Research Infrastructures
Overview of the European landscape and further actions

Marc Heppener
ESF Director of Science and Strategy Development

ERF Seminar, Lund, 27 October 2009

About ESF

- Established in 1974
- Offices in Strasbourg, Brussels, Ostend
- ESF budget: 53M€ in 2008 including COST 30M€
- Staff: 152 in 2008 including COST Office staff

ESF headquarters, Strasbourg

Marine Board, Ostend

Research Conferences Unit, 15th floor, Tour Louise, Brussels

ESF Member Organisations

ESF is an independent association of 80 Member Organisations

- research funding organisations
- research performing organisations
- academies and learned societies

in 30 countries

Setting Science Agendas for Europe

The European Science Foundation provides a common platform for its Member Organisations in order to:

- **advance European research**
- **explore new directions for research at the European level**

Through its activities, the ESF serves the needs of the European research community in a global context.

ESF covers all scientific domains

Standing Committee domains

- Humanities
- Social Sciences
- Life, Earth & Environmental Sciences
- Medical Sciences
- Physical and Engineering Sciences

Expert Board domains

- Marine Sciences
- Polar Sciences
- Space Sciences
- Radio Astronomy
- Nuclear Physics
- Material Science

ESF Activities

Strategic Plan 2006-2010

SCIENCE STRATEGY

- Forward Looks
- Science Policy Briefings
- Exploratory Workshops

SCIENCE SYNERGY

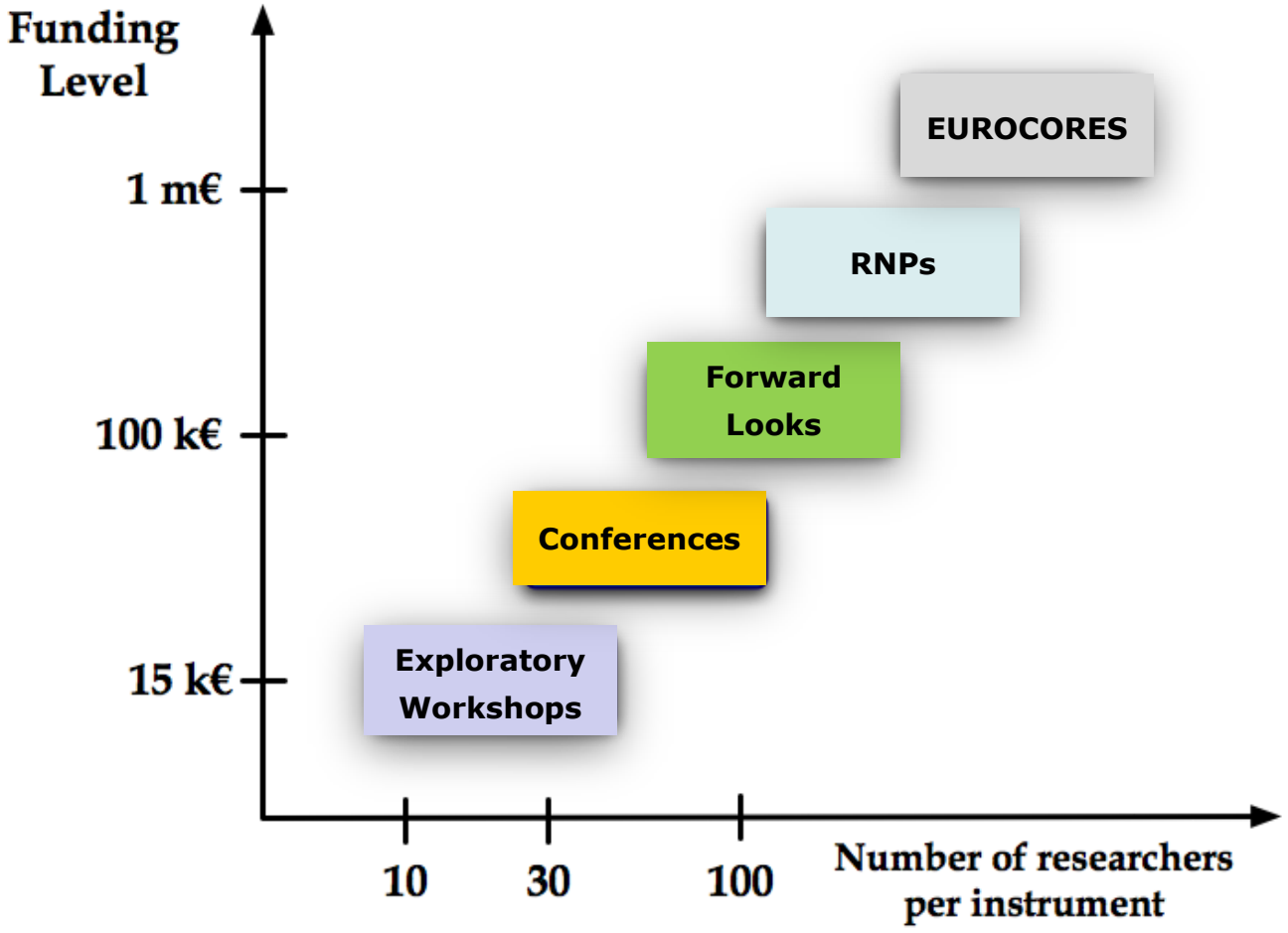
- EUROCORES Research Programme
- Research Networking Programmes
- Research Conferences

SCIENCE MANAGEMENT

- Peer Review support
- Coordination of EUROHORCs projects
- Coordination of ERA projects
- Implementing agent for COST

Member Organisation Fora

A Chain of Instruments



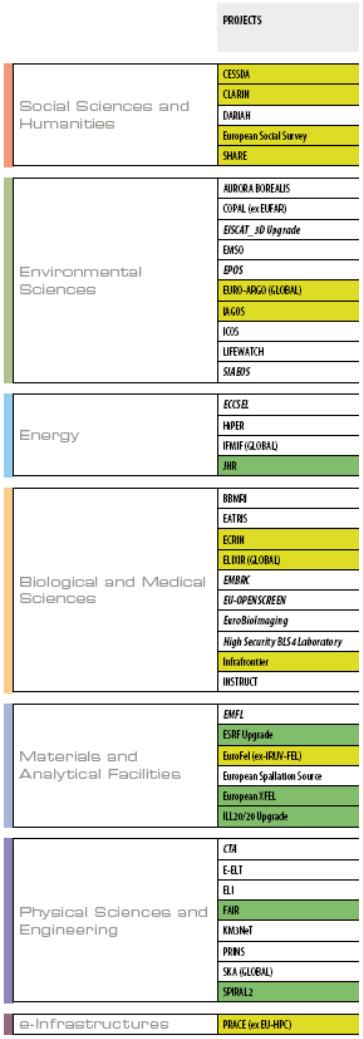
ESF role in Research Infrastructures

- ESF involvement in RI's
  - History
  - ESFRI Roadmap Projects
  - Portal
- New initiatives
  - EUROHORCs – ESF Roadmap
  - Portal upgrade/INFRA2010 call
  - MERIL project

ESF past and current actions with RI

- ESF involved in Infrastructure debate even at its inception in 1974
- ESF initiator and original funder of European Social Survey mid ’90s.
- ESF initiated the Strasbourg Conference of research Infrastructures in 2000. This has lead to the creation of ESFRI.
- NuPECC Long range Plan standard example of foresighting activities for RI’s
- ESF, together with EC, created the European Portal on Research Infrastructures’ Services

ESF past and current actions with RI



ESFRI-Roadmaps 2006 & 2008

- SCSS – **European Social Survey**
- Polar Board – **Aurora Borealis**

- ESF – **ESRF up-grade**
- PESC – **European Spallation Source** and other related Ris
- NuPECC – **FAIR**
- CRAF – SKA* (feasible thanks to CRAF work to protect the frequencies for academia)
- NuPECC – **SPIRAL2**

ESF past and current actions with RI

Track record of advice and service for RI

SCSS: long-standing involvement in ESS

CRAF: radio astronomy frequencies and many others

NuPEcc: Long Range Plan (LRP)

Peer Review Service of proposals and existing RI

Membership

Observer to ESFRI

Board of APA (Alliance for Permanent Access)

Member of EuroCRIS

European RI portal

Portal http://www.riportal.eu

Research Infrastructure Portal

Covering facilities, resources and related services

It includes:

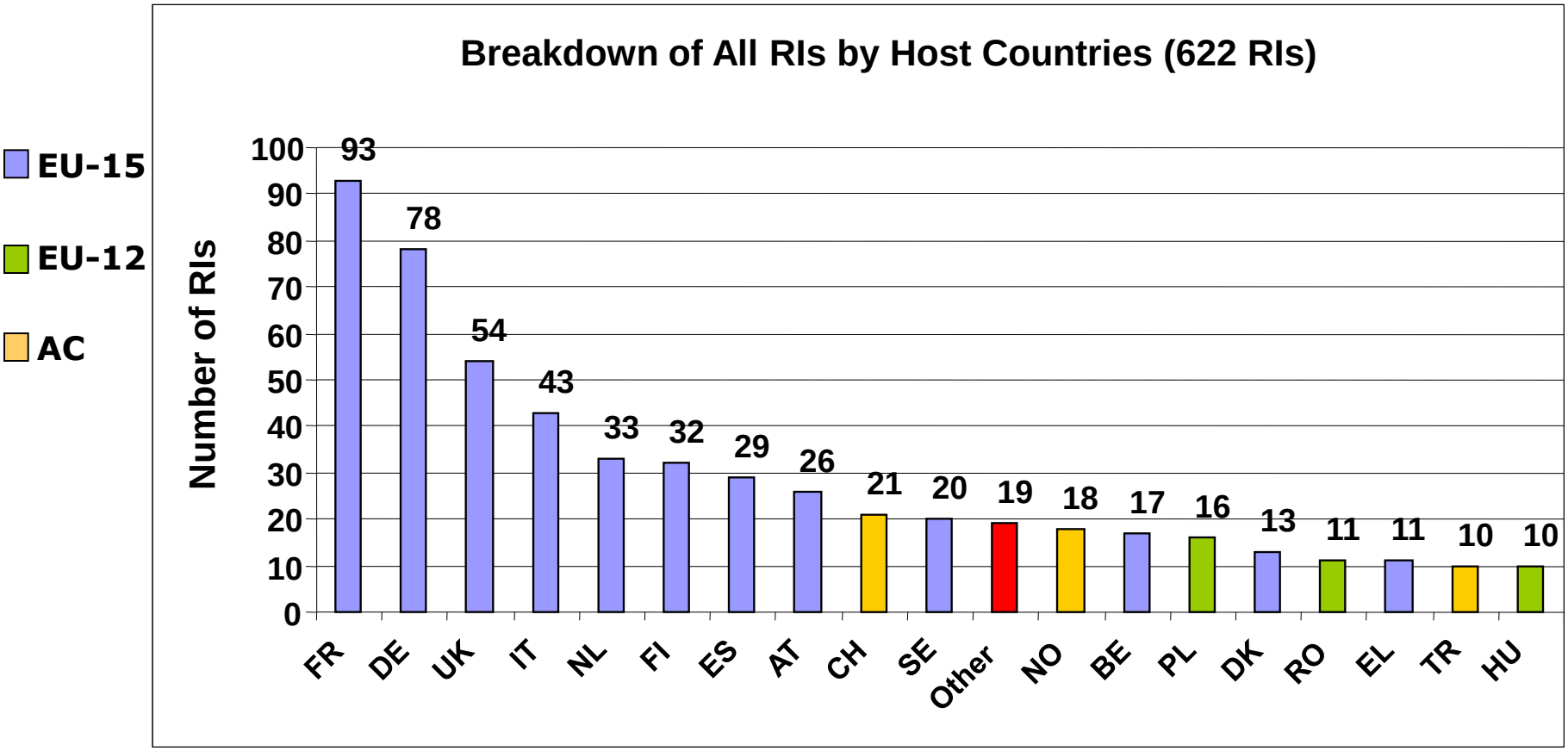
9 Category "Data storage & data archives (Social Sciences)

21 Digital collections/repositories (Hmanities)

4 Biobanks (Life Sciences)

Etc ….

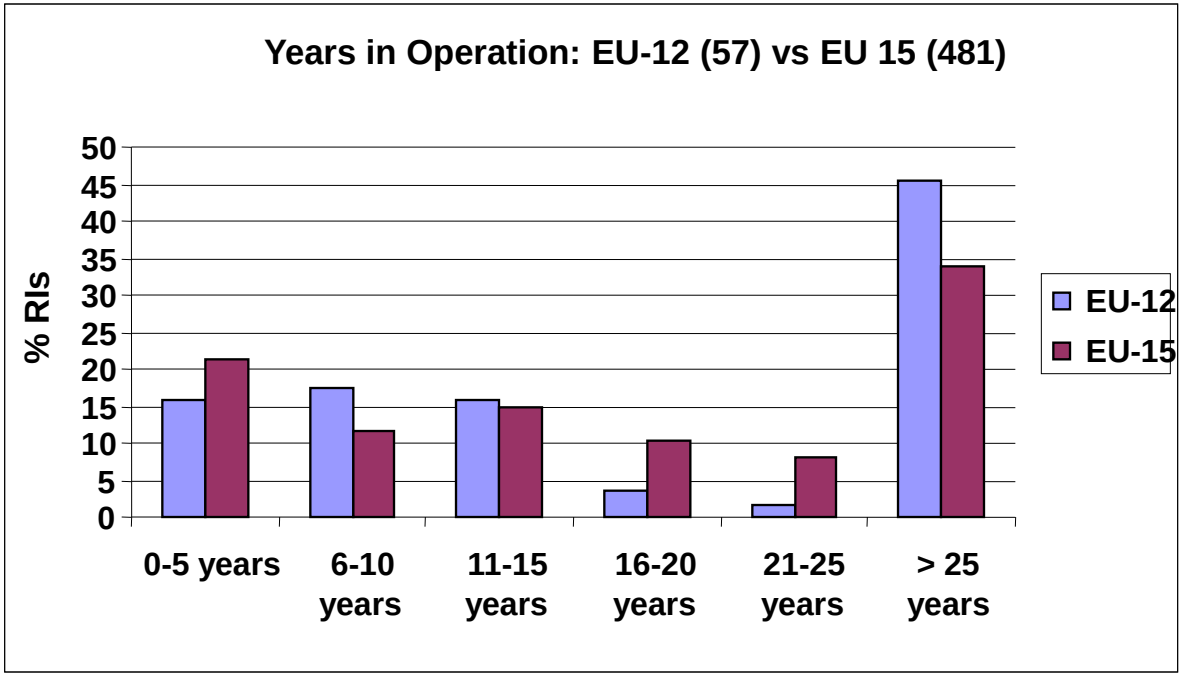
622 validated entries have been analyzed

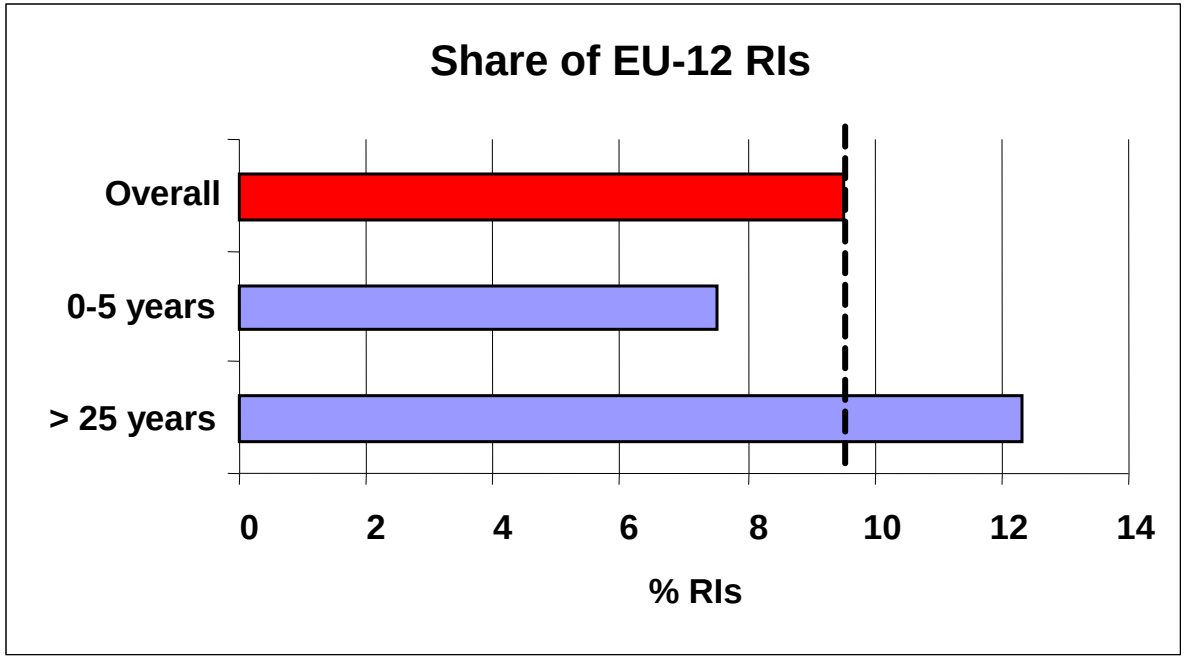


NB: Countries with less than 10 responding RIs are not represented

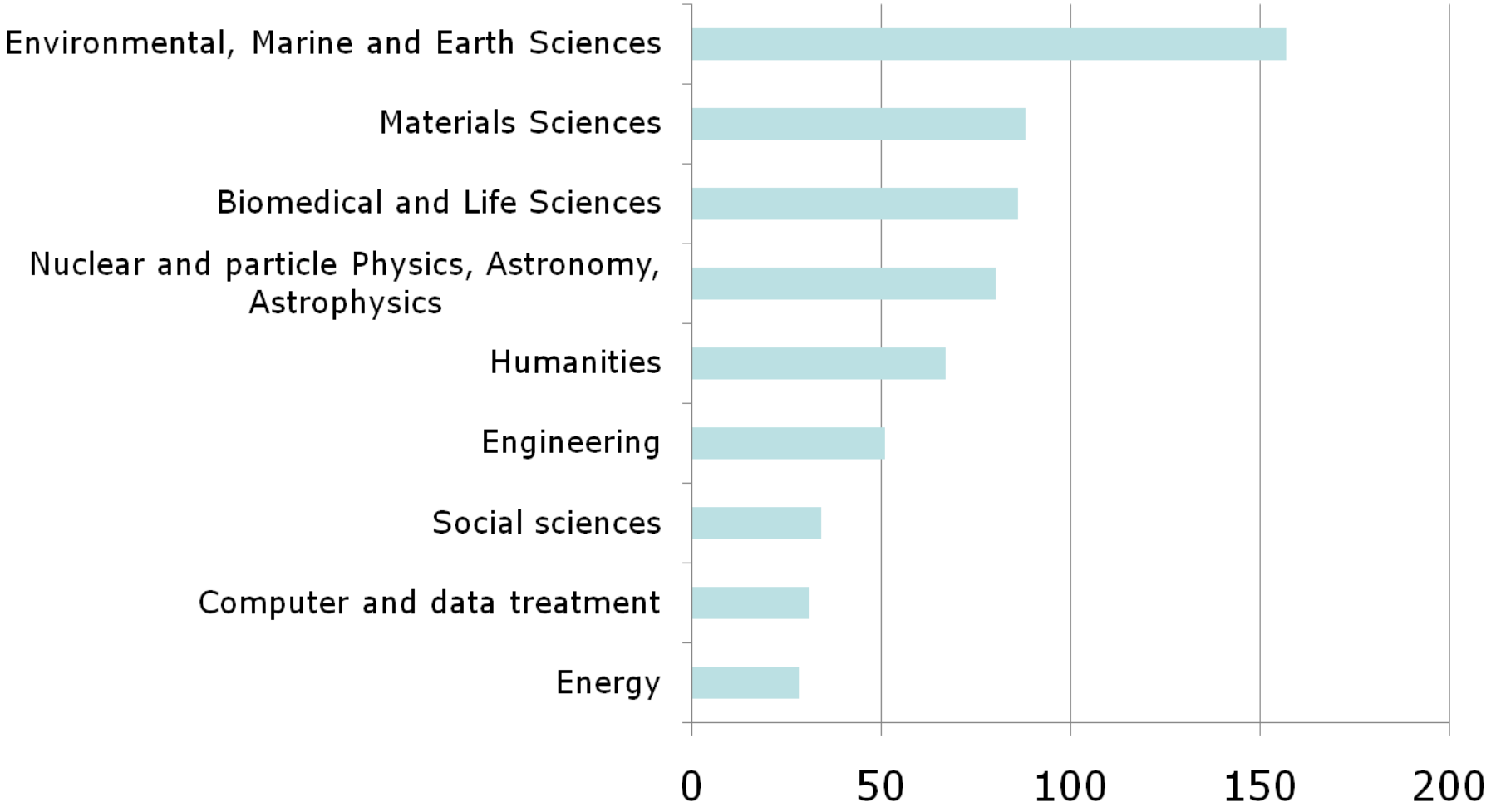
CZ (6), EE (4), CY (3), BG (3), LT (1), LV (1), HR (1), UA (1), MT (0), SK (0)

Age of the RI

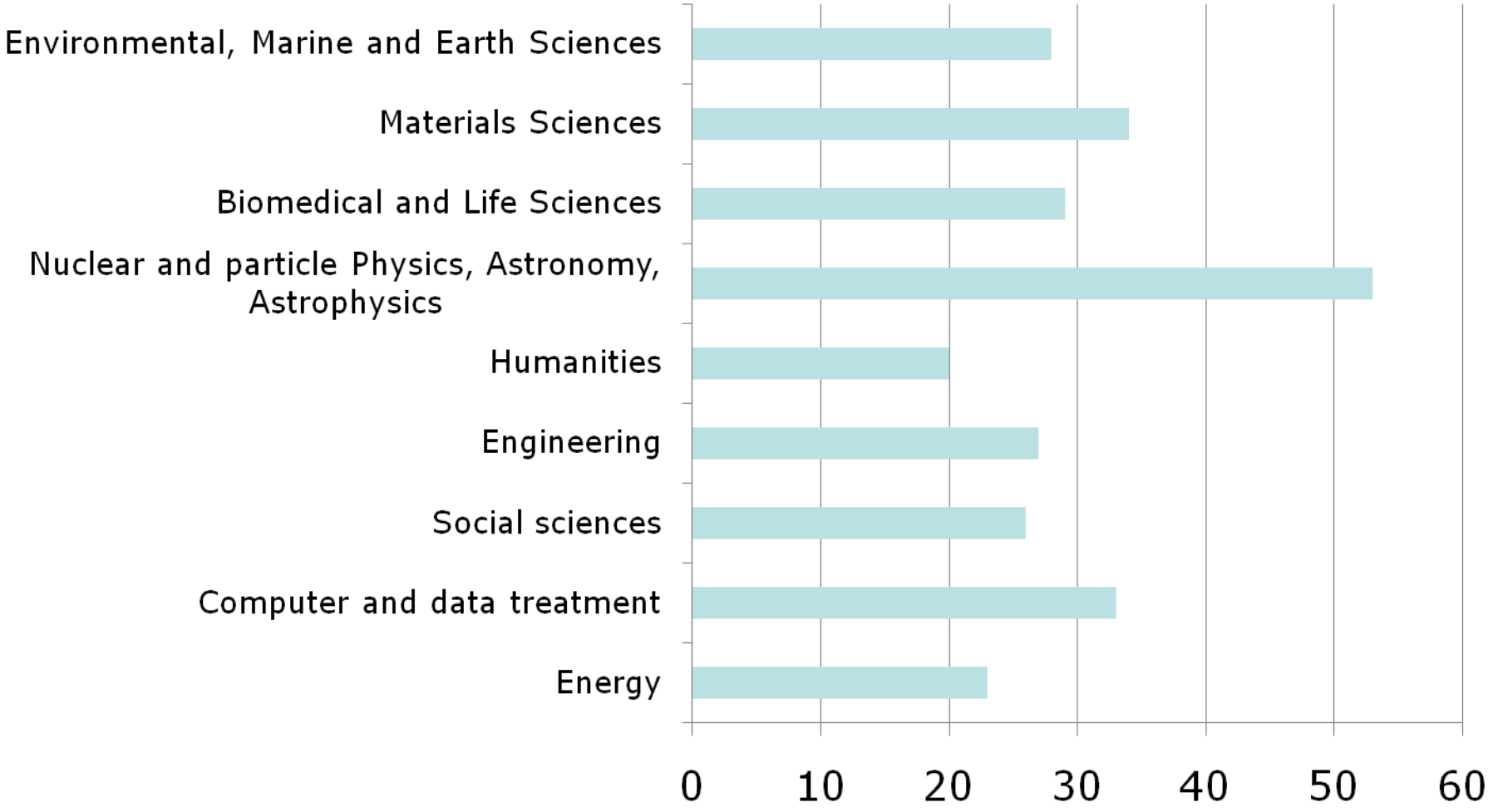

Years in Operation: EU-12 (57) vs EU 15 (481)
% RIs
50
45
40
35
30
25
20
15
10
5
0
0-5 years
6-10 years
11-15 years
16-20 years
21-25 years
> 25 years
EU-12
EU-15


Share of EU-12 RIs
Overall
0-5 years
> 25 years
0
2
4
6
8
10
12
14
% RIs

Entries per discipline (Total = 622)



International use (>50%) per discipline (percentage)



Research Infrastructure Portal
Preliminary conclusions

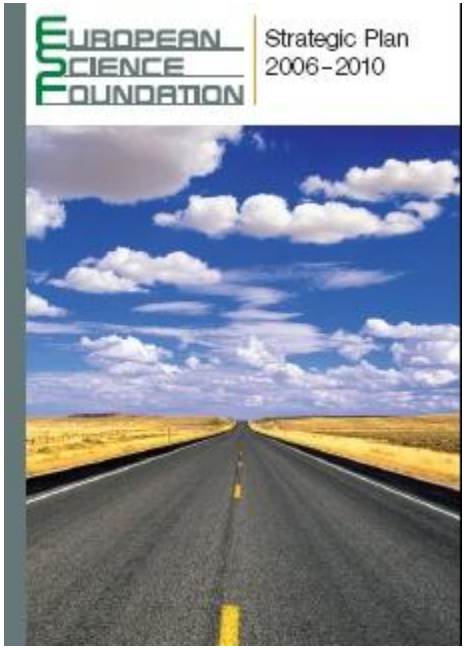
- Physics, materials sciences, life sciences and IT well covered
- Humanities: large number of entries, but scattered over very diverse libraries, historical collections, archives etc. Not much international use.
- Environment: largest number of RI's, but mostly national use.
- Very low number of RI's in clinical research.

Research Infrastructure Portal
Problems identified

- Updates and improvements required
  - Homogeneity and completeness
    - Current coverage: 25 – 30%
    - Geographical
    - Discipline distribution
  - Uniform Criteria and Procedures
  - Single vs. Distributed RI's

- Increased functionality and added value:
  - Identification of gaps and needs
  - Recognition of elements of new distributed RI's
  - Gateway to International collaboration

ESF Future Actions



Related to the preparation of ESF Strategy Plan 2011-2015

EUROHORCs-ESF road map for actions

Actions #	
1	Strengthen relations between **science, society and the private sector** and intensify the dialogue between research organisations and political actors at the European level
2	Promote European **research careers**
3	Develop **scientific foresight** and use its results as a basis for joint strategy development
4	Create a **European Grant Union**
5	Address **peer review** of proposals at European level
6	Develop common approaches to **ex-post evaluation** of funding scheme and research programmes
7	Create **ERA Connect** and **Regional Clusters**
8	Develop shared funding and exploitation of **medium-sized research infrastructure**
9	Implement a common policy on **Open Access** to research results and **Permanent Access** to research data
10	**Connect** European Research **to the world**

ESF Member Organisation Forum on RI's

Established: September 2009

Mandate

- Achieve a **definition** of European Research Infrastructures (scope, international use, size, budget, regional distribution)
- Discuss **standards** for European Research Infrastructures (information to external users, terms of reference, access rules, personnel)
- Create an **overview** of European Research Infrastructures (opportunities of updating existing portal, registration procedure, definition of categories/relevant data to be supplied by RI, regular updates)
- Enable **networking** of European RI's (by offering opportunities for RI specific workshops, user-meetings, interaction with external scientists/industry to exchange expertise, identify new developments)
- Encourage external **access** to European RI's (access rules, user fees funding)

ESF possible role in INFRA-2010

EC Call: an opportunity?	EUROHORCs – ESF Road Map for Actions
Actions encompassing **forward-looking,** prospective & retrospective case studies that describe and analyse the evolution in research infrastructures trends per science domain or class of infrastructures, as well as the specific scientific and socio-economic impacts; work related to the development of the **"European Portal on Research Infrastructures' Services**" to enhance its utility as a tool for the scientific community, looking for research infrastructure services, and for policy makers; actions fostering a more balanced territorial development and integration of research infrastructures within the ERA, with focus on governance and management.	**Actions** Create an ESF **Member Organisation Forum** on Medium-Sized Research Infrastructures (MSRI) as a platform for discussing joint investments in the creation of, networking, and access to MSRI, as well as **evaluation and benchmarking**. Forum to: -develop comprehensive tools for adequate treatment of RI related topics (funding procedures, access rules, running costs, personnel, replacement, etc.). - to develop recommendations on requirements for RI and study the merits and applicability of ERIC -maintain the inventory of national RI with European significance. The inventory can be accessed through the **RI Portal which will be kept up to date**.

Mapping of the European Research Infrastructures Landscape - MERIL

Role of ESF as scientific and quality adviser and intellectual supervisor of the MERIL development.

1. **Definitions and Roadmap**
- **Member Organisation Forum**
- **Contacts with stakeholders (ESFRI, ERF, EC, others)**

2. **Quality**
- **Mapping up-Grade**
  - State of the Art Analysis
  - Gap analysis
- **Mapping up-Date**
  - Portal's New book of specifications
  - Data Acquisition and/or Data Transfer

Mapping of the European Research Infrastructures Landscape - MERIL

3. Implementation

- **Development of new portal**
  - Data acquisition/transfer
  - Maintenance
  - Sustainability

- **Analyse best practices for RI's**
  - Governance
  - Access rules

- **Foresighting**
  - Nuclear Physics
  - Humanities
  - Mathematics
  - Social sciences

Mapping of the European Research Infrastructures Landscape - MERIL

4. Impact

- **Research community:** ⇨ Gap analysis, foresighting, access
- **Member States:** ⇨ national infrastructure funding in the European landscape
- **European Commission:** ⇨ link with FP-8, ESFRI
- **EUROHORCs: :** ⇨ infrastructures and cross-border collaboration
- **EIROForum:** ⇨ link with national RI's, data storage and dissemination
- **Universities:** ⇨ distributed infrastructures, e-campus
- **Private Sector/charities:** ⇨ link/embed portals, optimization of use
- **Research Infrastructures themselves:** ⇨ Optimize use, share RI best practices
- **International Level:** ⇨ international collaboration and visibility
- **Society:** ⇨ General information about the role of infrastructures

European Science Foundation
1 quai Lezay-Marnésia
BP 90015
67080 Strasbourg cedex
France

+33 3 88 76 71 00

www.esf.org

Excellence
Responsiveness
Ethical awareness

Openness
Pan-European
Human values