



ERI in ERA II

Ute Krell , 21. March 2011

ERI in ERA II

????

**European Research Infrastructures
in the
European Research Area**

- „European Research Area“ – ERA & its impact on RI
- EU-Activities around ESFRI Preparatory Phase-projects
- Towards FP8
- EC perspectives for EuroFEL

What is ERA ?

European Research Area

was created

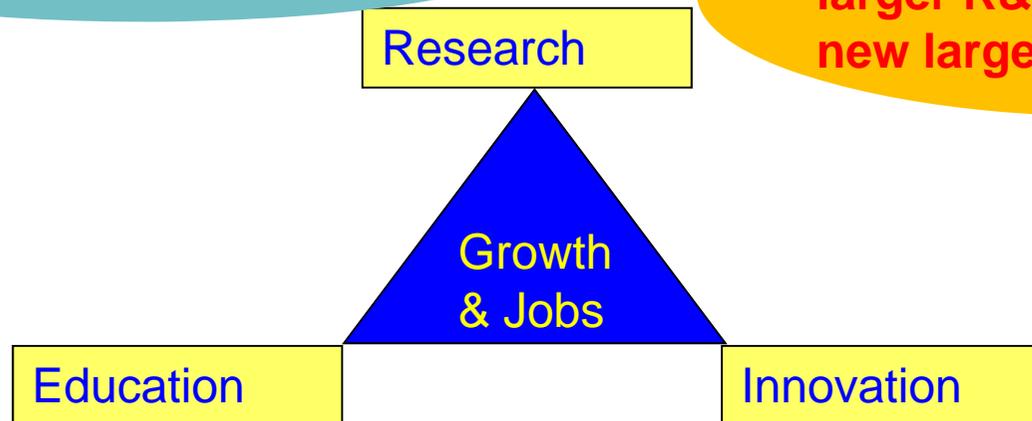
to fill the gap in expenditure on R&D in Europe towards Japan & USA

and

to ensure economic growth and jobs in Europe

**Why Europe as „one“ common area?
An approach for long term***

**Resulted in
larger R&D projects &
new large funding platforms**

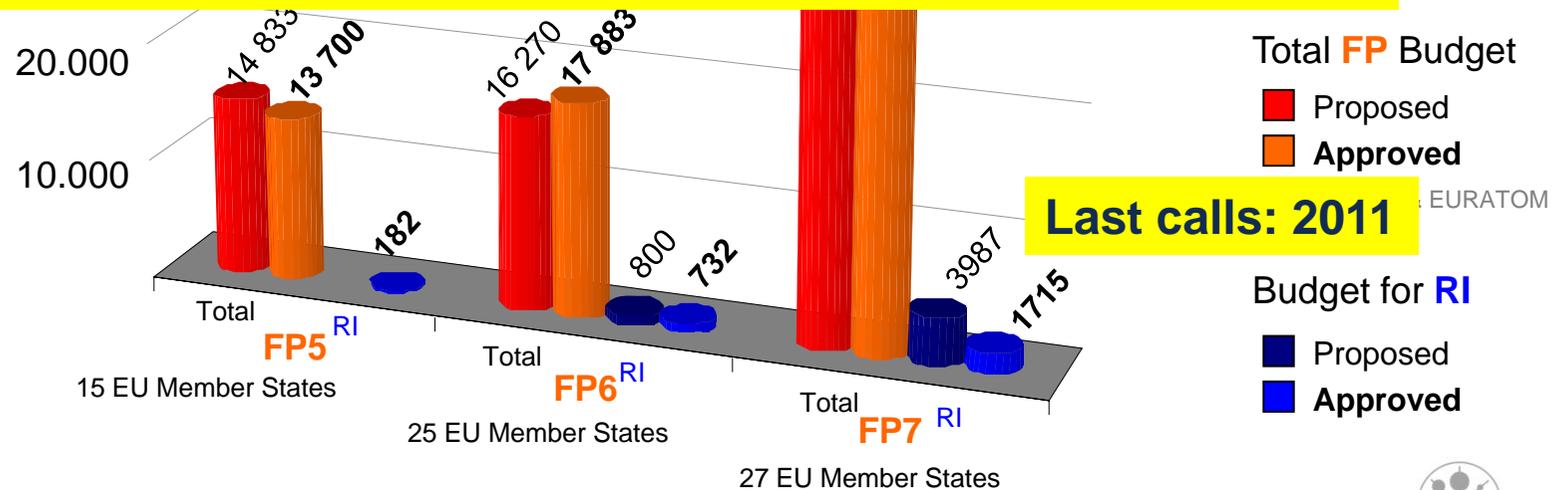


Lisbon strategy of the European Council in March 2000

ERA impact on funding



The aspired growth of FP7-Budget for RIs was not achieved for the benefit of Collaborative Research only 43% of proposed



FP5: 1999 - 2002

FP6: 2003 - 2006

FP7: 2007 - 2013



ERA impact on RI landscape

2000 start of a serie of European Conferences on RI (**ECRI**)

2002 Foundation of **ESFRI** - *European Strategy Forum on RI*



Members: delegates of MS

Mission: to support a coherent & strategy-led approach

Foundation of **EIROForum** –



European Intergovernmental Research Organisations Forum

Members: CERN, EFDA, EMBL, ESA, ESO, ESRF, ILL, XFEL

Mission: to play an active and constructive role in promoting the quality and impact of European Research

2006 Foundation of **ERF** - *European Association of National Research Facilities open to International Access*

12 Members, Mission to promote cooperation between facilities



1992

FP2: first EC funding of individual RI for Transnational Access

1994...

FP3 – FP5: additional funding for RI by single R&D projects

RIs are mainly in physics such as

Astrophysics, Neutron Sources, Synchrotrons...

2003- 2006



- I3 - Activities (Integrative Infrastructure Initiative) (IA-SFS)
consortia of similar RIs, funding of Networking, Transnat. Access, R&D
- Design Study: *joint R&D for new RIs* (EUROFEL Design Study)
- ERA-net : *coordinated activities of nat. funding agencies* (ASPERA)
- Construction of new RIs
- e-Infrastructure I3s (EGEE)

2007- 2013



- targeted calls for I3 - Activities (ELISA, CECILIA)
- Prep. Phase for ESFRI Roadmap projects (IRUVX-PP, PRE-XFEL)
- Design Studies *to get RI on the ESFRI Roadmap*
- ERA-net (plus): *joint national calls*
- ESFRI RI Cluster's (CRISP, Nov 2010)



Activities around PP projects

**Implementation of common solutions for
a cluster of ESFRI infrastructures:**

Call Nov 2010

Social Sciences and Humanities

Life sciences

Environmental Sciences

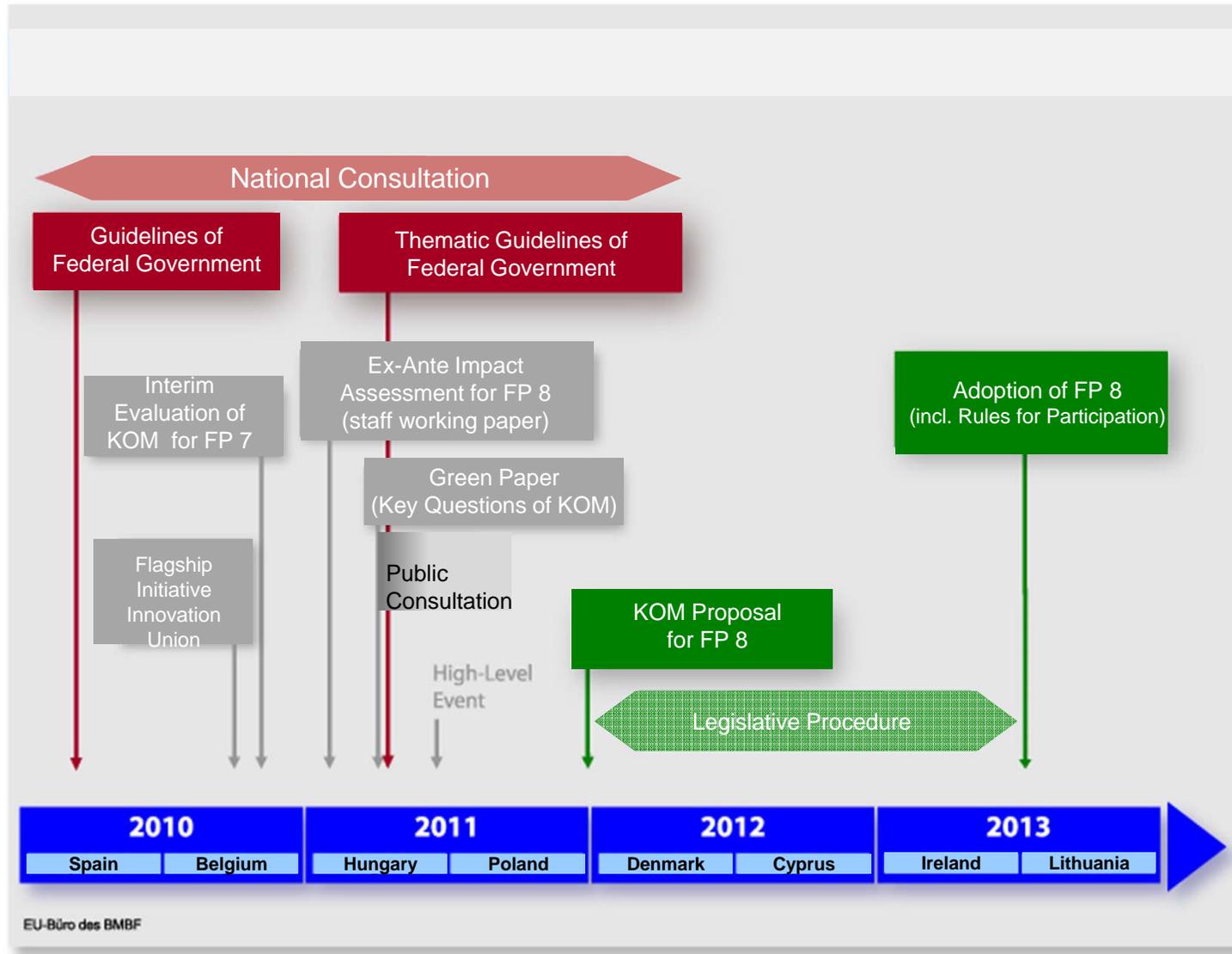
Physics, Astronomy and Analytical Facilities **CRISP**

ESFRI Roadmap 2010 with strategy report: *Apr 2011*

6 new project

ePPCC – the exchange of experience between PPs/ERICs is planned to be continued (partly perhaps by CoPoRI proposal)

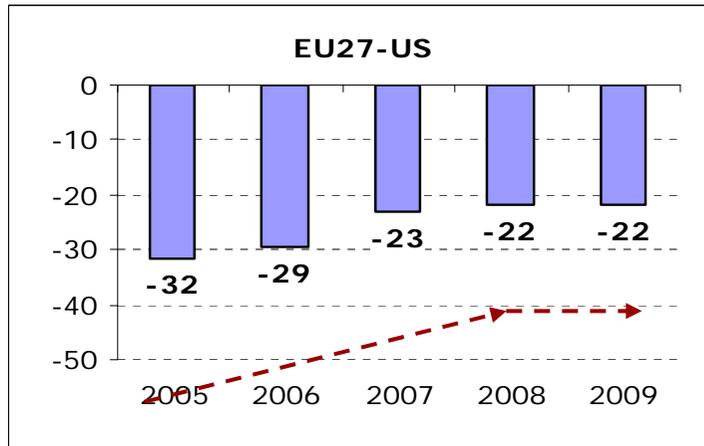
Timing FP8



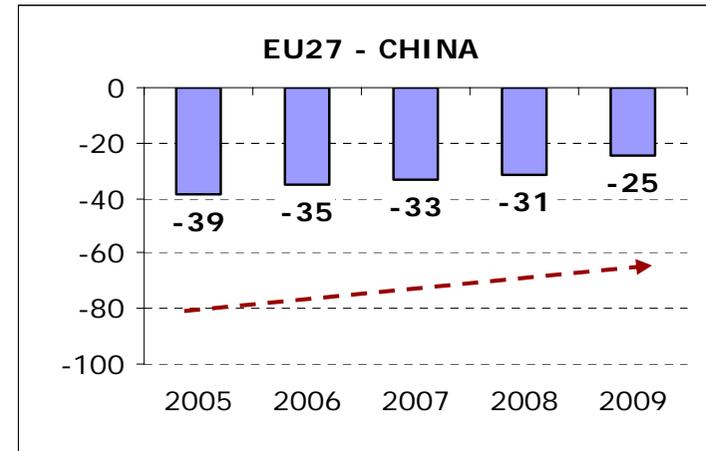
What about expenditure on R&D?

(2009 European Innovation Scoreboard by Peter Dröll, EC-DG ENTR , 22.09.2010)

Stagnation in relation to US (US = 0)



... decreasing lead to China (EU = 0)



Europe 2020 strategy target:

3% of EU's GDP in R&D

EU spending on R&D is still below 2% (due to low private investment)

Europe 2020 strategy paper *Mar 2010*

smart, sustainable and inclusive growth
=> seven Flagship Initiatives

Innovation Union



ESFRI statement *summer 2010:*

RIs are central to the success of the Europe 2020 strategy:

1. Help solving the grand social challenges
2. Are a spur to excellence
3. Create innovation ecosystems

http://ec.europa.eu/europe2020/index_en.htm

What is „Innovation Union“ ?

the Flagship Initiative
to complete ERA & to develop
a strategic research agendas on the grand challenges
facing our society:

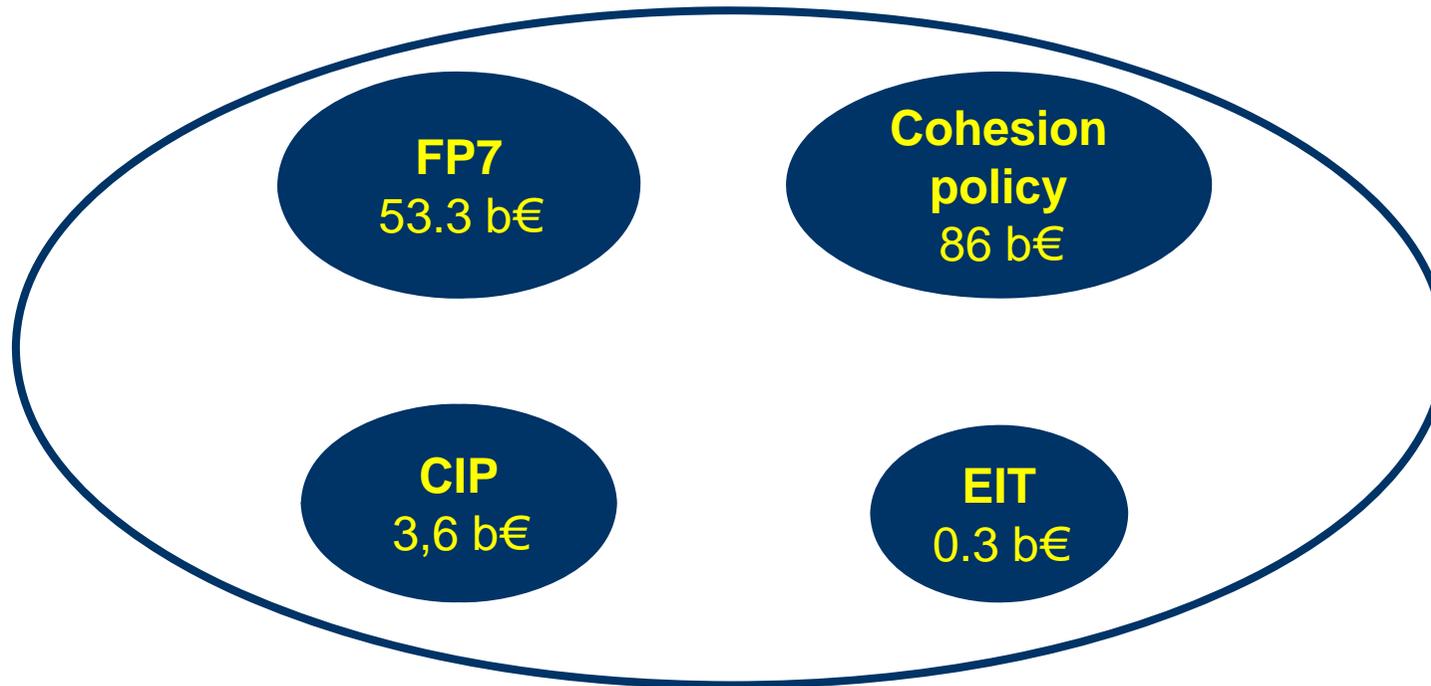
Climate change
Energy & resource efficiency
Health & demographic change

From Idea to Market



What is „Innovation Union“ ? 2

a **Common Strategic Framework** for
EU research and innovation



CIP = Competiveness & Innovation Framework Programme => SME

EIT = European Institute of Innovation & Technology => education&research&business

Cohesion policy (25% of Structural Fund) => enhance cap. of regional economies

on A COMMON STRATEGIC FRAMEWORK FOR EU RESEARCH AND INNOVATION FUNDING

based on the Europe 2020 strategy

- Working together to deliver on Europe 2020
- Tackling societal challenges
- Strengthening competitiveness
- Strengthening Europe's science base and the European Research Area



Through the actions of the research infrastructures programme and building on the work of the European Strategy Forum for Research Infrastructures (ESFRI), a strong impetus has been given to the planning, preparation and construction of large scale research infrastructures, and to ensuring access to existing infrastructures. In this context, the further deployment of e-Infrastructures is important to allow remote and virtual access to research facilities and to scientific information.

- Consultation question 25: **Deadline 20 May 2011**
How should research infrastructures (incl. EU-wide e-Infrastructures) be supported at EU level?

EC is searching for new schemes of RI funding

For what do we need EC funding?

What is the most effective funding scheme of transnational access?

under discussion:

funding up to 20% operation costs

funding clusters of RI

Is I3 the right instrument?



- CECILIA (2011-2015): **evaluated**
 - FELnet: joint training activities, DESY?
 - FEL Seeding: joint RTD, PSI
- Marie Curie Training Network
 - MC-FEL or
 - New concept (call summer 2011)
- ERA-net for FEL user (call summer 2011)

EIROFORUM, ESFRI, ERF :

<http://www.eiroforum.org>

<http://cordis.europa.eu/esfri>

<http://www.europeanresearchfacilities.eu/home.aspx>

ECRI Conferences:

<http://www.ecri2007.eu/>

<http://www.ecri2008.eu/>

<http://www.ecri2010.es/>

EC Research infrastructure website:

http://ec.europa.eu/research/infrastructures/index_en.cfm?pg=home

RI and the Europe 2020 strategy:

http://ec.europa.eu/europe2020/index_en.htm

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:2020:FIN:EN:PDF>

http://ec.europa.eu/research/infrastructures/pdf/esfri/home/esfri_inspiring_excellence.pdf#view=fit&pagemode=none

Green paper consultation towards a common strategy, FP8, 2011:

http://ec.europa.eu/research/csfr/i/index_en.cfm?pg=questionnaire





Thank you
for your attention

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- Info EC-Workshop in Brussels for PP-Coordiators Sep29, 2008: some PP-coordinators expressed need on exchange of experience
- 1. meeting of 8 PP-coordinators in Paris: very similar problems independent on scientific fields
- Workshop in Brussels Feb 6 - 85 participants - results:
 - set up working groups on selected issues
e.g. legal issues for distributed RIs, pan European access
 - coordinated by **ePP-CC**
(European Preparatory Phase – Coordinating Committee)
- **SINAPSE**: webbased discussion forum & document base
- next workshop for all PP-coordinators is planned for Oct 2009



- Need of common approach for the development of RIs
- Leadership be at European (147) or at Member State level (122) or intergovernmental organisations (114) of 211
- EU Framework Programme funding should provide the greatest amount of funding (to 20%)
- Guidelines on European level to facilitate creation & operation of new forms of RIs (75%)
- New legal framework of RIs (overall 59%, but very diverse)
- Forum for global EU infrastructures: mixed EU/MS delegates



Budget for the European Research Framework Progamms (FP..)¹
and for RIs

		Period [years]	Total FP.. [Mill. €]	Total RI [Mill. €]	EU Member States	Start
FP5	proposed		14 833			
	approved	4	13 700	182	15	1999
FP6	proposed		16 270	800		
	approved	4	17 883	732	25	2003
FP7	proposed		72 726	3987		
	approved	7	50 521	1715	27	2007

¹ without JRC and EURATOM

Why ERI in ERA?

- ERA yields new platforms for research on European level
- World-class RIs are costly & not payable on national level only
=> coordination on European level
- keeping competitive in Europe and globally

many open questions remain :

- Future EC funding of ERI needs new tools
e.g. pan-European access to ERI or Joint Programming =>
FP8
- some are subject of the preparatory projects

**Just like
Web invention
without
using email@**

By 2020, all actors fully benefit from the “Fifth Freedom” across the ERA:

Free circulation of researchers, knowledge and technology.

- **The ERA provides attractive conditions and effective and efficient governance for doing research and investing in R&D intensive sectors in Europe.**
- **It creates strong added value by fostering a healthy Europe-wide scientific competition whilst ensuring the appropriate level of cooperation and coordination.**
- **It is responsive to the needs and ambitions of citizens and effectively contributes to the sustainable development and competitiveness of Europe.**

- 2000** Strasbourg Conference: the first coordinated approach for RI in ERA
- 2002** Foundation of **ESFRI** representatives of 13 MS & EIROForum
- 2004** Trieste Conference: aim to a European Roadmap for RIs
Survey on RI in Europe: 742
of which 334 > 20M€ construction costs of which 60 under construction
- 2005** Nottingham Conference
- 2006** First European Roadmap for new RIs by 25 MS (35 projects)
Foundation of **ERF** –
European association of national Research Facilities
Mission: to promote cooperation between individual European
national large-scale research facilities laboratories.
Members: STFC, MBI, DESY, ELETTRA, FOM, GANIL,
MAX-lab, PSI, SOLEIL, HZB, GSI



Policy Activities for RI in ERA

- 2000** Strasbourg Conference: the first coordinated approach for RI in ERA
- 2002** Foundation of **ESFRI** representatives of 13 MS & EIROForum
- 2004** Trieste Conference: aim to a European Roadmap for RIs
Survey of European RI
- 2006** First European Roadmap for new RIs by 25 MS (35 projects)
- 2007** ECRI 2007 in Hamburg: underlines importance of RI for ERA
The ERA: New perspective - Green Paper
=> a public consultation by the Commission, results 2008
- 2008** Brdo Conference: RIs as structuring dimension
ECRI 2008 in Paris: develop multidisciplinary approaches
European Roadmap for new RI update by 27 MS/3 AS (44 projects)
Legal framework for pan-European Research Infrastructure/ERIC
- 2009** Prag Conference: regional aspects of RIs
- 2010** ECRI 2010 in Barcelona



Policy Activities for RI in ERA

- 2000** Strasbourg Conference: the first coordinated approach for RI in ERA
- 2002** Foundation of ESFRI representative forum
- 2004** Trieste Conference: aim to a European Survey of European RI
- 2006** First European Roadmap for new RIs (by projects) Foundation of ERF
- 2007** ECRI 2007 in Hamburg: underlines importance of RI for ERA
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Ljubljana Process



European Research Area (ERA) 2000

creating a unified area all across Europe:

- To enable researchers to move and interact seamlessly, to benefit from **world-class research infrastructures** to work with excellent networks of research institutions
- To optimise & open European, national & regional research programmes in order to support the best research throughout Europe & coordinate these programmes to address major challenges together.

Fact: lack of adequate legal framework delayed the start of RIs.

Draft of a new legal framework for pan-European RIs on EU level:

- Focus on public-public partnership, member states
- New label such as „GmbH“ assigned by EC
- VAT-exemption*
- Easy procurement
- Statutory seat in MS or AS, locations can be anywhere
- Staff employment follows national rules
- Open access
- Decided by a RI committee of MS delegates

Status: planned decision by the Competitiveness Council **May 2009**

* discussed how to implement



- changes in EC Funding Scheme/FP7 :



Design Study to become a Roadmap Project

Preparatory Phase of Roadmap Projects

13 calls - more top down (pre defined topics)

- new kinds of European RIs (ERI): from classical single site RI of Physics
towards distributed RIs/e-infrastructures
- Social/Environmental/Biological Sciences –
- EIB¹ loans now available also for RIs/FP7
- national roadmaps for RIs
- discussion on regional dimension of European RIs
because of the regional economic impact of ERIs
- new kind of legal framework for RI on European level
to accelerate the foundation of international/European RIs



Definition by ESFRI see ESFRI roadmap 2008:

- A European distributed infrastructure, as recognised by ESFRI, is a **singular** research infrastructure, having a **unique Name ✓** and **legal status decision required, Director or board of directors ✓, Management Structure ✓, Strategy and Development Plan ✓, Access point for users ✓, Annual Report and Fiscal address** although its research facilities have multiple sites.

⇒ reflected in the planned EuroFEL organisational structure

- A European distributed infrastructure has to have a **pan-European interest**, i.e. **unique laboratories** or facilities rendering services for the efficient execution ✓, with **critical mass ✓**, of top-level Community research, ensuring **open access** to all interested researchers based on scientific excellence and on the quality of the user proposals ✓, creating a substantial added value with respect to facilities with a more limited scope. ✓
- A European distributed infrastructure must bring significant improvement in the relevant scientific and technological fields, establishing a common standard and metrology of the technical offer in all sites, and addressing a clear integration and convergence goal of the scientific and technical standards offered to the European users in its specific field of science and technology. ✓

⇒ see Core Activities of EuroFEL

interpretation?

■ Is EuroFEL a distributed facility as defined by ESFRI?

What does this mean? Example

“... a distributed RI governed by a central body having executive powers and resources made available by its members, and not merely a network of national FELs communicating and exchanging knowledge ...”

■ Recommendations

EuroFEL's programme is much more

- The directors ... should reflect further on the functioning of the ERIC ...
- The directors should ... reflect on how to communicate as adequately as possible to the interested States the plans for EuroFEL's governance and financing, and reflect on how to convince the relevant Ministries of the importance to commit to the EuroFEL project and the related ERIC.
- **If ERIC: extension of 6-12 months, focus on legal/governance issues and negotiations with the Ministries**