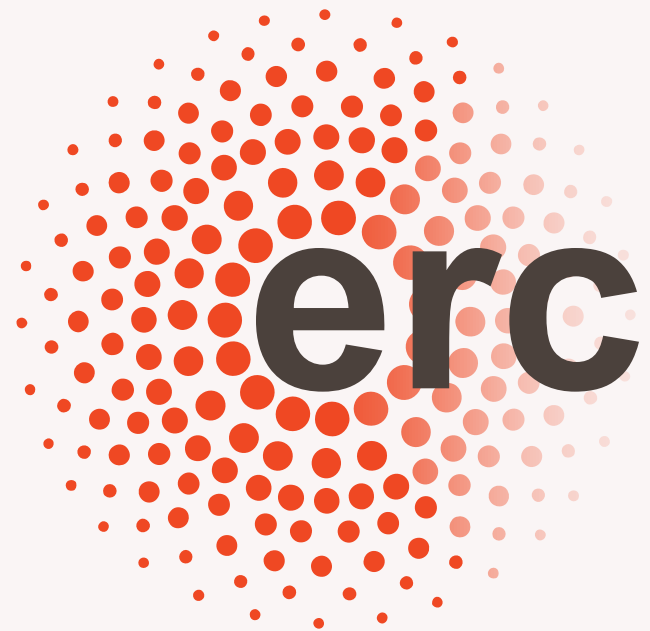


ERC – European Research Council

Peer review and Interdisciplinary research at the ERC

Monique SMAIHI
ERC

Brussels, 6 December 2011



Outline

Part 1 - ERC

- What is the ERC?
- ERC Starting and Advanced Grant Schemes

Part 2 – Evaluation

- Submission
- Evaluation process
- What's new & deadlines

Part 3 - Data from previous calls

- General
- Interdisciplinarity



Seventh Framework Programme for Research and Technological Development FP7 (2007-13)

European Research Council



Main instrument of the EU for funding research

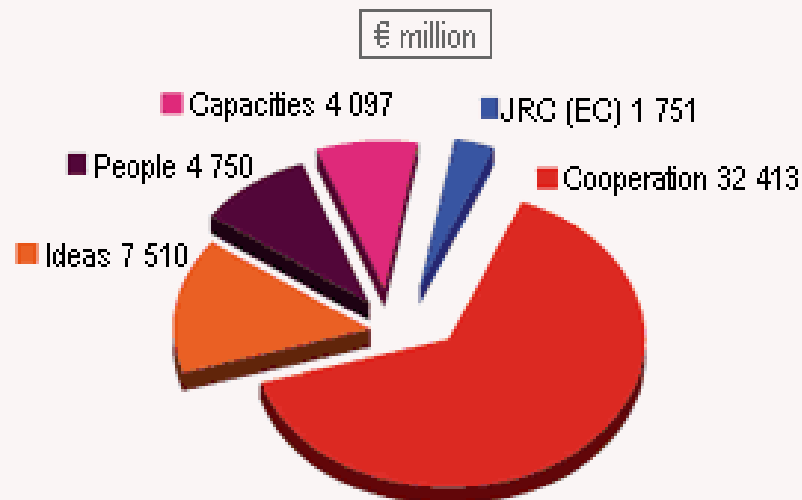
Cooperation – *Collaborative Research*

Ideas – *Frontier Research*

People – *Marie Curie Actions*

Capacities – *Research Capacity*

Total FP7 Budget:
€ 50.4 billion



ERC Grant Schemes

Funding Strategy

- Funds top scientists based all over Europe working on “Frontier Research”
 - Evaluation only based on “**excellence**”
 - Bottom up, Principal Investigator approach
 - Sizeable and flexible grants that make a difference
- **Activities:** 4 grant schemes



ERC Grant Schemes

Funding Strategy

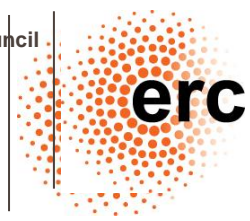
- ERC **Starting Grants (StG)**
- ERC **Advanced Grants (AdG)**

- ERC **Synergy Grants** (from 2012)
- ERC **Proof of Concept Grants** (only for ERC grantees!)



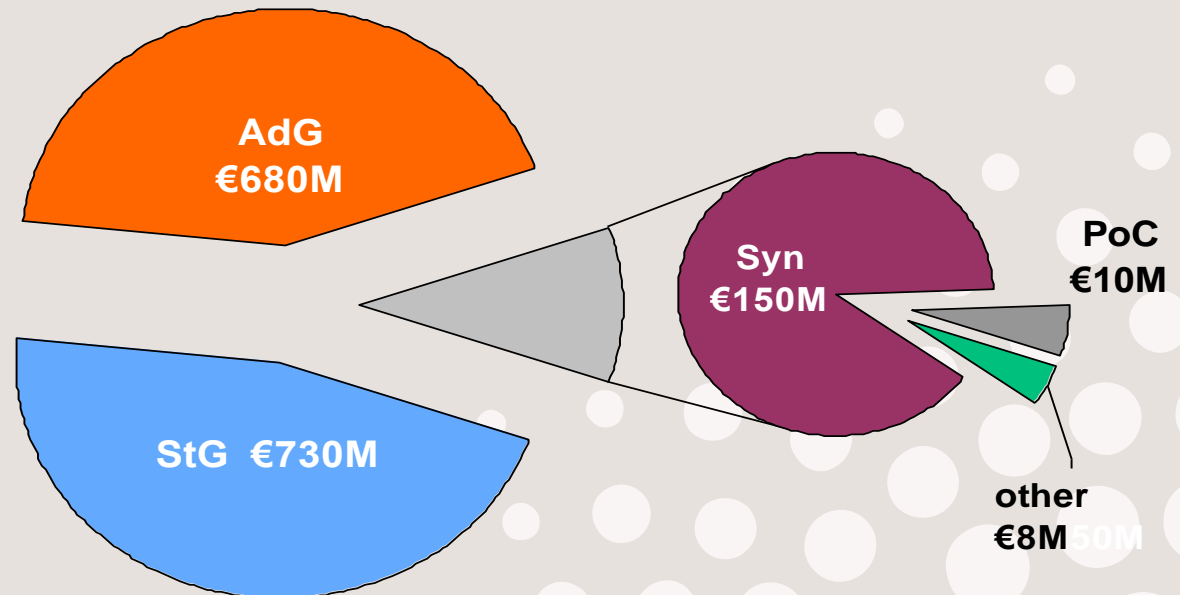
ERC grant schemes

2012 Call budget distribution



2012 total budget: €1,578.1M

- AdG: Advanced Grants
- StG: Starting Grants
- Syn: ERC Synergy
- PoC: Proof of Concept



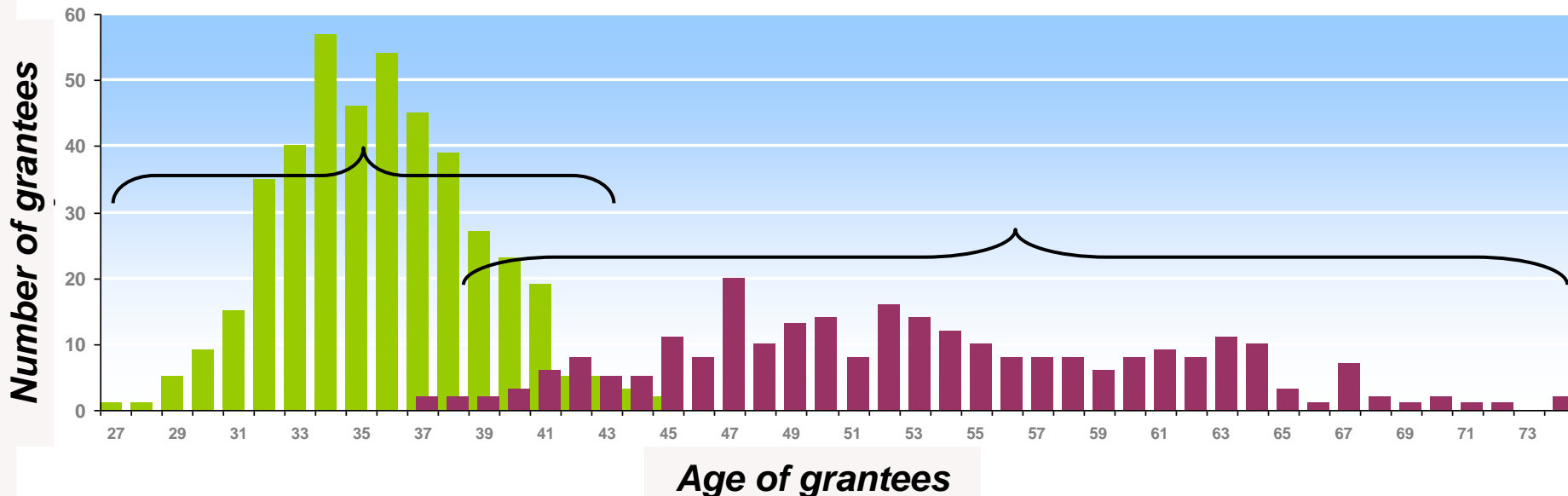
ERC Granting schemes

Starting Grants

- Attract/retain **next-generation top scientists**
- Address **funding gap** early in independent career
- Establish or consolidate an independent **research team & program**
- Up to **€ 2.0 Mio**

Advanced Grants

- Attract/retain **current world-top scientists**
- Stimulate investigator-driven, **breakthrough research**
- Up to **€ 3.5 Mio**



ERC Starting Grants

Size of the grant and eligibility



- **Possible requested amount:**

max. € 1,500,000 for 5 years

+ € 500,000 if new research activity in EU: moving from third country or purchase of major equipment

- **Eligible costs:** Costs supporting the project (personnel, equipment, consumables, travel, admin)

- **Dedication of min. 50%** of PI's working time in a EU MS or AC and min. 50% of PI's working time to the ERC-funded project

- **First PhD awarded 2-12 years** before call publication date (i.e. 20 July 2011)

- **starters** (PhD award: **2-7** years)

- **consolidators** (PhD award: **7-12** years)

- Extension may be accepted for specific and duly justified reasons (maternity leave,...)



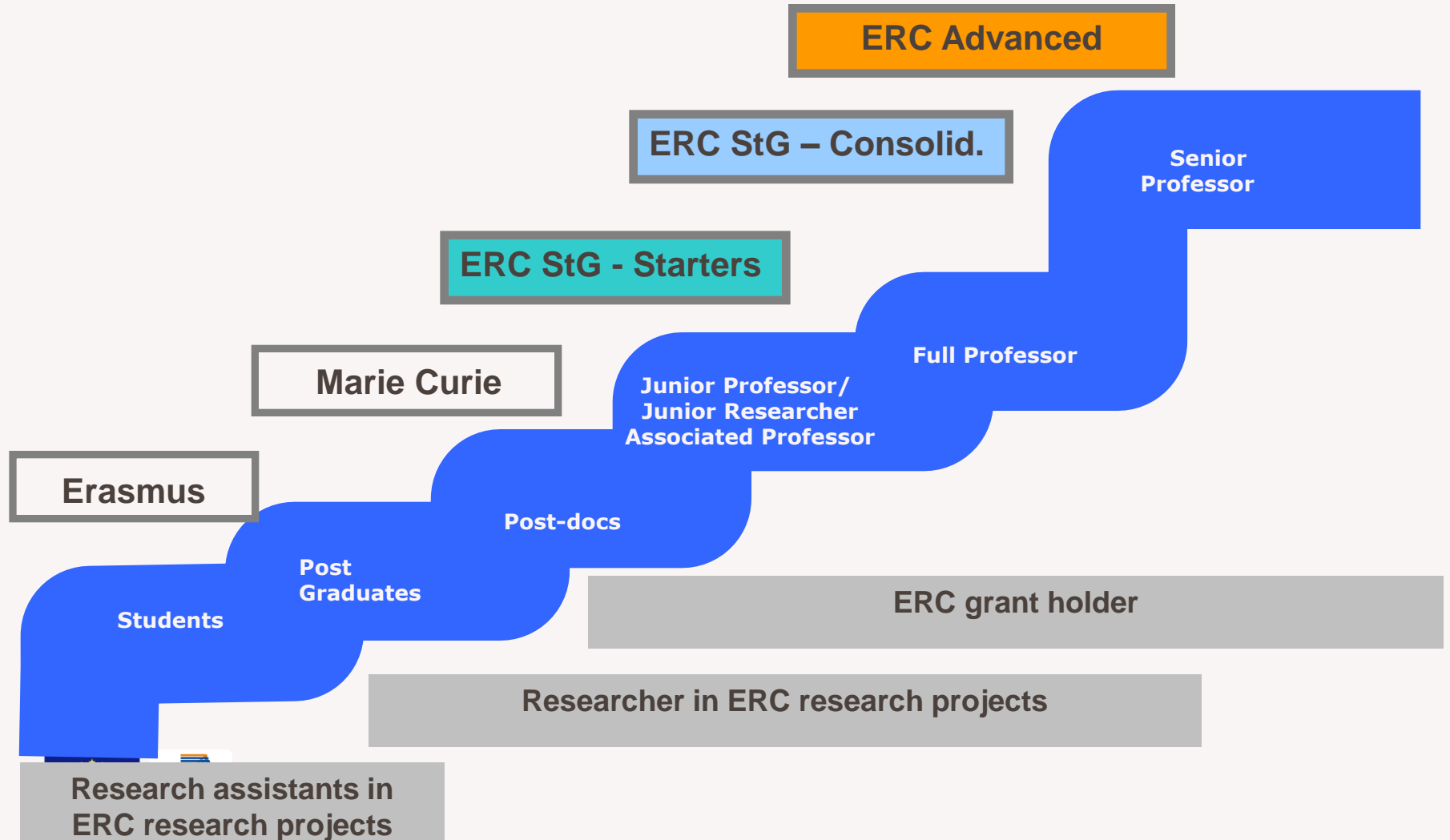
ERC Advanced Grants (AdG)

Size of the grant and eligibility



- Possible requested amount:
 - **max. € 2,500,000 for 5 years**
 - + € 1,000,000 if new research activity in EU by moving from third country to MS or AC or if purchase of major equipment
- Eligible cost: costs supporting the project (personnel, equipment, consumables, travel, admin)
- Dedication of **min.** 50% of PI's working time in a EU MS or AC and min. 30% of PI's working time to the ERC-funded project

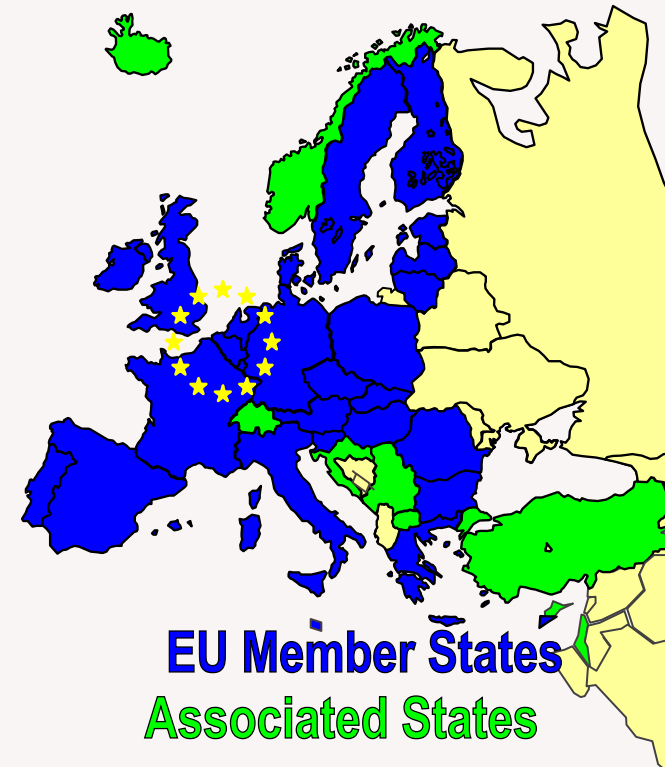
Researchers Career development and complementary funding schemes



ERC Grant schemes:

Who can apply? What type of research – General requirements

- Excellent Researchers (PIs)
 - Any nationality, age or current place of work
- In conjunction with a Host Institution
 - Based in EU or associated countries
- Individual research team
 - Under control of the lead researcher (PI)
- All fields of science and scholarship are eligible
 - Investigator-driven, bottom-up (no thematic priorities)
- Research
 - Innovative breakthrough research: high risk/high gain



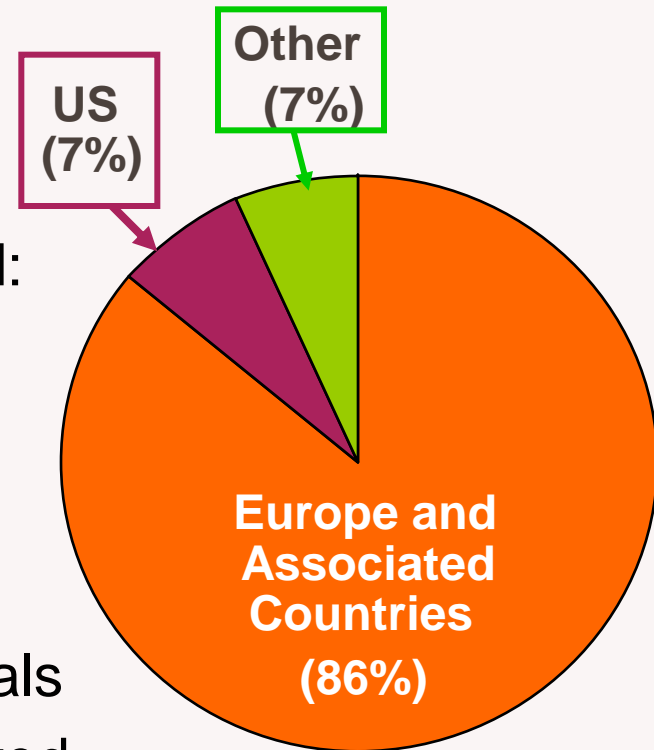
Who evaluate the proposals ?

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



ERC Grant Schemes (StG & AdG)

Panel structure : 3 domains and 25 panels

Each panel :
Panel Chair and
10-15 Panel Members

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

Social Sciences and Humanities

- SH1 Individuals, institutions & markets
- SH2 Institutions, values, beliefs and behaviour
- SH3 Environment & society
- SH4 The Human Mind and its complexity
- SH5 Cultures & cultural production
- SH6 The study of the human past

Physical Sciences & Engineering

- PE1 Mathematical foundations
- 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



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Submission of proposals

- Single submission
 - ➔ “1 stage, 2 step” evaluation
- Electronic submission via EPSS only
- Deadlines strictly enforced
- Proposals have two parts:
 - ➔ Part A: Administrative forms
 - ➔ Part B: Scientific proposal itself

Submission is to Panels

- Applicant submits to a *Targeted Panel* (of PI choice)
 - ➔ Can flag one “*Alternative Review Panel*”
- **Applicant chooses his/her panel**, that panel is “responsible” and takes ownership for the evaluation of that proposals
- Only switch proposals between panels in case of clear mistake on part of applicant
- Switching proposals between domains (deadlines) not possible
- But: In case cross-panel or cross-domain proposals, evaluation by members of other panels possible

Proposal structure: Part A

- **Part A:** “Administrative forms” containing
 - ➔ A1 Information on PI
 - Request for change of stream (StG only)
 - ➔ A2 Information on Host Institution
 - ➔ A3 Budget breakdown by year and partner
 - Not detailed

Proposal Structure: Part B

- **Section 1 = “The PI”**
 - Scientific Leadership profile (1 page)
 - CV (including “funding ID”) (2 page)
 - 10-year track record (or “early achievements” for StG) (2 page)
 - Extended synopsis (5 page)
- **Section 2 = Full Scientific proposal (15 page)**
- Ethical Review information (where appropriate)
- Separate additional document:
 - ➔ Host Institution Support Letter (compulsory StG + AdG)
 - ➔ Copy of Ph.D. (compulsory StG)
 - ➔ Documents to prove extension to 10 year eligibility window (StG)

ERC Grant Schemes

Evaluation criteria

- **Criterion 1: Quality of Principal Investigator**
- **Criterion 2: Quality of Research Project**

Numerical **score** for each criteria

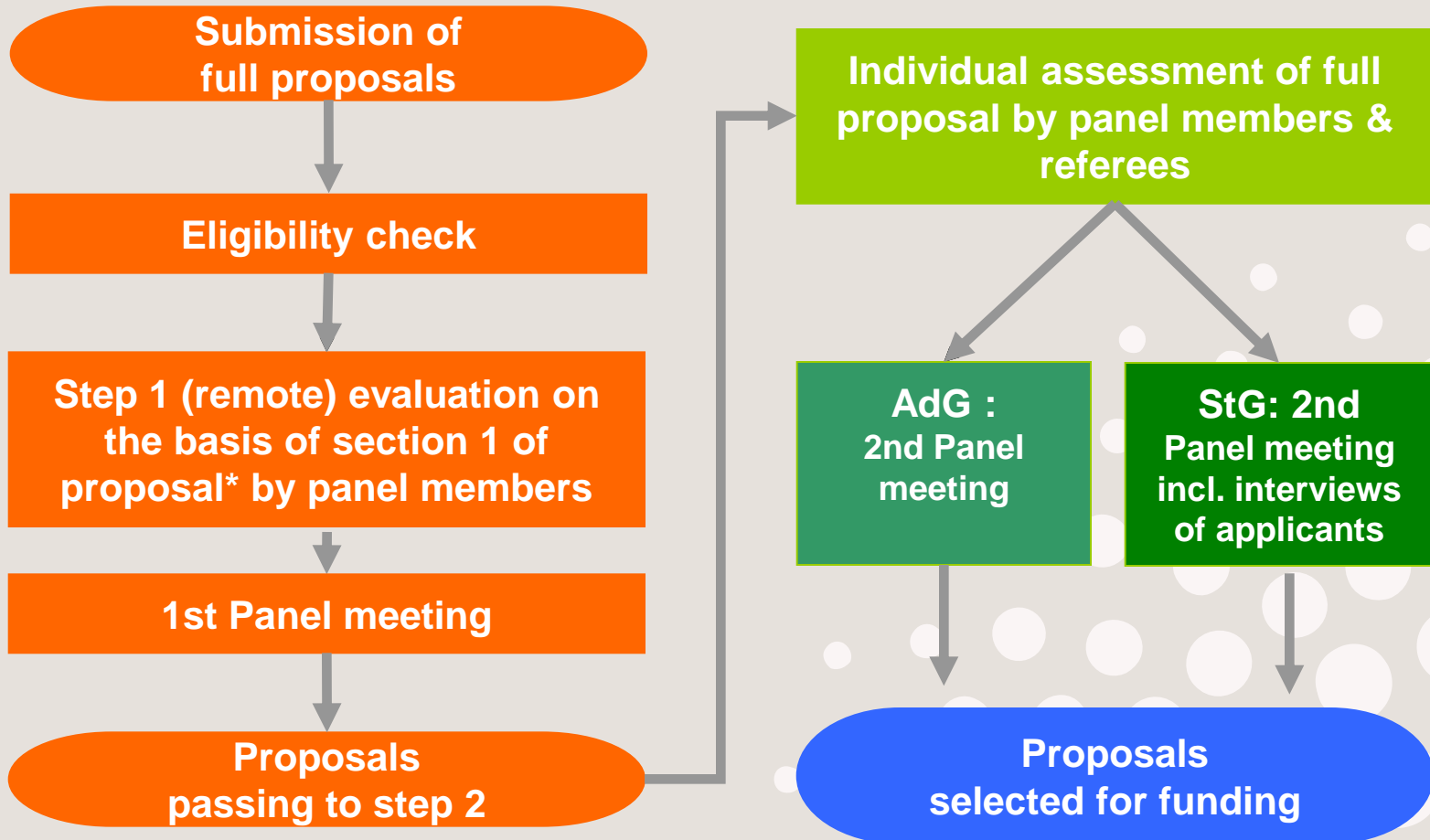
- 4 (A) : outstanding
- 3 (A or B) : excellent
- 2 (B) : very good
- 1 (C) : non-competitive

Referees and panel members **evaluate and score** each criteria

—————→ **ranking** of the projects

ERC Grants: how does it operate?

Submission, evaluation and selection



Remote part of evaluation

- Remote part of evaluation takes part completely electronically
- **Step 1:** proposals assigned to ~4 PMs
- **Step 2:** proposals also sent to specialized remote experts (to be determined at Step 1 panel meeting)

What are panels looking for in an interview? (StG only)

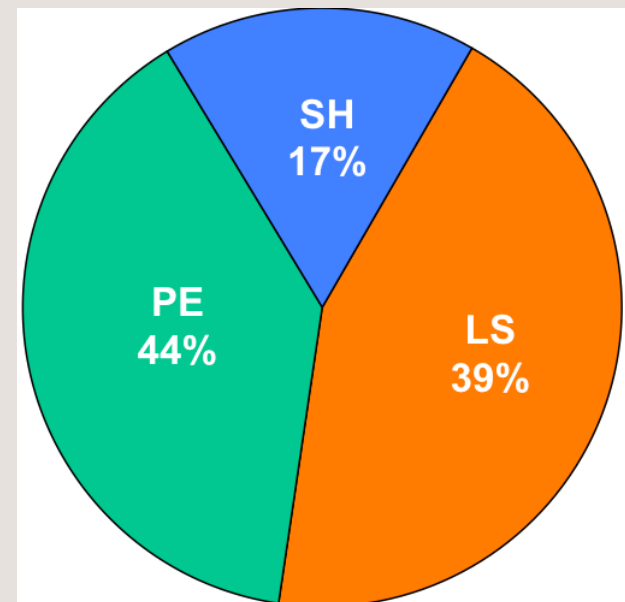
- Maturity, leadership and vision
- Proposal is the applicant's (not his/her supervisor's)
- Answer technical questions and uncertainties / feasibility
- Mastery of detail

Call budget distribution for 2012 calls

- Starting Grant : ~ €730m
- Advanced Grant: ~ €680m

Indicative call budget

- Life Sciences – LS
- Physical Sciences & Engineering – PE
- Social Sciences & Humanities – SH



- ➔ Within each domain, **budget is broken down according to total funding requested per panel** (equal chance in each panel)

New “scoring”

Move away from “absolute marks” and towards A, B and C + approximate rank-in-panel information to give applicants a better idea of how close (or how far) they got to being funded

In Step 1:

- **A** is of sufficient quality to pass to Step 2 of the evaluation;
- **B** is of high quality but not sufficient to pass to Step 2 of the evaluation;
- **C** is not of sufficient quality to pass to Step 2 of the evaluation.

In Step 2:

- **A** fully meets the ERC's excellence criterion and is recommended for funding if sufficient funds are available
- **B** meets some but not all elements of the ERC's excellence criterion and will not be funded

Timetable of StG and AdG calls

ERC open calls	Publication of call	Size of Grants	Submission Deadline(s)
Starting Grants ERC-2012-StG	20 July 2011	Max. €1,500,000 for five years (+ €500,000*)	PE: 12 Oct. 2011 LS: 09 Nov. 2011 SH: 24 Nov. 2011
Advanced Grants ERC-2012-AdG	16 Nov. 2011	Max. €2,500,000 for five years (+ €1000,000*)	PE: 16 Feb. 2012 LS: 14 Mar. 2012 SH 11 Apr. 2012

* Extra funds for PIs to establish themselves in EU or assoc. country:

- 'start-up' costs for PIs moving from abroad
- Purchase of major equipment

Panels decide whether requests are justified

Essential documents

<http://erc.europa.eu> => funding and grants

- ERC Work Programme **2012**
- ERC Guide for Applicants – **StG, AdG, PoC, SyG**
- ERC Rules on submission, evaluation, selection and award procedures
- ERC Grant agreement (and guidance)
- ERC Guide for Grant Holders
- ERC Guide for Peer Reviewers

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ERC Competitions 2007-2011

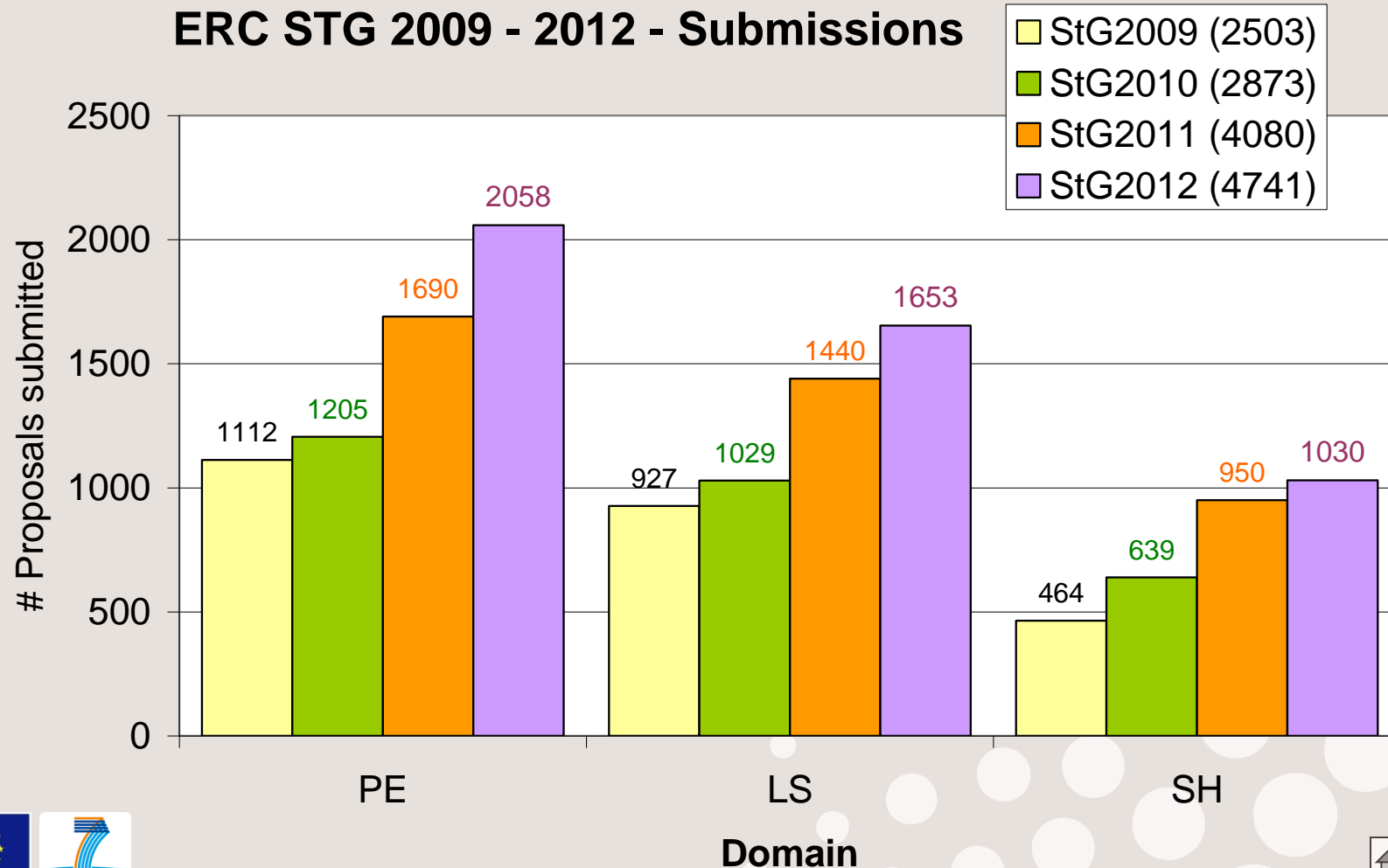
	Total number of applications received	of which		
		Evaluated*	Funded	success rates**
Starting Grant 2007	9.167	8.794	299	3,4
Starting Grant 2009	2.503	2.392	245	10,2
Starting Grant 2010	2.873	2.767	436	15,8
Starting Grant 2011	4.080	4.005	478	11,9
Starting Grant	18.623	17.958	1.458	10,3
Advanced Grant 2008	2.167	2.043	282	13,8
Advanced Grant 2009	1.587	1.526	245	16,1
Advanced Grant 2010	2.009	1.967	271	13,8
Advanced Grant 2011***	2.284	2.246		
Advanced Grant	8.047	7.782	798	14,5

* withdrawn and ineligible proposals not taken into account;

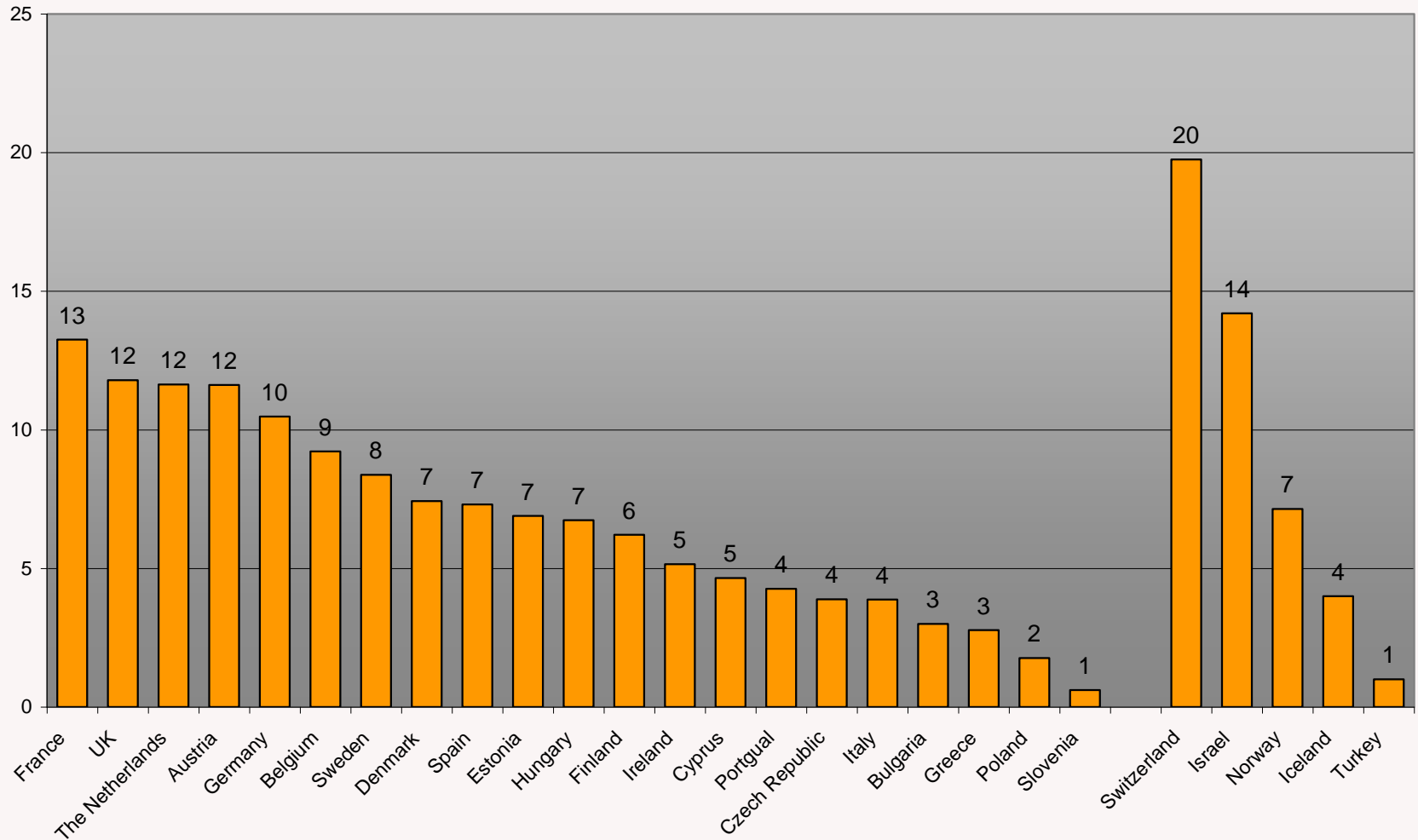
** percentage of funded proposals in relation to evaluated proposals

*** evaluation not yet completed

STG 2009-2012 Evolution of Submissions



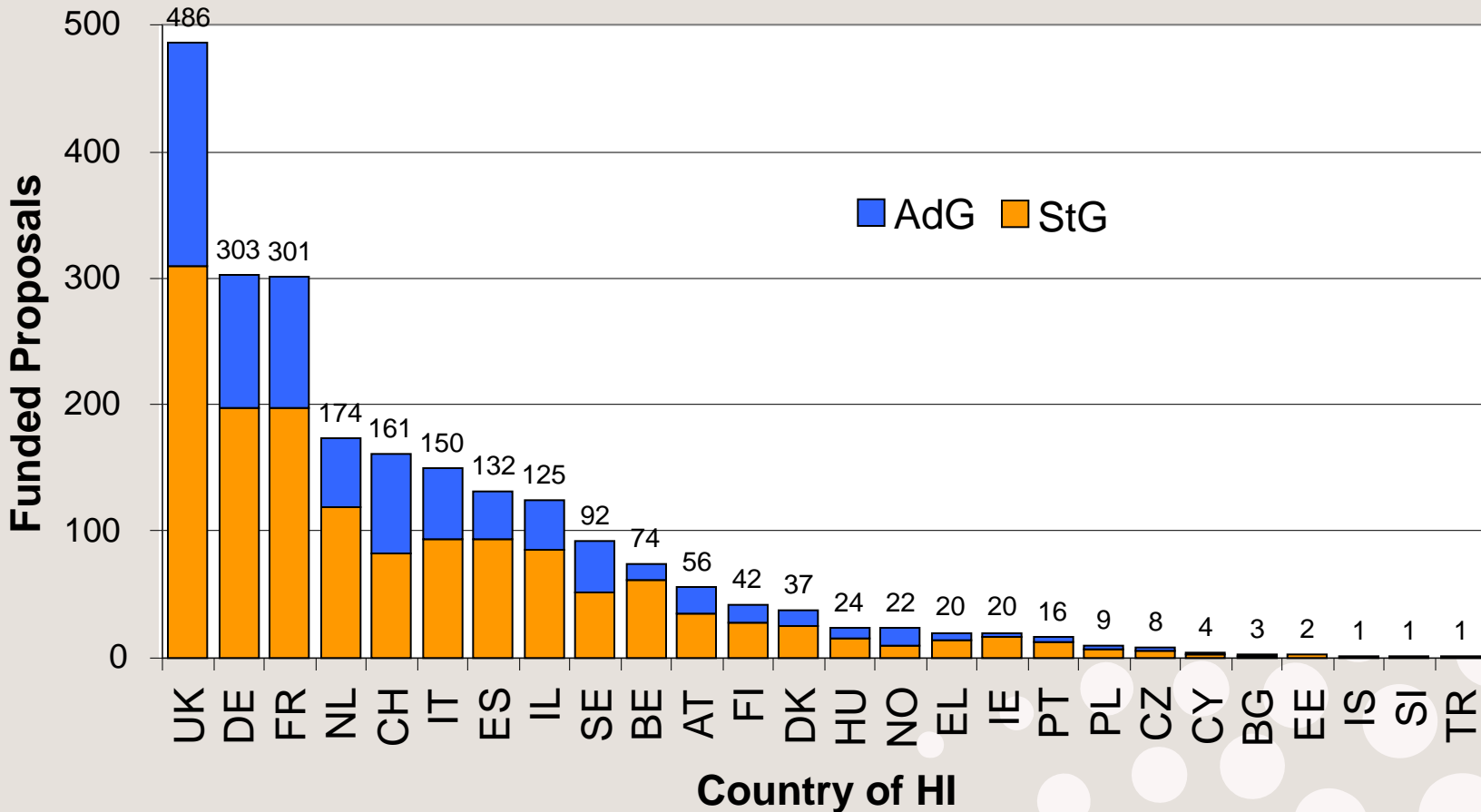
Success rates per country



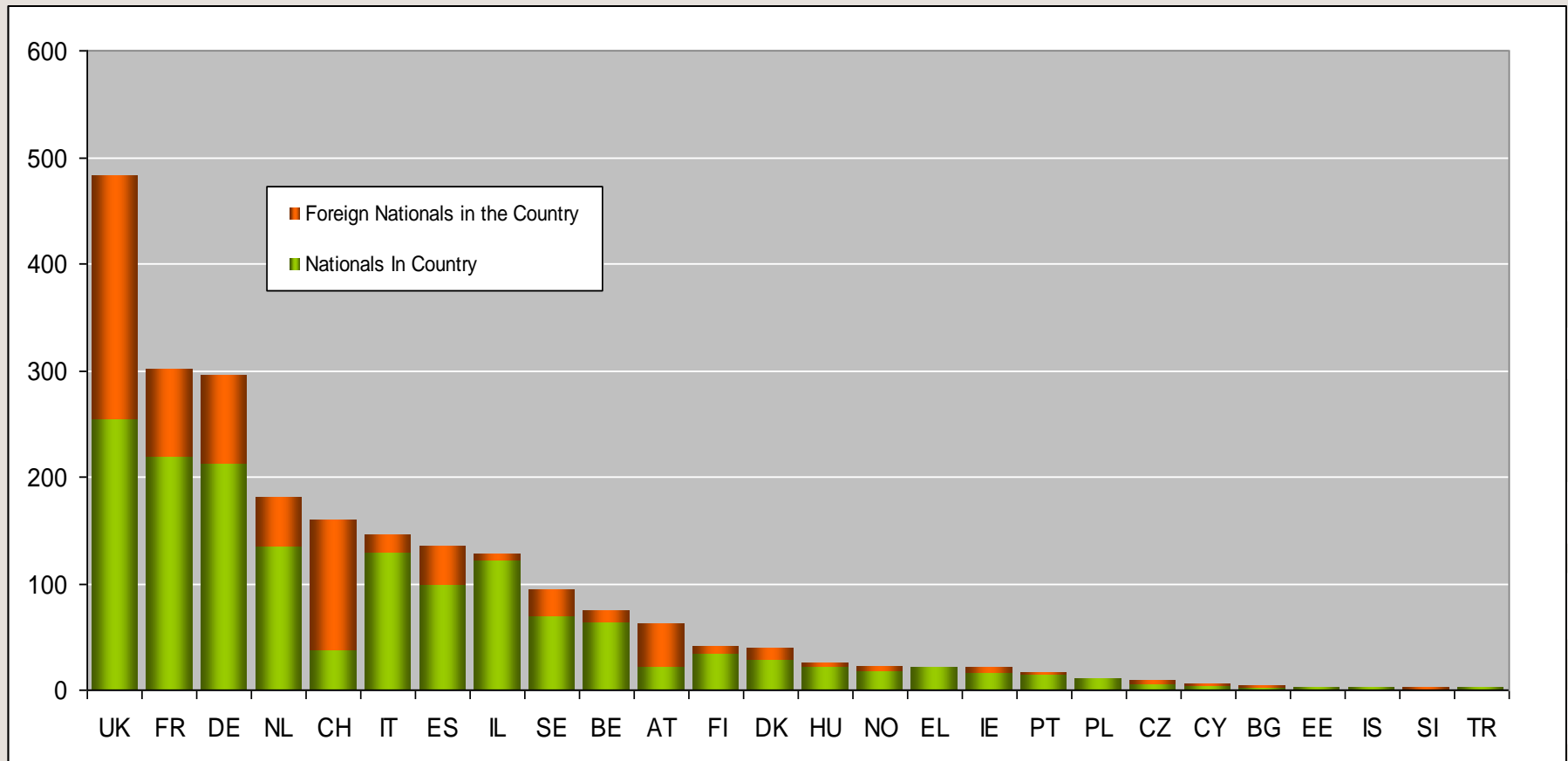
ERC Starting grant 2007-2011

ERC Advanced grant 2008-2010

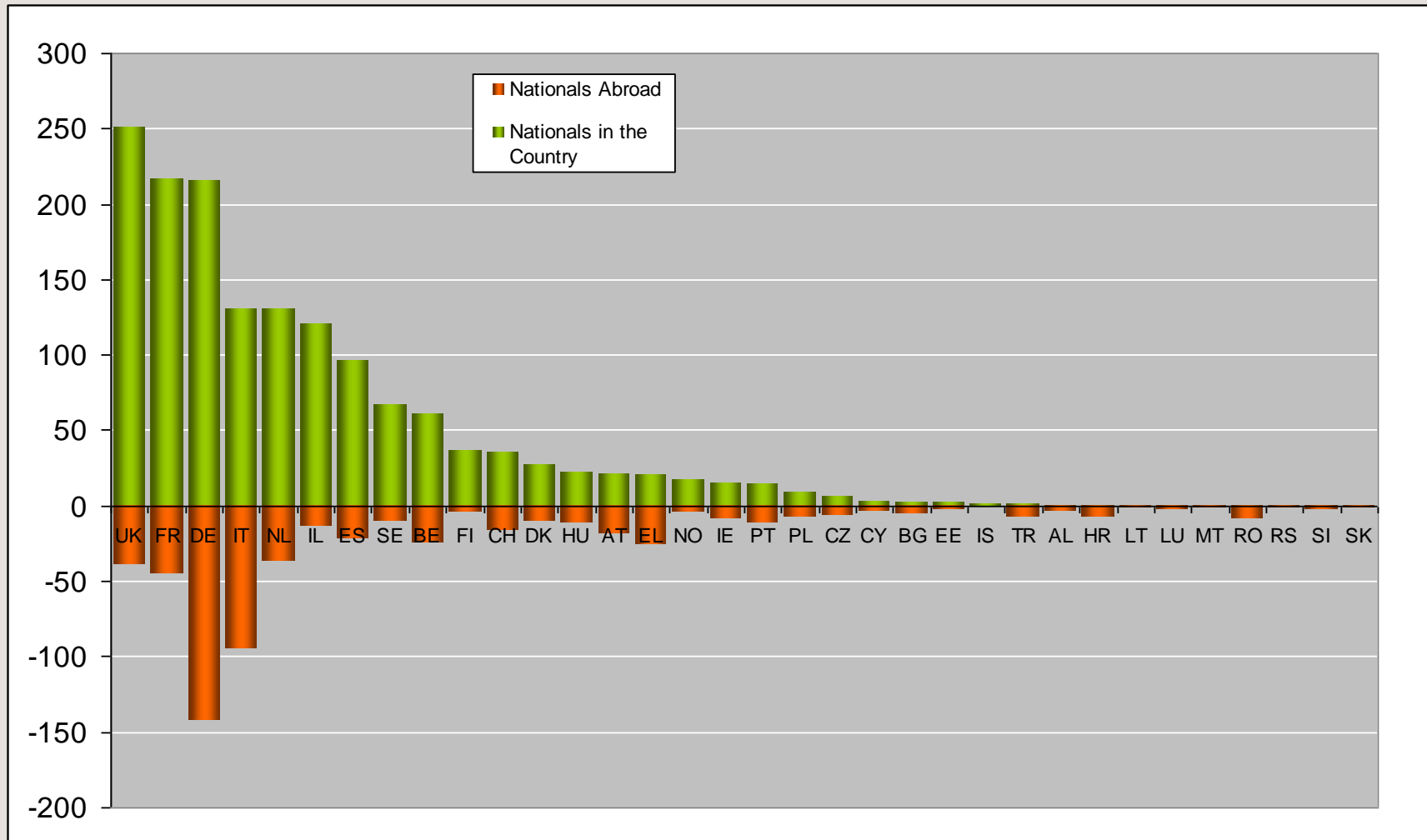
Over 2000 ERC grantees



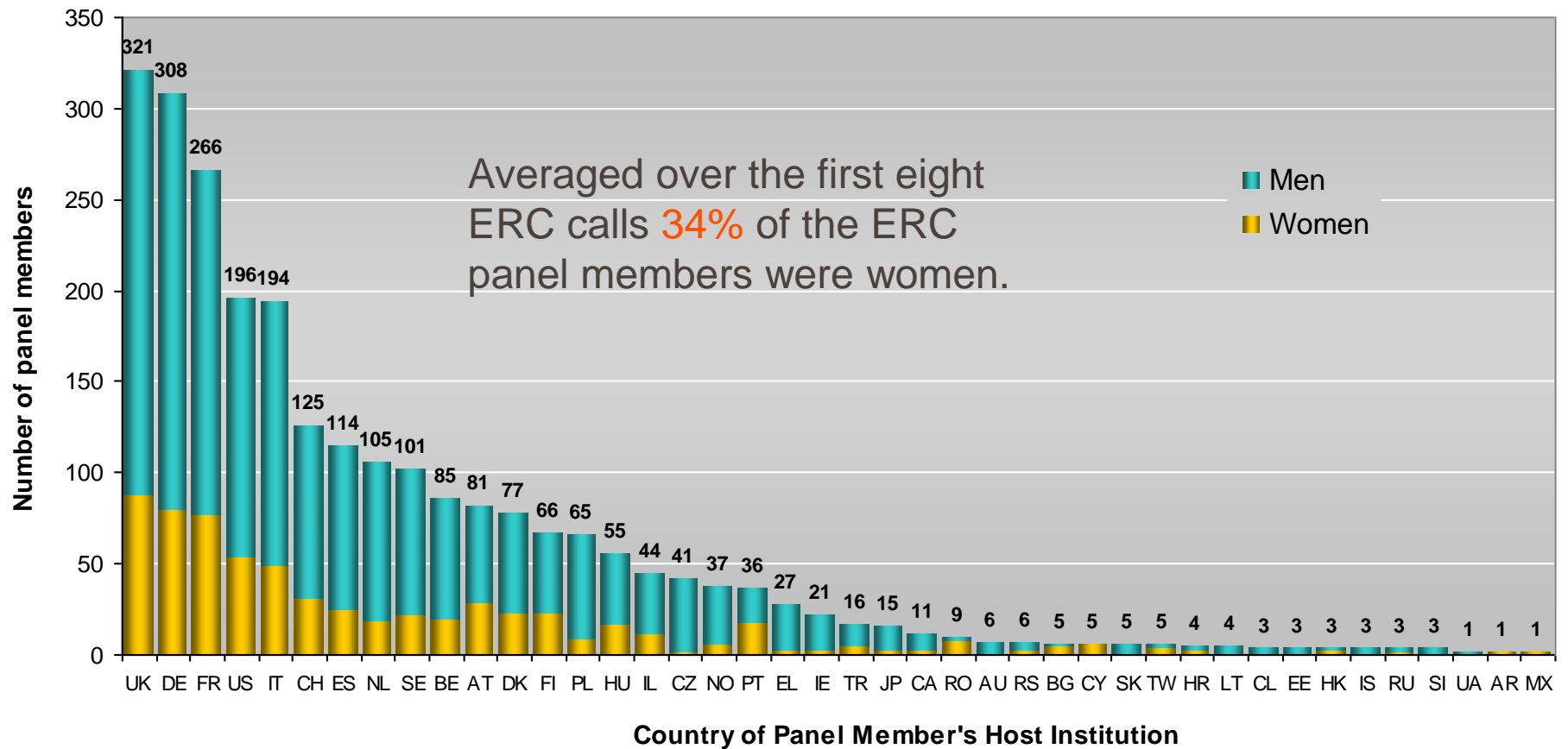
Mobility Patterns I : Origin of Grantees



Mobility Patterns II : Residence of Grantees



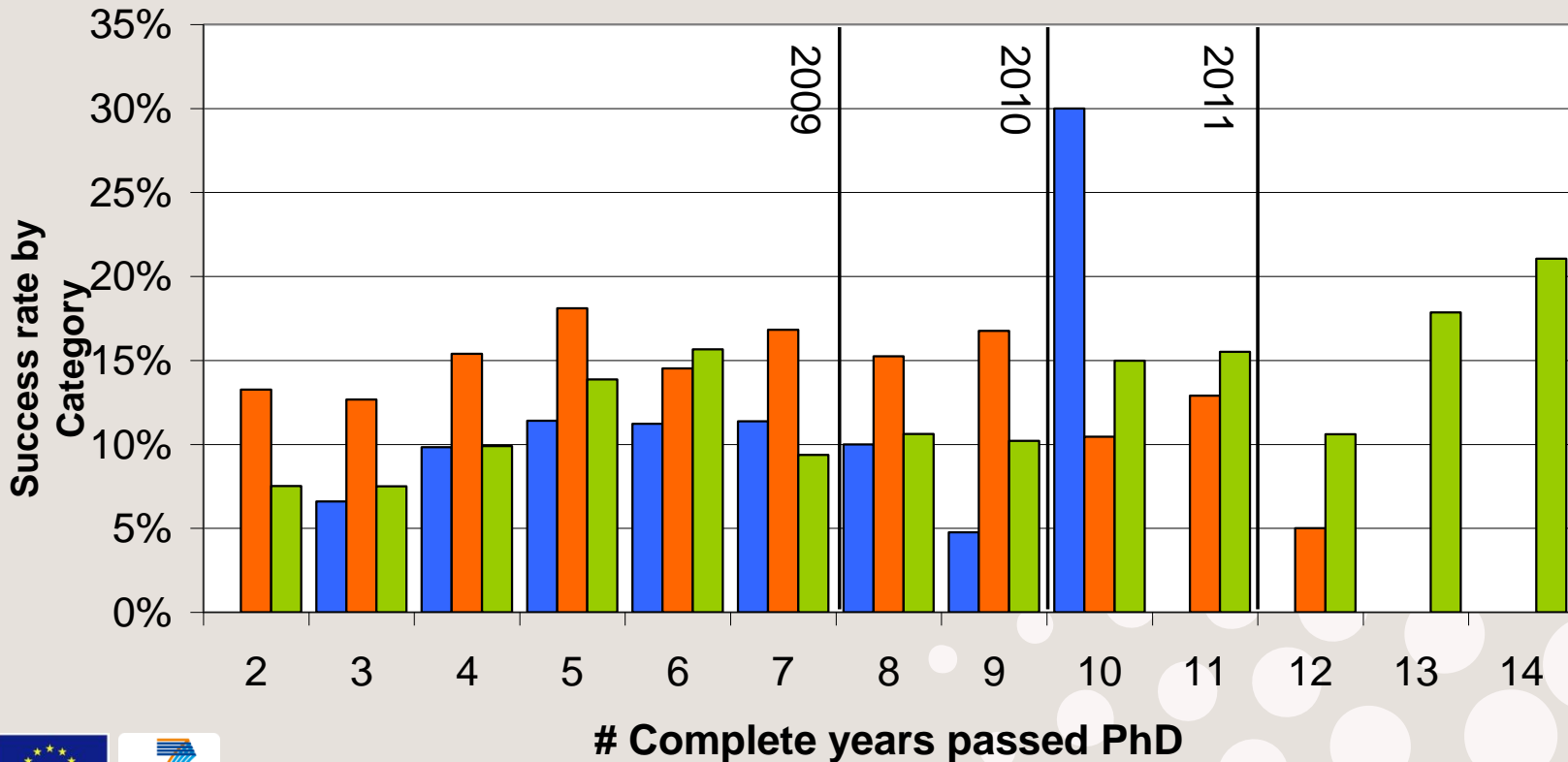
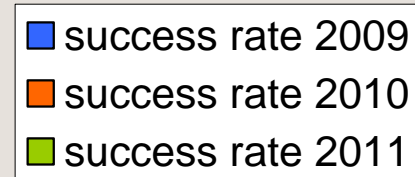
ERC panel members by country of HI and gender





ERC STG 2009-2011 Success Rates

ERC STG 2009-2011 Success rates by Years passed PhD with eligibility limits

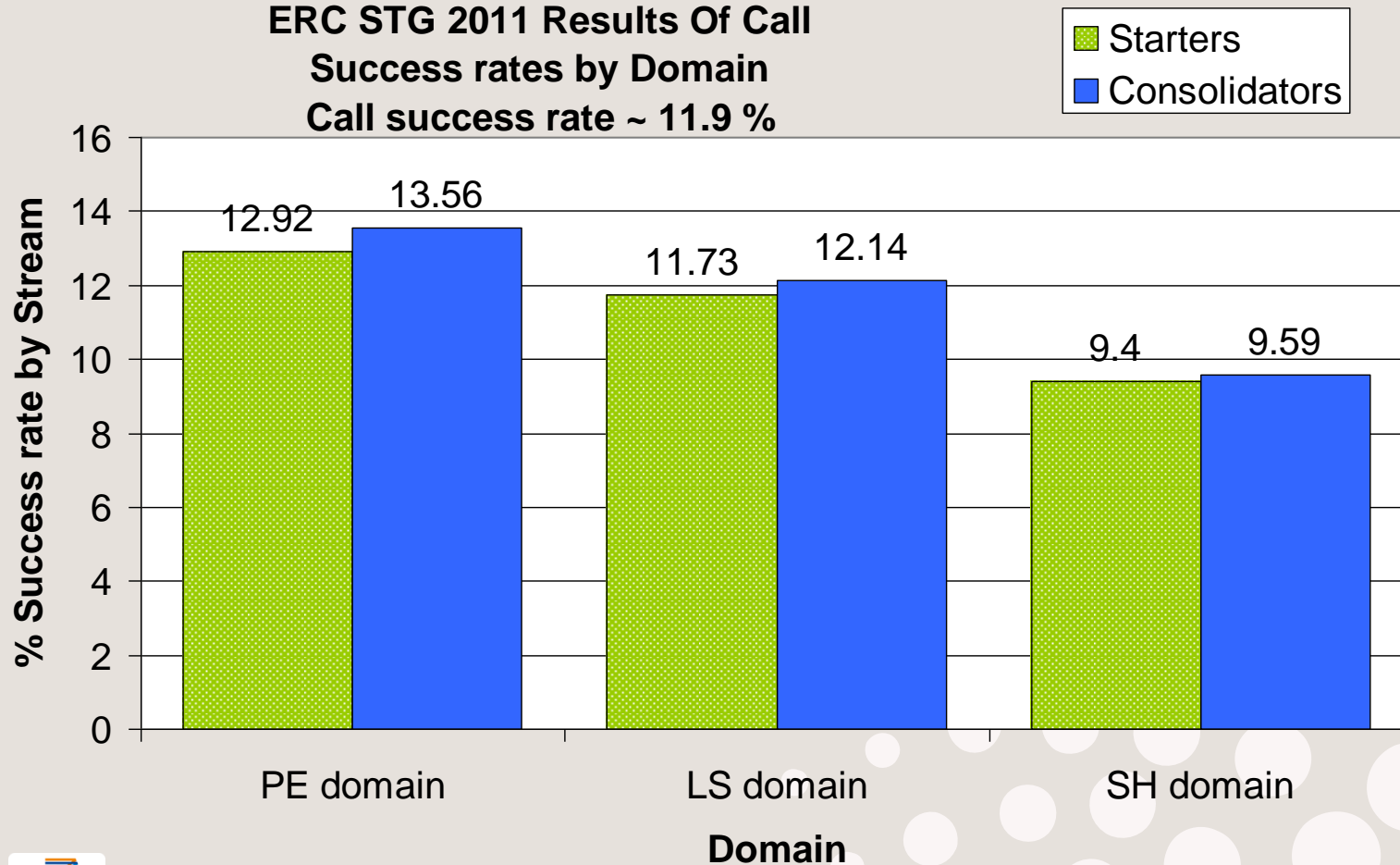


ERC STG 2011

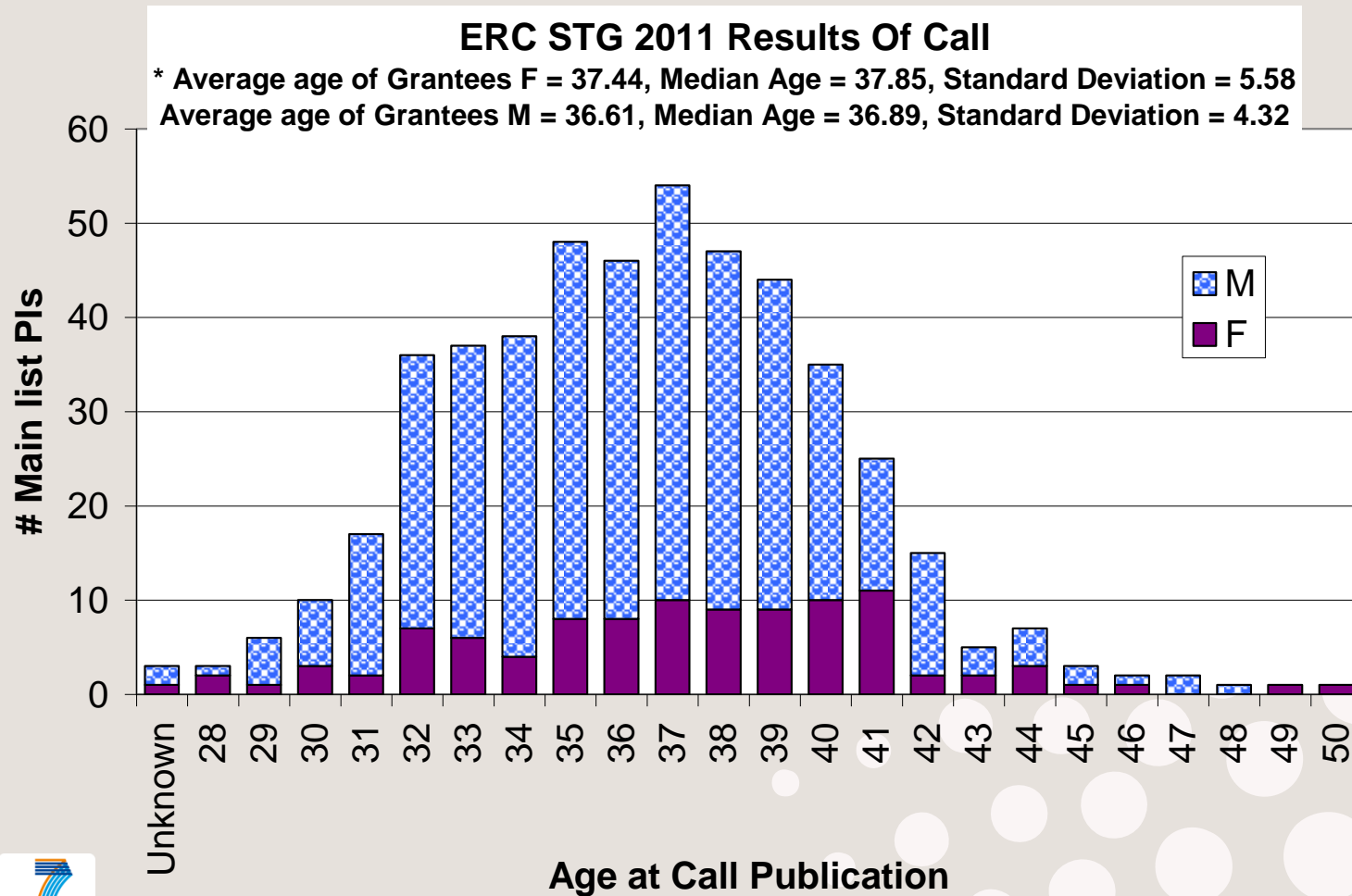
Success Rates by Domain



ERC STG 2011 Results Of Call
Success rates by Domain
Call success rate ~ 11.9 %



StG 2011 – Age of Grantees



Interdisciplinary proposals at the ERC



Interdisciplinarity : principles

ERC Workprogramme 2012:

- Applications can be made in any field of research (...)
- with particular emphasis on the frontiers of science, scholarship and engineering

Proposals of an interdisciplinary nature :

- ◆ which cross the boundaries between different fields of research,
- ◆ addressing new and emerging fields of research
- ◆ introducing unconventional, innovative approaches and scientific inventions

Interdisciplinary Proposals

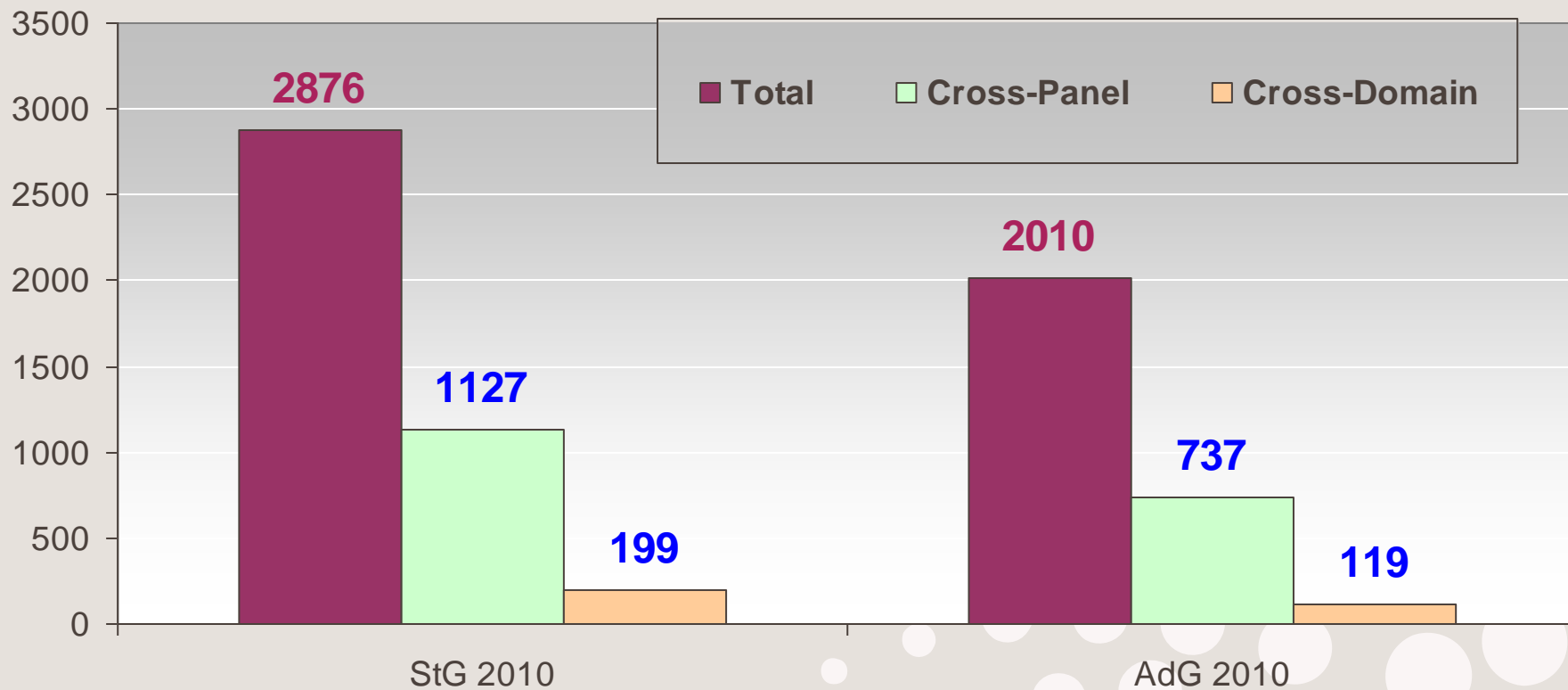
- Approach for Interdisciplinary proposals: “**mainstreaming**”
- Proposal submitted to a target panel primarily responsible for its evaluation
- Both Step 1 and Step 2:
 - ➔ Assigned for reviews from PMs outside primary panel, if necessary
- Step 2:
 - ➔ Remote reviewers: any reviewer in the world (hence any domain)

Principle of Mainstreaming

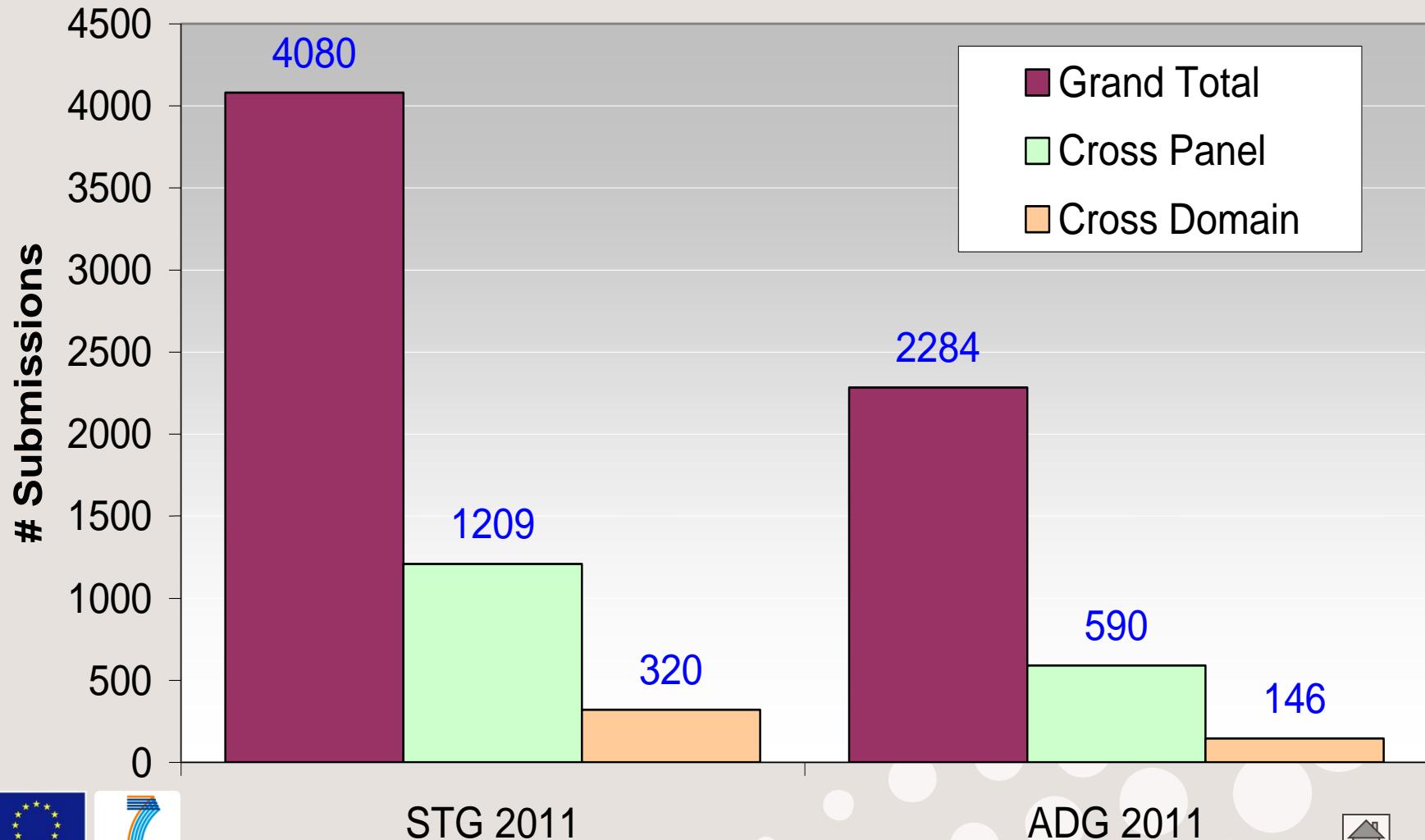
A substantial number of proposals require expertise outside of the primary panel.

- At step 1 : Panels seek reviews from other panels for the proposals requiring additional expertise outside the primary panel.
- At step 2 : The same secondary panels (or additional ones) provide a review on the previously identified cross-panel proposals.

StG2010 and AdG2010 CP/CD Submission per call

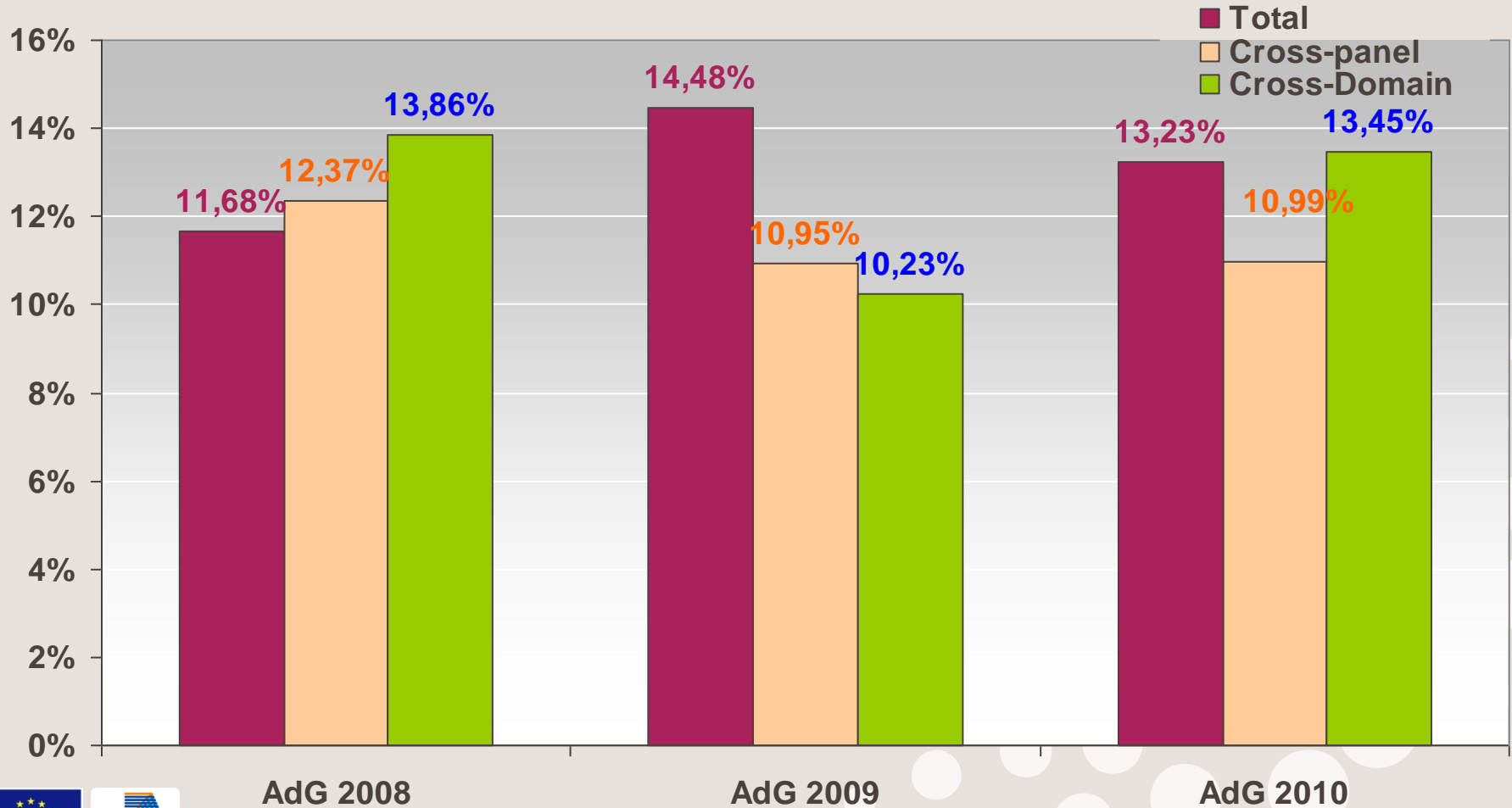


StG2011 and AdG2011 CP/CD Submission per call



ERC AdG 2008 – 2010

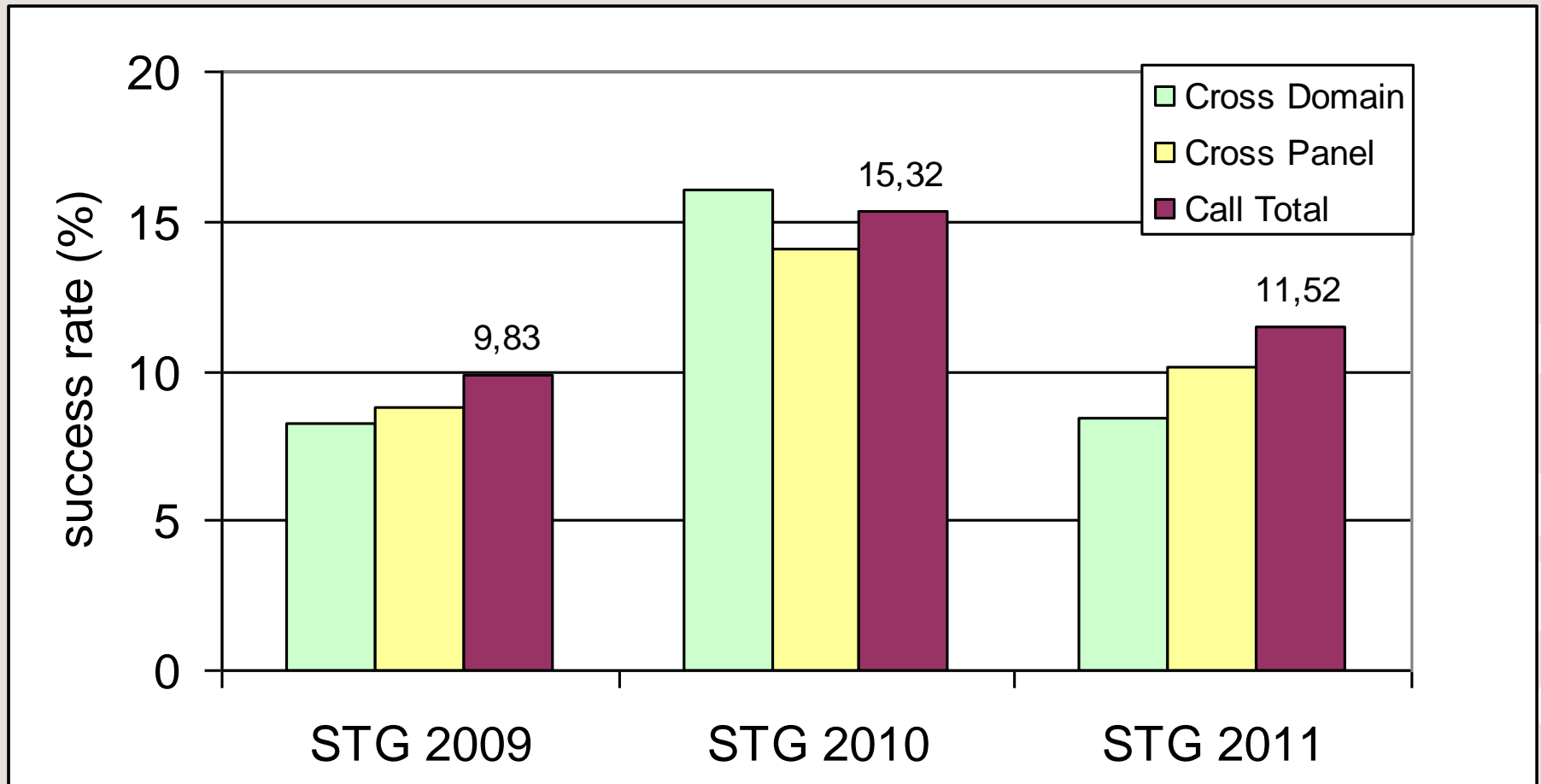
Success rates per call (as indicated by the applicant)



ERC STG 2009-2011

Success rates by call

(as indicated by the applicant)



Conclusions and Perspectives

- The vast majority of submitted proposals are interdisciplinary by nature
- A substantial part of submitted proposals are relevant for more than one panel/domain
- All three subject domains LS, PE and SH fully engaged with principle of supporting interdisciplinary projects.

THANK YOU FOR YOUR ATTENTION !

Monique.smaihi@ec.europa.eu



ANNEXES

Restrictions on Submissions

- A PI may hold only 1 ERC grant at any one time
- A PI may only submit 1 proposal per **calendar year**
- A PI who holds an ERC grant can only submit a proposal for **ERC synergy** if their grant expires before **November 15th 2013**
- A PI who is a **panel member** in 2010 or 2012 may not apply in 2012 for the same type of grant
- A PI who submitted a proposal to a 2011 ERC call can only apply in 2012 for the same type of grant if their proposal was **above the quality threshold** at the end of step 1.

Host institution

Applicant legal entity: institution that engages and hosts the PI for the duration of the project

Any type of legal entity: universities, research centres, business research units ... **as long as it is in MS or AC**

Commitment of HI: to ensure that the PI may

- apply for funding independently
- manage research and funding for the project
- publish independently as senior author
- have access to reasonable space and facilities



ERC Grant agreements

- **Simple and flexible**, no negotiations – take it or leave it
- Are portable
- Additional funding for StG or AdG for researchers moving to Europe or Associated Countries or for purchase of major equipment
- Cover 100% total eligible costs plus 20% indirect costs

Approach taken for “streaming” (StG only)

- **“By default”**: people fall into the stream that corresponds by the number of years past Ph.D. (covers 90-95% of cases)
 - Starters 2 – 6 years past Ph.D
 - Consolidators: 7 – 12 years past Ph.D
- **Change of stream**: rather *strict / conservative approach*
 - Applicants need to argue their case for different consideration.
 - All **“objective”** (parental leave, military service, long term illness, etc) reasons that apply for extending the eligibility window apply by analogy to extending the “starter” window.
 - **Subjective reasons**: **“Career break”** outside science/research (e.g. volunteer work, professional activity *completely unrelated to research career*, unemployment, etc)
 - Applicant needs to attach a minimum amount of documentation to make claim credible