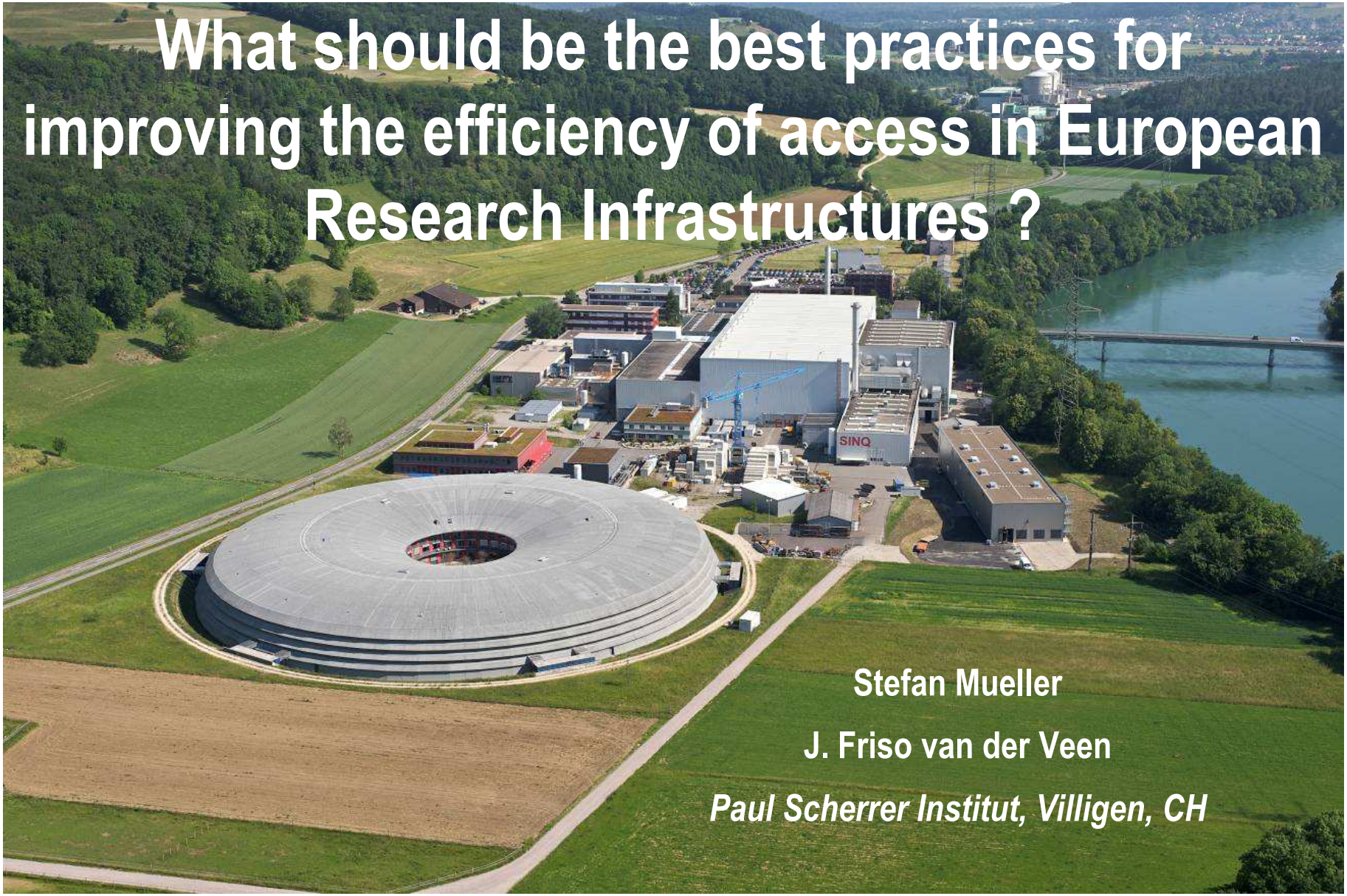
PAUL SCHERRER INSTITUT

PSI

What should be the best practices for improving the efficiency of access in European Research Infrastructures ?



Stefan Mueller

J. Friso van der Veen

Paul Scherrer Institut, Villigen, CH

PAUL SCHERRER INSTITUT

Content

- Transnational access
- Proposal reviewing
- Proprietary research
- The European integration – challenges for the future
- Sustainable European integration – new financing opportunities and mode of operation
- Conclusion

PAUL SCHERRER INSTITUT

Transnational access – the European concept

Optimal use of existing RIs requires a constant effort to ensure that the best scientists can access them effectively, and that the infrastructures keep up with the latest technologies.

Efforts

National level, e.g. SLS, CH

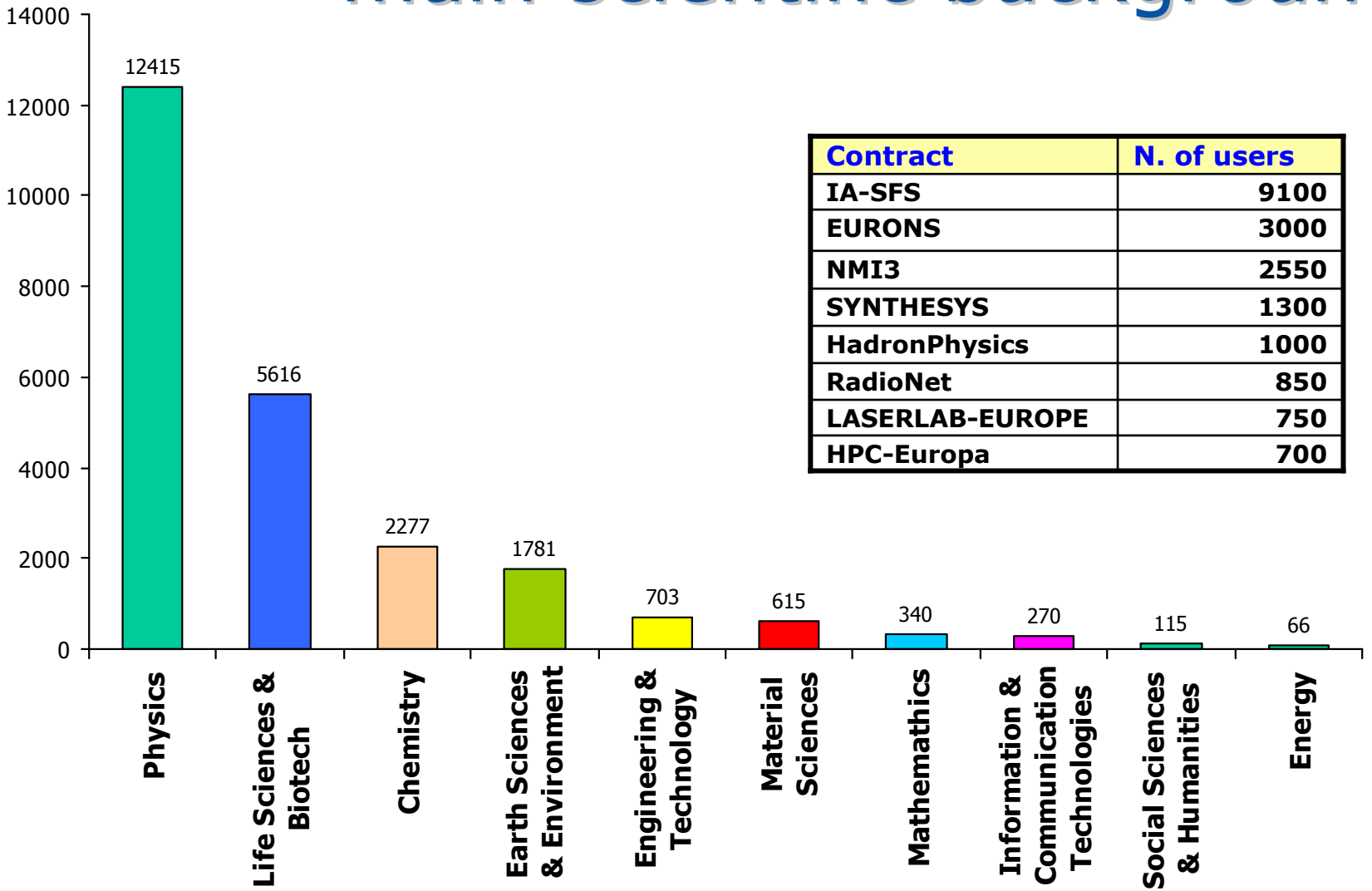
- Capital investment ~ 220 M€
- Annual operation cost ~ 26 M€
- Access offered:
  - Nr of individual users: 1616
  - Nr of projects: 1036

European level e.g. ELISA

- Nr of facilities: 15
- Access offered: 60'000 h/year
- Access budget: 3 M€/year
- Access budget for SLS: 0.276 M€/yr

EUROPEAN COMMISSION
Community research

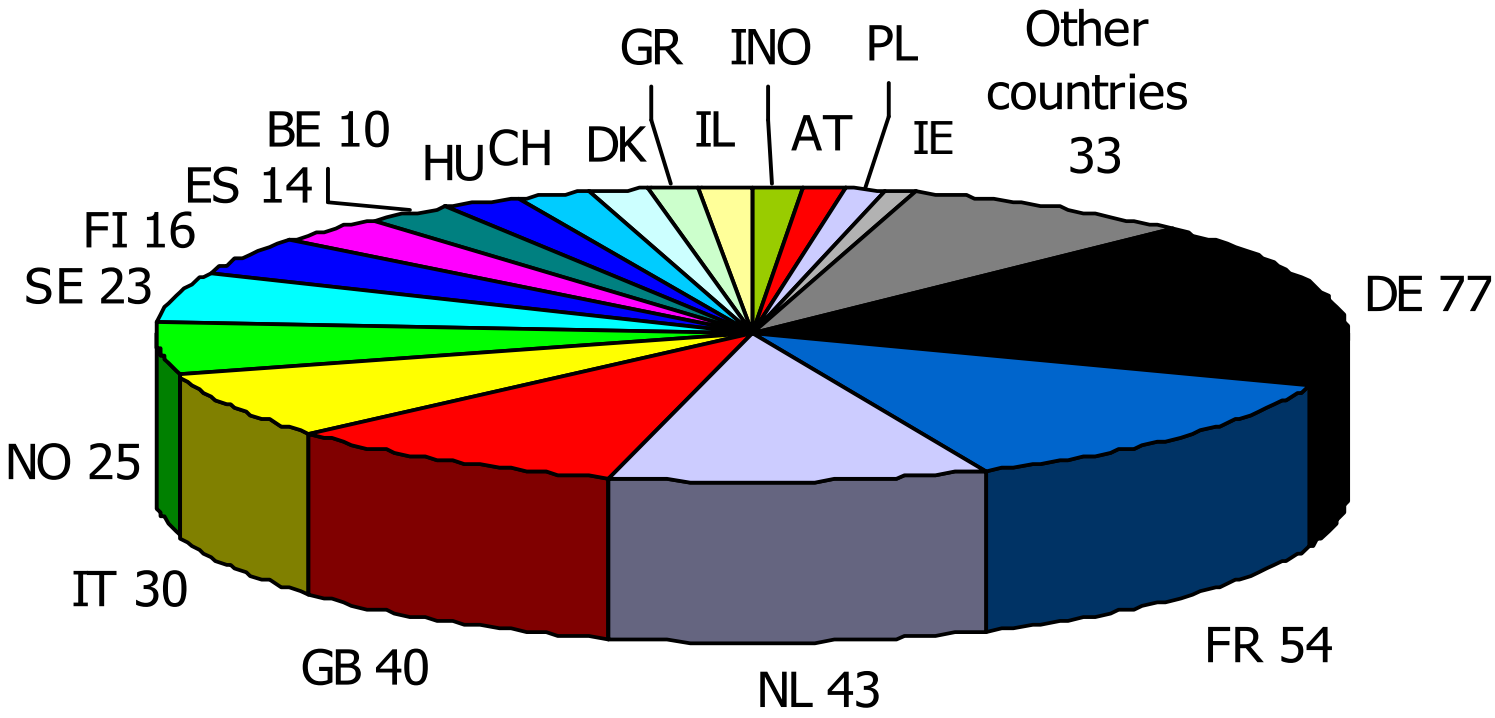
Distribution of users by main scientific background



Contract	N. of users
IA-SFS	9100
EURONS	3000
NMI3	2550
SYNTHESYS	1300
HadronPhysics	1000
RadioNet	850
LASERLAB-EUROPE	750
HPC-Europa	700

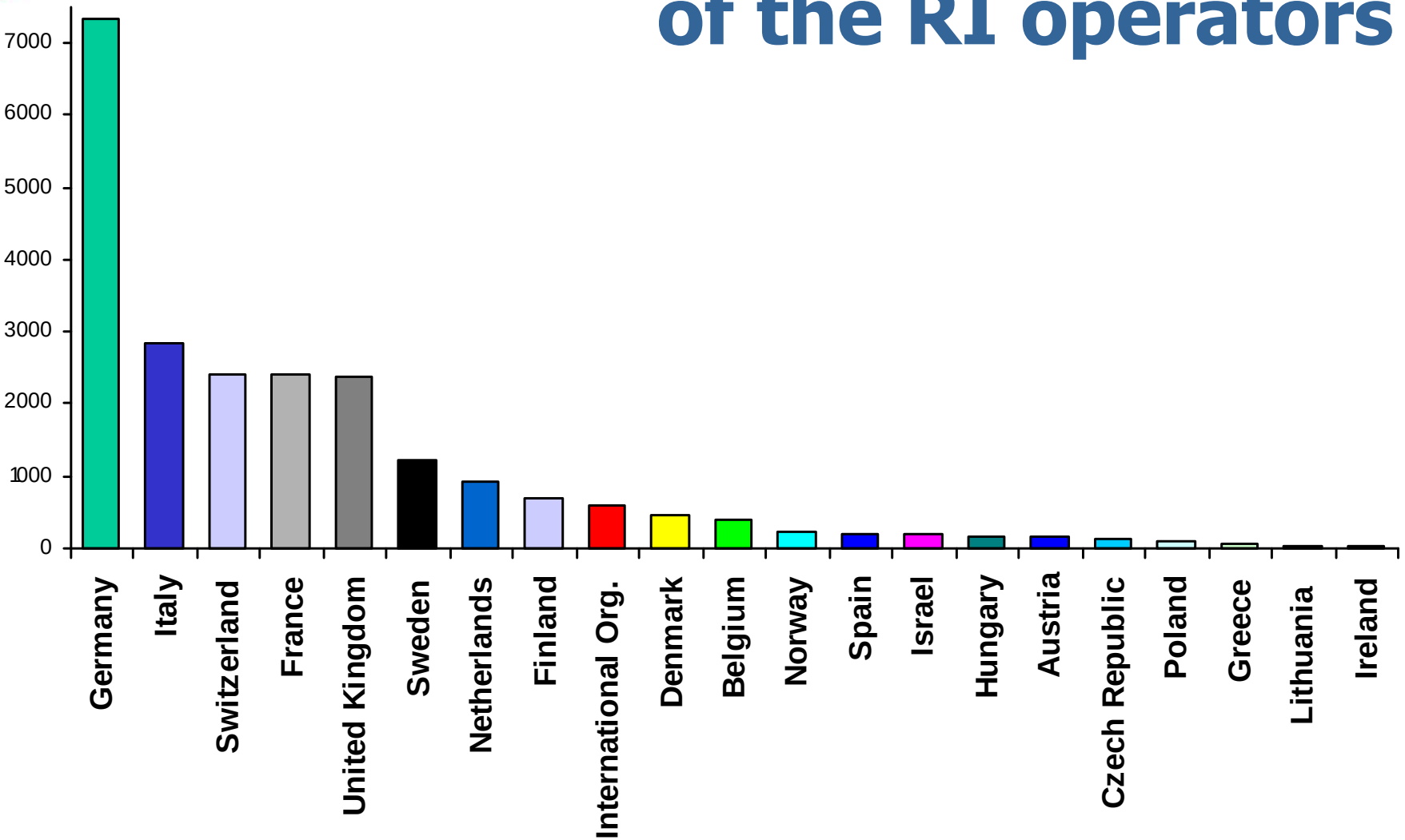
EUROPEAN COMMISSION
Community research

Supported Infrastructures/ Installations per country



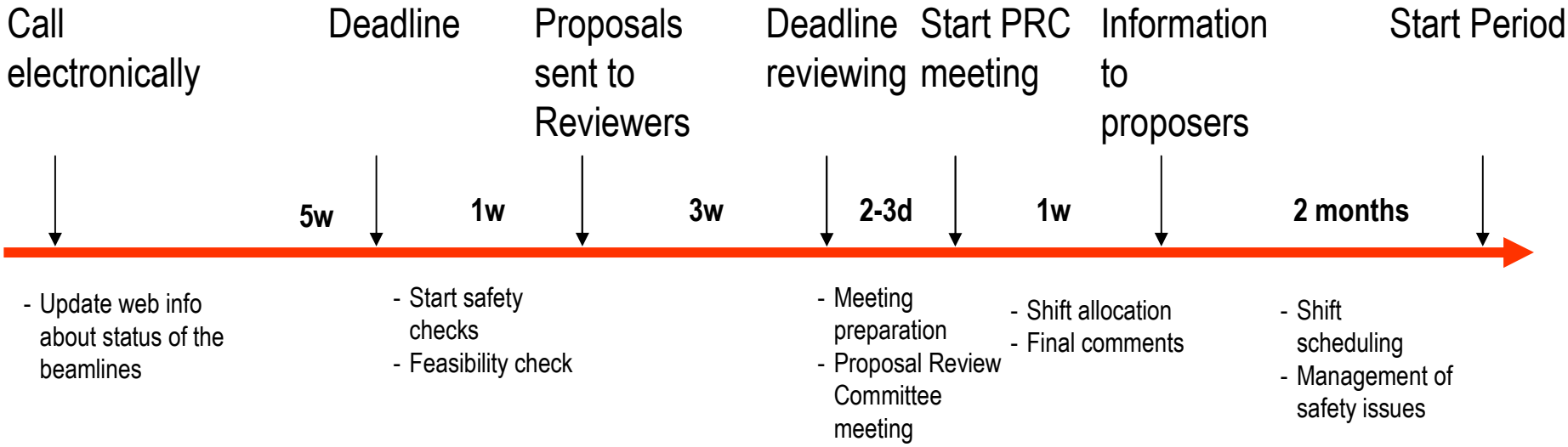
EUROPEAN COMMISSION
Community research

Number of served users by country of the RI operators



Best practice access to infrastructure

work flow



The overall access policy at the different European light sources generally follows the same scheme:

- the source issues a call for proposals, upon which applications for beamtime are submitted.
- the proposals are then peer reviewed, and beamtime is allocated.
- Almost all facilities use a web-based access tool

PAUL SCHERRER INSTITUT

Proposal reviewing (I)

Proposal Review Committee (PRC)

- Evaluation in subcommittees which cover different fields
- Fields can be correlated to specific beamlines or types of beamlines (e.g. MX), techniques or scientific topics. *No* fixed quota for sharing of beamtime on a given beamline between different topics.
- PRC members are appointed by the facility, possibly in consultation with the subcommittee chair.
  The term of the members is defined (2-4 y).
- In some cases, e.g. for MX, remote web-based evaluation of proposals

PAUL SCHERRER INSTITUT

Proposal reviewing (II)

Review Criteria

- Pre-condition for review (at large facility): *feasibility*
- Dominant review criterion is *scientific excellence* and *feasibility*
- Other criteria: *instrumental* or *methodological* relevance

SLS commits itself to follow the recommendations of the International Union of Pure and Applied Physics (IUPAP)[1] for the Use of Major Physics Users Facilities, which states that

"*the criteria to be used in selecting experiments and determining their priority are*

(a) scientific merit

(b) technical feasibility

(c) capability of the experimental group and

(d) availability of the resources required".

[1] see http://www.iupap.org/ga/ga22/majfacil.html

Beamtime without PRC evaluation

- Beamtime used for commissioning and pilot experiments
- Proprietary research:
  - At SLS, ca 10% of the available beamtime is sold to private companies (full-cost recovery)
  - The results are owned by the companies
  - In long-term contracts with some companies (pharma) PSI commits to re-invest part of the funding into new instruments to keep the standard of the facility high.

PAUL SCHERRER INSTITUT

Post-beamtime reporting

End-of-run report

To be returned within a couple of weeks after the beamtime. It assesses "customers' satisfaction" with the facility. PSI developed a common end-of-run report for all three facilities (photons, neutrons and muons).

Experimental report

Reports about the use and scientific success of the allocated beamtime. It is used by the PRC for evaluation of new proposals, for reporting to the EU for EU-funded projects, and for facility development. It is mandatory at all facilities.

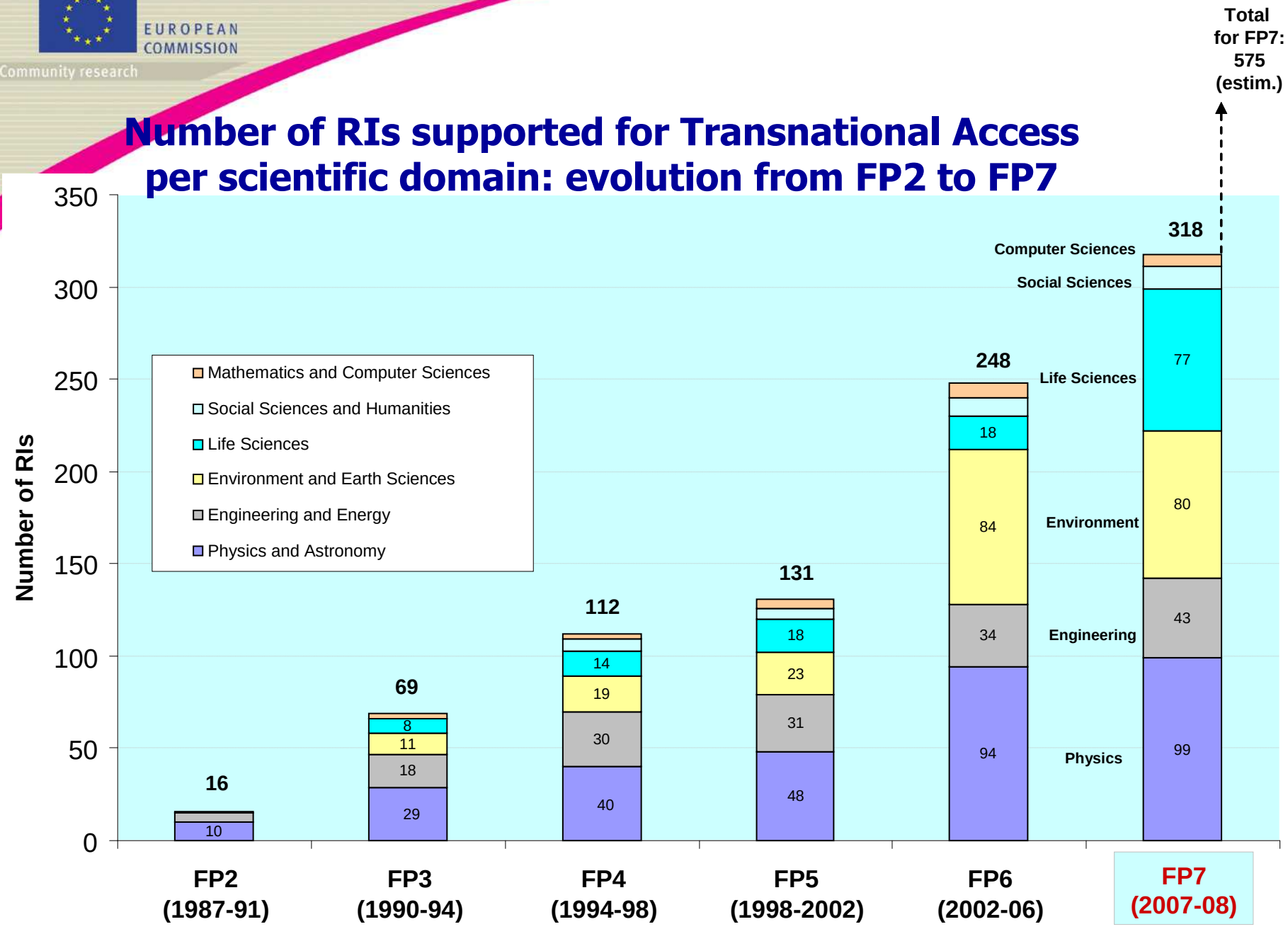
PAUL SCHERRER INSTITUT

EUROPEAN COMMISSION
Community research

The European integration – challenges for the future

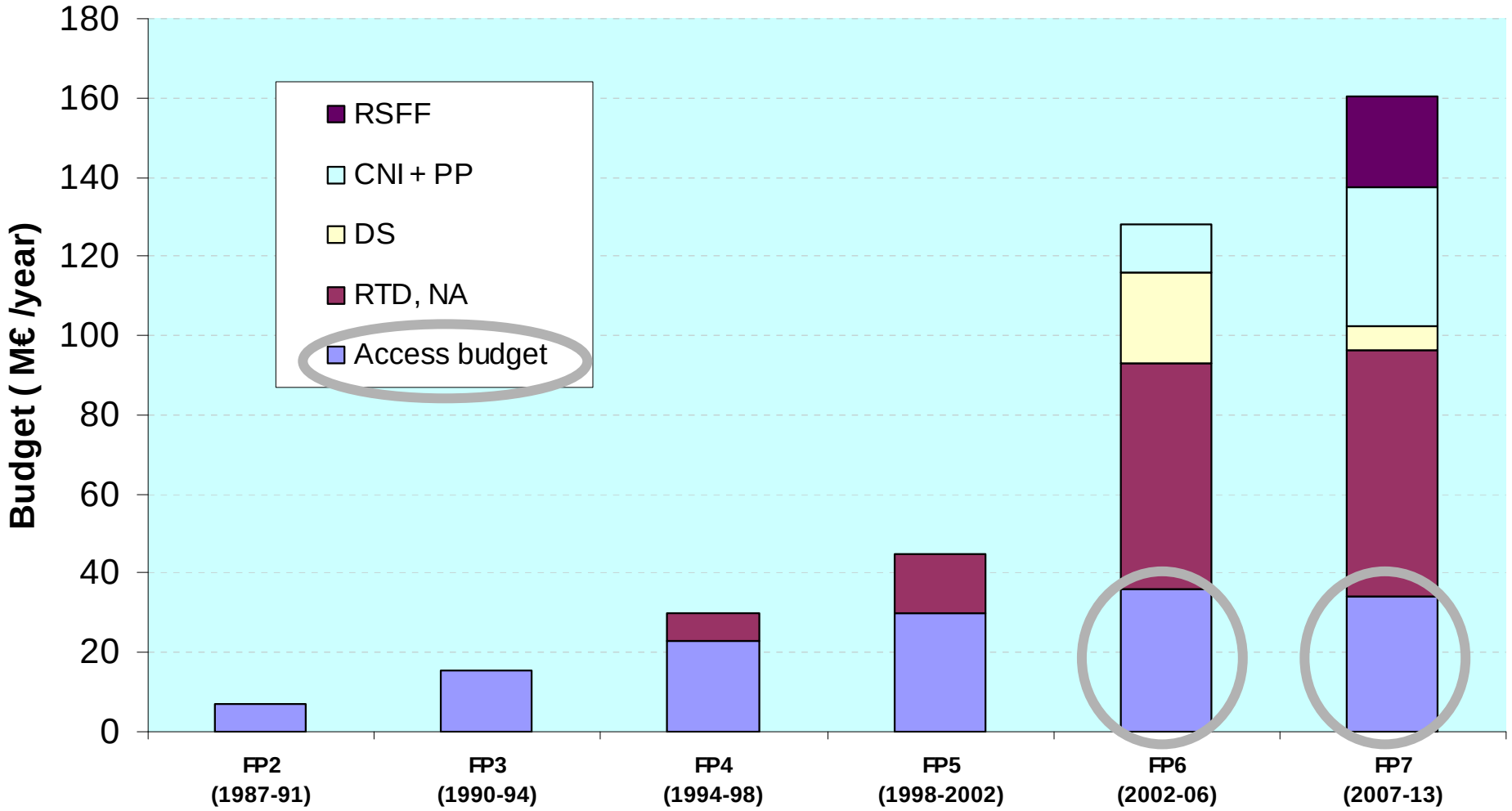
EUROPEAN COMMISSION
Community research

Number of RIs supported for Transnational Access per scientific domain: evolution from FP2 to FP7



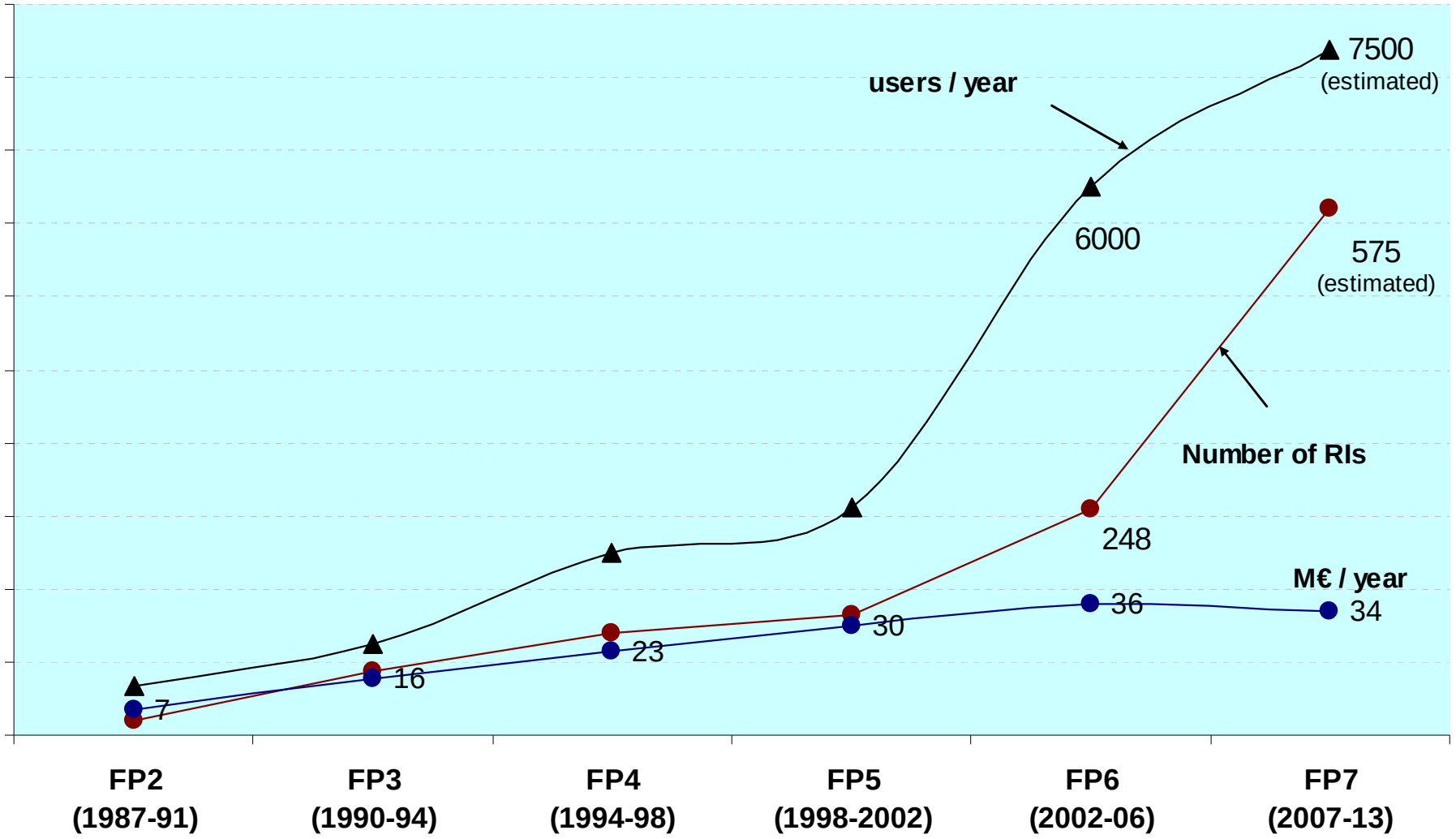
EUROPEAN COMMISSION
Community research

Evolution of budget from FP2 to FP7



EUROPEAN COMMISSION
Community research

Evolution of budget from FP2 to FP7

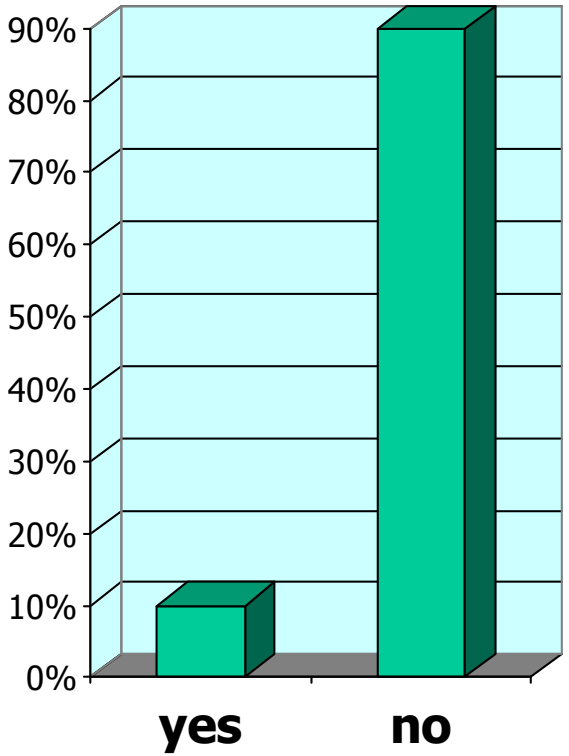


EUROPEAN COMMISSION
Community research

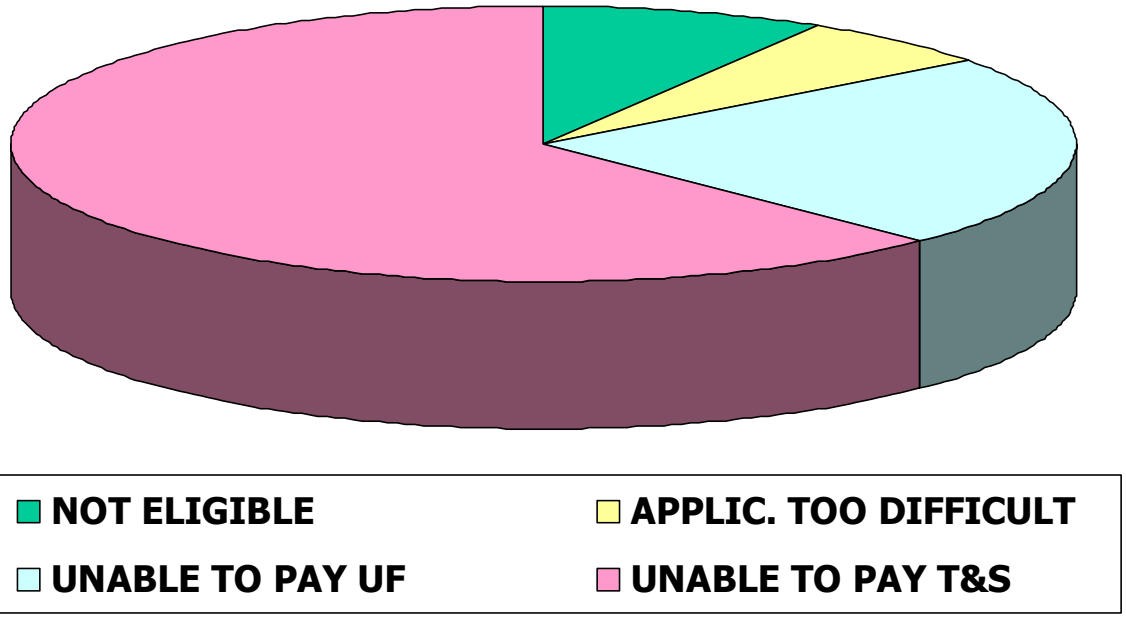
Are the users able to carry out their research on the RI without EC support?

5050 filled questionnaires

http://www.cordis.lu/infrastructures/questionnaire.htm



When no, why?



PAUL SCHERRER INSTITUT

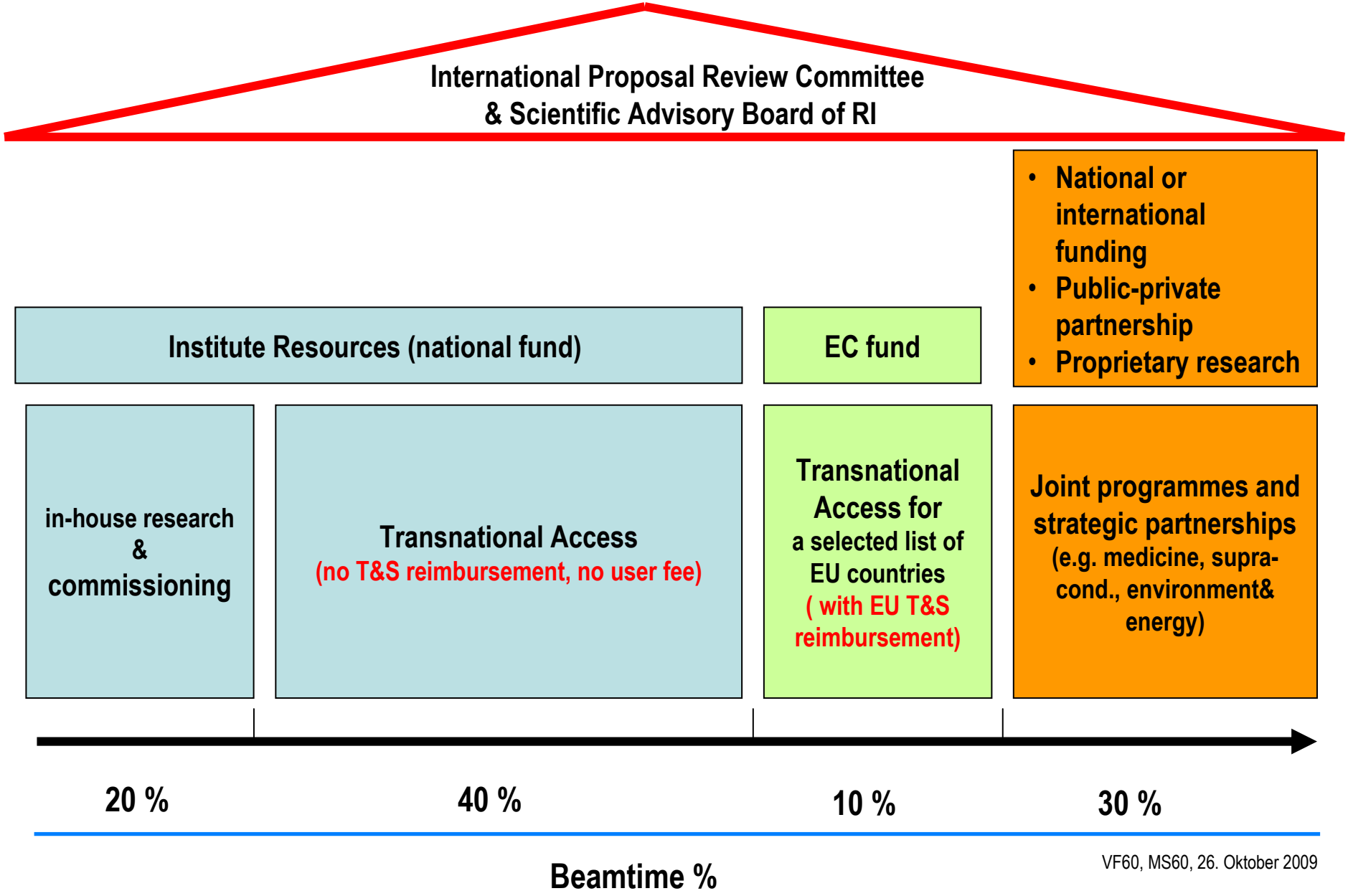
Sustainable European integration (I)
New financing opportunities

Open Access is a prerequisite to keep the high standards
of the research performed at the EU-facilities.

However, decreasing EU support for Transnational Access
asks for new funding and collaboration models:

- bi- or multilateral cross-border collaborations (e.g. PolLUX @ PSI)
- joint programming of national funds on a European level with cross-border exchange of funds
- Increasing attractiveness of industry to research infrastructures and vice versa
- Exploiting the educational dimension of research infrastructures

Sustainable European integration (II)
Possible operation mode



PAUL SCHERRER INSTITUT

Web-links

EU Research Infrastructures

http://ec.europa.eu/research/infrastructures/ri_projects_en.html

EU user group questionnaire

http://www.cordis.lu/infrastructures/questionnaire.htm