

FP7 IDEAS Programme

The European Research Council

ERC Calls 2007 – 2012: An overview with focus on Germany



Outline

- **Background**
- **Funding Schemes and Statistics**
- **Early Impact Signs**
- **Prospects – Horizon 2020**

What is ERC?

The ERC supports excellence in frontier research through a bottom-up, individual-based, pan-European competition

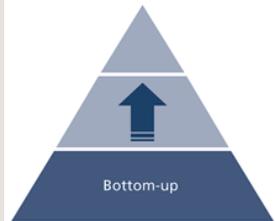
Budget: € 7.5billion (2007-2013) - 1.1 billion €/year

Legislation

- Scientific governance: independent Scientific Council with 22 members; full authority over funding strategy
- Support by the ERC Executive Agency (autonomous)
- Excellence as the only criterion

Strategy

- Support for the individual scientist – no networks!
- Global peer-review
- No predetermined subjects (bottom-up)
- Support of frontier research in all fields of science and humanities



ERC Structure

The European Commission

- **Provides financing** through the EU framework programmes
- **Guarantees autonomy of the ERC**
- **Assures the integrity and accountability of the ERC**
- **Adopts annual work programmes** as established by the Scientific Council



The ERC Scientific Council

- **22 prominent researchers** proposed by an independent identification committee
- **Appointed by the Commission** (4 years, renewable once)
- **Establishes overall scientific strategy;** annual work programmes (incl. calls for proposals, evaluation criteria); peer review methodology; selection and accreditation of experts
- **Controls quality of operations and management**
- **Ensures communication with the scientific community**



The ERC Executive Agency

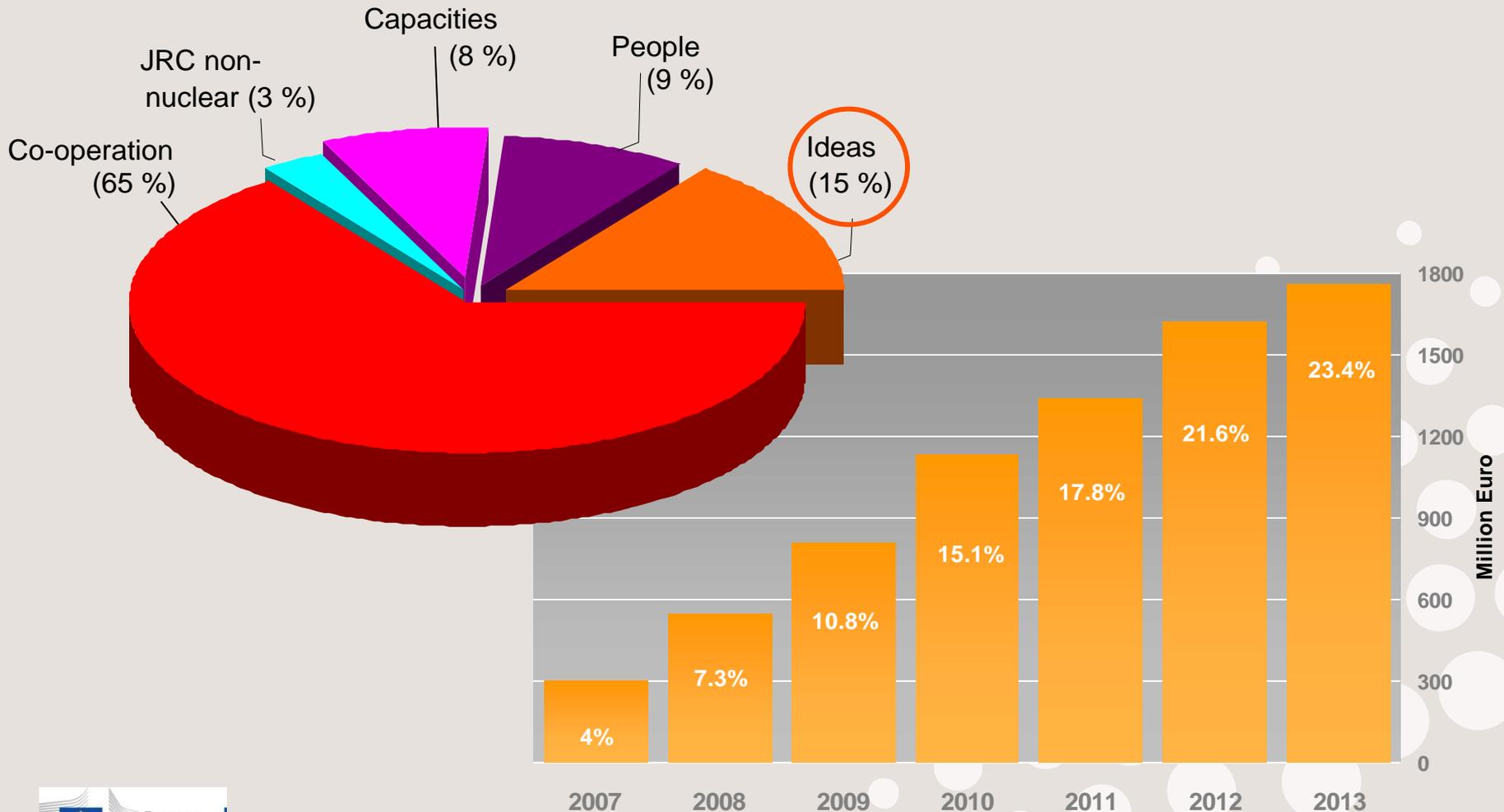
- **Executes annual work programme** as established by the Scientific Council
- **Implements calls for proposals** and provides information and support to applicants
- **Organises peer review evaluation**
- **Establishes and manages grant agreements**
- **Administers scientific and financial aspects** and follow-up of grant agreements
- **Carries out communications activities** and ensures information dissemination to ERC stakeholders





FP7 budget € 50.5 billion

ERC budget € 7.5 billion; Increase by € 250 M/year





After 5 years of existence...

A success story

- more than 3.000 funded proposals
- in more than 500 different host institutions in 27 countries; almost 5 billion euro
- “excellence attracts excellence”: 50% of PIs in 50 institutions
- highly competitive: average success rate 12%
- EU value added: pan-European competition among researchers for the first time ever
- strengthening peer-review-based evaluation systems
- strong structuring effects: reshaping the European landscape of basic/frontier research
- making Europe more attractive in the global competition for scientific talent

Outline

- Background
- **Funding Schemes and Statistics**
- Early Impact Signs
- Prospects – Horizon 2020

ERC Grant schemes

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

Synergy Grants

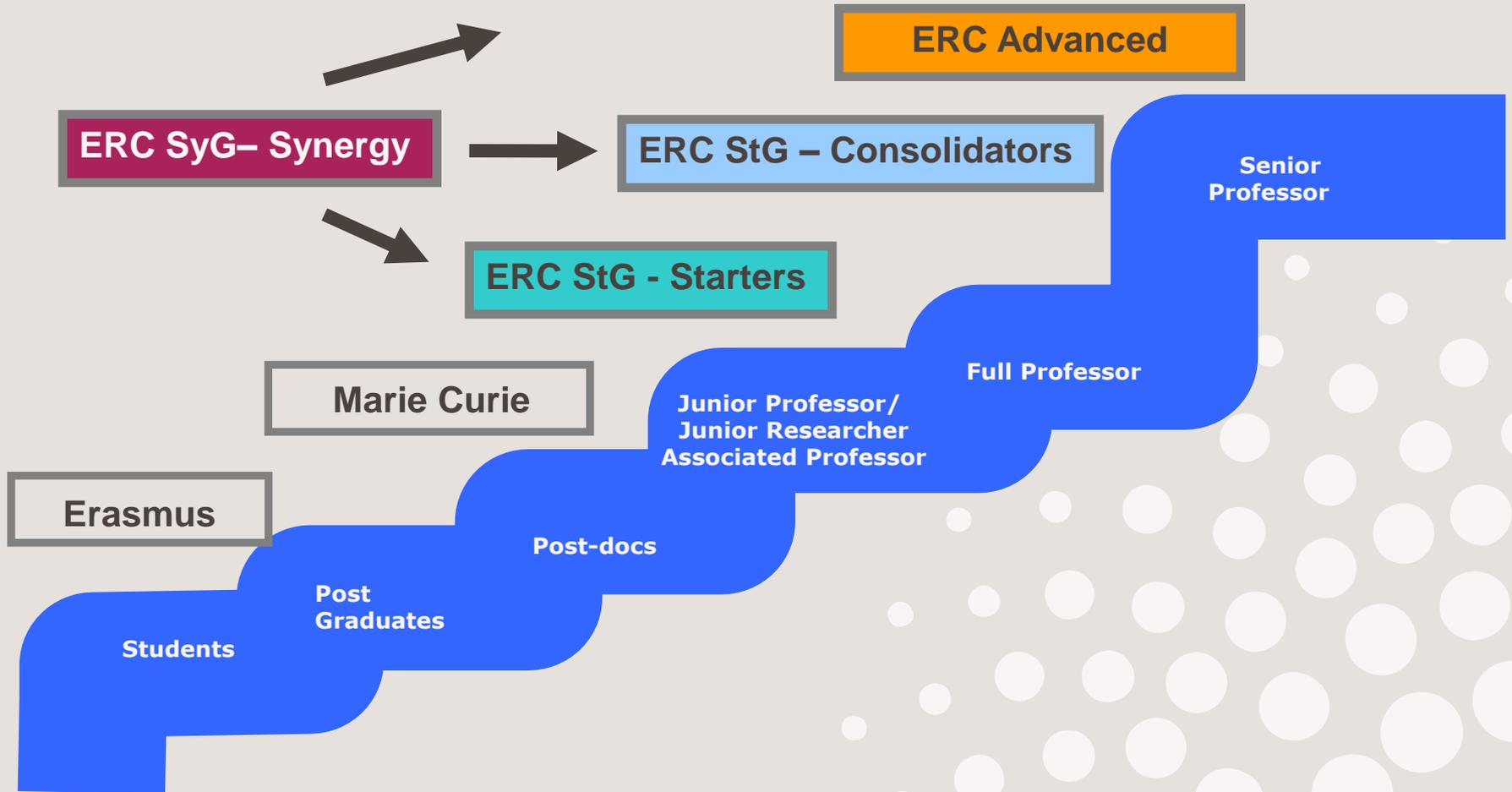
2 – 4 *Principal* Investigators
up to € 15.0 Mio for 6 years

Proof-of-Concept

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



Researchers career development and complementary funding schemes





Excellence is the sole evaluation criterion

Evaluation of *excellence* at two levels:

- **Excellence of the Research Project**

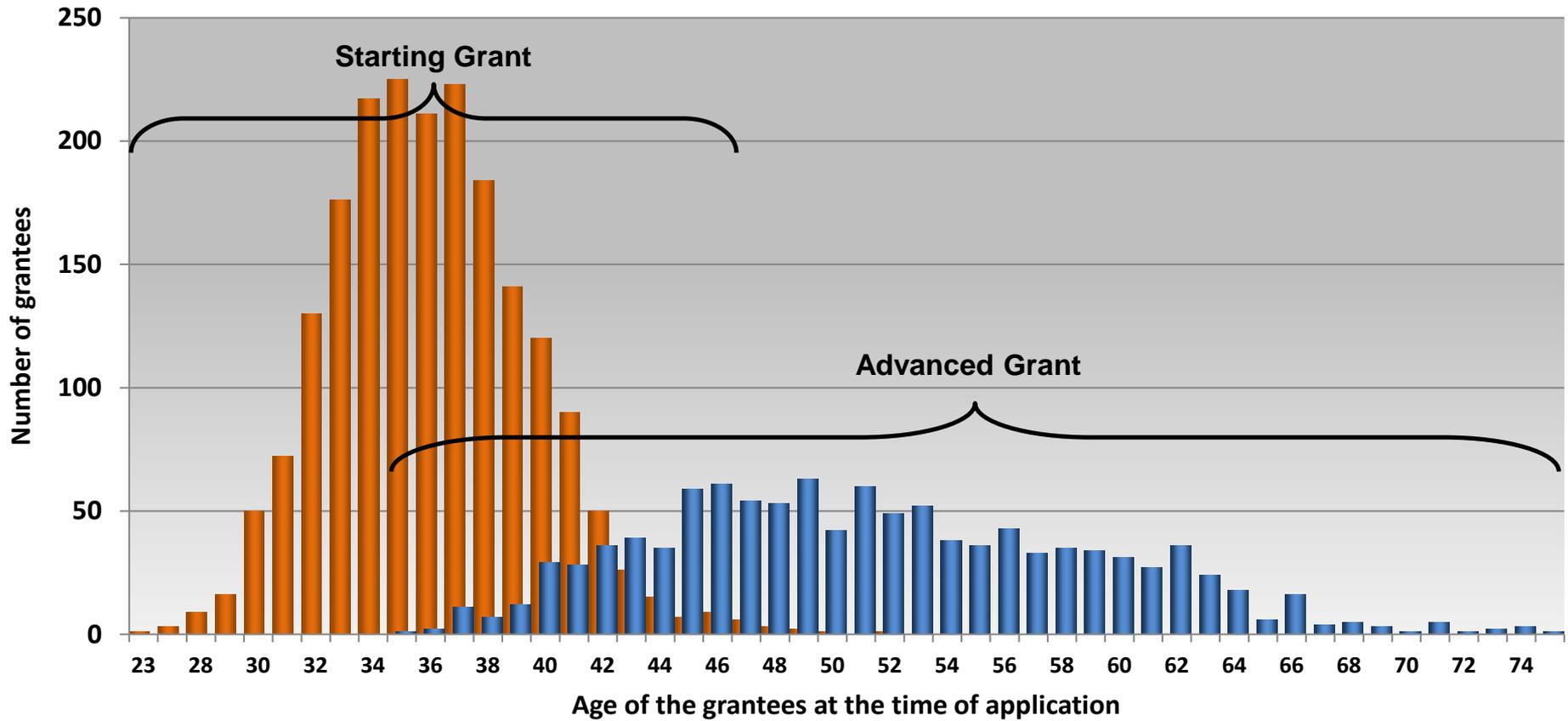
- ✓ Ground breaking nature
- ✓ Potential impact
- ✓ Scientific Approach
- ✓ Added-value of the Group (only SyG)

- **Excellence of the Principal Investigator**

- ✓ Intellectual capacity
- ✓ Creativity
- ✓ Commitment

Referees and panels **evaluate and score** each criterion, which results **in a ranking** of the proposals.

Many of the grantees are Young Scientists

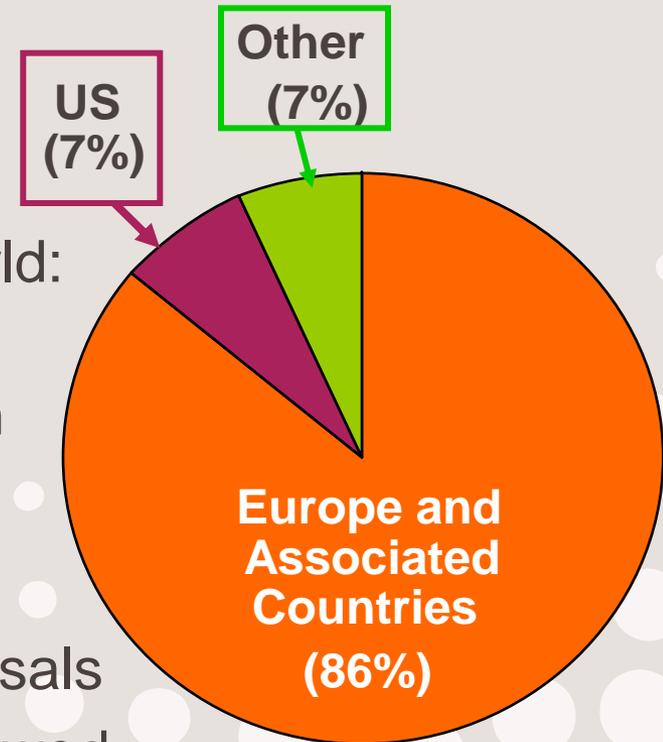


ERC 2012

Starting Grant 2007-2012; Advanced Grant 2008-2011

Who evaluates the proposals?

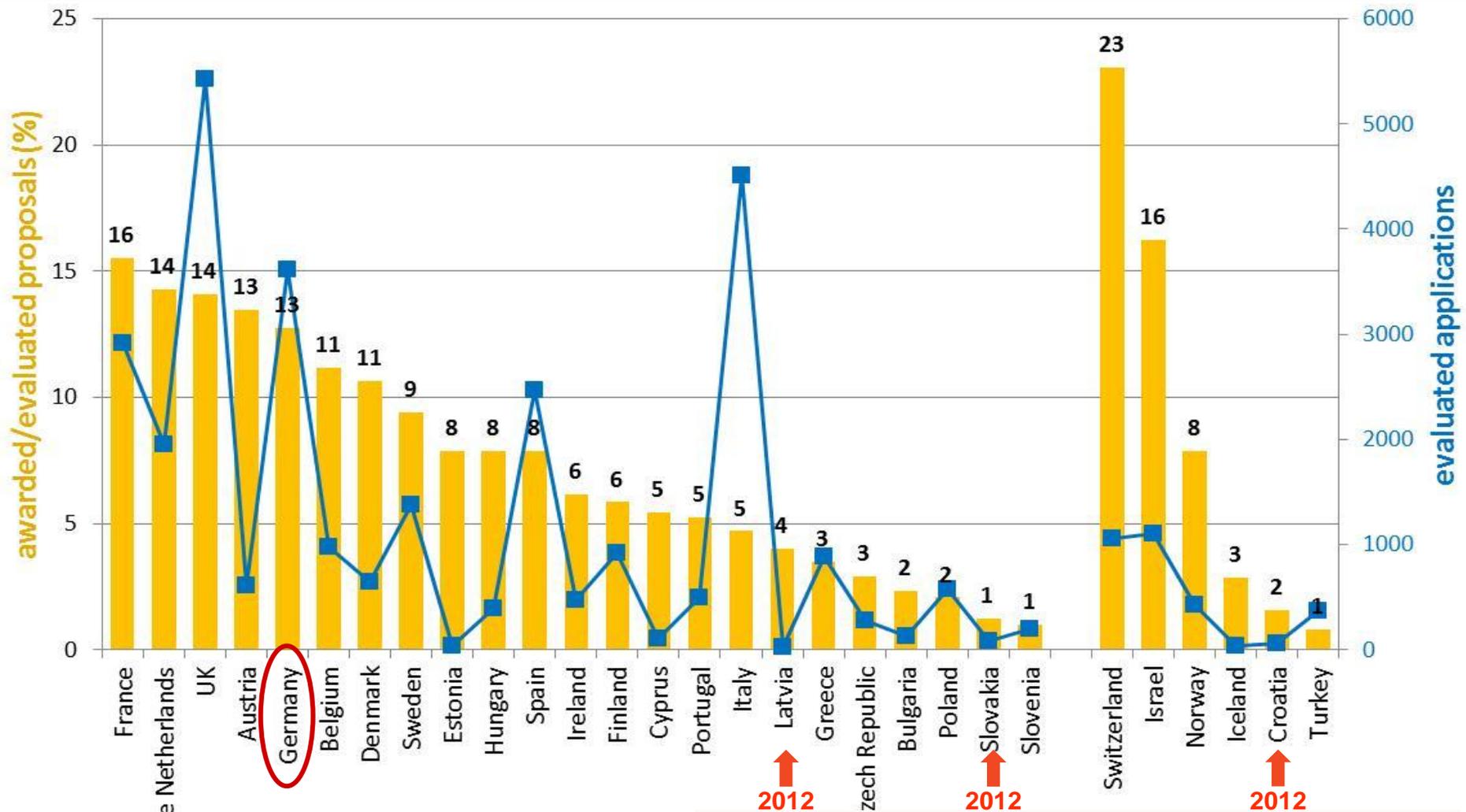
- **Panel members:** typically 600 / call
 - High-level scientists
 - Recruited by ScC from all over the world:
~14% from outside Europe
 - About 12 members plus a chair person
- **Referees:** typically 2000 / call
 - Evaluate only a small number of proposals
 - Similar to normal practise in peer-reviewed journals



Success rates per country of Host Institution

ERC Starting grant 2007-2012

ERC Advanced grant 2008 – 2012

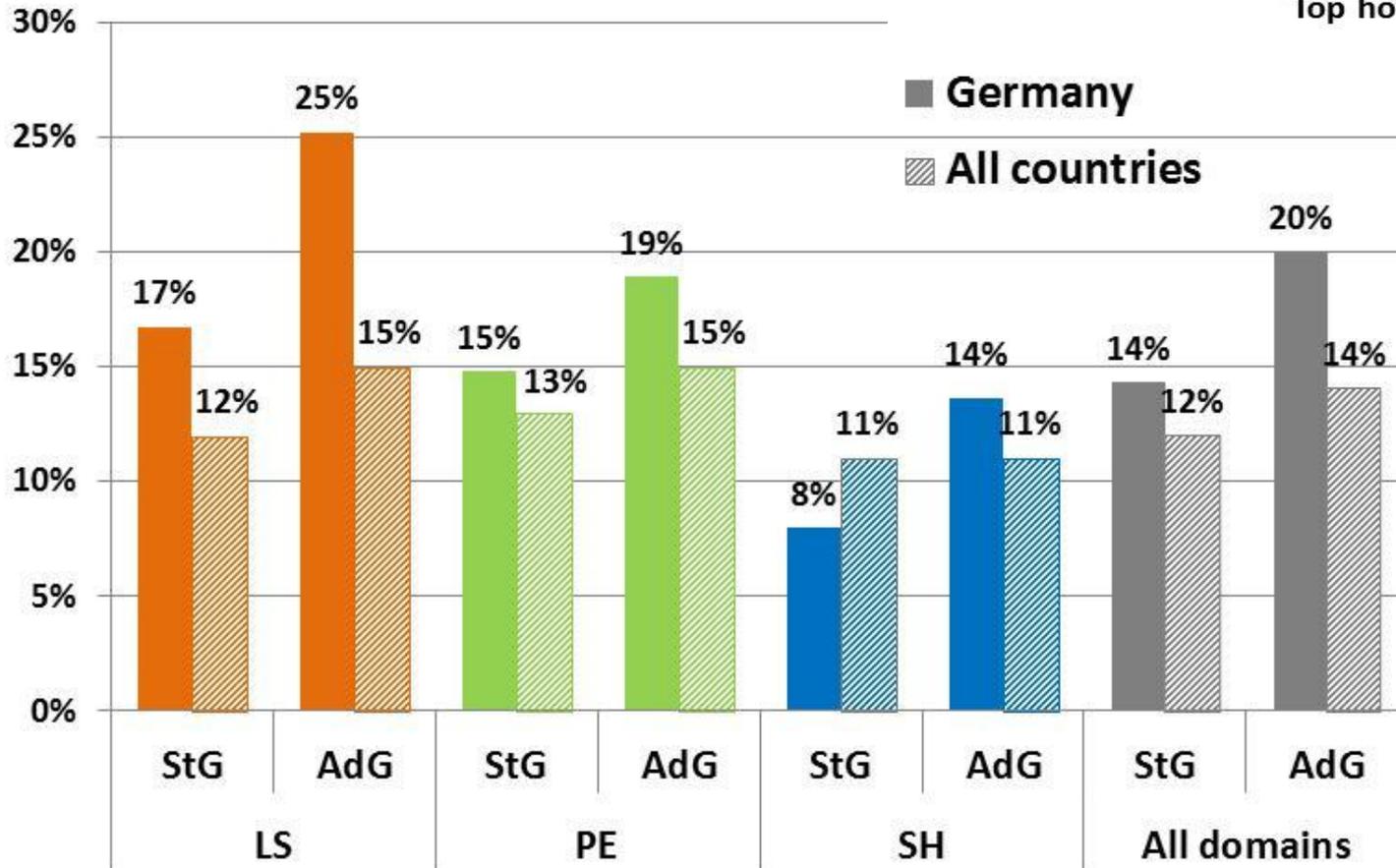
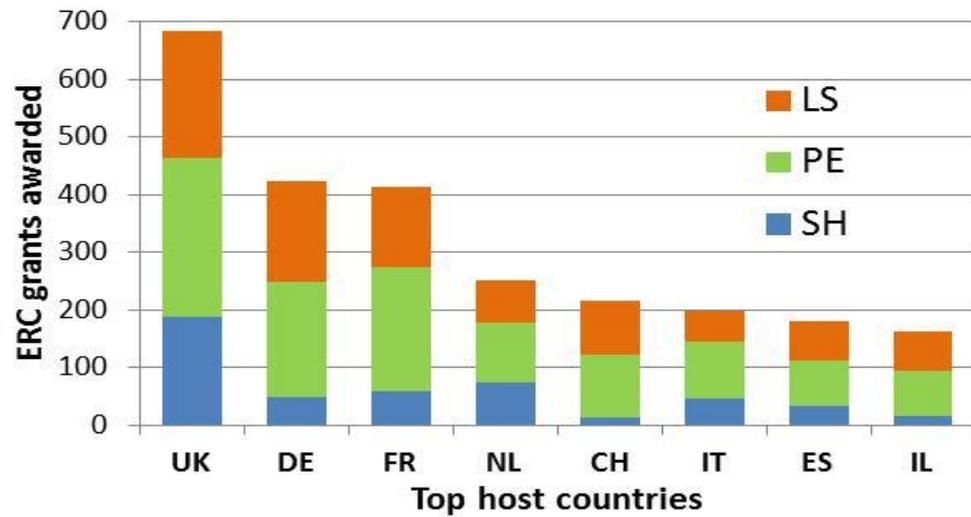


*) First legal signatories of the first grant agreement taken into account

Success rates per domain and type of grant

ERC Starting grant 2007-2012

ERC Advanced grant 2008 – 2011



Country	Higher-Education Institution	No	StG	AdG	Total
UK	University of Cambridge	1	55	32	87
UK	University of Oxford	2	46	34	80
CH	Swiss Federal Institute of Technology Lausanne	3	38	25	63
UK	University College London	4	41	19	60
CH	Swiss Federal Institute of Technology Zurich (ETH Zurich)	5	22	29	51
IL	Hebrew University of Jerusalem	6	32	17	49
UK	Imperial College	7	28	20	48
IL	Weizmann Institute	7	30	18	48
BE	University of Leuven	8	23	8	31
UK	University of Edinburgh	9	18	12	30
UK	University of Bristol	10	13	15	28
NL	Leiden University	11	14	11	25
CH	University of Zurich	11	12	13	25
DE	University of Munich	11	10	15	25
FI	University of Helsinki	11	16	9	25
NL	University of Amsterdam	12	16	8	24
IL	Technion - Israel Institute of Technology	12	21	3	24
SE	Karolinska Institute	12	15	9	24
NL	Radboud University Nijmegen	12	18	6	24
Country	Research Organisation	No	StG	AdG	Total
FR	National Centre for Scientific Research (CNRS)	1	114	39	153
DE	Max Planck Society	2	55	29	84
FR	National Institute of Health and Medical Research (Inserm)	3	28	9	37
FR	French Alternative Energies and Atomic Energy Commission	4	30	6	36
ES	Spanish National Research Council (CSIC)	5	19	6	25
FR	National Institute for Research in Computer Science and Automatic Control (INRIA)	6	16	8	24

Top European Institutions hosting at least 24 ERC Grantees by funding Schemes

StG 2007-2012
AdG 2008-2011

First legal signatories of the grant agreement

Data as of 26/09/2012

Top host institutions in Germany

ERC Starting grant 2007-2012

ERC Advanced grant 2008 – 2011



- ERC grantees at 91 universities and research institutions in Germany

Top Hosts in Germany	AdG	StG	AdG+StG	PoC
Max Planck Society*	30	53	83	1
University of Munich	15	8	23	
Technical University of Munich	8	12	20	1
University of Heidelberg	7	11	18	1
EMBL	4	8	12	
University of Frankfurt	3	8	11	
University of Bonn	4	6	10	
University of Freiburg	3	6	9	1
University of Tuebingen	2	7	9	
Free University of Berlin	5	4	9	1

*) 2 projects are located in The Netherlands

Mobility of researchers (I)

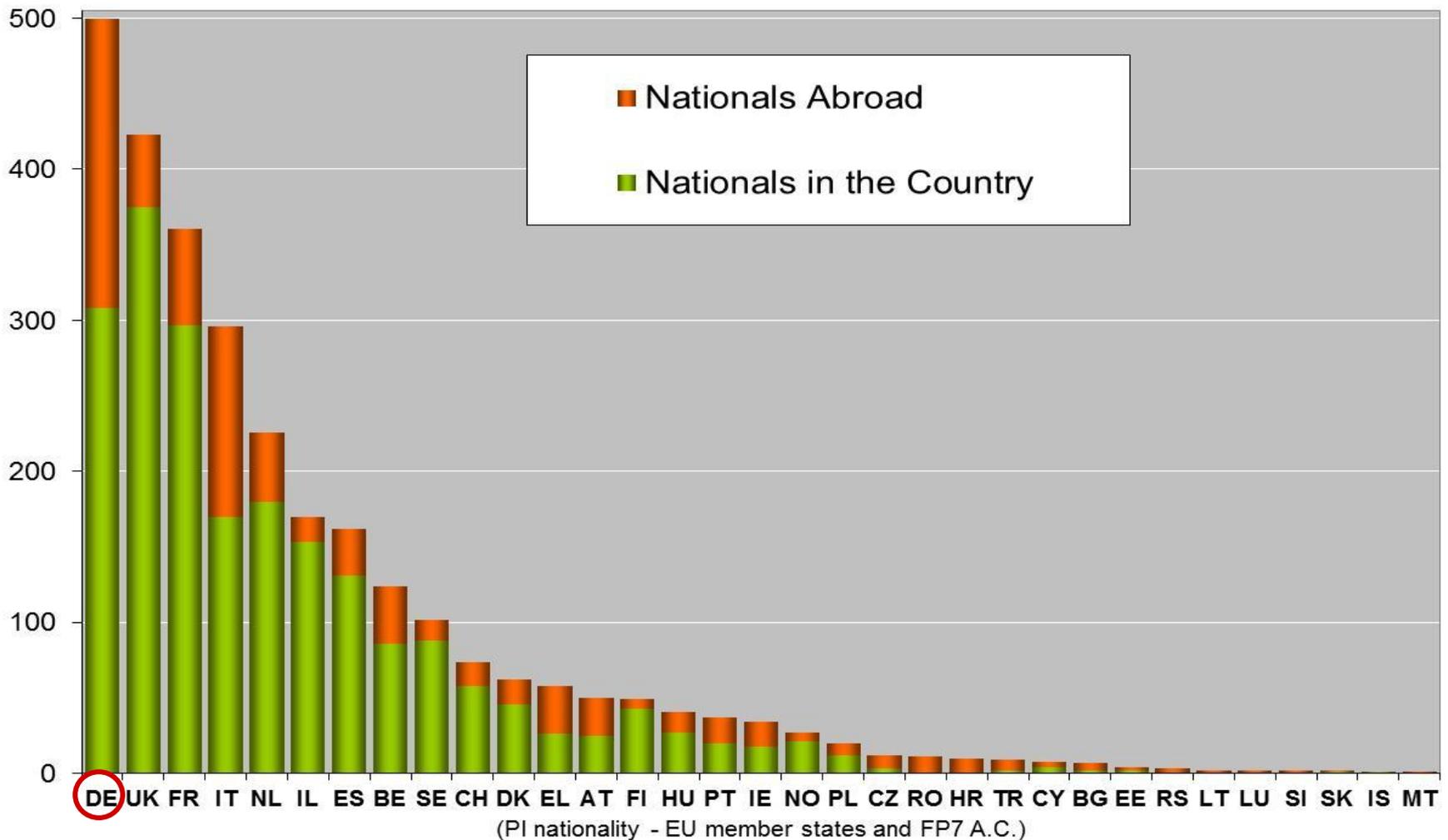
Nationals at home and abroad



ERC Starting grant 2007-2012

ERC Advanced grant 2008 – 2011

Nationality as last declared by the principal investigator

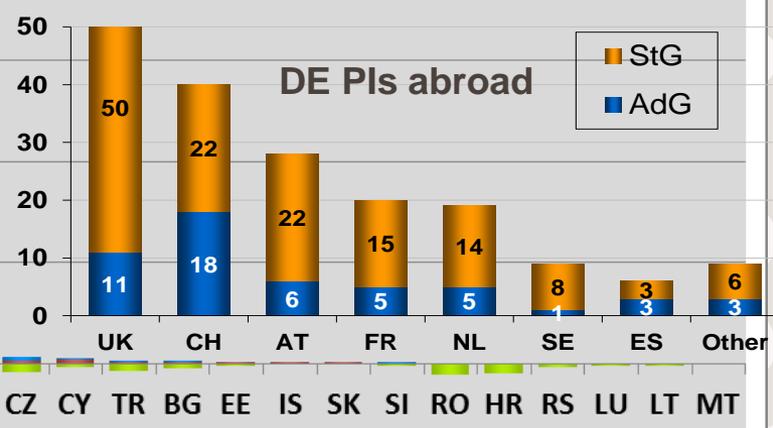
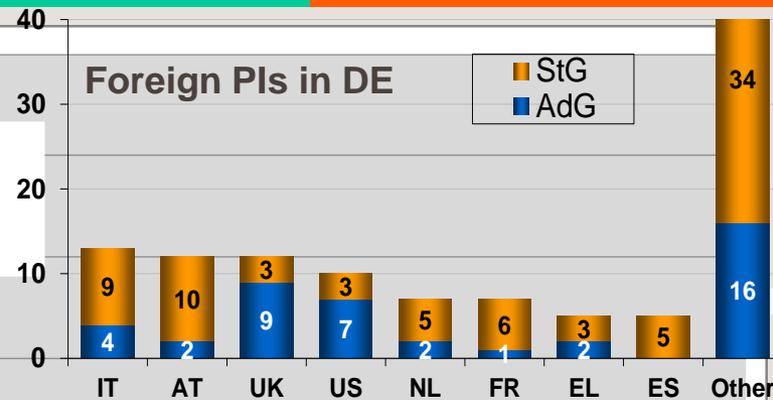
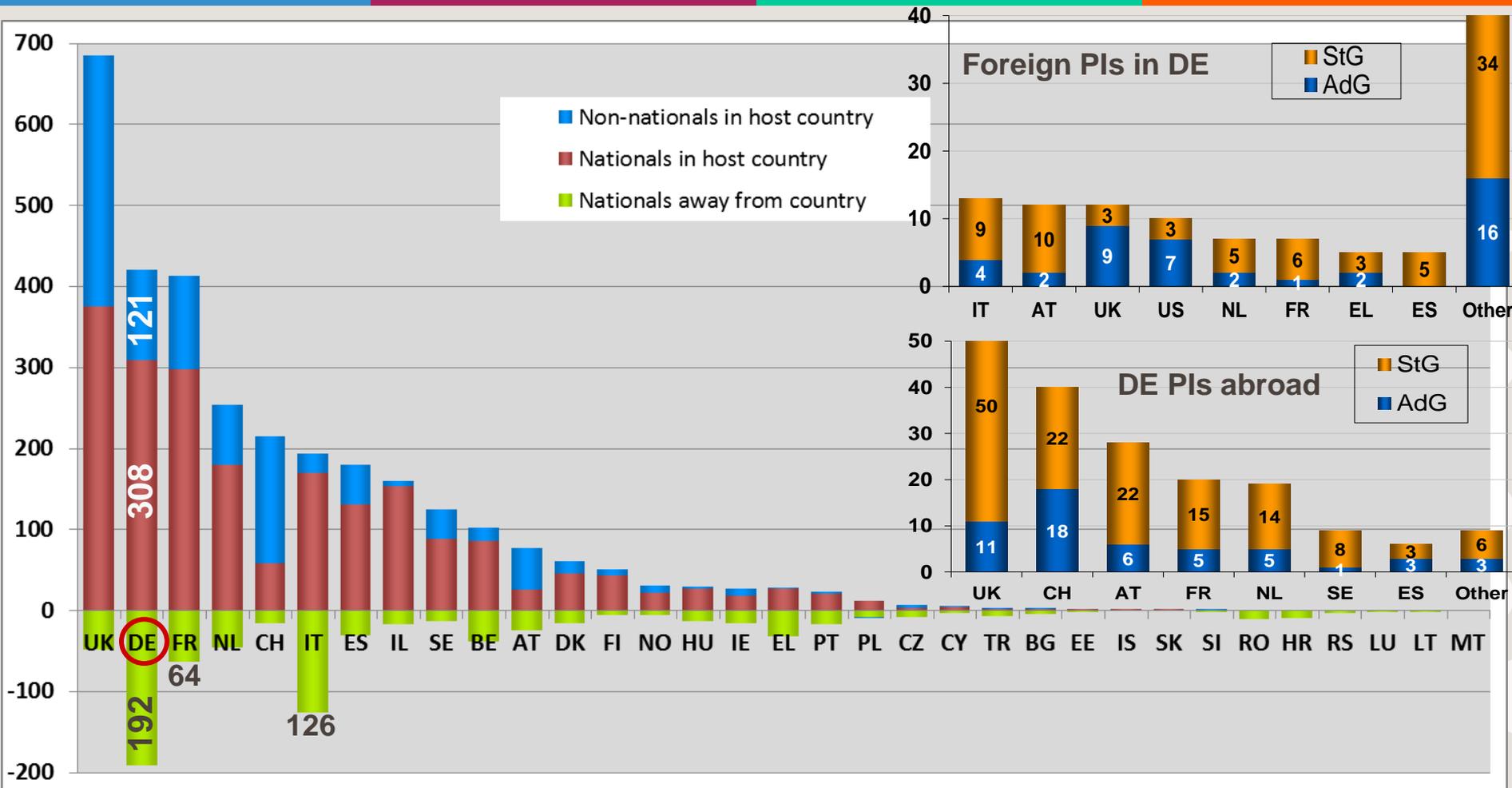




Mobility of researchers (II)

ERC Starting grant 2007-2012

ERC Advanced grant 2008 – 2011



SYNERGY 2012- Successful Host Institutions

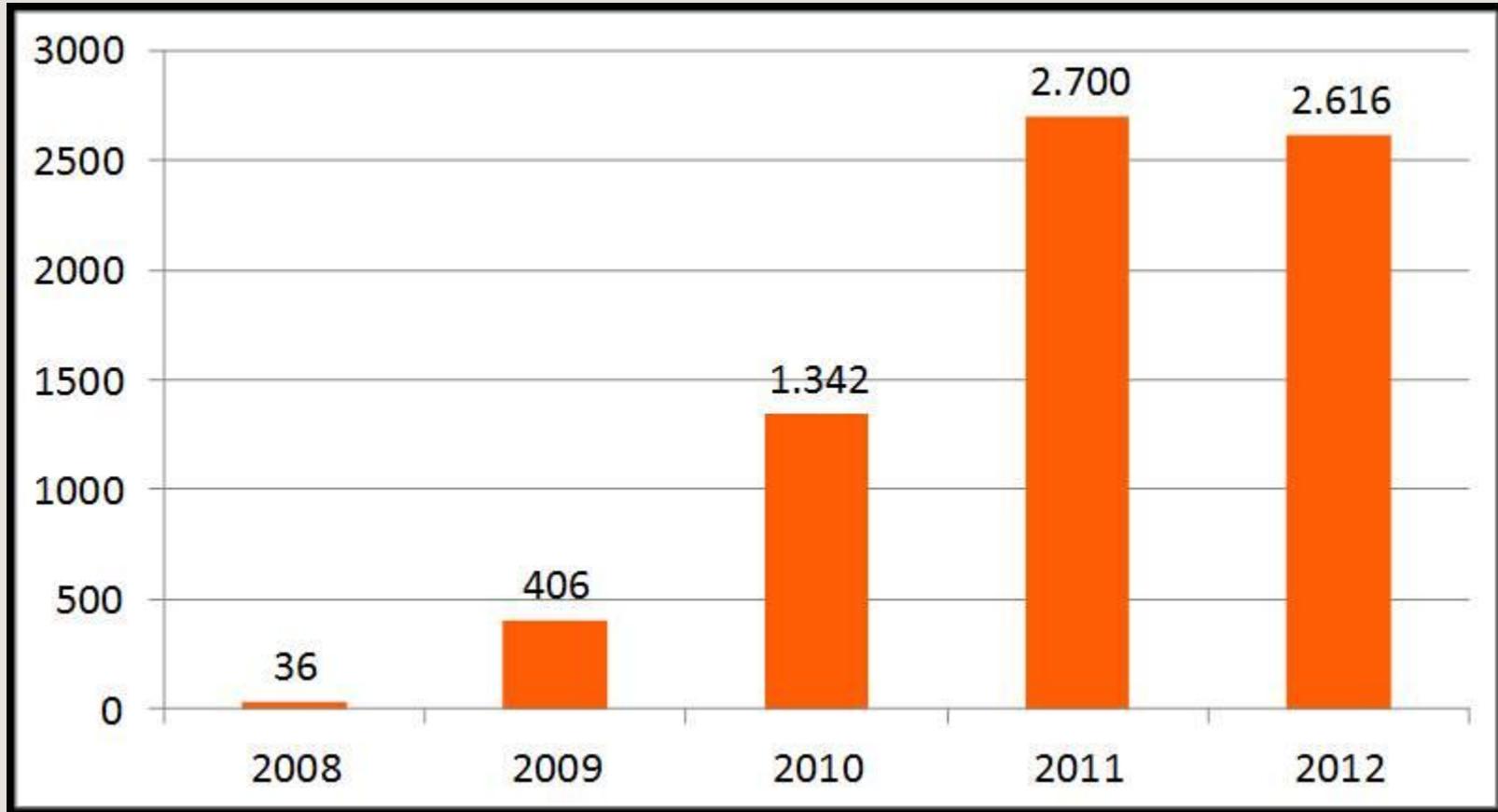
Host institutions	Coord-PI	Partner-PI	Total
Max Planck Society	2	3	5
University of Cambridge	1	3	4
Imperial College	1	2	3
Ulm University	1	2	3
Leiden University	1	2	3
King's College London	1	1	2
Netherlands Cancer Institute	1	1	2
TU Delft	1	1	2
University of Hamburg	1		1
University of Manchester	1		1
Wellcome Trust Sanger Institute		2	2
University of Oxford		2	2
University of Innsbruck		1	1
Free University Amsterdam		1	1
Ecole Polytechnique		1	1
CNRS		1	1
University of Lancaster		1	1
University of Konstanz		1	1
University of Geneva		1	1
Weizmann Institute of Science		1	1
Total	11	27	38

Outline

- Background
- Funding Schemes and Statistics
- **Early Impact Signs**
- Prospects – Horizon 2020

Publications from ERC funded projects

Articles acknowledging ERC funding



ERC Grantees features prominently among Laureates of prestigious prizes and Awards

5 Nobel Prize laureates funded by ERC



Serge Haroche
Nobel 2012

ERC Grantee
AdG 2009



Konstantin Novoselov
Nobel 2010

ERC Grantee
StG 2007



Theodor Hansch

ERC Grantee
AdG 2010



James Heckman

ERC Grantee
AdG 2010



Jean-Marie Lehn

ERC Grantee
AdG 2011

3 Fields Medalists currently funded by ERC



Stanislav Smirnov

AdG 2008

Simon Donaldson

AdG 2009

Elon Lindenstrauss

AdG 2010

Other Prizes awarded to ERC grantees

EMBO GOLD MEDAL 2011 – Simon BOULTON - AdG 2010

FEBS|EMBO WOMEN IN SCIENCE 2011 - Carol ROBINSON - AdG 2010

EMBO GOLD MEDAL 2010 – Jason W CHIN - StG 2007

THE SHAW PRIZE IN MATHEMATICAL SCIENCES 2011 - Christodoulou Demetrios - AdG 2009

CRAFOORD PRIZE 2011 and EUROPEAN LATSIS PRIZE 2010 – Ilkka Hanski - AdG 2008

L'ORÉAL-UNESCO AWARD FOR WOMEN IN SCIENCE 2011 - Anne L'Huilier - AdG 2008

WOLF PRIZE 2010 – Anton ZEILINGER, David BAULCOMBE-AdG 2008, Alain ASPECT-AdG 2010

MILLENIUM AWARD 2010 – Michael GRATZEL - AdG 2009

2012 Prizes awarded to ERC grantees

EMBO GOLD MEDAL 2012

Jiri FRIML - StG 2011

Royal Society of Edinburgh

KELVIN PRIZE 2012

Colin McINNES - AdG 2008

LEIBNIZ PRIZE 2012

Michael BRECHT - AdG 2008 &

Joerg WRACHTRUP - AdG 2010

CNRS SILVER MEDAL 2012

Paolo SAMORI - StG 2010

Ehrlich-Darmstaedter Prize Young 2012

Kathrin MAEDLER - StG 2010

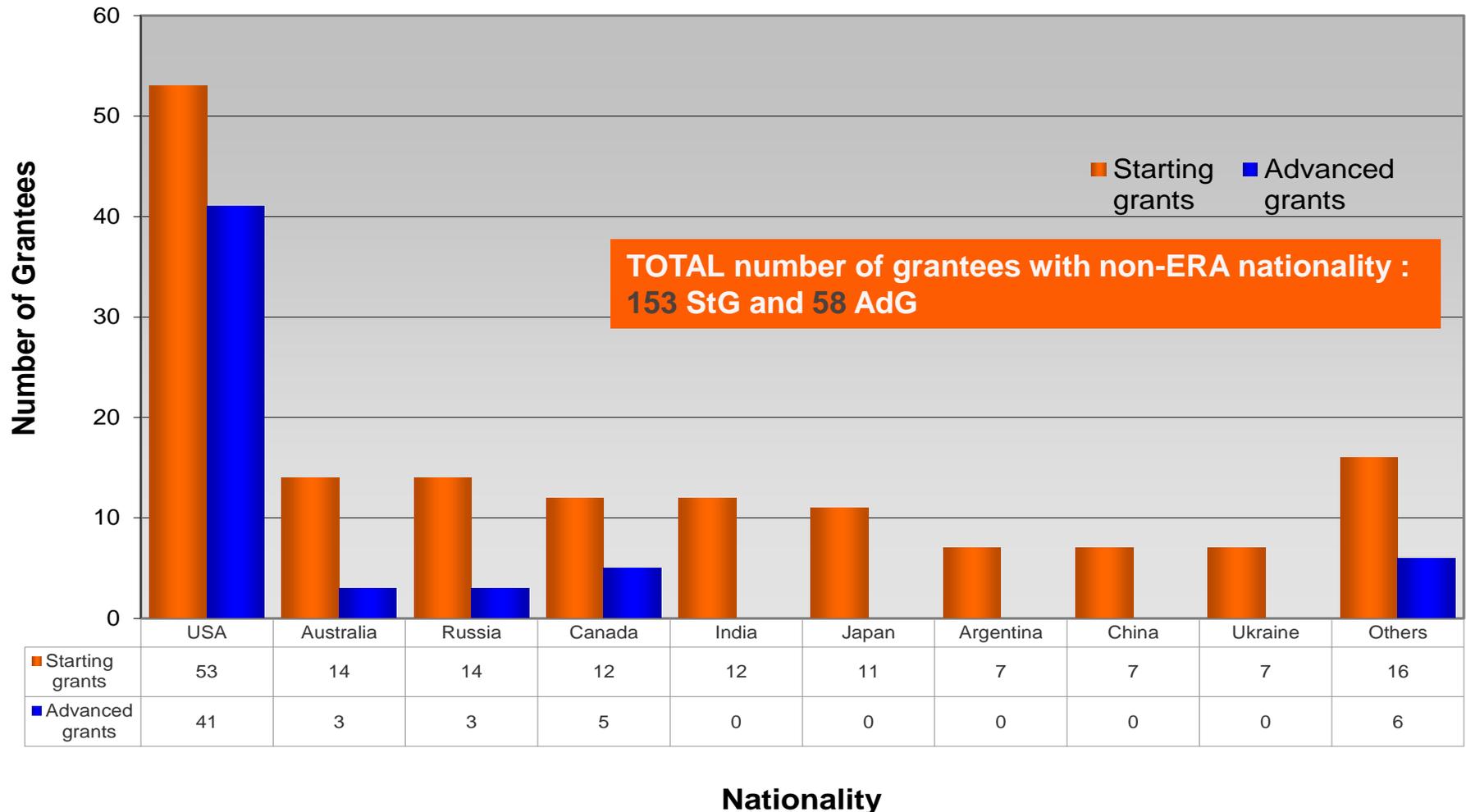


ERC grantees with a non-ERA* nationality

ERC Starting Grant calls 2007-2012

ERC Advanced Grant calls 2008 – 2011

* ERA = European Research Area



*) nationality as last declared by the principal investigator

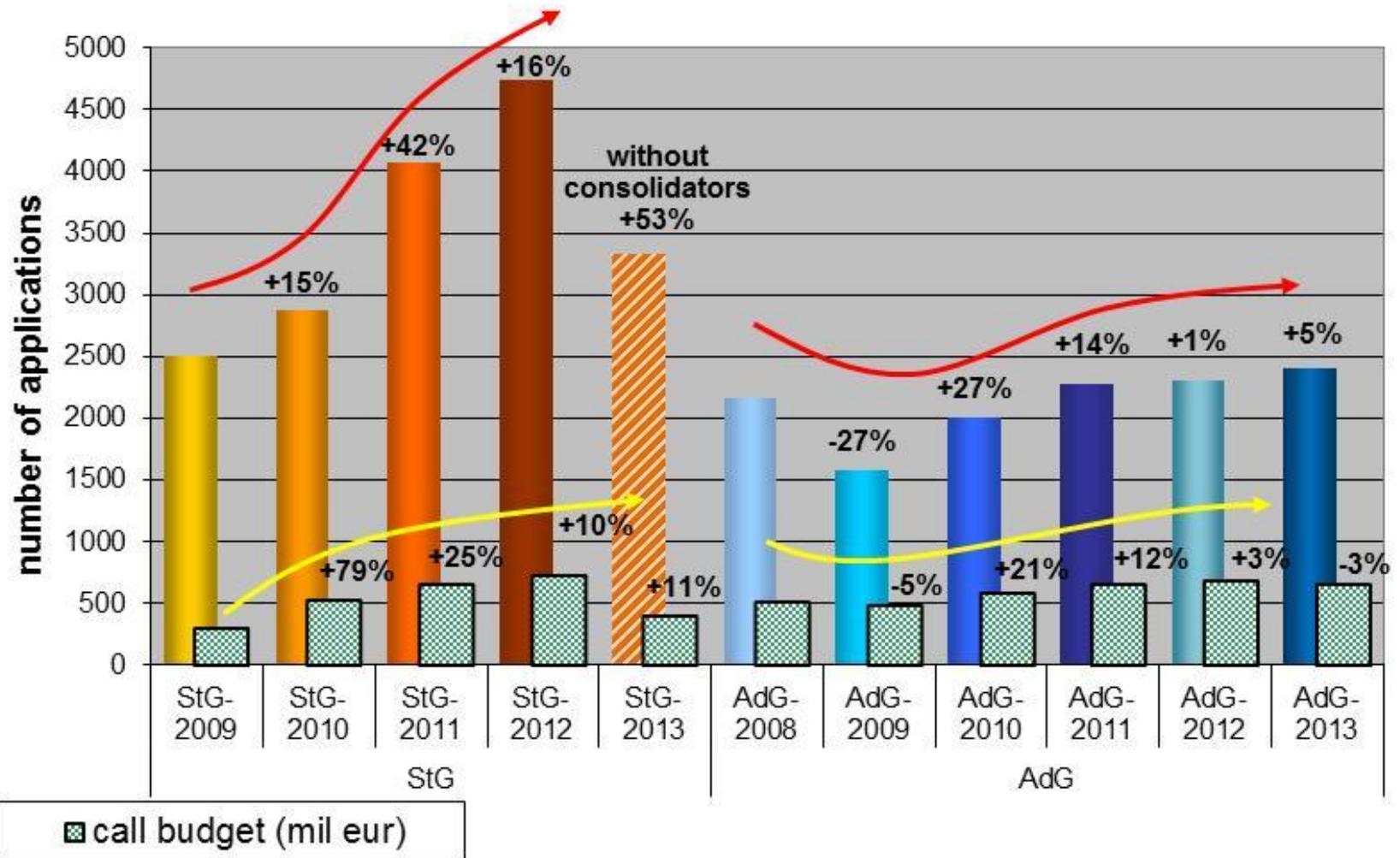
Data as of 26/09/2012

Outline

- Background
- Funding Schemes and Statistics
- Early Impact Signs
- **Prospects – Horizon 2020**

ERC prospects for the future

Rising applications



HORIZON 2020

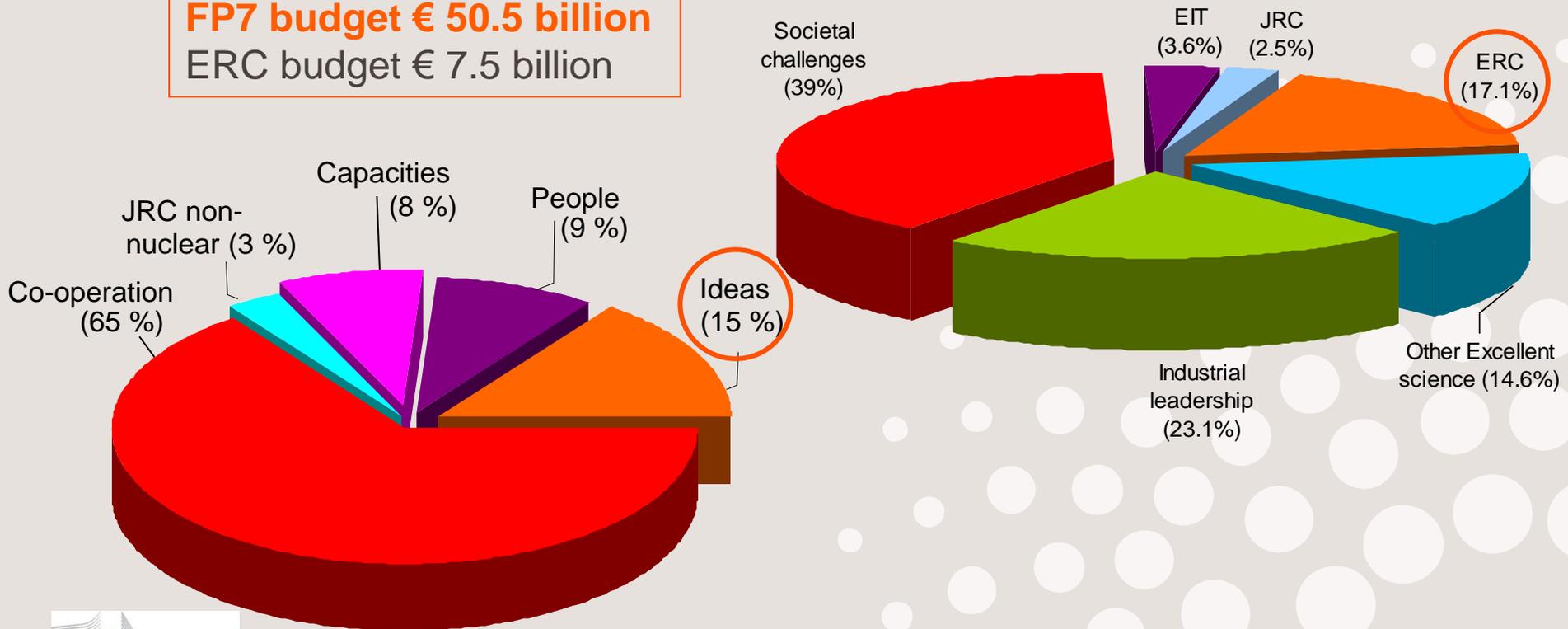
- **HORIZON 2020** structure:
 - Excellence Science
 - Industrial leadership
 - Societal challenges
 - EIT
 - JRC

- **Excellent Science**: reinforcing and extending the excellence of the EU's science base and consolidating ERA to make EU's R&I system more competitive on a global scale
 - ✧ **European Research Council** (budget proposal under H2020: € 15 billion)
 - ✧ Future and Emerging Technologies
 - ✧ Marie Curie
 - ✧ Research Infrastructures

Budget proposal under H2020

H2020 budget € 88 billion
 ERC budget € 15 billion

FP7 budget € 50.5 billion
 ERC budget € 7.5 billion





ERC in FP7 and in H2020 : Changes and Continuity

Essential features maintained

- Independent Scientific Council with full authority over funding strategy
- Executive Agency with autonomous operation
- Scientific excellence - the sole criterion on which ERC grants are awarded

Strengthening the Scientific Governance of the European Research Council

Strengthening the links between the Scientific Council and the Executive Agency

- Merging positions of President of ERC and Secretary General
- Full-time President based in Brussels
- 3 Vice-Chairs elected from amongst the Scientific Council members

Strengthening the role of Scientists in the Steering Committee of the ERCEA

Strengthening the relation of the Scientific Council and the ERCEA

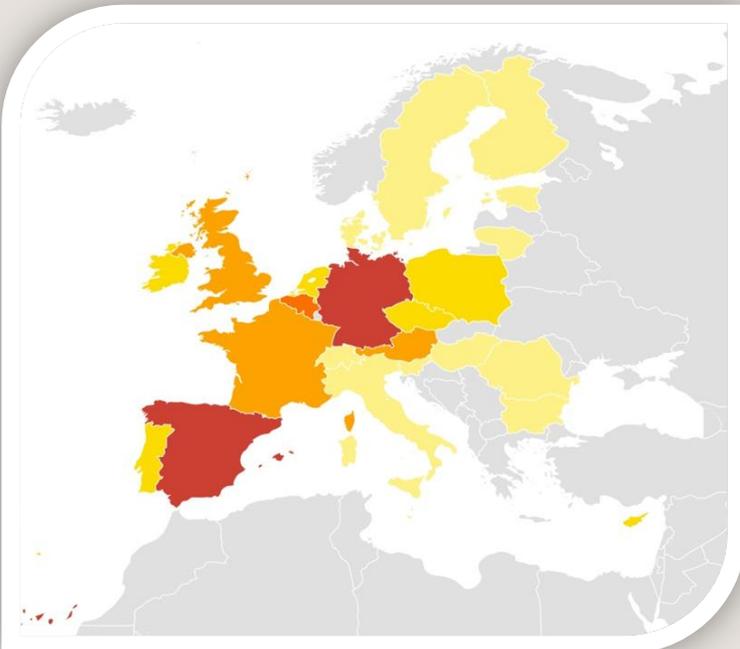
Strengthening the links between ERC and other parts of H2020 which aim to reinforce European Science base

“Bringing ERC with Marie Curie, FET and Research Infrastructures together in a single programme will enable them to operate with greater coherence and in a rationalised, simplified and more focused way” (example: RI: LaserLab Europe: <http://www.laserlab-europe.eu/research/advanced-grants-for-laserlab-researchers>)

Press activities

Focus on Nobel initiatives: Open letter

Open letter of 42 Nobel laureates and 5 Fields medallists to warn against cutting the future EU research budget - Followed by a petition signed by over 150 000 citizens



Open letter published/commented in more than 20 EU countries (ca. 60 media items)

Frankfurter Allgemeine Zeitung (DE), Der Tagesspiegel (DE), Financial Times (UK), Le Monde (FR), El Pais (ES), Der Standard (AT), Lidové Noviny (CZ), The Irish Times (IE), Corriere della Sera (IT), Gazeta Wyborcza (PL), Público (PT), Jurnalul National (RO), etc.

Supermacht unter Druck

Europas Spitzenforscher sind schon im SOS-Modus

Meine Antwort auf den Brief von 42 Nobelpreisträgern und fünf Fields-Medaillen-Trägern / Von Annette Schavan

NR. 21 494 / FREITAG, 26. OKTOBER 2012

Nobelpreisträger kontra EU

Kürzung im europäischen Forschungset befürchtet

Meine Antwort auf den Brief von 42 Nobelpreisträgern und fünf Fields-Medaillen-Trägern / Von Annette Schavan

NR. 21 494 / FREITAG, 26. OKTOBER 2012

Nobelpreisträger kontra EU

Kürzung im europäischen Forschungset befürchtet

H2020 : Timeline to approval

EU Council

- PGA on H2020 Regulation at the Competitiveness Council 31.05.12
- PGA on Rules of Participation at the Competitiveness Council 10.10.12
- PGA on the Specific Programme and the Euratom proposal targeted at the Competitiveness Council 11.12.2012

European Parliament

- EP Conference of Presidents decided that all EP reports under MFF (e.g. Horizon 2020) will not be adopted in Plenary until agreement is reached on Multiannual Financial Framework
- ITRE voted the Horizon 2020 package on 28.11.2012

MFF

- New meeting of the European Council (Heads of State / Government) in February 2013 to finalise the MFF

More information on

<http://erc.europa.eu>

To subscribe to ERC newsletter and newsalerts

<http://erc.europa.eu/keep-updated-erc>

Follow us on

 <https://www.facebook.com/EuropeanResearchCouncil>

 https://twitter.com/ERC_Research