

The ESFRI process in developing a roadmap for research infrastructure

Presentation

What is ESFRI?

- A European Strategy Forum on Research Infrastructures
- Launched in April 02
- Brings together representatives of the 25 Member States, 7 Associated States, and one representative of the EC



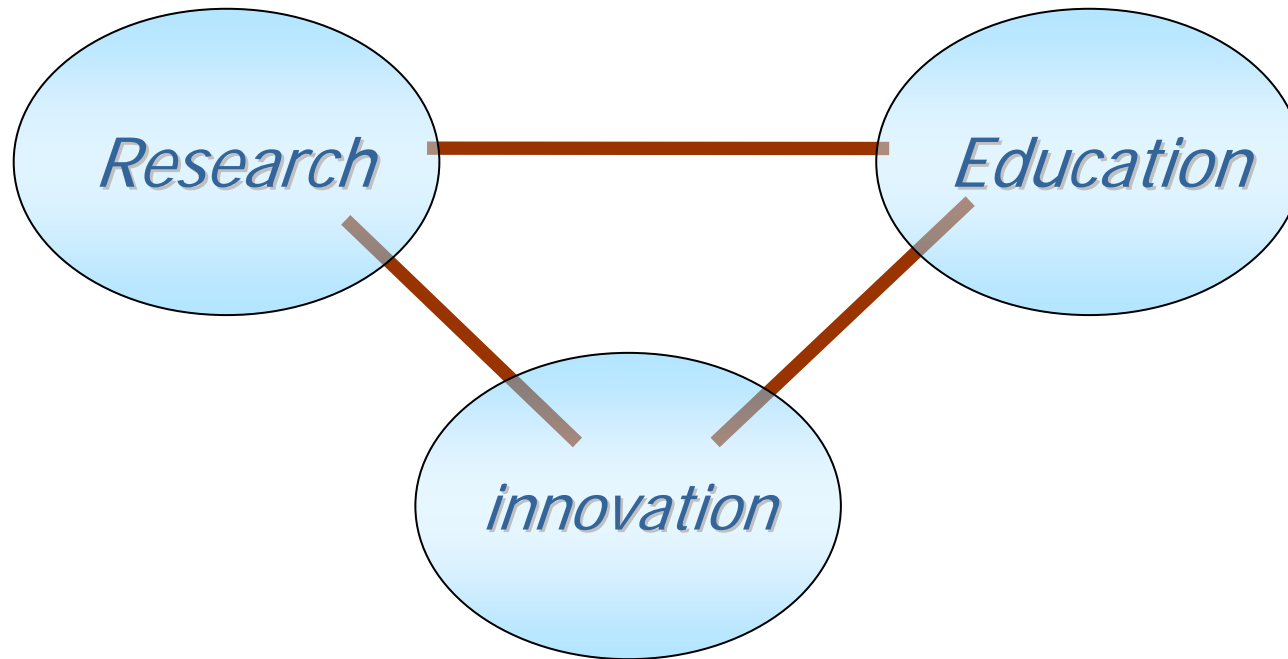
ESFRI's role and ambitions

- To jointly reflect on the development of strategic *policies* for pan-European Research Infrastructures (RIs);
- To prepare a European *Roadmap* (with regular updates as different areas mature);
- To act as an *incubator* for concrete RI projects with pan-European interest ... but it is not a decision making body

Research Infrastructures definition

- "*Facilities*", "*resources*" and "*services*" that are needed by the scientific community for development of *leading-edge research*, as well as for transmission, exchanges and preservation of *knowledge*;
- are generally characterized by large investments (for the given domain) and long project lead-times with associated needs for *long-term* support

Why a European Roadmap?



Research Infrastructures are at the core of the *knowledge Triangle* and have to be considered as a key element of a *European policy*

RI contribution to ‘capacity building’

- *Knowledge generation: enabling to look beyond the frontiers of science with interdisciplinary teams; attracting scientists...*
- *Industrial innovation: creating direct and indirect effects (supply of instruments, spin offs),*
- *Societal impacts: contribution to knowledge society (cf. the WWW), incl. secure data storage,*
- *Independence and governance: securing European autonomy and knowledge base.*

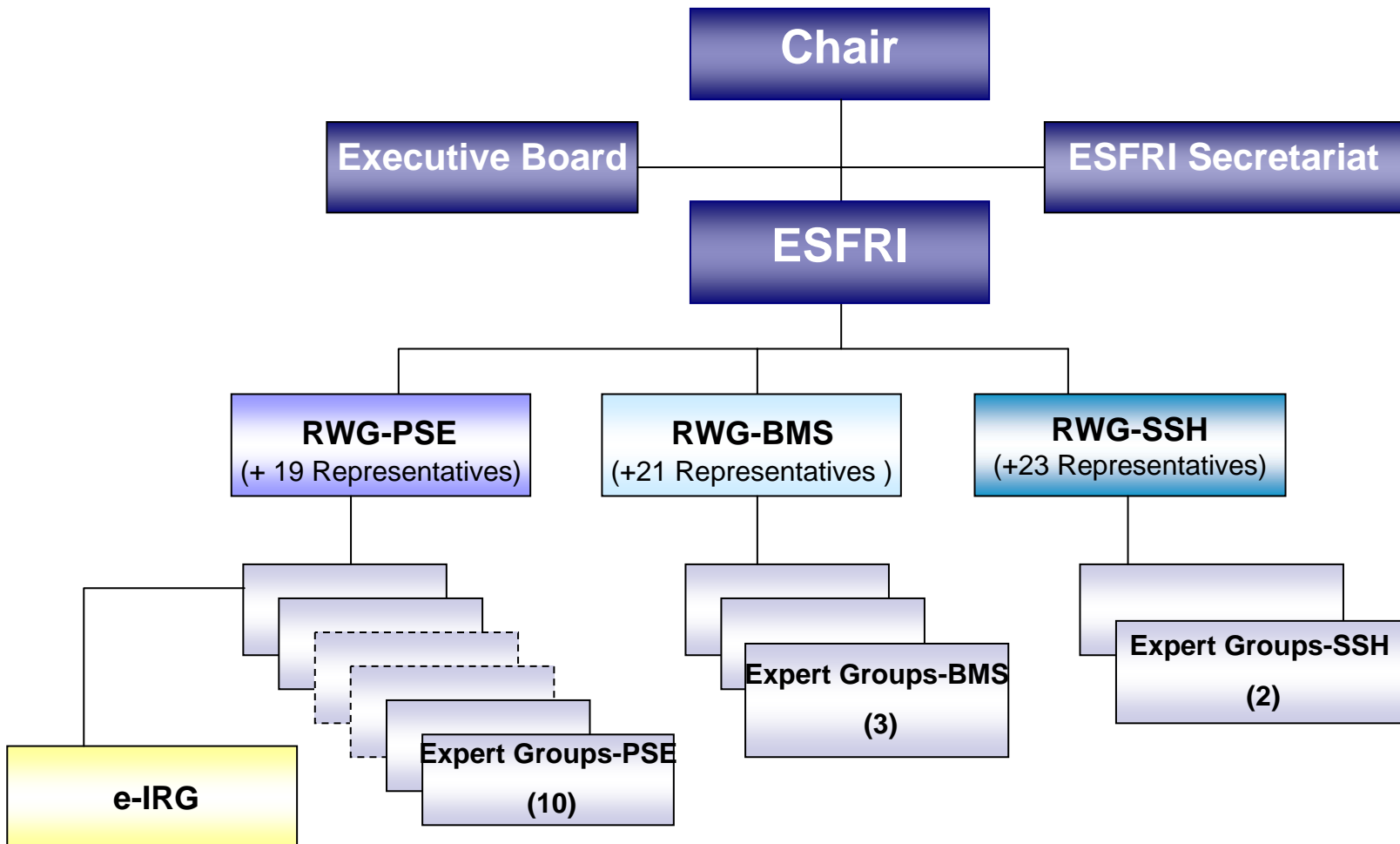
Objectives of the European Roadmap

- *Identification* of new research infrastructures or major upgrades which correspond to the *needs* of European research communities
- *Tool* for decision makers, preventing over-provision of facilities in particular areas
- Providing a focus for long term budgetary *planning* by funding actors

Working method

- *Basis*: Clear mandate from Council (2004)
- ESFRI is advised by 3 *Roadmap Working Groups* (RWG) that cover:
 - Physical Sciences and Engineering (PSE)
 - Biological and Medical Sciences (BMS)
 - Social Sciences and Humanities (SSH)
- Consideration of *cross-cutting issues* and close contacts with *e-IRG*

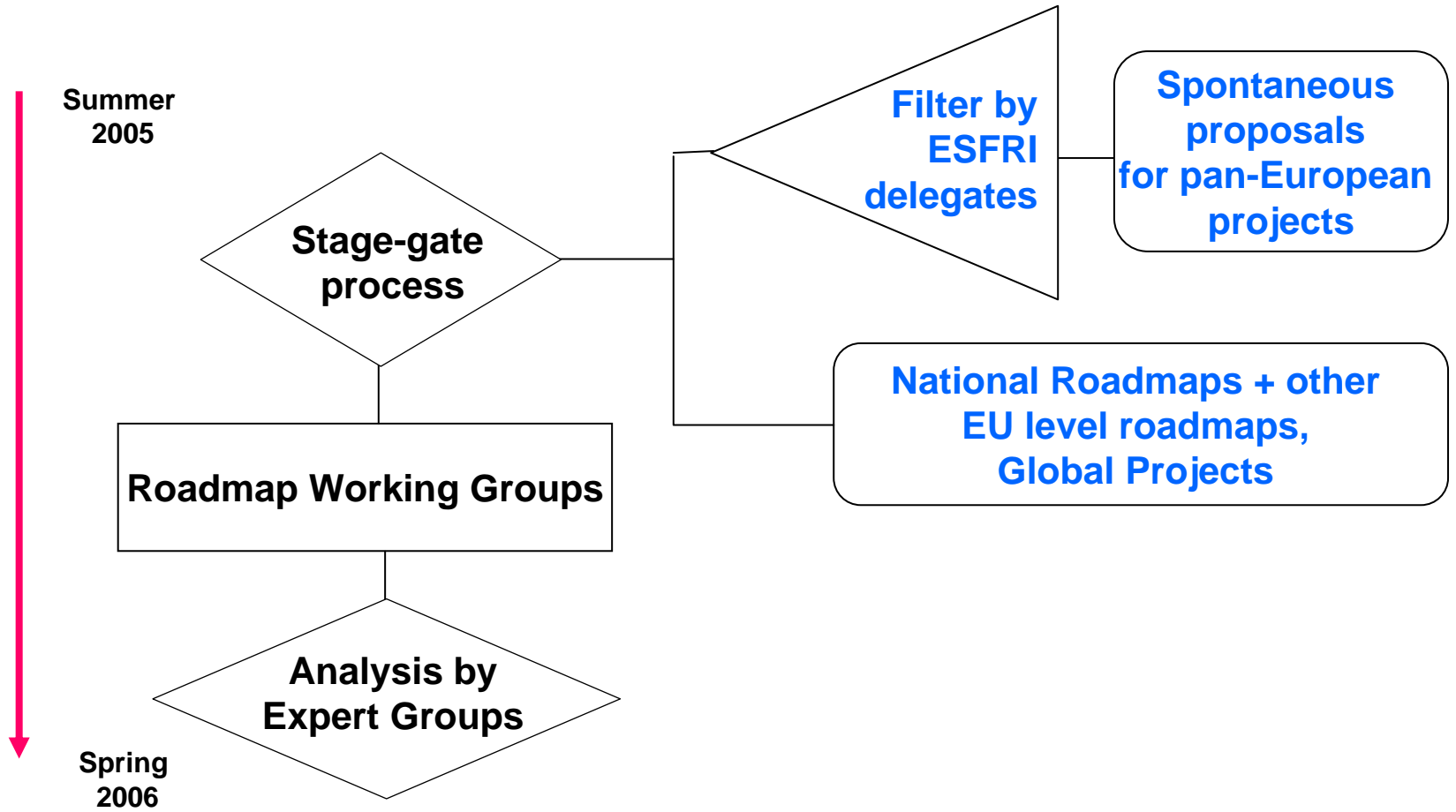
Operational Structure



Working method (*cont'd*)

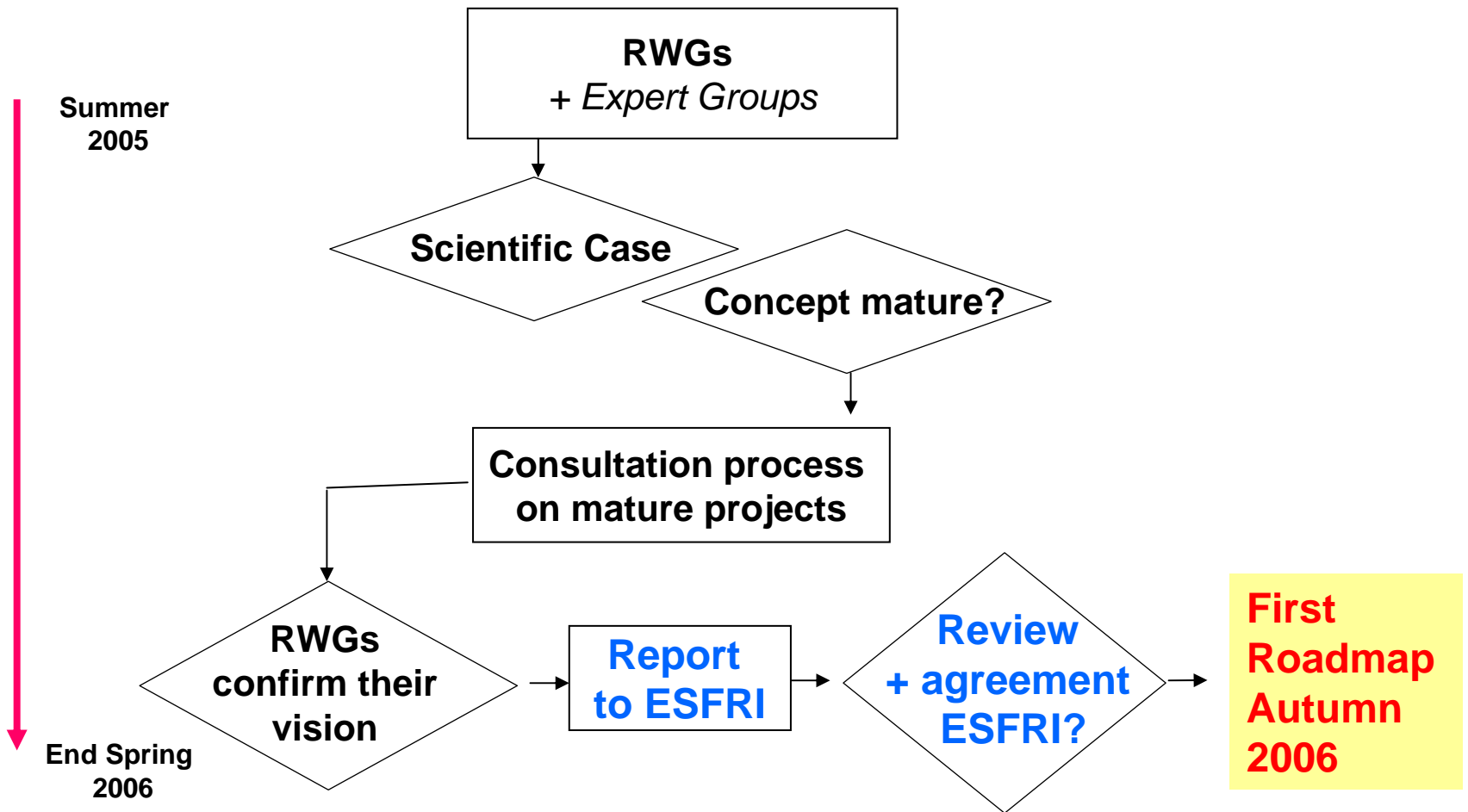
- Objectives of Roadmap Working Groups
 - Assess current national roadmaps (e.g. UK, Germany) and other analyses (e.g. from ETPs)
 - Identify gaps and create Expert Groups if necessary
 - Follow stage gate guidelines to produce evidence and advice for new Infrastructures
 - Report to ESFRI by early summer 2006

ESFRI Roadmap Procedure



(simplified version)

ESFRI Roadmap Procedure (cont'd)



(simplified version)

Criteria for entering the Roadmap

Scientific Case:

- Must be a major infrastructure for that particular scientific community (uniqueness)
- Must be a multi-user facility of great scientific interest (future needs)
- Must be of pan-European interest

Maturity of Concept:

- Must be technologically + financially feasible

Further identification criteria

- Potential contribution to *socio-economic* objectives (sustainable development); Impact on human capacity and training
- Estimated construction, operating and decommissioning *costs* (multi-annual plan)
- Appropriate *management* structure and mechanisms for Member States to join at the start or during operation

Structure of ESFRI roadmap report

Rationale:

- Origin and purpose of the Roadmap,
- Challenges and use of Large RIs,
- RIs and “capacity building”,
- The international dimension

The European view:

- for existing (major upgrades) and for new RIs
- Overview of identified new projects

Structure of the ESFRI report (2)

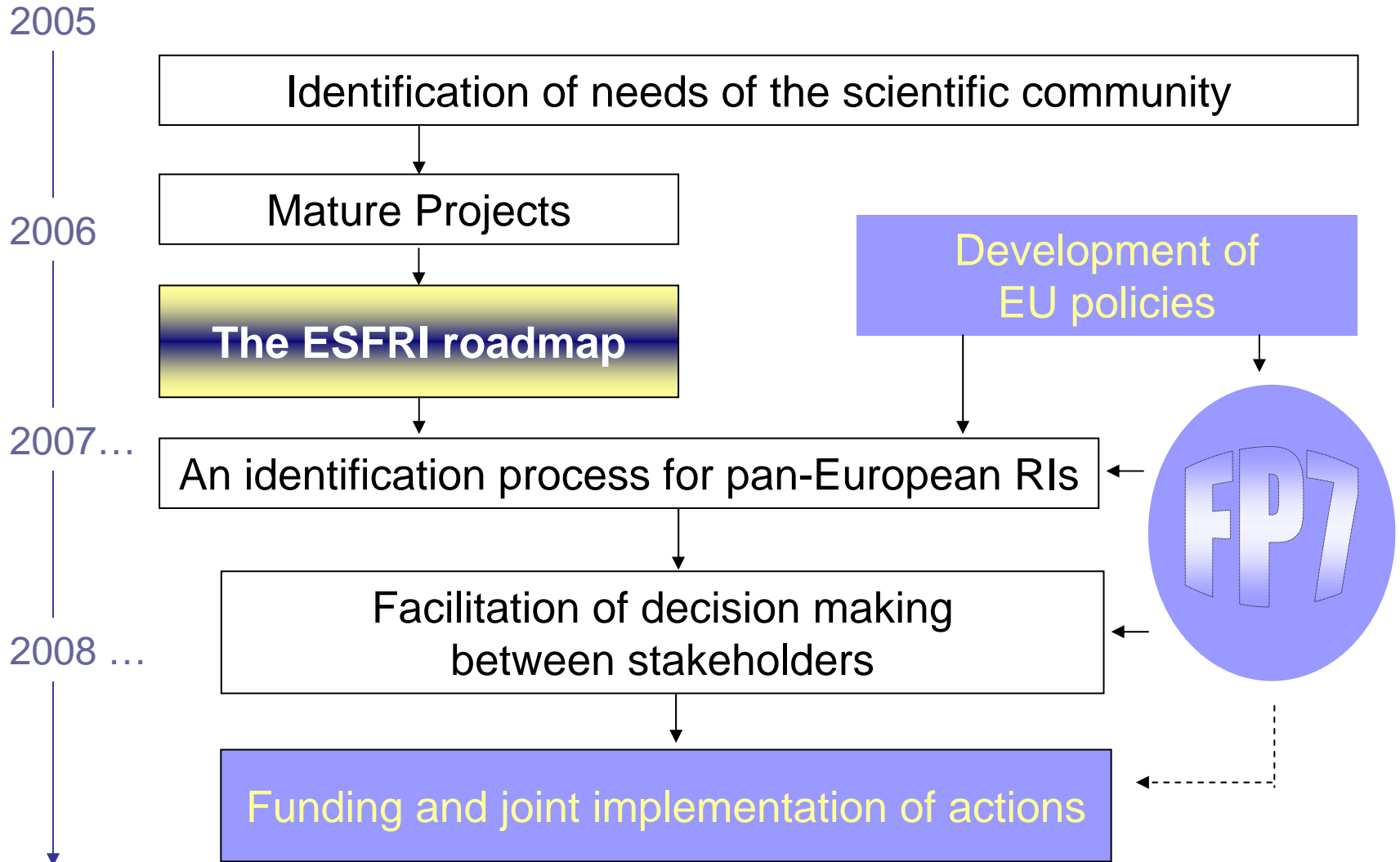
Overview of recommended actions

- 6 Domains (environment / biomedical & life sciences / astronomy, nuclear & particle physics / materials sciences & engineering / social sciences & humanities / e-Infrastructures)
- Field landscape + one-page description /project

Annexes

- methodology used and lessons learned,
- emerging scientific needs (embryonic ideas)

The Roadmap and FP7



Potential EC Criteria (under discussion)

Complementary to those of ESFRI

Excellence:

- relevance at international level; capacity to offer a top-level service to scientists;

Impacts:

- added value of EU support; RI impact on ERA as well as on EU sustainable development;

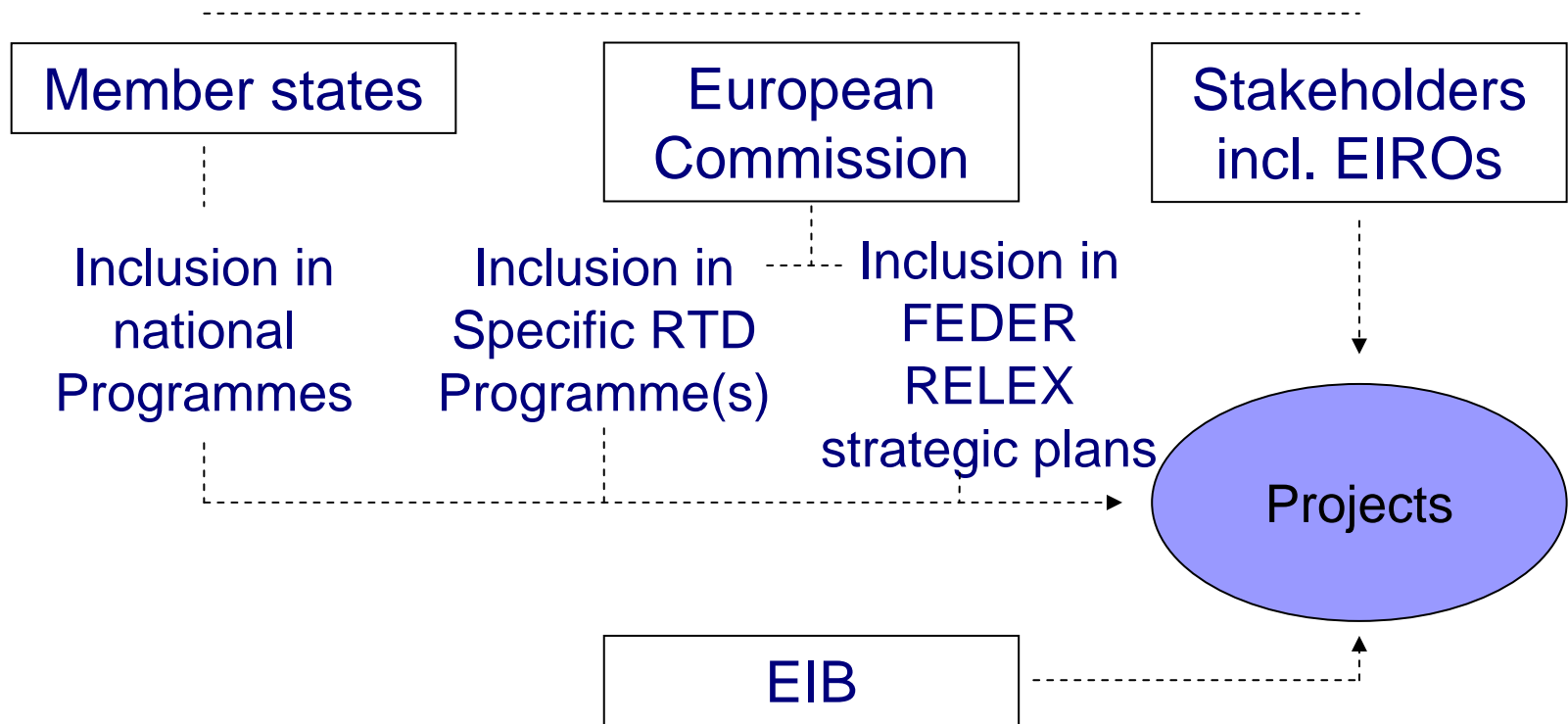
Implementation:

- maturity; life-cycle costs evaluated; quality of management; commitment of stakeholders.

Structural Funds (SF) and Research Infrastructures

- SF and public research funds (in particular FP7) are increasingly **complementary** at the
 - political, scope and
 - calendarlevel, **but cannot be substituted**
- The **challenge**: to pool and organize financial resources from different origins

The challenge: increased use of financial engineering for new research infrastructures



Other Issues

- Capacity building – people and culture
- Common management frameworks
- Developing socio-economic metrics
- Integrating training and addressing key skill shortages
- Balancing investment across Europe
- Interactions with new candidate and peripheral countries

Useful links

- **ESFRI (European Strategy Forum for Research Infrastructures)**
<http://www.cordis.lu/esfri/>
<http://www.e-irg.com>
- **Research Infrastructures on CORDIS (FP6)**
<http://www.cordis.lu/infrastructures/>
<http://www.cordis.lu/ist/rn/>
- **E-mail address: ESFRI@cec.eu.int**