

# The European Research Council



European Research Council

Established by the European Commission

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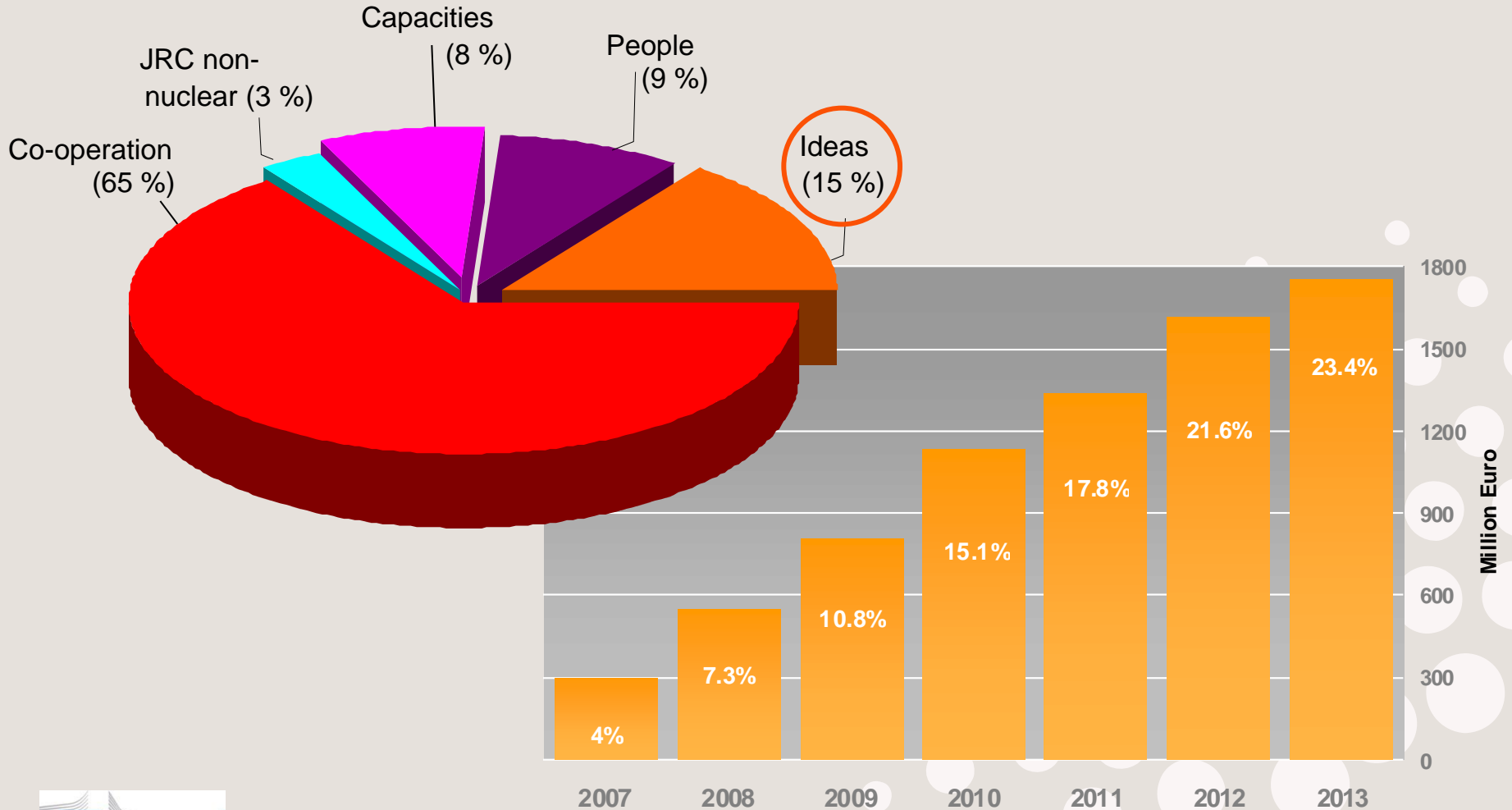
**ERC in Horizon 2020**  
June 2012





# FP7 budget € 50.5 billion

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





# More than 2,600 researchers funded

more than 4 billion euro awarded

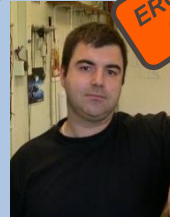
	Total number of applications received	of which		
		Evaluated*	Funded	success rates**
Starting Grant 2007	9,167	8,787	299	3.4
Starting Grant 2009	2,503	2,392	245	10.2
Starting Grant 2010	2,873	2,767	436	15.8
Starting Grant 2011	4,080	4,005	487	12.2
<b>Starting Grant</b>	<b>18,623</b>	<b>17,951</b>	<b>1,467</b>	<b>10.4</b>
Advanced Grant 2008	2,167	2,034	282	13.9
Advanced Grant 2009	1,583	1,526	245	16.1
Advanced Grant 2010	2,009	1,967	271	13.8
Advanced Grant 2011***	2,284	2,245	301	13.4
<b>Advanced Grant</b>	<b>8,043</b>	<b>7,772</b>	<b>1,099</b>	<b>14.3</b>
Proof of Concept 2011 - 1	78	73	29	39.7
Proof of Concept 2011 - 2***	73	66	22	33.3
<b>Proof of Concept</b>	<b>151</b>	<b>139</b>	<b>51</b>	<b>36.5</b>

# ERC attracts high calibre scientists

"Despite being a new, and thus untried instrument, the ERC has manifestly succeeded in attracting and funding world-class research and is playing an important role in anchoring research talent."

*The independent interim evaluation of FP7*

4 Nobel Prize laureates among ERC grantees



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

## 2011 Prizes awarded to ERC grantees

EMBO GOLD MEDAL 2011 - Simon Boulton - AdG 2010

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

CRAFOORD PRIZE IN BIOSCIENCES 2011 - Ilkka Hanski - AdG 2008

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

PRINCE OF ASTURIAS AWARD FOR TECHNICAL AND SCIENTIFIC RESEARCH 2011 -

Giacomo Rizzolatti - AdG 2009

FEBS|EMBO WOMEN IN SCIENCE AWARD 2011 - Carol Robinson - AdG 2010

BALZAN PRIZE 2011 - Joseph Silk - AdG 2010

## Other Prizes awarded to ERC grantees

EMBO GOLD MEDAL 2010 - Jason W CHIN - StG 2007

MILLENIUM AWARD 2010 - Michael GRATZEL - AdG 2009

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

EUROPEAN LATSIS PRIZE 2010 - Ilkka HANSKI - AdG 2008

# Excellence attracts excellence:

## 50% of PIs in 50 institutions

European Research Council



Country	Higher-Education Institution	No	StG	AdG	Total
UK	University of Cambridge	1	44	32	76
UK	University of Oxford	2	38	34	72
CH	Swiss Federal Institute of Technology Lausanne	3	27	25	52
IL	Hebrew University of Jerusalem	4	28	17	45
CH	Swiss Federal Institute of Technology Zurich (ETH Zurich)	5	14	29	43
UK	University College London	6	23	19	42
UK	Imperial College	6	22	20	42
IL	Weizmann Institute	7	21	18	39
BE	University of Leuven	8	19	8	27
UK	University of Bristol	9	9	15	24
DE	University of Munich	10	8	15	23
NL	Leiden University	10	12	11	23
CH	University of Zurich	10	10	13	23
UK	University of Edinburgh	10	11	12	23
FI	University of Helsinki	11	12	9	21
NL	University of Amsterdam	11	13	8	21
IL	Technion - Israel Institute of Technology	12	17	3	20
SE	Karolinska Institute	12	11	9	20
Country	Research Organisation	No	StG	AdG	Total
FR	National Centre for Scientific Research (CNRS)	1	86	38	124
DE	Max Planck Society	2	33	29	62
FR	French Alternative Energies and Atomic Energy Commission	3	23	6	29
FR	National Institute of Health and Medical Research (Inserm)	4	18	10	28
FR	National Institute for Research in Computer Science and Automatic Control (INRIA)	5	12	8	20
ES	Spanish National Research Council (CSIC)	5	14	6	20

**Top  
European  
Institutions  
hosting  
at least 20  
ERC Grantees  
by funding  
Schemes**

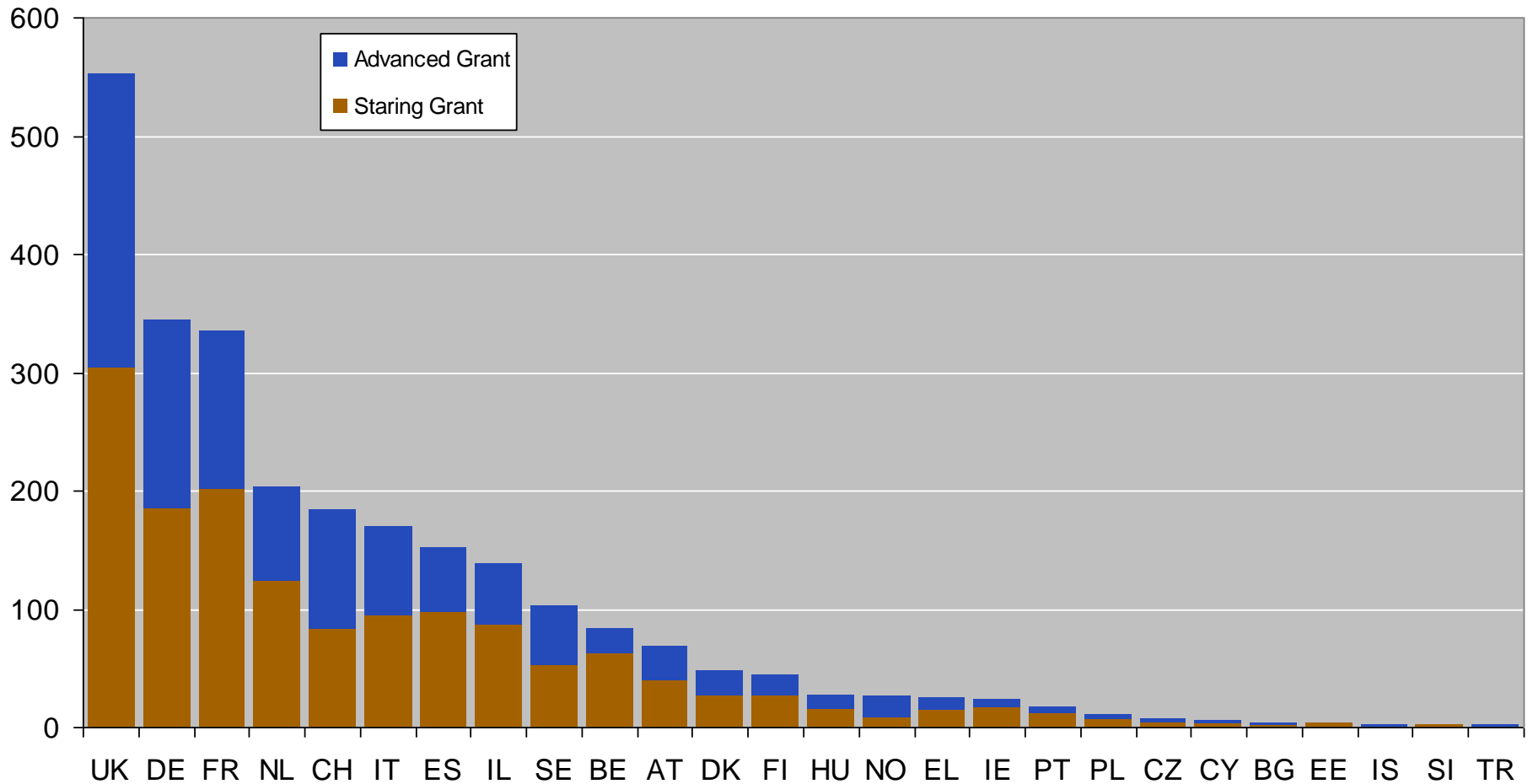
StG 2007-2011  
AdG 2008-2011

*First legal signatories  
of the grant agreement*

*Data as of 03/05/2012*

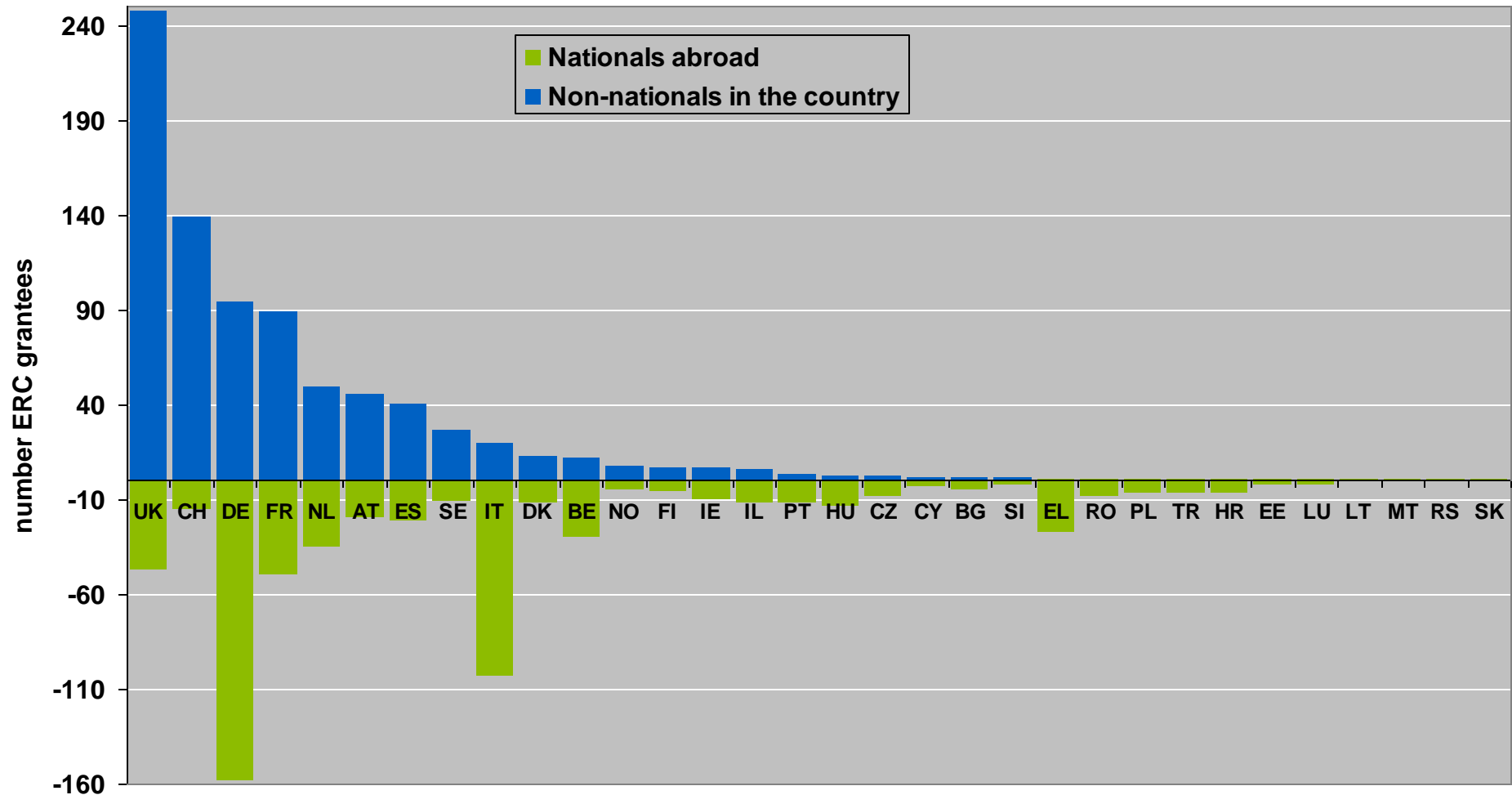
# In more than 480 institutions in 26 countries

## ERC Starting & Advanced grant calls 2007 – 2011



# Shows previous mobility

ERC Starting & Advanced grant calls 2007 - 2011



# Impact on developing a new generation of excellent scientists:

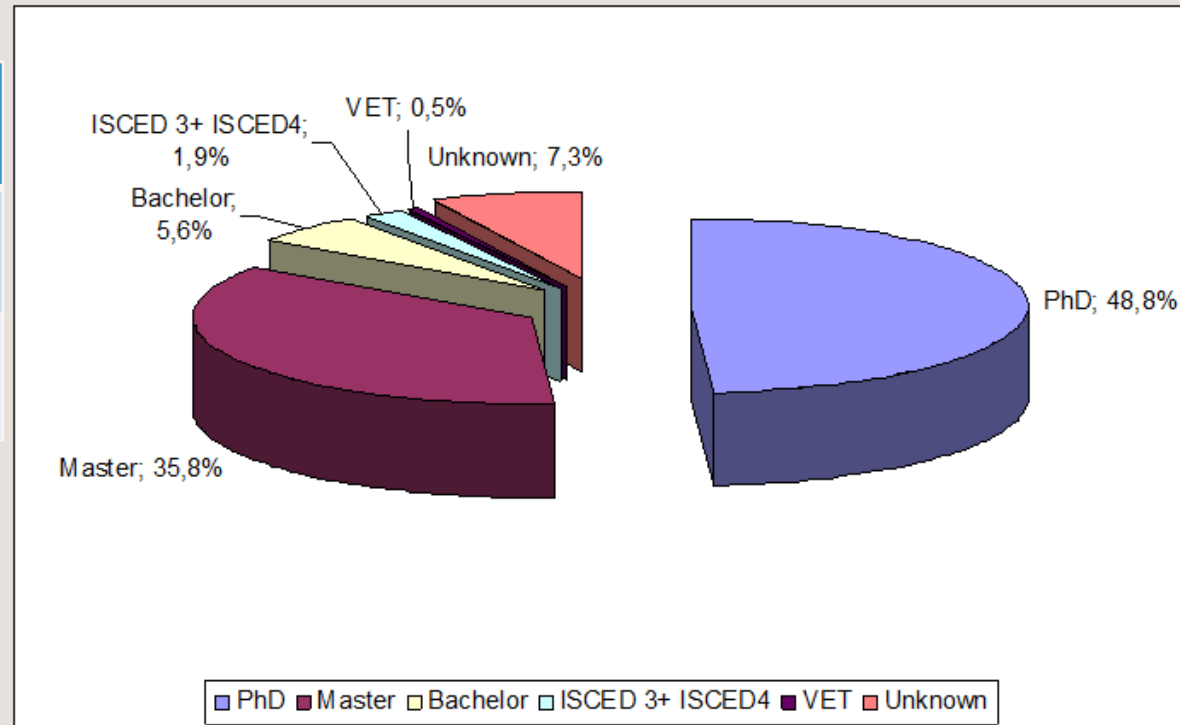
over 14,000 Ph.D. and post-doc researchers work in ERC teams

A significant sample of ERC grants analysed shows that the average number of team members is close to 6 per grant

Average n. of team members

	LS	PE	SH
StG	5.1	5.1	4.7
AdG	6.5	7.4	6.5

Distribution of team members by education



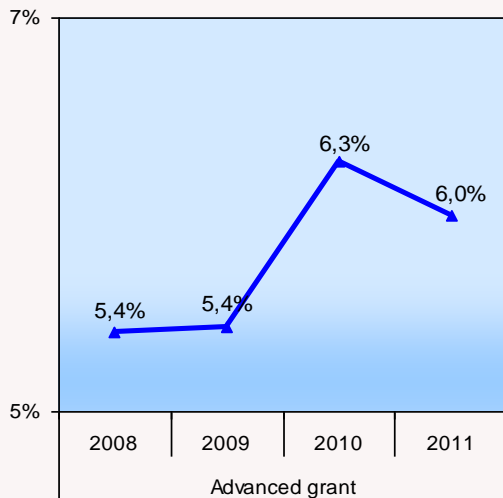
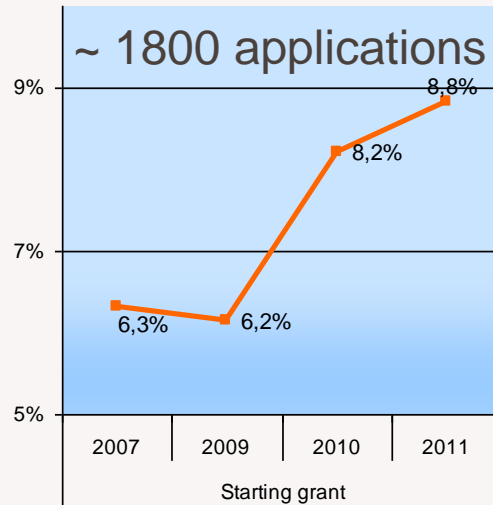




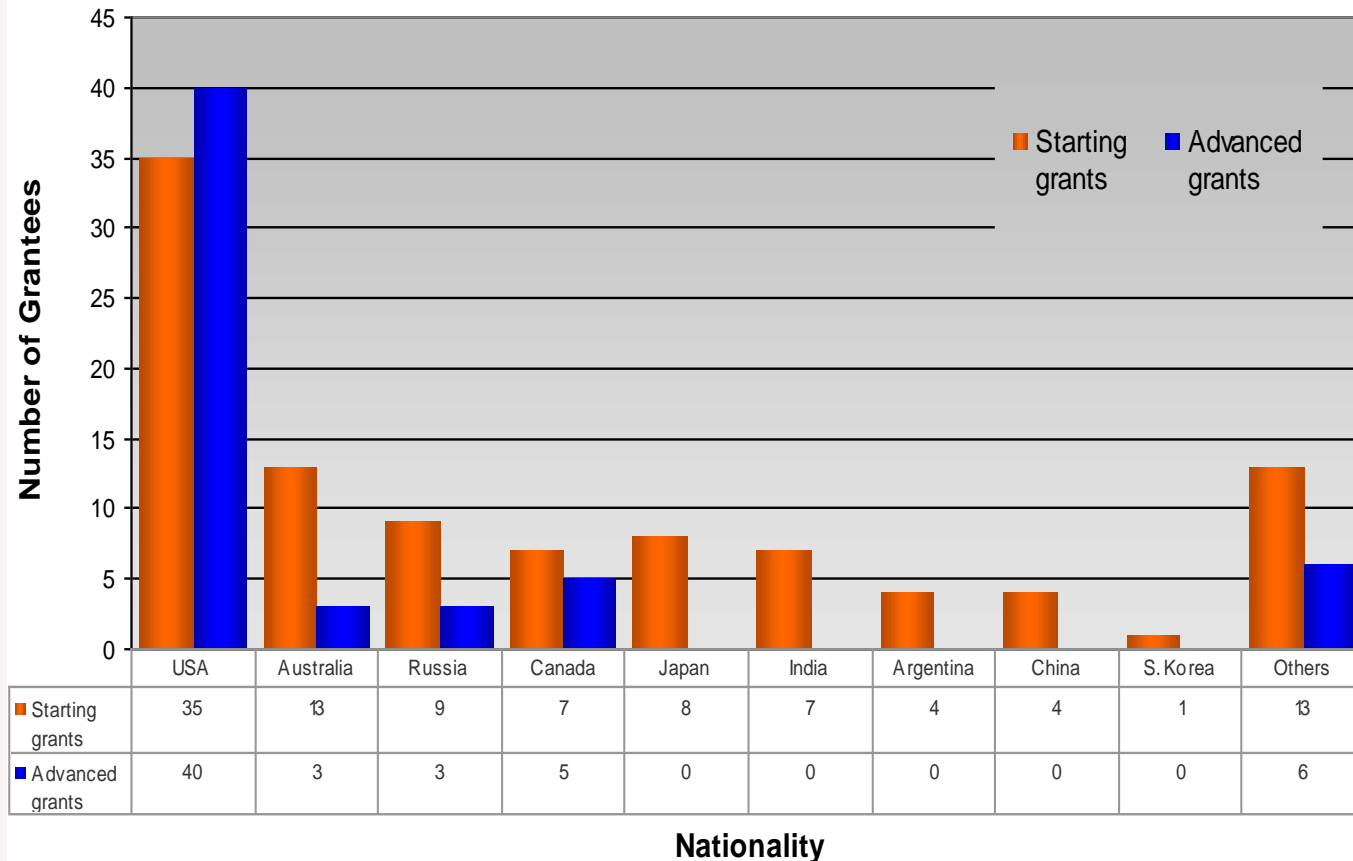
# Europe as a prime location for top scientists

Participation of researchers with non-ERA nationality

ERC Starting & Advanced grant calls 2007 - 2011

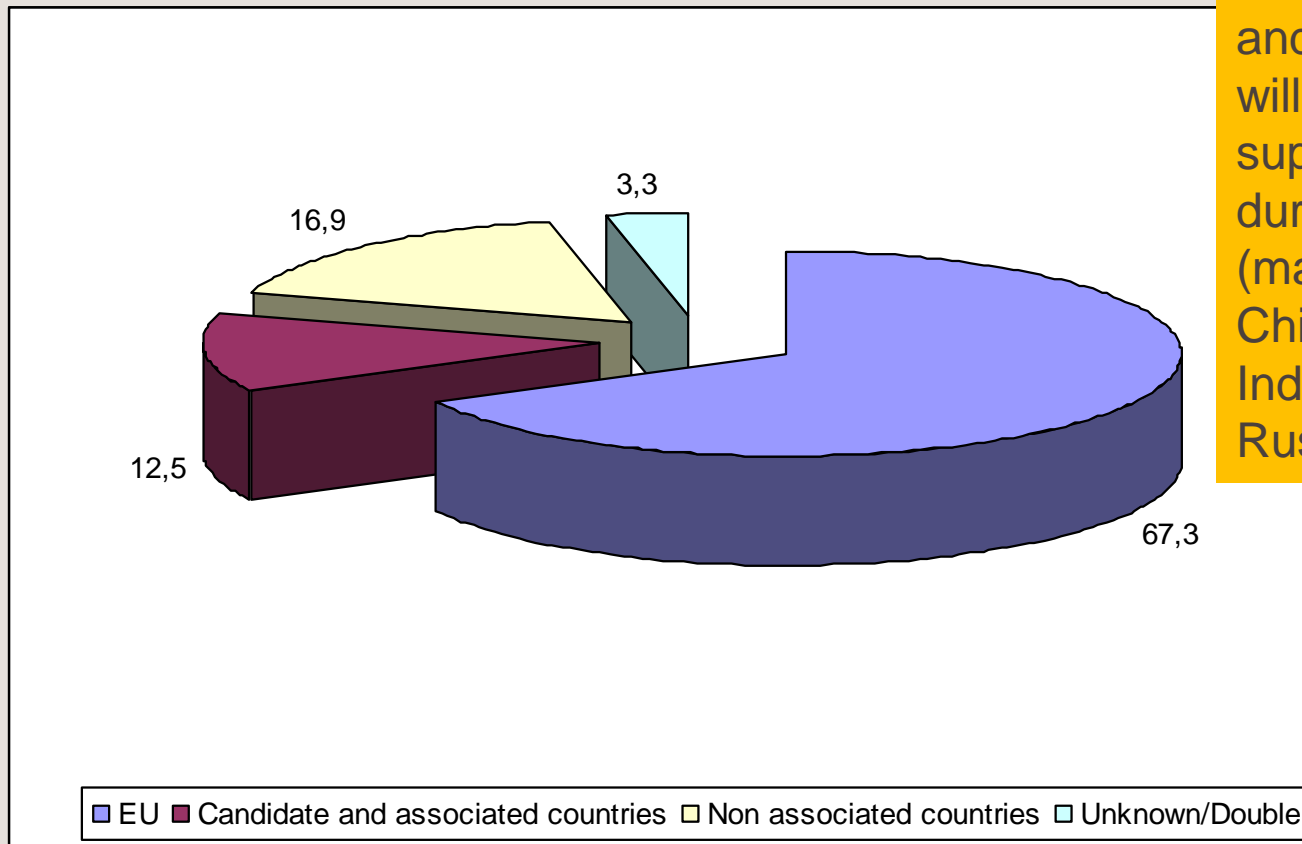


**TOTAL number of grantees with non-ERA nationality : 101 StG and 57 AdG**



# ERC team members with a non-ERA nationality

- Distribution **by nationality**:



Up to 3,000 non-ERA PhDs and Post-docs will be supported during FP7 – (mainly from China, US, India and Russia).

# Impact on advancing the frontiers of knowledge

- Already over 5,000 papers acknowledging ERC support published in international, peer reviewed journals
  - 2008: 36
  - 2009: 406
  - 2010: 1,204
  - 2011: 3,526

- In 2011, every week at least one ERC project published its findings in *Nature* or *Science*



# Impact at policy level in the Member States

- **Strategies and objectives**

- **Romania** – "exploratory and frontier research" a focus of the Nat RDI Strategy 2007-2013 (and a dedicated programme "Ideas")

- **Funding instruments**

- **France** - competitive funding of basic research by the new National Research Agency (created 2005)

- **Administrative organisation**

- **Poland** - the ERC model: the National Science Centre (created 2010)

- **Lithuania** – since 2008 the Research Council becomes also funding body

- **Recognition**

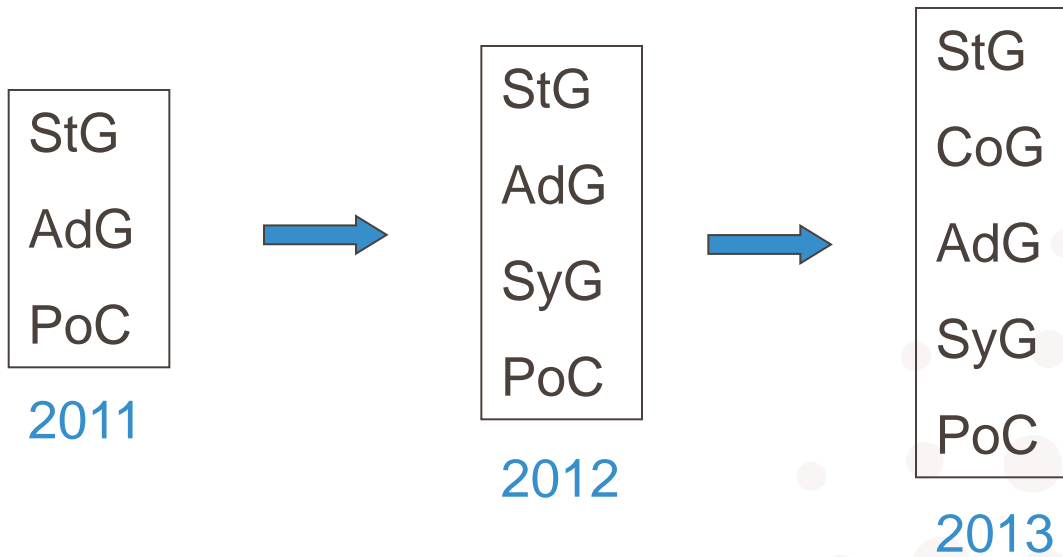
- Career facilities for ERC grantees (**Italy**: since 2011 any IT university can hire Starting grantees up to Assoc. Prof. and Advanced grantees up to Full Prof. level)

# Impact on the research funding mechanisms

- **Similar funding schemes**
  - Pre-existing schemes (e.g. **ESF** "EURYI")
  - New schemes: **Greece** ("Excellence"), **Poland** ("Sonata", "Maestro"), **Italy** ("Futuro in Ricerca"), **Portugal** (FCT 2012 calls), **Romania** ("Exploratory research projects"), **Spain** ("Consolider") ...
- **ERC-inspired approaches (evaluation, eligibility, expenditure ...)**
- **National initiatives complementing ERC-schemes**
  - **directly connected**
    - Closed: **CH, CY, FI, FR, HU, IE, IT, SI**
    - Active: **NO, SE, BE-Flanders, PL, ES, LU, EL, CZ, RO, soon BG**
  - **support to host institutions/ERC grantees**
    - **Ireland**: up to €300,000 as overheads to ERC HIs
  - **support to applicants, and incentives**

# ERC funding schemes

2012 is a transition year:



- Challenge
- Opportunity

# "ERC goes global" campaign

targeting top and emerging research locations



# Widening participation

Excellence can be anywhere, but **excellence doesn't happen on its own**

- Combined efforts of the Commission and the Member States

ERC contribution:

➤ ensure **a level playing field**

- The integrity of ERC peer evaluation system is continuously monitored

➤ enhance the **awareness of the ERC grants schemes** across Europe

- *Ideas* NCPs (National Contact Points)
- Stand and sessions at conferences/congresses
- **ERC events: Scientific Council meetings in the new Member States: Prague (May 2007), Vilnius (Sept 2008), Warsaw (June 2009) Bucharest (March 2010), Budapest (June 2011), Riga (Oct 2011), Sofia (April 2012)**
- **ERC regional outreach events**



# 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



# ERC organisation during H2020

## ➤ Task-force recommendations to build on the success of the ERC

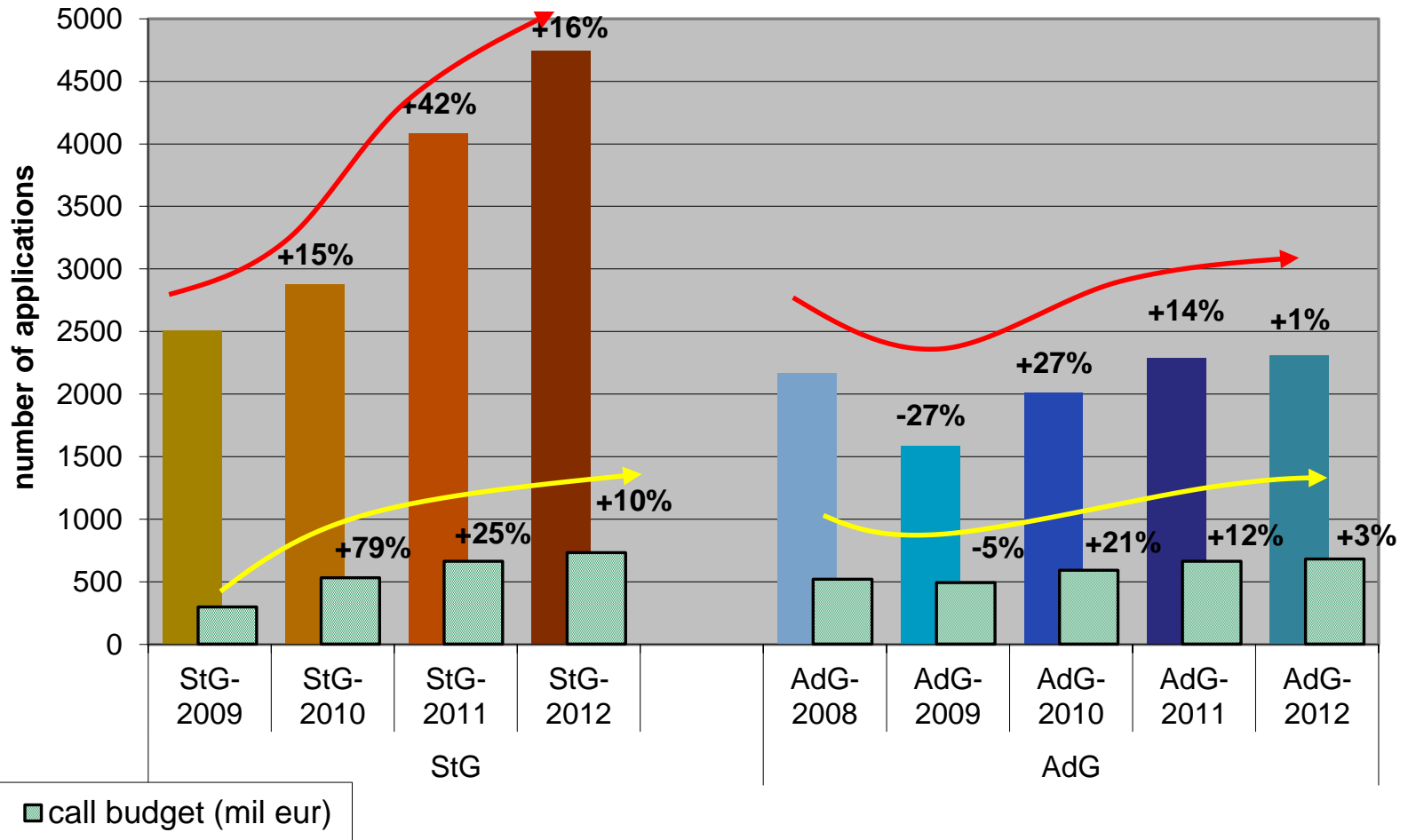
- President of the ERC based in Brussels, no ERC Sec Gen
- enhanced role for Scientific Council and Director of the ERC Executive Agency
- ERC should remain an executive agency as the best form to deliver its expected major contribution to the forthcoming Horizon 2020 programme, but arrangement to be reviewed

## ➤ essential features maintained

- independent Scientific Council with full authority over funding strategy
- Executive Agency with autonomous operation
- open to individual teams of researchers of any age, from any country, without predetermined priorities
- scientific excellence the sole criterion on which ERC grants are awarded

# ERC prospects for the future

## Rising applications – stable budget?



# Preparing Europe for a changing future: the scientific landscape in 2011

Figure 1.4. Top 20 publishing cities 2004–2008, and their growth since 1996–2000.<sup>128</sup>



Source:  
Royal Society Report  
Knowledge,  
networks and nations  
March 2011

Key City with highest publication output in the period 2004-2008; growth is since period 1996-2000.

- Decreased or stayed constant
- Increased 5-10 places
- Increased 10-20 places
- Increased 20+ places