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A highlight on EU activities on Research Infrastructures and their Regional dimension



European Strategy Forum
on Research Infrastructures



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Europa

May 2009

growth and jobs

working together for Europe's future



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Research Infrastructures (incl. e-infrastructures) are:

Facilities, resources, and related services used by the scientific community for

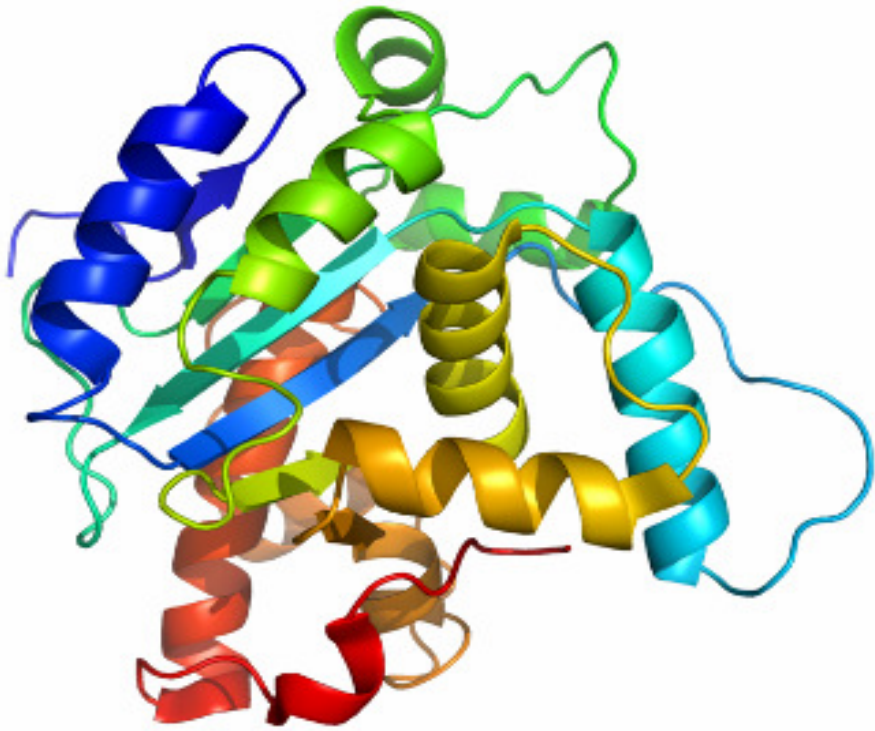
- Conducting leading-edge research
- Knowledge transmission, exchange and preservation

➤ Today Research Infrastructures include

- Major scientific equipment
- Scientific collections, archives, structured information
- ICT-based infrastructures

➤ Excellence of research services generally subject to periodic evaluation by international scientific committee





from basic research
enabled through efficient « research infrastructures »
to applications in our daily life



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Importance of Community actions:

- **To reduce European fragmentation and dispersion of existing facilities**
- **To stimulate more international cooperation in certain fields**
- **To help developing a research market for access to and use of installations and/or research services**





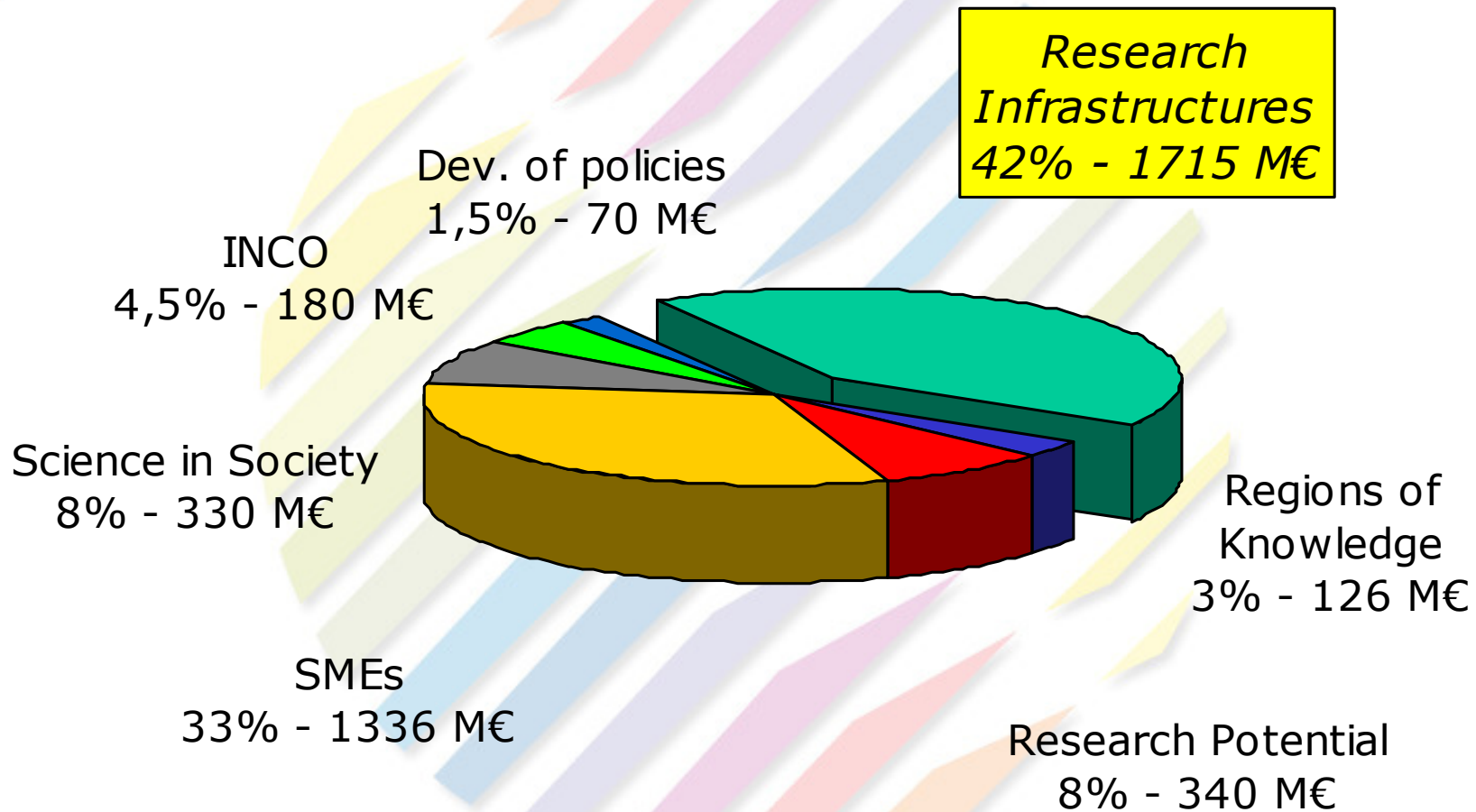
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"Capacities": 4097 M€



SEVENTH FRAMEWORK
PROGRAMME



CAPACITIES



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Role of the Community Research Infrastructures actions

- 1) Helping to create in all fields of S & T **new research infrastructures** of pan-European interest
 - e.g. PRACE, ELI, XFEL, BBMRI, Share, etc.
- 2) Optimising the use and balanced development of the best **existing research infrastructures** in Europe
- 3) Supporting **policy development**
 - e.g. ESFRI, e-IRG, impact studies
 - international cooperation



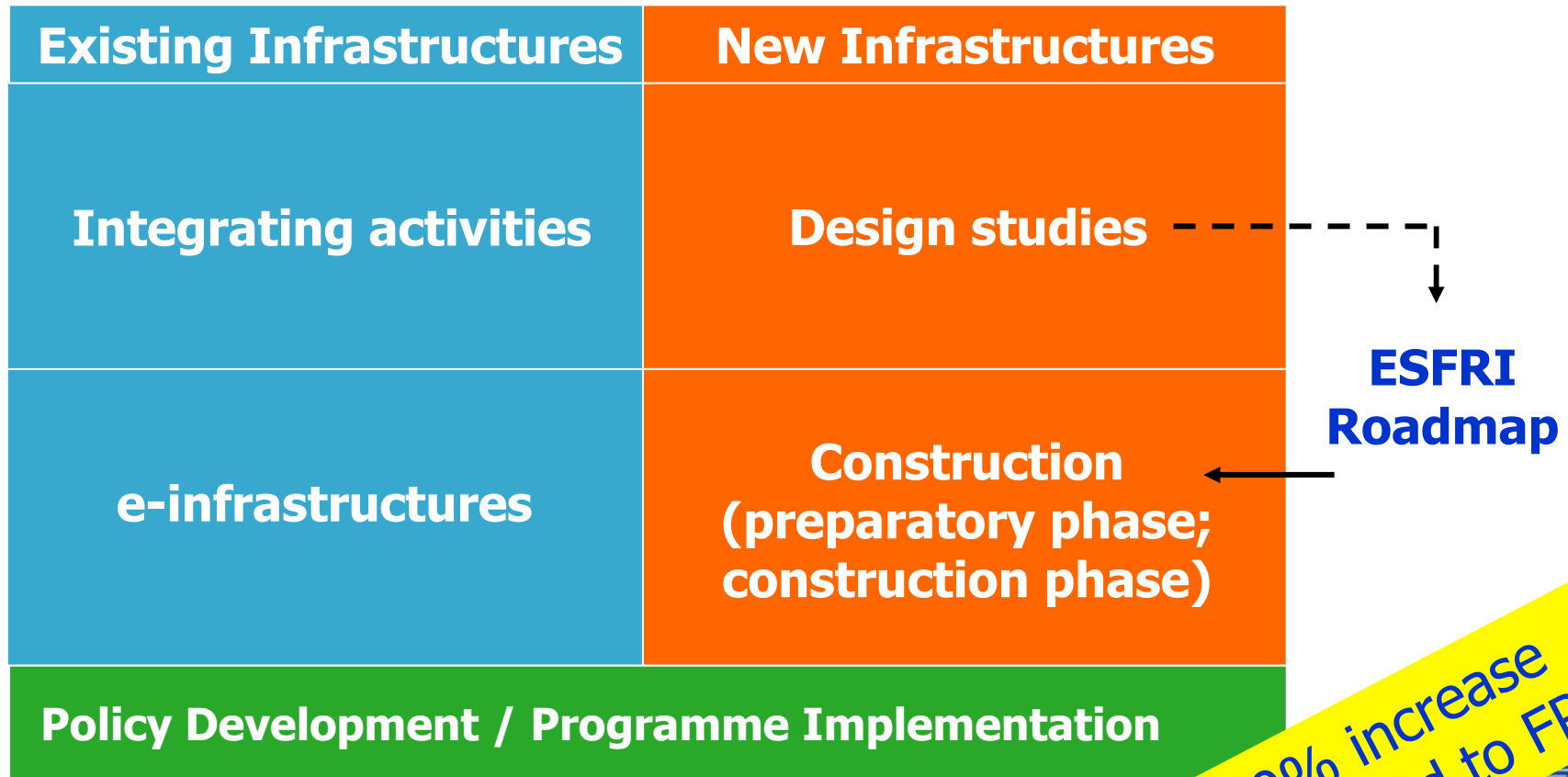
1,715 M€ for RIs for
the period 2007-2013



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FP7 Research Infrastructures actions



30% increase compared to FP6





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Towards an 'eco-system' of Research Infrastructures within ERA

- a) Large single-sited facilities
- b) Distributed European Facilities
- c) Regional Partner Facilities
- d) Network of national facilities
- e) Linked with universities & schools
- f) Network of industrial suppliers / users



CAPACITIES



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1) Support to new research infrastructures

- **Support to the Construction of new infrastructures and major upgrades**
 - **Preparatory Phase** – to support all work needed to initiate construction of a new RI
 - **Implementation Phase** - mainly left to MS, the owners of the new facilities
- **Design studies:** to support the conceptual design for new facilities or major upgrades, of clear European dimension and interest
 - through bottom-up calls

530 M€
2007-2013

70 M€ 2007-
2013





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Preparatory phase - purpose

- ☞ To provide a framework facilitating decision-making between partners from different countries
- ☞ To address all the critical issues (legal, financial,..) that need to be resolved to allow the project moving forward

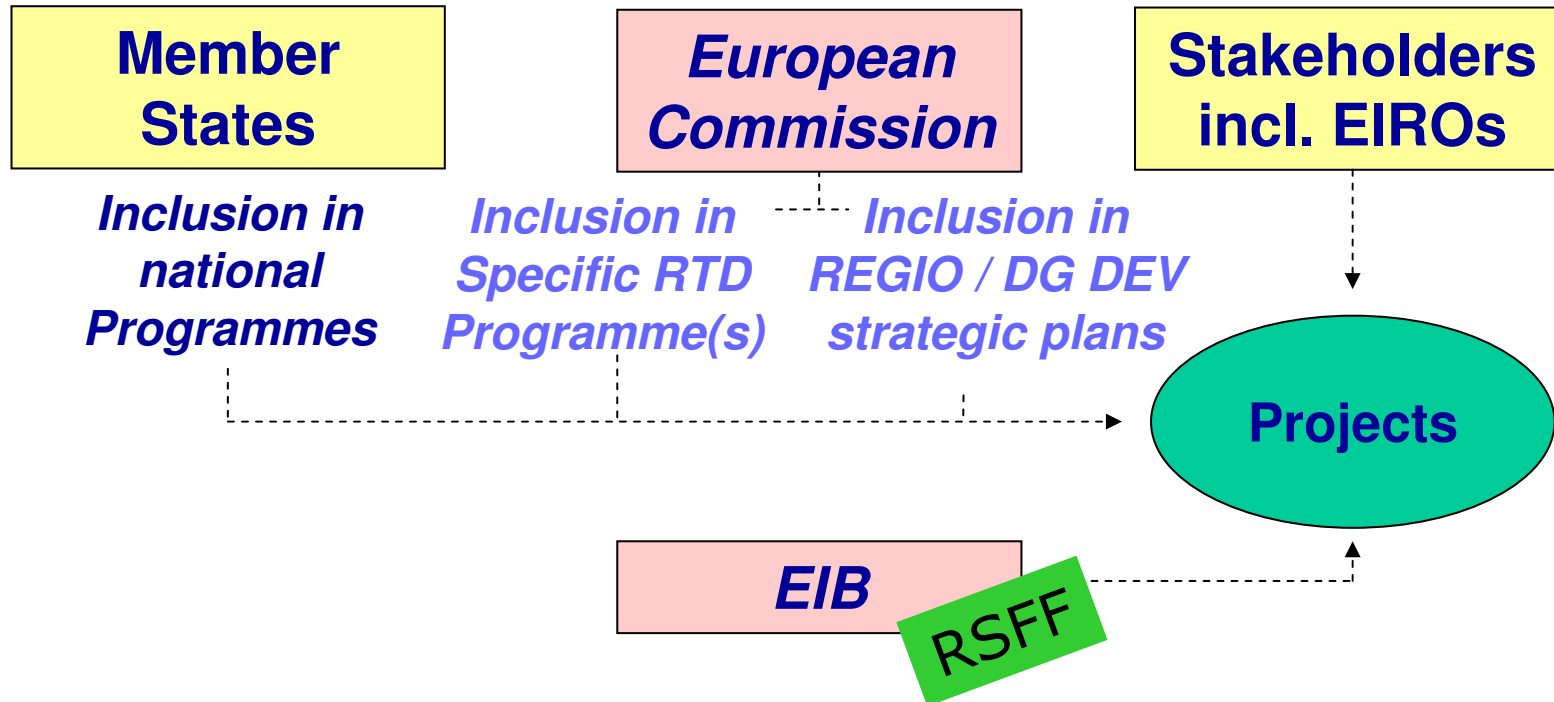




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Preparatory Phase facilitating financial engineering for new research infrastructures



34 of the 35 ESFRI projects supported





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Some info on Call N° 1 ...

- All Member States (but Luxembourg), all Associated States, and 6 Third Countries are involved in at least one ESFRI Preparatory Phase proposal
- Participants involved in 34 ESFRI Roadmap PP projects: 90% MS, 6.5% AS-ACS, 3.5% other
- On the average: 19 Participants from 11 different countries per ESFRI proposal
- About 9-10% of the total participants, are from 14 MS Convergence Regions, eligible to receive Structural Funds



The 2008 Roadmap Update consists of 34 + 10 projects:

- **Social Sciences Humanities (5)**
- **Environmental Sciences (10 – 3 new)**
- **Energy (4 – 1 new)**
- **Biological and Medical Sciences (10 – 4 new)**
- **Material Sciences & Analytical Facilities (6 – 1 new)**
- **Physical Sciences & Engineering (8 – 1 new)**
- **e-Infrastructures (1)**



Social sciences and Humanities

- **CESSDA - Council of European Social Science Data Archives**
- **CLARIN - Common Language Resources and Technology Infrastructure**
- **DARIAH – Digital Research Infrastructure for the Arts and Humanities**
- **ESS - European Social Survey Upgrade**
- **SHARE – Upgrade of the Survey of Health, Ageing and Retirement in Europe**

Environmental Sciences

- **AURORA BOREALIS**
- **COPAL (ex EUFAR) – Heavy Payload Long endurance Tropospheric Aircraft**
- **EISCAT 3D – The next generation European incoherent scatter radar system**
- **EMSO - European Multidisciplinary Seafloor Observatory**
- **EPOS – European Plate Observing System**
- **EURO-ARGO – Global Ocean Observing Infrastructure**
- **IAGOS – In Service Aircraft for a Global Observing System**
- **ICOS – Integrated Carbon Observation System**
- **LIFEWATCH – Science and Technology Infrastructure for Biodiversity Data and Observatories**
- **SIAEOS – the Svalbard Integrated Arctic Earth Observing System**



Energy

- ***ECCSEL – European Carbon Dioxide Capture and Storage Laboratory Infrastructure***
- **HiPER – High Power Laser Energy Research Facility**
- **IFMIF – International Fusion Materials Irradiation Facility**
- **JHR - Jules Horowitz Reactor**

Biological and Medical Sciences

- **BBMRI - Biobanking and Biomolecular Resources Research Infrastructure**
- **EATRIS – European advanced translational research infrastructure in medicine**
- **ECRIN – Pan-European infrastructure for clinical trials and biotherapy**
- **ELIXIR - European Life-Science Infrastructure For Biological Information – A Major Upgrade**
- ***EMBRC - European Marine Biological Resource Centre***
- ***EU-OPENSREEN - European Infrastructure of Open Screening Platforms for Chemical Biology***
- ***Euro -BioImaging – European Biomedical Imaging Infrastructure***
- ***European High Security Bsl 4 Laboratories***
- **INFRAFRONTIER – The European infrastructure for phenotyping and archiving of model mammalian genomes**
- **INSTRUCT – An Integrated Structural Biology Infrastructure for Europe**



Materials and Analytical Facilities

- EMFL - European Magnetic Field Laboratory
- ESRF Upgrade
- EuroFEL (ex-IRUVX-FEL)
- ESS - European Spallation Source
- European XFEL
- ILL 20/20 Upgrade

Physical Sciences and Engineering

- CTA – Cherenkov Telescope Array
- E-ELT – European Extremely Large Telescope
- ELI – Extreme Light Infrastructure
- FAIR – Facility for Antiproton and Ion Research
- KM3NeT – Kilometre Cube Neutrino Telescope
- PRINS – Pan-European Research Infrastructure for Nanostructures
- SKA – Square Kilometre Array
- SPIRAL2

e-Infrastructures

- PRACE (ex EU-HPC) – Partnership for Advanced Computing in Europe



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FP 7 future calls to support Construction of new RIs

- **Two calls for proposals for 2010-2013**

- July - December 2009 – 45 M€
(DG RTD)

- July - November 2009 – 20 M€
(DG INFSO)





2) Support to existing RIs: Integrating Activities in FP7

- Continuation of the FP6 instrument "I3"
- Collaboration of **existing research infrastructures**
 - Normally all major RI's in Europe in one field
- Three types of obligatory activities
 - *Networking Activities*
 - *Trans-national Access and/or Service Activities*
 - *Joint Research Activities*

EC funds ~250 M€/y

2,5% of EU needs

About 300 RIs supported
under FP

Integrating Activities: Results FP7 call 3

SYNTHESYS

Biodiversity, taxonomy, collections

INCREASE

Climate change, biodiversity

IS-ENES

Climate modeling

EUROCHAMP-2

Atmosphere chemistry

EUFAR

Atmosphere and geosciences

UP-GRADE BS-SCENE

Marine, biodiversity

MESOAQUA

Marine mesosphere

EUROFLEETS

Marine Science, Geophysics

SFERA

Solar energy

DERRI

Electricity networks

ASSEMBLE

Marine genomics

SLING

Bio-informatics resources

EMMAservice

Mouse repositories

EMbaRC

Microbial resources

EVA

Virus archives

NADIR

Animal diseases

INFRAVEC

Infectious disease vectors

TRANSVAC

Vaccine development

PCUBE

Structural biology

EAST-NMR

Structural biology - NMR

ULICE

Hadron therapy centres

SHARE_LEAP

Socio-economic science

SERIES

Earthquake engineering

ESWIRP

Wind tunnels, aeronautics

EUMINAfab

Nano-materials

MICROKELVIN

Cryo-engineering, nano-physics

SPIRIT

Ion beam technology

EuroMagNET II

High magnetic fields

HPC-EUROPA

Supercomputers

CHARISMA

Cultural heritage

ELISA

Synchrotrons

EuCARD

Accelerators

LASERLAB-EUROPE

Lasers

HadronPhysics2

Hadron physics

NMI3

Neutron sources

EuroPlaNeT RI

Planetology

OPTICON

Optical Astronomy

RadioNet-FP7

Radio Astronomy



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FP 7 I3 future calls DG RTD

- **Three calls for proposals for 2010-2013**

- For WP2010 max. EC contribution 10M€,
- 4 years duration

- **A targeted approach**

- For each of the three calls, a list of defined topics
- Each topic corresponding to one project,
- Focus on strategic priorities
- More topics will be published than can be funded to ensure competition





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Identification of topics

- **79 topics in 6 fields**

- Environmental sciences and non nuclear energy
- Life sciences
- Mathematics, computer-related sciences, data
- Social sciences and humanities
- Physics, astronomy, nuclear-and particle physics
- Analytical facilities and engineering

- Corresponding to both potential **follow-up** and opening the Research Infrastructure action for **new communities**





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Distribution of the topics between calls

Call A (WP 2010)
Published summer 09



Call B (WP 2011)
Published summer 2010



Call C (WP 2012)
Jan. 2012

Budget: ~ 160 M€

36 topics

**Expected number of
funded projects: ~
18-20**

Budget: ~ 100 M€

21 topics

**Expected number of
funded projects: ~
10**

Budget: ~90 M€

21 topics

**Expected number of
funded projects: ~
12**



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3) Support to Policy development and Programme implementation

Two main topics called for:

- **ERA-NETs** supporting cooperation for research infrastructures in all S&T fields
- Studies, conferences and coordination actions supporting **policy development, including international cooperation** in all S&T fields



WP 2010 – Activities DG RTD

- Call for proposals: ***FP7-INFRASTRUCTURES-2010-1***

→ Publication: 30 July 2009 / Deadline: 3 December 2009

→ Indicative budget 217 M€

1.1 Support to existing research infrastructures	
1.1.1 Integrating Activities (35 topics)	162 M€
1.2 Support to new research infrastructures	
1.2.2 Construction of new infrastructures (or major upgrades)	45 M€
1.3 Support to policy development and programme implementation	10 M€

- Grants to named beneficiaries

→ Spanish Presidency Conference (future governance of RIs)

→ Belgium Presidency Conference (RIs in the Energy field)





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WP 2010 Activities DG INFSO

- **Call for proposals: *FP7-INFRASTRUCTURES-2010-2***

→ **Publication: 30/07/2009 / Deadline: 24/11/2009**

1.1 Support to existing research infrastructures	
1.1.2.1 Distributed Computing Infrastructure	50 M€
1.1.2.2 Simulation softwares & services	12 M€
1.1.2.3 Virtual Research Communities	23 M€
1.2 Support to new research infrastructures	
1.2.3 Construction of new infrastructures (PRACE first phase)	20 M€
1.3.3 Support to policy development and programme implementation	10 M€



Planning of FP7 calls

ACTIVITY	C1 2.5. 2007	C2 20.9. 2007	C3 29.2. 2008	C4 11.9. 2008	C5 17.3. 2009	C6 3.12. 2009	C7 24.11. 2009	C8 winter 2010	C9 autumn 2011
I3		272.9				162		X	X
e- Infrastr uctures	42	50		113	4		85	X	X
Design studies	31							X	
Constr.- Sup. PP	146.7					45			
Constr.- Sup. to Implem							20	X	X
Support to Policy	8	14	9		5.6	9.9	10	X	X
Budget (M€)	227.7	64	281.9	113	9.6	216.9	115		



RIIs-Regions (Council Conclusions)

- ***Excellent RIIs, single-sited and distributed, contribute to dynamic and sustainable regional development, economic growth and social benefits***
- ***e-infrastructures: are essential as an integrating mechanism between Member States, regions, different scientific disciplines regardless of their geographical location***
- ***Regions are important drivers leading to the development of a knowledge based society***
- ***Combine efficiently all available public and private resources (MS, industry, EIB, Structural Funds, FP7, CIP etc.) for the construction, upgrading or maintenance of RIIs, including Regional Partner Facilities (RPFs)***
- ***"RPFs" : a useful way of capacity building of all regions in Europe resulting in a balanced development of the ERA and brain circulation throughout Europe, thereby promoting European cohesion***
- ***Strengthen links between national and pan-European RIIs***
- ***Analyze the socio-economic returns and cost effectiveness of research infrastructures for the regions hosting them and Europe as a whole, along with the identification of possible obstacles to the increased use of Structural Funds***





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HOW TO COORDINATE FP7 (RIs) AND SF (Regions) ACTIONS ?

- **Build bridges between two different policies both aiming to contribute to the Lisbon Objectives**
- **Vision: combination of strategies (not only funds)**

**BY USING THE OPEN METHOD OF
COORDINATION + GOOD PRACTICES**





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HOW TO COORDINATE IN PRACTICE FP7 (RIs) AND SF (Regions) ACTIONS ?

- **Ensure that appropriate national strategic R&D-RI priorities are included in NSRFs and subsequently in SOPs, so that SF funds are properly/timely earmarked by DG REGIO (MS-Regions)**
- **Adequately inform candidate R&D applicants of availability/complementarity of FP-SF funds and of how and where to apply at national or regional level (MS-Regions-EC)**
- **Assist candidate R&D applicants, to identify whether their R&D priorities are included in respective NSRFs-SOPs and to distinguish between complementarity and double funding (R&D applicants-MS-Regions-EC)**
- **Ensure appropriate awareness campaign and communication and information exchange (DG RTD-REGIO-COR)**





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What is being done in practice?

Commission Services for ESFRI Roadmap RIs:

- Identify, on a project by project basis, individual eligible participants
- Inform them rapidly of the possibility for SF; advise them to inquire at regional-national level of the eligibility of their specific R&D priorities
- Inform respective NCP, PC and ESFRI members, as well as the COR of identified eligible organisations/regions, in view of ensuring adequate awareness at regional, national level





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Convergence regions-countries participation

COUNTRY	N° of participants	N° of ESFRI projects
Bulgaria	4	4
Czech Republic	4	4
Estonia	3	2
Greece	16	11
Hungary	3	3
Italy	2	2
Lithuania	1	1
Malta	2	2
Poland	8	8
Portugal	1	1
Romania	7	6
Slovakia	1	1
Slovenia	5	5
Spain	4	4
Total	61	-





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Useful RI links

- **FP7 Proposal and Capacities Specific Programme**
<http://cordis.europa.eu/fp7/>
<http://cordis.europa.eu/fp7/capacities.htm>
- **Research Infrastructures on CORDIS (FP6)**
<http://cordis.europa.eu/infrastructures/>
<http://cordis.europa.eu/ist/rn/>
- **ESFRI (Eur. Strategy Forum for Research Infrastr.)**
<http://cordis.europa.eu/esfri/home.html>
<http://www.e-irg.org>
- **ESFRI 34 Preparatory Phase Projects:**
ftp://ftp.cordis.europa.eu/pub/esfri/docs/34prep-projects_en.pdf
- **Research Infrastructures in Europa**
<http://ec.europa.eu/research/infrastructures>



Regional Policy – SFs links

- **Structural funds regulations for 2007-2013**
http://ec.europa.eu/regional_policy/sources/docoffic/official/regulation/newregl0713_en.htm
- **Eligible regions in each country for 2007-2013**
http://ec.europa.eu/regional_policy/atlas2007/fiche_index_en.htm
- **Decisions on indicative allocation of the funds and eligible regions**
http://ec.europa.eu/regional_policy/sources/docoffic/official/deci_en.htm
- **Regional policy – Info REGIO website on Europa**
http://ec.europa.eu/regional_policy/index_en.htm



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Merci

Grazie

Danke

Bedankt

Gracias

Hvala

Kiitos

Tack

Obrigado

Ευχαριστώ

Köszönöm

Teşekkür ederim *ありがとう*

СПАСИБО *धन्यवाद*

**Many thanks
for your attention**

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