FP7 IDEAS Programme
The ERC Calls 2007 – 2009: an overview

European Research Council

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ERC EA
Support to the Scientific Council

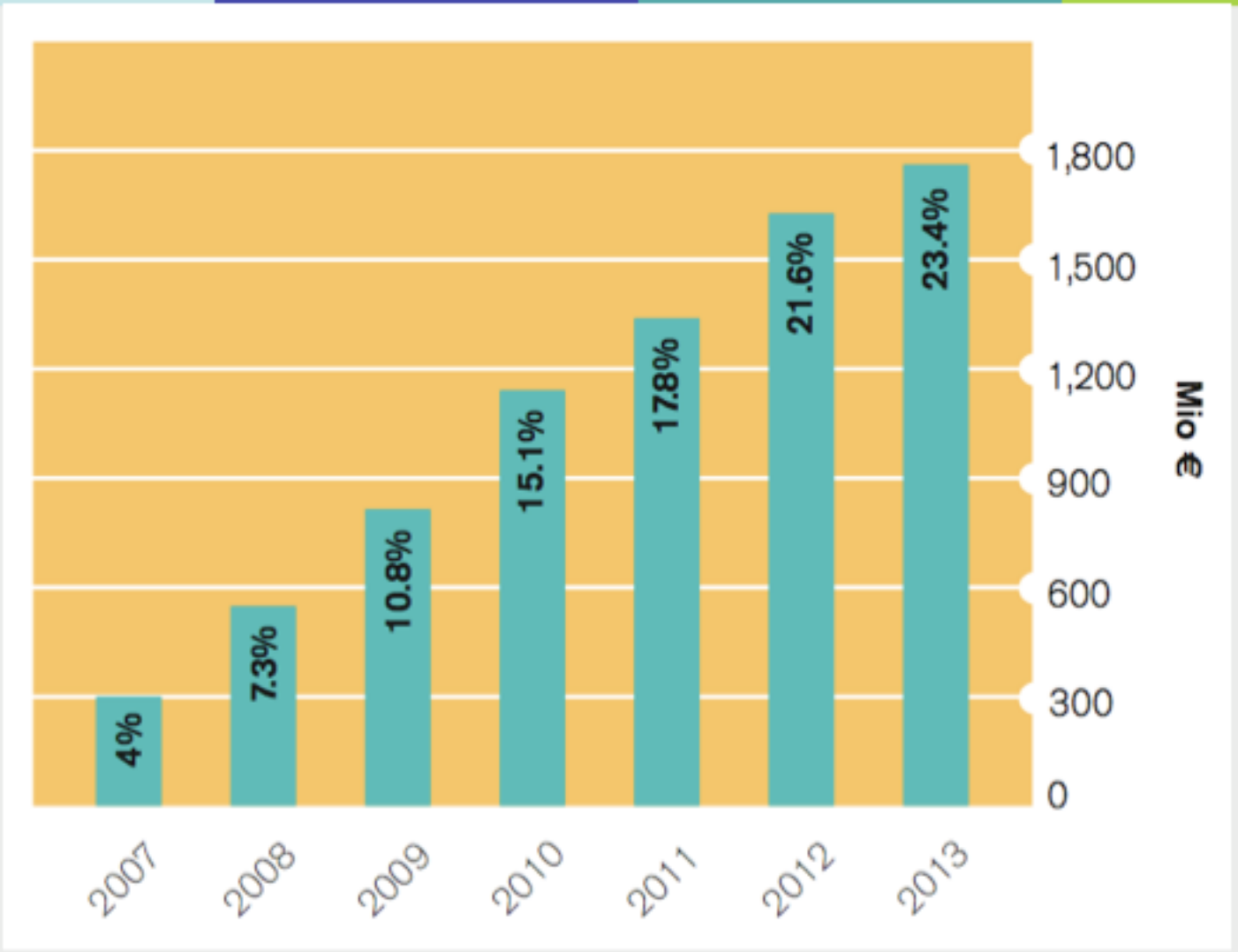
October 2010

This presentation will focus on four questions concerning the relationship between the ERC, excellence and creativity

European Research Council

- In which countries are the most successful host institutions located and does the ERC encourage cooperation between funding institutions in Europe?
- Can the number of ERC grants be used as a benchmark to compare excellent research institutions in Europe?
- Does the ERC contribute to the development of the European Research Area in terms of retaining, recruiting and repatriating researchers?
- How can we measure the ERC long-term impact?

ERC budget increases by € 250 M€ / year

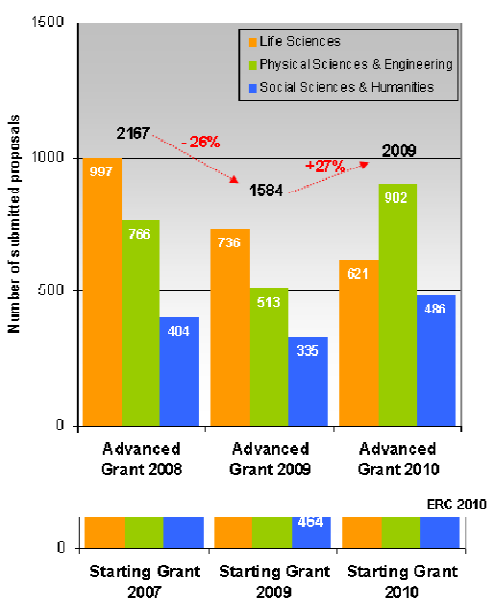


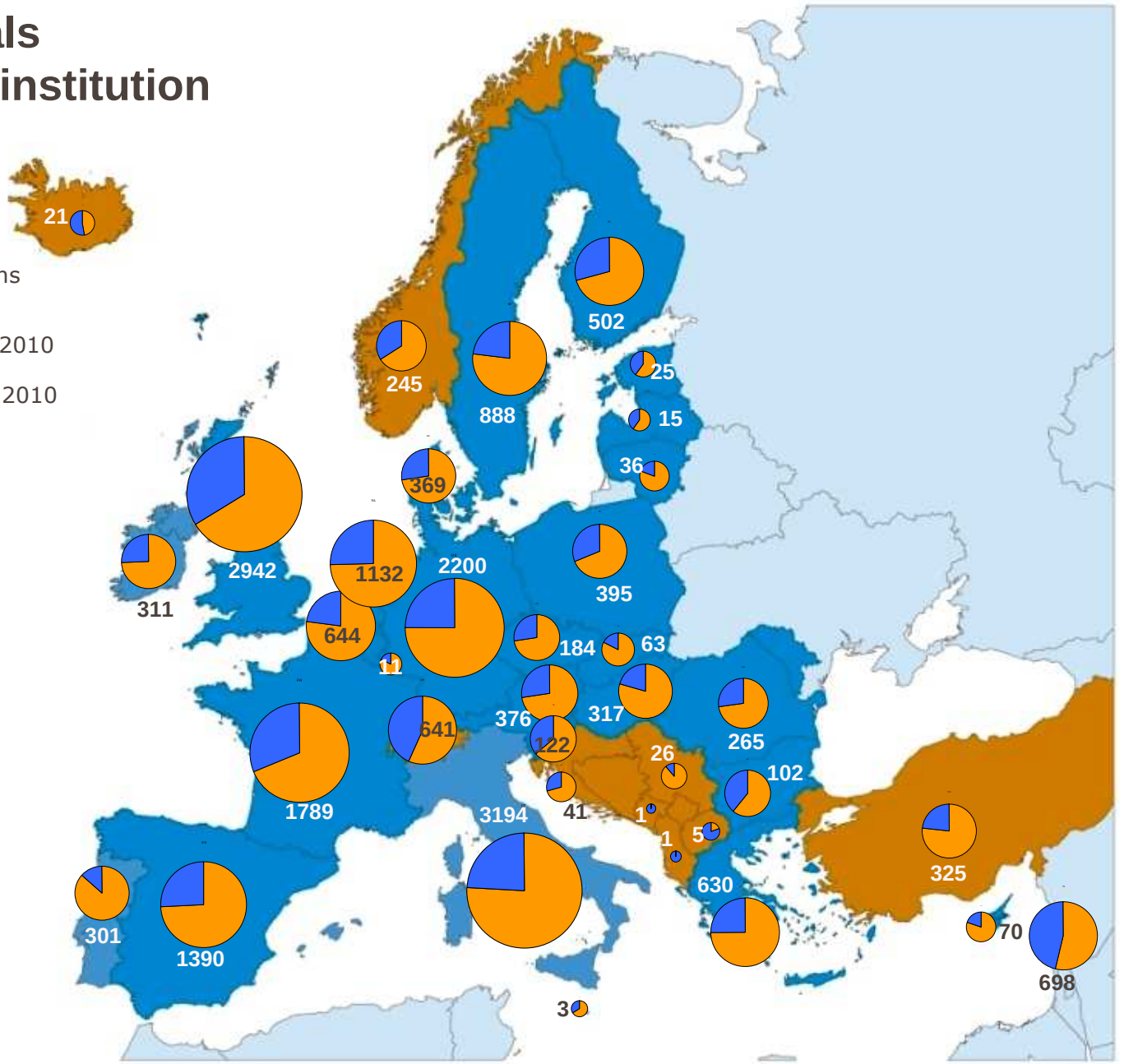
ERC Calls 2007 - 2010
Submitted proposals
by country of host institution

3194 Number of total submissions

Starting grant Calls 2007 - 2010

Advanced grant call 2008 - 2010

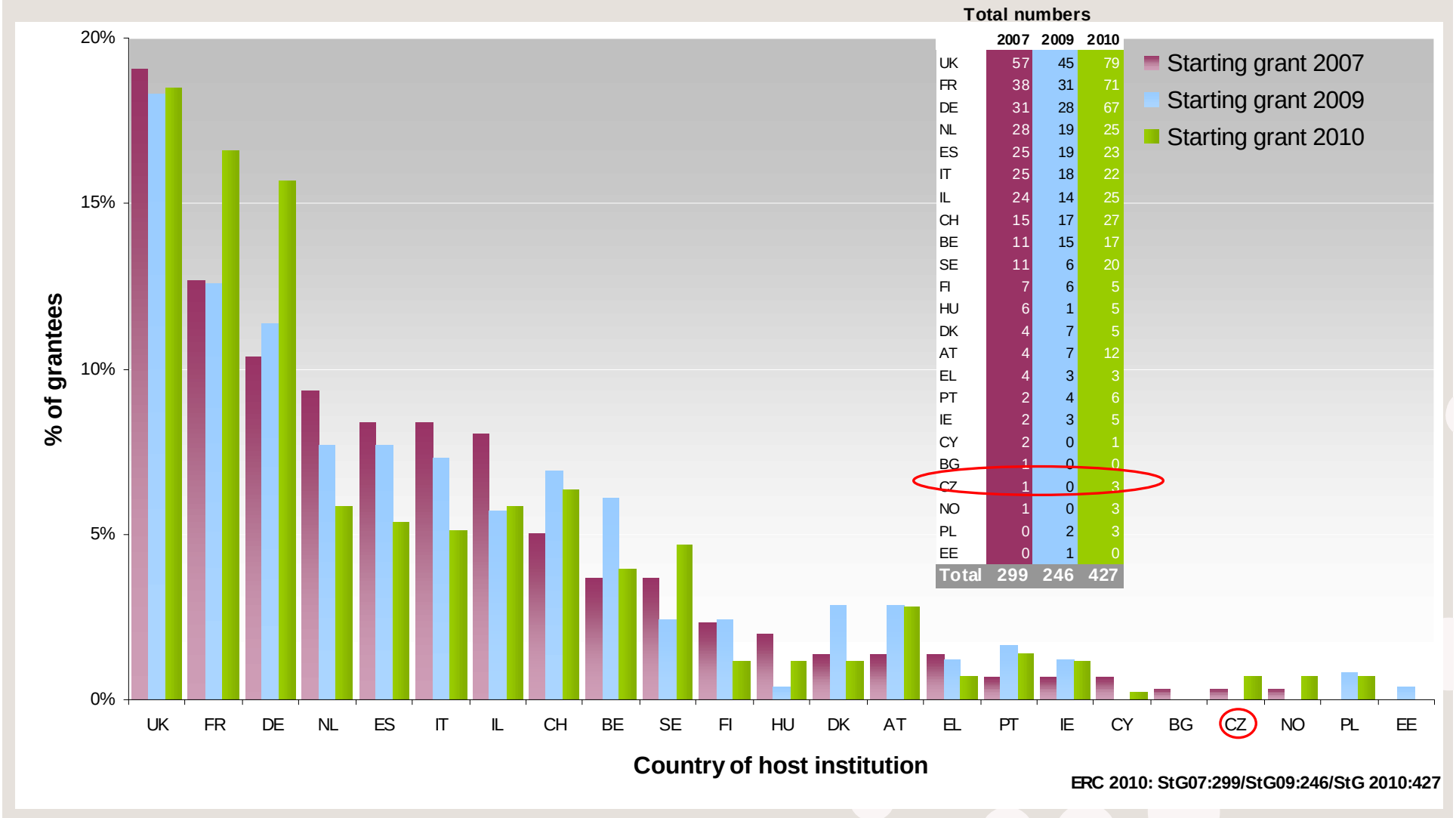




ERC Starting grants 2007, 2009, 2010

Share of selected proposals by country of host institution

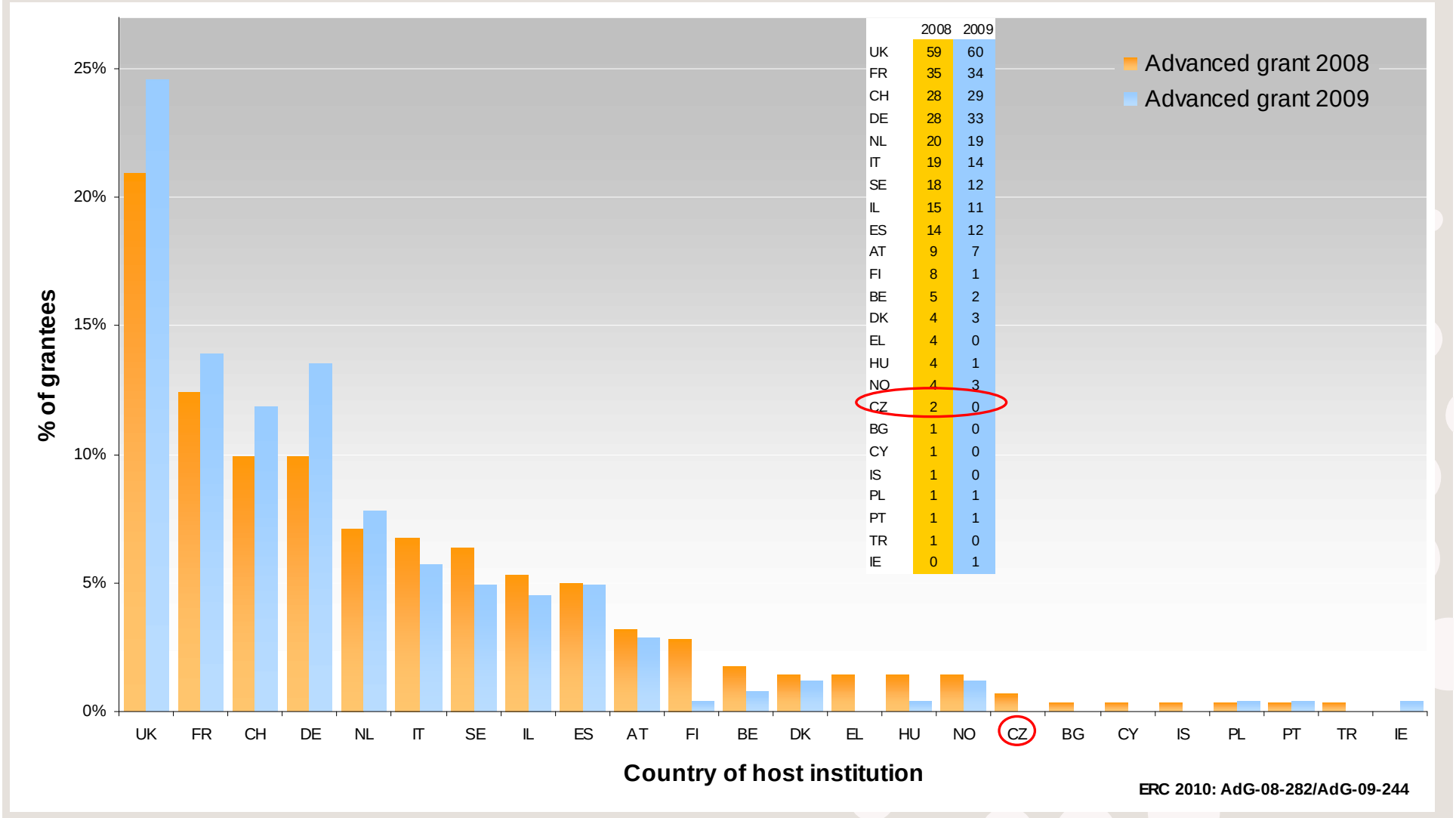
European Research Council



ERC Advanced grants 2008 and 2009

Share of selected proposals by country of host institution

European Research Council



	2008	2009
UK	59	60
FR	35	34
CH	28	29
DE	28	33
NL	20	19
IT	19	14
SE	18	12
IL	15	11
ES	14	12
AT	9	7
FI	8	1
BE	5	2
DK	4	3
EL	4	0
HU	4	1
NO	4	3
CZ	2	0
BG	1	0
CY	1	0
IS	1	0
PL	1	1
PT	1	1
TR	1	0
IE	0	1

ERC StG 2009 & ERC AdG 2009

Success rate by country of host institution

(i.e. ratio submitted – selected proposals)

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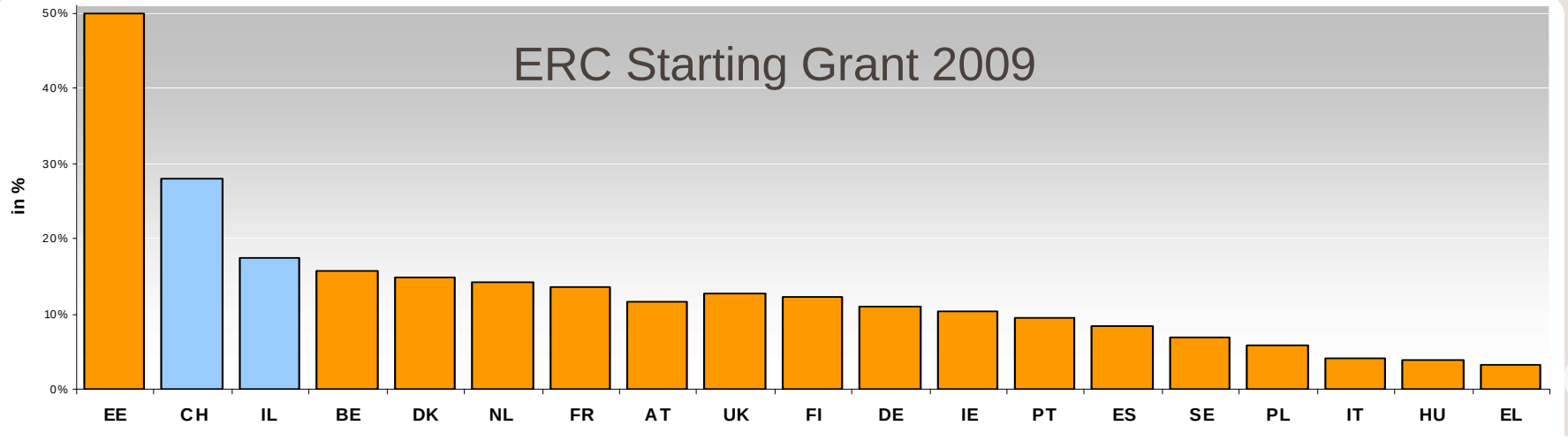
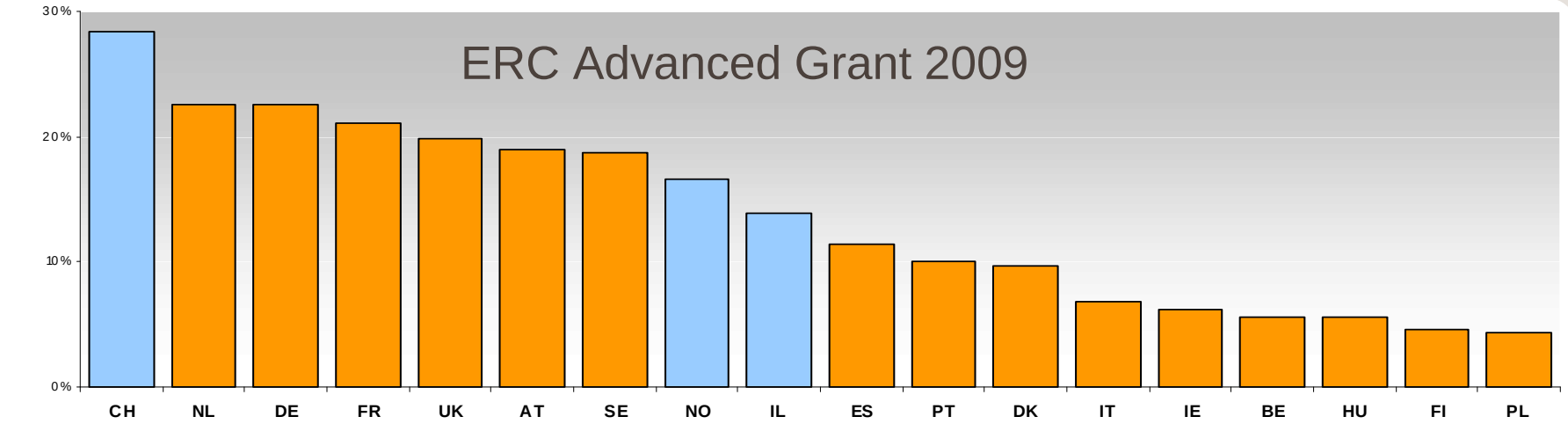
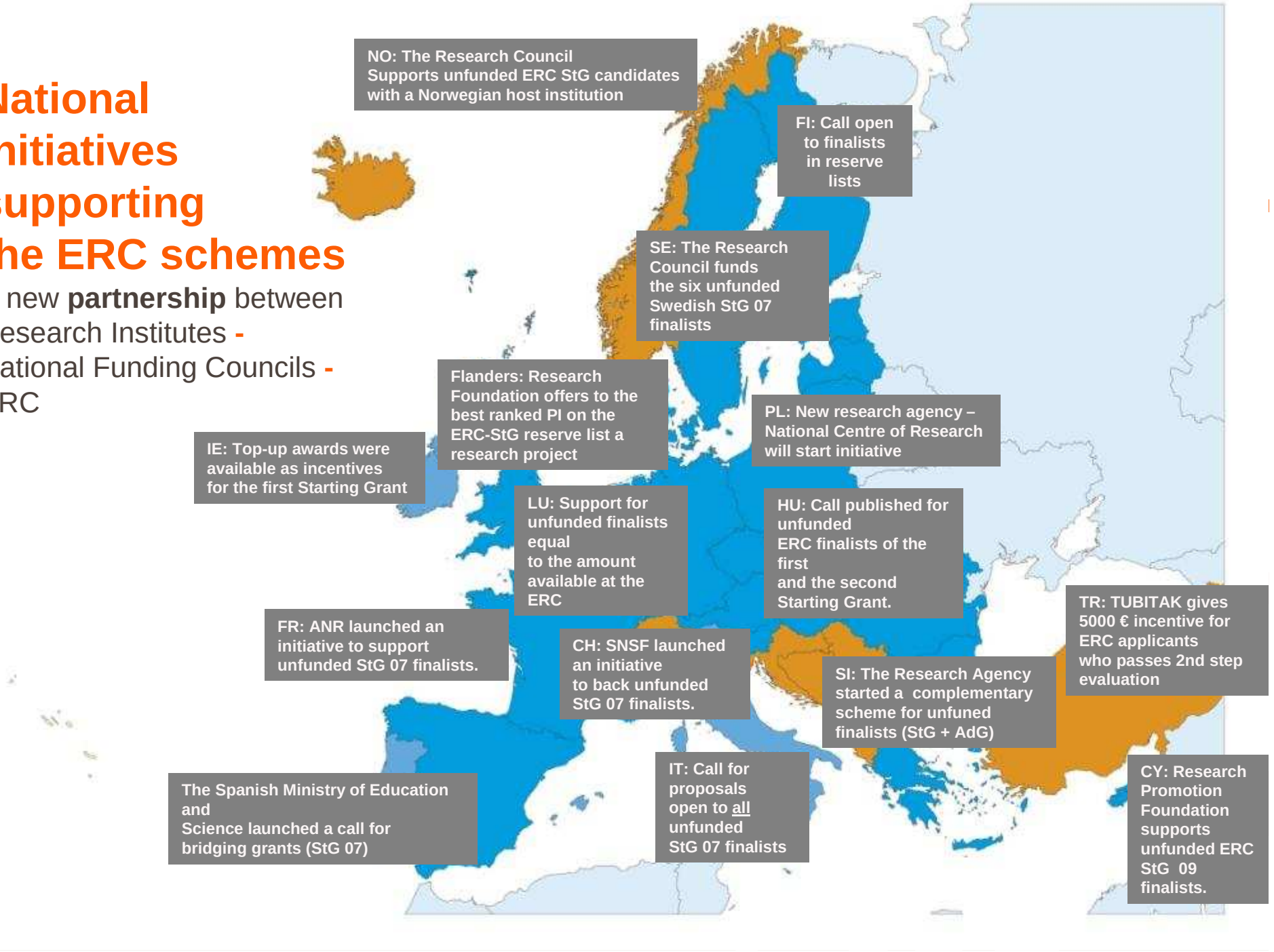




Source: All proposals (1584) and 244 selected

National initiatives supporting the ERC schemes

A new **partnership** between Research Institutes - National Funding Councils - ERC



Performance of European universities

Share of grants out of total ERC grants and THE World University Ranking 2010
Size of bubble corresponds to THE rank position

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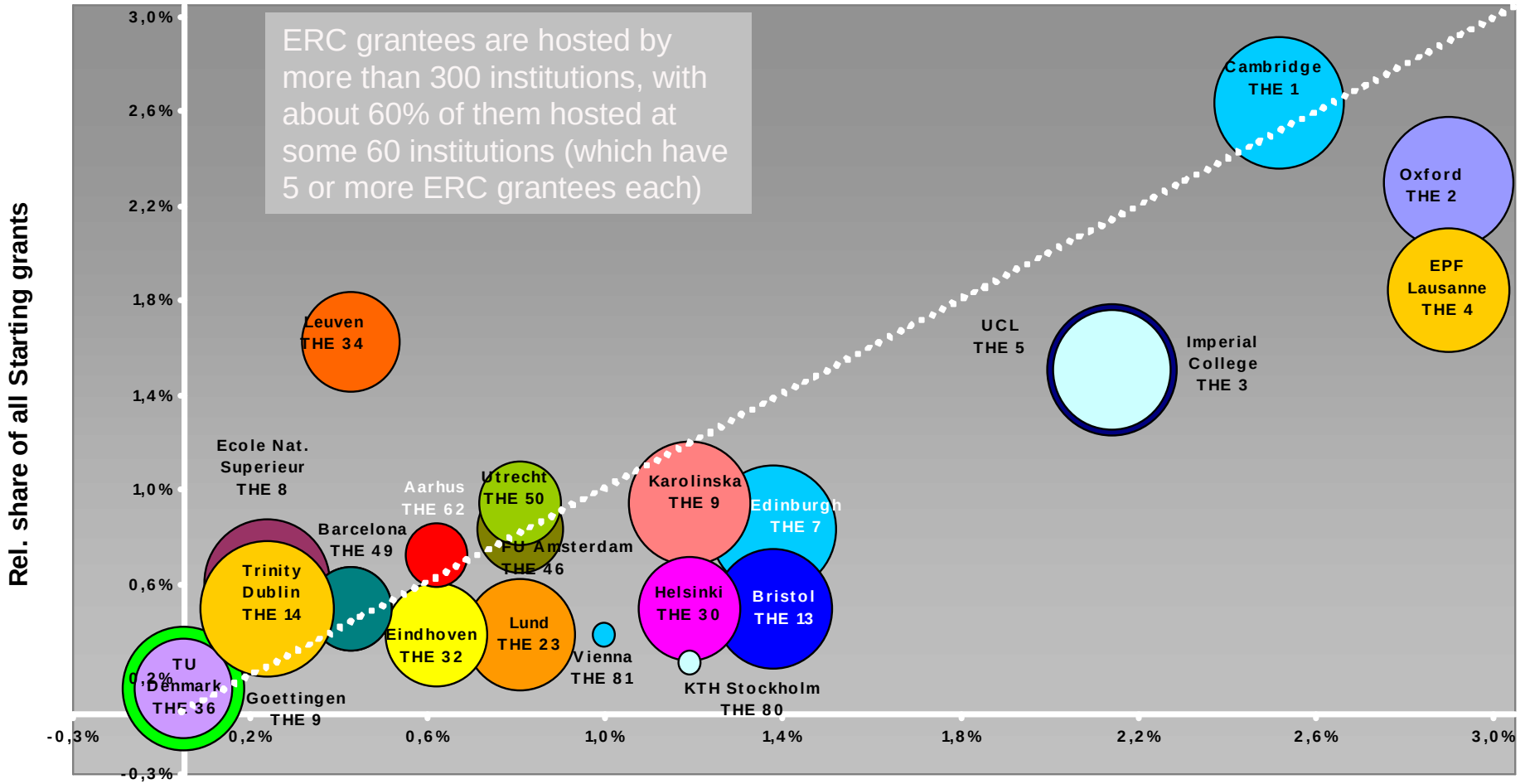

ERC Starting grant 2007-2010 (890 grants in total)
ERC Advanced grant 2008-2009 (526 grants in total)

Top Host Institutions – Number of ERC grants per domain

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Life Sciences		Physical Sciences and Engineering		Social Sciences and Humanities	
National Centre for Scientific Research (CNRS)	17	National Centre for Scientific Research (CNRS)	24	University College London	9
Nat. Inst. for Health and Medical Res. (Inserm)	13	University of Cambridge	16	University Amsterdam	7
Max Planck Society	11	Swiss Fed. Inst. of Tech. of Lausanne (EPFL)	15	National Centre for Scientific Research (CNRS)	6
University of Oxford	10	Imperial College	13	London School of Econ. and Pol. Sc. (LSE)	6
Karolinska institute	10	University of Oxford	12	University of Cambridge	5
Swiss Fed. Inst. of Tech. of Lausanne (EPFL)	9	Swiss Fed. Institute of Tech. (ETH Zurich)	12	University of Amsterdam	5
Weizmann institute	9	Max Planck Society	11	University of Edinburgh	5
Swiss Fed. Institute of Tech. (ETH Zurich)	8	Weizmann institute	11	University of Oxford	4
University Colle London	8	Hebrew university of Jerusalem	11	Hebrew university of Jerusalem	4
University of Zurich	8	Commission for Atomic Energy (CEA)	10	Catholic university of Leuven	4
Spanish Nat. Cancer Research Centre (CNIO)	8	Technion - Israel Institute of Technology	8	Leiden university	4
Imperial College	7	University of Bristol	8	Radboud University Nijmegen	4
Cancer Research UK	7	Nat. Institute for Res. in Comp. Sc. (INRIA)	8	Stockholm University	4
Curie Institute	7	Catholic university of Leuven	7	University of Hamburg	4
Pasteur institute	7	KTH Royal institute of technology	7	Centre for Research in Int. Economy (CREI)	4
Medical Research Council	6	Leiden university	6	Pompeu Fabra University	4
University of Cambridge	5	National Research Council (CNR)	6	School for Adv. Stud. in the Soc. Sc. (EHESS)	4
Hebrew university of Jerusalem	5	University of Warwick	6	Toulouse School of Economics (TSE)	4
University of Geneva	5	Chalmers university of Technology	6	University of Vienna	3
University of Helsinki	5	Aarhus University	5	Free University Amsterdam	3

IDEAS

Attracting applicants

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An ERC position at Ghent University?

Are you an outstanding researcher with an innovative research idea?

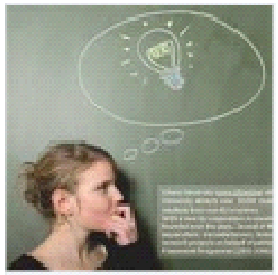
Why not choose Ghent University as hosting institution for the establishment of your research team?

Ghent University wants to actively promote its participation in the IDEAS-programme of the Seventh Framework Programme (FP7 – 2007-2013).

This programme, managed by the European Research Council (ERC), provides a distinctive funding mechanism devoted to scientific excellence for all scientific fields.

Funding is provided for the implementation of groundbreaking research for a period of 5 years. Two types of Grants are available:

- ERC Starting Grants for young postdocs (2-8 years research experience)
- ERC Advanced Grants for established senior researchers



Read more ...

What can Ghent University offer you?

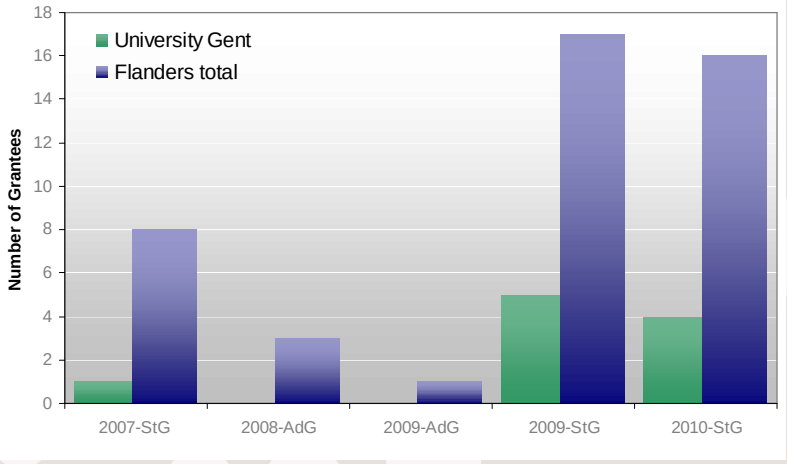
For applicants:

- Support in the proposal writing stage: screening and review of proposal in cooperation with external consultants

For successful ERC-candidates:

- A long-term research professorship
- For a period of four years, an additional PhD-student with supporting bench fee
- Full administrative support by the European Office of Ghent University

Helpdesk: EU-cel@UGent.be



ERC Host institution and other research affiliations

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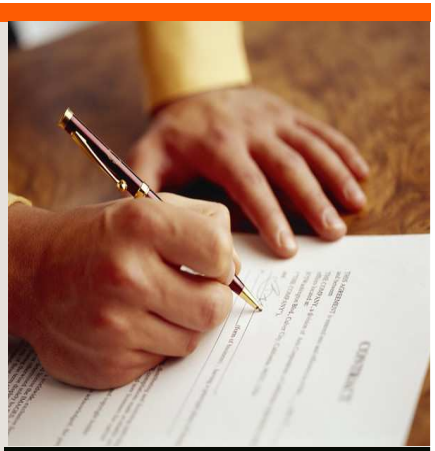
- **ERC Host Institution = Signed the ERC grant contract**
- The HI is not automatically the main affiliation of a P.I. Often researchers are affiliated to more than one research institution
- The ERC started collecting data from its grant holders. PIs are asked if they **wish** to record another affiliation
- The other affiliation need to be:
  - **substantial** (e.g. used in the P.I. publications)
  - located in the **EU or Associated Countries**
- The other affiliation **will**
  - only be used for statistical purposes
  - **not get any legal rights** (e.g. related to the project budget)



Data not yet available!

ERC Starting grant 2007 – 2010
ERC Advanced grant 2008 - 2009

Origin of grantees

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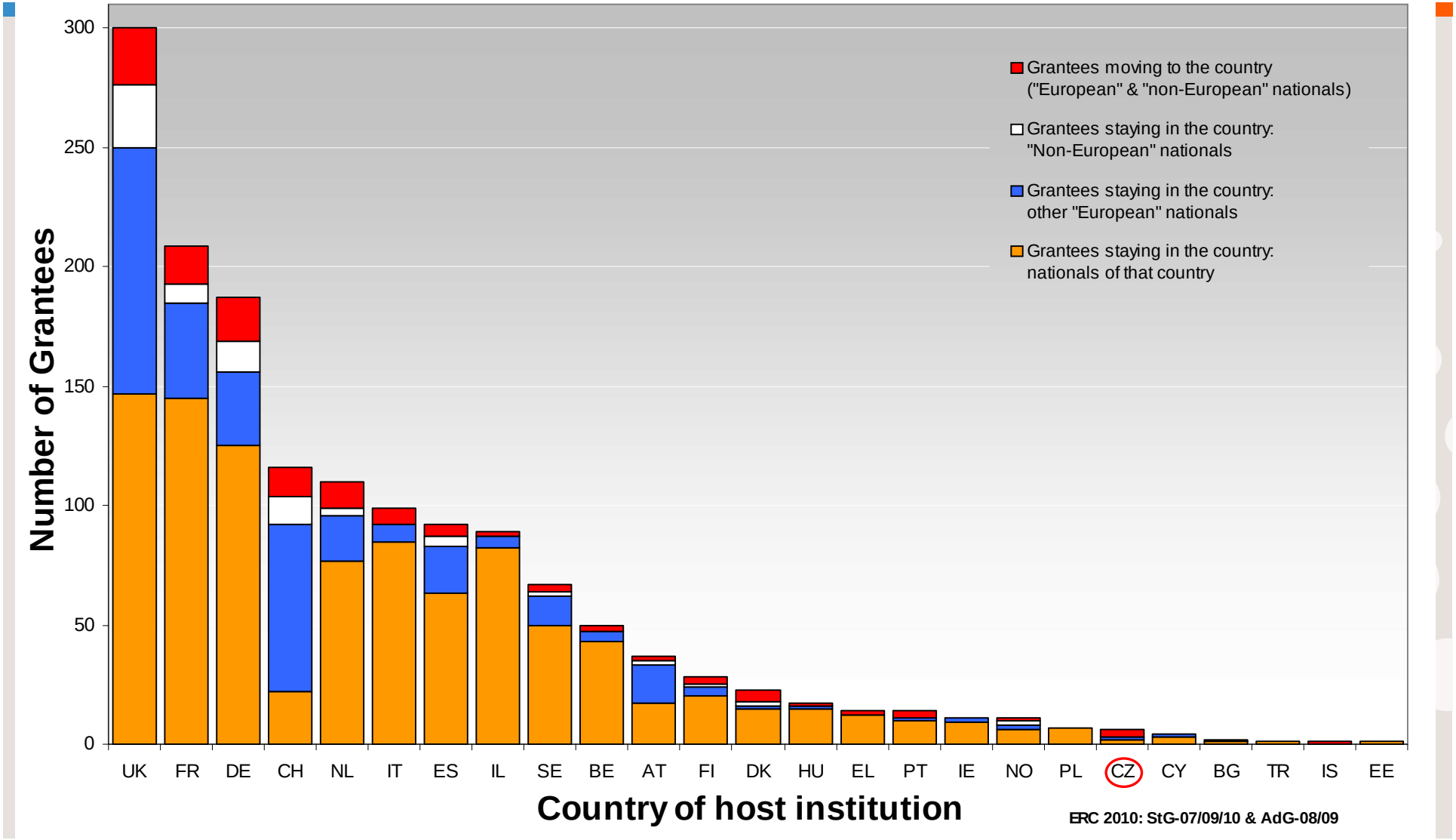
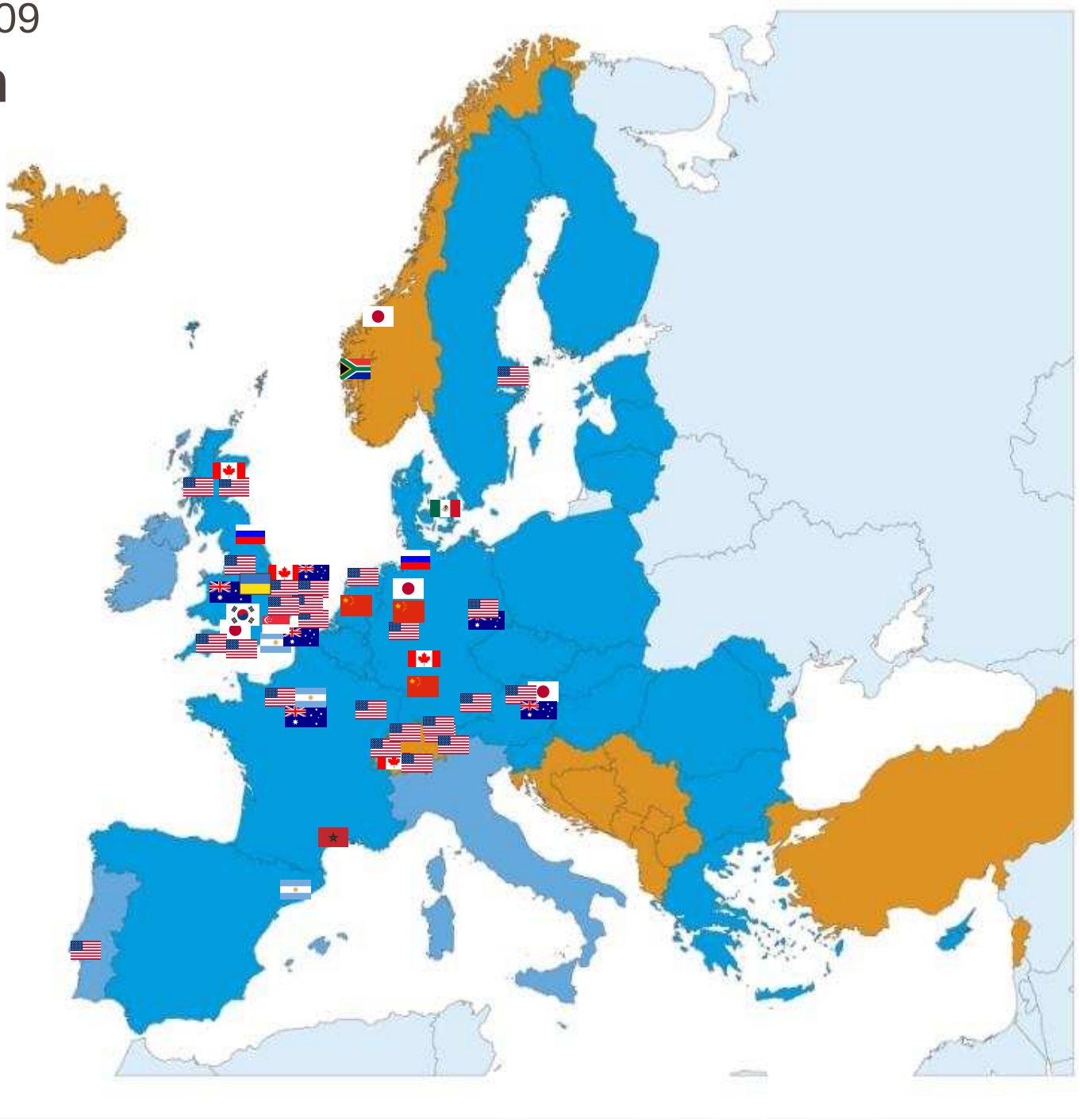


ERC calls 2007 - 2009

Grantees with a nationality of a Third country



Argentina
Australia
Canada
China
Japan
Korea
Mexico
Morocco
Russia
Singapore
South Africa
Ukraine
USA

ERC Starting & Advanced grant calls
2007 - 2010

Nationality and host country

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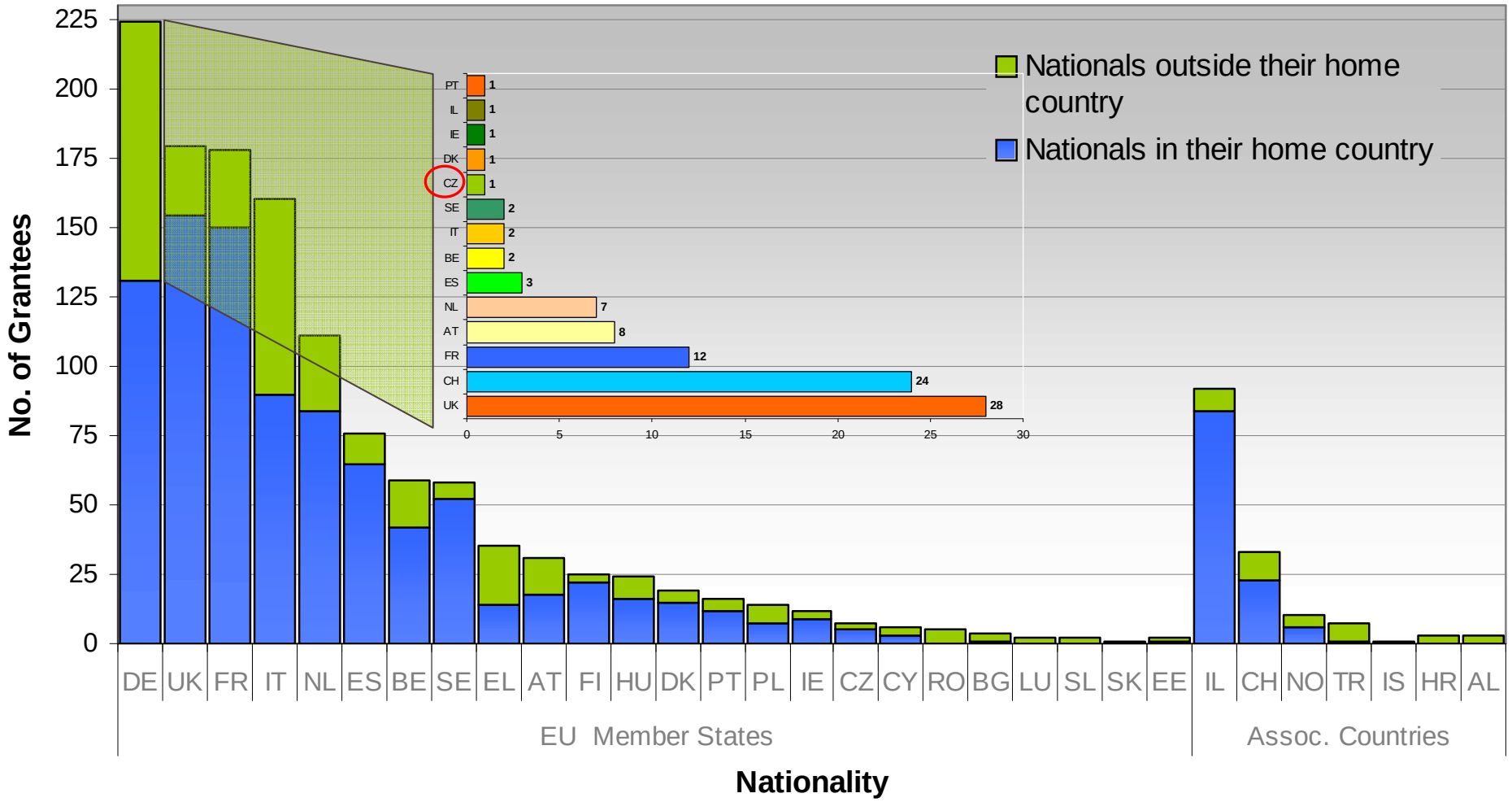

Example for Industry Projects:

The Research Institute of Molecular Pathology (IMP) in Vienna hosts three ERC grant holders.

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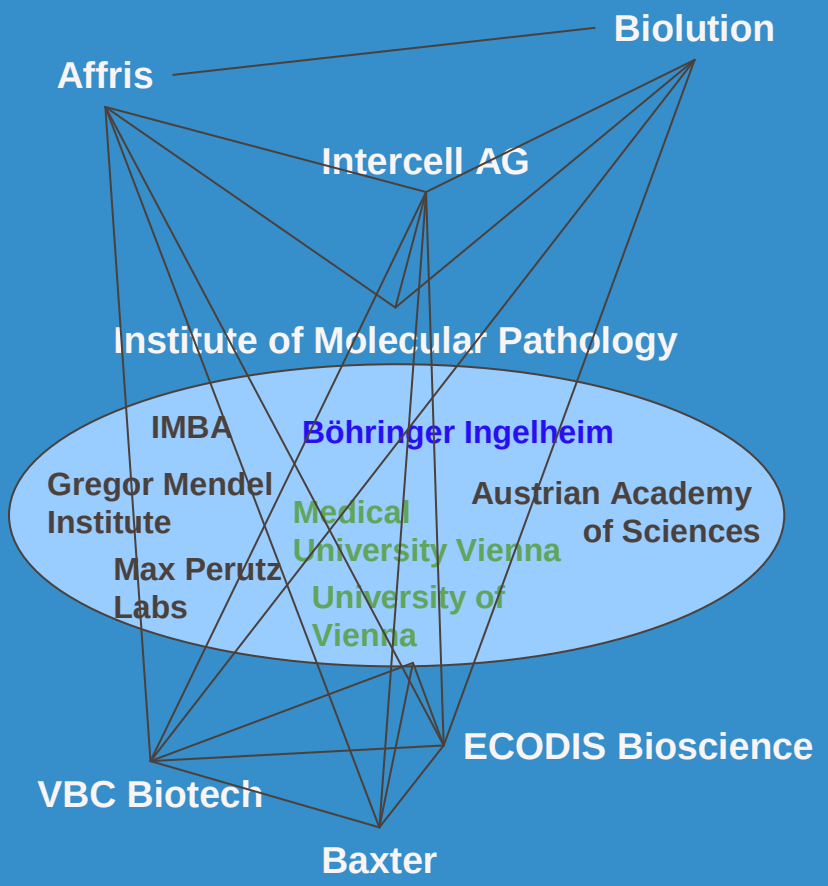
Campus Vienna Biocenter



Research Institute of Molecular Pathology

IMP

ERC Grant holders-

- Alexander Stark
- Barry Dickson
- Stefan Westermann

IMP is a basic biomedical research institute sponsored largely by Boehringer Ingelheim "Industry on Campus"

IMP's primary goal is to conduct innovative basic research in the molecular life sciences.

Frontier research and innovation
Success needs time!

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2009 Nobel Prize in Physics
The 2009 Nobel Prize in Physics goes to Charles K. Kao, Willard S. Boyle and George E. Smith, the fathers of fiber optics and digital imaging.

2008 Nobel Prize in Physics
The 2008 Nobel Prize in Physics has been awarded to Yoichiro Nambu, Makoto Kobayashi and Toshihide Maskawa.

2007 Nobel Prize in Physics
The 2007 Nobel Prize in Physics has been awarded to Albert Fert and Peter Grünberg "for the discovery of giant magnetoresistance".

Fiber optics and digital imaging: frontier research 40 years ago, today communication industry

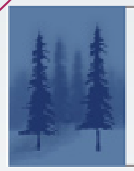
Giant magnetoresistance: frontier research in 1988, ten years later computer storage technology

Papilloma virus: 1983 frontier research, today vaccine against high risk types of the virus

2009 Nobel Prize in Physiology or Medicine
The Nobel Prize in Physiology or Medicine goes to Elizabeth H. Blackburn, Carol W. Greider and Jack W. Szostak "for the discovery of how chromosomes are protected by telomeres and the enzyme telomerase".

2008 Nobel Prize in Physiology or Medicine
The Nobel Prize in Physiology or Medicine has been awarded to Harald zur Hausen, Françoise Barré-Sinoussi and Luc Montagnier "for their discovery of human immunodeficiency virus".

2007 Nobel Prize in Physiology or Medicine
The Medicine Prize has been awarded to Mario R. Capecchi, Martin J. Evans and Oliver Smithies for "discoveries of principles for introducing specific gene modifications in mice by the use of embryonic stem cells".



2009 Prize in Economic Sciences
The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel goes to Elinor Ostrom and Oliver E. Williamson, who both analyse economic transactions occuring outside the markets".

2008 Prize in Economic Sciences
The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel has been awarded to Paul Krugman "for his analysis of trade patterns and location of economic activity".

2007 Prize in Economic Sciences
The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel has been awarded to Leonid Hurwicz, Eric S. Maskin and Roger B. Myerson "for having laid the foundations of mechanism design theory".

How can we measure the impact of the ERC?

High visibility of Grantees and host institutions in the media?

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How can we measure the impact of the ERC?

Number of publications and acknowledgments in Scientific Journals?

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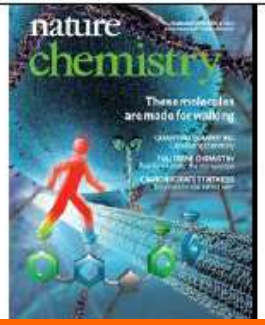
Basis: ISI web of Science, a bibliographic databases indexing about 8000 most important scientific journals



Small steps for synthetic molecules

Researchers develop small synthetic molecules which can "walk" on a track. In the future, they may be made to transport cargo fulfilling a function that natural proteins do in the body.
A Nature Chemistry "News&Views" credit as a discovery which "pushes the boundaries of supramolecular chemistry and will be at the heart of emerging fields of systems chemistry and synthetic biology".

Several of the articles are seen as "landmark" or "exceptional contribution" by the research community

How Plants "feel" the temperature rise

A discovery of how plants 'feel' the temperature rise (detecting changes as small as 1 degree Celsius) and coordinate an appropriate response: activating hundreds of genes and deactivating others helps understand how plants will respond in the face of climate change and has implication for world food security.

Faculty of 1000 rated this study "exceptional" contribution (ranking which apply only to 1 % of research papers it review). It states that "This landmark study (..) provides the first mechanistic insight

Physicists develop a robust quantum repeater node

A challenge in quantum communication is to amplify weak signal (as this is done by repeater stations in classical communication such as radio). Researchers developed a quantum repeater node and could transmit quantum information between two remote atomic ensembles connected with 300m fibre.

Nature News called this development a "Proof-of-concept system could lead to ultra-secure international communication"

More than 1,400 articles in high impact scientific journals specifically **acknowledging ERC funding**

Journal	No of article
PHYSICAL REVIEW LETTERS	68
PHYSICAL REVIEW B	42
NATURE	30
PNAS	30
PHYSICAL REVIEW A	25
SCIENCE	25
JOURNAL OF THE AM.CHEMICAL SOCIETY	24
MONTHLY NOTICES OF THE RAS	23
JOURNAL OF HIGH ENERGY PHYSICS	21
JOURNAL OF CHEMICAL PHYSICS	18
PHYSICAL REVIEW D	18
ANGEWANDTE CHEMIE	17
ASTRONOMY & ASTROPHYSICS	17
NEW JOURNAL OF PHYSICS	17
ASTROPHYSICAL JOURNAL	16
APPLIED PHYSICS LETTERS	15
CHEMICAL COMMUNICATIONS	14
NATURE PHYSICS	14
CHEMISTRY-A EUROPEAN JOURNAL	12
IEEE TRANS.ON SIGNAL PROCESSING	12
PLOS ONE	12
CELL	11
CURRENT BIOLOGY	10
PHYSICAL CHEMISTRY CHEMICAL PHYSICS	10

How can we measure the impact of the ERC?

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The ERC CSA projects supporting the ERC monitoring and assessment activities

- **EURECIA: Understanding and assessing the impact and outcomes of the ERC funding schemes**

  Develops a conceptual framework to analyses the impact on researchers, research organisations, funding institutions and policy structures.

- **MERCI: Monitoring ERC's Implementation of Excellence**

  Develops and applies a methodology to report on the impacts on the career development, the host institutions, the research structures and the research output

- **ERACEP: Emerging Research Areas and their coverage by ERC-supported Projects**

  Identifies emerging research areas and analyses to what extent the ERC grants cover and contribute to these research areas.

- **DBF: Development and Verification of a Bibliometric model for the Identification of Frontier Research**

  Provides a bibliometric monitoring for the peer review process of the first StG & AdG calls. The aim is to analyse to what extend the current peer review mechanisms identify and select “Frontier” research proposals

This presentation began with four questions……

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- The ERC indicates which institutions offer the **best conditions** for excellent researchers in Europe. The ERC has an effect on **benchmarking** research centres in Europe.
- In some countries a high number of researchers from other European countries and from overseas work in universities or research labs.
- Mobility to a new host institution is limited but ERC researchers often get attractive **job offers** after a positive selection decision.
- A new **partnership** has emerged between the ERC, Research Institutes and National Funding Councils.
- The ERC can act as a **catalyst** for reforms in research funding policies in Europe.
- To estimate reliably the effect of the ERC is still very difficult. Success needs time. The impact of the ERC (intended or unintended) on research careers, research institutions or funding systems can show quickly but also on a long-term basis.