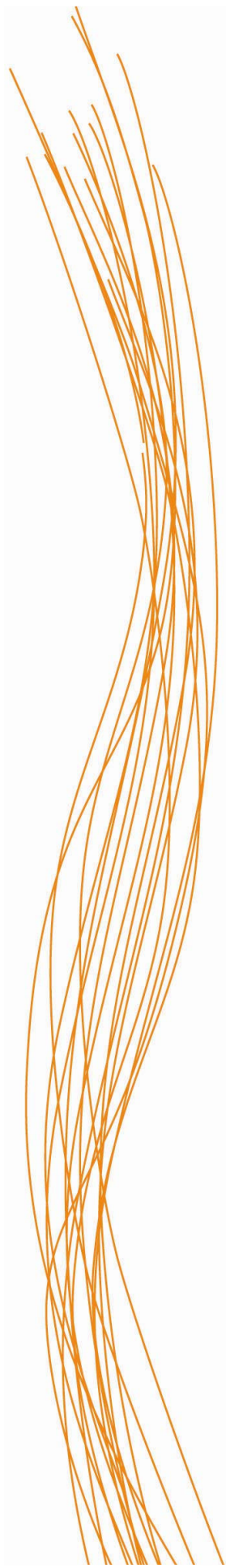




Community actions for Research Infrastructures



**DG RTD-B ERA: Research Programmes and Capacity
Research Infrastructures Unit
Maria Theofilatou**



Research Infrastructures (incl. e-infrastructures) are:

- Facilities, resources, and related services used by the scientific community for
 - Conducting leading-edge research
 - Knowledge transmission, knowledge exchanges and knowledge 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 Globally unique to regionally distributed;
- Many stakeholders (from ministries to researchers)
- Underlying and growing use of e-infrastructures;
- Opportunities but difficulties of interaction between basic research and industry...
- Lack of funding (public and private);
- Single countries do not have the critical mass or dimension; need to cooperate...



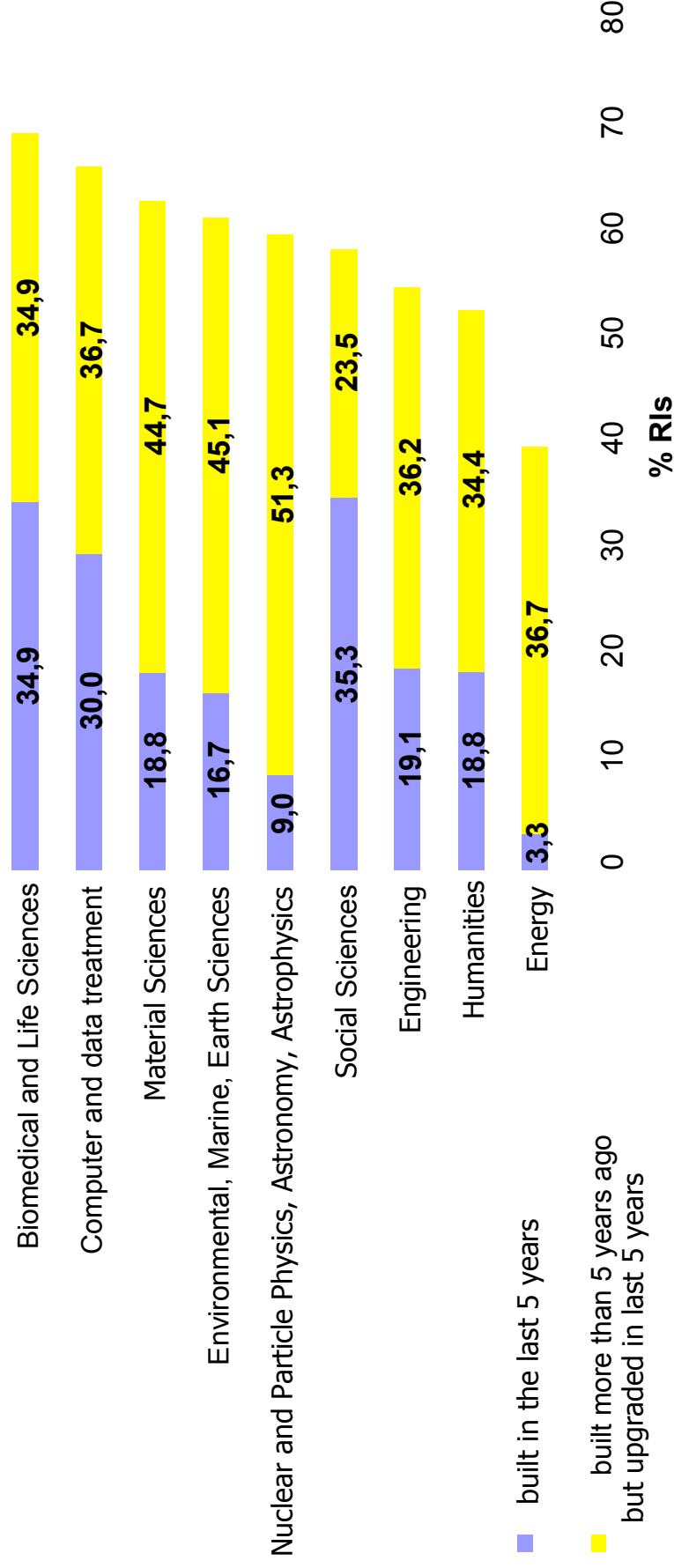


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Research Infrastructures' Pattern is rapidly evolving in Europe (results from EC-ESF survey)

Share of RIs Built or Upgraded in the Last 5 Years



■ built in the last 5 years

■ built more than 5 years ago
but upgraded in last 5 years

% RIs



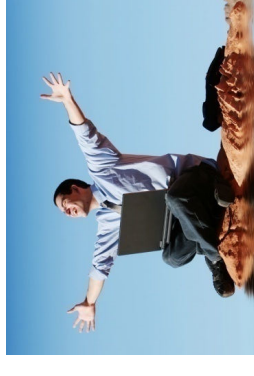
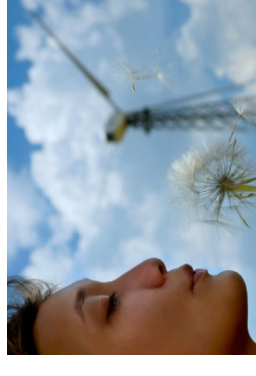
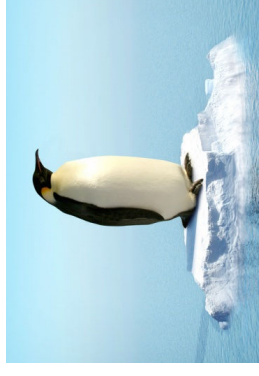
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An Ambitious ERA Vision: Developing World-class Research Infrastructures (Report of the ERA Expert Group 2008)

Green Paper on ERA in 2007 Five initiatives in 2008

- a) Researchers
- b) Joint Programming
- c) Research infrastructures**
- d) International S&T Cooperation
- e) Knowledge transfer and IP management





Role of ESFRI

(and of its ad-hoc Working Groups)

- **To foster an “open method of coordination” between different countries**
- **To discuss the long term vision at European level and to support the development of a European RI policy**
- **To bring initiatives and projects to a point where decisions by ministers are possible**

First roadmap
in 2006

Update in
Dec 2008

***A stimulation
and incubator role***

The European Roadmap

- Mandate from the Council of Ministers, November 2004
- Addressing seven (7) fields of Research and major challenges
- From about original 200 proposals, thirty five (35) first projects were identified in 2006 through several review stages
- The updated roadmap will be published by end of 2008 since some fields should be stimulated for further integration
- Four (4) working-groups are preparing this first update, evaluating proposals submitted through the ESFRI delegates



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Social Sciences and Humanities

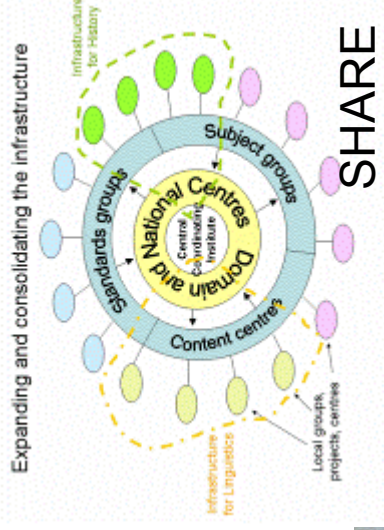
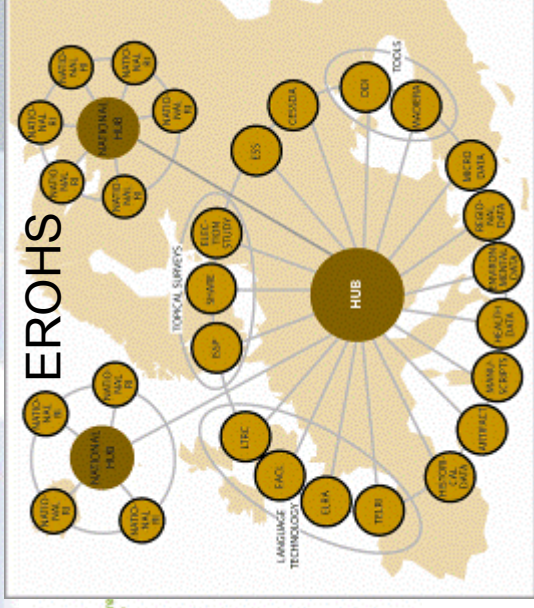


CESSDA



ESS

6 Projects



DARIAH

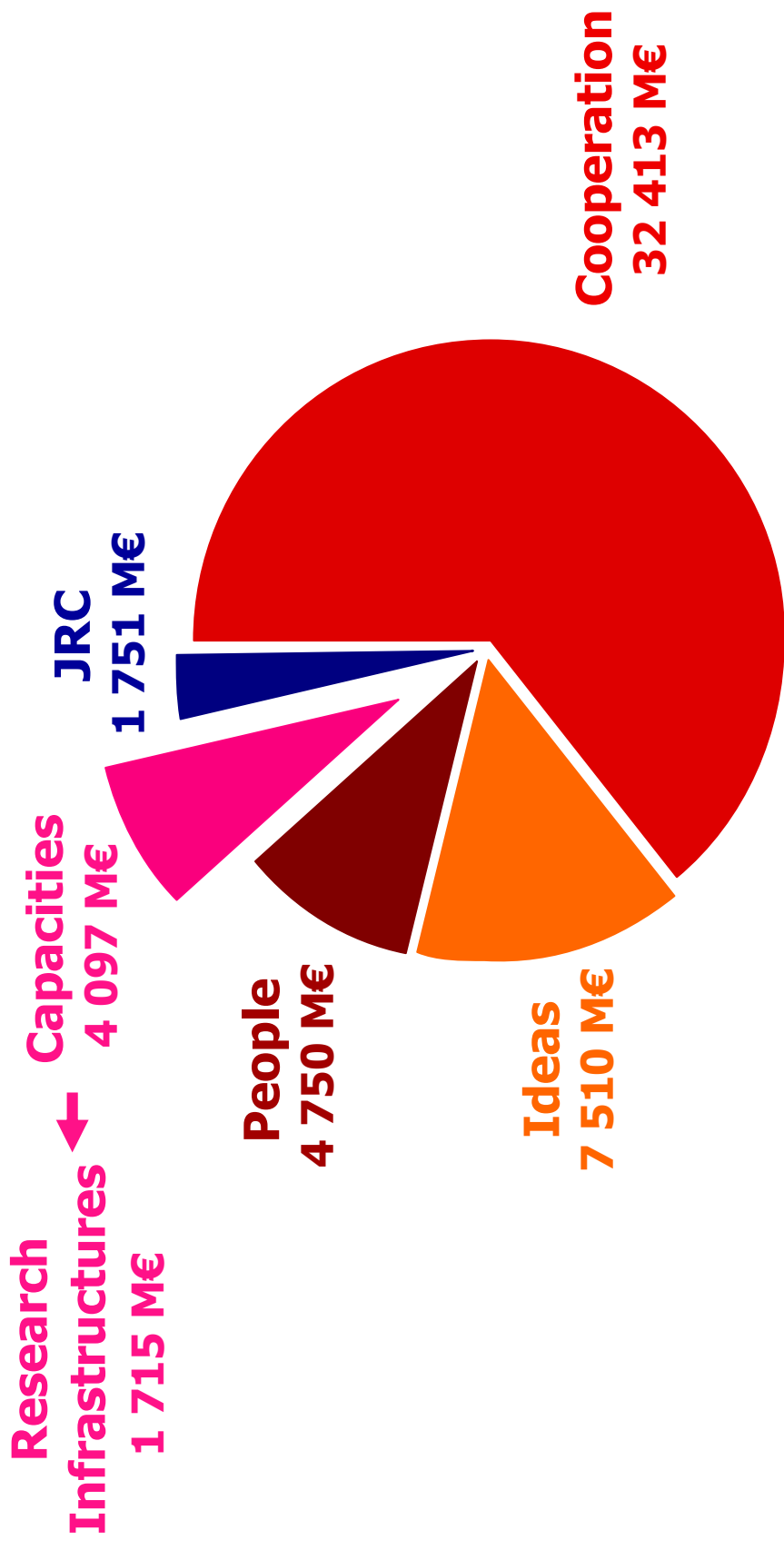
dariah.eu



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Budget for Research Infrastructures under FP7



FP7 budget (50 521 M€, current prices)





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FP7: Objectives of the Community Research Infrastructures actions

- Optimising the use and balanced development of the best **existing research infrastructures** in Europe
- Helping to create in all fields of S & T **new research infrastructures** of pan-European interest needed by the European scientific community
- Supporting programme implementation and **policy development** (e.g. international cooperation)

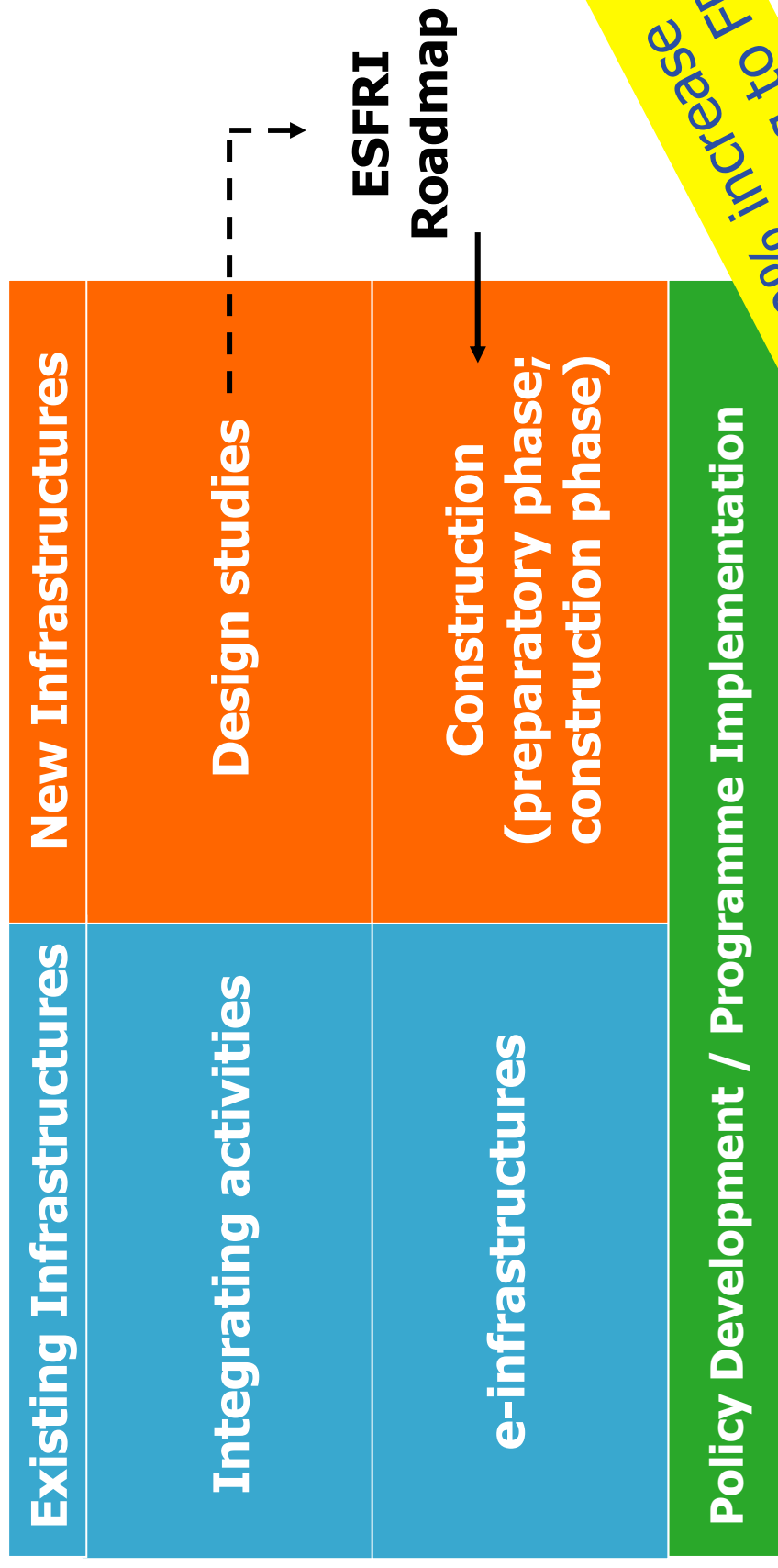




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FP7 Research Infrastructures actions

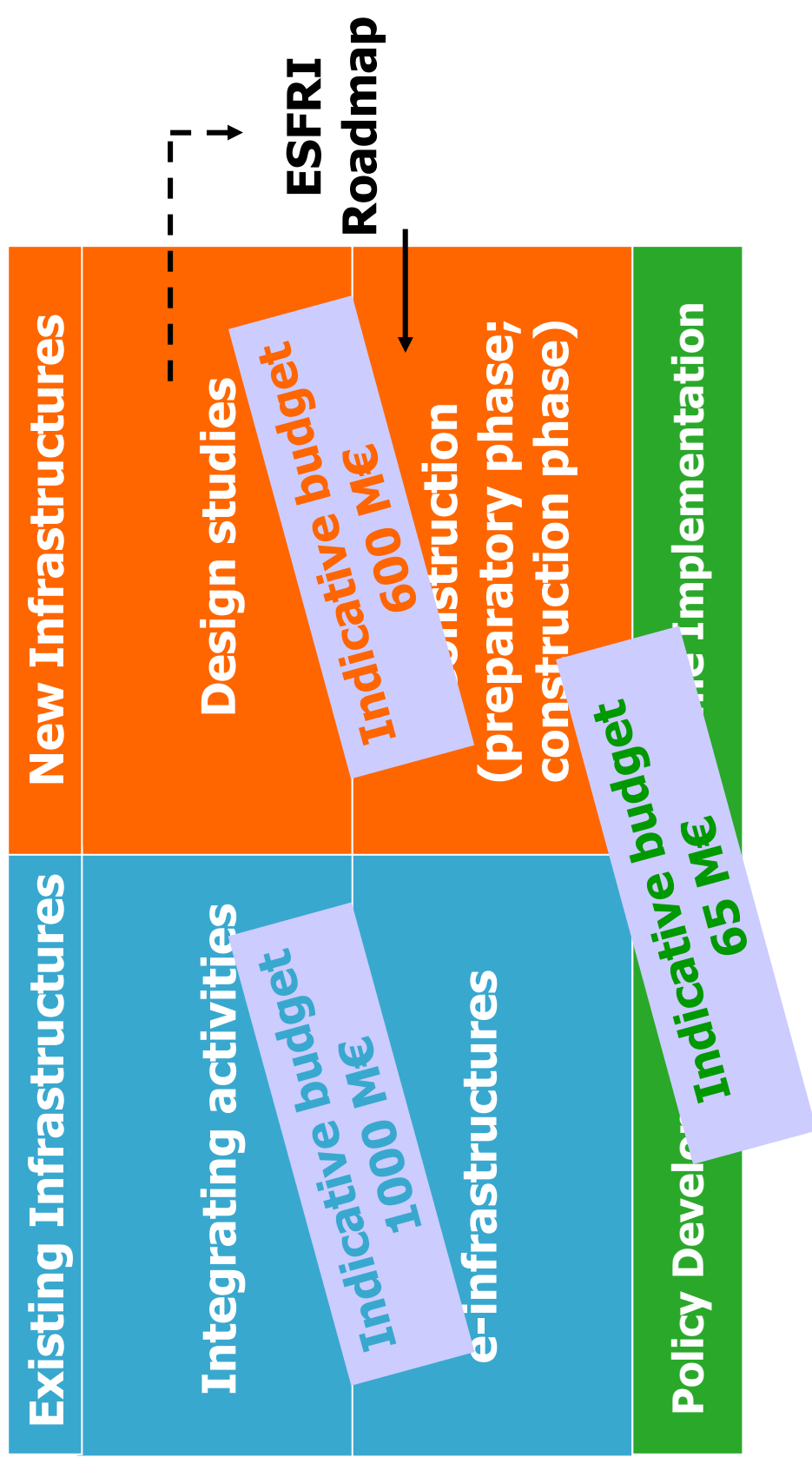




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FP7 Research Infrastructures actions





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Planning of calls and indicative budget

Total operational budget 1665 M€	Call 1 2007	Call 2 2007	Call 3 2008	Call 4 2008	Call 5 2009	Call 6 2010	Call 7 2012
Integrating activities			278			X	X
e-Infrastructures	42	50		113	X		X
Design studies	31					X	
Construction – Support to the Preparatory Phase	147					X	
Construction – Support to the Implementation Phase	RSFF (200 M€) + 130 M€						
Policy Development and Programme Implementation	8	14	4		X	X	X
Total per call (M€)	228	64	282	113			



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First Call on Preparatory phase for the Construction of New (or major Upgrade) of Pan European Research Infrastructures

- To provide a framework **facilitating decision-making** between partners from different countries
- Work targeted at **resolving bottlenecks** and addressing most of the **critical issues** (legal, financial,..) that need to be resolved to allow the project moving forward
- **Technical work** also possible but cannot be the core of the preparatory phase

The Preparatory phase is a pathfinder for construction





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First FP7 Call: Social Science and Humanities



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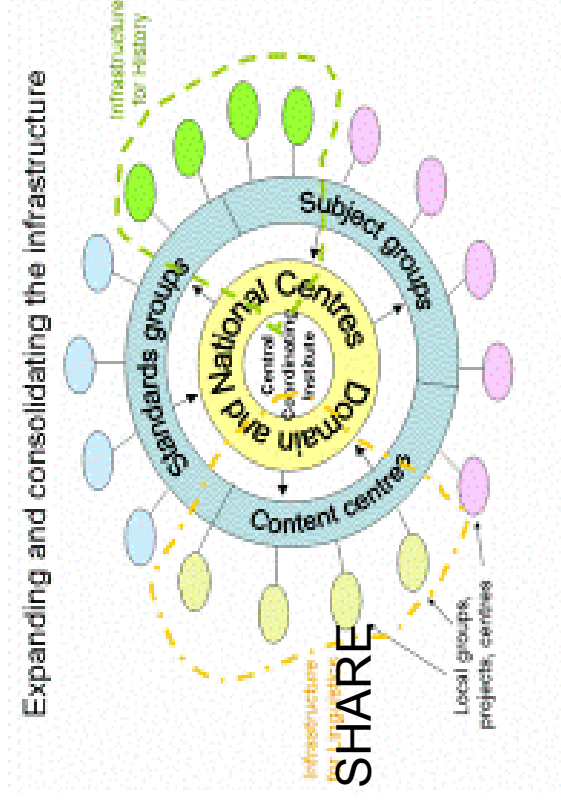
5 Projects



ESS



CLARIN

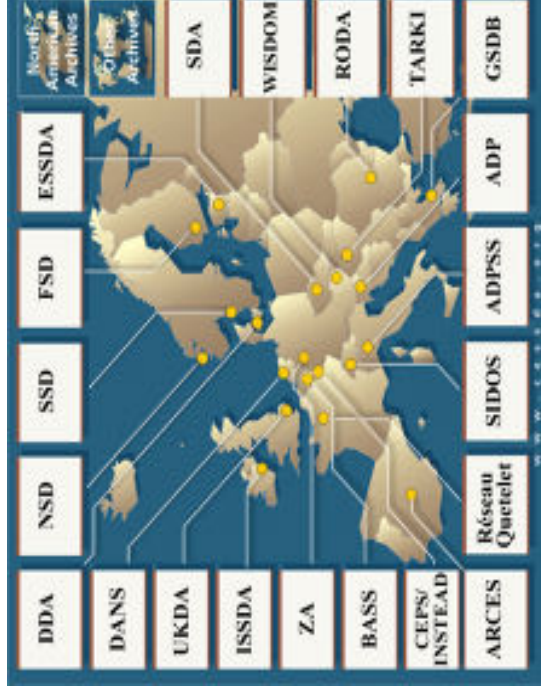




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CESSDA



Social Sciences and Humanities

Council of European Social Science Data Archives

- Distributed infrastructure providing and facilitating access of researchers to high quality data and supporting their use
- Currently extends across 21 countries in Europe
- Holds some 15,000 data collections
- Provides access to over 20,000 researchers
- Agreements in place with other organisations worldwide

www.nsd.uib.no/cessda





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DARIAH



Social Sciences and Humanities

Digital Research Infrastructure for the Arts and Humanities

- Distributed infrastructure, based upon an existing network of Data Centres and Services in Germany, France, the Netherlands and the United Kingdom
- Open infrastructure, able to embrace new fields
- Brings essential cultural heritage online (linked to the European Cultural Heritage Online)

www.dariah.eu





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The European Social Survey

Social Sciences and Humanities

The European Social Survey

- Major up-grade of a Pan-European database to monitor long term changes in social values throughout Europe
- Produces data relevant to academic debate, policy analysis and better governance
- Currently covers 27 European countries.

www.europeansocialsurvey.org





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SHARE

Expanding and consolidating the infrastructure



Social Sciences and Humanities

Survey of Health, Ageing and Retirement in Europe

- Data infrastructure of fact-based economic and social science analyses of the on-going changes in Europe due to population ageing
- The original 8-country survey will be expanded to all 25 Member States of the EU.

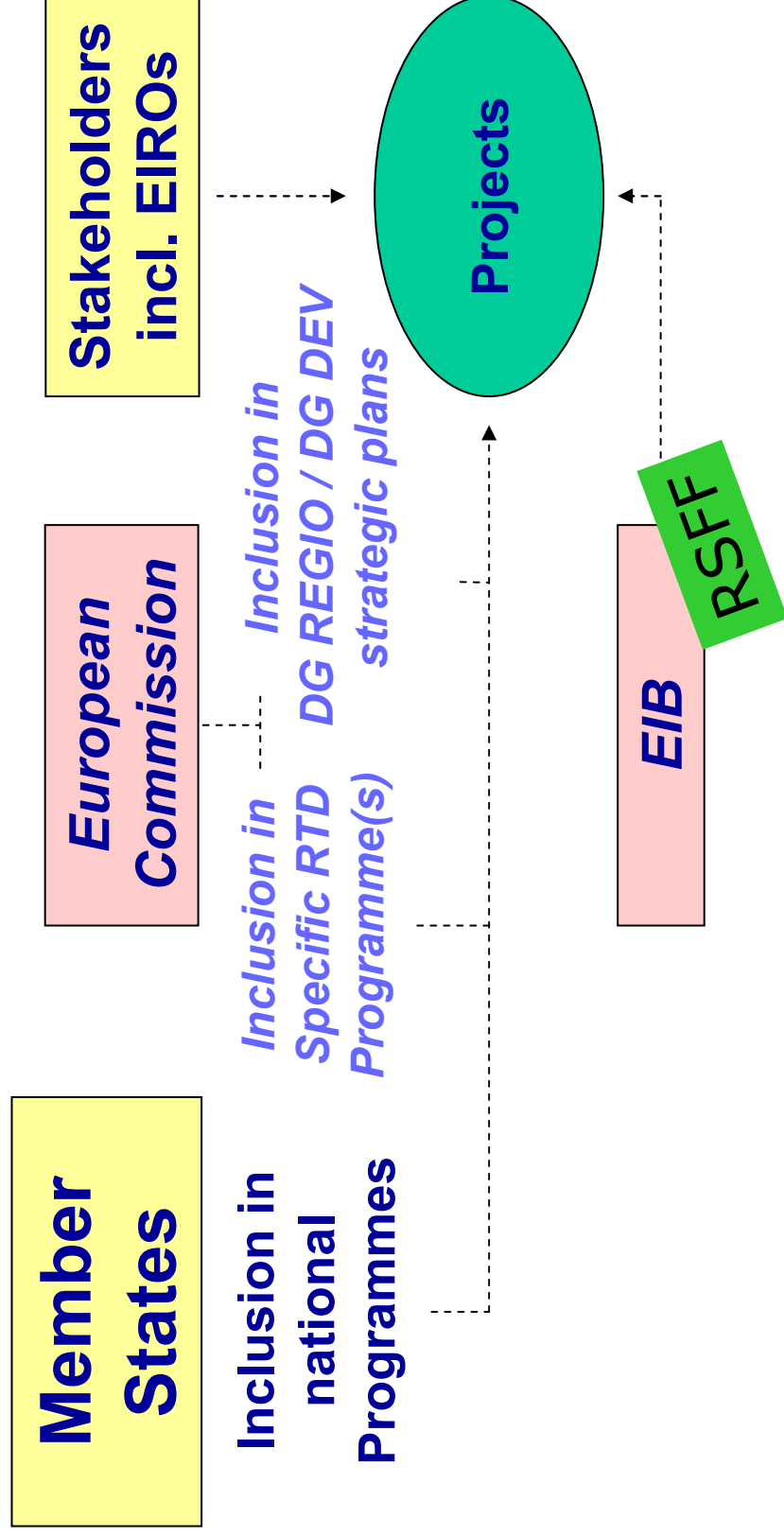
www.share-project.org



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FP7 Preparatory Phase facilitating financial engineering for new research infrastructures





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The EC Proposal for a Community legal framework for a European Research Infrastructure (ERI)

- **In July 2008, the Commission presented its Proposal for a Council Regulation**
- **The creation of a Community Legal Framework based on Article 171 EC Treaty for the construction and operation of new European Research Infrastructures (ERI) is in progress**
- **Foreseen adoption by the Council on December 2008**
- **It would be effective from mid-2009**



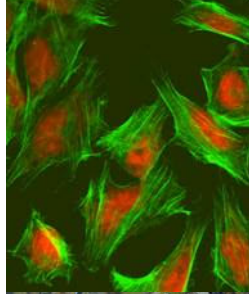


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FP7 continues supporting existing Research Infrastructures

- **Integrating Activities** to promote the coherent use and development of research infrastructures in a given field, *implemented through:*
 - ➔ **Bottom-up** approach
 - ➔ **Targeted topics**
- **ICT based e-infrastructures** in support of scientific research





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Integrating Activity in FP7

- Continuation of the successful FP6 instrument “I3”
- Collaboration of **existing research infrastructures** in a given field of science
 - ➔ Normally all major RI’s in Europe in one field
 - ➔ At least 3 MS or AS
- Funding Scheme: **combination of collaborative project + coordination and support actions.**
- Three types of activities are obligatory in one project
 - ➔ **Networking Activities**
 - ➔ **Trans-national Access and/or Service Activities**
 - ➔ **Joint Research Activities**



Integrating Activities

FP7 call 3

SYNTHEYS	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	Population Ageing
CHARISMA	Cultural Heritage
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
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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Policy development and Programme implementation

FP7 Call 3

- **ERA-NETs** for research infrastructures
- **Studies, conferences and coordination actions for policy development**, including international cooperation
- **Network of National Contact Points (NCP)**
- **Other Support actions, as appropriate**





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... in summary, a consistent action for Research Infrastructures

- Better consistency within FP7 (targeted calls)
- Tackling better fragmentation (Integrating Activities)
- Catalysing effect towards the construction or major upgrade of Research Infrastructures
- A vision for the next 10-20 years fostering capacity building and excellence

(in line with ESFRI roadmap)

Next WP 2010
to be prepared
soon





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Importance of Community Actions

- The challenges are high: existing RI investments represent more than 100 B€ at EU level, whereas the EC resources are not enough (1,7 B€ under FP7),
- Could this be reconsidered at the FP7 mid-term review? There is need for the MS to raise their long-term support to benefit from the full potential of ERIs





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- **FP7 and Capacities Specific Programme**
http://cordis.europa.eu/fp7/home_en.html
http://cordis.europa.eu/fp7/capacities/home_en.html
- **Research Infrastructures on CORDIS (FP6)**
<http://cordis.europa.eu/infrastructures/>
- **Research Infrastructures in Europa**
<http://www.ec.europa.eu/research/infrastructures>

