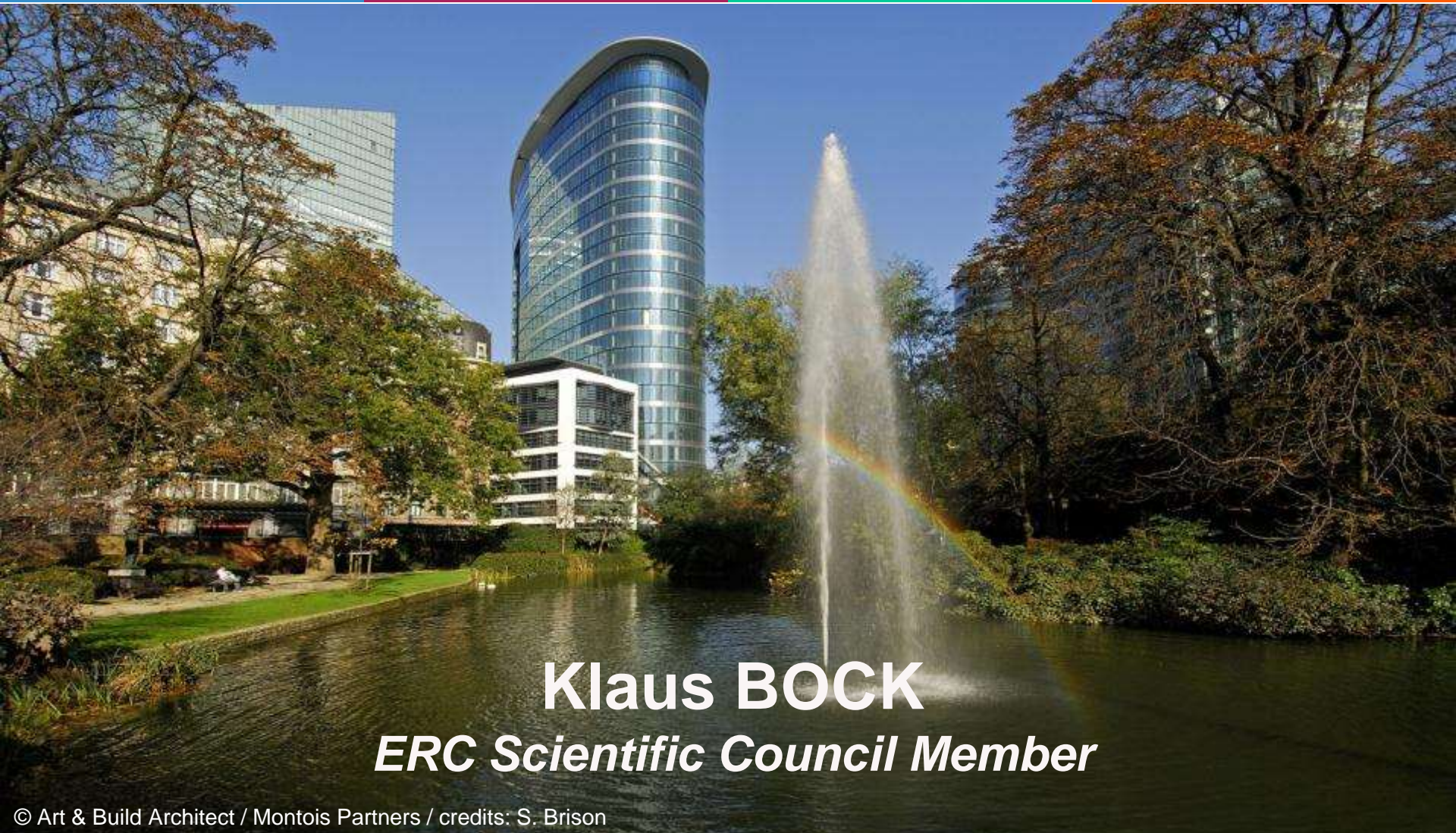


The European Research Council



European Research Council

Established by the European Commission



Klaus BOCK
ERC Scientific Council Member

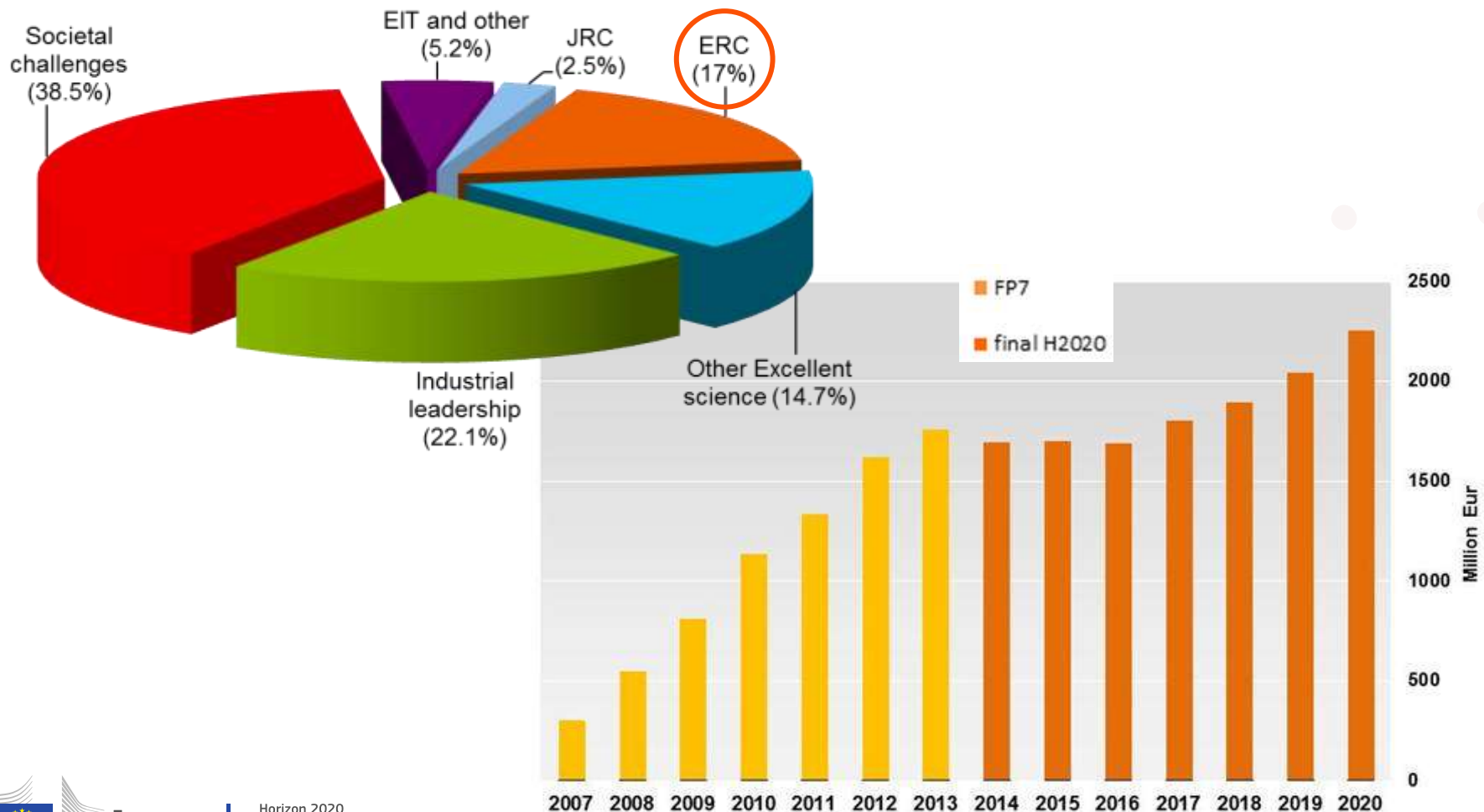
What is ERC?

- An autonomous pan-European funding body set up by the EU in 2007 **led by scientists** after a long struggle
- **Mandate:** to encourage the highest **quality research** in Europe through competitive funding of **frontier projects**
- Funded through the EU Framework programmes for Research and Innovation
- For the period 2014-2020: **Horizon 2020**

ERC in European Funding of Research

- **Support to investigator-driven frontier research through a bottom-up, pan-European competition in all fields of science and humanities**
- **Evaluation:** based strictly on the **quality** of the **principal investigator** and of the **research proposal**
- **Scientific governance:** independent **Scientific Council** of 22 members (including the ERC President) with **full authority** over **funding strategy**

ERC Budget 2014-2020: € 13 billion



ERC in the H2020 Structure

➤ The HORIZON 2020 main components:

- Excellent Science
 - ➔ *World class science is foundation of technologies, jobs, well-being*
 - ➔ *Europe needs to develop, attract, retain research talent*
 - ➔ *Researchers need access to the best infrastructures*
- Industrial leadership
- Societal challenges

➤ Excellent Science:

- **European Research Council** (budget under H2020: € 13 billion)
- Future and Emerging Technologies
- Marie Skłodowska Curie Actions
- Research Infrastructures

Creative Freedom of the Grantee



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- ERC offers **independence, recognition and visibility**
- Your **own choice** of topic
- Your **own choice** of team
- **5-year financial autonomy**
- **Portability of grants**
- ERC is a **quality label**

ERC Grant Schemes



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Starting Grants

starters
(2-7 years after PhD)
up to € 2.0 Mio
for 5 years

Consolidator Grants

consolidators
(7-12 years after PhD)
up to € 2.75 Mio
for 5 years

Advanced Grants

track-record of
significant research
achievements in the
last 10 years
up to € 3.5 Mio
for 5 years

Proof-of-Concept

bridging gap between research - earliest
stage of marketable innovation
up to €150,000 for ERC grant holders

Synergy Grants (2 exploratory calls)
2 – 4 Principal Investigators
up to € 15.0 Mio for 6 years



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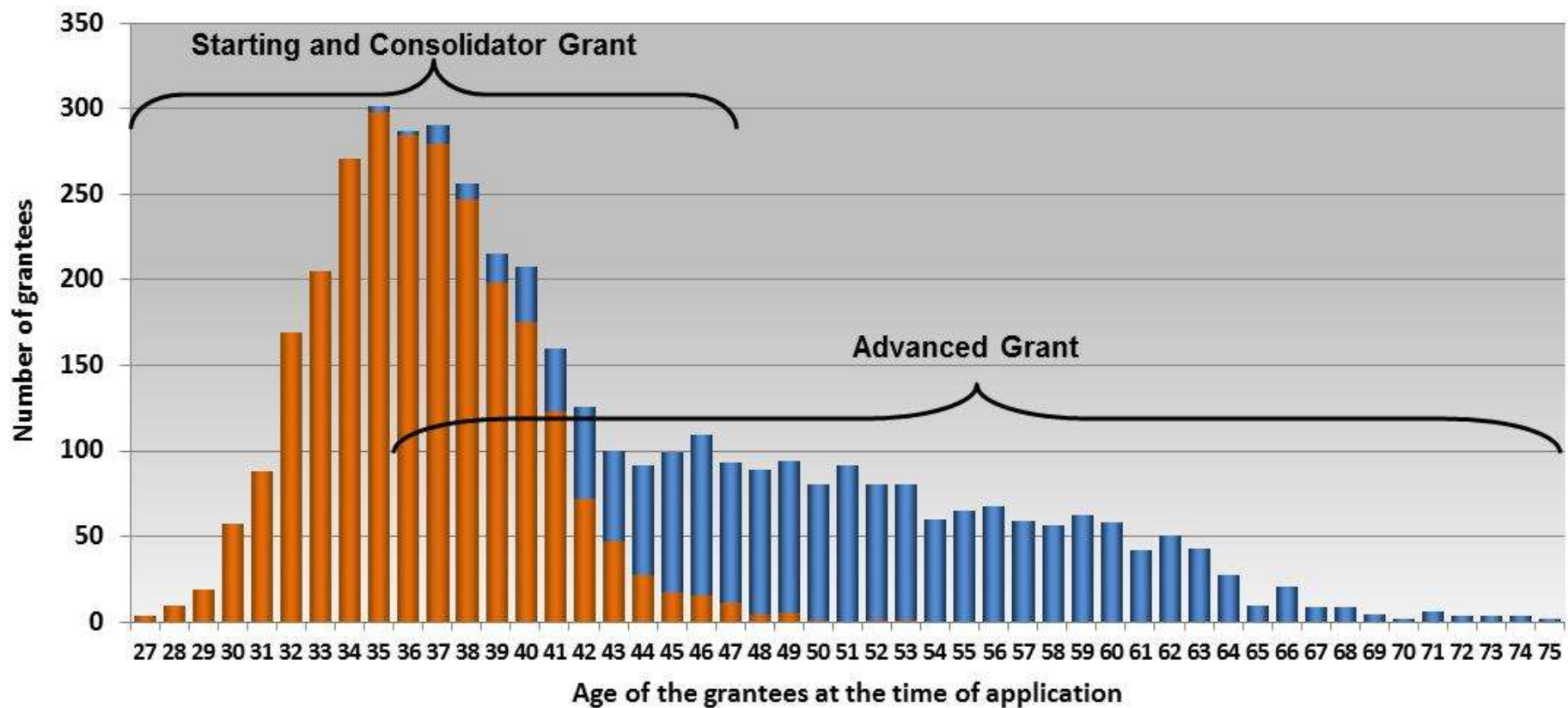
Horizon 2020
European Union funding
for Research & Innovation

Priority to Young Scientists



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ERC 2007-2013



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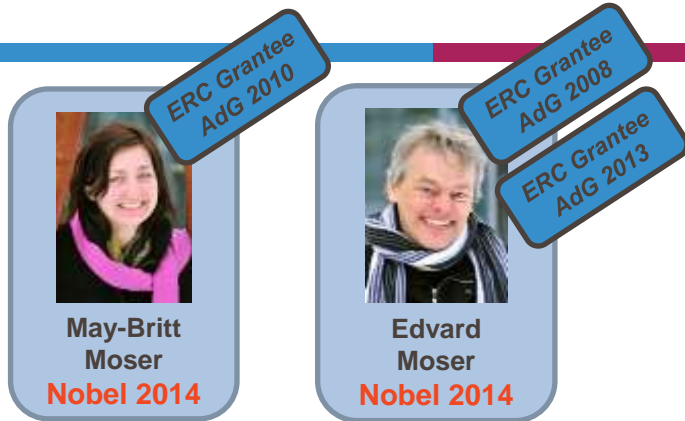
Horizon 2020
European Union funding
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ERC after 7 Years

- Over **4 300 researchers** funded (65% are at an **early-career** stage);
64 nationalities represented (EU has **28!**)
- **Highly competitive** (average success rate tending to 10%)
- Grants located in almost **600** different institutions in **30** countries
- **50%** of grantees in **50** institutions
- **Benchmarking** effect: impact on national programmes and agencies;
national funding for best "runners-up"
- **Efficient** and **fast** grant management
- **Highly recognized** by the research community beyond Europe

- **30 000** publications acknowledging ERC support
- **12%** of the articles, notes and reviews published between **2008-2010** were in the **top 1%** most cited in **2012**
(i.e. 240 publications out of 1996 publications ;
NSF-selected journals and citations thresholds provided in the NSF Science Indicators 2014 were considered)
- **43%** of the articles, notes and reviews published between **2008-2010** were in the **top 10%** most cited in **2012**
(i.e. 855 publications out of 1996 publications ;
NSF-selected journals and citations thresholds provided in the NSF Science Indicators 2014 were considered)

Nobel Prize to ERC grantees



The Nobel Prize in Economic Sciences 2014 was awarded to Jean Tirole *"for his analysis of market power and regulation"*.



The Nobel Prize in Physiology or Medicine 2014 was awarded to May-Britt Moser and Edvard Moser, together with John O'Keefe, *"for their discoveries of cells that constitute a positioning system in the brain"*.

The research leading to these discoveries* was supported by FP5.

*) "Spatial Representation in the Entorhinal Cortex", *Science*, 2004

- 2 other ERC grantees received the Nobel prize in 2010 and 2012
- Other 6 ERC grantees were already Nobel laureates at the moment they received the ERC grant

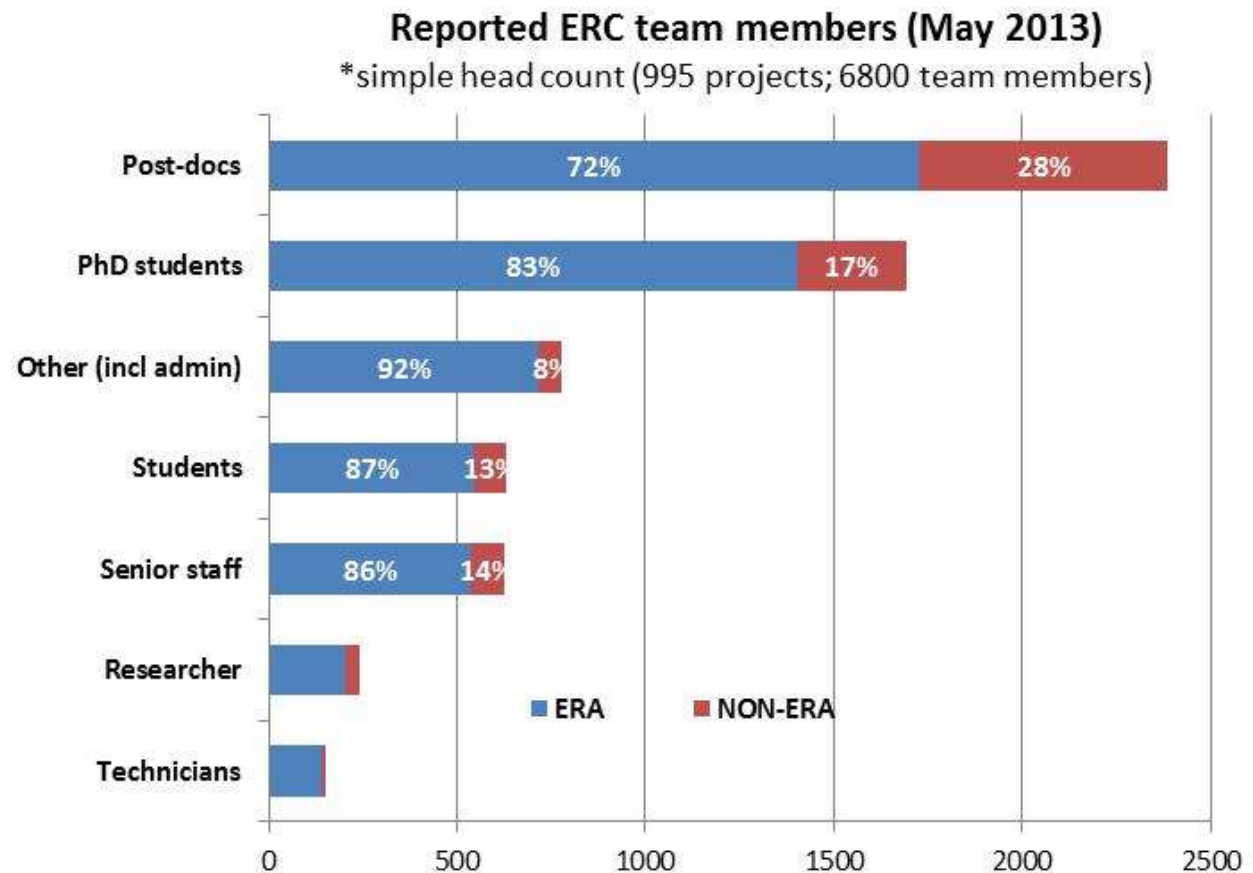
Exploitation of Results

- **20%** of completed LS and PE projects reported at least one patent (i.e. 53 out of 263 projects)
- On average **2** patents reported per project
- **50%** of the first 50 completed Proof-of-Concept grants reported at least one patent
- 18% of completed PoCs spun-out a new venture
- 30% of them will use a spin-out to take forward their idea
- 16% will license technology to an existing company
- 8% will form an industrial partnership

Developing a New Generation

On average each ERC project team has six members.

2/3 of team members are in the initial phase of their career.



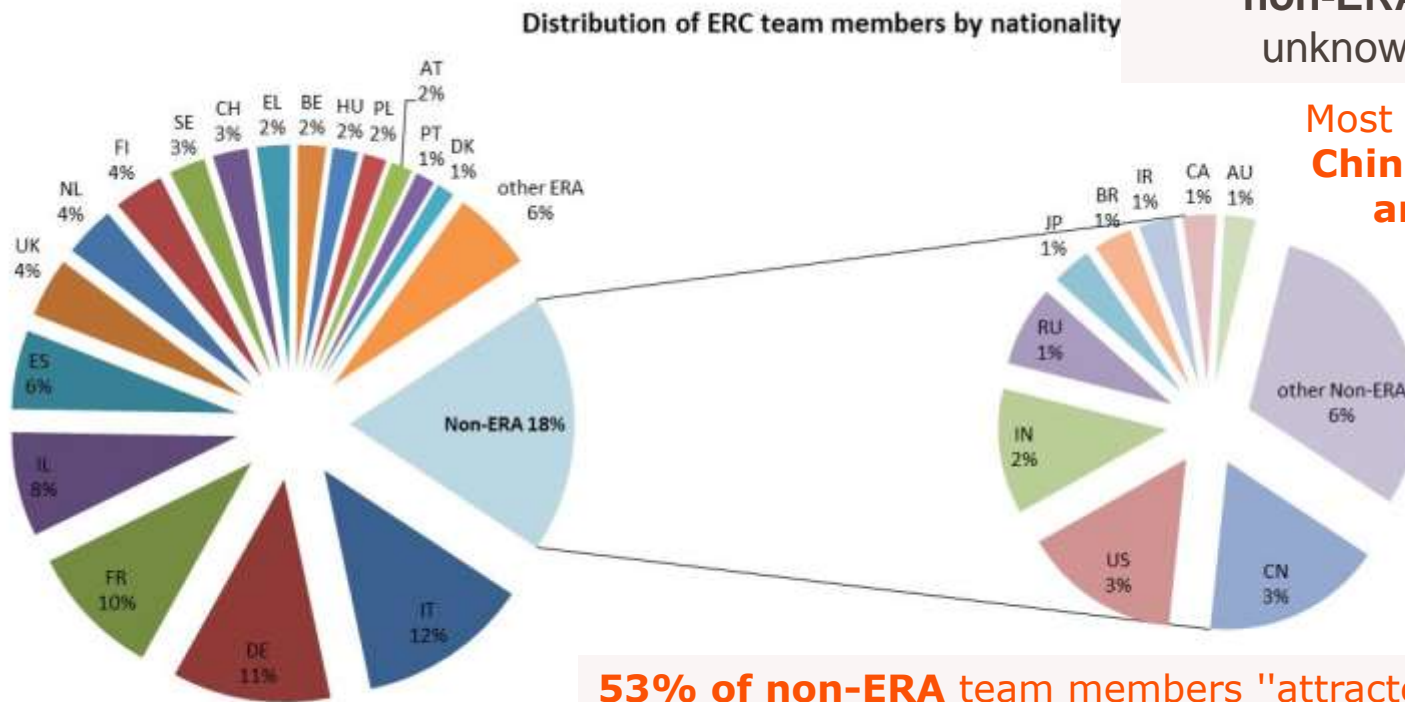
Attracting Researchers to Europe



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Nationality of ERC project teams (PIs not included)

Analysis of 995 Starting and Advanced Grants

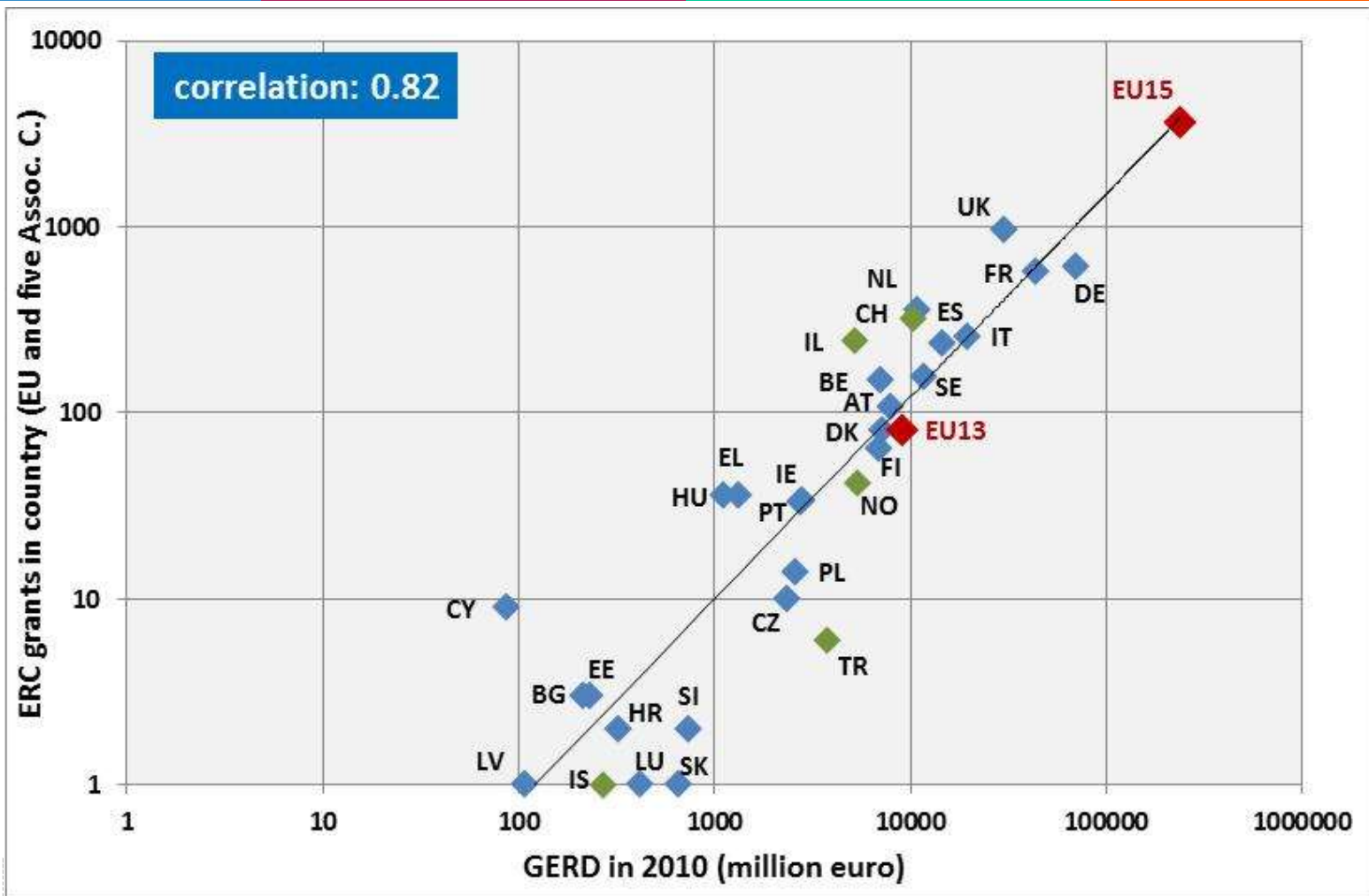


EU: 67%
Assoc. Countries: 12%
non-ERA: 18%
unknown: 3%

Most non-ERA from
**China, US, India,
and Russia**

53% of non-ERA team members "attracted" to Europe with the ERC grant (10% of all team members)

ERC Grants versus R&D Expenditure



Evaluation Panel Structure

Life Sciences

- LS1 Molecular & Structural Biology & Biochemistry
- LS2 Genetics, Genomics, Bioinformatics & Systems Biology
- LS3 Cellular and Developmental Biology
- LS4 Physiology, Pathophysiology & Endocrinology
- LS5 Neurosciences & neural disorders
- LS6 Immunity & infection
- LS7 Diagnostic tools, therapies & public health
- LS8 Evolutionary, population & environmental biology
- LS9 Applied life sciences & biotechnology

Physical Sciences & Engineering

- PE1 Mathematics
- PE2 Fundamental constituents of matter
- PE3 Condensed matter physics
- PE4 Physical & Analytical Chemical sciences
- PE5 Materials & Synthesis
- PE6 Computer science & informatics
- PE7 Systems & communication engineering
- PE8 Products & process engineering
- PE9 Universe sciences
- PE10 Earth system science

Social Sciences and Humanities

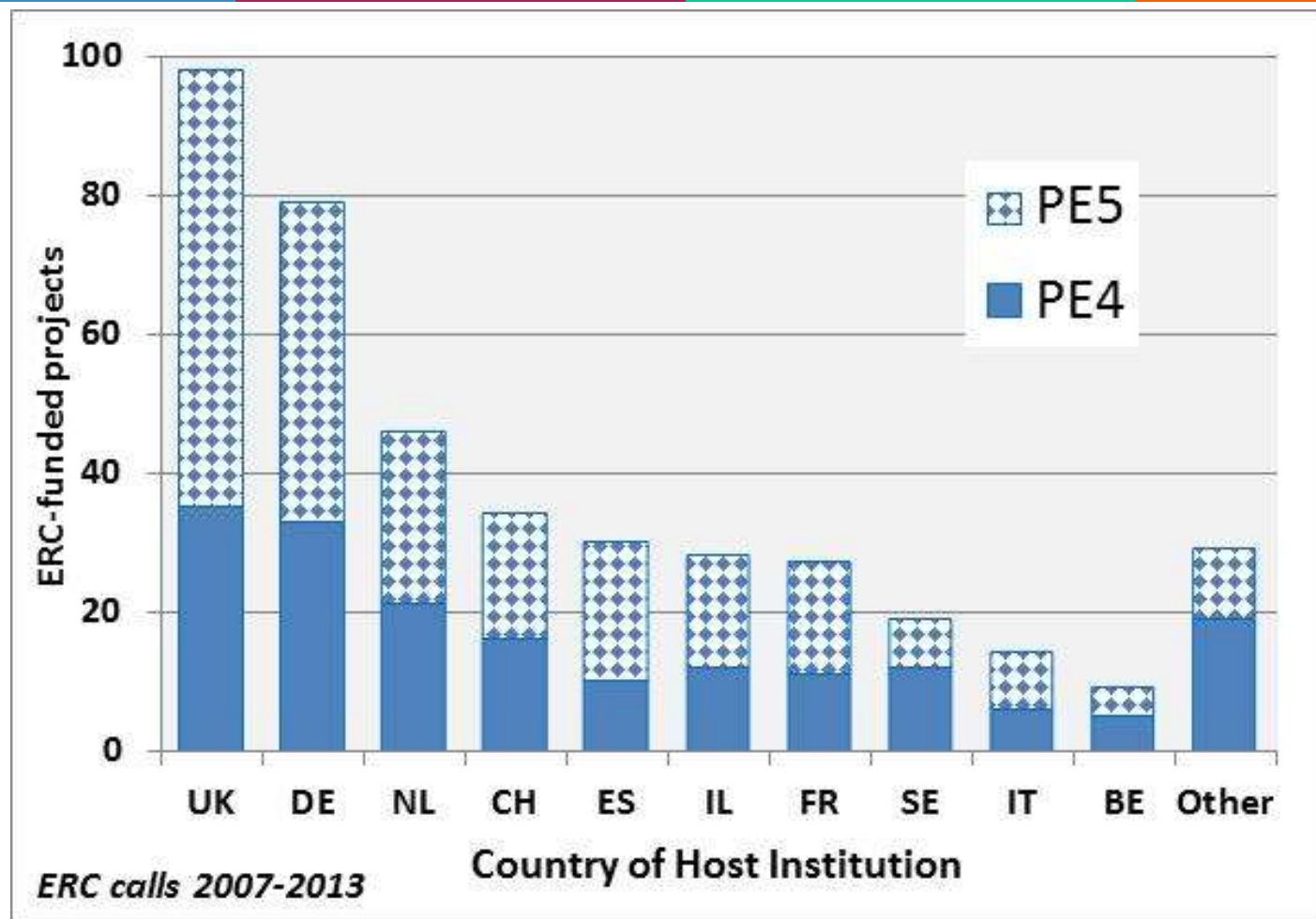
- SH1 Individuals, institutions & markets
- SH2 The social world, diversity and common ground
- SH3 Environment, space and population
- SH4 The Human Mind and its complexity
- SH5 Cultures & cultural production
- SH6 The study of the human past

HI of ERC Grantees in Chemistry



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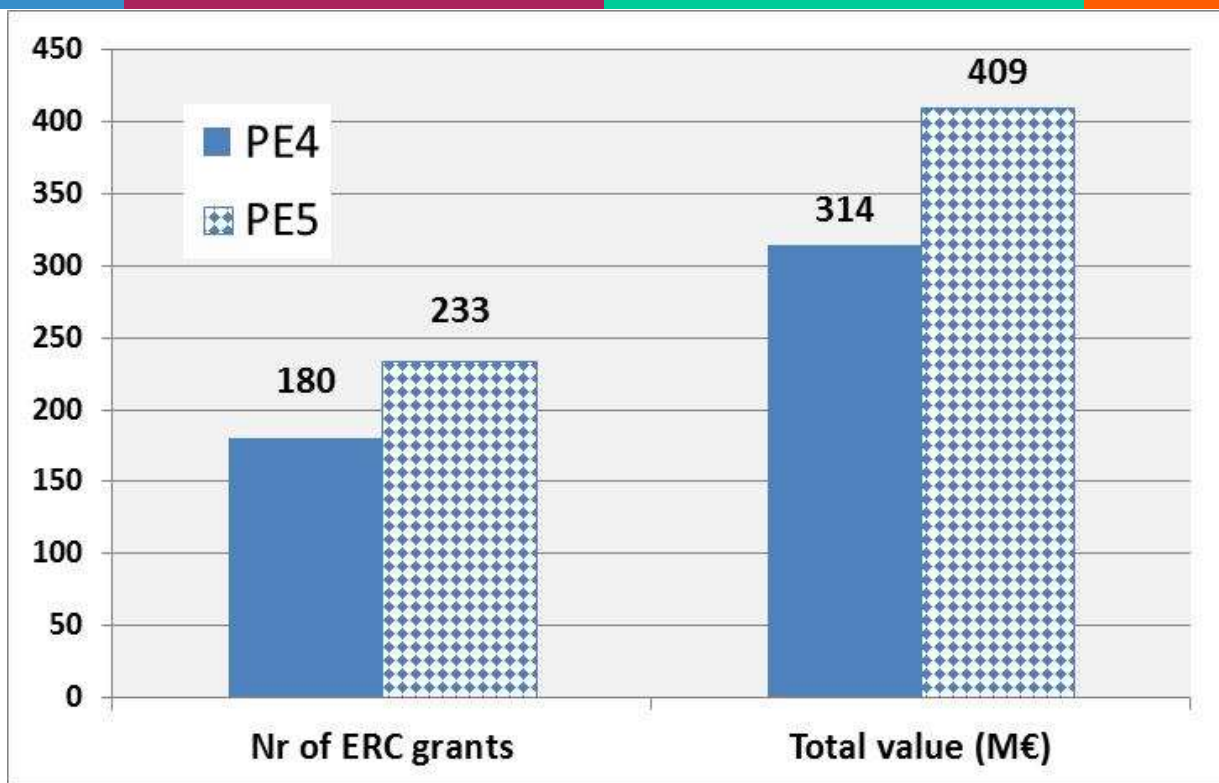
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ERC Grants in Panels PE4 and PE5



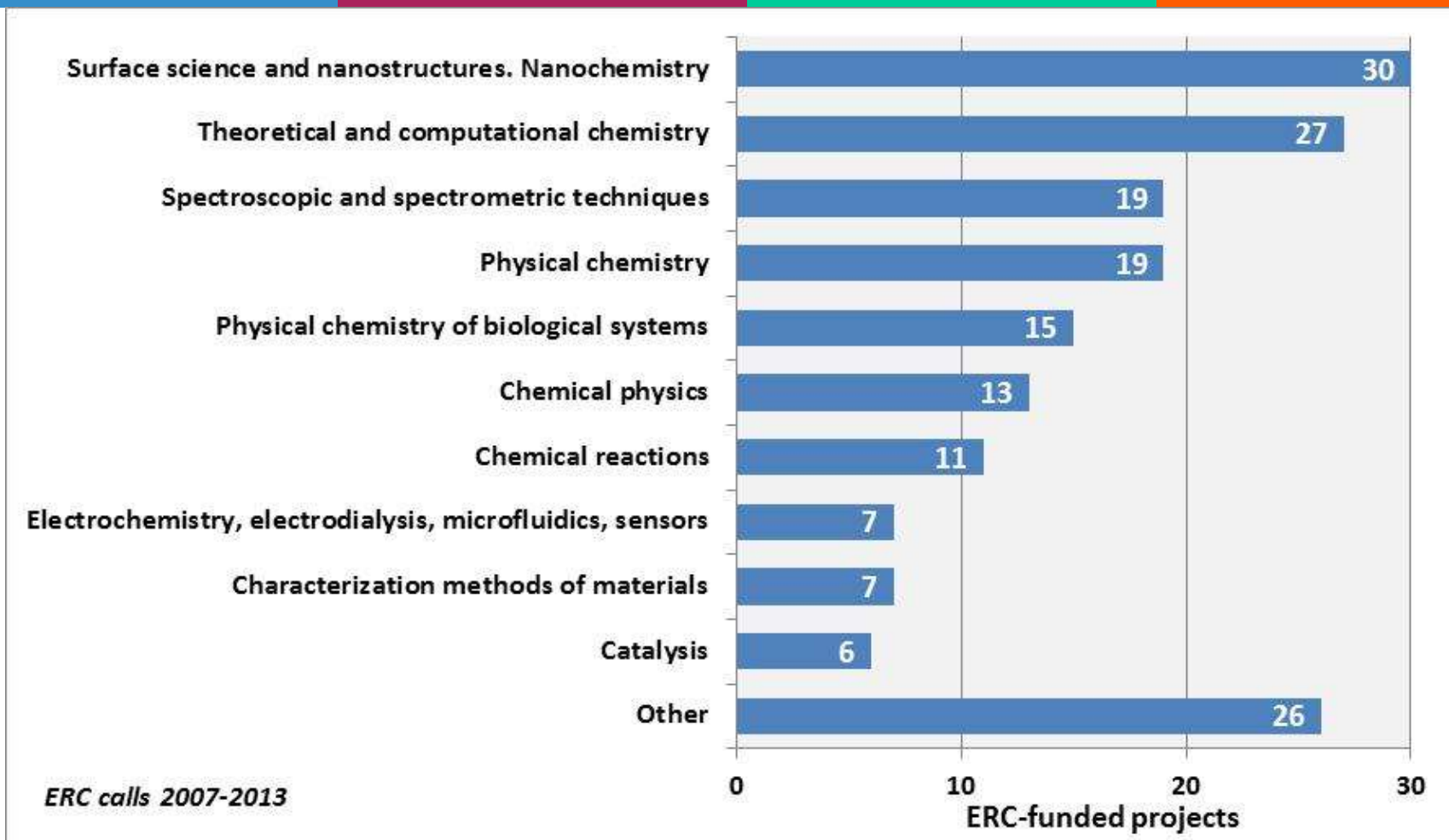
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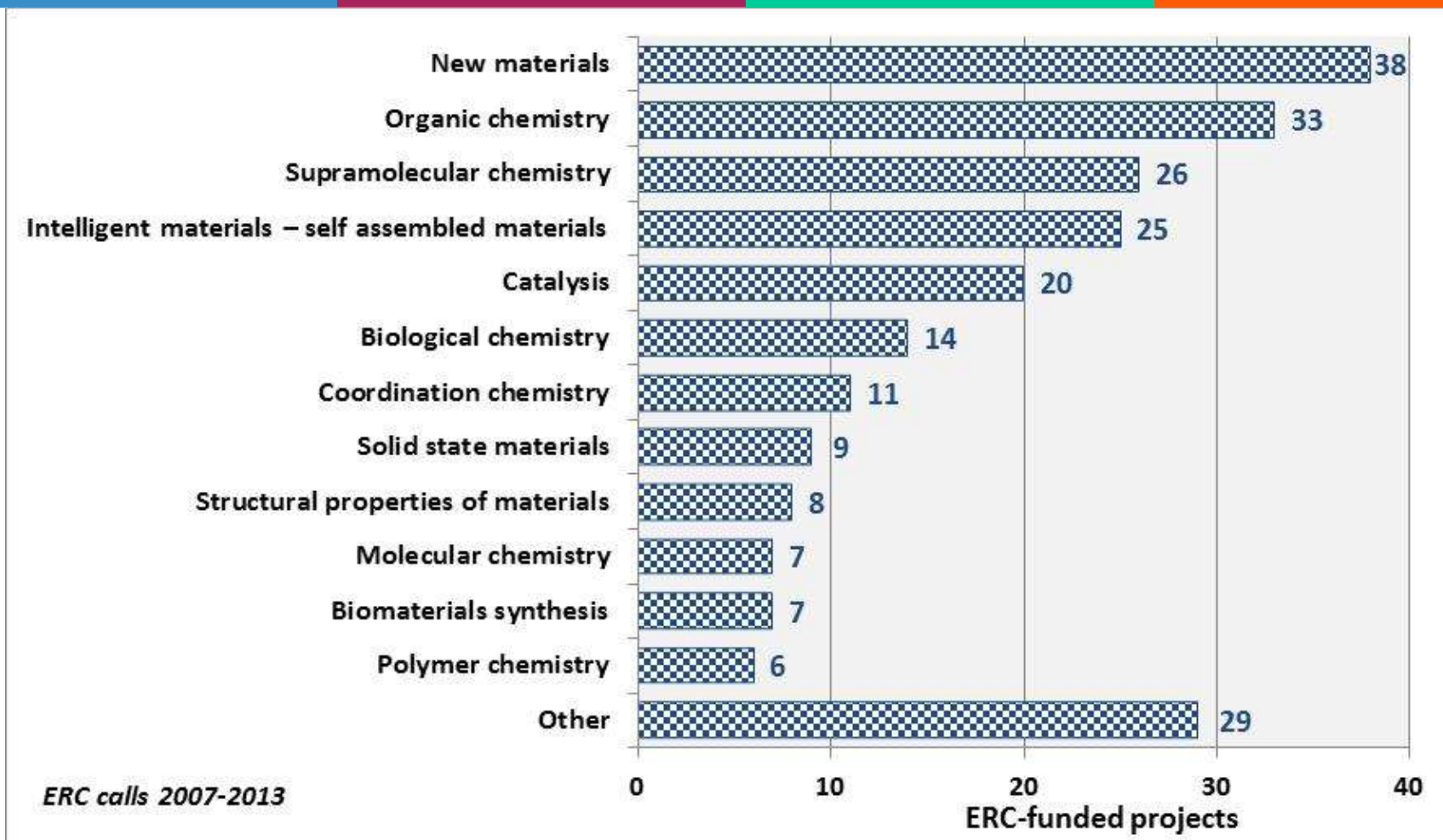


- 4% of all ERC grants are in PE4 "Physical & Analytical Chemical sciences"
- 5% of all ERC grants are in PE5 "Materials & Synthesis"

Main Topics Funded in Panel PE4



Main Topics Funded in Panel PE5



ERC Scientific Council Working Groups & Standing Committees

Gender balance



M. Curie



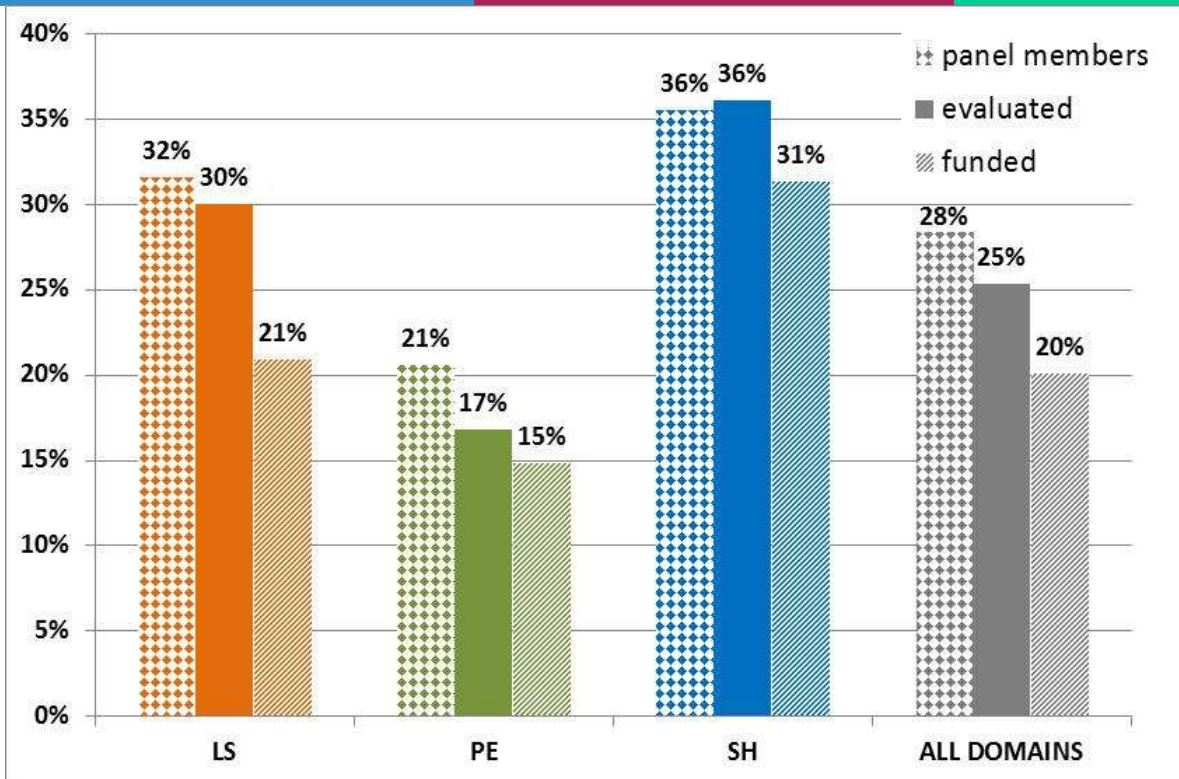
Committee on Panels



CoIME (Conflict of Interest & Research integrity)



Gender Balance at the ERC



- ✓ Raising awareness about ERC gender policy
- ✓ Identifying and removing potential gender bias
- ✓ Monitoring gender distribution within the ERC's peer review system
- ✓ Considering the gender dimension in ERC processes

❖ Gender Equality Plan 2007- 2013

❖ Gender Equality Plan 2013 -2020

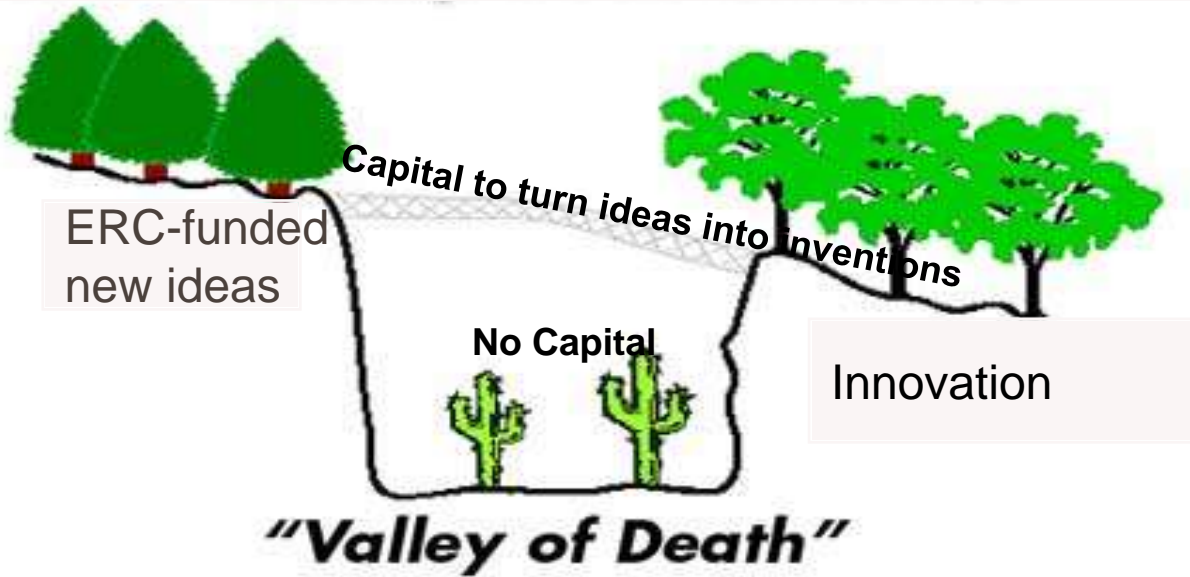
Quantitative and Qualitative Assessment of Results



Working Group on
Key Performance Indicators
to develop a roadmap for
monitoring and evaluating ERC's
accomplishment of its mission

- **2015 exercise:** qualitative assessment of completed projects for identifying scientific breakthroughs (independent experts)

BRIDGING THE INNOVATION GAP



Support the ERC in its relationship with business sector in terms of:

- ✓ demonstration of the ERC's contribution to innovation and European socio-economic growth
- ✓ conduct of frontier research (e.g. industrial organisations as HIs for ERC-funded projects)

- ❖ very active in establishing good relations with industry
- ❖ design, development, implementation and follow-up of the Proof-of-Concept (PoC) scheme

Open Access at the ERC



➤ ERC expects its researchers to publish in peer-reviewed articles and monographs

- The ERC considers that providing free online access to these materials is the most effective way of ensuring that the fruits of the research it funds can be accessed, read and used as the basis for further research
- ERC funded researchers should be prepared to share the data generated during their research with other researchers as far as feasible

Internationalisation and Widening Participation

Strengthening Internationalisation

- **Increase the participation in ERC calls of researchers from countries outside of the EU by:**
 - ✓ Monitoring the number of applications from third country nationals
 - ✓ Monitoring ERC teams compositions
- ❖ "ERC goes Global" international awareness-raising campaign (launched in 2012)
- ❖ ERC implementing arrangements with third countries

Widening participation

- **Contribute to a truly inclusive European culture of competitiveness in science**
- ✓ Increase participation in ERC calls of researchers from the EU's less research-performing regions
- ✓ Facilitate systematic debate and interactions among ERC grantees and young promising scientists from EU's less research-performing regions

The Standing Committees

CoIME

- Formulate guidelines on conflict of interest, fraud and ethical matters related to any facet of the ERC's competences, clarifying criteria and considering any particular instance or situation where ethical concerns may arise
- ✓ important consultative role in cases of scientific misconduct within ERC
- ✓ promote culture of research integrity
- ❖ **ERC Strategy on Scientific Misconduct (October 2012)**

Committee on Panels

- Formulate policies & procedures for selecting ERC evaluators
- Steer the setting up and monitoring of a data base of experts
- Prepare and approve specific proposals for panel composition
- Development of norms and rules for the functioning of the ERC peer evaluation system and of panels.

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