



EUROPEAN
COMMISSION

Community research

Utilizing the full Potential of Research Infrastructures for Strengthening the ERA

**Hervé PERO, Head of Unit,
Research Infrastructures, DG RTD**

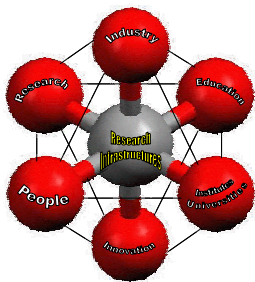
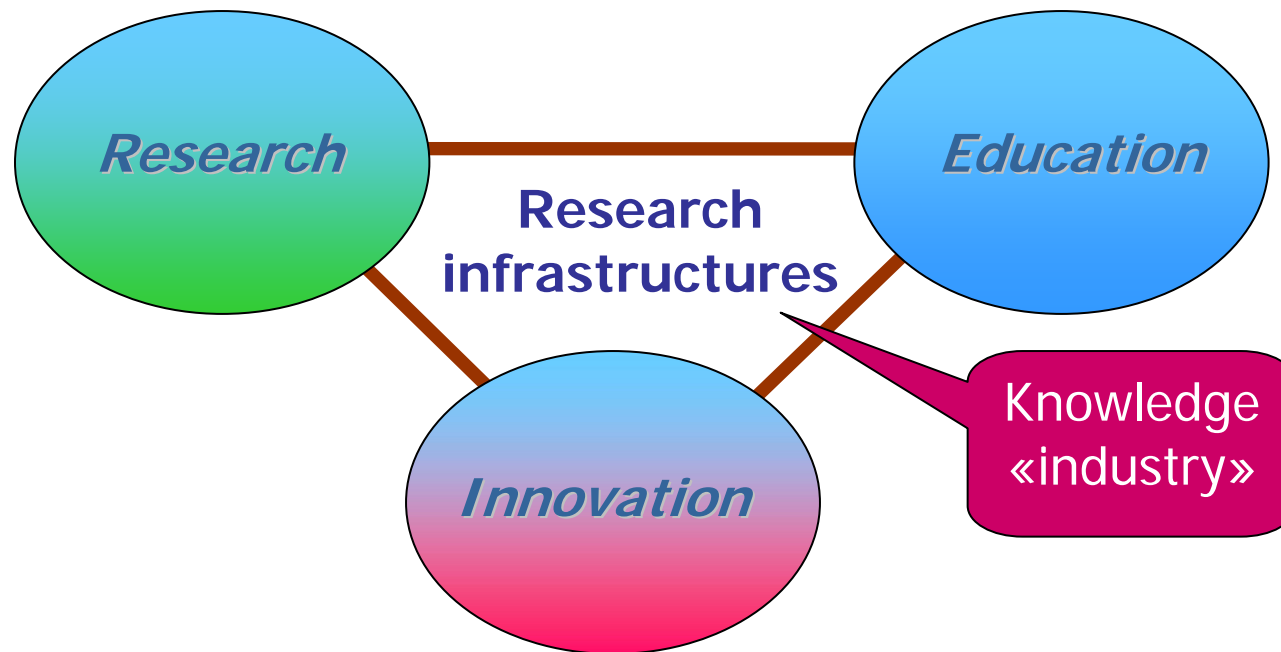


Research Infrastructures (incl. e-infrastructures) are:

- Facilities, resources, and related services used by the scientific community for
 - Conducting leading-edge research
 - Knowledge transmission, knowledge exchanges and knowledge preservation
- Today Research Infrastructures include
 - Major scientific equipment
 - Scientific collections, archives, structured information
 - ICT-based infrastructures
- Excellence of research services generally subject to periodic evaluation by international scientific committee



Research Infrastructures are at the core of the knowledge Triangle



They are even at the core of a “diamond”
if we add the 3 main actors,
industry, university and the people





EUROPEAN
COMMISSION

Community research

Europe is faced with a wide spectrum of issues

- From Globally unique,
to Regionally distributed;
- Many stakeholders (from ministries to researchers)
- Underlying and growing use of
e-infrastructures;
- Opportunities but difficulties of interaction between
basic research and industry...
- Lack of funding (public and private);
- single countries do not have the critical mass; need
to cooperate...



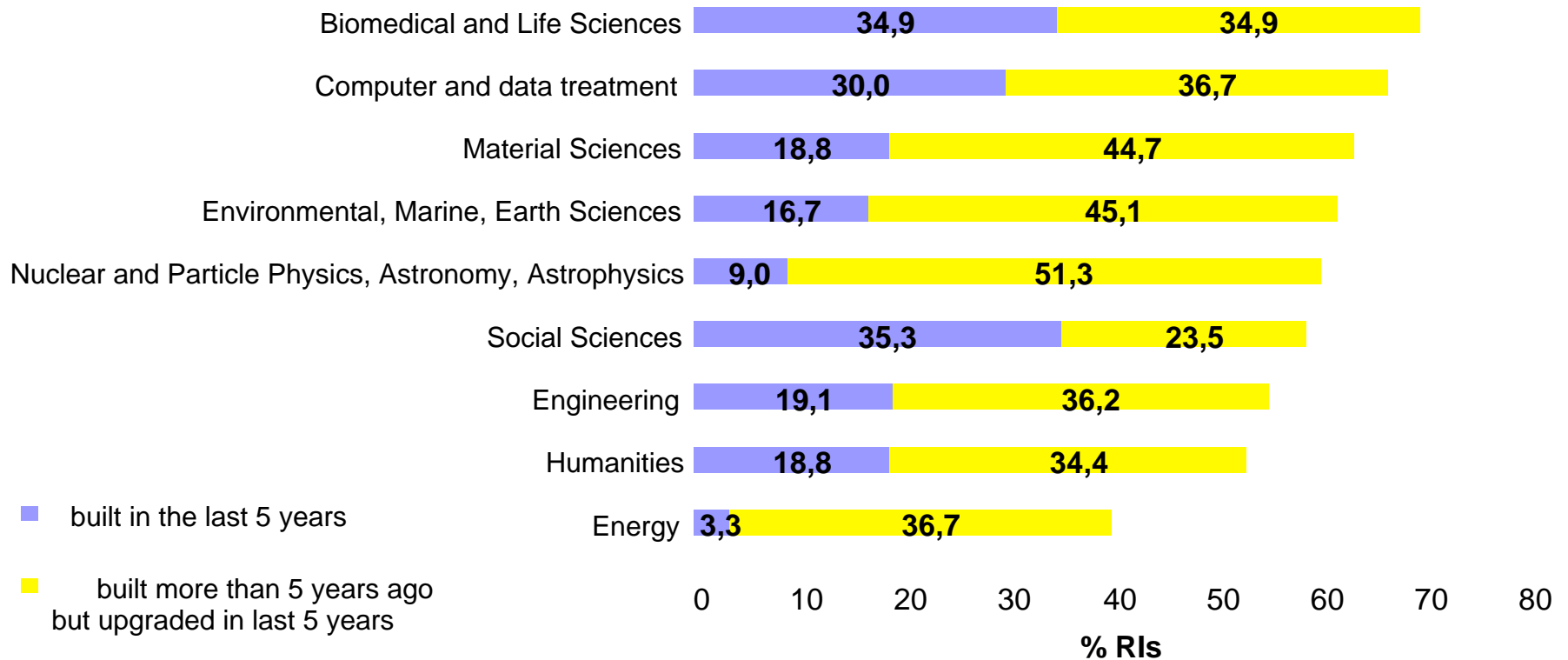


EUROPEAN
COMMISSION

Community research

Research Infrastructures' pattern is rapidly evolving in Europe

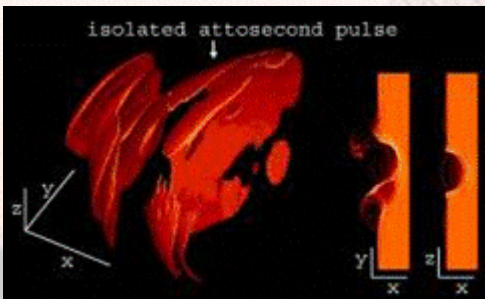
Share of RIs Built or Upgraded in the Last 5 Years



Lot of efforts are carried out to
“integrate” existing Research
Infrastructures

... also to support the
emergence of “new” Research Infrastructures

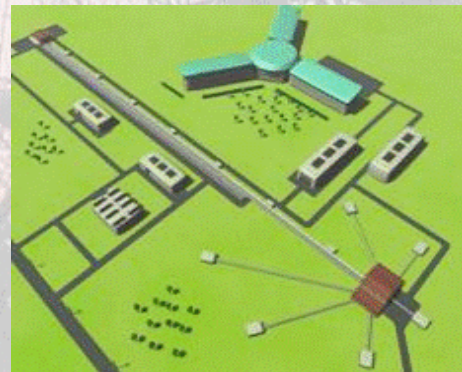
XFEL



ELI



LIFEWATCH



ESS



INFRAFRONTIER

ESFRI

The European Strategy Forum on Research Infrastructures (ESFRI) has been set-up to help developing a true European policy

- Launched in April 02 by Council of Research Ministers
- Representatives of the 27 Member and 5 Associated States + one representative of the European Commission (EC)
- Links with *e*-IRG





Conditions for a harmonious development of (e)RIs

- Their development has to be based on clear visions and consistent policies at regional / national and European levels
- There is a need for an “orchestrated” decision-making, a favorable environment (e.g. legal) and “sustainable” funding
 - However, to utilize their full potential there are more challenges...





Other challenges (1)

- Efficient and sustainable Human Resources
 - Research today needs to be carried out in a *multi-disciplinary* and vibrant scientific environment,
 - Students and young researchers need to be *attracted* to such facilities,
 - This underlines the critical importance of *new or upgraded regional / national facilities* where “hands-on” training would be facilitated





Other challenges (2)

- Balanced scientific competencies in Europe
 - The European Research Area paradigm only works if there is an *harmonious development at EU level* related to each field of science
 - But global economic pressures may incentivize a different behavior, i.e. governments may succumb to a “lead-region” model.
 - We need *avoiding further fragmentation* and e-infrastructures are here key elements





EUROPEAN
COMMISSION

Community research

Importance of Community Actions

- They help reducing European fragmentation and dispersion of existing facilities
- They stimulate vision, policy development and more international cooperation
- They help developing a research market for access to and use of installations / research services



Europa



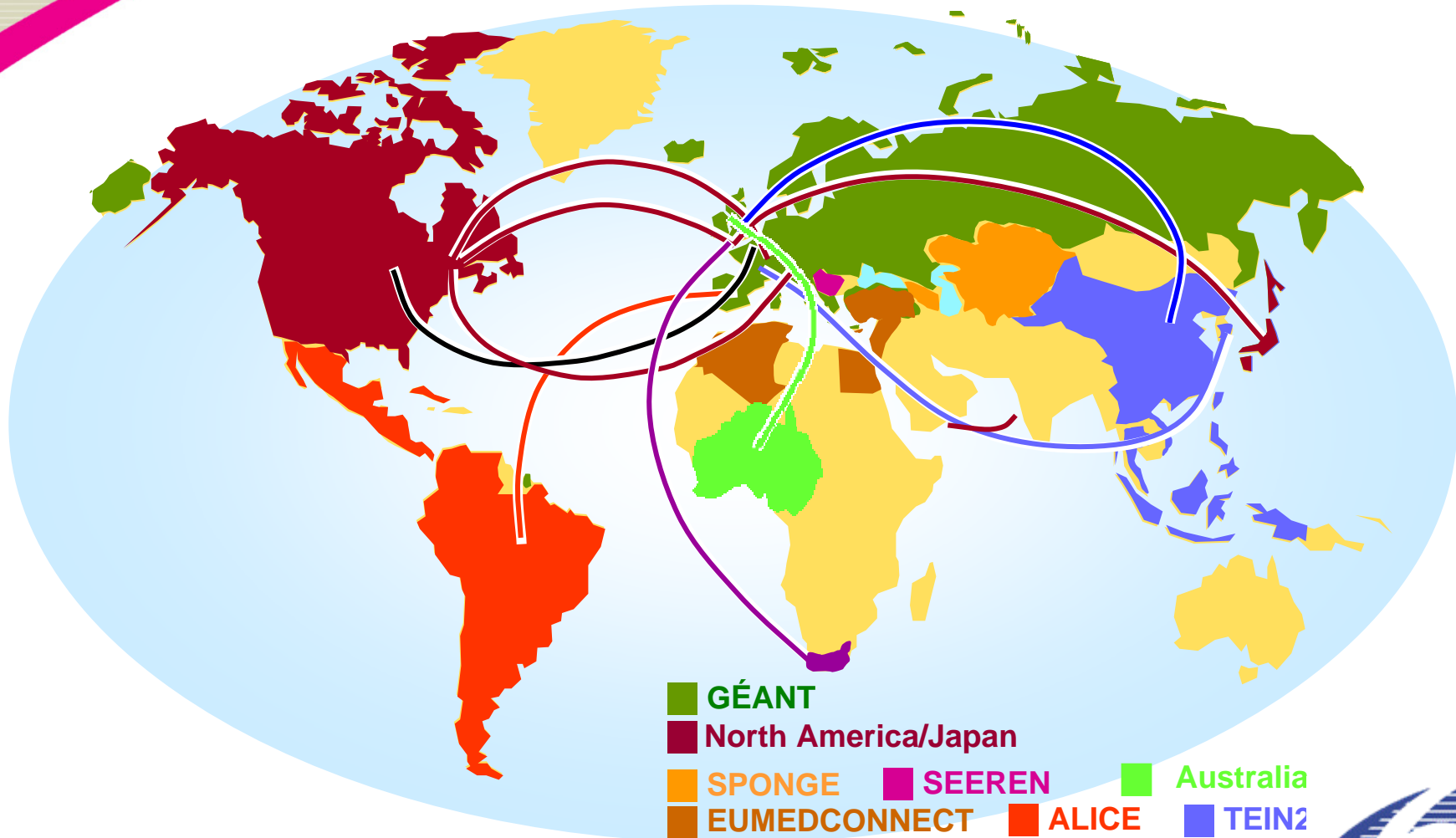
growth and jobs
working together for Europe's future



EUROPEAN
COMMISSION

Community research

GÉANT (global dimension)



- GÉANT
- North America/Japan
- SPONGE
- SEEREN
- Australia
- EUMEDCONNECT
- ALICE
- TEIN2
- S. Africa
- China
- India





EUROPEAN
COMMISSION

Community research

Importance of Community Actions

- Community actions also stimulate a new form of pan-European RIs, those distributed, which are for many *terra incognita*,
- They also encourage the coordination of national programmes (initiative “joint programming”), the survey of existing facilities or the development of a favorable environment (e.g. legal)





EUROPEAN
COMMISSION

Community research

Importance of Community Actions

- However challenges are high: existing RI investments represent more than 100 B€ at EU level, whereas the EC resources are not enough (1,7 B€ under FP7),
- This needs to be reconsidered at the FP7 mid-term review,
- MS need also to raise their long-term support to benefit from the full potential of RIs

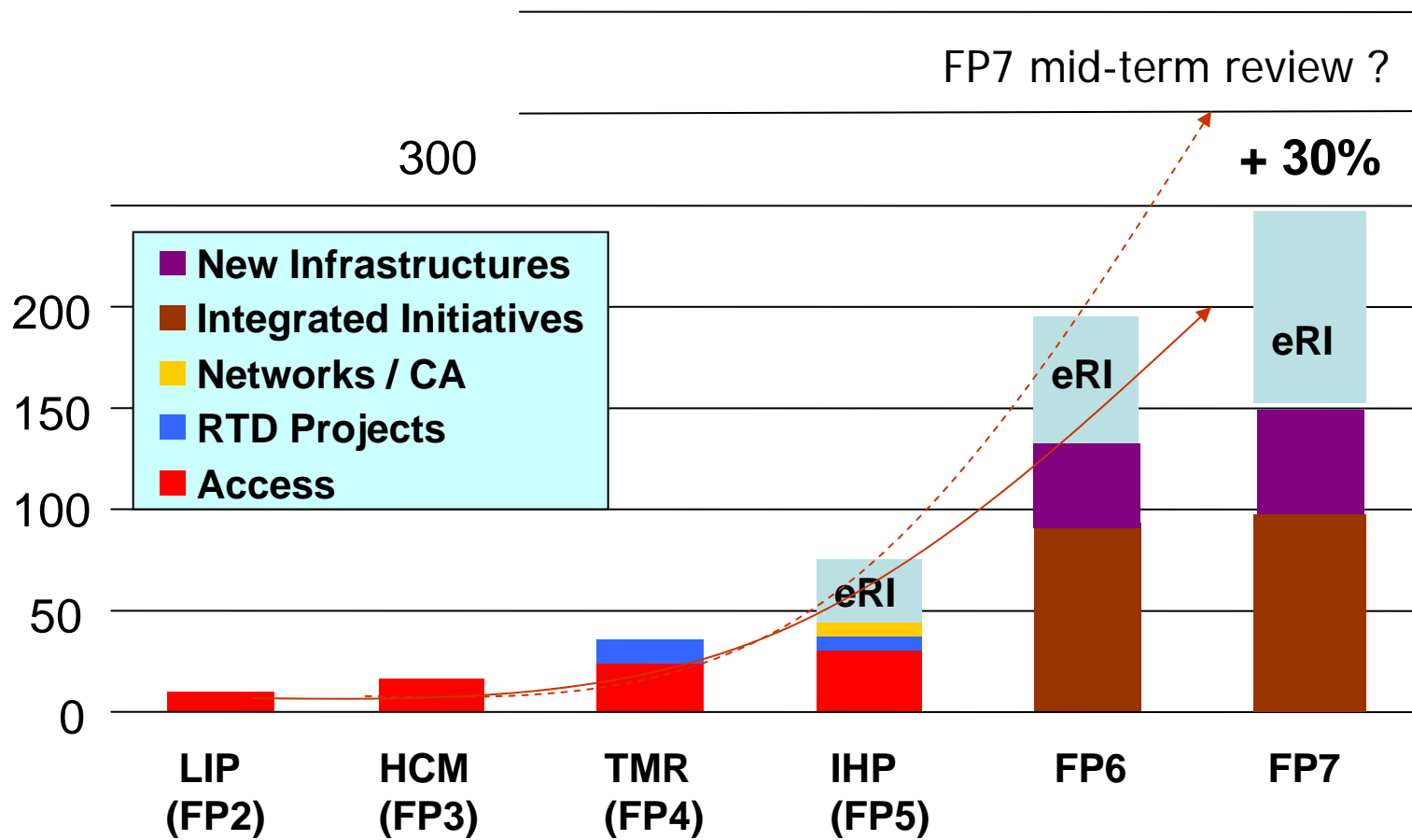




EUROPEAN
COMMISSION

Community research

... need for an increased yearly budget





EUROPEAN
COMMISSION

Community research

For further information

- ESFRI on CORDIS
<http://cordis.europa.eu/esfri/>
- FP7 and Capacities Specific Programme
<http://cordis.europa.eu/fp7/>
<http://cordis.europa.eu/fp7/capacities/>
- Research Infrastructures on CORDIS (FP6)
<http://cordis.europa.eu/infrastructures/>
- Research Infrastructures in Europa
<http://ec.europa.eu/research/infrastructures>

