
Coordination action (CSA-CA)	At least 3 independent legal entities, each of which is established in a MS or AC, and no two of which are established in the same MS or AC.
Support action (CSA-SA)	At least 1 independent legal entity

  - For activity 1.1.1 (Integrating Activities) the project duration would be 48 months maximum. In general, each topic corresponds to a given class of research infrastructures and it is not expected to receive competing proposals under the same topic. Around 20 projects are expected to be selected under this activity.
  - For activity 1.2.2 (Construction of new infrastructures (or major upgrades) - preparatory phase) the project duration would be 48 months maximum. The requested EC contribution would be in the range of EUR 3 000 000 to 6 000 000.
  - For the topic "3.1 ERA-NET", the project duration is expected to be 24 to 36 months with a requested EC contribution in the range EUR 1 000 000 to 2 000 000.
  - 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 2010 "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 4/5 instead of 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?

- For the topic "3.2 Studies, conferences...", the project duration is expected to be 12 to 24 months with a requested EC contribution in the range of EUR 200 000 to 1 000 000.

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

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

Call 7 - call identifier: FP7-INFRASTRUCTURES-2010-2

- **Date of publication**[9]: 30 July 2009
- **Deadline**[9]: 24 November 2009, at 17.00.00, Brussels local time.
- **Indicative budget**[10]: EUR 115 million [11]

Line of action/Activity	**EUR million indicative**
1.1 Support to existing research infrastructures	
1.1.2 ICT-based e-Infrastructures	85
1.2 Support to new research infrastructures	
1.2.3 Construction of new infrastructures (or major upgrades) - implementation phase	20
1.3 Support to policy development and programme implementation	10

- **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-2010-1.2.1: Distributed computing infrastructure (DCI)	Combination Collaborative projects and Coordination and Support Actions (CP-CSA-INFRA)	50.00
	INFRA-2010-1.2.2: Simulation software and services	Combination Collaborative projects and Coordination and Support Actions (CP-CSA-INFRA)	12.00

[9] 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.

[10] 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. All budgetary figures given in this call are also indicative. 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.

[11] Under the condition that the preliminary draft budget for 2010 is adopted without modifications by the budget authority.

	INFRA-2010-1.2.3: Virtual Research Communities	Combination Collaborative projects and Coordination and Support Actions (CP-CSA-INFRA)	23.00
1.2 Support to new research infrastructures			
1.2.3 Construction of new infrastructures (or major upgrades) - implementation phase	INFRA-2010-2.3.1: First implementation phase of the European High Performance Computing (HPC) service PRACE	Combination Collaborative projects and Coordination and Support Actions (CP-CSA-INFRA)	20.00
1.3 Support for policy development and programme implementation			
1.3	INFRA-2009-3.3: Coordination actions, conferences and studies supporting policy development, including international cooperation, for e-Infrastructures	Coordination and Support Actions (CSA-CA or CSA-SA)	10.00

- Eligibility conditions
  - The general eligibility criteria set out in Annex 2 to this work programme
  - Specifically for proposals to 1.2.3 Construction of new infrastructures – implementation phase, the following additional eligibility criteria apply: (a) successful completion or satisfactory progress at the preparatory phase; (b) sufficient financial commitment of Member States or other stakeholders for the whole Research Infrastructure (e.g. through commitment letters from Ministries); and (c) existence in the proposal of a description of a set of activities that are fundable by the EC; this funding should represent an equivalent of up to 10% of the costs of the whole Research Infrastructure.

- 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 1.2.3 are set out in section VI.2 and VI.4, respectively, replacing those of annex 2 to the Capacities work programme.
  - A one stage submission procedure will be followed.
  - 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 most of the contracts related to this call will come into force before end of 2010.

- Consortia agreements: Participants in activities 1.1.2 and 1.2.3 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 and presented in the table below.

Funding scheme	**Minimum conditions**
Combination of Collaborative projects and Coordination and Support Actions (CP-CSA-INFRA)	At least 3 independent legal entities, each of which is established in a MS or AC, and no two of which are established in the same MS or AC.
Coordination action (CSA-CA)	At least 3 independent legal entities, each of which is established in a MS or AC, and no two of which are established in the same MS or AC.
Support action (CSA-SA)	At least 1 independent legal entity

  - The total indicative budget for sub-topics 1.2.1.1 (European Grid Initiative) and 1.2.1.2 (Service deployment) under the topic 1.2.1 (Distributed computing infrastructure) is EUR 25 million. A single proposal is expected to be funded to cover sub-topic 1.2.1.1 (European Grid Initiative).

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

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

IV. OTHER ACTIONS

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

  Following the *Czech Presidency Conference*, which took place in March 2009 in the context of the rotating Presidency of the Union, the Research Infrastructure action would support in 2010 two major European conference on research infrastructures under Spanish and Belgium Presidency. 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 beneficiaries of the grants will be the legal entities specified below[12]:

  - *for the Spanish Presidency Conference*: Spanish Ministry of Science and Innovation, C/Albacete 5, E-28027 Madrid. The conference will take place around March 2010 in Barcelona. It should be a one day and half event for approximately 500 participants. The rate of EC co-financing will be up to 75 % for a maximum EC funding of EUR 170 000. The objectives of the conference are (1) to provide an overview of existing European-scale Research Infrastructures and an update on the state of development of the ESFRI roadmap projects; (2) to review important policy issues such as prioritisation, decision making, sustainability of Research Infrastructures and knowledge creation and preservation at European level; (3) to discuss the future governance of Research Infrastructures at European level.

  - *for the Belgium Presidency Conference*: Belgian Federal Science Policy Office (BELSPO) Rue de la Science 8, B-1000 Brussels. The conference will take place in December 2010 in Brussels. It should be a two days event for around 250 participants. The rate of EC 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 contribute to the development of a comprehensive strategy for Research Infrastructures in the Energy domain at pan-European level, in the framework of the European SET-Plan; (2) to contribute analyzing the impact of Research Infrastructures (including e-infrastructures) on the implementation of Energy Policies and Sustainable Development; (3) to support the implementation of the ESFRI Roadmap in the Energy field.

- ***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.

- ***Studies***

  Studies including socio-economics and impact analysis and studies to support the monitoring, evaluation and strategy definition for e-Infrastructures. DG INFSO plans to

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

launch the calls for tenders during the first semester 2010, and conclude indicatively two contracts before year-end.

- ***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 VI.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 VI.5. The Commitment and Payment Appropriations for the RSFF in 2010 will be 30.00 M€[13].

[13] This amount may be increased by EFTA and Third Countries appropriations.

Indicative budget

	Budget 2010 EUR million
FP7-INFRASTRUCTURES-2010-1	217
FP7-INFRASTRUCTURES-2010-2	115
Other actions • RSFF (EUR 30.00 million). • Independent experts (EUR 1.17 million) • Grants to named beneficiaries: - Spanish Presidency Conference on Research Infrastructures (EUR 0,17 million) - Belgium Presidency Conference on Research Infrastructures (EUR 0,13 million) • Studies (EUR 0.5 million)	31.97
Estimated total budget allocation	**363.97**

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.

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*** *(3.12.09)*	***Call 7*** *(24.11.09)*	***Call 8*** *(autumn 2010)*	***Call 9*** *(autumn 2011)*
Integrating activities			272.9			*161*		*X*	*X*
e-Infrastructures	42	50		113	*4*		*85*	*X*	*X*
Design studies	31							*X*	
Construction – support to the preparatory phase	146.7					*45*			
Construction – support to the implementation phase							*20*	*X*	*X*
Support to policy development and programme implementation	8	14	9		*5.6*	*11*	*10*	*X*	*X*
Budget (EUR million)	227.7	64	281.9	113	*9.6*	*217*	*115*		

VI. COMPLEMENTARY INFORMATION

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 infrastructures and to help developing a more efficient and attractive European Research Area. Networking activities could include (non exhaustive list):

- joint management of access provision and pooling of distributed resources;
- strengthening of virtual research communities;
- definition 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 and sustainable approaches in the field;
- dissemination of knowledge; internal and external communication;
- promotion of long term sustainability, including the involvement of funders and the preparation of a business plan beyond the end of the project.

(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 for Integrating Activities

To provide access to 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.

Service activities for e-Infrastructures

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

- 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.

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**.

3. Evaluation criteria for 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 (award)

- 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**.

4. Evaluation criteria for Construction – implementation 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 European scientific 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 development, construction and operation 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 and the overall research infrastructure project.
- Appropriateness of the proposed governance and service models for ensuring sustainability and European added value
- 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 life-cycle of the infrastructure.

Criterion 3: Impact (award)

- Contribution to the realisation of the overall research infrastructure.
- Contribution of the infrastructure to technological development capacity, the attractiveness of the ERA and the Community objective of balanced territorial development; 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.

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 support will contribute to the Community's objective to foster primarily private but also public 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 2009-2010 it is expected that the EU will transfer EUR 300 million[14] to the EIB, out of which EUR 60 million from the Capacities Specific Programme (Research Infrastructures), respectively EUR 30 million[15] and EUR 30 million[16] in 2009 and 2010. 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

[14] This amount may be increased by EFTA and Third Countries Appropriations.
[15] See footnote 10.
[16] See footnote 10.

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 2010, 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 the development of financial engineering solutions adapted to the needs of European research infrastructures. The EIB has already introduced a dedicated instrument under RSFF, the ESFRI Risk Capital Facility (ERCF) – to provide financing to research infrastructure projects helping to bridge temporary financing gaps. The ERCF could thus help to speed up the implementation of European Research infrastructures. Such innovative financing solutions will be further developed 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 also took place in 2008 and 2009 and will be continued in 2010, 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 is supervised by a Steering Committee, consisting of five 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 for 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 up to now and in 2010

The Commission will commit, in 2010, an amount of EUR 30.00 million, of which EUR 30.00 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. At the end of 2008 Community contribution to the RSFF reached the amounts set in the table presented hereafter:

	SP Cooperation			SP Capacities		
Years	Payments	out of which initial/primary appropriations	out of which EFTA and Third Countries appropriations	Payments	out of which initial/primary appropriations	out of which EFTA and Third Countries appropriations
2007	91.511.961,60	***160.000.000,00***	*3.648.000,00*	36.820.800,00	***36.000.000,00***	*820.800,00*
2008	72.136.038,40			4.091.200,00	***4.000.000,00***	*91.200,00*
2009	120.000.000,00	***120.000.000,00***	*Not yet available*	30.000.000,00	***30.000.000,00***	*Not yet available*
2010	120.000.000,00	***120.000.000,00***	*Not yet available*	30.000.000,00	***30.000.000,00***	*Not yet available*

Budgets only

From 2010 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.

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.