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COMMISSION

Community research

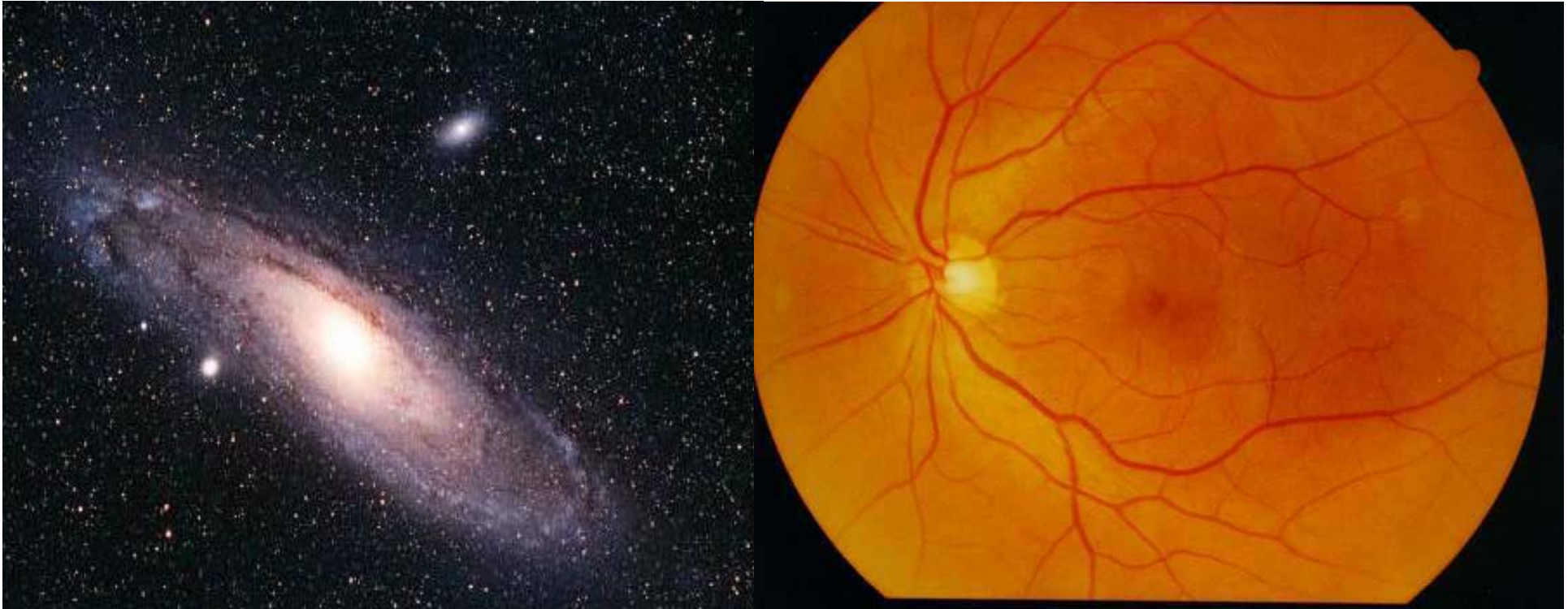
European policy developments and challenges in the field of Research Infrastructures

H. PERO, European Commission



RIs, at the core of an efficient EU Research & Innovation strategy

- ❖ Designed and operated to attract and host **best researchers** in the world (open access - size of research facilities is not the issue, excellence is !)
- ❖ Help responding to **Grand Challenges** but need **world-level quality** in all aspects of their activities: scientific, educational, technical and managerial.
- ❖ Important role in the **advancement of knowledge** and technology, liberating creative potential of staff, users and providers, thus being crucial **socio-economic drivers**



Research Infrastructures are facilities where **basic research** as well as **applied research** are interacting to generate innovations for our daily life





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World-class research infrastructures

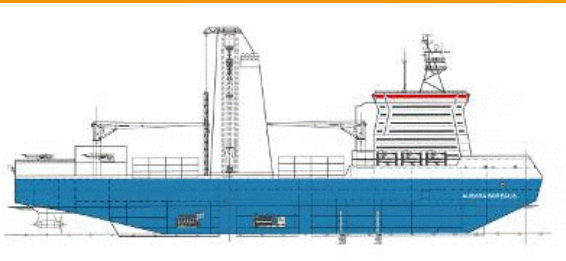
Key element of the Lund & Donostia declarations (July 09 – Jan 10)

Essential for Europe's researchers to stay at forefront of research development and key component of Europe's competitiveness

Key Challenges:

- *Overcoming fragmentation in Europe*
- *Coping with increasing costs / complexity*
- *Improving efficiency of (and access to) research services, incl. e-infrastructures*

Environmental Sciences



AURORA BOREALIS

IAGOS



**EUFAR
COPAL**



LIFEWATCH

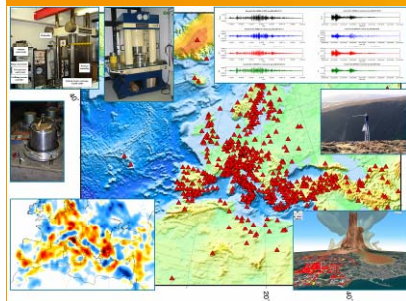


SIOS

**EURO-
ARGO**



EMSO

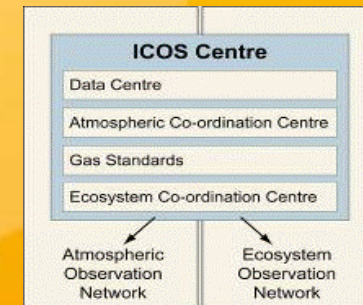


EPOS



EISCAT

ICOS





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Complex landscape

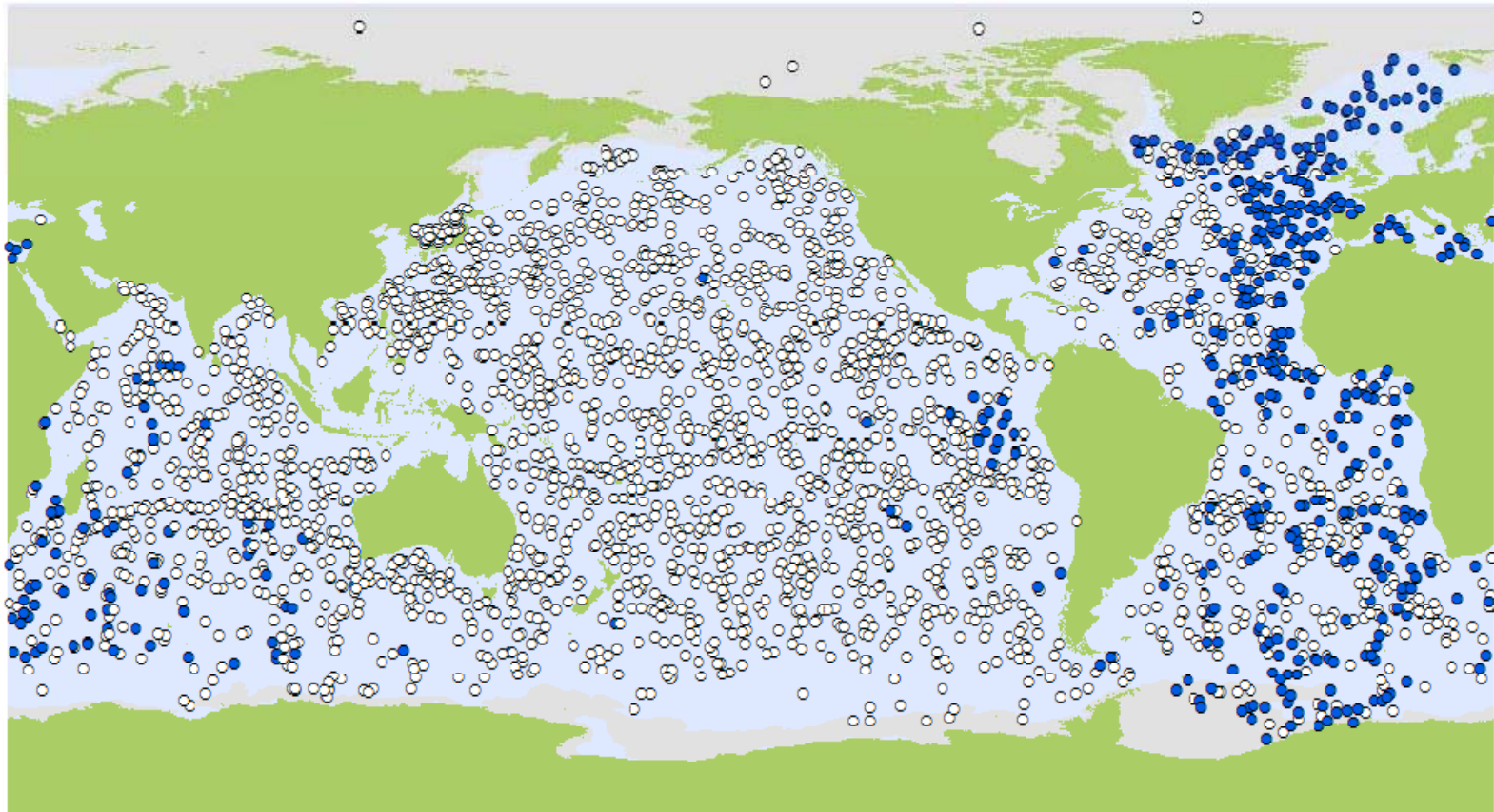
- Global challenges
- Funding and governance: National (main) + European + International dimensions (GEO...)
- Multidisciplinary research (climate change, oceanography) + multi-users needs (non research) "1 to N" (1 RI to N users) / Researchers need data and services from different facilities: "N to 1"
- Other challenges: *keep the picture "research driven"; find the right strategy and dimension; convince MS on added-value (socio-economic impact of research investments); ensure coherence at EU and world level (interoperability, complementarity, user-friendly); management...*



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The international dimension is a key issue



3198 Argo Floats

December 2009

EuroArgo: 15% of the global Argo array

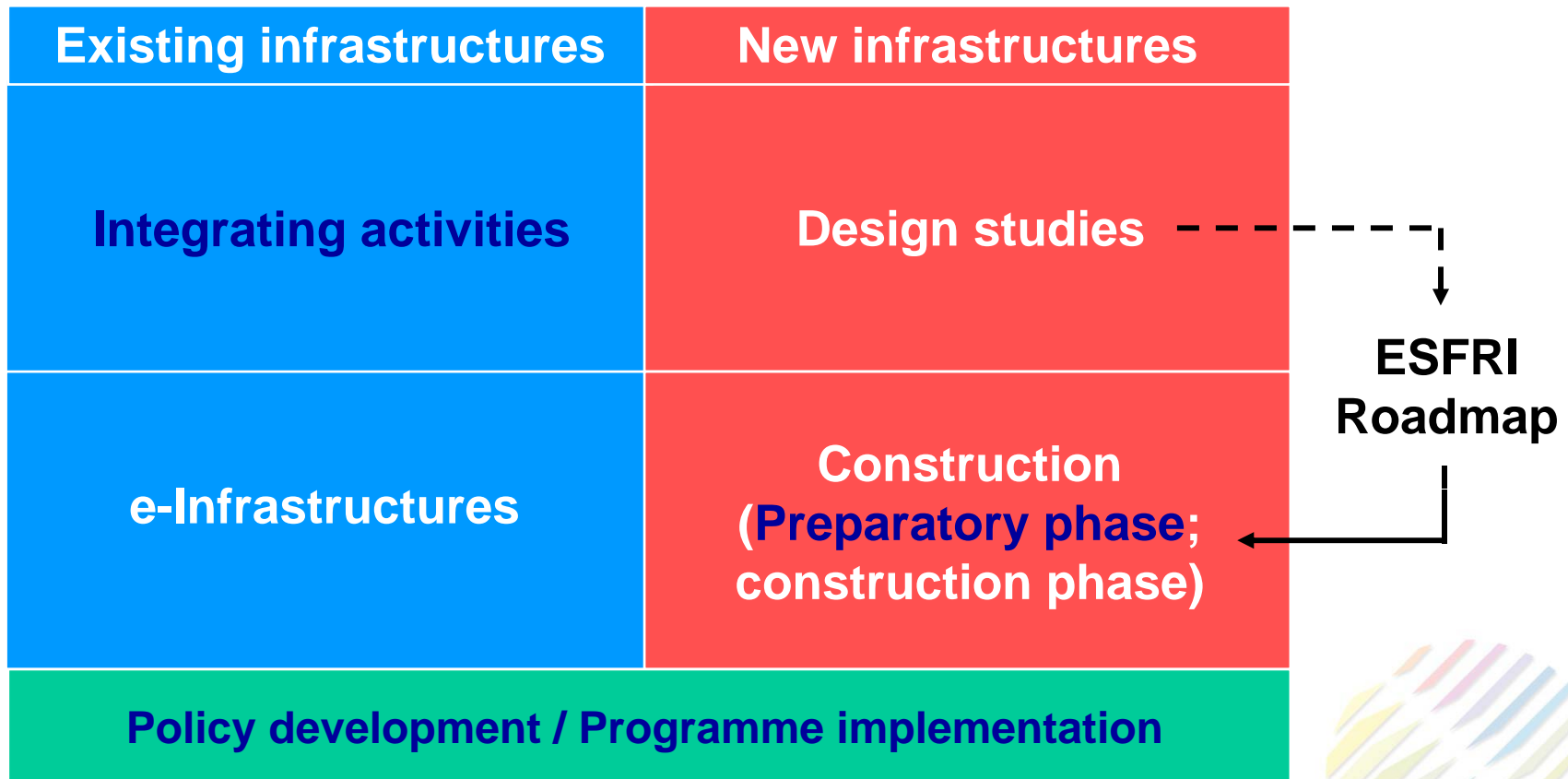




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Support given by FP7 Research Infrastructures action

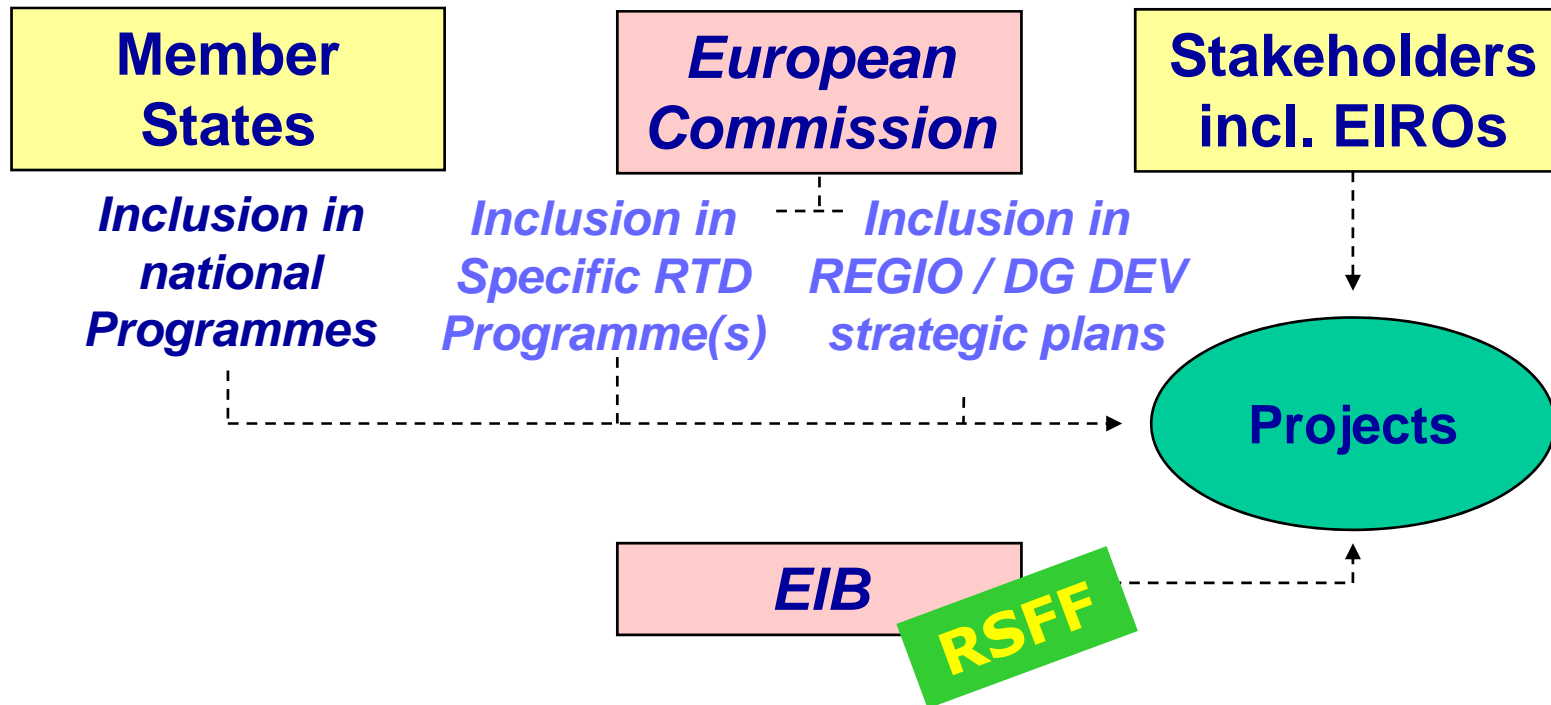




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1) Preparatory Phase facilitating financial engineering for new research infrastructures



34 of the 35 ESFRI projects supported, 11 more to come

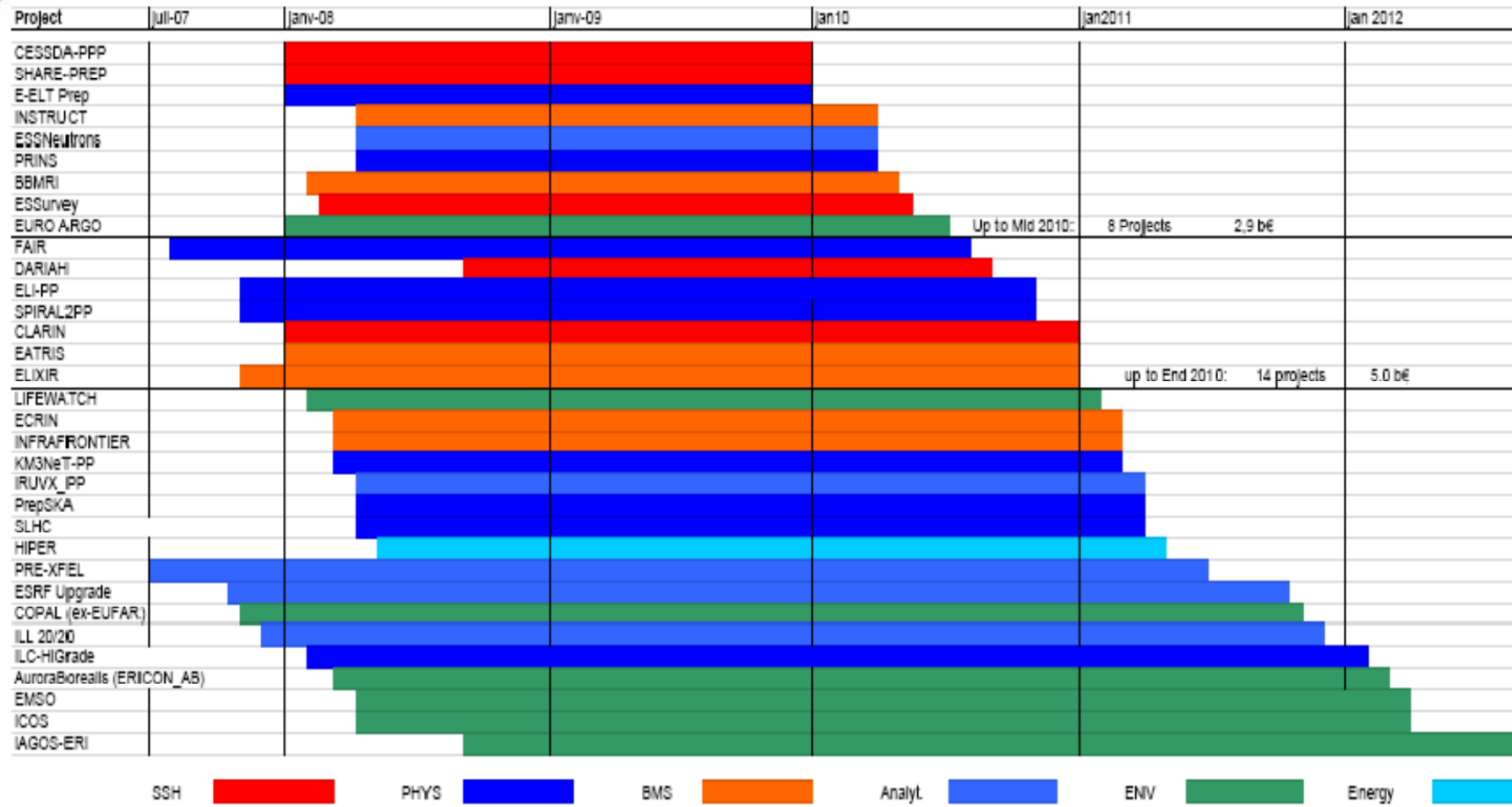




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Current Preparatory Phases





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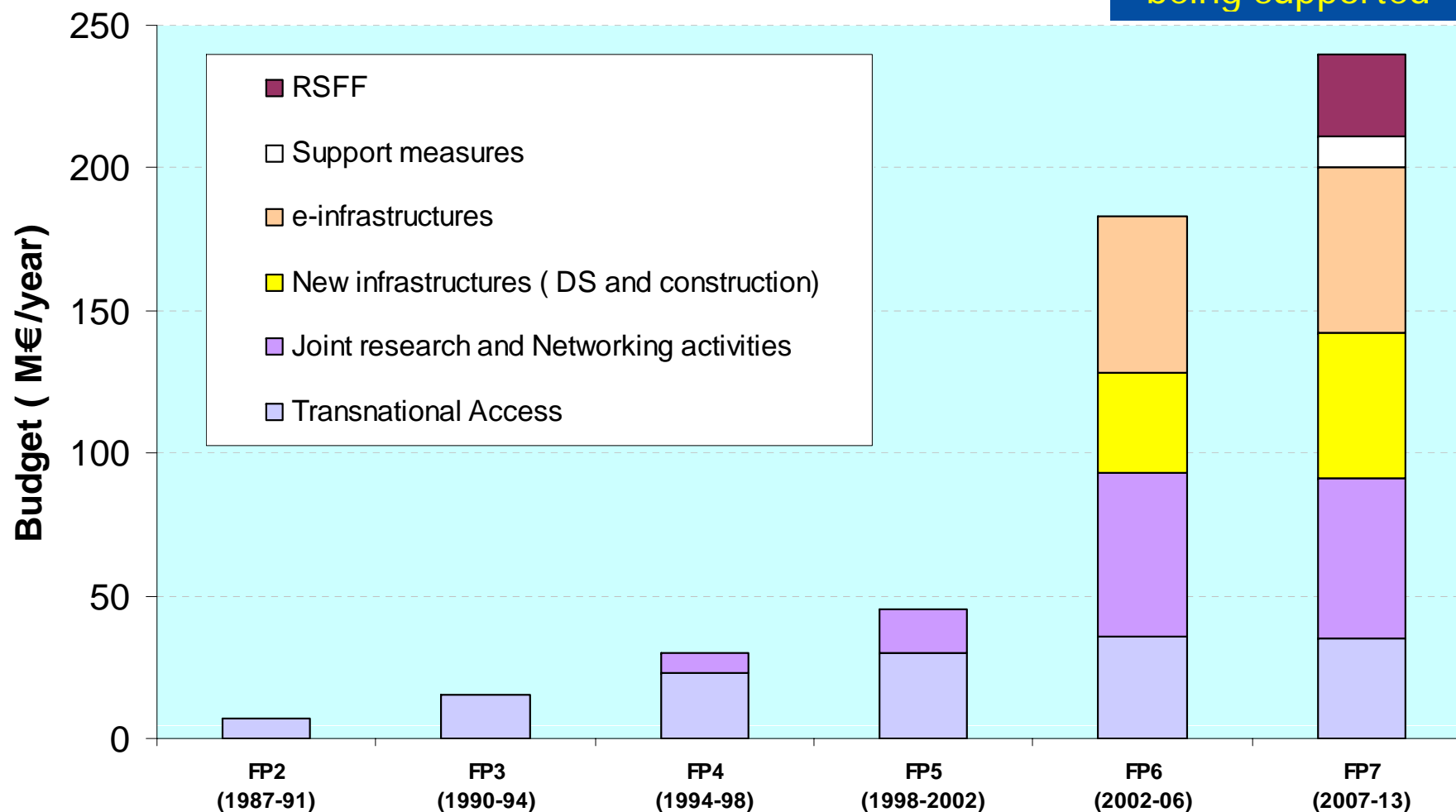
2) Integrating Activity in FP7

- **Coordinated work of existing research infrastructures**
 - **Clusters of major RI's in Europe**
- **Three types of obligatory activities**
 - *Networking Activities*
 - *Trans-national Access/Research Services*
 - *Joint Research Activities*

EC funds ~250 M€/y
2,5% of EU RI costs

A steady evolution since 20 years...

About 550 RIs being supported

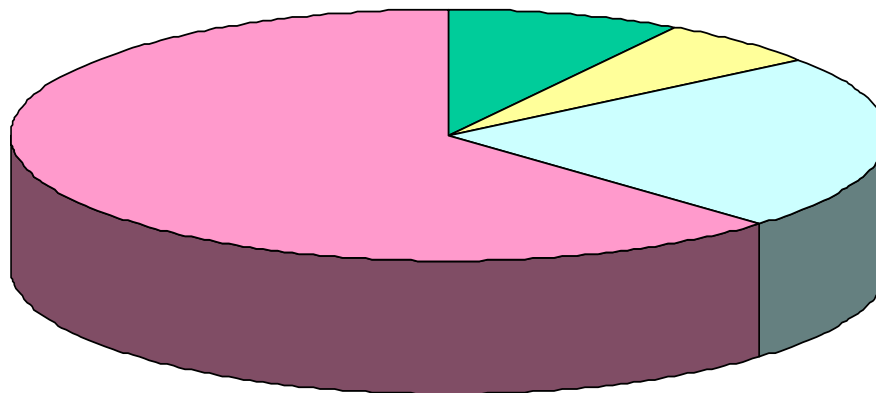


European researchers consider the TA action to be essential to have access to RIs

90% of the FP6 users have declared that they would not have been able to carry out their work at the RI **without** EC support

(Source: 5050 filled questionnaires

<http://www.cordis.lu/infrastructures/questionnaire.htm>)



Reasons:

■ NOT ELIGIBLE

■ APPLIC. TOO DIFFICULT

■ UNABLE TO PAY UF

■ UNABLE TO PAY T&S



ERA 2020 Vision

*As part of a real **eco-system**, “major research infrastructures promote scientific **excellence** on a globally **competitive** basis.*

*With rapid development of new **distributed** and **e-infrastructures**, they offer equitable **access** to world class modern research facilities and technology demonstrators”*





More than 500 people discussing during two days

- Importance of **excellent research services** (harmonized evaluation criteria needed) and of service-oriented **e-infrastructures**
- EU RI policy based on a **partnership approach** between regional, national, EU, global levels (need for roadmaps)
- Importance of **human resources** for the setting-up and operation of attractive and sustainable RIs
- Involving **technology suppliers** from an early stage.





We need addressing the key factors affecting the vision and the capacity to change

- Capacity (or not) to *work together / pool resources* (thus coordination of national strategies) to face more complex problems / costly solutions
- Capacity (or not) to develop a *favorable / catalytic environment* for EU research & innovation (e.g. ERIC)
- Capacity (or not) to strengthen relations with *education*, the people, and with *industry*
- Capacity (or not) to face *research internationalization*

Three EC communications
to come within the next
12 months



A **joint** vision should be agreed...

- A fully integrated, consistent, efficient **eco-system** of Research Infrastructures, serving researchers and society in all S&T fields
(**broader approach than just FP8, involving most MS**)
- **Research Infrastructures as knowledge industry** for the knowledge society, source of **attraction** for world scientists as well as source of innovation
- Based on / feeding excellent universities and widely used & efficient e-infrastructures (**need for increased inter-ministries / inter-agencies cooperation**)

Role of Euro Argo?



We need in Europe to increase coordination and integration

- ❖ Need to integrate national resources!
Role / experience of Euro Argo?
- ❖ Global challenges ?
Role / experience of Euro Argo?
- ❖ Multidisciplinary approaches:
Role / experience of Euro Argo?
- ❖ Major cultural change for scientific institutions:
Role / experience of Euro Argo?
- ❖ Importance of human resources, not only scientists and researchers, but also staff:
Role / experience of Euro Argo?